

City of Cincinnati Retirement System Investment Committee

City Hall Council Chambers and via Zoom November 3, 2022 – 12:00 PM

AGENDA

Members

Bill Moller, Chair Tom Gamel, Vice Chair Kathy Rahtz Mark Menkhaus, Jr. Monica Morton John Juech Jeff Cramerding Tom West <u>Staff</u>

Michael Barnhill Bev Nussman Keva Eleam

Call to Order

Public Comment

Approval of Minutes

▲ August 4, 2022

New Business

- **4** Current Market Environment
- **4** 3rd Quarter, 2022 Investment Report
- **4** Risk Parity Asset Allocation
- ↓ Implementation of Asset Alloc. Changes
- **4** Trustee Investment Education
- ♣ Investment Consultant RFP

Adjournment

- B. Christenson, Marquette Assocs.
- B. Christenson, Marquette Assocs.
- B. Christenson, Marquette Assocs.
- B. Nussman
- B. Christenson, Marquette Assocs.
- M. Barnhill

Next Meeting: February 2, 2023, 12:00 PM



City of Cincinnati Retirement System Investment Committee Meeting Minutes

August 4, 2022 / 12:00 P.M. City Hall – Council Chambers and remotely

Present

Bill Moller Tom Gamel Mark Menkhaus, Jr. Kathy Rahtz Don Stiens Jeff Cramerding Staff Present Mike Barnhill Bev Nussman

Call to Order

Chair Moller called the meeting to order at 12:14 p.m. and a roll call of attendance was taken. Trustees Moller, Gamel. Menkhaus, Rahtz, and Stiens were present. Trustee Cramerding arrived at 12:19pm. Trustee Juech was absent.

Approval of Minutes

Approval of the minutes of the Investment Committee meeting of May 5, 2022, was moved by Trustee Gamel and seconded by Trustee Stiens. The minutes were approved by unanimous roll call vote.

New Business

Market Environment

Mr. Brett Christenson of Marquette Associates presented on the current market environment. Highlights:

- Inflation (June CPI) came in at 9.1%, the highest in over 40 years. The causes of this inflation are the COVID pandemic, impacts to supply chains, and government fiscal stimulus.
- Mortgage rates have sharply increased, which is slowing home purchases.
- Commodities (energy, metals, and agriculture) are coming down from recent highs.
- Federal Reserve expected to increase short term rates by 0.75% in July and again in September, and then another increase of 0.5% in December. In 2023, the market is expecting the Fed to begin reducing rates.
- Historically, the Fed has checked inflation by raising rates above the rate of inflation. This time, however, since much of the inflation is supply related, the Fed is not expected to raise rates above the rate of inflation which is currently 9+%. Supply constraints are expected to ease over the next several months, reducing the need for the Fed to increase rates above the rate of inflation.
- Investment drawdowns are worse during a recession. The economy is in a technical recession, but we also have strong employment, which is not typical for a recession.

- Returns typically bounce back following a recession, particularly when drawdowns are in the -20% range, which is where we are now. Stocks and bonds were up in July.
- The fixed income drop this year (-10%) is unprecedented (Bloomberg Barclays Aggregate). Primarily caused by rapid Fed rate increases.
- 2022 has seen the most equity volatility since 2009. No class of equities have been spared, but Value equities have performed relatively better.
- In Real Estate, net income growth is driving positive returns. The Industrial sector is expected to perform the strongest. The Retail and Office sectors are expected to be flat. The Apartment sector is expected to have positive returns.
- In the Office sector, it remains unclear how remote work will impact net income. This sector has recently turned positive and appears to be on a path to stabilization.
- CRS currently has 1% exposure to Private Credit, but will be expanding its exposure with the addition of Carlyle and Owl Rock. This asset class is expected to do well in a rising interest rate environment. Private credit has performed better than high yield and senior credit over the past 12 months.

Director Barnhill asked whether the story of 2022 is a market reversion to the mean with the withdrawal of government stimulus, and if the economy and investment markets will stabilize from here. Mr. Christenson replied that is the hope, but the outstanding question is whether the proposed Fed rate increases are sufficient to bring inflation under control. Volatility will likely continue, but the next CPI prints will direct what happens next. If they come in higher that will likely cause the Fed to decide to raise interest rates higher than currently expected. Mr. Christenson agreed that we should continue to keep CPI on our radar.

Trustee Moller observed that the unemployment rate has continued to remain quite low. Mr. Christenson said that there is emerging evidence of labor market slowdown with companies hinting at coming layoffs as a result of declining productivity. At this point, the future remains quite cloudy.

2nd Quarter 2022 Investment Returns Report

Mr. Christenson stepped through the CRS 2nd Quarter Investment Returns report. Highlights:

- p.3 lists all managers and their status in terms of compliance with the terms of their investment mandate and the CRS Investment Policy Statement. All managers state they are in compliance.
- p. 4 lists the current market value of each asset class and manager, along with actual and target asset class weights. Total market value = \$2.25B. Underweight asset classes: Fixed Income, US and Non-US Equity, Risk Parity and Volatility Risk Premia. Overweight asset classes: Real Estate, Infrastructure and Private Equity. Withdrawals are pending for Real Estate that will bring the portfolio back to target in October. Distributions are expected from the Infrastructure asset class.
- A capital call with a short term-around time is expected at some point in the next few months from Ullico. If so, Mr. Christenson is recommending a quick meeting to approve a \$15mm withdrawal from IFM to fund this. Trustee Moller reviewed the Board's rule on rebalancing and expressed a preference to schedule a meeting to approve this in advance. Trustee Gamel asked about lead time for capital calls. Mr. Christenson replied that we usually get two weeks or less to fund capital calls. Bigger capital calls do challenge the liquidity of the CRS portfolio.
- Trustee Moller asked for a review of Risk Parity at the next meeting.

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- In Private Equity we received about \$3.5mm in distributions. Volatility is less in Private Equity because of quarterly valuations and conservative appraisals.
- p. 8 illustrates the increasing negative cash flow that the portfolio is experiencing (-6.5% to -7% per year).
- Trustee Moller asked for an explanation of the Global Tactical element of the chart on p. 7. Mr. Christenson replied this is the Risk Parity asset class.
- p. 10 reflects the contribution of each investment to the fund's total return. Equities have the biggest impact, accounting for about half of the -8.1% 3mo return.
- When compared against peers, CRS is in the 19th percentile (1st quartile) of return performance. The relative higher return is a consequence of the Value style tilt in the Domestic Equity asset class, as well as the greater than median exposure to Alternative asset classes (Real Estate, Infrastructure, Private Equity).
- Risk Parity is down 13% YTD. Designed to be 1/3 global equities, 1/3 global fixed income, 1/3 commodities. Both the equities and fixed income are down (unusual), but commodities are up. Seven year return is half of the benchmark.
- Volatility Risk Premia. This asset class sells puts on the S&P500. In a down market, the negative return of the S&P 500 is offset by the amount of the premiums earned. This asset class is performing as expected. It is also outperforming Risk Parity and is easier to understand than Risk Parity.
- Real Estate and Infrastructure are performing well.
- p. 14, Fixed Income. NTGI Aggregate Bond is tracking its index. Loomis Sayles Core-Plus has some high yield in its portfolio; lagging the Barclays Agg index YTD as a result, but outperforming its peer group. Loomis is also outperforming its benchmark on a 5yr basis. Shenkman is a mixed bond manager (high yield, convertible, leverage loans and opportunistic)—it's down as well, but beating the high yield index, and performing better than peers on a relative basis. Shenkman is beating Loomis, and not down as much as high yield.
- Value style tilt is helping to limit losses in the Domestic Equity asset class.
- p. 25. Private Equity internal rates of return are compared to public market equivalent returns (PME). Strong returns for fund vintages 2014 and later; better than public markets. Overall, the total IRR compared to PME is not ideal as a result of older vintage funds' performance. Looking forward, the JP Morgan and Siguler Guff funds will hopefully lift the Private Equity portfolio IRR.
- Trustee Moller requested review of p.12. This page shows CRS return performance (red dot) vis a vis its peers. Each box shows the range of peer group returns by quartile. The top quartile returns are represented by the white area at the top of each box. CRS returns are 1st quartile for the Quarter, YTD, 1yr and 3yr returns. The goal is to stay in the top 2 quartiles (above median). Mr. Christenson noted that the peer universe on this page is relatively small (16 funds), but is thought to be representative.
- Trustee Moller asked about the chart on p. 27, and what it reflects regarding relative risk. This chart shows the CRS portfolio is somewhat more risky than peer portfolios.

Trustee Menkhaus made a motion, and Trustee Rahtz seconded, to accept Marquette's 2Q2022 Investment Report. The Committee passed the motion on a unanimous roll call vote.

Adjournment

Trustee Moller adjourned the meeting at 1:24pm.

Meeting video link: https://archive.org/details/crs-investment-comm-8-4-22

Next Meeting: November 3, 2022, at 2:00 p.m.

Secretary



30 2022 Market Environment

This presentation is furnished on a confidential basis to the recipient for informational purposes only. For disclosure information, please refer to the end of this presentation.



Year-to-date returns

2022 YTD	2021	2020	2019	2018	2017	2016	2015	2014	2013	5yr	10yr
Commodities 21.8%	Commodities 40.4%	Broad U.S. Equities 20.9%	Large Cap 31.5%	Real Estate 6.7%	Emerging Markets 37.3%	Small Cap 21.3%	Real Estate 13.3%	Large Cap 13.7%	Small Cap 38.8%	Large Cap 9.7%	Large Cap 12.0%
Real Estate 12.0%	Large Cap 28.7%	Small Cap 20.0%	Broad U.S. Equities 31.0%	Hedge Funds 4.8%	Intl Small Cap 33.0%	High Yield 17.1%	Intl Small Cap 9.6%	Mid Cap 13.2%	Mid Cap 34.8%	Broad U.S. Equities 9.1%	Broad U.S. Equities 11.7%
Bank Loans -3.3%	Broad U.S. Equities 25.7%	Large Cap 18.4%	Mid Cap 30.5%	Bank Loans 1.1%	Broad Intl Equities 27.2%	Mid Cap 13.8%	Large Cap 1.4%	Broad U.S. Equities 12.6%	Broad U.S. Equities 33.6%	Real Estate 8.9%	Mid Cap 10.5%
Hedge Funds -6.2%	Mid Cap 22.6%	Emerging Markets 18.3%	Small Cap 25.5%	Core Bond 0.0%	Intl Large Cap 25.0%	Broad U.S. Equities 12.7%	Core Bond 0.5%	Real Estate 11.8%	Large Cap 32.4%	Commodities 8.5%	Real Estate 9.7%
Core Bond -14.6%	Real Estate 17.7%	Mid Cap 17.1%	Intl Small Cap 25.0%	High Yield -2.1%	Large Cap 21.8%	Large Cap 12.0%	Broad U.S. Equities 0.5%	Core Bond 6.0%	Intl Small Cap 29.3%	Mid Cap 7.1%	Small Cap 8.9%
High Yield -14.7%	Small Cap 14.8%	Intl Small Cap 12.3%	Intl Large Cap 22.0%	Large Cap -4.4%	Broad U.S. Equities 21.1%	Commodities 11.4%	Bank Loans -0.4%	Small Cap 4.9%	Intl Large Cap 22.8%	Hedge Funds 5.1%	Intl Small Cap 5.8%
Large Cap -23.9%	Intl Large Cap 11.3%	Hedge Funds 11.8%	Broad Intl Equities 21.5%	Broad U.S. Equities -5.2%	Mid Cap 18.5%	Emerging Markets 11.2%	Intl Large Cap -0.8%	Hedge Funds 3.0%	Broad Intl Equities 15.3%	Small Cap 4.8%	Hedge Funds 5.0%
Mid Cap -24.3%	Hedge Funds 10.2%	Broad Intl Equities 10.7%	Emerging Markets 18.4%	Mid Cap -9.1%	Small Cap 14.6%	Bank Loans 9.9%	Hedge Funds -1.1%	High Yield 2.5%	Real Estate 11.0%	Bank Loans 3.1%	High Yield 4.1%
Broad U.S. Equities -24.6%	Intl Small Cap 10.1%	Intl Large Cap 7.8%	Commodities 17.6%	Small Cap -11.0%	Hedge Funds 8.6%	Real Estate 8.0%	Mid Cap -2.4%	Bank Loans 2.1%	Hedge Funds 9.1%	High Yield 1.8%	Intl Large Cap 4.0%
Small Cap -25.1%	Broad Intl Equities 7.8%	Core Bond 7.5%	High Yield 14.3%	Intl Large Cap -13.8%	High Yield 7.5%	Hedge Funds 5.4%	Small Cap -4.4%	Emerging Markets -2.2%	High Yield 7.4%	Intl Large Cap -0.4%	Bank Loans 3.8%
Broad Intl Equities -26.5%	Bank Loans 5.4%	High Yield 7.1%	Hedge Funds 10.5%	Commodities -13.8%	Real Estate 7.0%	Broad Intl Equities 4.5%	High Yield -4.5%	Broad Intl Equities -3.9%	Bank Loans 6.2%	Core Bond -0.4%	Broad Intl Equities 3.4%
Intl Large Cap -27.1%	High Yield 5.3%	Bank Loans 2.8%	Core Bond 8.7%	Broad Intl Equities -14.2%	Commodities 5.8%	Core Bond 2.6%	Broad Intl Equities -5.7%	Intl Large Cap -4.9%	Commodities -1.2%	Broad Intl Equities -0.5%	Emerging Markets 1.6%
Emerging Markets -27.2%	Core Bond -1.5%	Real Estate 1.6%	Bank Loans 8.2%	Emerging Markets -14.6%	Bank Loans 4.2%	Intl Small Cap 2.2%	Emerging Markets -14.9%	Intl Small Cap -4.9%	Core Bond -2.0%	Intl Small Cap -1.2%	Core Bond 0.9%
Intl Small Cap -32.1%	Emerging Markets -2.5%	Commodities -23.7%	Real Estate 6.4%	Intl Small Cap -17.9%	Core Bond 3.5%	Intl Large Cap 1.0%	Commodities -32.9%	Commodities -33.1%	Emerging Markets -2.6%	Emerging Markets -1.9%	Commodities -4.1%

Source: Bloomberg as of September 30, 2022. Real Estate is as of June 30, 2022. Please see end of document for benchmark information.



