

Watertown Contributory Retirement System

Quarterly Investment Review - Fourth Quarter 2022

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## **②**

## **Fiducient Advisors Update**



## Retirement Plans

#### **Featured Insights**

- Webcast: Current Trends in Target Date Fund Litigation
- Blog: Final Rule Grants Fiduciaries Greater Flexibility When Considering ESG Options

#### **Coming Soon**

- Plan Sponsor Newsletter
- Pension Healthcare Webcast



# **Endowments & Foundations**

#### **Featured Insights**

 Nonprofit Investment Stewards Podcast

#### Coming Soon

- Steward Newsletter
- Mission-Aligned Investing Update



#### **Featured Insights**

- 10 Planning Opportunities to Consider Before Year-End
- Blog: Cozy Up to a Good Book

#### **Coming Soon**

- Financial Planning Considerations Paper
- Financial Planning Webcast

## Research Insights

- Monthly Market Recaps
- Monthly Market Updates
  - A Pivot to Pause November
  - Bear Hunting October
- 2023 Outlook Goodbye TINA (there is no alternative)
- Blog: FTX Lessons Learned from a Lack of Due Diligence
- Webcast: Fiducient Speaker Series with Greg Valliere
- Video: Third Quarter 2022 Update

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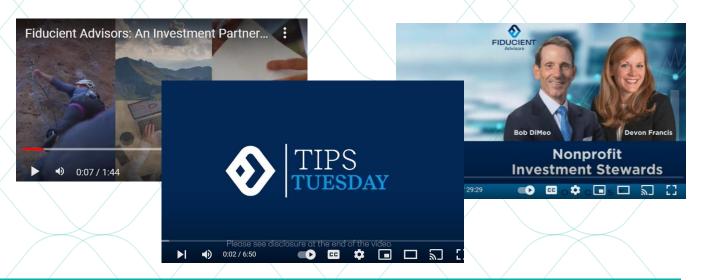


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#### 2022 New Associates - Welcome!

- Ikbir Bassi, Performance Analyst
- Ian Bradley, Senior Research Associate
- · Lori Cahill, Finance Billing Specialist
- Celina Cheng, Performance Analyst
- Owen Graham, Performance Analyst
- Federico Lascano, Research Analyst
- Marycarmen Nevarez, Consultant

Marc Seskin, Marketing Associate

· Louis Ressler, Senior Consultant

Colin Schorsch, Consulting Analyst

- Krishma Sharma, Consulting Analyst, The Wealth Office ®
- · Michael Shevlin, Senior Accountant
- Eric Stanley, Data Operations Analyst
- · Joel Urbina, Consulting Analyst
- Hamza Rangwala, Client Service Associate, The Wealth Office®



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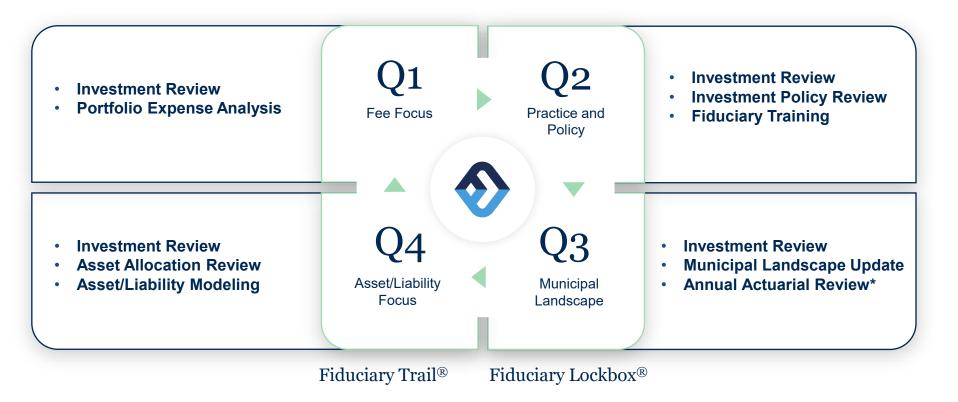
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Fiduciary Governance Calendar





<sup>\*</sup>Timing of actuarial review is dependent on client's individual plan and/or fiscal year and actuarial input.

## 2023 Themes

• As captured in our <u>2023 Outlook – Goodbye TINA</u>, the three themes we see driving the market in the coming year are persistent volatility, moderating inflation, and a bear market bottom.

#### Persistent Volatility

- The 10+ years leading up to 2022 were characterized by low interest rates, low inflation, and low growth alongside accommodative policy. This environment resulted in abnormally low volatility.
- The shifts we saw in 2022 will likely produce higher structural volatility on a go-forward basis.

#### Moderating Inflation

We have seen evidence that inflation is falling. While inflation is unlikely to drop to the Fed's target rate of 2% within the coming calendar year, a continued downward trajectory will likely have a positive impact on market sentiment.

#### Bear Market Bottom

- We don't attempt to time the markets. That being said, the historical pattern of bear markets is multiple contraction first, followed by earnings contraction.
  - ✓ Multiple contraction accounted for more than 100% of the 2022 market pullback, as earnings remained modestly positive.
  - ✓ Late 2022 data is beginning to reflect negative earnings (ex-energy).
- An earnings contraction, along with the expectation of a less hawkish Fed, suggests the current bear market may be nearer its end than its beginning.

## 2023 Allocation Updates

Y/Y Change

## Fixed Income

A ~200% year-over-year increase in intermediate investment grade yields coupled with greater potential for volatility across markets now makes high-quality, U.S. fixed income more relatively attractive compared to dynamic bonds. Corporate high yield is also compelling at today's yield with relatively low expected default rates.

C.D. Dollab	
TIPS	
Dynamic Bonds	<b>V</b>
High Yield Bonds	
Global Bonds	<b>V</b>
Muni Bond	
Muni High Yield	

U.S. Bonds

## Global Equity

Following years of runaway performance relative to other market caps and geographies, U.S. mid/small cap has an improved outlook based on compelling valuations and upside potential when compared to U.S. large cap. Non-U.S. equities remain compelling and overweight.

U.S. Large Cap	lacksquare
U.S. Mid/Small Cap	
Int'l Developed Equity	
Emerging Markets	

## Real Assets & Alternatives

After increasing real assets coming into 2022, we are holding our positioning to real assets overall with a fairly consistent mix of broad real assets and real estate.

Real Estate	
Broad Real Assets	

## 0

## Portfolio Implications

- With the expectation of continued volatility in the markets, we expect portfolio diversification to be increasingly important in 2023 and beyond.
- The fixed income environment is markedly different than a year ago, with the Fed having raised rates aggressively throughout 2022.
  - With yields much higher than they were a year ago, forward-looking return expectations for fixed income are more compelling.
  - Given that much of the Fed's rate hike campaign seems to be in the rear window, investors may want to **consider increasing exposure to high quality and intermediate duration U.S. fixed income**, sourced from a reduction in dynamic bonds.
  - Modest exposure to **high yield bonds** is compelling, given the higher yield landscape and solid fundamentals.
  - Introducing a modest allocation to Treasury Inflation Protected Securities (TIPS), which currently offer positive real yields, may help provide a measure of protection against longer-dated inflation.
- Given the broad pullback in **equity markets** in 2022, **valuations look more attractive** and forward-looking return expectations have increased. **Opportunities for growth exist in both domestic and foreign markets.** 
  - Investors may want to consider modestly reducing exposure to large cap domestic equities in favor of small/mid cap:
    - Small/mid cap equities have historically tended to outperform their larger cap counterparts in market rebounds.
    - Small/ mid cap equities are more attractively priced than their larger cap counterparts, given market activity in 2022 and in the prior several years.
  - While global equity valuations (both developed and emerging) continue to favor markets overseas, the greater potential for exogenous events outside of the U.S. tempers some of the relative appeal for foreign holdings. A sizeable **allocation to international markets continues to be appropriate**, but we do not necessarily advocate for a substantial overweight to international markets.
- Given the current environment of meaningful inflation and expected volatility, allocations to real assets and alternative investments continue to be important.

Y/Y

## 2023-2042 Twenty-Year Outlook

			2023	2022	Change
	The 2022 pull back in fixed income was painful, but it has	U.S. Bonds	5.0%	2.4%	2.6%
	also sowed the seeds for opportunity going forward. Yields across many fixed income sectors are multiple times higher	TIPS	4.6%	2.1%	2.5%
	from year-end 2021 producing greater opportunity for meaningfully higher returns in the years to come.	Dynamic Bonds <sup>1</sup>	5.6%	2.8%	2.8%
Fixed	Additionally, the diversifying principles of fixed income with	High Yield Bonds	7.1%	5.6%	1.5%
Income	recharged yields makes owning fixed income and duration more compelling than it was in 2022 and doing so may add to portfolio resiliency going forward.	Global Bonds	5.1%	2.2%	2.9%
		Muni Bond²	5.8%	2.1%	3.7%
	-	Muni High Yield	9.9%	5.6%	4.3%
Global Equity	Our global equity outlook has improved, bolstered by more attractive valuations. U.S. valuations are near averages relative to history while International and Emerging Markets remains more attractive, but with elevated risks.	U.S. All Cap Intl Developed Equity Emerging Markets	6.7% 8.9% 10.8%	6.8% 8.6% 10.5%	-0.1% 0.3% 0.3%
	A continued bid for inflationary assets and more attractive valuations across some subsets of assets contributed to higher forecasts.	Real Estate Broad Real Assets <sup>3</sup>	6.4% 6.8%	6.3% 5.6%	0.1%
Real Assets & Alternatives	The opportunity set for marketable alternatives rose with				
& Alternatives	more attractive valuations in both global equities and fixed income.	Marketable Alts	8.1%	6.8%	1.3%

<sup>1)</sup> Dynamic bonds are a blend of 33% Cash, 33% Corp HY, and 34% Global Bonds. 2) Tax Equivalent yield based on highest marginal Federal tax rate (37%). 3) Broad Real Assets is 20% REITS, 20% Global Infrastructure, 20% Commodities, 20% US Bonds, 15% Corp High Yield, 5% TIPS Outputs and opinions are as of the date referenced and are subject to change based on market or economic conditions. Information is intended for general information purposes only and does not represent any specific investment recommendation. Please consult with your advisor, attorney and accountant, as appropriate, regarding specific advice. There is no guarantee that any of these expectations will become actual results.. For additional information on forecast methodologies, please speak with your advisor. Please see Index Proxy Summary slide at the end of this presentation for summary of indices used to represent each asset class. Past performance does not indicate future performance and there is a possibility of a loss. Please see the Frontier Engineer Hypothetical Performance Disclosures at the end of the presentation for additional information.

## **Asset Allocation Analysis**

- We believe Asset Allocation is the primary determinant of long-term investment results.
- Our propriety Frontier Engineer® system is the cornerstone of asset allocation decisions.
- Our Capital Markets Group develops Capital Market Assumptions (CMAs) for each major asset class at least annually.
  - √ The Capital Markets Group considers and analyzes a wide variety of factors that we believe will have the
    greatest impact on future returns and risks for each asset class studied.
  - ✓ Our CMAs are not intended to predict the future return in any single year, but rather to reflect our median expected outcome over the next ten years.
  - ✓ Our forecasting efforts center on a ten-year horizon. Any adjustments made to extend the forecast horizon to twenty years or beyond are grounded in our expectation that asset classes ultimately mean revert towards longer term historical averages.
  - ✓ Fiducient Advisors' Capital Markets Team develop our CMAs based on a "building block" approach outlined in our white paper "Capital Market Forecasts". (Copies are available upon requested.)
- Correlations (how asset classes behave in reference to one another) also significantly impact asset allocation analysis.
- Fat Tails (non-normal return elements of skewness & kurtosis) also meaningfully impact our asset allocation analysis.

## Frontier Engineer® Analysis

12/31/2022					As	set Al	llocati	ion									Fored	casts		Past (1/8	38-12/2
	Fixed Income	Equity	Real Assets	Altematives	US Bond	US Bonds - Dynamic	HY Bond				Int'l Dev. Equity	EM Equity	Private Real Estate	Marketable Alternatives	Private Equity	Annualized Net Return	Annualized Volatility	Normal 100 Year Flood*	Non-Normal 100 Year Flood**	Annualized Net Return	Annualized Volatility
/atertown Current (A)	22%	50%	10%	18%	16.6%			3.2% 2	0.7% 7.			2.3%	10.3%	8.0%		8.3%	11.7%	-18%	-24%	9.0%	9.89
bservation Mix (A)	22%	54%	10%	15%	14.5%	4.0%	1.5%	1.5% 2	1.5% 9.	.5% 15	5.0%	7.5%	10.0%	5.0%	10.0%	8.5%	12.3%	-19%	-26%	9.3%	10.3
bservation Mix (B)	25%	50%	10%	15%				1.5% 2			_					8.4%	11.7%	-18%	-25%	9.2%	9.89
bservation Mix (C)	30%	45%	10%				_	2.0% 1			-					8.2%	11.0%	-17%	-23%	9.0%	9.29
bservation Mix (D)	35%	40%	10%	15%	23.5%	7.0%	2.0%	2.5% 1	6.5% 7.	.0% 11	1.0%	5.5%	10.0%	5.0%	10.0%	8.1%	10.3%	-15%	-20%	8.8%	8.5%
Current Mix(es)     Observation Mix(     Asset Classes     Engineer Frontier		I EGG E	3 <b>A</b> _				_		US E	equity (L	LC)			1110	ate Eq		I Dev. Equit	у	EME	quity	
6.0% US Bonds - Dynamic	A				HY	Y Bond		6								US Ed	quity (SC)				
US Bond 4.0% 2.0%	Glo	bal Bonds																			
_																					
0.0% <del> </del> 6.0%		11.0%					16.0	)%						21.0%	<u> </u>				26.0%		
3.070		11.070						tand	ard I	Παν	iati	on)		21.07	•			2	.0.070		

<sup>\*</sup>The expected one in a hundred worst case calendar year return based on normally distributed capital market assumptions. Greater losses are possible (1% expected likelihood).

Historical Returns and Risk Metrics for each Mix represent back-tested calculations developed with the benefit of hindsight. Return calculations use an asset-weighted methodology based on the target asset allocation of each mix and the total return of index proxies used to represent each asset class and are net of fees. Historical returns are hypothetical and do not represent returns earned by a client. It is not possible to invest in an index. Please see the Frontier Engineer Hypothetical Performance Disclosures at the end of the presentation for additional information, including index proxies used to represent each asset class. Please ask for a copy of Fiducient Advisors' white paper titled 10-Year Capital Market Forecasts. Past performance does not indicate future performance and it is possible to lose money when investing. Please refer to the Capital Markets Assumptions Slide for the hypothetical alpha and hypothetical fee inputs used in the calculation methodology.

<sup>\*\*</sup>The expected one in a hundred worst case calendar year return based on non-normally distributed capital market assumptions (factoring in skewness & kurtosis). Greater losses are possible (1% expected likelihood).



## **Proposed Portfolio Changes**

Watertown Retirer		
Investment Name	Current Target Allocation	Modeled Target Allocation
Cash	0.0%	0.0%
Cash	0.0%	0.0%
Fixed Income	23.5%	30.0%
RM Core Bond Fund LLC	17.0%	20.0%
Eaton Vance Trust CITY Yield Yield Fund	2.5%	2.0%
Brandywine Global Opportunistic Fixed Income	4.0%	2.0%
Unconstrained Fixed Income - Manager TBD	0.0%	6.0%
Asset Allocation	4.0%	0.0%
WTC-CIF Opportunistic Investment Allocation	2.0%	0.0%
PineBridge Global Dynamic Asset Allocation Fund	2.0%	0.0%
Domestic Equity	28.2%	26.5%
PRIT Domestic Equity	10.5%	10.5%
Columbia US Contrarian Core Equity Fund	12.0%	10.0%
Wellington Small Cap 2000	5.7%	6.0%
International Equity	21.8%	18.5%
Aristotle International Equity Collective Trust	8.6%	5.5%
MFS Instl International Equity Fund	8.6%	5.5%
Acadian Intl Small Cap Fund	2.6%	1.5%
Acadian Emerging Markets Equity	2.0%	3.0%
Emerging Markets Equity - Manager TBD	0.0%	3.0%
Real Estate	10.0%	10.0%
Real Estate Portfolio	10.0%	10.0%
Marketable Alternatives	7.5%	5.0%
PRIT Hedge Funds	7.5%	5.0%
Private Equity	5.0%	10.0%
Private Equity Portfolio	5.0%	10.0%
Investment Portfolio Total	100.0%	100.0%

## **Asset Allocation Analysis**

Asset Class	IPS Range	IPS Target	Current Allocation
Cash & Equivalents	0% - 5%	5%	0.5%
Fixed Income	10% - 35%	15%	19.2%
Domestic Equity	15% - 67.5%	29%	26.8%
International Equity	10% - 50%	25%	20.7%
Multi-Asset	0% - 12%	6%	4.4%
Real Estate	5% - 12.5%	10%	10.3%
Hedge Funds	5% - 10%	5%	8.0%
Private Equity	3% - 10%	10%	10.0%

The current allocation is within the allowable range as stated within the Investment Policy Statement (IPS). Any portfolio adjustments that are considered will likely remain within the allowable range, but the IPS targets may need to be updated.

## **Actuarial Review**

Watertown Retirement System									
	<u>1/1/2022</u>	1/1/2021							
Actuarial Value of Assets	260,164,732	237,309,997							
Total Accrued Liability	251,018,257	241,307,763							
Funded Ratio	103.6%	98.3%							
Actuarial Return Assumption	7.70%	7.75%							



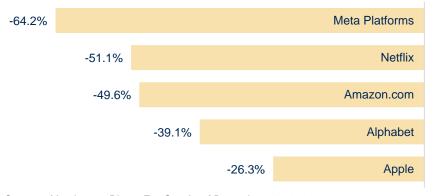
Capital Markets Overview

#### **Market Themes**

- High inflation, which catalyzed the Fed's hike campaign, fears of recession and geopolitical risks all contributed to the elevated volatility environment in 2022. We expect volatility to persist in 2023 and the abnormally low volatility regime of the last decade may be over.
- Returns in 2022 were driven by multiple compression, which typically precede earnings declines in the business cycle. While difficult to call the bottom, we believe we are closer to the bear market end rather than the beginning.
- The Bloomberg Agg Bond Index had its worst year on record, but the pain from falling prices pushed yields to levels not seen in nearly 15 years making prospective fixed income returns more compelling.