Asset class outlook

		CHANGE	HEADV	VINDS	NEUTRAL	TAILV	/INDS
	Core bonds						
Fixed ncome	Bank loans						
Fix Inco	High yield						
	EMD						
	Large-cap						
iities	Mid-cap						
Equ	Small-cap						
U.S. Equities	Value						
_	Growth						
.S. es	Developed large-cap						
Non-U.S. Equities	Developed small-cap						
Хщ	Emerging markets						
sets	Core real estate	▼					
Real Assets	Value-add real estate						
Rea	Infrastructure						
e v	Equity long/short						
Hedge Funds	Credit						
	VRP						
Private Equity	Buyout						
Priv Equ	Venture Capital						
Private Credit	Direct lending						
Priv Cre	Distressed/opportunistic						

TAKEAWAYS

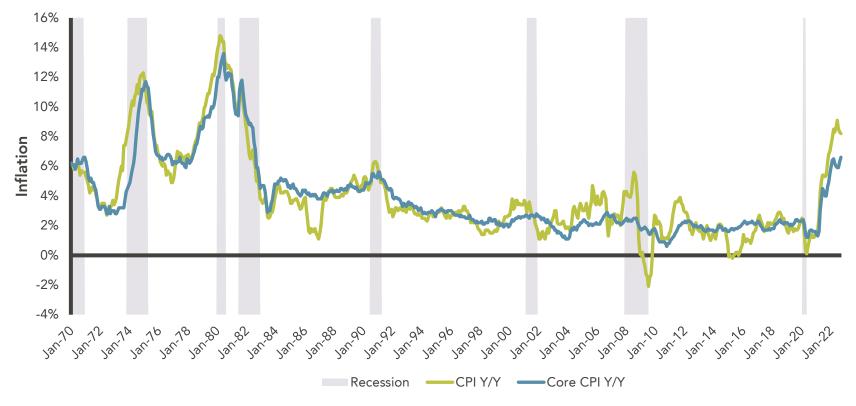
- Fixed Income: Higher rates have pushed the yield on the Bloomberg Aggregate higher and core bonds are providing attractive starting yield. Recession probabilities continue to tick up and core fixed income can provide protection in down markets if interest rates fall. Spread sectors remain volatile, with attractive valuations.
- > U.S.: Risk assets remain sensitive to macro headwinds, as the Fed focuses on combatting inflation. More defensive equities and high-quality growers with stable cash flows may be poised for relative outperformance. Recent compression has led to more attractive valuation multiples across U.S. equity indices, with Value indices at historic lows. With the rising probability of recession, however, deep cyclicals may be more impacted. Earnings expectations signal the potential for the lowest earnings growth rate in two years against a backdrop of higher rates and currency movements.
- Non-U.S.: Recession probabilities continue to climb, especially for Europe. Developed central bank monetary policy will weigh on growth as the focus remains on inflation. The short-term outlook is negative, but valuations are very attractive, setting up for strong performance potential 3−5 years out.
- Real Assets: Higher interest rates, inflationary pressures, and elevated costs of capital will exert downward pressure on near-term real estate pricing. Energy transition initiatives and recent legislative measures should drive demand for infrastructure.
- ❑ Hedge Funds: Hedge funds should continue to help protect capital against a volatile macro backdrop. In Credit, spreads have widened to attractive levels and defaults are expected to rise, expanding the opportunity set for stressed and distressed managers.
- Private Equity: Profitability pressure has persisted due to continued wage increases, supply chain challenges, and the rising cost of debt. Public market volatility and valuation compression is likely to continue, which may create opportunities for those with dry powder. Continued capital in-flows into larger private market funds should remain additive to the exit environment for the small buyout, lower-middle market, and early-stage venture funds.
- Private Credit: Direct lending is attractive against the backdrop of increased inflation and rising rates, given a majority of loans contain floating interest rates linked to LIBOR/SOFR. Investors benefit from a strong structure and yield premium relative to traditional fixed income. Distressed and opportunistic are challenged in the current market.

For illustration only, as of September 30, 2022. These views apply to a 6- to 12-month horizon; arrows in Change column represent change in view since last quarter. This summary of individual asset class views shows relative direction and strength of conviction but is independent of portfolio construction considerations. These views should not be construed as a recommended portfolio or investment advice. Past performance does not imply future returns.





Year-over-year headline CPI ticked down in September to 8.2%; core inflation reaccelerated to 6.6% amid broad-based price pressures

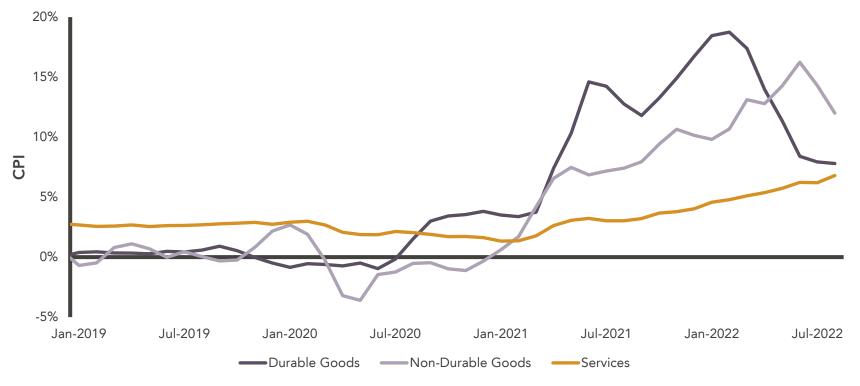


Source: Bloomberg, Bureau of Labor Statistics as of September 30, 2022



Services vs. goods inflation

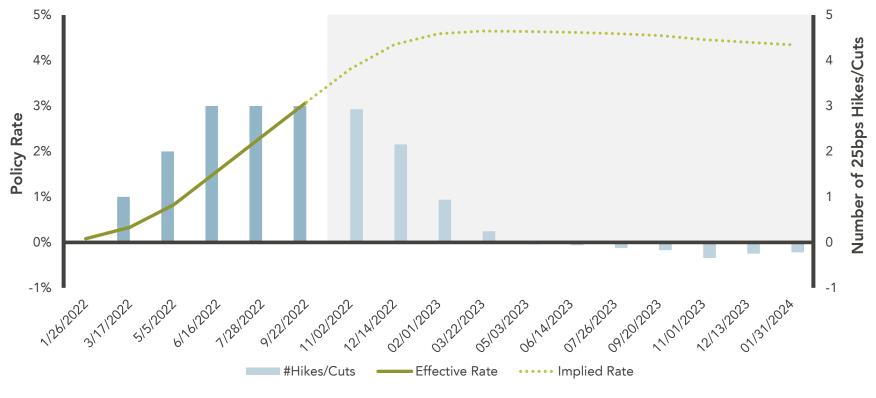
A shift in spending patterns initially contributed to heightened inflation; now Services — almost 60% of CPI — are driving prices higher



Source: Federal Reserve Bank of St. Louis, Bureau of Labor Statistics as of August 31, 2022

Fed funds rate

The market, via fed funds futures, is pricing in additional rate hikes following worse-than-expected August CPI

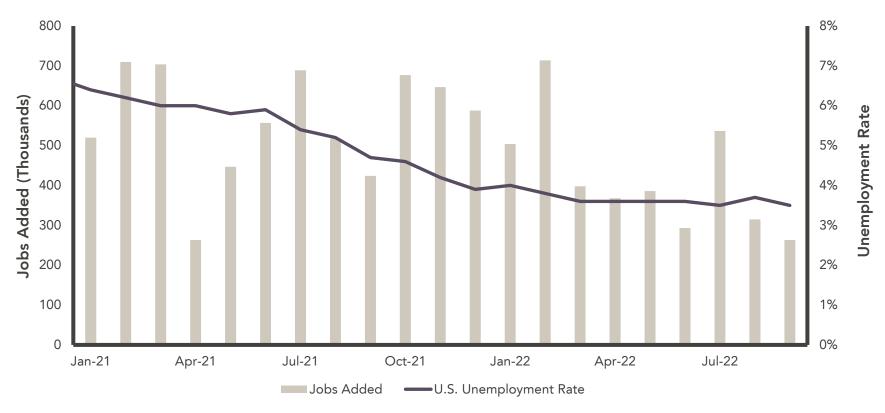


Source: Bloomberg as of October 7, 2022



Labor market resilience

The Fed is looking for a cooling in the labor market; September's jobs report showed slight progress but missed expectations



Source: Bloomberg, Bureau of Labor Statistics as of October 7, 2022



Fixed Income

Fixed income performance

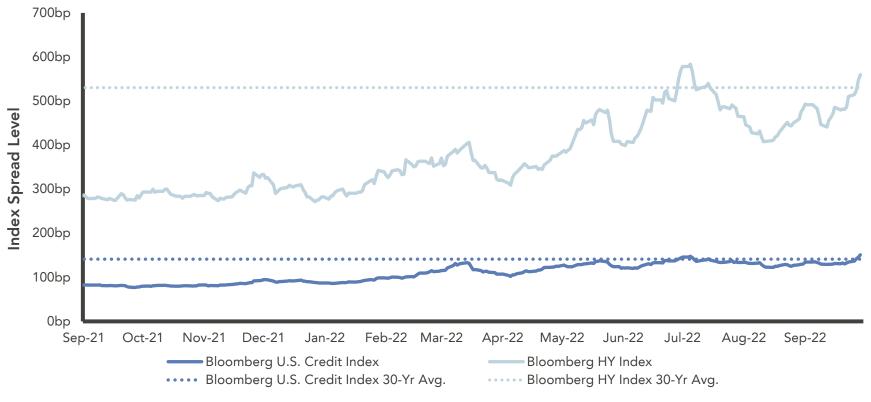
After a brief rally in July, fixed income's dismal performance for the year continued in the third quarter as rates moved higher

		MTD (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yr (%)	5 Yr (%)	10 Yr (%)
Broad Market Index	Blm Aggregate	-4.3	-4.8	-14.6	-14.6	-3.3	-0.3	0.9
Intermediate Index	Blm Int. Gov./Credit	-2.7	-3.1	-9.6	-10.1	-1.6	0.4	1.0
Government Only Indices	Blm Long Gov.	-7.9	-9.6	-28.8	-26.6	-8.5	-1.6	0.6
	Blm Int. Gov.	-2.4	-3.1	-8.6	-9.2	-1.7	0.2	0.6
	Blm 1-3 Year Gov.	-1.2	-1.5	-4.5	-5.1	-0.5	0.5	0.6
	Blm U.S. TIPS	-6.6	-5.1	-13.6	-11.6	0.8	2.0	1.0
Credit Indices	Blm U.S. Long Credit	-8.6	-8.6	-29.1	-28.0	-7.0	-1.2	1.7
	Blm High Yield	-4.0	-0.6	-14.7	-14.1	-0.5	1.6	3.9
	CS Leveraged Loan Index	-2.2	1.2	-3.3	-2.6	2.1	3.0	3.7
Securitized Bond Indices	Blm MBS	-5.1	-5.3	-13.7	-14.0	-3.7	-0.9	0.5
	Blm ABS	-1.2	-1.3	-5.1	-5.6	-0.2	1.0	1.2
	Blm CMBS	-3.1	-3.8	-11.8	-12.4	-2.1	0.7	1.6
Non-U.S. Indices	Blm Global Aggregate Hedged	-3.2	-3.3	-12.1	-12.1	-3.1	0.3	1.7
	JPM EMBI Global Diversified	-6.4	-4.6	-23.9	-24.3	-7.2	-2.6	1.1
	JPM GBI-EM Global Diversified	-4.9	-4.7	-18.6	-20.6	-7.1	-3.9	-2.4
Municipal Indices	Blm Municipal 5 Year	-2.8	-2.7	-8.1	-8.0	-0.9	0.5	1.2
	Blm HY Municipal	-6.2	-4.8	-16.0	-15.1	-1.4	2.3	3.5

Source: Bloomberg, Credit Suisse, JPMorgan as of September 30, 2022. The local currency GBI index is hedged and denominated in U.S. dollars.

U.S. credit spreads vs. historical averages

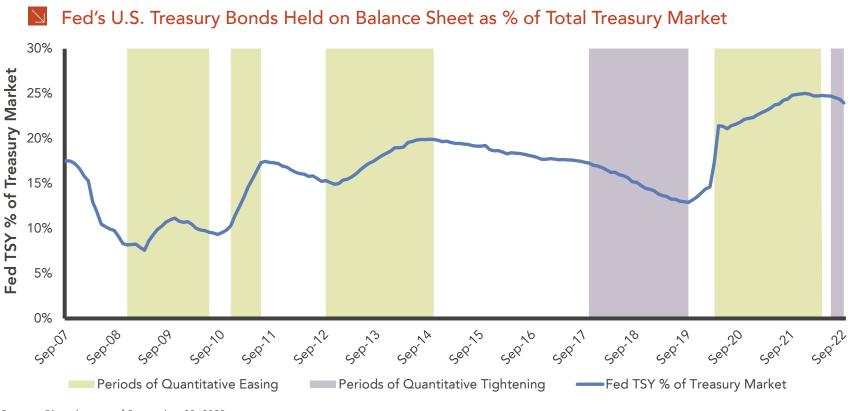
U.S. credit spreads are moving higher; high yield spreads were volatile but finished the quarter roughly flat with 2Q



Source: Bloomberg

Fed balance sheet

The Fed has begun Quantitative Tightening; the impact to rates is unknown but expected to be relatively minor

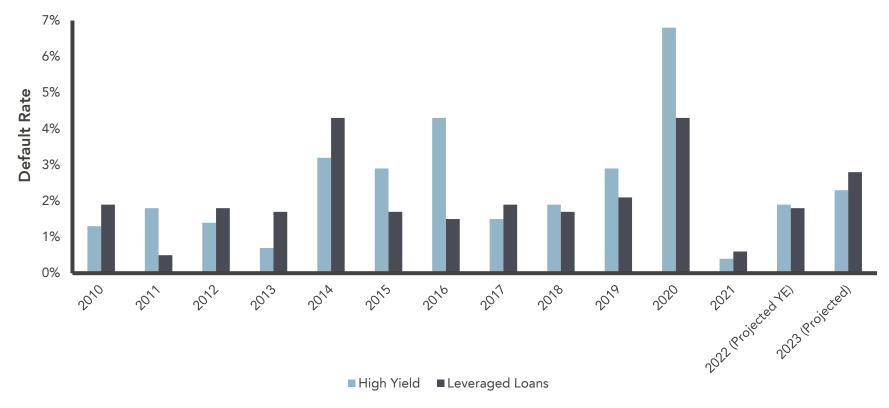


Sources: Bloomberg as of September 30, 2022



Below investment grade defaults

Defaults in below-IG fixed income have increased so far in 2022 and are projected to continue to increase into 2023



Source: J.P. Morgan as of September 30, 2022





U.S. equity performance

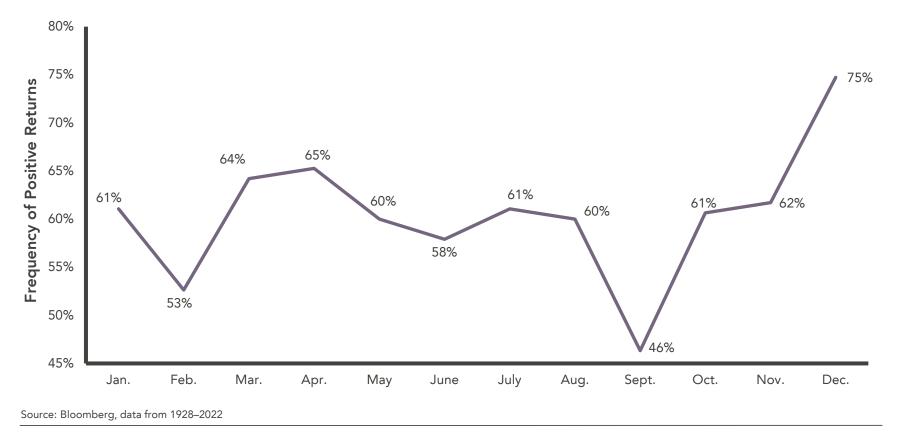
Most major domestic equity indices closed third quarter with losses following a tough September

		MTD (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yr (%)	5 Yr (%)	10 Yr (%)
Broad Market Indices	Dow Jones	-8.8	-6.2	-19.7	-13.4	4.4	7.4	10.5
	Wilshire 5000	-9.3	-4.4	-24.4	-17.2	8.1	8.8	11.5
	Russell 3000	-9.3	-4.5	-24.6	-17.6	7.7	8.6	11.4
Large-Cap Market Indices	S&P 500	-9.2	-4.9	-23.9	-15.5	8.2	9.2	11.7
	Russell 1000	-9.3	-4.6	-24.6	-17.2	7.9	9.0	11.6
	Russell 1000 Value	-8.8	-5.6	-17.8	-11.4	4.4	5.3	9.2
	Russell 1000 Growth	-9.7	-3.6	-30.7	-22.6	10.7	12.2	13.7
Mid-Cap Market Indices	Russell Mid-Cap	-9.3	-3.4	-24.3	-19.4	5.2	6.5	10.3
	Russell Mid-Cap Value	-9.7	-4.9	-20.4	-13.6	4.5	4.8	9.4
	Russell Mid-Cap Growth	-8.5	-0.7	-31.5	-29.5	4.3	7.6	10.9
Small-Cap Market Indices	Russell 2000	-9.6	-2.2	-25.1	-23.5	4.3	3.6	8.6
	Russell 2000 Value	-10.2	-4.6	-21.1	-17.7	4.7	2.9	7.9
	Russell 2000 Growth	-9.0	0.2	-29.3	-29.3	2.9	3.6	8.8

Source: Bloomberg as of September 30, 2022

September typically difficult

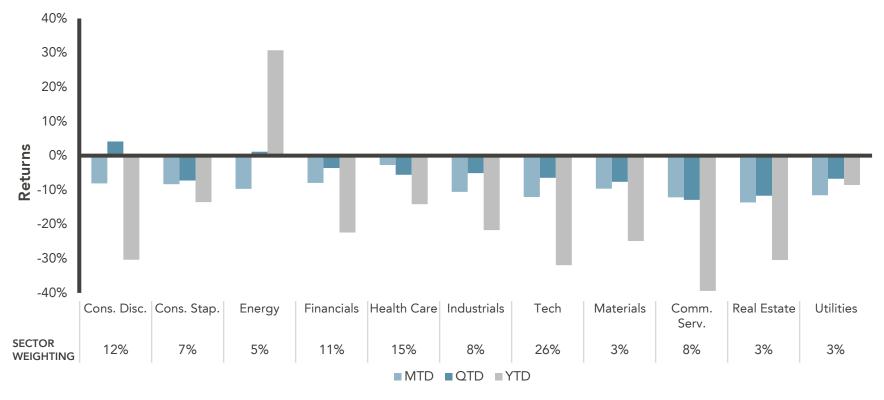
September has historically been the worst month of the year, with the S&P 500 posting a negative monthly return more than half the time



MarquetteAssociates

S&P 500 sector performance

Most sectors were negative in the third quarter; energy is now the lone positive sector year-to-date



Source: Bloomberg as of September 30, 2022



Global equity performance

Non-U.S. equities posted sizeable losses in the third quarter

		MTD (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yr (%)	5 Yr (%)	10 Yr (%)
Global Equity Market Indices	MSCI ACWI	-9.6	-6.8	-25.6	-20.7	3.7	4.4	7.3
	MSCI ACWI ex. U.S.	-10.0	-9.9	-26.5	-25.2	-1.5	-0.8	3.0
Developed Markets Indices	MSCI EAFE	-9.4	-9.4	-27.1	-25.1	-1.8	-0.8	3.7
	MSCI EAFE Local	-6.2	-3.6	-14.5	-11.1	2.5	2.8	7.4
Emerging Markets Indicies	MSCI Emerging Markets	-11.7	-11.6	-27.2	-28.1	-2.1	-1.8	1.0
	MSCI EM Local	-9.4	-8.2	-20.8	-21.5	1.1	1.1	4.5
Small-Cap Market Indices	MSCI EAFE Small-Cap	-11.5	-9.8	-32.1	-32.1	-2.2	-1.8	5.3
	MSCI EM Small-Cap	-10.0	-5.3	-24.2	-23.2	5.5	1.3	2.9
Frontier Markets Index	MSCI Frontier	-9.3	-6.5	-25.7	-25.2	-1.3	-1.2	3.6

Source: Bloomberg as of September 30, 2022





Real estate performance

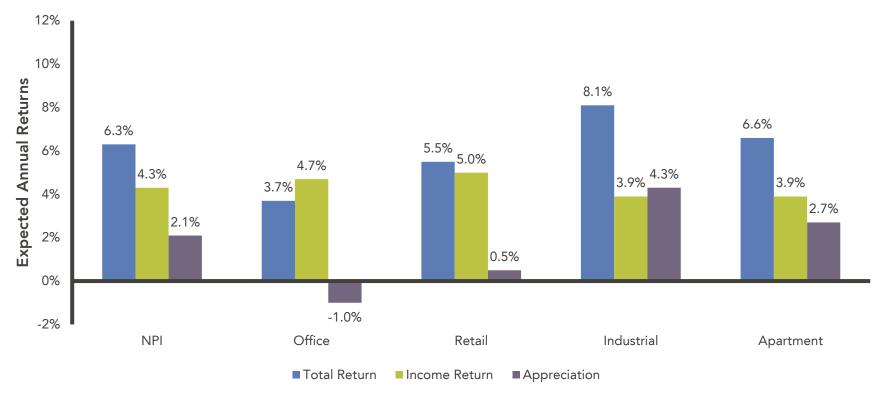
Real estate returns began to equilibrate in 2Q 2022, driven by upward movements in cap rates and debt costs across property sectors

Indices	2022 (%)	YTD (%)	1 Yr (%)	3 Yr (%)	5 Yr (%)	10 Yr (%)
NPI	3.2	5.3	21.5	10.2	8.9	9.7
Income	1.0	2.0	4.1	4.2	4.4	4.9
Appreciation	2.5	7.0	16.9	5.8	4.4	4.7
NFI-ODCE*	4.8	12.0	29.5	12.7	10.6	11.2
Income	0.9	2.0	3.8	3.9	4.1	4.5
Appreciation	3.9	11.0	25.0	8.9	6.3	6.5
FTSE NAREIT All Eq. REITs	-14.7	-21.0	-5.9	5.3	6.7	8.3
Property Type						
NPI Apartment	3.9	9.0	24.4	11.1	9.1	9.4
NPI Office	0.6	2.1	5.9	4.4	5.3	7.4
NPI Industrial	5.9	18.1	47.7	26.0	21.1	16.9
NPI Retail	1.7	4.0	7.9	0.2	5.3	6.4
NPI Hotel	1.8	3.9	10.4	-6.1	-1.3	3.5
Geographic Sectors						
NPI East	2.4	6.1	15.5	7.6	6.6	7.6
NPI Midwest	1.9	5.1	13.6	5.8	5.3	7.5
NPI South	3.6	10.1	25.0	11.2	9.5	10.3
NPI West	3.9	10.5	25.7	12.6	11.1	11.6

Source: NCREIF as of June 30, 2022

Returns by property type

Rent growth, rather than cap rate compression, is expected to drive returns across most core sectors through 2026

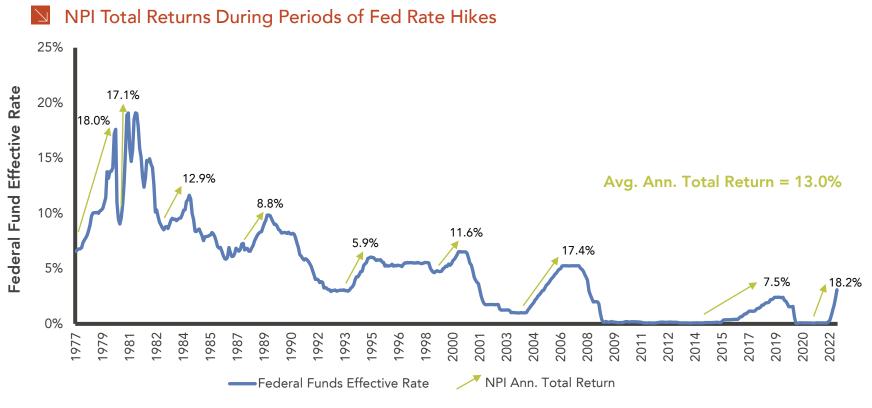


Source: PREA Consensus Survey, AEW as of September 30, 2022



Performance amid higher interest rates

Historically, core U.S. real estate values have reacted positively in rising rate environments



Source: NCREIF, Federal Reserve, Moody's Analytics, Clarion Partners Investment Research as of September 30, 2022



Infrastructure

Infrastructure performance

Impacted by interest rate volatility, infrastructure started to show signs of decline in 1Q 2022 as the EDHEC index fell -4.0%

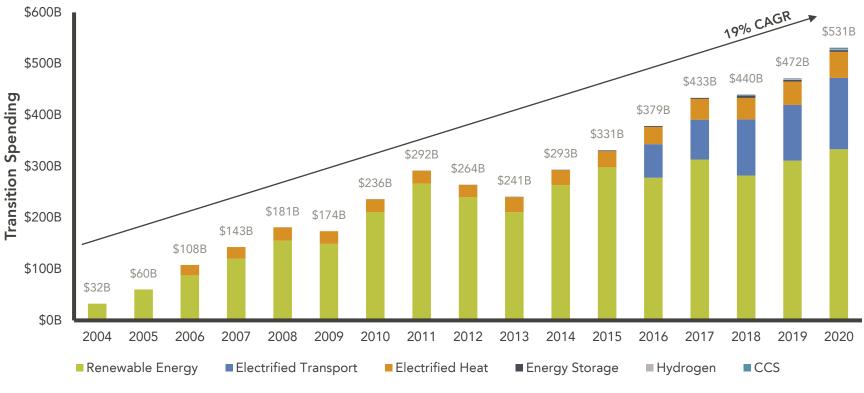
	1Q22 (%)	1 Yr (%)	3 Yr (%)	5 Yr (%)	10 Yr (%)
EDHEC infra300 Index (Private)	-4.0	12.0	8.2	8.2	13.9
DJB Global Infrastructure Index	7.5	19.9	12.8	8.9	8.7
Bloomberg Barclays Aggregate	-5.9	-4.2	1.7	2.1	2.2
CPI + 5%	7.7	10.8	8.3	7.8	7.0
S&P 500	-4.6	15.6	18.9	16.0	14.6
DJ Industrial Average	-4.1	7.1	12.6	13.4	12.8

Source: Bloomberg, EDHECinfra as of March 31, 2022



Global energy transition

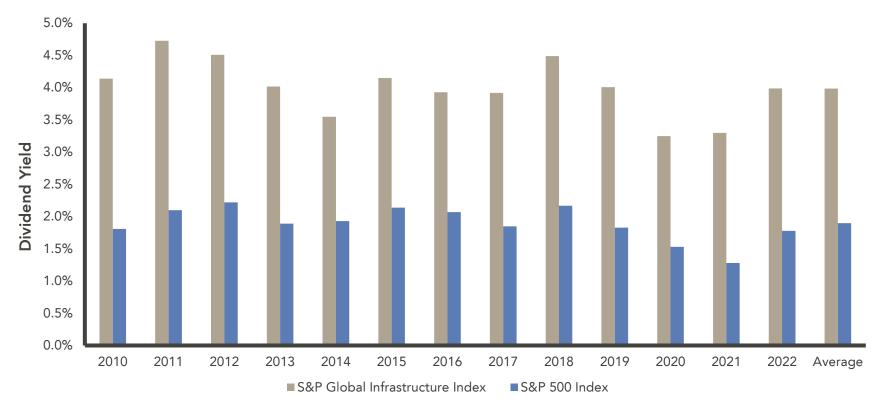
Renewable energy projects are seeing accelerated capital formation to meet decarbonization and sustainability goals



Source: Wood Mackenzie, Bloomberg, Carlyle as of September 30, 2022

Infrastructure yield

Consistent EBITDA growth of underlying infrastructure interests has fostered attractive yields for institutional investors



Source: Bloomberg, Carlyle, as of September 30, 2022





Private equity performance

Though returns turned negative in 2Q 2022, performance across private equity continues to outpace most public market indices

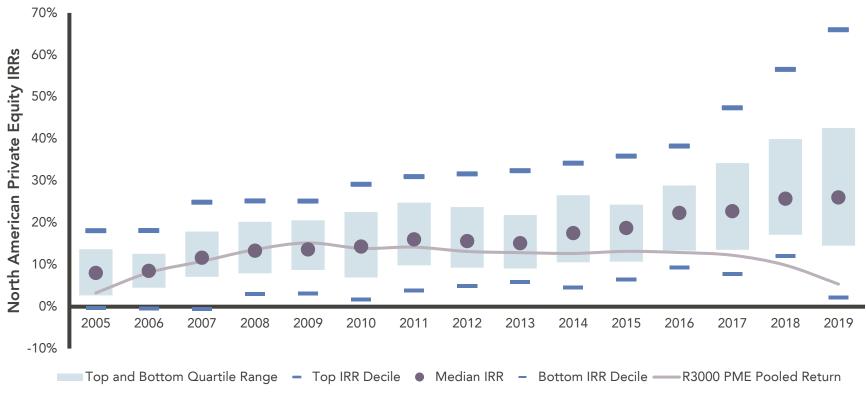
	2022 (%)	1 Yr (%)	3 Yr (%)	5 Yr (%)	10 Yr (%)
Global Private Equity	-4.3	5.4	23.4	20.7	17.0
North America Private Equity	-4.5	8.1	26.2	22.7	18.3
Europe Private Equity	-5.5	2.4	18.8	17.5	14.4
Rest of World Private Equity	-0.8	-4.4	16.3	15.6	14.8
Global VC	-6.5	1.9	30.2	26.5	20.4
North America VC	-9.1	2.7	33.2	27.8	20.2
Europe VC	-7.1	7.2	32.7	29.4	19.1
Rest of World VC	1.0	-5.7	21.5	21.5	20.5
MSCI All Country World Index	-15.7	-15.8	6.2	7.0	8.8
S&P 500	-16.1	-10.6	10.6	11.3	13.0
Russell 3000	-16.7	-13.9	9.8	10.6	12.6
Russell 2000 Growth	-19.3	-33.4	1.4	4.8	9.3