#### **FAANG Stocks Performance 2022**

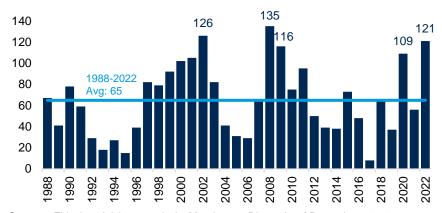
Multiple compression has been the driver of performance this year for equities and many higher P/E stocks have re-rated materially lower. The S&P 500 has seen modest earnings growth this year, however, if the energy component is removed, earnings for the S&P 500 are expected to decline by 1.8 percent in 2022.



Sources: Morningstar Direct, FactSet. As of December 31, 2022.

#### Number Of Days With S&P 500 Return At Least +/- 1%

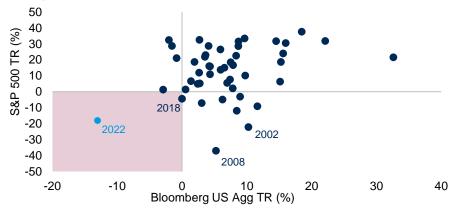
The S&P 500 had the most days of moving at least +/- one percent since the global financial crisis in 2008.



Sources: Fiducient Advisors analysis, Morningstar Direct. As of December 31, 2022.

#### Nowhere To Hide In 2022 - Equity vs. Fixed Income Returns

2022 was the first year on record where both the Bloomberg Agg and S&P 500 indices experienced negative returns. The traditional diversification benefits of fixed income were muted in 2022, but with interest rates higher we expect this paradigm to revert to historical norms.



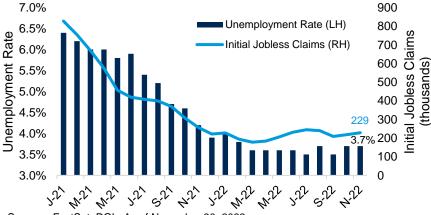
Source: Morningstar Direct. Calendar year data 1976 to 2022.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss. Indices cannot be invested in directly.

#### **Economic Review**

#### **Tight Labor Market**

The U.S. labor market has been resilient, providing a solid foundation for the U.S. consumer, the backbone of the economy. However, strong labor data may support further Fed action in its effort to combat elevated inflation.



Sources: FactSet, DOL. As of November 30, 2022.

#### Will Rents Follow Home Prices?

Tighter financial conditions have led to higher mortgages rates and subsequently lower home prices. However, owners equivalent rent, one of the primary components of CPI, has yet to show signs of slowing.



Sources: FactSet, BLS, S&P/Case Shiller. As of October 31, 2022

#### **U.S. Dollar Falls of Recent Highs**

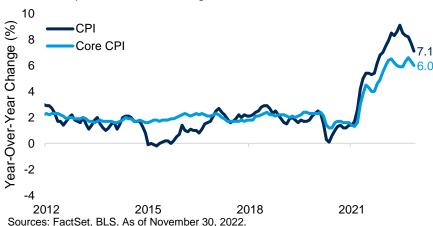
Softening inflation in the U.S., expectations for less hawkish Fed actions, and the BOJ shifting its yield curve control target higher led to a weakening U.S. dollar late in the year; DXY declined 7.7 percent in the fourth quarter.



Source: FactSet. As of December 31, 2022

#### **U.S. Inflation**

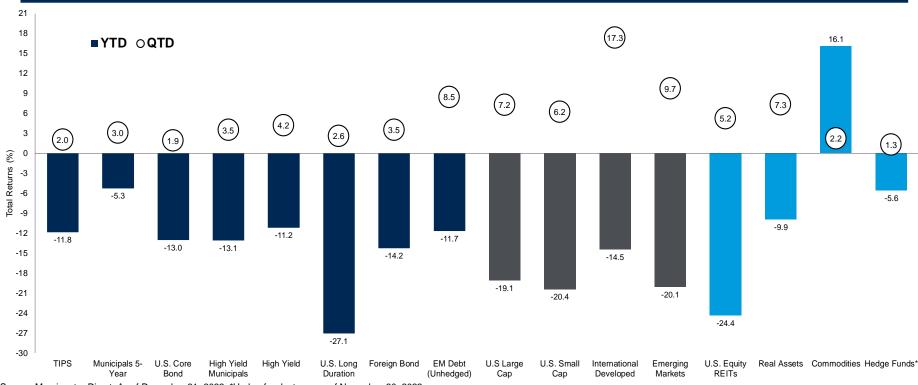
Inflation is trending lower. Fed policy impacts prices on a lagged basis and we may see inflation moderate further as its actions work through the system. The shelter component remains a driving factor as rents remain elevated.



See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss. Indices cannot be invested in directly.

#### **Asset Class Returns**





Source: Morningstar Direct. As of December 31, 2022. \*Hedge fund returns as of November 30, 2022.

#### Fixed Income (4Q)

- + Lower inflation readings mid-quarter pushed rates lower and helped drive fixed income returns for the quarter. The Fed raised rates by 50 basis points in December, marking its seventh increase of the year.
- + Spread sectors generally outpaced governments in the quarter in the risk-on environment. High yield generated favorable returns.
- + A weaker U.S. dollar and favorable news out of emerging countries, in particular China on "zero-Covid", helped propel non-US bond prices higher.

#### Equity (4Q)

- + Risk assets rallied in the fourth quarter, fueled by favorable inflation prints and expectations for subdued central bank action in 2023.
- + International developed markets had a standout quarter. Notable strength came from Europe as energy price concerns diminished and a weakening U.S. dollar provided further support.
- + Clarity around China's "zero-Covid" policy provided a tailwind for the country and subsequently the broader EM space. Mexico also performed well on the back of positive economic news.

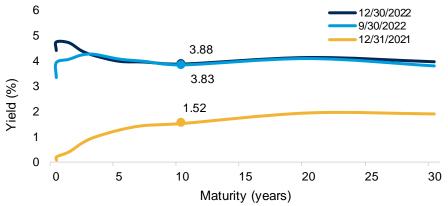
#### Real Asset / Alternatives (4Q)

- + Commodity markets rose modestly in the quarter and remain the standout for the calendar year. Industrial and precious metals drove returns, while energy detracted as prices continued to moderate from post-Russia invasion peaks.
- + REITs had a strong quarter. Retail oriented and data centers were among the top contributors while residential REITs declined.
- + Hedge Funds were modestly positive in the quarter and continue to provide favorable results relative to traditional equities and fixed income.

### **Fixed Income Market Update**

#### **U.S. Treasury Yield Curve**

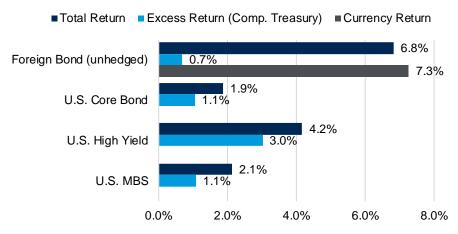
The Fed raised its target rate by 50 basis points in December, capping off the year with its seventh hike for a total of 425 basis points in 2022. Rates were volatile in the quarter as the 10-year pushed past 4.2 percent before falling below 3.7 percent and ultimately ending 5 basis points higher than it started.



Source: FactSet. As of December 30, 2022.

#### **Index Performance Attribution (4Q 2022)**

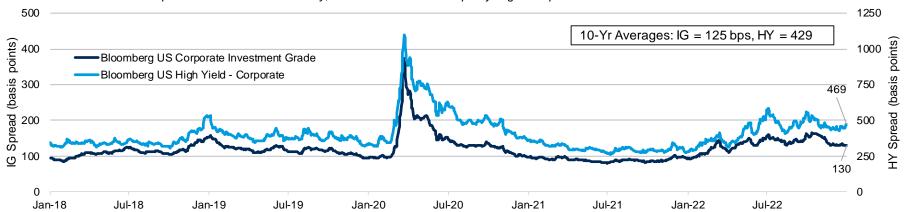
Spread sectors of the bond market outpaced Treasuries in the fourth quarter in the risk-on environment. A falling U.S. dollar against major currencies proved to be beneficial for non-U.S. bonds.



Source: FactSet. As of December 30, 2022.

#### **Corporate Market Spreads – Trailing 5 Years**

Corporate credit spreads were tighter during the fourth quarter. Investment grade spreads compressed 34 basis points while high yield spreads were 92 basis points lower. Risk-on sentiment helped fuel the sector. Additionally, limited issuance in both quality segments provided a technical tailwind.



Source: FactSet. As of December 30, 2022.

### **Equity Market Update**

#### **Equity Valuations (Trailing PE – Last 15 Years)**

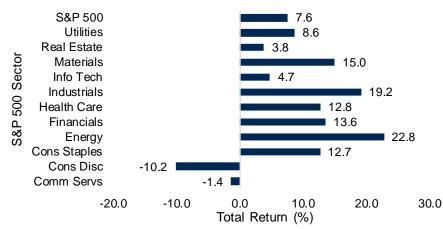
Positive equity markets in the fourth quarter shifted valuations slightly higher as earnings ticked lower. International markets look more attractive on a relative basis compared to the U.S.



Source: FactSet. As of December 30, 2022.

#### U.S. Equities – Return by Sector (4Q 2022)

U.S. equities were broadly positive on the back of softening inflation data and the prospect of less aggressive Fed policy action in 2023. However, Amazon and Tesla, down over 20% and 50%, respectively, drove consumer discretionary lower.



Source: Morningstar Direct. As of December 31, 2022.

#### Country Total Returns (%) - Top 10 Largest Economies

Equity markets around the globe benefited from the risk-on investor sentiment in the fourth quarter. A host of factors fueled strength across regions. The U.K. market jumped following the replacement of Prime Minister Truss and clarity around the country's budget. European countries broadly benefited as expectations for a warmer winter began to take hold and concerns about commodity prices abated. Chinese equities rallied on the reopening trade as "zero-Covid" restrictions were lifted.

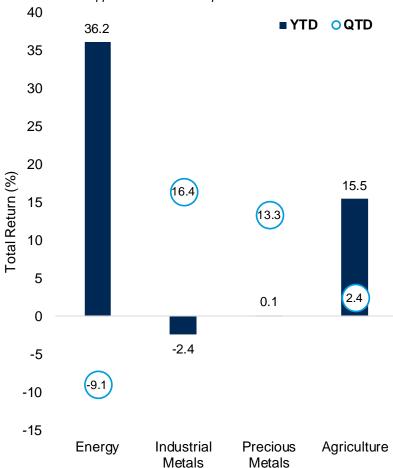


Source: Morningstar Direct. As of December 31, 2022.

### **Real Assets Market Update**

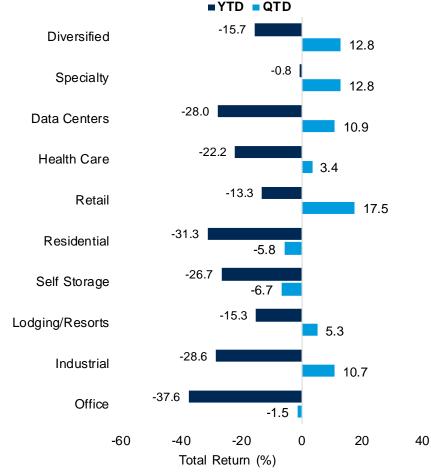
#### **Commodity Performance**

Commodities advanced during the fourth quarter, rounding out a strong year. Energy weakness was due to natural gas, whose prices retreated sharply on weaker demand from a warmer than anticipated start to the winter. Elsewhere, a weaker dollar supported industrial and precious metals.



#### **REIT Sector Performance**

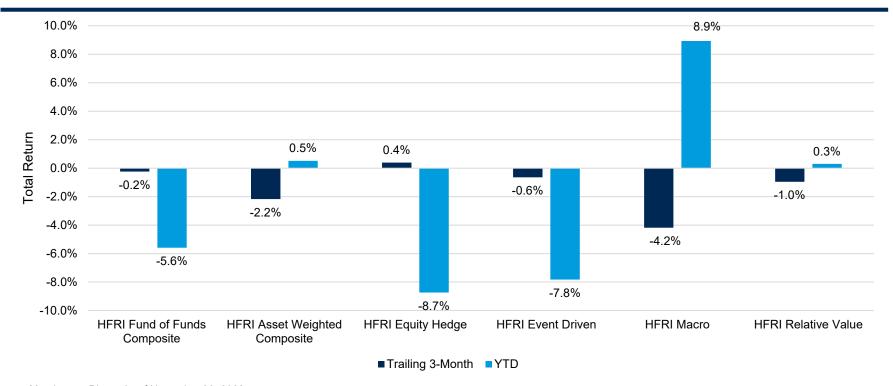
REITs posted their first quarterly gain in 2022, benefiting from cooler than anticipated inflation data and expectations of a subsequent easing of Fed rate hikes. The retail segment was a notable outperformer, with particular strength from regional malls.



Source: Morningstar Direct. As of December 31, 2022.

Source: Morningstar Direct. As of December 31, 2022.





Source: Morningstar Direct. As of November 30, 2022.

#### Fund of Funds / Asset Weighted (4Q)

- The HFRI Fund of Funds Composite returned -0.2% over the trailing 3-month period, keeping year-to-date returns in negative territory at -5.6%.
- The HFRI Asset Weighted Composite detracted -2.2% over the trailing 3-month period, bringing year-to-date returns to 0.5%.
- + Marketable alternatives broadly have served their purpose in portfolios, limiting drawdowns relative to equities and fixed income.

#### **Equity Hedge / Event Driven (4Q)**

- + Equity hedge strategies added slightly during the period, led by Quantitative Directional strategies.
- +/- Event driven strategies detracted slightly during the period. Activist and Special Situation strategies were the largest contributors during the period while Multi Strategy and Distressed Restructuring were the largest detractors.
- Equity hedge and event driven strategies have been the largest detractors year-to-date.

#### Macro / Relative Value (4Q)

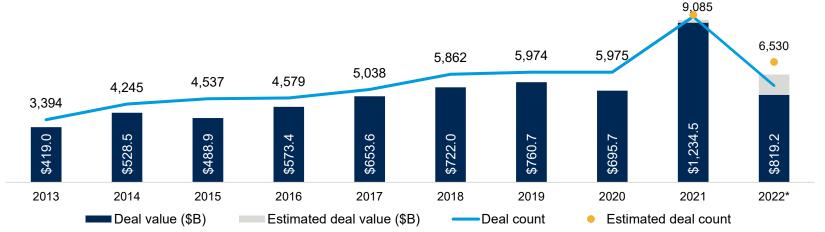
- +/- Macro strategies were negative over the period but have still been the strongest performers year-to-date. All macro sub-strategies have generated positive returns year-to-date.
- +/- Relative Value strategies returned -1.0% over the period but remain positive year-to-date. Fixed Income Sovereign strategies were the primary contributors over the period.
- + Volatility and Yield Alternatives strategies added slightly over the period, adding to strong year-to-date returns.

## **Private Equity Market Update**



#### **U.S. Private Equity Deal Activity**

U.S. Private Equity deal activity, while still high historically, moderated during the first three quarters relative to the frantic environment that consumed investors throughout 2021.



Source: Pitchbook. As of September 30, 2022.

#### Private Equity Performance (As of June 30, 2022)

Private equity performance was negative during the second quarter with US Growth and Venture leading the decline. Over longer time periods, performance remains strong with dispersion between asset classes normalizing in recent quarters.

Benchmark	1-YR	3-YR	5-YR	10-Y	15-Y
US Private Equity	6.7%	23.0%	20.6%	17.8%	12.6%
US Buyout Index	16.6%	24.2%	21.0%	18.5%	15.0%
US Growth Equity Index	0.4%	26.5%	24.7%	19.4%	15.1%
US Venture Capital Index	2.7%	30.5%	25.7%	19.3%	13.6%
S&P 500 Index	-10.6%	10.6%	11.3%	13.0%	8.5%

Source: Cambridge Associates. As of June 30, 2022. Returns presented as horizon pooled return, net of fees. S&P 500 Index as of June 30, 2022. Indices cannot be invested in directly.

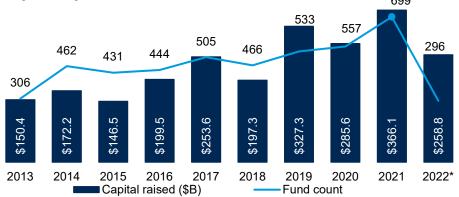
See disclosures for list of indices representing each process.

Indices cannot be invested in directly.

#### **U.S. Private Equity Fundraising Activity**

The fundraising market showed signs of slowing in the second half of the year as the denominator effect and commitments from the two prior years began to create some fatigue among investors.

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Source: Pitchbook. As of September 30, 2022.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss.





2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	10 Years (Ann)
Emerging Markets 18.2	U.S. Small Cap 38.8	U.S. Equity REITs 30.1	U.S. Equity REITs 3.2	U.S. Small Cap 21.3	Emerging Markets 37.3	High Yield Munis 4.8	U.S. Large Cap 31.5	U.S. Small Cap 20.0	U.S. Equity REITs 43.2	Commodities 16.1	U.S. Large Cap 12.4
High Yield Munis 18.1	U.S. Large Cap 32.4	High Yield Munis 13.8	Municipals 5-Year 2.4	High Yield 17.1	International Dev. 25.0	Municipals 5-Year 1.7	U.S. Equity REITs 26.0	U.S. Large Cap 18.4	Commodities 27.1	Municipals 5-Year -5.3	U.S. Small Cap 9.0
U.S. Equity REITs 18.1	International Dev. 22.8	U.S. Large Cap 13.7	High Yield Munis 1.8	U.S. Large Cap 12.0	U.S. Large Cap 21.8	Foreign Bond 0.5	U.S. Small Cap 25.5	Emerging Markets 18.3	US Large Cap 26.5	Hedge Funds -5.6	U.S. Equity REITs 6.5
International Dev. 17.3	Balanced 12.2	Core Bond 6.0	U.S. Large Cap 1.4	Commodities 11.7	EM Debt (unhedged) 15.2	Core Bond 0.0	International Dev. 22.5	TIPS 11.0	US Small Cap 14.8	High Yield -11.2	International Developed 4.7
EM Debt (unhedged) 16.9	Hedge Funds 9.0	Balanced 5.1	Core Bond 0.6	Emerging Markets 11.2	U.S. Small Cap 14.6	TIPS -1.3	Emerging Markets 18.4	Balanced 8.8	International Dev. 11.3	EM Debt (unhedged) -11.7	Balanced 4.4
U.S. Small Cap 16.3	High Yield 7.4	U.S. Small Cap 4.9	Hedge Funds -0.3	EM Debt (unhedged) 9.9	Balanced 13.6	High Yield -2.1	Balanced 17.5	International Dev. 7.8	Balanced 9.8	TIPS -11.8	High Yield 4.0
U.S. Large Cap 16.0	U.S. Equity REITs 2.5	TIPS 3.6	International Dev. -0.8	U.S. Equity REITs 8.5	High Yield Munis 9.7	Hedge Funds -4.0	High Yield 14.3	Core Bond 7.5	High Yield Munis 7.8	U.S. Core Bond -13.0	Hedge Funds 3.6
High Yield 15.8	Municipals 5-Year 0.8	Hedge Funds 3.4	TIPS -1.4	Balanced 7.6	Hedge Funds 7.8	U.S. Large Cap -4.4	EM Debt (unhedged) 13.5	Hedge Funds 7.1	TIPS 6.0	High Yield Municipals -13.1	High Yield Municipals 3.5
Balanced 11.5	Foreign Bond -1.0	Municipals 5-Year 3.2	Foreign Bond -2.3	TIPS 4.7	High Yield 7.5	U.S. Equity REITs -4.6	High Yield Munis 10.7	High Yield 7.1	Hedge Funds 5.7	Foreign Bond -14.2	Municipals 5-Year 1.5
TIPS 7.0	Core Bond -2.0	Foreign Bond 2.9	Balanced -3.3	Foreign Bond 3.2	Foreign Bond 6.5	Balanced -5.8	Core Bond 8.7	Foreign Bond 7.0	High Yield 5.3	International Developed -14.5	Emerging Markets 1.4
Foreign Bond 5.3	Emerging Markets -2.6	High Yield 2.5	U.S. Small Cap -4.4	High Yield Munis 3.0	U.S. Equity REITs 5.2	EM Debt (unhedged) -6.2	TIPS 8.4	High Yield Munis 4.9	Municipals 5-Year 0.3	Balanced -14.9	TIPS 1.1
Hedge Funds 4.8	High Yield Munis -5.5	Emerging Markets -2.2	High Yield -4.5	Core Bond 2.6	Core Bond 3.5	U.S. Small Cap -11.0	Hedge Funds 7.8	Municipals 5-Year 4.3	Core Bond -1.5	U.S. Large Cap -19.1	U.S. Core Bond 1.1
Core Bond 4.2	TIPS -8.6	International Dev. -4.9	Emerging Markets -14.9	International Dev. 1.0	Municipals 5-Year 3.1	Commodities -11.2	Commodities 7.7	EM Debt (unhedged) 2.7	Emerging Markets -2.5	Emerging Markets -20.1	Foreign Bond 0.2
Municipals 5-Year 3.0	EM Debt (unhedged) -9.0	EM Debt (unhedged) -5.7	EM Debt (unhedged) -14.9	Hedge Funds 0.5	TIPS 3.0	International Dev. -13.8	Foreign Bond 6.3	Commodities -3.1	Foreign Bond -4.2	U.S. Small Cap -20.4	Commodities -1.3
Commodities -1.1	Commodities -9.5	Commodities -17.0	Commodities -24.7	Municipals 5-Year -0.4	Commodities 1.7	Emerging Markets -14.6	Municipals 5-Year 5.4	U.S. Equity REITs -8.0	EM Debt (unhedged) -8.7	U.S. Equity REITs -24.4	EM Debt (unhedged) -2.0

Sources: Morningstar, FactSet. As of December 31, 2022. \*Periods greater than one year are annualized. Total returns in U.S. dollars. Hedge Funds as of November 30, 2022.

**The Case for Diversification** 

### **Financial Markets Performance**

## Total Return as of December 31, 2022 Periods greater than one year are annualized All returns are in U.S. dollar terms

		All return	ns are in U.S. dolla	ai teillis				
Global Fixed Income Markets	QTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
loomberg 1-3-Month T-Bill	0.9%	1.5%	1.5%	0.7%	1.2%	1.0%	0.7%	0.6%
loomberg U.S. TIPS	2.0%	-11.8%	-11.8%	1.2%	2.1%	2.6%	1.1%	3.1%
Bloomberg Municipal Bond (5 Year)	3.0%	-5.3%	-5.3%	-0.3%	1.2%	1.3%	1.5%	2.8%
Hoomberg High Yield Municipal Bond	3.5%	-13.1%	-13.1%	-0.6%	2.6%	3.7%	3.5%	4.4%
loomberg U.S. Aggregate	1.9%	-13.0%	-13.0%	-2.7%	0.0%	0.9%	1.1%	2.7%
Bloomberg U.S. Corporate High Yield	4.2%	-11.2%	-11.2%	0.0%	2.3%	5.0%	4.0%	6.1%
Bloomberg Global Aggregate ex-U.S. Hedged	0.2%	-9.8%	-9.8%	-2.6%	0.5%	1.4%	2.1%	3.0%
loomberg Global Aggregate ex-U.S. Unhedged	6.8%	-18.7%	-18.7%	-5.9%	-3.1%	-0.6%	-1.6%	0.5%
loomberg U.S. Long Gov / Credit	2.6%	-27.1%	-27.1%	-6.2%	-1.2%	1.5%	1.6%	4.4%
PMorgan GBI-EM Global Diversified	8.5%	-11.7%	-11.7%	-6.1%	-2.5%	1.6%	-2.0%	1.5%
lobal Equity Markets	QTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
&P 500	7.6%	-18.1%	-18.1%	7.7%	9.4%	11.5%	12.6%	8.8%
ow Jones Industrial Average	16.0%	-6.9%	-6.9%	7.3%	8.4%	12.1%	12.3%	9.0%
ASDAQ Composite	-0.8%	-32.5%	-32.5%	6.1%	9.7%	12.2%	14.4%	10.7%
ussell 3000	7.2%	-19.2%	-19.2%	7.1%	8.8%	11.0%	12.1%	8.7%
ussell 1000	7.2%	-19.1%	-19.1%	7.3%	9.1%	11.3%	12.4%	8.8%
ussell 1000 Growth	2.2%	-29.1%	-29.1%	7.8%	11.0%	12.9%	14.1%	10.3%
ussell 1000 Value	12.4%	-7.5%	-7.5%	6.0%	6.7%	9.1%	10.3%	7.0%
ussell Mid Cap	9.2%	-17.3%	-17.3%	5.9%	7.1%	9.6%	11.0%	8.4%
ussell Mid Cap Growth	6.9%	-26.7%	-26.7%	3.8%	7.6%	10.0%	11.4%	8.6%
ussell Mid Cap Value	10.5%	-12.0%	-12.0%	5.8%	5.7%	8.7%	10.1%	8.0%
ussell 2000	6.2%	-20.4%	-20.4%	3.1%	4.1%	7.9%	9.0%	7.2%
ussell 2000 Growth	4.1%	-26.4%	-26.4%	0.6%	3.5%	7.1%	9.2%	7.3%
ussell 2000 Value	8.4%	-14.5%	-14.5%	4.7%	4.1%	8.2%	8.5%	6.8%
ISCI ACWI	9.8%	-18.4%	-18.4%	4.0%	5.2%	8.1%	8.0%	4.8%
ISCI ACWI ex. U.S.	14.3%	-16.0%	-16.0%	0.1%	0.9%	4.8%	3.8%	1.5%
ISCI EAFE	17.3%	-14.5%	-14.5%	0.9%	1.5%	4.5%	4.7%	1.8%
ISCI EAFE Growth	15.0%	-22.9%	-22.9%	0.5%	2.5%	5.1%	5.6%	2.6%
ISCI EAFE Value	19.6%	-5.6%	-5.6%	0.6%	0.2%	3.7%	3.5%	0.8%
ISCI EAFE Small Cap	15.8%	-21.4%	-21.4%	-0.9%	0.0%	4.4%	6.2%	3.8%
ISCI Emerging Markets	9.7%	-20.1%	-20.1%	-2.7%	-1.4%	5.2%	1.4%	0.6%
lternatives	QTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
onsumer Price Index*	0.5%	6.5%	7.1%	5.0%	3.8%	3.3%	2.6%	2.3%
TSE NAREIT Equity REITs	5.2%	-24.4%	-24.4%	-0.1%	3.7%	4.6%	6.5%	6.2%
&P Real Assets	7.3%	-9.9%	-9.9%	1.7%	3.0%	5.2%	3.5%	4.0%
TSE EPRA NAREIT Developed	7.1%	-24.4%	-24.4%	-4.1%	0.7%	2.8%	3.9%	2.9%
TSE EPRA NAREIT Developed ex U.S.	10.5%	-23.8%	-23.8%	-8.2%	-2.3%	1.3%	1.5%	0.6%
loomberg Commodity Total Return	2.2%	16.1%	16.1%	12.6%	6.4%	6.5%	-1.3%	-2.6%
FRI Fund of Funds Composite*	1.3%	-5.6%	-5.3%	4.1%	3.1%	3.2%	3.6%	1.7%
FRI Asset Weighted Composite*	-2.4%	0.5%	2.3%	3.8%	3.4%	3.6%	4.1%	0.0%
lerian MLP	10.1%	30.9%	30.9%	9.4%	4.1%	4.4%	2.0%	5.4%

Sources: Morningstar, FactSet. As of December 31, 2022. \*Consumer Price Index and HFRI indexes as of November 30, 2022.



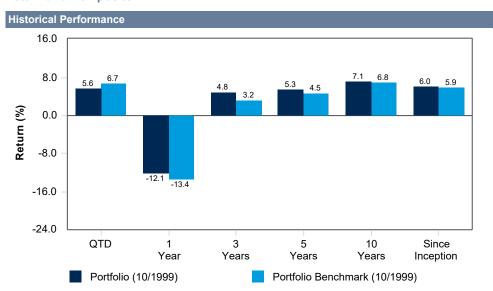
Portfolio and Manager Review



#### **Portfolio Dashboard**

Total Fund Composite

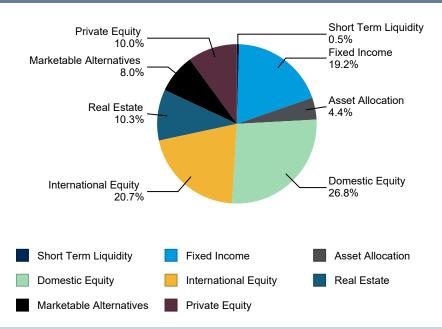
As of December 31, 2022



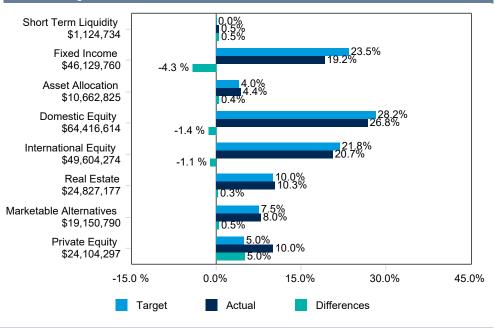
Summary of Cash Flows					
	QTD	1 Year	3 Years	5 Years	10 Years
Beginning Market Value	230,121,764	285,026,803	218,912,469	184,860,688	104,526,549
Net Contributions	-2,865,740	-10,851,164	-13,123,190	-3,651,328	17,058,851
Gain/Loss	12,764,447	-34,155,168	34,231,191	58,811,111	118,435,071
Ending Market Value	240,020,471	240,020,471	240,020,471	240,020,471	240,020,471

Current Benchmark	Composition	
From Date	To Date	
04/2018	Present	20.00% Blmbg. U.S. Aggregate, 2.50% ICE BofAML US High Yield Master II Constrained, 2.50% FTSE World Government Bond Index, 35.00% Russell 3000 Index, 20.00% MSCI AC World ex USA (Net), 2.50% MSCI EAFE Small Cap (Net), 10.00% PRIM Custom Total RE Benchmark, 7.50% HFRI Fund of Funds Composite Index

#### **Portfolio Allocation**

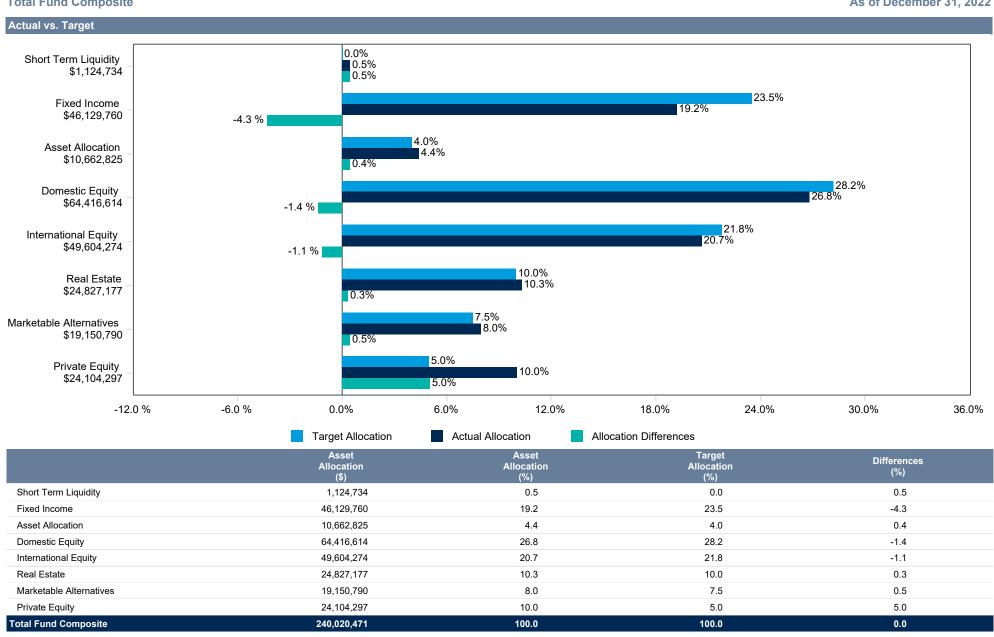


#### Actual vs. Target Allocations





#### **Asset Allocation**





## **Asset Allocation**

	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)	Differences (%)
tal Fund Composite	240,020,471	100.0	100.0	0.0
Short Term Liquidity	1,124,734	0.5	0.0	0.5
Collective US Govt STIF Fund	1,124,734	0.5	0.0	0.5
Fixed Income	46,129,760	19.2	23.5	-4.3
IRM Core Bond Fund LLC	34,459,193	14.4	17.0	-2.6
Eaton Vance Trust CIT High Yield Fund	3,969,328	1.7	2.5	-0.8
Brandywine Global Opportunistic Fixed Income	7,701,239	3.2	4.0	-0.8
Asset Allocation	10,662,825	4.4	4.0	0.4
WTC-CIF Opportunistic Invst Allocation	5,477,737	2.3	2.0	0.3
PineBridge Global Dynamic Asset Allocation Fund LLC	5,185,087	2.2	2.0	0.2
Domestic Equity	64,416,614	26.8	28.2	-1.4
PRIT Domestic Equity	23,998,624	10.0	10.5	-0.5
Columbia US Contrarian Core Equity Fund	27,637,360	11.5	12.0	-0.5
Wellington Small Cap 2000	12,780,630	5.3	5.7	-0.4
International Equity	49,604,274	20.7	21.8	-1.1
Aristotle International Equity Collective Trust - Class B	18,630,492	7.8	8.6	-0.8
MFS Instl International Equity Fund	20,206,922	8.4	8.6	-0.2
Acadian Intl Small Cap Fund	5,859,916	2.4	2.6	-0.2
Acadian Emerging Markets Equity	4,906,944	2.0	2.0	0.0
Real Estate	24,827,177	10.3	10.0	0.3
PRIT Real Estate Fund	14,682,411	6.1	7.0	-0.9
TA Realty Core Property Fund, LP	6,486,385	2.7	1.5	1.2
American Strategic Value Realty Fund	2,766,908	1.2	1.0	0.2
TerraCap Partners IV	891,472	0.4	0.5	-0.1
Marketable Alternatives	19,150,790	8.0	7.5	0.5
PRIT Hedge Funds	19,150,790	8.0	7.5	0.5
Private Equity	24,104,297	10.0	5.0	5.0
RCP Fund IV	17,129	0.0	-	-
PRIT VY Investments	24,087,168	10.0	0.0	10.0
PRIT Vintage 2011	837,642	0.3	-	-
PRIT Vintage 2012	708,241	0.3	-	-
PRIT Vintage 2013	1,274,751	0.5	-	-



## **Asset Allocation**

	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)	Differences (%)
PRIT Vintage 2014	1,614,867	0.7	-	-
PRIT Vintage 2015	2,213,170	0.9	-	-
PRIT Vintage 2016	1,111,960	0.5	-	-
PRIT Vintage 2017	3,830,106	1.6	-	-
PRIT Vintage 2018	3,240,912	1.4	-	-
PRIT Vintage 2019	3,394,151	1.4	-	-
PRIT Vintage 2020	2,482,550	1.0	-	-
PRIT Vintage 2021	2,731,766	1.1	-	-
PRIT Vintage 2022	647,054	0.3	-	-



#### **Performance Overview**

Trailing Performance Summ	mary							
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Total Fund Composite	5.6	-12.1	4.8	5.3	6.9	7.1	6.0	10/1999
Policy Index	6.7	-13.4	3.2	4.5	6.5	6.8	5.9	10/1999

Calendar Year Performand	e Summary									
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
<b>Total Fund Composite</b>	16.2	12.6	18.7	-4.9	15.6	6.6	1.0	6.6	15.6	12.3
Policy Index	12.1	13.1	19.5	-4.9	15.8	7.4	0.4	6.1	16.7	12.6

Plan Reconciliation						
	QTD	1 Year	3 Years	5 Years	10 Years	Jan-2007 To Dec-2022
Total Fund Composite						
Beginning Market Value	230,121,764	285,026,803	218,912,469	184,860,688	104,526,549	89,230,180
Net Contributions	-2,865,740	-10,851,164	-13,123,190	-3,651,328	17,058,851	19,655,789
Gain/Loss	12,764,447	-34,155,168	34,231,191	58,811,111	118,435,071	131,134,502
Ending Market Value	240,020,471	240,020,471	240,020,471	240,020,471	240,020,471	240,020,471
Benchmark Composition						
					Weight (%)	
Apr-2018						
Blmbg. U.S. Aggregate					20.0	
ICE BofAML US High Yield Maste	r II Constrained				2.5	
FTSE World Government Bond In	dex				2.5	
Russell 3000 Index					35.0	
MSCI AC World ex USA (Net)					20.0	
MSCI EAFE Small Cap (Net)					2.5	
PRIM Custom Total RE Benchman	rk				10.0	
HFRI Fund of Funds Composite Ir	ndex				7.5	

<sup>\*\*</sup> Historical market values and flows prior to 1/1/2007 were not provided by previous consultant. The stated inception date of 10/1/1999 is the plan's performance inception date.