Source: Burgiss, eVestment as of June 30, 2022



U.S. private equity vintage performance

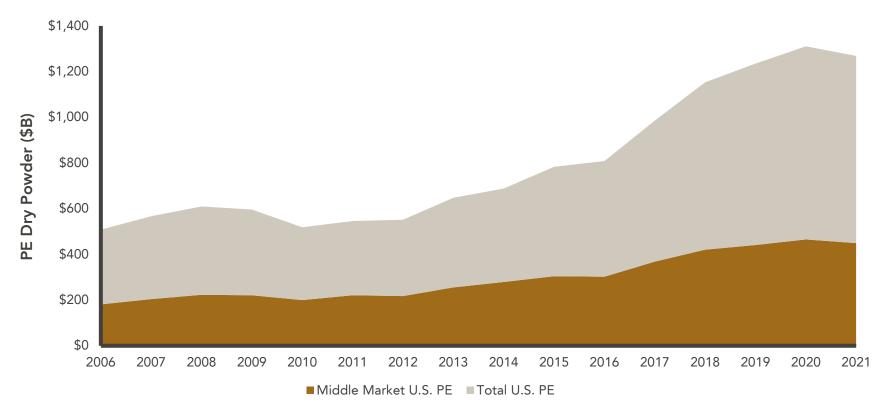
Private equity performance continues to be strong with industry median performance exceeding public market equivalents



Source: Pitchbook as of June 30, 2022; Burgiss North American All Private Equity Public Market Equivalent, Pooled Returns

Private equity dry powder

While dry powder is off highs, cash available for investment remains healthy by historic standards and should continue to drive activity

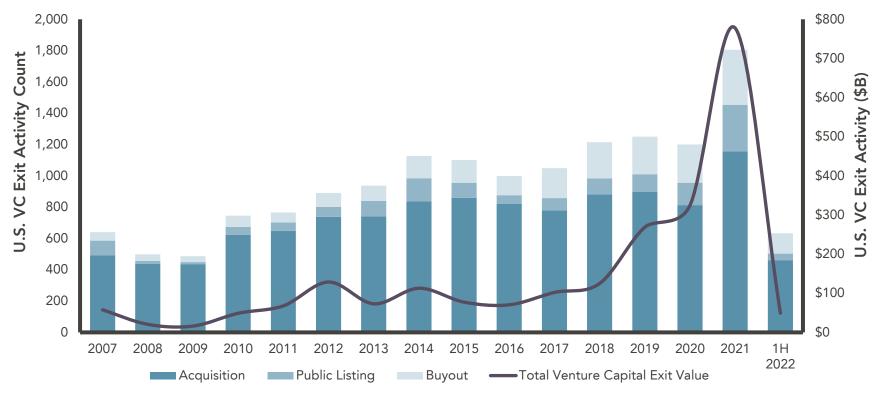


Source: Pitchbook as of June 30, 2022



Venture capital exit activity

Venture capital exit activity and total exit value is down significantly from peak 2021 values



Source: Pitchbook, Wall Street Journal as of June 30, 2022





Private credit performance

Private credit performance was strong in 2Q 2022 relative to equity and fixed income and is up 5% over the trailing 1-year period

	2Q22 (%)	1 Yr (%)	3 Yr (%)	5 Yr (%)	10 Yr (%)
Private Credit	-1.4	5.2	8.3	8.1	9.1
Credit Suisse Leveraged Loan	-4.6	-2.7	2.0	3.0	3.9
Bloomberg Barclays High Yield	-9.8	-12.8	0.2	2.1	4.5
Bloomberg Barclays Aggregate	-4.7	-10.3	-0.9	0.9	1.5
DJ Industrial Average	-10.8	-9.1	7.2	10.0	11.7
S&P 500	-16.1	-10.6	10.6	11.3	13.0
Russell 2000	-17.2	-25.2	4.2	5.2	9.6

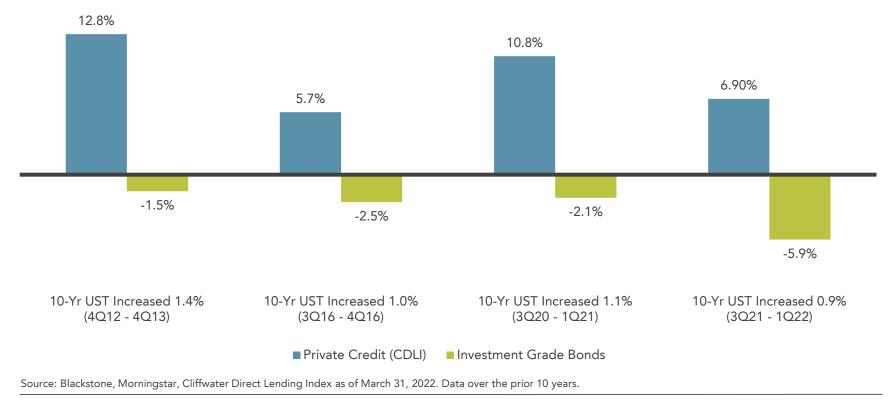
Source: Burgiss as of June 30, 2022



Outperformance in periods of monetary tightening

Private credit has historically performed well during periods of monetary tightening, with average outperformance of ~1,200bps

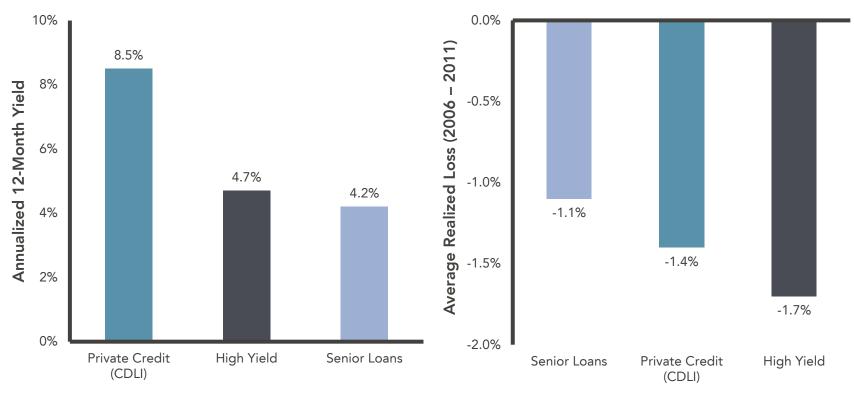
Historical returns when rates have increased by 75bps+



Marquette Associates

Downside protection

Middle market private credit has historically offered an attractive yield premium relative to loss rates of traditional fixed income instruments



Source: Blackstone, Morningstar, Cliffwater Direct Lending Index, JPM Default Monitor, S&P/LSTA Leveraged Loan Index as of December 31, 2021. "Senior Loans" is represented by the S&P/LSTA Leveraged Loan Index. "High Yield" is represented by the Bloomberg Barclay's High Yield Index.



Purpose: Empower our clients to meet their investment objectives

Vision

Be a trusted partner to our clients through effective investment programs

Mission

Provide independent and thoughtful investment guidance

Why Marquette?

- ✓ Our people
- ✓ Independent expertise
- ✓ Focused client service
- ✓ Careful research

Periodic table benchmarks

Core Bond	Barclays Aggregate
High Yield	Barclays High Yield
Bank Loans	CS Leverage Loan
Broad U.S. Equities	Russell 3000
Large Cap	S&P 500
Mid Cap	Russell Mid Cap
Small Cap	Russell 2000
Broad Intl Equities	ACWI ex-U.S.
Intl Large Cap	EAFE
Intl Small Cap	EAFE Small Cap
Emerging Markets	MSCI EM
Commodities	S&P GSCI
Hedge Funds	HFRI Fund Weighted Composite
Real Estate	NCREIF

Based on quarterly returns for real estate and monthly returns for the rest

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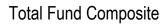
Marquette was founded in 1986 with the sole objective of providing investment consulting at the highest caliber of service. Our expertise is grounded in our commitment to client service — our team aims to be a trusted partner and as fiduciaries, our clients' interests and objectives are at the center of everything we do. Our approach brings together the real-world experience of our people and our dedication to creativity and critical thinking in order to empower our clients to meet their goals. For more information, please visit www.MarquetteAssociates.com.





Cincinnati Retirement System

City of Cincinnati Retirement System Executive Summary September 30, 2022



Manager Status

Market Value: \$2,120.0 Million and 100.0% of Fund

nvestment Manager	Asset Class	Status	Reason
NTGI Agg Bond	Core Fixed Income	In Compliance	
Loomis Sayles Core-Plus	Core Plus Fixed Income	In Compliance	1 -
Shenkman - Four Points	High Yield Fixed Income	In Compliance	
H.I.G. Bayside Opportunity VI	Private Debt	In Compliance	
Dwl Rock Diversified Lending	Private Debt	In Compliance	
Carlyle	Private Debt	In Compliance	
NTGI Russell 3000	All-Cap Core	In Compliance	
NTGI Russell 1000 Value	Large-Cap Value	In Compliance	
/anguard Mid Cap Value	Mid-Cap Value	In Compliance	
NTGI Russell 2000 Value	Small-Cap Value	In Compliance	
ITGI ACWI Ex-US	Non-U.S. All-Cap Core	In Compliance	
AQR Risk Parity	Risk Parity	In Compliance	
IB US Index PutWrite	Volatility Risk Premium	In Compliance	
.P. Morgan SPF	Core Real Estate	In Compliance	
Morgan Stanley P.P.	Core Real Estate	In Compliance	
PRISA III	Value-Added Real Estate	In Compliance	
Principal Enhanced	Value-Added Real Estate	In Compliance	
StepStone RE Intl Partnership I	Non-U.S. Core Real Estate	In Compliance	
Ninda Fund II	Core Infrastructure	In Compliance	
Macquarie Fund II	Core Infrastructure	In Compliance	
.P. Morgan Infrastructure	Core Infrastructure	In Compliance	
FM Global Infrastructure (U.S)	Global Infrastructure	In Compliance	2
Illico	Core Infrastructure	In Compliance	
Blue Chip Fund IV	Venture Private Equity	In Compliance	
Fort Washington Fund V	Divers. Private Equity	In Compliance	
Fort Washington Fund VI	Divers. Private Equity	In Compliance	
ort Washington Fund VIII	Divers. Private Equity	In Compliance	
Fort Washington Fund IX	Divers. Private Equity	In Compliance	
ort Washington Fund X	Divers. Private Equity	In Compliance	
Fort Washington Opp Fund III	Secondary Private Equity FoF	In Compliance	
North Sky Fund III - LBO	LBO Private Equity	In Compliance	
North Sky Fund III - VC	Venture Private Equity	In Compliance	
North Sky Fund IV - LBO	LBO Private Equity	In Compliance	
lorth Sky Fund V	Divers. Private Equity	In Compliance	
Portfolio Advisors IV - Special Sit	Mezz./Special Sit. Private Equity FoF	In Compliance	
Portfolio Advisors V - Special Sit	Mezz./Special Sit. Private Equity FoF	In Compliance	
IP Morgan Global Private Equity VIII	Global Divers. Private Equity FoF	In Compliance	
IP Morgan Global Private Equity IX	Global Divers. Private Equity FoF	In Compliance	
IP Morgan Global Private Equity X	Global Divers. Private Equity FoF	In Compliance	
Siguler Guff Small Buyout Opportunities V	LBO Private Equity	In Compliance	

Investment Manager Evaluation Terminology

The following terminology has been developed by Marquette Associates to facilitate efficient communication among the Investment Manager, Investment Consultant, and the Plan Sponsor. Each term signifies a particular status with the Fund and any conditions that may require improvement. In each case, communication is made only after consultation with the Trustees and/or the Investment Committee of the Plan.

In Compliance – Marquette has not been notified of any issues or changes to the investment manager that would materially impede upon its ability to execute the investment strategy or adhere to any applicable investment guidelines.

Alert – The investment manager has experienced a problem in performance (usually relative to a benchmark), a change in investment characteristics, an alteration in management style, ownership, or key investment professionals, and/or any other irregularities that may impede upon its ability to execute the investment strategy or adhere to any applicable investment guidelines.

On Notice – The investment manager has experienced continued concern with one or more Alert issues. Failure to improve upon stated issues within a certain time frame may justify termination.

Termination - The investment manager has been terminated and transition plans are in place.

		End	ing September			
	Asset Class	Market Value (\$)	3 Mo Net Cash Flows (\$)	% of Portfolio	Policy %	Policy Difference (\$)
Total Fund Composite		2,119,982,539	-40,008,758	100.0	100.0	0
Fixed Income Composite		289,421,485	-6,602,835	13.7	14.0	-7,376,070
NTGI Agg Bond	Core Fixed Income	111,568,570	-6,503,858	5.3	6.0	-15,630,382
Loomis Sayles Core-Plus	Core Plus Fixed Income	132,612,664	-98,977	6.3	6.0	5,413,712
Shenkman - Four Points	High Yield Fixed Income	45,240,251	0	2.1	2.0	2,840,600
Private Debt Composite		26,036,060	7,688,989	1.2	3.0	-37,563,416
H.I.G. Bayside Opportunity VI	Private Debt	18,036,060	-664,333	0.9	3.0	-45,563,416
Owl Rock Diversified Lending	Private Debt	8,000,000	8,353,322	0.4		
U.S. Equity Composite		585,630,242	-19,222,980	27.6	30.5	-60,964,433
NTGI Russell 3000	All-Cap Core	412,664,746	-7,016,460	19.5	21.5	-43,131,500
NTGI Russell 1000 Value	Large-Cap Value	67,634,774	-3,002,803	3.2	3.5	-6,564,615
Vanguard Mid Cap Value	Mid-Cap Value	38,220,939	-5,200,000	1.8	2.0	-4,178,711
NTGI Russell 2000 Value	Small-Cap Value	67,109,782	-4,003,718	3.2	3.5	-7,089,606
Non-U.S. Equity Composite		373,715,984	-37,864	17.6	20.0	-50,280,524
NTGI ACWI Ex-US	Non-U.S. All-Cap Core	333,021,755	-37,256	15.7	18.0	-48,575,102
DFA Emerging Markets Small Cap	EM Small-Cap	39,197,703	0	1.8	2.0	-3,201,948
Risk Parity Composite		48,738,232	0	2.3	2.5	-4,261,331
AQR Risk Parity	Risk Parity	48,738,232	0	2.3	2.5	-4,261,331
Volatility Risk Premium Composite		52,529,499	0	2.5	2.5	-470,064
NB US Index PutWrite	Volatility Risk Premium	52,529,499	0	2.5	2.5	-470,064
Real Estate Composite		216,734,370	-14,343,182	10.2	7.5	57,735,680
J.P. Morgan SPF	Core Real Estate	68,292,097	-1,664,024	3.2	1.9	28,436,425
Morgan Stanley P.P.	Core Real Estate	50,071,971	-3,968,448	2.4	1.9	10,216,299
PRISA III	Value-Added Real Estate	42,420,538	-520,334	2.0	1.9	2,564,866
Principal Enhanced	Value-Added Real Estate	54,468,424	-8,190,375	2.6	1.9	14,612,753
StepStone RE Intl Partnership I	Non-U.S. Core Real Estate	1,481,340	0	0.1	0.0	1,481,340
Infrastructure Composite		263,222,410	0	12.4	10.0	51,224,156
J.P. Morgan Infrastructure	Core Infrastructure	106,517,931	0	5.0	5.0	518,804
IFM Global Infrastructure (U.S)	Global Infrastructure	143,309,691	0	6.8	5.0	37,310,564
Macquarie Fund II	Core Infrastructure	332,179	0	0.0	0.0	332,179
Alinda Fund II	Core Infrastructure	13,062,609	0	0.6	0.0	13,062,609