## **Manager Status Commentary**

As of December 31, 2022

Manager	Recommendation
IRM Core Bond Fund LLC	Maintain
Eaton Vance Trust CIT High Yield Fund	Maintain
Brandywine Global Opportunistic Fixed Income	Maintain
WTC-CIF Opportunistic Invst Allocation	Maintain
PineBridge Global Dynamic Asset Allocation Fund LLC	Maintain
PRIT Domestic Equity	Maintain
Columbia US Contrarian Core Equity Fund	Maintain
Wellington Small Cap 2000	Maintain
Aristotle International Equity Collective Trust - Class B	Maintain
MFS Instl International Equity Fund	Maintain
Acadian Intl Small Cap Fund	Maintain
Acadian Emerging Markets Equity	Maintain
PRIT Real Estate Fund	Maintain
TA Realty Core Property Fund, LP	Maintain
American Strategic Value Realty Fund	Maintain
TerraCap Partners IV	Maintain
PRIT Hedge Funds	Maintain
RCP Fund IV	Illiquid Inherited
PRIT VY Investments	Maintain

Commentary produced upon change of status.



### **Manager Performance**

Total Fund Composite

As of December 31, 2022

	Allocatio			Performance(%)						
	Market Value (\$)	<u></u> %	QTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Manager Status
Total Fund Composite	240,020,471	100.0	5.6	-12.1	4.8	5.3	7.1	6.0	10/1999	
Policy Index			6.7	-13.4	3.2	4.5	6.8	5.9		
PRIT General Allocation Fund **			4.3	-11.2	6.1	6.3	7.8	8.9	02/1985	
PRIT Benchmark			4.1	-9.4	6.3	6.6	7.7	9.5		
Short Term Liquidity	1,124,734	0.5	1.4	1.9	0.7	1.1	0.6	1.1	03/2004	
90 Day U.S. Treasury Bill			0.8	1.5	0.7	1.3	0.8	1.2		
Collective US Govt STIF Fund	1,124,734	0.5	1.4	1.9	0.7	1.1	0.6	1.1	03/2004	
90 Day U.S. Treasury Bill			0.8	1.5	0.7	1.3	0.8	1.2		
Fixed Income	46,129,760	19.2	2.9	-13.2	-2.1	0.3	1.6	3.1	04/2007	
Fixed Income Benchmark			2.3	-13.3	-2.7	0.0	1.1	3.0		
IRM Core Bond Fund LLC	34,459,193	14.4	1.7	-13.2	-2.1	0.4	1.5	4.2	07/2000	Maintain
Blmbg. U.S. Aggregate			1.9	-13.0	-2.7	0.0	1.1	3.9		
IM U.S. Broad Market Core Fixed Income (MF) Median			1.7	-13.7	-2.7	-0.1	1.0	3.8		
IRM Core Bond Fund LLC Rank			49	27	20	16	13	13		
Eaton Vance Trust CIT High Yield Fund	3,969,328	1.7	4.2	-9.5	0.2	-	-	2.6	04/2018	Maintain
ICE BofAML US High Yield Master II Constrained			4.0	-11.2	-0.3	2.1	3.9	2.4		
IM U.S. High Yield Bonds (MF) Median			4.0	-10.9	-0.5	1.7	3.2	2.0		
Eaton Vance Trust CIT High Yield Fund Rank			34	24	30	-	-	23		
Brandywine Global Opportunistic Fixed Income	7,701,239	3.2	6.9	-16.1	-3.9	-1.7	0.3	1.6	06/2011	Maintain
Blmbg. Global Aggregate			4.5	-16.2	-4.5	-1.7	-0.4	0.1		
IM Global Fixed Income (MF) Median			3.8	-14.7	-3.7	-0.9	0.0	0.6		
Brandywine Global Opportunistic Fixed Income Rank			6	67	58	68	44	31		
Asset Allocation	10,662,825	4.4	8.6	-13.6	1.9	1.6	4.2	4.7	08/2010	
65% MSCI AC World ND/ 35% Blmbrg Brclys US Agg			7.0	-16.3	2.0	3.7	5.7	6.2		
WTC-CIF Opportunistic Invst Allocation	5,477,737	2.3	11.2	-11.5	3.1	2.9	4.9	4.2	11/2010	Maintain
Wellington Opportunistic Index			7.0	-16.3	2.0	3.7	5.8	5.8		

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### **Manager Performance**

Total Fund Composite

As of December 31, 2022

	Allocatio	n		Performance(%)							
	Market Value (\$)	 %	QTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	· Manager Status	
PineBridge Global Dynamic Asset Allocation Fund LLC	5,185,087	2.2	5.9	-16.2	0.5	-	-	2.5	02/2019	Maintain	
60% MSCI AC World ND/ 40% Blmbrg Brclys US Agg			6.6	-16.0	1.6	3.5	5.4	4.6			
Domestic Equity	64,416,614	26.8	6.9	-19.3	6.9	8.0	11.6	8.8	04/2007		
Domestic Equity Benchmark			7.2	-19.2	7.1	8.8	12.1	8.3			
PRIT Domestic Equity	23,998,624	10.0	7.3	-18.6	7.7	9.1	12.1	13.0	07/2010	Maintain	
PRIT Equity Benchmark			7.5	-18.1	7.2	8.8	12.1	13.0			
IM U.S. Large Cap Core Equity (MF) Median			7.8	-18.7	6.9	8.8	11.7	12.3			
PRIT Domestic Equity Rank			61	49	28	40	32	26			
Columbia US Contrarian Core Equity Fund	27,637,360	11.5	6.6	-18.5	7.5	8.7	-	9.7	01/2015	Maintain	
Russell 1000 Index			7.2	-19.1	7.3	9.1	12.4	9.9			
IM U.S. Large Cap Core Equity (MF) Median			7.8	-18.7	6.9	8.8	11.7	9.3			
Columbia US Contrarian Core Equity Fund Rank			84	48	34	53	-	38			
Wellington Small Cap 2000	12,780,630	5.3	6.6	-22.2	4.9	6.5	11.6	11.5	04/1991	Maintain	
Russell 2000 Index			6.2	-20.4	3.1	4.1	9.0	9.1			
IM U.S. Small Cap Core Equity (MF) Median			9.7	-15.8	5.2	4.8	9.0	10.2			
Wellington Small Cap 2000 Rank			89	94	57	15	2	3			
nternational Equity	49,604,274	20.7	14.6	-19.0	0.4	1.7	4.8	3.8	04/2007		
International Equity Benchmark			14.5	-16.6	0.0	0.8	4.1	2.5			
Aristotle International Equity Collective Trust - Class B	18,630,492	7.8	13.8	-20.9	-	-	-	-20.9	01/2022	Maintain	
MSCI EAFE (Net)			17.3	-14.5	0.9	1.5	4.7	-14.5			
IM International Large Cap Core Equity (MF) Median			17.1	-15.1	8.0	1.2	3.8	-15.1			
Aristotle International Equity Collective Trust - Class B Rank			86	94	-	-	-	94			
MFS Instl International Equity Fund	20,206,922	8.4	16.2	-14.8	2.9	4.6	6.2	6.7	12/2010	Maintain	
MSCI EAFE (Net)			17.3	-14.5	0.9	1.5	4.7	4.8			
IM International Large Cap Core Equity (MF) Median			17.1	-15.1	8.0	1.2	3.8	3.9			
MFS Instl International Equity Fund Rank			68	46	18	8	1	3			

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## **Manager Performance**

Total Fund Composite

As of December 31, 2022

	Allocatio		Performance(%)							
	Market Value (\$)	%	QTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	· Manager Status
Acadian Intl Small Cap Fund	5,859,916	2.4	15.3	-19.2	3.1	1.7	8.0	7.1	02/2011	Maintain
MSCI EAFE Small Cap (Net)			15.8	-21.4	-0.9	0.0	6.2	5.2		
IM International Small Cap Equity (SA+CF+MF) Median			15.7	-22.3	-0.3	0.1	5.5	5.9		
Acadian Intl Small Cap Fund Rank			55	37	14	22	11	18		
Acadian Emerging Markets Equity	4,906,944	2.0	10.6	-19.8	-0.4	-1.0	2.1	-2.8	09/2022	Maintain
MSCI Emerging Markets (Net)			9.7	-20.1	-2.7	-1.4	1.4	-3.2		
IM Emerging Markets Equity (MF) Median			9.9	-22.4	-3.2	-1.7	1.2	-1.8		
Acadian Emerging Markets Equity Rank			39	30	23	34	31	67		
Real Estate	24,827,177	10.3	0.1	8.8	11.9	10.5	9.9	3.9	04/2007	
Real Estate Benchmark			1.9	7.1	7.5	7.3	8.7	6.9		
PRIT Real Estate Fund	14,682,411	6.1	-0.7	7.0	11.1	9.7	10.0	10.1	06/2011	Maintain
PRIM Custom Total RE Benchmark			1.9	7.1	7.5	7.3	8.6	9.2		
TA Realty Core Property Fund, LP	6,486,385	2.7	1.4	15.3	16.4	-	-	14.9	04/2018	Maintain
NCREIF Property Index			-3.5	5.5	8.1	7.5	8.8	7.5		
American Strategic Value Realty Fund	2,766,908	1.2	1.4	10.7	10.3	-	-	9.3	07/2018	Maintain
NCREIF Property Index			-3.5	5.5	8.1	7.5	8.8	7.5		
TerraCap Partners IV	891,472	0.4	0.0	-3.6	7.9	-	-	9.8	07/2018	Maintain
NCREIF Property Index			-3.5	5.5	8.1	7.5	8.8	7.5		
Marketable Alternatives	19,150,790	8.0	1.5	-2.0	2.8	2.9	4.2	4.3	07/2010	
HFRI Fund of Funds Composite Index			1.8	-5.2	3.7	3.0	3.5	3.3		
PRIT Hedge Funds	19,150,790	8.0	1.5	-2.0	2.8	2.9	4.2	4.3	07/2010	Maintain
HFRI Fund of Funds Composite Index			1.8	-5.2	3.7	3.0	3.5	3.3		
Private Equity	24,104,297	10.0	-0.7	-3.1	25.5	22.4	21.9	14.8	04/2007	
RCP Fund IV	17,129	0.0	0.0	279.8	13.6	15.0	20.0	17.2	01/2007	No Status
S&P 500 + 5%			8.9	-14.0	13.0	14.9	18.2	14.0		

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## **Manager Performance**

Total Fund Composite

As of December 31, 2022

	Allocatio	n			P	erformance(	%)			
	Market Value (\$)	%	QTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Manager Status
PRIT VY Investments	24,087,168	10.0	-0.7	-3.0	26.0	22.8	18.6	7.1	04/2011	Maintain
Russell 3000 Index			7.2	-19.2	7.1	8.8	12.1	11.2		
PRIT Vintage 2011	837,642	0.3	-3.0	-4.5	31.4	25.0	22.4	10.0	04/2011	
Russell 3000 Index			7.2	-19.2	7.1	8.8	12.1	11.2		
PRIT Vintage 2012	708,241	0.3	5.8	-26.3	14.2	12.9	13.1	-8.9	06/2012	
Russell 3000 Index			7.2	-19.2	7.1	8.8	12.1	12.5		
PRIT Vintage 2013	1,274,751	0.5	-3.7	-12.1	30.6	26.9	-	15.0	07/2013	
Russell 3000 Index			7.2	-19.2	7.1	8.8	12.1	11.3		
PRIT Vintage 2014	1,614,867	0.7	-2.2	-1.0	24.1	24.5	-	12.3	06/2014	
Russell 3000 Index			7.2	-19.2	7.1	8.8	12.1	9.9		
PRIT Vintage 2015	2,213,170	0.9	0.6	-11.8	23.3	25.9	-	17.0	04/2015	
Russell 3000 Index			7.2	-19.2	7.1	8.8	12.1	9.7		
PRIT Vintage 2016	1,111,960	0.5	0.1	-3.5	25.5	17.9	-	4.8	04/2016	
Russell 3000 Index			7.2	-19.2	7.1	8.8	12.1	11.3		
PRIT Vintage 2017	3,830,106	1.6	2.3	4.4	24.7	17.9	-	16.3	05/2017	
Russell 3000 Index			7.2	-19.2	7.1	8.8	12.1	10.1		
PRIT Vintage 2018	3,240,912	1.4	-0.7	0.3	25.5	-	-	11.3	06/2018	
Russell 3000 Index			7.2	-19.2	7.1	8.8	12.1	9.0		
PRIT Vintage 2019	3,394,151	1.4	-1.5	0.5	30.2	-	-	22.9	04/2019	
Russell 3000 Index			7.2	-19.2	7.1	8.8	12.1	9.6		
PRIT Vintage 2020	2,482,550	1.0	-0.2	5.2	-	-	-	16.7	03/2020	
Russell 3000 Index			7.2	-19.2	7.1	8.8	12.1	10.8		
PRIT Vintage 2021	2,731,766	1.1	-4.2	-5.7	-	-	-	-1.3	04/2021	
Russell 3000 Index			7.2	-19.2	7.1	8.8	12.1	-2.6		



## **Manager Performance**

Total Fund Composite

As of December 31, 2022

	Allocation	ı		Performance(%)						Managan
	Market Value (\$)	%	QTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Manager Status
PRIT Vintage 2022	647,054	0.3	-0.6	-	-	-	-	-8.3	03/2022	
Russell 3000 Index			7.2	-19.2	7.1	8.8	12.1	-11.9		

<sup>\*\*</sup> PRIT General Allocation Fund performance is provided net of fees for comparative purposes only.



Total Fund Composite

As of December 31, 2022

					Perform	ance(%)					
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	
otal Fund Composite	16.2	12.6	18.7	-4.9	15.6	6.6	1.0	6.6	15.6	12.3	
Policy Index	12.1	13.1	19.5	-4.9	15.8	7.4	0.4	6.1	16.7	12.6	
PRIT General Allocation Fund **	19.9	12.2	16.3	-2.3	17.2	7.5	0.7	7.7	14.8	13.4	
PRIT Benchmark	17.6	12.8	15.8	-1.2	15.9	8.5	0.1	7.0	13.9	13.0	
Short Term Liquidity	0.0	0.4	2.0	1.3	0.4	0.0	0.0	0.0	0.0	0.0	
90 Day U.S. Treasury Bill	0.0	0.7	2.3	1.9	0.9	0.3	0.0	0.0	0.0	0.1	
collective US Govt STIF Fund	0.0	0.4	2.0	1.3	0.4	0.0	0.0	0.0	0.0	0.0	
90 Day U.S. Treasury Bill	0.0	0.7	2.3	1.9	0.9	0.3	0.0	0.0	0.0	0.1	
ixed Income	-1.2	9.4	9.6	-1.2	5.1	5.3	-1.3	6.2	-0.4	8.7	
Fixed Income Benchmark	-1.4	7.7	9.0	-0.3	4.3	4.0	-0.4	5.0	-1.3	5.1	
RM Core Bond Fund LLC	-1.2	9.2	9.1	-0.2	3.7	3.3	0.3	6.8	-1.4	6.8	
Blmbg. U.S. Aggregate	-1.5	7.5	8.7	0.0	3.5	2.6	0.5	6.0	-2.0	4.2	
IM U.S. Broad Market Core Fixed Income (MF) Median	-1.3	8.2	8.8	-0.6	3.6	2.9	0.0	5.5	<b>-</b> 2.0	6.0	
IRM Core Bond Fund LLC Rank	42	22	38	26	47	39	36	9	31	36	
aton Vance Trust CIT High Yield Fund	5.3	5.6	14.1	-	-	-	-	-	-	-	
ICE BofAML US High Yield Master II Constrained	5.3	6.1	14.4	-2.3	7.5	17.5	-4.6	2.5	7.4	15.5	
IM U.S. High Yield Bonds (MF) Median	4.9	5.4	13.8	-3.0	6.6	13.8	-4.0	1.5	6.7	14.6	
Eaton Vance Trust CIT High Yield Fund Rank	41	45	45	-	-	-	-	-	-	-	
Brandywine Global Opportunistic Fixed Income	-5.3	11.7	9.4	-5.2	12.9	5.2	-8.4	6.3	-3.6	14.0	
Blmbg. Global Aggregate	-4.7	9.2	6.8	-1.2	7.4	2.1	-3.2	0.6	-2.6	4.3	
IM Global Fixed Income (MF) Median	-2.7	8.2	8.1	-1.8	6.8	2.9	-3.8	1.9	<b>-</b> 2.5	7.3	
Brandywine Global Opportunistic Fixed Income Rank	80	12	23	96	3	20	96	12	71	5	
sset Allocation	6.4	15.0	15.8	-11.5	16.2	4.9	-0.3	1.5	13.0	11.4	
65% MSCI AC World ND/ 35% Blmbrg Brclys US Agg	11.2	13.9	20.3	-6.0	16.4	6.2	-1.1	4.9	13.6	12.1	
VTC-CIF Opportunistic Invst Allocation	6.1	16.8	19.1	-11.5	17.8	6.1	0.5	0.5	10.9	13.2	
Wellington Opportunistic Index	11.2	13.9	20.3	-6.0	16.4	6.2	-1.1	4.9	13.8	12.5	
PineBridge Global Dynamic Asset Allocation Fund LLC	6.8	13.3	-	-	-	-	-	-	-	_	
60% MSCI AC World ND/ 40% Blmbrg Brclys US Agg	10.2	13.5	19.4	-5.5	15.4	5.9	-1.0	5.0	12.3	11.5	