Market Value: \$2,120.0 Million and 100.0% of Fund

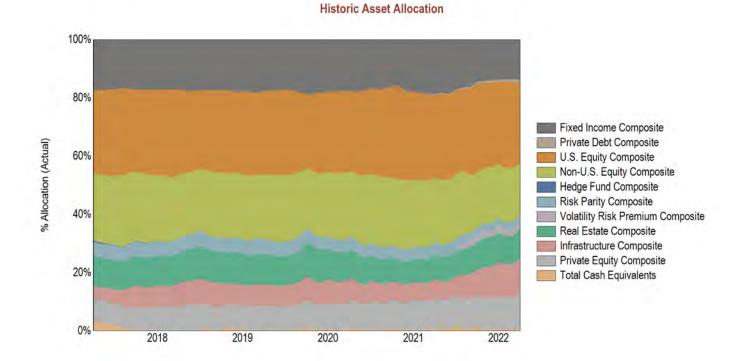
Market Value: \$2,120.0 Million and 100.0% of Fund

Ending September 30, 2022

			3					
	Asset Class	Market Value (\$)	3 Mo Net Cash Flows (\$)	% of Portfolio	Policy %	Policy Difference (\$)		
Private Equity Composite		248,219,789	-725,742	11.7	10.0	36,221,535		
Fort Washington Fund V	Divers. Private Equity	9,981,920	0	0.5				
North Sky Fund III - LBO	LBO Private Equity	1,369,960	0	0.1				
North Sky Fund III - VC	Venture Private Equity	607,732	0	0.0				
Portfolio Advisors IV - Special Sit	Mezz./Special Sit. Private Equity FoF	1,678,779	0	0.1				
Fort Washington Fund VI	Divers. Private Equity	5,277,000	-873,000	0.2				
North Sky Fund IV - LBO	LBO Private Equity	2,119,273	0	0.1				
Portfolio Advisors V - Special Sit	Mezz./Special Sit. Private Equity FoF	763,128	-79,062	0.0				
Fort Washington Fund VIII	Divers. Private Equity	42,570,532	-1,000,000	2.0				
Fort Washington Opp Fund III	Secondary Private Equity FoF	10,729,797	0	0.5				
North Sky Fund V	Divers. Private Equity	34,456,174	-1,939,550	1.6				
Fort Washington Fund IX	Divers. Private Equity	59,299,969	-2,500,000	2.8				
Fort Washington Fund X	Divers. Private Equity	28,440,392	1,200,000	1.3				
JP Morgan Global Private Equity VIII	Global Divers. Private Equity FoF	36,058,339	1,370,314	1.7				
JP Morgan Global Private Equity IX	Global Divers. Private Equity FoF	10,540,662	863,790	0.5				
JP Morgan Global Private Equity X	Global Divers. Private Equity FoF	1,735,810	1,677,553	0.1				
Siguler Guff Small Buyout Opportunities V	LBO Private Equity	554,212	554,212	0.0				
Blue Chip Fund IV	Venture Private Equity	2,036,109	0	0.1				
Total Cash Equivalents		15,734,468	-6,765,144	0.7		15,734,468		

Asset Allocation

Market Value: \$2,120.0 Million and 100.0% of Fund

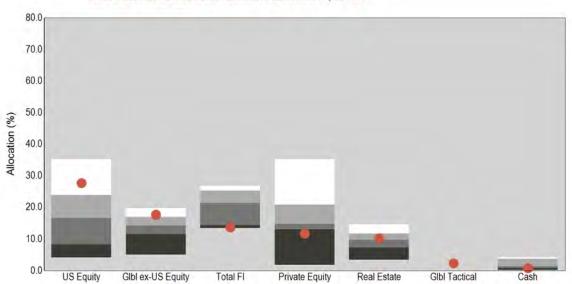


	Current	Policy	Difference	%
Fixed Income Composite	\$289,421,485	\$296,797,556	-\$7,376,070	-0.3%
Private Debt Composite	\$26,036,060	\$63,599,476	-\$37,563,416	-1.8%
U.S. Equity Composite	\$585,630,242	\$646,594,675	-\$60,964,433	-2.9%
Non-U.S. Equity Composite	\$373,715,984	\$423,996,508	-\$50,280,524	-2.4%
Risk Parity Composite	\$48,738,232	\$52,999,563	-\$4,261,331	-0.2%
Volatility Risk Premium Composite	\$52,529,499	\$52,999,563	-\$470,064	0.0%
Real Estate Composite	\$216,734,370	\$158,998,690	\$57,735,680	2.7%
Infrastructure Composite	\$263,222,410	\$211,998,254	\$51,224,156	2.4%
Private Equity Composite	\$248,219,789	\$211,998,254	\$36,221,535	1.7%
Total Cash Equivalents	\$15,734,468			
Total	\$2,119,982,539			



Asset Allocation

Market Value: \$2,120.0 Million and 100.0% of Fund

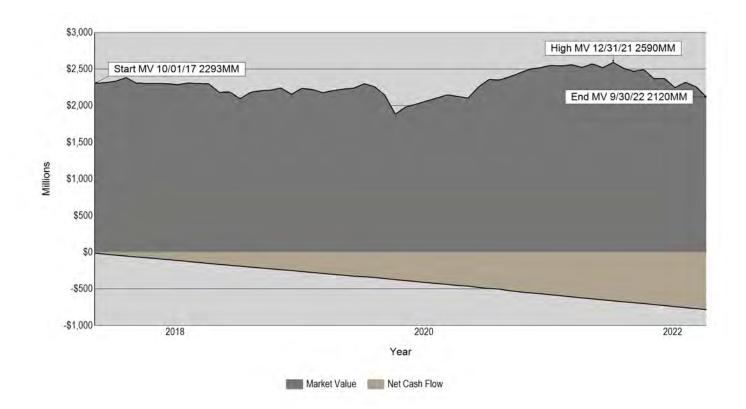


Total Plan Allocation vs. InvMetrics Public DB > \$1B Net

	Allocation	(Rank)												
5th Percentile	35.2		19.6		26.7		35.2		14.7				4.2	
25th Percentile	23.8		16.9		25.2		20.7		11.8		-		3.8	
Median	16.6		14.3		21.2		14.8		9.7		-		1.3	
75th Percentile	8.3		11.5		14.4		13.0		7.3		-		0.8	
95th Percentile	4.1		5.0		13.5		1.7		3.4				0.2	
# of Portfolios	11		14		15		13		14		÷		15	
Total Fund Composite	27.6	(16)	17.6	(16)	13.7	(93)	11.7	(84)	10.2	(46)	2.3	-	0.7	(79)

Market Value History

Market Value: \$2,120.0 Million and 100.0% of Fund



Summary of Cash Flows

	Third Quarter	Year-To-Date	One Year	Three Years	Five Years
Beginning Market Value	\$2,247,394,884.19	\$2,589,971,758.09	\$2,522,467,189.20	\$2,206,052,469.30	\$2,293,018,734.38
Net Cash Flow	-\$39,280,663.51	-\$115,840,091.81	-\$155,593,879.89	-\$508,340,986.82	-\$799,771,501.47
Net Investment Change	-\$88,131,681.22	-\$354,149,126.82	-\$246,890,769.85	\$422,271,056.98	\$626,735,306.55
Ending Market Value	\$2,119,982,539.46	\$2,119,982,539.46	\$2,119,982,539.46	\$2,119,982,539.46	\$2,119,982,539.46



Attribution

Market Value: \$2,120.0 Million and 100.0% of Fund

Attribution Summary											
	5 Years Ending September 30, 2022										
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects				
Fixed Income Composite	0.94%	-0.27%	1.21%	0.16%	-0.22%	0.04%	-0.02%				
Private Debt Composite				0.09%	0.15%	-0.07%	0.17%				
U.S. Equity Composite	6.82%	8.62%	-1.80%	-0.44%	0.01%	-0.02%	-0.45%				
Non-U.S. Equity Composite	-1.71%	-0.81%	-0.90%	-0.19%	0.01%	0.00%	-0.17%				
Hedge Fund Composite				0.00%	0.00%	0.00%	0.00%				
Risk Parity Composite	3.01%	5.50%	-2.49%	-0.15%	-0.01%	0.02%	-0.14%				
Volatility Risk Premium Composite				0.01%	0.00%	-0.01%	-0.01%				
Real Estate Composite	11.18%	9.29%	1.89%	0.17%	0.05%	0.02%	0.24%				
Infrastructure Composite	7.62%	5.12%	2.51%	0.00%	-0.02%	0.00%	-0.02%				
Private Equity Composite	16.67%	19.50%	-2.83%	-0.29%	-0.16%	0.06%	-0.38%				
Total Cash Equivalents	-1.95%	1.08%	-3.03%								
Total	5.36%	5.56%	-0.20%	-0.62%	-0.19%	0.03%	-0.77%				

Calendar Years

	YTD	2021	2020	2019	2018	Quarter	1 Yr	3 Yrs
Wtd. Actual Return	-14.0%	17.6%	10.5%	17.0%	-4.1%	-4.0%	-10.3%	5.7%
Wtd. Index Return *	-15.9%	14.4%	14.3%	18.1%	-2.9%	-4.2%	-12.2%	5.1%
Excess Return	1.9%	3.2%	-3.9%	-1.1%	-1.2%	0.2%	1.9%	0.6%
Selection Effect	1.7%	1.3%	-3.5%	-1.6%	-1.3%	0.0%	1.4%	0.0%
Allocation Effect	0.4%	0.1%	-1.0%	-0.4%	-0.2%	0.3%	0.4%	-0.1%
Interaction Effect	-0.2%	0.5%	0.0%	0.1%	-0.1%	-0.1%	-0.2%	0.1%

*Calculated from the benchmark returns and weightings of each composite. Returns will differ slightly from the official Policy Benchmark.

Attribution

Market Value: \$2,120.0 Million and 100.0% of Fund

	Market Value	3 Mo	Contribution	% Contribution
	(\$)	Return	to Return	to Return
Total Fund Composite	2,119,982,539	-4.0	-4.0	100.0%
Fixed Income Composite	289,421,485	-3.7	-0.5	-12.6%
NTGI Agg Bond	111,568,570	-4.7	-0.3	-6.3%
Loomis Sayles Core-Plus	132,612,664	-4.1	-0.3	-6.4%
Shenkman - Four Points	45,240,251	0.2	0.0	0.1%
Private Debt Composite	26,036,060	-1.5	0.0	-0.4%
U.S. Equity Composite	585,630,242	-4.6	-1.3	-32.0%
NTGI Russell 3000	412,664,746	-4.4	-0.9	-21.6%
NTGI Russell 1000 Value	67,634,774	-5.6	-0.2	-4.6%
Vanguard Mid Cap Value	38,220,939	-5.5	-0.1	-2.6%
NTGI Russell 2000 Value	67,109,782	-4.5	-0.1	-3.7%
Non-U.S. Equity Composite	373,715,984	-10.4	-1.9	-47.1%
NTGI ACWI Ex-US	333,021,755	-10.6	-1.7	-42.8%
DFA Emerging Markets Small Cap	39,197,703	-8.9	-0.2	-4.2%
Risk Parity Composite	48,738,232	-6.5	-0.1	-3.7%
AQR Risk Parity	48,738,232	-6.5	-0.1	-3.7%
Volatility Risk Premium Composite	52,529,499	-4.3	-0.1	-2.6%
NB US Index PutWrite	52,529,499	-4.3	-0.1	-2.6%
Real Estate Composite	216,734,370	0.2	0.0	0.5%
J.P. Morgan SPF	68,292,097	-1.5	0.0	-1.2%
Morgan Stanley P.P.	50,071,971	-0.1	0.0	0.0%
PRISA III	42,420,538	1.7	0.0	0.8%
Principal Enhanced	54,468,424	1.4	0.0	0.9%
StepStone RE Intl Partnership I	1,481,340	0.0	0.0	0.0%
Infrastructure Composite	263,222,410	0.1	0.0	0.3%
Alinda Fund II	13,062,609	0.0	0.0	0.0%
Macquarie Fund II	332,179	0.0	0.0	0.0%
J.P. Morgan Infrastructure	106,517,931	0.0	0.0	0.0%
IFM Global Infrastructure (U.S)	143,309,691	0.2	0.0	0.3%
Private Equity Composite	248,219,789	0.0	0.0	-0.1%
Total Cash Equivalents	15,734,468	-6.8	-0.1	-1.5%

Ending September 30, 2022

Annualized Performance (Net of Fees)