Total Fund Composite

As of December 31, 2022

					Perform	nance(%)				
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Domestic Equity	24.1	21.9	31.7	-8.8	20.2	12.1	0.9	11.9	34.4	12.5
Domestic Equity Benchmark	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4
PRIT Domestic Equity	27.8	20.2	30.6	-5.2	20.7	12.8	0.1	11.6	33.6	16.8
PRIT Equity Benchmark	26.6	18.9	30.8	-5.5	20.8	13.1	0.5	12.4	33.3	16.4
IM U.S. Large Cap Core Equity (MF) Median	26.9	18.4	30.6	-5.4	21.4	9.7	0.5	11.5	31.8	15.4
PRIT Domestic Equity Rank	36	35	51	45	61	13	57	49	23	28
Columbia US Contrarian Core Equity Fund	24.5	22.3	33.4	-8.3	21.7	9.3	3.5	-	-	-
Russell 1000 Index	26.5	21.0	31.4	-4.8	21.7	12.1	0.9	13.2	33.1	16.4
IM U.S. Large Cap Core Equity (MF) Median	26.9	18.4	30.6	-5.4	21.4	9.7	0.5	11.5	31.8	15.4
Columbia US Contrarian Core Equity Fund Rank	78	20	16	90	46	58	12	-	-	-
Vellington Small Cap 2000	15.4	28.5	33.1	-10.7	20.1	19.5	-2.6	9.3	43.0	18.7
Russell 2000 Index	14.8	20.0	25.5	-11.0	14.6	21.3	-4.4	4.9	38.8	16.3
IM U.S. Small Cap Core Equity (MF) Median	25.1	9.9	23.9	-12.7	12.1	21.7	-4.3	4.7	36.9	14.8
Wellington Small Cap 2000 Rank	88	2	2	27	5	73	28	6	12	16
nternational Equity	12.7	10.9	24.5	-13.7	29.2	2.9	-1.9	-4.8	18.3	19.8
International Equity Benchmark	8.1	10.9	21.9	-14.6	27.8	4.3	-4.1	-4.0	17.0	17.2
ristotle International Equity Collective Trust - Class B	-	-	-	-	-	-	-	-	-	
MSCI EAFE (Net)	11.3	7.8	22.0	-13.8	25.0	1.0	-0.8	-4.9	22.8	17.3
IM International Large Cap Core Equity (MF) Median	10.7	9.1	22.1	-15.0	25.0	0.0	-1.9	-6.0	20.4	18.0
Aristotle International Equity Collective Trust - Class B Rank	-	-	-	-	-	-	-	-	-	•
IFS Instl International Equity Fund	15.2	11.1	28.3	-10.7	28.0	0.3	0.0	-4.2	18.6	22.5
MSCI EAFE (Net)	11.3	7.8	22.0	-13.8	25.0	1.0	-0.8	-4.9	22.8	17.3
IM International Large Cap Core Equity (MF) Median	10.7	9.1	22.1	-15.0	25.0	0.0	-1.9	-6.0	20.4	18.0
MFS Instl International Equity Fund Rank	4	35	2	7	21	47	18	20	70	14
cadian Intl Small Cap Fund	19.7	13.3	22.9	-19.2	37.9	2.7	12.9	-5.6	31.7	21.1
MSCI EAFE Small Cap (Net)	10.1	12.3	25.0	-17.9	33.0	2.2	9.6	-4.9	29.3	20.0
IM International Small Cap Equity (SA+CF+MF) Median	12.6	13.4	23.5	-19.2	33.6	-0.2	6.5	-4.8	27.2	21.7
Acadian Intl Small Cap Fund Rank	5	51	55	51	21	33	13	58	23	59



Total Fund Composite

As of December 31, 2022

Total Fund Composite								As	of Decemb	er 31, 20
					Perform	nance(%)				
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Acadian Emerging Markets Equity	9.0	13.1	17.3	-18.1	37.4	13.9	-16.1	-0.1	-1.7	23.2
MSCI Emerging Markets (Net)	-2.5	18.3	18.4	-14.6	37.3	11.2	-14.9	-2.2	-2.6	18.2
IM Emerging Markets Equity (MF) Median	-1.6	17.7	20.2	-16.5	35.7	8.3	-13.7	-3.0	-1.5	18.8
Acadian Emerging Markets Equity Rank	12	71	71	65	42	14	74	24	53	15
Real Estate	26.6	1.7	10.0	6.7	7.1	4.6	11.1	19.2	5.7	9.5
Real Estate Benchmark	15.2	0.7	9.5	4.7	7.8	8.4	11.3	12.2	10.4	12.5
PRIT Real Estate Fund	27.2	0.6	10.6	5.0	8.4	7.2	11.3	13.9	10.2	13.8
PRIM Custom Total RE Benchmark	15.2	0.7	9.5	4.7	7.8	8.5	10.8	12.3	9.8	14.4
TA Realty Core Property Fund, LP	29.6	5.5	8.5	-	-	-	-	-	-	
NCREIF Property Index	17.7	1.6	6.4	6.7	7.0	8.0	13.3	11.8	11.0	10.5
American Strategic Value Realty Fund	18.6	2.3	8.0	-	-	-	-	-	-	-
NCREIF Property Index	17.7	1.6	6.4	6.7	7.0	8.0	13.3	11.8	11.0	10.5
TerraCap Partners IV	21.2	7.4	9.2	-	-	-	-	-	-	-
NCREIF Property Index	17.7	1.6	6.4	6.7	7.0	8.0	13.3	11.8	11.0	10.5
Marketable Alternatives	9.5	1.3	7.7	-1.6	8.2	4.3	-1.9	5.6	12.5	8.4
HFRI Fund of Funds Composite Index	6.2	10.9	8. <i>4</i>	-4.0	7.8	0.5	-0.3	3.4	9.0	4.8
PRIT Hedge Funds	9.5	1.3	7.7	-1.6	8.2	4.3	-1.9	5.6	12.5	8.4
HFRI Fund of Funds Composite Index	6.2	10.9	8.4	-4.0	7.8	0.5	-0.3	3.4	9.0	4.8
Private Equity	65.1	23.5	12.7	23.6	21.0	18.7	19.2	24.9	22.7	23.0
RCP Fund IV	-46.4	-28.0	8.5	26.4	18.8	34.0	18.4	29.1	26.6	26.4
S&P 500 + 5%	35.1	24.3	38.1	0.4	27.9	17.6	6.5	19.4	39.0	21.8
PRIT VY Investments	65.2	25.0	13.1	23.5	21.6	14.1	16.2	16.2	4.9	-14.3
Russell 3000 Index	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4
PRIT Vintage 2011	107.9	14.3	5.4	27.5	23.4	20.2	28.6	22.3	5.8	-14.3
Russell 3000 Index	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4
PRIT Vintage 2012	44.2	40.1	6.0	16.2	28.2	13.6	12.2	8.6	5.3	-
Russell 3000 Index	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4



Total Fund Composite

As of December 31, 2022

					Perform	ance(%)					
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	
PRIT Vintage 2013	94.4	30.5	24.3	18.7	20.4	8.8	2.7	9.8	-	-	
Russell 3000 Index	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4	
PRIT Vintage 2014	57.3	22.6	15.6	35.6	20.5	9.6	-1.9	-	-	-	
Russell 3000 Index	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4	
PRIT Vintage 2015	66.1	28.1	24.8	35.2	17.1	6.2	-	-	-	-	
Russell 3000 Index	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4	
PRIT Vintage 2016	56.8	30.6	4.3	10.8	-3.3	-	-	-	-	-	
Russell 3000 Index	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4	
PRIT Vintage 2017	57.8	17.7	15.1	2.2	-	-	-	-	-	-	
Russell 3000 Index	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4	
PRIT Vintage 2018	59.3	23.6	-3.0	-	-	-	-	-	-	-	
Russell 3000 Index	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4	
PRIT Vintage 2019	82.9	19.9	-	-	-	-	-	-	-	-	
Russell 3000 Index	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4	
PRIT Vintage 2020	35.3	-	-	-	-	-	-	-	-	-	
Russell 3000 Index	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4	
PRIT Vintage 2021	-	-	-	-	-	-	-	-	-	-	
Russell 3000 Index	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4	
PRIT Vintage 2022	-	-	-	-	-	-	-	-	-	-	
Russell 3000 Index	25.7	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4	

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.

Issue RFP in next 12 months

**Updated as of February 2023** 

Asset Class	Style	Manager/Mandate	RFP Last Issued (Mo/Yr)	Most Recent IMA/Contract/ Side Letter Date (Mo/Yr)	Current Length of Term (Yrs)	Current Term/Contract Expiration (Mo/Yr)	Status of Extensions	New Term/Contract Expiration (Mo/Yr)	Anticipated RFP/Search Date
Fixed Income	Core/Core Plus	IRM Core Bond Fund (CF)	Feb-21	Nov-21	7	Nov-28	N/A	Nov-28	May-27
	High Yield	Eaton Vance Trust High Yield Fund (CF)	Jun-17	Feb-18	7	Feb-25	N/A	Feb-25	Aug-24
	Global Bonds	Brandywine Global Opportunistic Bond Fund (CF)	May-17	Jul-17	7	Jul-24	N/A	Jul-24	Jan-24
Domestic Equity	Core Equity	PRIT Domestic Equity Account	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Core Equity	Columbia Contrarian Core Equity Private Fund (CF)	Jul-21	Feb-22 (Pending)	7	Feb-29	N/A	Feb-29	Aug-28
	Mid Cap	Lee Munder Mid Cap Core Collective Fund (CF)	Jan-18	Mar-18	7	Mar-25	N/A	Mar-25	Sep-24
	Small Cap	Wellington Small Cap 2000 Portfolio (CF)	Feb-17	Jul-17	7	Jul-24	N/A	Jul-24	Jan-24
International Equity	International Equity	Aristotle International Equity (CF)	Apr-21	Dec-21	7	Dec-28	N/A	Dec-28	Jun-28
	International Equity	MFS Instl International Equity (MF)	Apr-21	Sep-21	7	Sep-28	N/A	Sep-28	Mar-28
	International Small Cap	Acadian Int'l Small Cap (CF)	Feb-17	Jun-17	7	Jun-24	N/A	Jun-24	Dec-23
	International Emerging Markets	Acadian Emerging Markets Equity Fund (CF)	Dec-21	Sep-22	7	Sep-29	N/A	Sep-29	Mar-29
Asset Allocation	Asset Allocation	Wellington Opportunistic Investment Allocation (CF)	Jun-18	Nov-18	7	Nov-25	N/A	Nov-25	May-25
	Asset Allocation	PineBridge Global Dynamic Asset Allocation (CF)	Jun-18	Nov-18	7	Nov-25	N/A	Nov-25	May-25
Real Estate	Real Estate	PRIT Real Estate Account	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Real Estate	American Realty Advisors Strategic Value Realty	Dec-17	Jun-18	7	Jun-25	N/A	Jun-25	Dec-24
	Real Estate	TA Realty Core Property Fund	Sep-17	Mar-18	7	Mar-25	N/A	Mar-25	Sep-24
	Real Estate (Illiquid)	TerraCap Management TerraCap Partners IV	Dec-17	N/A	Closed End	N/A	N/A	N/A	N/A
	Real Estate (Winding Down)	Arsenal Real Estate	Illiquid Inherited	N/A	Closed End	N/A	N/A	N/A	N/A

Issue RFP in next 12 months

### **Updated as of February 2023**

Asset Class	Style	Manager/Mandate	RFP Last Issued (Mo/Yr)	Most Recent IMA/Contract/ Side Letter Date (Mo/Yr)	Current Length of Term (Yrs)	Current Term/Contract Expiration (Mo/Yr)	Status of Extensions	New Term/Contract Expiration (Mo/Yr)	Anticipated RFP/Search Date
Hedge Funds	Hedge Funds	PRIT Hedge Funds Account	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Private Equity	Private Equity (Illiquid)	RCP IV	Illiquid Inherited	N/A	Closed End	N/A	N/A	N/A	N/A
	Private Equity (Illiquid)	EnTrust Global Special Opportunities Fund V (Illiquid)	Mar-22	Nov-22	Closed End	N/A	N/A	N/A	N/A
	Private Equity (Illiquid)	PRIT Vintage Year	N/A	N/A	Closed End	N/A	N/A	N/A	N/A
Other Investment Related Vendors	Custodian	People's United Bank	Apr-18	Nov-18	7	Nov-25	N/A	Nov-25	May-25
	Investment Consultant	Fiduciary Investment Advisors	Jan-22	Mar-22	5	Mar-27	2 year Option	March-29	Sep-26
	Actuarial Services	Sherman Actuarial Services	Nov-19	Feb-20	4	Feb-24	N/A	Feb-24	Aug-23
	Legal Services	Attorney Thomas Gibson	Sep-18	Nov-18	7	Nov-25	N/A	Nov-25	May-25



# **Investment Gain/Loss Summary**

Total Fund Composite 1 Quarter Ending December 31, 2022

	Market Value as of 10/01/2022	Net Contributions	Gain/Loss	Market Value As of 12/31/2022
Total Fund Composite	230,121,764	-2,865,740	12,764,447	240,020,471
Short Term Liquidity	389,090	722,191	13,454	1,124,734
Collective US Govt STIF Fund	389,090	722,191	13,454	1,124,734
Fixed Income	46,358,592	-1,500,000	1,271,168	46,129,760
RM Core Bond Fund LLC	33,876,562	-	582,631	34,459,193
Eaton Vance Trust CIT High Yield Fund	5,278,902	-1,500,000	190,426	3,969,328
Brandywine Global Opportunistic Fixed Income	7,203,129	-	498,110	7,701,239
Asset Allocation	9,822,855	-	839,970	10,662,825
NTC-CIF Opportunistic Invst Allocation	4,924,485	-	553,252	5,477,737
PineBridge Global Dynamic Asset Allocation Fund LLC	4,898,370	-	286,718	5,185,087
Domestic Equity	60,743,159	-500,000	4,173,455	64,416,614
PRIT Domestic Equity	22,830,312	-500,000	1,668,312	23,998,624
Columbia US Contrarian Core Equity Fund	25,923,411	-	1,713,949	27,637,360
Wellington Small Cap 2000	11,989,436	-	791,194	12,780,630
nternational Equity	43,276,912	-	6,327,361	49,604,274
Aristotle International Equity Collective Trust - Class B	16,374,098	-	2,256,393	18,630,492
MFS InstI International Equity Fund	17,391,363	-	2,815,559	20,206,922
Acadian Intl Small Cap Fund	5,082,359	-	777,556	5,859,916
Acadian Emerging Markets Equity	4,429,091	-	477,853	4,906,944
Real Estate	26,797,812	-2,000,000	29,365	24,827,177
PRIT Real Estate Fund	16,780,427	-2,000,000	-98,016	14,682,411
ΓA Realty Core Property Fund, LP	6,397,929	-	88,456	6,486,385
American Strategic Value Realty Fund	2,727,983	-	38,925	2,766,908
FerraCap Partners IV	891,472	-	-	891,472
Marketable Alternatives	18,870,411	-	280,378	19,150,790
PRIT Hedge Funds	18,870,411	-	280,378	19,150,790
Private Equity	23,862,933	412,069	-170,704	24,104,297
RCP Fund IV	17,129	-	-	17,129
PRIT VY Investments	23,845,803	412,069	-170,704	24,087,168
PRIT Vintage 2011	874,500	-11,312	-25,546	837,642
PRIT Vintage 2012	687,393	-18,381	39,229	708,241
PRIT Vintage 2013	1,329,552	-5,210	-49,590	1,274,751



# **Investment Gain/Loss Summary**

Total Fund Composite 1 Quarter Ending December 31, 2022

	Market Value as of 10/01/2022	Net Contributions	Gain/Loss	Market Value As of 12/31/2022
PRIT Vintage 2014	1,679,869	-29,319	-35,682	1,614,867
PRIT Vintage 2015	2,250,242	-50,000	12,928	2,213,170
PRIT Vintage 2016	1,192,669	-83,056	2,346	1,111,960
PRIT Vintage 2017	3,752,061	-6,494	84,539	3,830,106
PRIT Vintage 2018	3,223,070	40,542	-22,700	3,240,912
PRIT Vintage 2019	3,395,867	50,260	-51,976	3,394,151
PRIT Vintage 2020	2,352,496	135,446	-5,392	2,482,550
PRIT Vintage 2021	2,593,046	253,749	-115,029	2,731,766
PRIT Vintage 2022	515,040	135,844	-3,830	647,054



## **Portfolio Statistics**

Total Fund Composite

As of December 31, 2022

	QTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Return	5.6	-12.1	4.8	5.3	7.1	6.0	10/1999
Standard Deviation	3.0	12.2	12.4	10.8	8.6	10.5	
Upside Risk	3.3	2.1	9.1	8.1	6.8	8.5	
Downside Risk	1.3	10.4	8.5	7.4	5.6	6.6	
s. Policy Index							
Alpha	-0.2	-0.4	1.8	1.1	0.8	1.3	
Beta	0.9	0.9	0.9	0.9	0.9	0.8	
Information Ratio	-1.1	0.6	0.6	0.4	0.2	0.0	
Tracking Error	0.3	1.9	2.2	1.8	1.4	6.9	
s. 90 Day U.S. Treasury Bill							
Sharpe Ratio	0.5	-1.1	0.4	0.4	0.8	0.5	

Calculation based on monthly periodicity.

### **Estimated Fee Analysis**

As of December 31, 2022

Manager	Target Allocation	Market Value	Fee Schedule <sup>2</sup>	Estimated Annualized Totals <sup>1</sup>
IRM Core Bond Fund	17.0%	34,459,193	0.25%	\$86,148
Eaton Vance Trust CIT High Yield Fund	2.5%	3,969,328	0.50%	\$19,847
Brandywine Global Opportunistic Fixed Income	4.0%	7,701,239	0.45%	\$34,656
Wellington Opportunistic Investment Allocation <sup>3</sup>	2.0%	5,477,737	0.65%	\$35,605
PineBridge Global Dynamic Asset Allocation	2.0%	5,185,087	0.75%	\$38,888
PRIT Domestic Equity	10.5%	23,998,624	0.08%	\$19,199
Columbia U.S. Contrarian Core Equity Private Fund	12.0%	27,637,360	0.50%	\$138,187
Wellington Small Cap 2000 Portfolio <sup>3</sup>	5.7%	12,780,630	0.90% on first \$25 Mil; 0.80% on next \$25 Mil; 0.70% on next \$50 Mil; negotiable thereafter	\$115,026
Aristotle International Equity	8.6%	18,630,492	0.49%	\$91,289
MFS Institutional International Equity	8.6%	20,206,922	0.71%	\$143,469
Acadian International Small Cap Equity	2.6%	5,859,916	0.75%	\$43,949
Acadian Emerging Markets Equity	2.0%	4,906,944	0.75%	\$36,802
PRIT Core Real Estate <sup>4</sup>	7.0%	14,682,411	0.49%	\$71,944
TA Realty Core Property Fund, LP	1.5%	6,486,385	0.70%	\$45,405
American Strategic Value Realty Fund <sup>5</sup>	1.0%	2,766,908	1.25% on first \$10 Mil; 1.20% on next \$15 Mil; 1.10% on next \$25 Mil; 1.00% thereafter	\$34,586
TerraCap Partners IV <sup>6</sup>	0.5%	891,472	1.50%	\$13,372
PRIT Hedge Funds <sup>4</sup>	7.5%	19,150,790	0.96%	\$183,848
RCP Fund IV	5.0%	17,129	0.75% of contributions	No longer charging management fee
PRIT Vintage Year Portfolios <sup>4</sup>		24,087,168	1.00%	\$240,872
Average Weighted Investment Management Fee			0.58%	Approximately \$1,400,000

RCP and TerraCap are valued as of 6/30/2022 and 9/30/2022 respectively, adjusted for capital calls and distributions in the quarter.