Market Value: \$2,120.0 Million and 100.0% of Fund

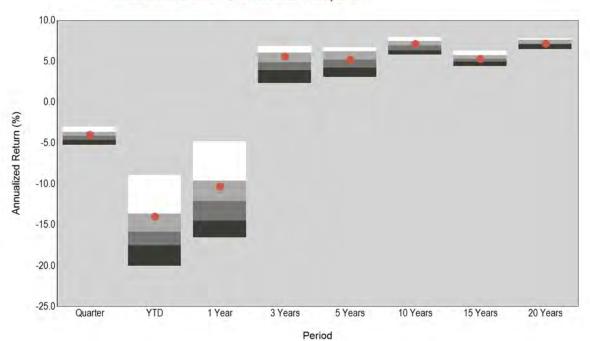
				En	ding Se	ptember	30, 2022	2		
	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	5 Yrs	7 Yrs	10 Yrs	15 Yrs	20 Yrs
Total Fund Composite	-4.0%	-14.0%	-10.3%	6.7%	5.6%	5.2%	6.8%	7.1%	5.3%	7.2%
Target Benchmark	-4.1%	-15.6%	-12.0%	4.9%	5.3%	5.3%	7.1%	7.2%	5.0%	7.5%
InvMetrics Public DB > \$1B Net Rank	39	29	36	15	43	51	51	39	47	54
Fixed Income Composite	-3.7%	-13.9%	-13.9%	-5.1%	-1.3%	0.8%	2.1%	2.1%	3.9%	4.2%
Bloomberg US Aggregate TR	-4.8%	-14.6%	-14.6%	-8.0%	-3.3%	-0.3%	0.5%	0.9%	2.7%	3.1%
InvMetrics Public DB Total Fix Inc Net Rank	45	50	46	25	19	13	5	19	13	1
Private Debt Composite	-1.5%	-5.2%	-5.9%	-2 .7%						
Bloomberg US Aggregate TR	-4.8%	-14.6%	-14.6%	-8.0%	-3.3%	-0.3%	0.5%	0.9%	2.7%	3.1%
U.S. Equity Composite	-4.6%	-22.6%	-16.1%	10.4%	7.0%	6.8%	9.5%	10.2%	7.3%	9.2%
Russell 3000	-4.5%	-24.6%	-17.6%	4.2%	7.7%	8.6%	10.9%	11.4%	7.9%	9.9%
InvMetrics Public DB US Eq Net Rank	50	15	35	1	53	84	69	56	47	75
Non-U.S. Equity Composite	-10.4%	-26.2%	-24.7%	-1.9%	-1.4%	-1.8%	3.1%	3.1%	1.7%	6.0%
MSCI ACWI ex USA	-9.9%	-26.5%	-25.2%	-3.7%	-1.5%	-0.8%	3.3%	3.0%	0.6%	6.4%
InvMetrics Public DB ex-US Eq Net Rank	66	26	13	10	63	71	63	60	19	72
Risk Parity Composite	-6.5%	-18.6%	-16.1%	-1.8%	-0.6%	2.6%	3.9%	2.4%		
60% Wilshire 5000/40% BarCap Aggregate	-4.5%	-20.4%	-15.9%	-0.3%	3.8%	5.5%	7.1%	7.4%	6.2%	7.5%
Volatility Risk Premium Composite	-4.3%									
CBOE Put Write Index	-6.8%	-13.6%	-7.6%	6.6%	3.9%	3.3%	5.3%	5.6%	5.3%	7.4%
Real Estate Composite	0.2%	10.8%	20.2%	17.5%	12.3%	10.0%	9.8%	11.0%	6.6%	
NFI-ODCE	0.3%	12.4%	21.1%	17.3%	11.4%	9.3%	8.9%	9.9%	5.8%	7.8%
NPI	0.0%	8.7%	15.4%	13.8%	9.7%	8.5%	8.4%	9.4%	7.0%	8.9%
InvMetrics All DB Real Estate Priv Net Rank	46	68	60	39	27	12	11	3	4	
Infrastructure Composite	0.1%	3.5%	6.3%	8.7%	8.6%	7.4%	6.1%	7.2%		
3 Month T-Bill +4%	1.4%	3.6%	4.6%	4.3%	4.5%	5.1%	4.9%	4.7%	4.6%	5.2%
Private Equity Composite	0.0%	-0.3%	3.1%	23.2%	18.9%	16.6%	14.7%	14.7%	12.9%	9.5%
Burgiss Global All Private Equity	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	12.5%	14.9%

* Burgiss Global All PE benchmark data is updated through 6/30/22



Annualized Performance (Net of Fees)

Market Value: \$2,120.0 Million and 100.0% of Fund



InvMetrics Public DB > \$1B Net Return Comparison

	Return							
5th Percentile	-3.0	-8.9	-4.8	6.9	6.7	8.0	6.3	7.8
25th Percentile	-3.7	-13.6	-9.6	6.1	6.2	7.5	5.7	7.6
Median	-4.1	-15.9	-12.1	4.9	5.2	6.9	5.3	7.2
75th Percentile	-4.7	-17.6	-14.5	3.9	4.2	6.3	4.9	7.1
95th Percentile	-5.2	-20.0	-16.5	2.3	3.1	5.8	4.4	6.5
# of Portfolios	15	15	15	15	15	14	14	14
Total Fund Composite	-4.0	-14.0	-10.3	5.6	5.2	7.1	5.3	7.2

Calendar Performance (Net of Fees)

Market Value: \$2,120.0 Million and 100.0% of Fund

					Cale	endar Ye	ar				
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total Fund Composite	17.4%	10.3%	16.8%	-4.3%	14.9%	8.9%	-0.1%	6.4%	17.5%	12.0%	1.1%
Target Benchmark	16.1%	12.7%	17.7%	-4.0%	15.5%	8.8%	0.5%	5.8%	17.2%	12.2%	-1.8%
InvMetrics Public DB > \$1B Net Rank	14	57	53	60	62	13	46	18	13	69	32
Fixed Income Composite	0.6%	9.5%	9.6%	-0.6%	5.6%	7.2%	-2.1%	5.6%	0.7%	8.6%	5.6%
Bloomberg US Aggregate TR	-1.5%	7.5%	8.7%	0.0%	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%
InvMetrics Public DB Total Fix Inc Net Rank	21	11	31	57	45	14	78	17	20	36	67
Private Debt Composite	-10.9%										
Bloomberg US Aggregate TR	-1.5%	7.5%	8.7%	0.0%	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%
U.S. Equity Composite	30.3%	12.5%	27.8%	-8.6%	17.8%	16.3%	-3.0%	10.8%	35.4%	15.4%	-0.1%
Russell 3000	25.7%	20.9%	31.0%	-5.2%	21.1%	12.7%	0.5%	12.6%	33.6%	16.4%	1.0%
InvMetrics Public DB US Eq Net Rank	2	94	91	92	96	3	89	54	24	58	66
Non-U.S. Equity Composite	10.2%	7.5%	18.9%	-16.2%	27.7%	7.3%	-4.9%	-1.4%	14.5%	18.2%	-10.2%
MSCI ACWI ex USA	7.8%	10.7%	21.5%	-14.2%	27.2%	4.5%	-5.7%	-3.9%	15.3%	16.8%	-13.7%
InvMetrics Public DB ex-US Eq Net Rank	15	97	98	68	59	7	68	13	79	49	6
Risk Parity Composite	10.3%	5.8%	21.8%	-6.1%	11.9%	11.2%	-9.4%	6.5%	-2.9%		
60% Wilshire 5000/40% BarCap Aggregate	14.7%	16.2%	21.9%	-2.9%	13.7%	9.2%	0.8%	10.0%	17.9%	11.3%	4.0%
Volatility Risk Premium Composite											
CBOE Put Write Index	21.8%	2.1%	13.5%	-5.9%	10.8%	7.8%	6.4%	6.3%	12.3%	8.1%	6.2%
Real Estate Composite	22.3%	2.2%	5.8%	7.5%	7.9%	9.3%	14.8%	12.4%	14.8%	11.0%	16.9%
NFI-ODCE	21.1%	0.3%	4.4%	7.4%	6.7%	7.8%	14.0%	11.5%	12.9%	9.8%	15.0%
NPI	17.7%	1.6%	6.4%	6.7%	7.0%	8.0%	13.3%	11.8%	11.0%	10.5%	14.3%
InvMetrics All DB Real Estate Priv Net Rank	34	7	43	39	20	7	22	31	17	30	14
Infrastructure Composite	10.8%	8.1%	11.3%	4.8%	2.4%	0.4%	11.2%	12.5%	4.2%	5.7%	11.6%
3 Month T-Bill +4%	4.0%	4.5%	6.1%	6.0%	5.0%	4.3%	4.0%	4.0%	4.1%	4.1%	4.0%
Private Equity Composite	32.5%	22.0%	11.3%	16.0%	14.3%	8.1%	8.2%	8.5%	26.5%	8.4%	11.8%
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%

* Burgiss Global All PE benchmark data is updated through 6/30/22

Annualized Performance (Net of Fees)

	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Inception	Inception Date
Total Fund Composite	-5.4%	-4.0%	-14.0%	-10.3%	6.7%	5.6%	5.2%	6.8%	7.1%	8.6%	May-85
Target Benchmark	-5.9%	-4.1%	-15.6%	-12.0%	4.9%	5.3%	5.3%	7.1%	7.2%		May-85
InvMetrics Public DB > \$1B Net Rank	29	39	29	36	15	43	51	51	39	1	May-85
Fixed Income Composite	-4.2%	-3.7%	-13.9%	-13.9%	-5.1%	-1.3%	0.8%	2.1%	2.1%	4.9%	Nov-95
Bloomberg US Aggregate TR	-4.3%	-4.8%	-14.6%	-14.6%	-8.0%	-3.3%	-0.3%	0.5%	0.9%	4.2%	Nov-95
InvMetrics Public DB Total Fix Inc Net Rank	53	45	50	46	25	19	13	5	19	1	Nov-95
NTGI Agg Bond	-4.3%	-4.7%	-14.5%	-14.5%						-9.4%	Jan-21
Bloomberg US Aggregate TR	-4.3%	-4.8%	-14.6%	-14.6%	-8.0%	-3.3%	-0.3%	0.5%	0.9%	-9.5%	Jan-21
eV US Core Fixed Inc Net Rank	48	69	47	47						54	Jan-21
Loomis Sayles Core-Plus	-4.5%	-4.1%	-14.3%	-14.4%	-6.9%	-1.8%	0.7%	2.0%		1.6%	Jul-15
Bloomberg US Aggregate TR	-4.3%	-4.8%	-14.6%	-14.6%	-8.0%	-3.3%	-0.3%	0.5%	0.9%	0.6%	Jul-15
eV US Core Plus Fixed Inc Net Rank	54	34	27	28	39	22	22	15		25	Jul-15
Shenkman - Four Points	-3.3%	0.2%	-10.2%	-9.9%	0.5%	2.6%	3.5%	5.1%	5.0%	5.5%	Aug-10
Bloomberg US High Yield TR	-4.0%	-0.6%	-14.7%	-14.1%	-2.3%	-0.5%	1.6%	4.1%	3.9%	5.2%	Aug-10
eV US High Yield Fixed Inc Net Rank	27	18	25	25	17	5	3	6	4	9	Aug-10
Private Debt Composite	0.0%	-1.5%	-5.2%	-5.9%	-2.7%					-2.7%	Sep-20
Bloomberg US Aggregate TR	-4.3%	-4.8%	-14.6%	-14.6%	-8.0%	-3.3%	-0.3%	0.5%	0.9%	-8.0%	Sep-20
H.I.G. Bayside Opportunity VI	0.0%	0.0%	-3.8%	-4.5%	-2.0%					-2.0%	Sep-20
Bloomberg US Aggregate TR	-4.3%	-4.8%	-14.6%	-14.6%	-8.0%	-3.3%	-0.3%	0.5%	0.9%	-8.0%	Sep-20
Owl Rock Diversified Lending	0.0%									0.0%	Aug-22
Bloomberg US Aggregate TR	-4.3%	-4.8%	-14.6%	-14.6%	-8.0%	-3.3%	-0.3%	0.5%	0.9%	-4.3%	Aug-22

Ending September 30, 2022

* Certain values are lagged. HIG Bayside VI, JPM IIF, Alinda II, Fort Washington funds, PAPEF IV, PAPEF V, North Sky funds, JPM VIII & IX, and Blue Chip are valued as of June 30, 2022. StepStone RE I is valued as of March 31, 2022. Macquarie II is valued as of December 31, 2021. Owl Rock, JPM X, and Siguler Guff V are new funds. All lagged values have been updated for corresponding cash flows.

** Burgiss Global All PE benchmark data is updated through 6/30/22

Annualized Performance (Net of Fees)

Ending September 30, 2022

	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Inception	Inception Date
U.S. Equity Composite	-9.3%	-4.6%	-22.6%	-16.1%	10.4%	7.0%	6.8%	9.5%	10.2%	8.9%	Feb-89
Russell 3000	-9.3%	-4.5%	-24.6%	-17.6%	4.2%	7.7%	8.6%	10.9%	11.4%	10.0%	Feb-89
InvMetrics Public DB US Eq Net Rank	64	50	15	35	1	53	84	69	56	99	Feb-89
NTGI Russell 3000	-9.3%	-4.4%	-24.6%	-17.6%						-7.4%	Mar-21
Russell 3000	-9.3%	-4.5%	-24.6%	-17.6%	4.2%	7.7%	8.6%	10.9%	11.4%	-7.4%	Mar-21
eV US Passive All Cap Equity Gross Rank	63	39	55	55						56	Mar-21
NTGI Russell 1000 Value	-8.8%	-5.6%	-17.8%	-11.4%	9.4%	4.4%	5.3%	8.2%		6.9%	Dec-13
Russell 1000 Value	-8.8%	-5.6%	-17.8%	-11.4%	9.4%	4.4%	5.3%	8.2%	9.2%	6.9%	Dec-13
eV US Large Cap Value Equity Net Rank	60	51	60	61	60	76	67	59		57	Dec-13
Vanguard Mid Cap Value	-9.9%	-5.5%	-17.8%	-11.1%	11.8%	4.9%				3.5%	Jan-18
CRSP US Mid Cap Value TR USD	-9.9%	-5.5%	-17.8%	-11.0%	11.9%	4.9%	5.3%	8.0%	10.1%	3.5%	Jan-18
Mid-Cap Value MStar MF Rank	69	61	49	52	73	57				50	Jan-18
NTGI Russell 2000 Value	-10.2%	-4.5%	-21.1%	-17.7%	16.1%	4.8%	3.0%	7.5%		5.2%	Dec-13
Russell 2000 Value	-10.2%	-4.6%	-21.1%	-17.7%	16.2%	4.7%	2.9%	7.4%	7.9%	5.1%	Dec-13
eV US Small Cap Value Equity Net Rank	69	49	60	73	46	59	60	41		51	Dec-13
Non-U.S. Equity Composite	-10.0%	-10.4%	-26.2%	-24.7%	-1.9%	-1.4%	-1.8%	3.1%	3.1%	5.0%	May-93
MSCI ACWI ex USA	-10.0%	-9.9%	-26.5%	-25.2%	-3.7%	-1.5%	-0.8%	3.3%	3.0%		<i>May</i> -93
InvMetrics Public DB ex-US Eq Net Rank	63	66	26	13	10	63	71	63	60	99	<i>May</i> -93
NTGI ACWI Ex-US	-10.0%	-10.6%	-26.7%	-25.0%						-16.4%	Mar-21
MSCI ACWI ex USA	-10.0%	-9.9%	-26.5%	-25.2%	-3.7%	-1.5%	-0.8%	3.3%	3.0%	-16.3%	Mar-21
eV ACWI ex-US All Cap Equity Net Rank	61	75	28	27						34	Mar-21
DFA Emerging Markets Small Cap	-10.4%	-8.9%	-23.1%	-22.4%	2.6%	3.3%	0.6%	5.5%		3.5%	Dec-14
MSCI Emerging Markets Small Cap	-10.0%	-5.3%	-24.2%	-23.2%	4.9%	5.5%	1.3%	4.7%	2.9%	2.8%	Dec-14
eV Emg Mkts Small Cap Equity Net Rank	85	91	32	37	45	60	60	53		63	Dec-14
Risk Parity Composite	-6.4%	-6.5%	-18.6%	-16.1%	-1.8%	-0.6%	2.6%	3.9%	2.4%	2.7%	Jul-12
60% Wilshire 5000/40% BarCap Aggregate	-7.3%	-4.5%	-20.4%	-15.9%	-0.3%	3.8%	5.5%	7.1%	7.4%	7.6%	Jul-12
AQR Risk Parity	-6.4%	-6.5%	-18.6%	-16.1%	-1.8%	-0.6%	2.6%	3.9%	2.4%	2.7%	Jul-12
60% Wilshire 5000/40% BarCap Aggregate	-7.3%	-4.5%	-20.4%	-15.9%	-0.3%	3.8%	5.5%	7.1%	7.4%	7.6%	Jul-12
60% MSCI World / 40% BarCap Aggregate	-7.3%	-5.6%	-21.1%	-17.4%	-2.0%	1.7%	3.4%	5.2%	5.4%	5.6%	Jul-12
Volatility Risk Premium Composite	-5.9%	-4.3%								-12.5%	Jan-22
CBOE Put Write Index	-5.9%	-6.8%	-13.6%	-7.6%	6.6%	3.9%	3.3%	5.3%	5.6%	-11.5%	Jan-22
NB US Index PutWrite	-5.9%	-4.3%								-12.5%	Jan-22
CBOE Put Write Index	-5.9%	-6.8%	-13.6%	-7.6%	6.6%	3.9%	3.3%	5.3%	5.6%	-11.5%	Jan-22

* Certain values are lagged. HIG Bayside VI, JPM IIF, Alinda II, Fort Washington funds, PAPEF IV, PAPEF V, North Sky funds, JPM VIII & IX, and Blue Chip are valued as of June 30, 2022. StepStone RE I is valued as of March 31, 2022. Macquarie II is valued as of December 31, 2021. Owl Rock, JPM X, and Siguler Guff V are new funds. All lagged values have been updated for corresponding cash flows.