Footnotes: <sup>1</sup>Estimated Annualized Totals does not include applicable incentive fees. <sup>2</sup>Management fees for commingled funds may not include additional underlying fund expenses such as custody, audit, legal and administrative expenses that are typically deducted from the net asset value of the fund. <sup>3</sup>Wellington: Opportunistic Investment Allocation Fund fee structure changed to performance based with a lower base fee of 0.65% effective 1/1/2015; the maximum annual fee provided that the manager meets performance based objectives is the original fee of 1.10%; Wellington has waived minimum annual fee for the Small Cap 2000 portfolio. <sup>4</sup>PRIT Investments reflect expense ratios as of most recent fiscal year end (FY 2021 CAFR) and will vary year-to-year depending on performance incentive fees paid out to managers. Fees for Vintage Year portfolios vary widely; the estimated fee of 1.00% is expected as the management fee over the life of the investments. <sup>5</sup>American Strategic Value Realty Fund fee reflects base fee not including carried interest of 20% after 8% preferred return and 30% after 15% secondary preferred return.

DISCLOSURE: The figures on this page have been obtained from sources we deem to be reliable. Fiducient Advisors has not independently verified this information.

## **Liquidity Analysis**

## As of December 31, 2022

Investment	Initial Lock-up Period	Terms	Investment Date
IRM Core Bond Fund	None	Daily liquidity: requires 5 business days notice	Jul-00
Eaton Vance Trust CIT High Yield Fund	None	Daily Liquidity	Mar-18
Brandywine Global Opportunistic Fund	None	Daily liquidity: contributions require 24 hours notice; redemptions require 10 days notice	Jun-11
Wellington Opportunistic Investment Allocation Fund	None	Monthly contributions and/or redemptions with 30 days notice	Nov-10
PRIT Domestic Equity Account	None	Monthly liquidity for contributions and withdrawals on first business day; redemptions require 5 days notice	Jul-10
Columbia U.S. Contrarian Core Equity Fund	None	Monthly liquidity for contributions; withdrawals on first business day with wire T+10 business days; 30 days notice required	Jan-15
Wellington Small Cap 2000 Portfolio	None	Daily liquidity	Oct-99
Aristotle International Equity	None	Daily liquidity	Dec-21
MFS Institutional International Equity Fund	None	Daily liquidity	Dec-10
Acadian International Small Cap Fund	None	Daily liquidity for contributions and withdrawals, 7 business days requested	Feb-11
Acadian Emerging Markets Equity	None	Daily liquidity for contributions and withdrawals, 10 business days requested	Sep-22
PRIT Real Estate Fund	None	Monthly liquidity for contributions and withdrawals on first business day; 5 days notice required	Jun-11
TA Realty Core Property Fund, LP	Reducing percentage over 3 year period	Quarterly liquidity for withdrawals on first business day; 45 days notice required.	Apr-18
American Strategic Value Realty Fund	One-year	Quarterly liquidity for withdrawals on first business day subject to liquidity restraints due to fund activity; 30 days notice required	Jul-18
TerraCap Partners IV	8 year term plus two one-year extension options	Not applicable	Aug-18
PRIT Hedge Funds	None	Quarterly liquidity for contributions and withdrawals on first business day; 30 days notice required	Jul-10
RCP Fund IV	Term expires 12/31/18 and is subject to three one-year extensions	Not applicable	Jan-07
PRIT Vintage Year Funds	Illiquid Generally 10-15 Years	Commitments must be made annually in December. Drawdowns occur monthly on first business day.	Apr-11







Annualized net returns as of 12/31/2022	Fixed Income	Equity	Real Assets	Alternatives	Past 3 Months (Not Annualized)	1-Year Return	3-Year Return	5-Year Return	7-Year Return	10-Year Return	15-Year Return	20-Year Return	25-Year Return	30-Year Return	35-Year Retum
Watertown Current (A)	22%	50%	10%	18%	6.8%	-14.1%	3.4%	5.0%	6.8%	7.3%	6.0%	8.2%	7.3%	8.6%	9.0%
Observation Mix (A)	22%	54%	10%	15%	6.7%	-14.5%	3.4%	5.0%	7.1%	7.4%	6.1%	8.6%	7.5%	8.8%	9.3%
Observation Mix (B)	25%	50%	10%	15%	6.4%	-14.3%	3.2%	4.9%	6.9%	7.2%	6.0%	8.4%	7.4%	8.7%	9.2%
Observation Mix (C)	30%	45%	10%	15%	6.0%	-14.0%	2.9%	4.7%	6.5%	6.9%	5.9%	8.1%	7.3%	8.5%	9.0%
Observation Mix (D)	35%	40%	10%	15%	5.5%	-13.7%	2.6%	4.4%	6.2%	6.5%	5.8%	7.8%	7.1%	8.3%	8.8%
Cash	100%	1070	1070	.070	0.9%	1.5%	0.7%	1.2%	1.0%	0.7%	0.6%	1.2%	1.8%	2.3%	2.9%
TIPS	100%				2.0%	-11.8%	1.2%	2.1%	2.6%	1.1%	3.1%	3.8%	4.8%	5.0%	5.8%
US Bond	100%				1.9%	-13.0%	-2.7%	0.0%	0.9%	1.1%	2.7%	3.1%	4.0%	4.6%	5.4%
US Bonds - Dynamic	100%				2.0%	-7.0%	-0.5%	1.4%	2.5%	2.2%	3.3%	4.0%	4.0%	4.7%	5.5%
For. Dev. Bond	100%				2.4%	-17.6%	-5.9%	-2.1%	-0.2%	-0.2%	1.5%	2.6%	3.3%	4.2%	4.6%
Global Bonds	100%				4.5%	-16.2%	-4.5%	-1.7%	0.1%	-0.4%	1.5%	2.7%	3.3%	4.0%	5.0%
HY Bond	100%				4.2%	-11.2%	0.0%	2.3%	5.0%	4.0%	6.1%	7.3%	5.9%	6.8%	7.5%
EM Bond	100%				8.5%	-11.7%	-6.1%	-2.5%	1.6%	-2.0%	1.5%	4.9%	5.7%	6.9%	7.6%
Global Equity		100%			9.9%	-18.0%	4.5%	5.8%	8.7%	8.5%	5.4%	8.6%	6.4%	7.8%	7.7%
US Equity (AC)		100%			7.2%	-19.2%	7.1%	8.8%	11.0%	12.1%	8.7%	9.9%	7.7%	9.6%	10.5%
US Equity (LC)		100%			7.6%	-18.1%	7.7%	9.4%	11.5%	12.6%	8.8%	9.8%	7.6%	9.6%	10.5%
US Equity (MC)		100%			9.2%	-17.3%	5.9%	7.1%	9.6%	11.0%	8.4%	10.8%	9.0%	10.5%	11.4%
US Equity (SC)		100%			6.2%	-20.4%	3.1%	4.1%	7.9%	9.0%	7.2%	9.4%	7.1%	8.6%	9.5%
Non-US Equity (ACWI)		100%			14.4%	-15.6%	0.5%	1.4%	5.3%	4.3%	2.0%	7.2%	5.2%	6.2%	5.6%
Int'l Dev. Equity		100%			17.4%	-14.0%	1.3%	2.0%	5.0%	5.2%	2.3%	6.9%	4.9%	6.0%	5.4%
EM Equity		100%			9.8%	-19.7%	-2.3%	-1.0%	5.6%	1.8%	1.0%	9.1%	6.2%	6.4%	9.5%
Real Estate			100%		4.1%	-24.9%	0.2%	4.4%	5.6%	7.1%	6.6%	9.4%	8.2%	9.8%	9.8%
Broad Real Assets			100%		7.3%	-9.9%	1.7%	3.0%	5.2%	3.5%	4.0%	7.2%	6.8%	6.4%	5.6%
Marketable Alternatives				100%	1.6%	-5.3%	3.7%	3.0%	3.3%	3.5%	1.7%	3.6%	3.9%	5.3%	6.9%
Private Equity				100%	0.0%	0.0%	9.8%	11.6%	11.8%	12.8%	10.2%	12.6%	13.0%	15.1%	14.4%

<sup>&</sup>lt;sup>1</sup>The expected one in a hundred worst case calendar year return based on normally distributed capital market assumptions. Greater losses are possible (1% expected likelihood).

Historical Returns and Risk Metrics for each Mix represent back-tested calculations developed with the benefit of hindsight. Return calculations use an asset-weighted methodology based on the target asset allocation of each mix and the total return of index proxies used to represent each asset class and are net of fees. Historical returns are hypothetical and do not represent returns earned by a client. It is not possible to invest in an index. Please see the Frontier Engineer Hypothetical Performance Disclosures at the end of the presentation for additional information, including index proxies used to represent each asset class. Please ask for a copy of Fiducient Advisor's white paper titled 10-Year Capital Market Forecasts. Past performance does not indicate future performance and it is possible to lose money when investing.

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<sup>&</sup>lt;sup>2</sup>The expected one in a hundred worst case calendar year return based on non-normally distributed capital market assumptions (factoring in skewness & kurtosis). Greater losses are possible (1% expected likelihood).





Calendar Net Year Returns	Fixed Income	Equity	Real Assets	Alternatives	YTD 12/31/2022	2021	2020							2013	2012	2011	2010	2009			2006		2004	2003				1999				1995		1993	1992				1988
Watertown Current (A)	22%	50%	10%	18%	-14%	14%	13%	20%	-4%	15%	8%	1%	8%	17%	13%	1%	15%	24%	-28%	7%	19%	10%	16%	26%	-8%	-6%	1%	24%	11%	17%	17%	22%	3%	20%	6%	23%	-7%	17%	19%
Observation Mix (A)	22%	54%	10%	15%	-14%	14%	14%	21%	-4%	16%	9%	0%	9%	16%	14%	0%	16%	27%	-29%	8%	20%	11%	17%	28%	-9%	-5%	-1%	26%	9%	17%	17%	21%	2%	22%	7%	26%	-7%	20%	20%
Observation Mix (B)	25%	50%	10%	15%	-14%	13%	13%	20%	-4%	15%	9%	0%	9%	15%	14%	1%	15%	26%	-28%	7%	19%	10%	16%	26%	-8%	-4%	0%	25%	9%	17%	16%	21%	2%	21%	7%	25%	-7%	20%	19%
Observation Mix (C)	30%	45%	10%	15%	-14%	12%	13%	19%	-3%	14%	8%	1%	9%	14%	13%	2%	15%	25%	-26%	7%	18%	10%	16%	25%	-7%	-3%	1%	23%	9%	16%	16%	21%	2%	20%	8%	24%	-6%	19%	18%
Observation Mix (D)	35%	40%	10%	15%	-14%	11%	13%	18%	-3%	13%	8%	1%	9%	13%	12%	2%	14%	23%	-24%	7%	17%	9%	15%	23%	-5%	-2%	2%	22%	8%	16%	15%	21%	2%	19%	8%	24%	-5%	18%	17%
Cash	100%				2%	0%	1%	2%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	2%	5%	5%	3%	1%	1%	2%	4%	6%	5%	5%	5%	5%	6%	4%	3%	4%	6%	8%	9%	7%
TIPS	100%				-12%	6%	11%	8%	-1%	3%	5%	-1%	4%	-9%	7%	14%	6%	11%	-2%	12%	0%	3%	8%	8%	17%	8%	13%	2%	4%	3%	4%	18%	-3%	10%	7%	16%	9%	15%	8%
US Bond	100%				-13%	-2%	8%	9%	0%	4%										7%	4%	2%	4%	4%	10%	8%	12%	-1%	9%	10%	4%	18%	-3%	10%	7%	16%	9%	15%	3%
US Bonds - Dynamic	100%				-7%	1%	5%	8%	1%	4%	7%	-1%	3%	2%	7%	4%	7%	19%	-7%	4%	7%	3%	6%	10%	3%	6%	3%	3%	6%	9%	8%	14%	0%	10%	9%	21%	1%	15%	3%
For. Dev. Bond	100%				-18%	-6%	8%	7%	1%	6%	3%	-2%	4%	-2%	4%	5%	4%	3%	9%	8%	5%	-2%	9%	10%	14%	1%	4%	-1%	15%	3%	8%	19%	1%	14%	6%	14%	9%	0%	მ%
Global Bonds	100%				-16%	-5%	9%	7%	-1%	7%																			14%					11%	6%	16%	11%	15%	8%
HY Bond	100%				-11%	5%	7%	14%	-2%	8%	17%	-4%	2%	7%	16%	5%	15%	58%	-26%	2%	12%	3%	11%	29%	-1%	5%	-6%	2%	2%	13%	11%	19%	-1%	17%	16%	46%	-10%	1%	13%
EM Bond	100%						• • •			15%																			-8%										
Global Equity		100%																											22%										
US Equity (AC)		100%			-19%	26%	21%	31%	-5%	21%	13%	0%	13%	34%													-7%	21%	24%	32%	22%	37%	0%	11%	10%	34%	-5%	29%	18%
US Equity (LC)		100%				_	18%			22%									-37%										29%						-		-3%		17%
US Equity (MC)		100%			-17%	23%	17%																				• • •		10%									_	_
US Equity (SC)		100%					20%	_																	_				-3%								_	16% 2	_
Non-US Equity (ACWI)		100%				0.0	11%																		_				14%								_	_	_
Int'l Dev. Equity		100%						_																					20%										
EM Equity		100%								38%																			-25%										
Real Estate			100%		_	-	-	-																					-18%								_	_	_
Broad Real Assets			100%				1%			11%										_					_				-5%					3%				1%	
Marketable Alternatives				_				_													_								-5%				-3%	26%		14%	18%	23%	19%
Private Equity				100%	0%	0%	32%	16%	13%	16%	9%	8%	15%	23%	12%	12%	18%	10%	-20%	18%	25%	21%	22%	14%	-16%	-21%	10%	125%	21%	32%	33%	32%	14%	23%	14%	14%	4%	9%	9%

Historical Returns for each Mix based on back-tested return calculations developed with the benefit of hindsight. Return calculations use an asset-weighted methodology based on the target asset allocation of each mix and the total return of index proxies used to represent each asset class and are net of fees. Historical returns used are hypothetical and do not represent returns earned by a client. It is not possible to invest in an index. Please see the Frontier Engineer Hypothetical Performance Disclosures at the end of the presentation for additional information, including index proxies used to represent each asset class. For additional information on forecast methodologies, please ask for a copy of Fiducient Advisors' white paper titled 10-Year Capital Market Forecasts. Past performance does not indicate future performance and it is possible to lose money when investing.

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## **Capital Market Assumptions**

Return & Risk Assumptions (Forecasts)	Arithmetic Return	Geometric Return	Standard Deviation	Skewness	Kurtosis
US Bond	5.3%	5.0%	7.2%	-0.65	1.95
US Bonds - Dynamic	5.8%	5.6%	6.4%	-1.01	6.58
HY Bond	8.1%	7.1%	13.7%	-1.11	8.22
Global Bonds	5.5%	5.1%	9.7%	-0.36	1.26
US Equity (LC)	8.0%	6.7%	16.6%	-0.57	0.83
US Equity (SC)	8.8%	6.5%	21.3%	-0.47	1.21
Int'l Dev. Equity	11.3%	8.9%	21.9%	-0.56	1.30
EM Equity	14.9%	10.8%	28.6%	-0.65	2.01
Private Real Estate	7.8%	7.4%	9.0%	-0.75	6.78
Marketable Alternatives	8.5%	8.1%	8.7%	-0.82	4.88
Private Equity	12.3%	9.7%	22.7%	0.00	0.00

Correlation Assumptions (Forecasts)	US Bond	US Bonds - Dynamic	HY Bond	Global Bonds	US Equity (LC)	US Equity (SC)	Int'l Dev. Equity	EM Equity	Private Real Estate	Marketable Alternatives	Private Equity
US Bond	1.00	0.56	0.32	0.72	0.21	0.12	0.17	0.07	0.21	0.11	-0.13
US Bonds - Dynamic	0.56	1.00	0.94	0.51	0.60	0.58	0.55	0.56	0.61	0.50	0.16
HY Bond	0.32	0.94	1.00	0.33	0.62	0.64	0.55	0.59	0.61	0.53	0.21
Global Bonds	0.72	0.51	0.33	1.00	0.27	0.17	0.43	0.30	0.35	0.18	-0.06
US Equity (LC)	0.21	0.60	0.62	0.27	1.00	0.84	0.70	0.66	0.60	0.59	0.37
US Equity (SC)	0.12	0.58	0.64	0.17	0.84	1.00	0.63	0.66	0.66	0.63	0.36
Int'l Dev. Equity	0.17	0.55	0.55	0.43	0.70	0.63	1.00	0.71	0.51	0.59	0.32
EM Equity	0.07	0.56	0.59	0.30	0.66	0.66	0.71	1.00	0.45	0.67	0.30
Private Real Estate	0.21	0.61	0.61	0.35	0.60	0.66	0.51	0.45	1.00	0.37	0.17
Marketable Alternatives	0.11	0.50	0.53	0.18	0.59	0.63	0.59	0.67	0.37	1.00	0.50
Private Equity	-0.13	0.16	0.21	-0.06	0.37	0.36	0.32	0.30	0.17	0.50	1.00

October 31, 2022 Tw enty-Year Forecasted CMAs

<sup>\*</sup>Historical mix return calculations assume a weighted average excess return assumption of 0.5% with a Fiducient Advisors' hypothetical fee of



## **Indices for Past Return & Risk Metrics**

Indices used to generate historical risk and return metrics	Most Recent Index	Index Dates			Linked Index 1	Index Dates			Linked Index 2	Index Dates			Linked Index 2		dex ates
US Bond	Bloomberg US Agg Bond TR USD	12/22	- 1/	/79	N.A.	N.A.	-	N.A.	N.A.	N.A.	-	N.A.	N.A.	N.A.	- N.A.
US Bonds - Dynamic	*Custom Blend of Indices	12/22	- 2/	/90	Bloomberg US Agg Bond TR USD	1/90	<u>-</u>	1/79	N.A.	N.A.	-	N.A.	N.A.	N.A.	- N.A.
HY Bond	Bloomberg US Corporate High Yield TR USD	12/22	- 7/	/83	Bloomberg US Agg Bond TR USD	6/83	<u>-</u>	1/79	N.A.	N.A.	-	N.A.	N.A.	N.A.	- N.A.
Global Bonds	Bloomberg Global Aggregate TR USD	12/22	- 2/	/90	Bloomberg US Agg Bond TR USD	1/90	-	1/79	N.A.	N.A.	-	N.A.	N.A.	N.A.	- N.A.
US Equity (LC)	S&P 500 TR USD	12/22	- 1/	/79	N.A.	N.A.	<u> - </u>	N.A.	N.A.	N.A.	-	N.A.	N.A.	N.A.	- N.A.
US Equity (SC)	Russell 2000 TR USD	12/22	- 1/	/79	N.A.	N.A.	<u> </u>	N.A.	N.A.	N.A.	-	N.A.	N.A.	N.A.	- N.A.
Int'l Dev. Equity	MSCI EAFE GR USD	12/22	- 1/	/79	N.A.	N.A.	_	N.A.	N.A.	N.A.	-	N.A.	N.A.	N.A.	- N.A.
EM Equity	MSCI EM GR USD	12/22	- 1/	/88	MSCI EAFE GR USD	12/87	<u> </u>	1/79	N.A.	N.A.	-	N.A.	N.A.	N.A.	- N.A.
Private Real Estate	Wilshire US RESI TR USD	12/22	- 1/	/79	N.A.	N.A.	-	N.A.	N.A.	N.A.	-	N.A.	N.A.	N.A.	- N.A.
Marketable Alternatives	HFRI Fund of Funds Composite USD	12/22	- 1/	/90	HFN Hedge Fund Aggregate Average	12/89		1/79	N.A.	N.A.	-	N.A.	N.A.	N.A.	- N.A.
Private Equity	Cambridge PE 67% Buyout vs. 33% Venture	12/22	- 4/	/86	Russell 2000 TR USD	3/86		1/79	N.A.	N.A.	-	N.A.	N.A.	N.A.	- N.A.

<sup>\*</sup>US Bonds - Dynamic Index - 1/3 Bloomberg Gbl Agg Ex USD TR Hdg USD, 1/3 FTSE Treasury Bill 3 Mon USD & 1/3 Bloomberg US Corporate High Yield TR USD

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# Frontier Engineer Hypothetical Performance Disclosures

The historical performance information derived from the Frontier Engineer and used or presented in charts, tables, or graphs represent simulated historical performance, which has been derived by retroactively applying an asset allocation modeling process in its most recently developed form with its most recently derived ten-year (forward-looking) capital market assumptions. Such historical return simulations (or back testing) was performed by simulating the combination of actual index returns for the historical period with a buy and hold strategy effective January 1, 1988 through the most recently available month-end date with simulated rebalancing occurring every month-end (with the reinvestment of dividends and capital gains from each index).

Back tested performance is hypothetical and does not reflect actual trades or actual client performance. As with all models, there are inherent limitations which are derived from the retroactive application developed with the benefit of hindsight, including the risk that certain factors such as material economic and market conditions could have contributed to materially different (either higher or lower) performance results than those depicted, or that certain material factors may have been included or excluded from consideration. As such, actual results during the applicable back tested period would have been different than those depicted.

The asset allocation modeling process currently used was initially developed in 2002, and was not offered as a strategy prior to that time. The output of a forward-looking model (or process) is a representation of allocation percentages among specific asset classes. Clients cannot invest directly in a target allocation, but rather, in underlying securities within designated asset classes. Advisor may change its models from time to time, and regularly updates its model as additional capital market assumption information becomes available or to increase or decrease relative weightings or emphasis on certain factors. Consequently, the Advisor may choose to deviate from a stated model over time as the model itself is revised, which could have a materially positive or negative impact on performance.

During the period represented, numerous modelling changes were made, including the regular changes in (ten-year) forward-looking expected returns, expected volatilities, expected non-normal return distribution assumptions, as well as tracking-error assumptions and risk budgets. Furthermore, such assumptions can be modified client-by-client depending on certain preferences, priorities, constraints or unique considerations applicable to each client.

Other economic and market factors may have impacted decision-making when using the model to manage client funds, including the list of approved asset classes by a client or client type as well as any client-directed or Advisor implemented constraints.

All investments bear the risk of loss, including the loss of principal. Past performance, actual or hypothetical, is no guarantee of future results.

The hypothetical annual Fiducient Advisors' fee is divided by 12 and subtracted from the historical monthly (index) returns. The hypothetical excess return assumption is divided by 12 and added to the historical monthly (index) returns. Furthermore, for forecasted total portfolio (index-based) annual returns based on capital market assumptions, the annual Fiducient Advisors' fee assumption is subtracted from the hypothetical annual manager excess return assumption. Additional information on advisory fees charged by Fiducient Advisors are described in Part 2 of the Form ADV.

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## **Disclosures**

### **INDEX DEFINITIONS**

FTSE Treasury Bill 3 Month measures return equivalents of yield averages and are not marked to market. It is an average of the last three three-month Treasury bill month-end rates. Bloomberg Capital US Treasury Inflation Protected Securities Index consists of Inflation-Protection securities issued by the U.S. Treasury.

Bloomberg Muni 5 Year Index is the 5 year (4-6) component of the Municipal Bond index.

Bloomberg High Yield Municipal Bond Index covers the universe of fixed rate, non-investment grade debt.

**Bloomberg U.S.** Aggregate Index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.

FTSE World Government Bond Index (WGBI) (Unhedged) provides a broad benchmark for the global sovereign fixed income market by measuring the performance of fixed-rate, local currency, investment-grade sovereign debt from over 20 countries.

FTSE World Government Bond Index (WGBI) (Hedged) is designed to represent the FTSE WGBI without the impact of local currency exchange rate fluctuations.

Bloomberg US Corporate High Yield TR USD covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.

JP Morgan Government Bond Index-Emerging Market Index (GBI-EMI) is a comprehensive, global local emerging markets index, and consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure.

**JPMorgan EMBI Global Diversified** is an unmanaged, market-capitalization weighted, total-return index tracking the traded market for U.S.-dollar-denominated Brady bonds, Eurobonds, traded loans, and local market debt instruments issued by sovereign and quasi-sovereign entities.

MSCI ACWI is designed to represent performance of the full opportunity set of large- and mid-cap stocks across multiple developed and emerging markets, including cross-market tax incentives.

The S&P 500 is a capitalization-weighted index designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.

Russell 3000 is a market-cap-weighted index which consists of roughly 3,000 of the largest companies in the U.S. as determined by market capitalization. It represents nearly 98% of the investable U.S. equity market.

Russell Mid Cap measures the performance of the 800 smallest companies in the Russell 1000 Index.

Russell 2000 consists of the 2.000 smallest U.S. companies in the Russell 3000 index.

MSCI EAFE is an equity index which captures large and mid-cap representation across Developed Markets countries around the world, excluding the US and Canada. The index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI Emerging Markets captures large and mid-cap representation across Emerging Markets countries. The index covers approximately 85% of the free-float adjusted market capitalization in each country

The Wilshire US Real Estate Securities Index (Wilshire US RESI) is comprised of publicly-traded real estate equity securities and designed to offer a market-based index that is more reflective of real estate held by pension funds.

Alerian MLP Index is a float adjusted, capitalization-weighted index, whose constituents represent approximately 85% of total float-adjusted market capitalization, is disseminated real-time on a price-return basis (AMZ) and on a total-return basis.

Bloomberg Commodity Index (BCI) is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification.

Treasury Inflation-Protected Securities (TIPS) are Treasury bonds that are indexed to inflation to protect investors from the negative effects of rising prices. The principal value of TIPS rises as inflation rises.

HFRI Fund of Funds Composite is an equal-weighted index consisting of over 800 constituent hedge funds, including both domestic and offshore funds.

Cambridge Associates U.S. Private Equity Index (67% Buyout vs. 33% Venture) is based on data compiled from more than 1,200 institutional-quality buyout, growth equity, private equity energy, and mezzanine funds formed between 1986 and 2015.

**HFN Hedge Fund Aggregate Average** is an equal weighted average of all hedge funds and CTA/managed futures products reporting to the HFN Database. Constituents are aggregated from each of the HFN Strategy Specific Indices.

Goldman Sachs Commodity Index (GSCI) is a broadly diversified, unleveraged, long-only composite index of commodities that measures the performance of the commodity market.



# **Definitions & Disclosures**

Please note: Due to rounding methodologies of various data providers, certain returns in this report might differ slightly when compared to other sources

### REGULATORY DISCLOSURES

Offer of ADV Part 2A: Rule 204-3 under the Investment Advisers Act of 1940 requires that we make an annual offer to clients to send them, without charge, a written disclosure statement meeting the requirements of such rule. We will be glad to send a copy of our ADV Part 2A to you upon your written request to <a href="mailto:compliance@fiducient.com">compliance@fiducient.com</a>.

### INDEX DEFINITIONS

- Citigroup 3 Month T-Bill measures monthly return equivalents of yield averages that are not marked to market. The Three-Month Treasury Bill Indexes consist of the last three three-month Treasury bill issues.
- Ryan 3 Yr. GIC is an arithmetic mean of market rates of \$1 million Guaranteed Interest Contracts held for three years.
- Bloomberg Treasury U.S. T-Bills-1-3 Month Index includes aged U.S. Treasury bills, notes and bonds with a remaining maturity from 1 up to (but not including) 3 months. It excludes zero coupon strips.
- Bloomberg Capital US Treasury Inflation Protected Securities Index consists of Inflation-Protection securities issued by the U.S. Treasury.
- Bloomberg Muni Index is a rules-based, market-value-weighted index engineered for the long-term tax-exempt bond market. Bonds must be rated investment-grade by at least two ratings agencies.
- Bloomberg Muni 1 Year Index is the 1-year (1-2) component of the Municipal Bond index.
- Bloomberg Muni 3 Year Index is the 3-year (2-4) component of the Municipal Bond index.
- Bloomberg Muni 5 Year Index is the 5-year (4-6) component of the Municipal Bond index.
- Bloomberg Muni 7 Year Index is the 7-year (6-8) component of the Municipal Bond index.
- Bloomberg Intermediate U.S. Gov't/Credit is the Intermediate component of the U.S. Government/Credit index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements.
- Bloomberg U.S. Aggregate Index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.
- Bloomberg Global Aggregate ex. USD Indices represent a broad-based measure of the global investment-grade fixed income markets. The two major components of this index are the Pan-European Aggregate and the Asian-Pacific Aggregate Indices. The index also includes Eurodollar and Euro-Yen corporate bonds and Canadian government, agency and corporate securities.
- Bloomberg U.S. Corporate High Yield Index covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.
- JP Morgan Government Bond Index-Emerging Market (GBI-EM) Index is a comprehensive, global local emerging markets index, and consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure.
- The S&P 500 is a capitalization-weighted index of 500 stocks designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.
- The Dow Jones Industrial Index is a price-weighted average of 30 blue-chip stocks that are generally the leaders in their industry.
- The NASDAQ is a broad-based capitalization-weighted index of stocks in all three NASDAQ tiers: Global Select, Global Market and Capital Market.
- Russell 3000 is a market-cap-weighted index which consists of roughly 3,000 of the largest companies in the U.S. as determined by market capitalization. It represents nearly 98% of the investable U.S. equity market.
- Russell 1000 consists of the largest 1000 companies in the Russell 3000 Index.
- Russell 1000 Growth measures the performance of those Russell 1000 companies with higher P/B ratios and higher forecasted growth values.
- Russell 1000 Value measures the performance of those Russell 1000 companies with lower P/B ratios and lower forecasted growth values.
- Russell Mid Cap measures the performance of the 800 smallest companies in the Russell 1000 Index.
- Russell Mid Cap Growth measures the performance of those Russell Mid Cap companies with higher P/B ratios and higher forecasted growth values.
- Russell Mid Cap Value measures the performance of those Russell Mid Cap companies with lower P/B ratios and lower forecasted growth values.
- Russell 2000 consists of the 2,000 smallest U.S. companies in the Russell 3000 index.
- Russell 2000 Growth measures the performance of the Russell 2000 companies with higher P/B ratios and higher forecasted growth values.
- Russell 2000 Value measures the performance of those Russell 2000 companies with lower P/B ratios and lower forecasted growth values.
- Russell 2500 consists of the 2,500 smallest U.S. companies in the Russell 3000 index.
- Russell 2500 Growth measures the performance of the Russell 2500 companies with higher P/B ratios and higher forecasted growth values.
- Russell 2500 Value measures the performance of those Russell 2500 companies with lower P/B ratios and lower forecasted growth values.
- MSCI World captures large and mid-cap representation across 23 Developed Markets countries. With 1,645 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.
- MSCI ACWI (All Country World Index) ex. U.S. Index captures large and mid-cap representation across 22 of 23 Developed Markets countries (excluding the United States) and 23 Emerging Markets countries. With 1,859 constituents, the index covers approximately 85% of the global equity opportunity set outside the US.
- MSCI ACWI (All Country World Index) ex. U.S. Small Cap Index captures small cap representation across 22 of 23 Developed Markets countries (excluding the US) and 23 Emerging Markets countries. With 4,368 constituents, the index covers approximately 14% of the global equity opportunity set outside the US.
- MSCI EAFE is an equity index which captures large and mid-cap representation across Developed Markets countries around the world, excluding the US and Canada. With 930 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.



- MSCI EAFE Value captures large and mid-cap securities exhibiting overall value style characteristics across Developed Markets countries around the world, excluding the US and Canada. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield. With 507 constituents, the index targets 50% coverage of the free float- adjusted market capitalization of the MSCI EAFE Index.
- MSCI EAFE Growth captures large and mid-cap securities exhibiting overall growth style characteristics across Developed Markets countries around the world, excluding the US and Canada. The growth invest style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical sales per share growth trend. With 542 constituents, the index targets 50% coverage of the free float-adjusted market capitalization of the MSCI EAFE Index.
- MSCI Emerging Markets captures large and mid-cap representation across 23 Emerging Markets countries. With 836 constituents, the index covers approximately 85% of the free-float adjusted market capitalization in each country.
- Consumer Price Index is a measure of prices paid by consumers for a market basket of consumer goods and services. The yearly (or monthly) growth rates represent the inflation rate.
- FTSE NAREIT Equity REITs Index contains all Equity REITs not designed as Timber REITs or Infrastructure REITs.
- S&P Developed World Property defines and measures the investable universe of publicly traded property companies domiciled in developed markets. The companies in the index are engaged in real estate related activities, such as property ownership, management, development, rental and investment.
- **S&P Developed World Property x U.S.** defines and measures the investable universe of publicly traded property companies domiciled in developed countries outside of the U.S. The companies included are engaged in real estate related activities, such as property ownership, management, development, rental and investment.
- Fund Specific Broad Real Asset Benchmarks:
  - DWS Real Assets: 30%: Dow Jones Brookfield Infrastructure Index, 30%: FTSE EPRA/NAREIT Developed Index,15%: Bloomberg Commodity Index, 15%: S&P Global Natural Resources Index, 10%: U.S. Treasury Inflation Notes Total Return Index
  - PIMCO Inflation Response Multi Asset Fund: 45% Bloomberg U.S. TIPS, 20% Bloomberg Commodity Index, 15% JP Morgan Emerging Local Markets Plus, 10% Dow Jones Select REIT, 10% Bloomberg Gold Subindex Total Return
  - Principal Diversified Real Assets: 35% BBgBarc U.S. Treasury TIPS Index, 20% S&P Global Infrastructure Index NTR, 20% S&P Global Natural Resources Index NTR, 15% Bloomberg Commodity Index, and 10% FTSE EPRA/NAREIT Developed Index NTR
  - Wellington Diversified Inflation H: 50% MSCI ACWI Commodity Producers Index, 25% Bloomberg Commodity Index, and 25% Bloomberg Bloomberg US TIPS 1 10 Year Index
- Bloomberg Commodity Index is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification.
- HFRI Fund Weighted Composite Index is a global, equal-weighted index of over 2,000 single-manager funds that report to HFR Database. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of \$50 Million under management or a twelve (12) month track record of active performance. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.
- The Alerian MLP Index is the leading gauge of energy Master Limited Partnerships (MLPs). The float adjusted, capitalization-weighted index, whose constituents represent approximately 85% of total float-adjusted market capitalization, is disseminated real-time on a price-return basis (AMZ) and on a total-return basis.
- The Adjusted Alerian MLP Index is commensurate with 65% of the monthly returns of the Alerian MLP Index to incorporate the effect of deferred tax liabilities incurred by MLP entities.
- Cambridge Associates U.S. Private Equity Index is based on data compiled from more than 1,200 institutional-quality buyout, growth equity, private equity energy, and mezzanine funds formed between 1986 and 2015.
- Cambridge Associates U.S. Venture Capital Index is based on data compiled from over 1,600 institutional-quality venture capital funds formed between 1986 and 2015.
- Vanguard Spliced Bloomberg US1-5Yr Gov/Cr Flt Adj Index: Bloomberg U.S. 1–5 Year Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. 1–5 Year Government/Credit Float Adjusted Index thereafter.
- Vanguard Spliced Bloomberg US5-10Yr Gov/Cr Flt Adj Index: Bloomberg U.S. 5–10 Year Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. 5–10 Year Government/Credit Float Adjusted Index thereafter.
- Vanguard Spliced Bloomberg US Agg Flt Adj Index: Bloomberg U.S. Aggregate Bond Index through December 31, 2009; Bloomberg U.S. Aggregate Float Adjusted Index thereafter.
- Vanguard Spliced Bloomberg U.S. Long Gov/Cr Flt Adj Index: Bloomberg U.S. Long Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. Long Government/Credit Float Adjusted Index thereafter.
- Vanguard Balanced Composite Index: Made up of two unmanaged benchmarks, weighted 60% Dow Jones U.S. Total Stock Market Index (formerly the Dow Jones Wilshire 5000 Index) and 40% Bloomberg U.S. Aggregate Bond Index through May 31, 2005; 60% MSCI US Broad Market Index and 40% Bloomberg U.S. Aggregate Bond Index through December 31, 2009; 60% MSCI US Broad Market Index and 40% Bloomberg U.S. Aggregate Float Adjusted Index through January 14, 2013; and 60% CRSP US Total Market Index and 40% Bloomberg U.S. Aggregate Float Adjusted Index thereafter.
- Vanguard Spliced Intermediate-Term Tax-Exempt Index: Bloomberg 1–15 Year Municipal Bond Index.
- Vanguard Spliced Extended Market Index: Dow Jones Wilshire 4500 Index through June 17, 2005; S&P Transitional Completion Index through September 16, 2005; S&P Completion Index thereafter.
- Vanguard Spliced Value Index: S&P 500 Value Index (formerly the S&P 500/Barra Value Index) through May 16, 2003; MSCI US Prime Market Value Index through April 16, 2013; CRSP US Large Cap Value Index thereafter.
- Vanguard Spliced Large Cap Index: Consists of MSCI US Prime Market 750 Index through January 30, 2013, and the CRSP US Large Cap Index thereafter.
- Vanguard Spliced Growth Index: S&P 500 Growth Index (formerly the S&P 500/Barra Growth Index) through May 16, 2003; MSCI US Prime Market Growth Index through April 16, 2013; CRSP US Large Cap Growth Index thereafter.
- Vanguard Spliced Mid Cap Value Index: MSCI US Mid Cap Value Index through April 16, 2013; CRSP US Mid Cap Value Index thereafter.
- Vanguard Spliced Mid Cap Index: S&P MidCap 400 Index through May 16, 2003; the MSCI US Mid Cap 450 Index through January 30, 2013; and the CRSP US Mid Cap Index thereafter.
- Vanguard Spliced Mid Cap Growth Index: MSCI US Mid Cap Growth Index through April 16, 2013; CRSP US Mid Cap Growth Index thereafter.
- Vanguard Spliced Total Stock Market Index: Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 22, 2005; MSCI US Broad Market Index through June 2, 2013; and CRSP US Total Market Index thereafter.
- Vanguard Spliced Small Cap Value Index: SmallCap 600 Value Index (formerly the S&P SmallCap 600/Barra Value Index) through May 16, 2003; MSCI US Small Cap Value Index through April 16, 2013; CRSP US Small Cap Value Index thereafter.