Annualized Performance (Net of Fees)

Ending September 30, 2022

	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Inception	Inception Date
Real Estate Composite	-0.1%	0.2%	10.8%	20.2%	17.5%	12.3%	10.0%	9.8%	11.0%	6.7%	Aug-07
NFI-ODCE	0.1%	0.3%	12.4%	21.1%	17.3%	11.4%	9.3%	8.9%	9.9%	5.8%	Aug-07
NPI	0.0%	0.0%	8.7%	15.4%	13.8%	9.7%	8.5%	8.4%	9.4%	7.0%	Aug-07
InvMetrics All DB Real Estate Priv Net Rank	62	46	68	60	39	27	12	11	3	4	Aug-07
J.P. Morgan SPF	-1.1%	-1.5%	9.4%	18.0%	15.4%	10.3%	8.1%	7.9%	9.4%	6.1%	Jan-08
NFI-ODCE	0.1%	0.3%	12.4%	21.1%	17.3%	11.4%	9.3%	8.9%	9.9%	5.8%	Jan-08
NPI	0.0%	0.0%	8.7%	15.4%	13.8%	9.7%	8.5%	8.4%	9.4%	6.9%	Jan-08
InvMetrics All DB Real Estate Pub Net Rank	91	92	73	53	50	52	73	70	56	13	Jan-08
Morgan Stanley P.P.	-0.1%	-0.1%	10.2%	20.8%	16.6%	11.2%	9.7%	9.6%	11.2%	7.0%	Aug-07
NFI-ODCE	0.1%	0.3%	12.4%	21.1%	17.3%	11.4%	9.3%	8.9%	9.9%	5.8%	Aug-07
NPI	0.0%	0.0%	8.7%	15.4%	13.8%	9.7%	8.5%	8.4%	9.4%	7.0%	Aug-07
InvMetrics All DB Real Estate Pub Net Rank	86	82	61	20	30	22	15	8	4	1	Aug-07
PRISA III	1.7%	1.7%	10.7%	17.6%	19.1%	16.2%	13.0%	12.7%	14.1%	6.3%	Dec-07
NFI-ODCE	0.1%	0.3%	12.4%	21.1%	17.3%	11.4%	9.3%	8.9%	9.9%	5.8%	Dec-07
NPI	0.0%	0.0%	8.7%	15.4%	13.8%	9.7%	8.5%	8.4%	9.4%	6.9%	Dec-07
InvMetrics All DB Real Estate Pub Net Rank	2	2	54	54	2	1	1	1	1	5	Dec-07
Principal Enhanced	-0.3%	1.4%	13.9%	25.8%	21.0%	14.0%	11.5%	12.2%	13.2%	6.1%	Mar-08
NFI-ODCE	0.1%	0.3%	12.4%	21.1%	17.3%	11.4%	9.3%	8.9%	9.9%	5.8%	Mar-08
NPI	0.0%	0.0%	8.7%	15.4%	13.8%	9.7%	8.5%	8.4%	9.4%	6.9%	Mar-08
InvMetrics All DB Real Estate Pub Net Rank	87	5	5	1	1	4	2	1	1	10	Mar-08
StepStone RE Intl Partnership I	0.0%	0.0%	-1.6%	-7.9%	-6.1%	-7.5%	-5.7%	-3.4%	-0.6%	-3.1%	Oct-07
NFI-ODCE	0.1%	0.3%	12.4%	21.1%	17.3%	11.4%	9.3%	8.9%	9.9%	5.8%	Oct-07
NPI	0.0%	0.0%	8.7%	15.4%	13.8%	9.7%	8.5%	8.4%	9.4%	6.9%	Oct-07
Infrastructure Composite	0.2%	0.1%	3.5%	6.3%	8.7%	8.6%	7.4%	6.1%	7.2%	8.2%	Aug-08
3 Month T-Bill +4%	0.6%	1.4%	3.6%	4.6%	4.3%	4.5%	5.1%	4.9%	4.7%	4.5%	Aug-08
J.P. Morgan Infrastructure	0.0%	0.0%	3.5%	5.9%	6.8%	5.9%				6.2%	Dec-17
CPI +4%	0.5%	1.2%	9.6%	12.5%	11.0%	9.1%	7.9%	7.3%	6.6%	8.1%	Dec-17
IFM Global Infrastructure (U.S)	0.3%	0.2%	4.0%	7.8%	12.8%	9.8%				12.4%	Feb-18
CPI +4%	0.5%	1.2%	9.6%	12.5%	11.0%	9.1%	7.9%	7.3%	6.6%	8.0%	Feb-18

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Annualized Performance (Net of Fees)

Ending September 30, 2022

	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Inception	Inception Date
Macquarie Fund II	0.0%	0.0%	0.0%	-0.3%	3.8%	16.3%	13.0%	11.9%	10.1%	10.2%	Sep-08
3 Month T-Bill +4%	0.6%	1.4%	3.6%	4.6%	4.3%	4.5%	5.1%	4.9%	4.7%	4.5%	Sep-08
Alinda Fund II	0.0%	0.0%	-3.2%	-5.4%	-8.9%	-8.6%	-8.2%	-6.3%	-1.7%	2.1%	Aug-08
3 Month T-Bill +4%	0.6%	1.4%	3.6%	4.6%	4.3%	4.5%	5.1%	4.9%	4.7%	4.5%	Aug-08
Private Equity Composite	0.0%	0.0%	-0.3%	3.1%	23.2%	18.9%	16.6%	14.7%	14.7%	9.0%	Jul-93
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	16.0%	Jul-93
Fort Washington Fund V	0.0%	0.0%	-6.8%	-5.6%	13.1%	10.8%	9.5%	8.4%	9.7%	8.7%	Sep-07
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	12.5%	Sep-07
North Sky Fund III - LBO	0.0%	0.0%	-31.3%	-24.8%	-2.9%	5.5%	5.5%	8.9%	10.9%	9.7%	May-07
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	13.1%	<i>May-</i> 07
North Sky Fund III - VC	0.0%	0.0%	-56.9%	-79.0%	-44.2%	-31.0%	-13.5%	-7.3%	-0.6%	2.3%	May-07
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	13.1%	<i>May-</i> 07
Portfolio Advisors IV - Special Sit	0.0%	0.0%	3.2%	6.9%	10.3%	3.3%	2.7%	1.1%	3.5%	4.0%	Jun-07
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	12.5%	Jun-07
Fort Washington Fund VI	0.0%	0.0%	-17.1%	-16.0%	9.0%	9.0%	11.7%	10.5%	13.4%	13.5%	Apr-08
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	12.8%	Apr-08
North Sky Fund IV - LBO	0.0%	0.0%	-33.7%	-27.6%	-1.3%	1.5%	7.5%	10.3%	11.8%	13.3%	Aug-08
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	13.1%	Aug-08
Portfolio Advisors V - Special Sit	0.0%	0.0%	2.9%	10.5%	12.2%	7.8%	6.1%	5.5%	7.4%	7.1%	Aug-08
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	13.1%	Aug-08
Fort Washington Fund VIII	0.0%	0.0%	-4.9%	-1.3%	20.8%	17.9%	15.5%	15.2%		12.8%	Jan-14
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	16.6%	Jan-14
Fort Washington Opp Fund III	0.0%	0.0%	3.5%	1.1%	11.8%	0.8%	4.8%	8.8%		15.2%	Jul-14
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	16.5%	Jul-14
North Sky Fund V	0.0%	0.0%	-2.0%	2.8%	24.2%	23.1%	24.7%	20.3%		11.9%	Apr-14
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	16.6%	Apr-14

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** Burgiss Global All PE benchmark data is updated through 6/30/22

Annualized Performance (Net of Fees)

Ending September 30, 2022

	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	5 Yrs	7 Yrs	10 Yrs	Inception	Inception Date
Fort Washington Fund IX	0.0%	0.0%	0.8%	5.8%	29.9%	25.1%	18.5%			23.3%	Sep-16
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	19.0%	Sep-16
Fort Washington Fund X	0.0%	0.0%	6.8%	9.0%	39.6%	30.2%				23.2%	May-19
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	22.3%	May-19
JP Morgan Global Private Equity VIII	0.0%	0.0%	11.2%	17.1%	22.8%	17.1%				15.7%	Jun-19
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	21.2%	Jun-19
JP Morgan Global Private Equity IX	0.0%	0.0%	11.7%	16.4%						26.7%	Nov-20
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	26.3%	Nov-20
JP Morgan Global Private Equity X	0.0%									0.0%	Jul-22
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	0.0%	Jul-22
Siguler Guff Small Buyout Opportunities V	0.0%									0.0%	Aug-22
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	0.0%	Aug-22
Blue Chip Fund IV	0.0%	0.0%	0.9%	13.4%	18.5%	11.7%	-3.3%	-6.4%	-5.7%	-0.7%	Dec-00
Burgiss Global All Private Equity	0.0%	0.0%	-5.8%	-0.6%	23.9%	22.6%	19.5%	17.6%	16.8%	11.7%	Dec-00

* Certain values are lagged. HIG Bayside VI, JPM IIF, Alinda II, Fort Washington funds, PAPEF IV, PAPEF V, North Sky funds, JPM VIII & IX, and Blue Chip are valued as of June 30, 2022. StepStone RE I is valued as of March 31, 2022. Macquarie II is valued as of December 31, 2021. Owl Rock, JPM X, and Siguler Guff V are new funds. All lagged values have been updated for corresponding cash flows.

** Burgiss Global All PE benchmark data is updated through 6/30/22

Calendar Performance (Net of Fees)

	Calendar Year 2021 2020 2019 2018 2017 2016 2015 2014 2013 2012 2011											
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	
Total Fund Composite	17.4%	10.3%	16.8%	-4.3%	14.9%	8.9%	-0.1%	6.4%	17.5%	12.0%	1.1%	
Target Benchmark	16.1%	12.7%	17.7%	-4.0%	15.5%	8.8%	0.5%	5.8%	17.2%	12.2%	-1.8%	
InvMetrics Public DB > \$1B Net Rank	14	57	53	60	62	13	46	18	13	69	32	
Fixed Income Composite	0.6%	9.5%	9.6%	-0.6%	5.6%	7.2%	-2.1%	5.6%	0.7%	8.6%	5.6%	
Bloomberg US Aggregate TR	-1.5%	7.5%	8.7%	0.0%	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%	
InvMetrics Public DB Total Fix Inc Net Rank	21	11	31	57	45	14	78	17	20	36	67	
NTGI Agg Bond												
Bloomberg US Aggregate TR	-1.5%	7.5%	8.7%	0.0%	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%	
eV US Core Fixed Inc Net Rank												
Loomis Sayles Core-Plus	-1.0%	11.1%	9.5%	-0.5%	5.2%	6.9%						
Bloomberg US Aggregate TR	-1.5%	7.5%	8.7%	0.0%	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%	
eV US Core Plus Fixed Inc Net Rank	80	11	60	47	24	17						
Shenkman - Four Points	4.6%	11.6%	13.3%	-1.0%	7.5%	16.1%	-4.2%	2.6%	10.7%	11.9%	1.7%	
Bloomberg US High Yield TR	5.3%	7.1%	14.3%	-2.1%	7.5%	17.1%	-4.5%	2.5%	7.4%	15.8%	5.0%	
eV US High Yield Fixed Inc Net Rank	61	2	53	28	39	20	66	35	10	91	86	
Private Debt Composite	-10.9%											
Bloomberg US Aggregate TR	-1.5%	7.5%	8.7%	0.0%	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%	
H.I.G. Bayside Opportunity VI	-10.9%											
Bloomberg US Aggregate TR	-1.5%	7.5%	8.7%	0.0%	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%	
Owl Rock Diversified Lending												
Bloomberg US Aggregate TR	-1.5%	7.5%	8.7%	0.0%	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%	

* Cambridge Associates All PE benchmark data is updated through 12/31/21

Calendar Performance (Net of Fees)

	Calendar Year												
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011		
U.S. Equity Composite	30.3%	12.5%	27.8%	-8.6%	17.8%	16.3%	-3.0%	10.8%	35.4%	15.4%	-0.1%		
Russell 3000	25.7%	20.9%	31.0%	-5.2%	21.1%	12.7%	0.5%	12.6%	33.6%	16.4%	1.0%		
InvMetrics Public DB US Eq Net Rank	2	94	91	92	96	3	89	54	24	58	66		
NTGI Russell 3000													
Russell 3000	25.7%	20.9%	31.0%	-5.2%	21.1%	12.7%	0.5%	12.6%	33.6%	16.4%	1.0%		
eV US Passive All Cap Equity Gross Rank													
NTGI Russell 1000 Value	25.2%	3.0%	26.6%	-8.2%	13.8%	17.3%	-3.6%	13.5%					
Russell 1000 Value	25.2%	2.8%	26.5%	-8.3%	13.7%	17.3%	-3.8%	13.5%	32.5%	17.5%	0.4%		
eV US Large Cap Value Equity Net Rank	65	53	48	42	84	19	57	24					
Vanguard Mid Cap Value	28.8%	2.5%	28.0%										
CRSP US Mid Cap Value TR USD	28.8%	2.5%	28.1%	-12.4%	17.1%	15.3%	-1.8%	14.1%	37.4%	17.9%	-0.4%		
Mid-Cap Value MStar MF Rank	49	58	42										
NTGI Russell 2000 Value	28.1%	4.9%	22.6%	-12.7%	8.1%	31.9%	-7.3%	4.3%					
Russell 2000 Value	28.3%	4.6%	22.4%	-12.9%	7.8%	31.7%	-7.5%	4.2%	34.5%	18.0%	-5.5%		
eV US Small Cap Value Equity Net Rank	54	47	60	29	68	13	72	56					
Non-U.S. Equity Composite	10.2%	7.5%	18.9%	-16.2%	27.7%	7.3%	-4.9%	-1.4%	14.5%	18.2%	-10.2%		
MSCI ACWI ex USA	7.8%	10.7%	21.5%	-14.2%	27.2%	4.5%	-5.7%	-3.9%	15.3%	16.8%	-13.7%		
InvMetrics Public DB ex-US Eq Net Rank	15	97	98	68	59	7	68	13	79	49	6		
NTGI ACWI Ex-US													
MSCI ACWI ex USA	7.8%	10.7%	21.5%	-14.2%	27.2%	4.5%	-5.7%	-3.9%	15.3%	16.8%	-13.7%		
eV ACWI ex-US All Cap Equity Net Rank													
DFA Emerging Markets Small Cap	14.6%	13.8%	14.9%	-17.6%	35.3%	10.9%	-8.7%						
MSCI Emerging Markets Small Cap	18.8%	19.3%	11.5%	-18.6%	33.8%	2.3%	-6.8%	1.0%	1.0%	22.2%	-27.2%		
eV Emg Mkts Small Cap Equity Net Rank	59	64	52	46	55	15	59						