- Vanguard Spliced Small Cap Index: Russell 2000 Index through May 16, 2003; the MSCI US Small Cap 1750 Index through January 30, 2013; and the CRSP US Small Cap Index thereafter.
- Vanguard Spliced Small Cap Growth Index: S&P SmallCap 600 Growth Index (formerly the S&P SmallCap 600/Barra Value Index) through May 16, 2003; MSCI US Small Cap Growth Index through April 16, 2013; CRSP US Small Cap Growth Index thereafter.
- Vanguard Spliced Total International Stock Index: Consists of the Total International Composite Index through August 31, 2006; the MSCI EAFE + Emerging Markets Index through December 15, 2010; the MSCI AC USA IMI Index through June 2, 2013; and FTSE Global All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.
- Vanguard Spliced Developed Markets Index: MSCI EAFE Index through May 28, 2013; FTSE Developed ex North America Index through December 20, 2015; FTSE Developed All Cap ex US Transition Index through May 31, 2016; FTSE Developed All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.
- Vanguard Spliced Emerging Markets Index: Select Emerging Markets Index through August 23, 2006; MSCI Emerging Markets Index through January 9, 2013; FTSE Emerging Transition Index through June 27, 2013; FTSE Emerging Index through November 1, 2015; and FTSE Emerging Markets All Cap China A Transition Index thereafter. Benchmark returns are adjusted for withholding taxes.
- Vanguard REIT Spliced Index: MSCI US REIT Index adjusted to include a 2% cash position (Lipper Money Market Average) through April 30, 2009; MSCI US REIT Index through January 31, 2018; MSCI US Investable Market Real Estate 25/50 Transition Index through July 24, 2018; MSCI US Investable Market Real Estate 25/50 Index thereafter.

### Additional:

- Equity sector returns are calculated by Russell and MSCI for domestic and international markets, respectively. MSCI sector definitions correspond to the MSCI GICS® classification (Global Industry Classification System); Russell uses its own sector and industry classifications.
- MSCI country returns are calculated by MSCI and are free float-adjusted market capitalization indices that are designed to measure equity market performance in each specific country.
- Currency returns are calculated using Bloomberg's historical spot rate indices and are calculated using the U.S. dollar as the base currency.
- The Index of Leading Economic Indicators, calculated by The Conference Board, is used as a barometer of economic activity over a range of three to six months. The index is used to determine the direction and stability of the economy. The composite index of leading indicators, which is derived from 10 leading indicators, helps to signal turning points in the economy and forecast economic cycles. The leading indicators are the following: average weekly hours, average weekly initial claims, manufacturers' new orders, both consumer and non-defense capital goods, vendor performance, building permits, stock prices, money supply (M2), the interestrate spread and the index of consumer expectations.
- S&P Target Date Indexes are constructed using a survey method of current target date investments with \$100 million or more in assets under management. Allocations for each vintage are comprised of exchange-traded-funds that represent respective asset classes used in target date portfolios. The indexes are designed to represent a market consensus glide path.

### **DEFINITION OF KEY STATISTICS AND TERMS**

- Returns: A percentage figure used when reporting historical average compounded rate of investment return. All returns are annualized if the period for which they are calculated exceeds one year.
- Universe Comparison: The universe compares the fund's returns to a group of other investment portfolios with similar investment strategies. The returns for the fund, the index and the universe percentiles are displayed. A percentile ranking of 1 is the best, while a percentile ranking of 100 is the worst. For example, a ranking of 50 indicates the fund outperformed half of the universe. A ranking of 25 indicates the fund was in the top 25% of the universe, outperforming 75%.
- Returns In Up/Down Markets: This measures how the fund performed in both up and down markets. The methodology is to segregate the performance for each time period into the quarters in which the market, as defined by the index, was positive and negative. Quarters with negative index returns are treated as down markets, and quarters with positive index returns are treated as up markets. Thus, in a 3 year or 12 quarter period, there might be 4 down quarters and 8 up quarters. A simple arithmetic average of returns is calculated for the fund and the index based on the up quarters. A simple arithmetic average of returns is calculated for the fund and the index based on the down quarters. The up market capture ratio is the ratio of the fund's return in up markets to the index. The down market capture ratio of the fund's return in down markets to the index. Ideally, the fund would have a greater up market capture ratio than down market capture ratio.
- Standard Deviation: Standard deviation is a statistical measure of the range of performance within which the total returns of a fund fall. When a fund has a high standard deviation, the range of performance is very wide, meaning there is a greater volatility. Approximately 68% of the time, the total return of any given fund will differ from the average total return by no more than plus or minus the standard deviation figure. Ninety-five percent of the time, a fund's total return will be within a range of plus or minus two times the standard deviation from the average total return. If the quarterly or monthly returns are all the same the standard deviation will be zero. The more they vary from one another, the higher the standard deviation. Standard deviation can be misleading as a risk indicator for funds with high total returns because large positive deviations will increase the standard deviation without a corresponding increase in the risk of the fund. While positive volatility is welcome, negative is not.
- R-Squared: This reflects the percentage of a fund's movements that are explained by movements in its benchmark index. An R-squared of 100 means that all movements of a fund are completely explained by movements in the index. Conversely, a low R-squared indicates very few of the fund's movements are explained by movements in the benchmark index. R-squared can also be used to ascertain the significance of a particular beta. Generally, a higher R-squared will indicate a more reliable beta figure. If the R-squared is lower, then the beta is less relevant to the fund's performance. A measure of diversification, R-squared indicates the extent to which fluctuations in portfolio returns are explained by market. An R-squared = 0.70 implies that 70% of the fluctuation in a portfolio's return is explained by the fluctuation in the market. In this instance, overweighting or underweighting of industry groups or individual securities is responsible for 30% of the fund's movement.
- **Beta**: This is a measure of a fund's market risk. The beta of the market is 1.00. Accordingly, a fund with a 1.10 beta is expected to perform 10% better than the market in up markets and 10% worse that the market in down markets. It is important to note, however, a low fund beta does not imply the fund has a low level of volatility; rather, a low beta means only that the fund's market-related risk is low. Because beta analyzes the market risk of a fund by showing how responsive the fund is to the market, its usefulness depends on the degree to which the markets determine the fund's total risk (indicated by R-squared).
- Alpha: The Alpha is the nonsystematic return, or the return that can't be attributed to the market. It can be thought of as how the <u>manager</u> performed if the market's return was zero. A <u>positive</u> alpha implies the manager added value to the return of the portfolio over that of the market. A negative alpha implies the manager did not contribute any value over the performance of the market.
- Sharpe Ratio: The Sharpe ratio is the excess return per unit of total risk as measured by standard deviation. Higher numbers are better, indicating more return for the level of risk experienced. The ratio is a fund's return minus the risk-free rate of return (30-day T-Bill rate) divided by the fund's standard deviation. The <a href="higher-the-Sharpe-ratio">higher-the-Sharpe-ratio</a>, the more reward you are receiving per unit of total risk. This measure can be used to rank the performance of mutual funds or other portfolios.
- Treynor Ratio: The Treynor ratio measures returns earned in excess of that which could have been earned on a riskless investment per each unit of market risk. The ratio relates excess return over the risk-free rate to the additional risk taken; however, systematic risk is used instead of total risk. The Treynor ratio is similar to the Sharpe ratio, except in the fact that it uses the beta to evaluate the returns rather than the standard deviation of portfolio returns. High values mean better return for risk taken.



- Tracking Error: Tracking error measures the volatility of the difference in annual returns between the manager and the index. This value is calculated by measuring the standard deviation of the difference betweer manager and index returns. For example, a tracking error of +/- 5 would mean there is about a 68% chance (1 standard deviation event) that the manager's returns will fall within +/- 5% of the benchmark's an return.
- Information Ratio: The information ratio is a measure of the consistency of excess return. This value is determined by taking the annualized excess return over a benchmark (style benchmark by default) and dividing the standard deviation of excess return.
- Consistency: Consistency shows the percent of the periods the fund has beaten the index and the percent of the periods the index has beat the fund. A high average for the fund (e.g., over 50) is desirable, indicating the fund has beaten the index frequently.
- **Downside Risk:** Downside risk is a measure similar to standard deviation but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. The higher the factor, the riskier the product.
- M-Squared: M-squared, or the Modigliani risk-adjusted performance measure is used to characterize how well a portfolio's return rewards an investor for the amount of risk taken, relative to that of some benchmark portfolio and to the risk-free rate.

### **DEFINITION OF KEY PRIVATE EQUITY TERMS**

- PIC (Paid in Capital): The amount of committed capital that has been transferred from the limited partner to the general partner.
- TVPI (Total Value to Paid in Capital): Money returned to limited partners plus the fund's unrealized investments, divided by money paid-in to the partnership. The TVPI should equal RVPI plus DPI.
- DPI (Distribution to Paid In Capital): Money returned (distributions) to limited partners divided by money paid in to the partnership. Also called cash-on-cash multiple.
- RVPI (Residual Value to Paid In Capital): The value of a fund's unrealized investments divided by money paid-in to the partnership.
- Internal rate of return (IRR): This is the most appropriate performance benchmark for private equity investments. It is a time-weighted return expressed as a percentage. IRR uses the present sum of cash drawdowns (money invested), the present value of distributions (money returned from investments) and the current value of unrealized investments and applies a discount.
- Commitment: Every investor in a private equity fund commits to investing a specified sum of money in the fund partnership over a specified period of time. The fund records this as the limited partnership's capital commitment. The sum of capital commitments is equal to the size of the fund.
- Capital Distribution: These are the returns that an investor in a private equity fund receives. It is the income and capital realized from investments less expenses and liabilities. Once a limited partner has had their cost of investment returned, further distributions are actual profit. The partnership agreement determines the timing of distributions to the limited partner. It will also determine how profits are divided among the limited partners and general partner.
- Carried Interest: The share of profits that the fund manager is due once it has returned the cost of investment to investors. Carried interest is normally expressed as a percentage of the total profits of the fund.
- **Co-Investment**: Co-Investments are minority investments made alongside a private equity investor in an LBO, a recapitalization, or an expansion capital transaction. It is a passive, non-controlling investment, as the private equity firm involved will typically exercise control and perform monitoring functions.
- General Partner (GP): This can refer to the top-ranking partners at a private equity firm as well as the firm managing the private equity fund.
- **GP Commitments:** It is normal practice for the GP managing a private equity fund to also make a financial commitment to the fund on the same basis as the LPs in the fund, and this is seen as an important factor driving the alignment of GP and LP interests. The historic benchmark for GP commitments has been 1% of the total fund size, but this is by no means universal, and many GPs commit significantly larger amounts. Furthermore, there has been a marked trend towards GPs making larger commitments to their funds over recent years.
- Leveraged Buy-Out (LBO): The acquisition of a company using debt and equity finance.
- Limited Partner (LP): Institutions or high-net-worth individuals/sophisticated investors that contribute capital to a private equity fund.
- Public Market Equivalent (PME): Performance measure used to evaluate performance relative to the market. It is calculated as the ratio of the discounted value of the LP's inflows divided by the discounted value of outflows, with the discounting performed using realized market returns.
- **Primaries:** An original investment vehicle that invests directly into a company or asset.

### **VALUATION POLICY**

Fiducient Advisors does not engage an independent third-party pricing service to value securities. Our reports are generated using the security prices provided by custodians used by our clients. Our custodial pricing hierarchy is available upon request. If a client holds a security not reported by the first custodian within the hierarchy, the valuation is generated from the next custodian within the hierarchy, and so forth. Each custodian uses pricing services from outside vendors, where the vendors may generate nominally different prices. Therefore, this report can reflect minor valuation differences from those contained in a custodian's report. In rare instances where FA overrides a custodial price, prices are taken from Bloomberg.

### REPORTING POLICY

This report is intended for the exclusive use of the client listed within the report. Content is privileged and confidential. Any dissemination or distribution is strictly prohibited. Information has been obtained from a variety of sources believed to be reliable though not independently verified. Any forecast represents median expectations and actual returns, volatilities and correlations will differ from forecasts. Please note each client has customized investment objectives and constraints and the investment strategy for each portfolio is based on a client-specific asset allocation model. Past performance does not indicate future performance and there is a possibility of a loss. Performance calculated net of investment fees. Certain portfolios presented may be gross of Fiducient Advisors' fees and actual performance would be reduced by investment advisory fees. This report does not represent a specific investment recommendation. Please consult with your advisor, attorney, and accountant, as appropriate, regarding specific advice.



Custodian reports are the reports that govern the account. There will be different account values between Fiducient Advisors' reports and the custodian reports based on whether the report utilizes trade date or date to calculate value. Additionally, difference between values contained on reports may be caused by different accrued income values. Any forecasts represent future expectations and actual returns, volatilities and will differ from forecasts. This report does not represent a specific investment recommendation. Please consult with your advisor, attorney, and accountant, as appropriate, regarding specific advice. Past perfor not indicate future performance and there is a possibility of aloss.

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Unless specified otherwise, all returns are net of individual manager fees, represent total returns and are annualized for periods greater than one year. The deduction of fees produces a compounding effect that reduces the total rate of return over time. As an example, the effect of investment management fees on the total value of a client's portfolio assuming (a) quarterly fee assessment, (b) \$1,000,000 investment, (c) portfolio return of 8% a year, and (d) 0.50% annual investment advisory fee would be \$5,228 in the first year, and cumulative effects of \$30,342 over five years and \$73,826 over ten years. Additional information on advisory fees charged by Fiducient Advisors are described in Part 2 of the Form ADV.

### **MATERIAL RISKS & LIMITATIONS**

Fixed Income securities are subject to interest rate risks, the risk of default and liquidity risk. U.S. investors exposed to non-U.S. fixed income may also be subject to currency risk and fluctuations. -Liability Driven Investing (LDI) Assets

**Cash** may be subject to the loss of principal and over longer period of time may lose purchasing power due to inflation. -Short Term Liquidity

**Domestic Equity** can be volatile. The rise or fall in prices take place for a number of reasons including, but not limited to changes to underlying company conditions, sector or industry factors, or other macro events. These may happen quickly and unpredictably.

International Equity can be volatile. The rise or fall in prices take place for a number of reasons including, but not limited to changes to underlying company conditions, sector or industry impacts, or other macro events. These may happen quickly and unpredictably. International equity allocations may also be impact by currency and/or country specific risks which may result in lower liquidity in some markets.

Real Assets can be volatile and may include asset segments that may have greater volatility than investment in traditional equity securities. Such volatility could be influenced by a myriad of factors including, but not limited to overall market volatility, changes in interest rates, political and regulatory developments, or other exogenous events like weather or natural disaster.

**Private Equity** involves higher risk and is suitable only for sophisticated investors. Along with traditional equity market risks, private equity investments are also subject to higher fees, lower liquidity and the potential for leverage that may amplify volatility and/or the potential loss of capital.

**Private Credit** involves higher risk and is suitable only for sophisticated investors. These assets are subject to interest rate risks, the riskof default and limited liquidity. U.S. investors exposed to non-U.S. private credit may also be subject to currency risk and fluctuations.

**Private Real Estate** involves higher risk and is suitable only for sophisticated investors. Real estate assets can be volatile and may include unique risks to the asset class like leverage and/or industry, sector or geographical concentration. Declines in real estate value may take place for a number of reasons including, but are not limited to economic conditions, change in condition of the underlying property or defaults by the borrow.

Marketable Alternatives involves higher risk and is suitable only for sophisticated investors. Along with traditional market risks, marketable alternatives are also subject to higher fees, lower liquidity and the potential for leverage that may amplify volatility or the potential for loss of capital. Additionally, short selling involved certain risks including, but not limited to additional costs, and the potential for unlimited loss on certain short sale positions.

### OTHER

By regulation, closed-end funds utilizing debt for leverage must report their interest expense, as well as their income tax expense, as part of their total expense ratio. To make for a useful comparison between closed-end funds and both open-end funds and exchange-traded funds, adjusted expense ratios excluding interest and income tax expenses are utilized for closed-end funds within this report. See disclosure on closed-end fund fact sheets for information regarding the total expense ratio of each closed-end fund.

Please advise us of any changes in your objectives or circumstances.

### **CUSTODIAN STATEMENTS**

Please remember to review the periodic statements you receive from you custodian. If you do not receive periodic statements from your custodian or notice issues with the activity reported in those statements, please contact FA or your custodian immediately.