Calendar Performance (Net of Fees)

	Calendar Year											
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	
Risk Parity Composite	10.3%	5.8%	21.8%	-6.1%	11.9%	11.2 %	-9.4%	6.5%	-2.9%			
60% Wilshire 5000/40% BarCap Aggregate	14.7%	16.2%	21.9%	-2.9%	13.7%	9.2%	0.8%	10.0%	17.9%	11.3%	4.0%	
AQR Risk Parity	10.3%	5.8%	21.8%	-6.1%	11.9%	11.2%	-9.4%	6.5%	-2.9%			
60% Wilshire 5000/40% BarCap Aggregate	14.7%	16.2%	21.9%	-2.9%	13.7%	9.2%	0.8%	10.0%	17.9%	11.3%	4.0%	
60% MSCI World / 40% BarCap Aggregate	12.0%	13.3%	20.0%	-5.1%	14.5%	5.7%	-0.1%	5.4%	14.5%	11.3%	0.0%	
Volatility Risk Premium Composite												
CBOE Put Write Index	21.8%	2.1%	13.5%	-5.9%	10.8%	7.8%	6.4%	6.3%	12.3%	8.1%	6.2%	
NB US Index PutWrite												
CBOE Put Write Index	21.8%	2.1%	13.5%	-5.9%	10.8%	7.8%	6.4%	6.3%	12.3%	8.1%	6.2%	
Real Estate Composite	22.3%	2.2%	5.8%	7.5%	7.9%	9.3%	14.8%	12.4%	14.8%	11.0%	16.9%	
NFI-ODCE	21.1%	0.3%	4.4%	7.4%	6.7%	7.8%	14.0%	11.5%	12.9%	9.8%	15.0%	
NPI	17.7%	1.6%	6.4%	6.7%	7.0%	8.0%	13.3%	11.8%	11.0%	10.5%	14.3%	
InvMetrics All DB Real Estate Priv Net Rank	34	7	43	39	20	7	22	31	17	30	14	
J.P. Morgan SPF	19.8%	0.4%	3.3%	7.0%	6.2%	7.3%	14.1%	10.3%	14.8%	10.9%	16.0%	
NFI-ODCE	21.1%	0.3%	4.4%	7.4%	6.7%	7.8%	14.0%	11.5%	12.9%	9.8%	15.0%	
NPI	17.7%	1.6%	6.4%	6.7%	7.0%	8.0%	13.3%	11.8%	11.0%	10.5%	14.3%	
InvMetrics All DB Real Estate Pub Net Rank	32	67	89	53	56	45	31	85	10	34	29	
Morgan Stanley P.P.	21.5%	1.3%	6.2%	8.0%	8.7%	9.2%	14.6%	14.1%	16.2%	11.7%	16.5%	
NFI-ODCE	21.1%	0.3%	4.4%	7.4%	6.7%	7.8%	14.0%	11.5%	12.9%	9.8%	15.0%	
NPI	17.7%	1.6%	6.4%	6.7%	7.0%	8.0%	13.3%	11.8%	11.0%	10.5%	14.3%	
InvMetrics All DB Real Estate Pub Net Rank	20	29	42	15	10	11	21	25	5	22	21	
PRISA III	24.6%	9.5%	9.1%	7.9%	9.9%	13.2%	22.7%	16.9%	14.9%	13.7%	23.1%	
NFI-ODCE	21.1%	0.3%	4.4%	7.4%	6.7%	7.8%	14.0%	11.5%	12.9%	9.8%	15.0%	
NPI	17.7%	1.6%	6.4%	6.7%	7.0%	8.0%	13.3%	11.8%	11.0%	10.5%	14.3%	
InvMetrics All DB Real Estate Pub Net Rank	10	1	19	20	9	1	1	14	8	16	1	
Principal Enhanced	25.9%	0.7%	6.8%	9.5%	9.3%	13.5%	20.3%	13.8%	18.0%	12.6%	16.7%	
NFI-ODCE	21.1%	0.3%	4.4%	7.4%	6.7%	7.8%	14.0%	11.5%	12.9%	9.8%	15.0%	
NPI	17.7%	1.6%	6.4%	6.7%	7.0%	8.0%	13.3%	11.8%	11.0%	10.5%	14.3%	
InvMetrics All DB Real Estate Pub Net Rank	8	48	31	1	10	1	1	27	2	17	21	
StepStone RE Intl Partnership I	-10.5%	-10.3%	2.2%	-6.6%	1.7%	1.8%	0.0%	6.9%	7.9%	4.1%	7.3%	
NFI-ODCE	21.1%	0.3%	4.4%	7.4%	6.7%	7.8%	14.0%	11.5%	12.9%	9.8%	15.0%	
NPI	17.7%	1.6%	6.4%	6.7%	7.0%	8.0%	13.3%	11.8%	11.0%	10.5%	14.3%	

Calendar Performance (Net of Fees)

	Calendar Year 2021 2020 2019 2018 2017 2016 2015 2014 2013 2012 2011											
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	
Infrastructure Composite	10.8%	8.1%	11.3%	4.8%	2.4%	0.4%	11.2%	12.5%	4.2%	5.7%	11.6%	
3 Month T-Bill +4%	4.0%	4.5%	6.1%	6.0%	5.0%	4.3%	4.0%	4.0%	4.1%	4.1%	4.0%	
J.P. Morgan Infrastructure	7.7%	4.5%	9.1%	4.9%								
CPI +4%	11.3%	5.4%	6.4%	6.0%	6.2%	6.2%	4.8%	4.8%	5.6%	5.8%	7.1%	
IFM Global Infrastructure (U.S)	17.7%	2.8%	14.6%									
CPI +4%	11.3%	5.4%	6.4%	6.0%	6.2%	6.2%	4.8%	4.8%	5.6%	5.8%	7.1%	
Macquarie Fund II	3.2%	48.4%	12.8%	4.5%	10.1%	7.8%	8.2%	0.8%	6.2%	8.6%	14.0%	
3 Month T-Bill +4%	4.0%	4.5%	6.1%	6.0%	5.0%	4.3%	4.0%	4.0%	4.1%	4.1%	4.0%	
Alinda Fund II	-14.3%	-7.5%	3.0%	-13.0%	-5.4%	-4.4%	13.1%	21.9%	0.2%	0.6%	8.4%	
3 Month T-Bill +4%	4.0%	4.5%	6.1%	6.0%	5.0%	4.3%	4.0%	4.0%	4.1%	4.1%	4.0%	
Private Equity Composite	32.5%	22.0%	11.3%	16.0%	14.3%	8.1%	8.2%	8.5%	26.5%	8.4%	11.8%	
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
Fort Washington Fund V	24.2%	17.4%	5.3%	9.0%	9.3%	2.6%	2.7%	12.1%	22.4%	11.0%	14.0%	
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
North Sky Fund III - LBO	26.4%	27.9%	8.9%	5.2%	18.3%	17.0%	12.4%	10.9%	25.3%	13.8%	14.3%	
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
North Sky Fund III - VC	-54.5%	43.8%	34.3%	27.6%	24.4%	-3.1%	3.2%	14.4%	36.0%	0.5%	14.5%	
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
Portfolio Advisors IV - Special Sit	14.2%	-4.5%	-4.8%	-2.1%	7.2%	1.4%	-1.6%	5.3%	10.2%	14.7%	7.6%	
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
Fort Washington Fund VI	26.5%	17.2%	16.2%	18.0%	16.7%	0.4%	16.8%	17.0%	24.5%	12.9%	13.3%	
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
North Sky Fund IV - LBO	35.5%	15.4%	7.4%	20.7%	22.1%	13.9%	16.5%	13.7%	17.3%	10.8%	9.3%	
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
Portfolio Advisors V - Special Sit	15.8%	6.1%	0.5%	4.4%	4.5%	7.7%	1.9%	14.3%	9.6%	12.3%	10.4%	
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
Fort Washington Fund VIII	28.4%	26.0%	14.3%	13.1%	13.6%	19.6%	24.3%					
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
Fort Washington Opp Fund III	21.8%	-16.4%	-4.9%	16.6%	22.0%	29.0%	47.4%					
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
North Sky Fund V	38.9%	31.4%	19.5%	34.2%	8.7%	9.4%	-1.3%					
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	

* Cambridge Associates All PE benchmark data is updated through 12/31/21

Calendar Performance (Net of Fees)

	Calendar Year 2021 2020 2019 2018 2017 2016 2015 2014 2013 2012 2011											
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	
Fort Washington Fund IX	41.0%	28.0%	13.3%	11.3%	-0.3%							
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
Fort Washington Fund X	50.2%	22.7%										
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
JP Morgan Global Private Equity VIII	28.7%	12.6%										
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
JP Morgan Global Private Equity IX	24.1%											
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
JP Morgan Global Private Equity X												
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
Siguler Guff Small Buyout Opportunities V												
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	
Blue Chip Fund IV	16.1%	13.2%	14.8%	-40.0%	-14.8%	-18.0%	-15.7%	3.4%	4.4%	1.8%	-6.3%	
Burgiss Global All Private Equity	38.9%	33.3%	17.7%	12.4%	20.5%	9.0%	10.3%	12.9%	20.8%	12.7%	8.2%	

* Cambridge Associates All PE benchmark data is updated through 12/31/21

Closed End Funds

Statistics

Detail for Period Ending September 30, 2022

Account Name	Vintage Year	Commitment (\$)	Unfunded Commitment (\$)	Call Ratio	Cumulative A Contributions (\$)	dditional Fees (\$)	Cumulative Distributions (\$)	Valuation (\$)	Total Value (\$)	DPI	TVPI	RVPI	IRR (%)
Infrastructure													
Macquarie Fund II	2008	65,000,000	3,292,222	0.95	61,707,778	0	114,009,496	332,179	114,341,676	1.85	1.85	0.01	8.95
Alinda Fund II	2008	65,000,000	4,969,944	1.31	85,454,109	0	81,514,603	13,062,609	94,577,212	0.95	1.11	0.15	2.13
Total Infrastructure		130,000,000	8,262,166	1.13	147,161,887	0	195,524,099	13,394,788	208,918,888	1.33	1.42	0.09	6.15
Other													
H.I.G. Bayside Opportunity VI	2020	40,000,000	20,847,221	0.54	21,687,363	0	4,327,311	18,036,060	22,363,371	0.20	1.03	0.83	
Owl Rock Diversified Lending	2022	20,000,000	12,000,000	0.40	8,000,000	0	0	8,000,000	8,000,000	0.00	1.00	1.00	
Total Other		60,000,000	32,847,221	0.49	29,687,363	0	4,327,311	26,036,060	30,363,371	0.15	1.02	0.88	4.68
Private Equity													
Fort Washington Fund V	2007	40,000,000	2,449,299	0.94	37,550,701	0	65,362,062	9,981,920	75,343,982	1.74	2.01	0.27	10.52
North Sky Fund III - LBO	2007	30,000,000	8,400,000	0.72	21,600,000	0	43,699,306	1,369,960	45,069,266	2.02	2.09	0.06	10.96
North Sky Fund III - VC	2007	10,000,000	850,000	0.92	9,150,000	0	16,421,592	607,732	17,029,324	1.79	1.86	0.07	8.40
Portfolio Advisors IV - Special Sit	2007	18,600,000	1,628,786	0.91	16,971,214	0	22,155,707	1,678,779	23,834,486	1.31	1.40	0.10	5.40
Fort Washington Fund VI	2008	30,000,000	4,309,950	0.86	25,690,050	0	50,587,158	5,277,000	55,864,158	1.97	2.17	0.21	14.24
North Sky Fund IV - LBO	2008	15,000,000	5,325,000	0.65	9,675,000	0	20,636,974	2,119,273	22,756,247	2.13	2.35	0.22	12.82
Portfolio Advisors V - Special Sit	2008	8,375,000	895,626	0.89	7,479,374	0	11,219,821	763,128	11,982,949	1.50	1.60	0.10	8.57
Fort Washington Fund VIII	2014	50,000,000	13,500,001	0.73	36,499,999	0	34,375,000	42,570,532	76,945,532	0.94	2.11	1.17	16.44
Fort Washington Opp Fund III	2014	30,000,000	7,800,000	0.74	22,200,000	0	26,025,000	10,729,797	36,754,797	1.17	1.66	0.48	15.09
North Sky Fund V	2014	40,000,000	13,600,000	0.66	26,400,000	0	37,218,799	34,456,174	71,674,973	1.41	2.71	1.31	20.91
Fort Washington Fund IX	2016	50,000,000	12,750,000	0.75	37,250,000	0	11,750,000	59,299,969	71,049,969	0.32	1.91	1.59	21.10
Fort Washington Fund X	2019	40,000,000	21,200,000	0.47	18,800,000	0	800,000	28,440,392	29,240,392	0.04	1.56	1.51	26.46
JP Morgan Global Private Equity VIII	2019	40,000,000	11,707,894	0.72	28,943,356	351,647	2,676,437	36,058,339	38,734,776	0.09	1.34	1.25	20.35
JP Morgan Global Private Equity IX	2020	20,000,000	11,801,862	0.43	8,503,974	98,714	391,438	10,540,662	10,932,100	0.05	1.29	1.24	
JP Morgan Global Private Equity X	2022	40,000,000	38,264,190	0.04	1,735,810	50,651	0	1,735,810	1,735,810	0.00	1.00	1.00	
Siguler Guff Small Buyout Opportunities V	2022	25,000,000	24,412,500	0.02	587,500	0	33,288	554,212	587,500	0.06	1.00	0.94	
Blue Chip Fund IV	2000	25,000,000	0	1.00	25,000,000	0	23,770,550	2,036,109	25,806,659	0.95	1.03	0.08	0.44
Total Private Equity		511,975,000	178,895,108	0.65	334,036,978	501,012	367,123,130	248,219,789	615,342,919	1.10	1.84	0.74	10.99
Real Estate													
StepStone RE Intl Partnership I	2007	30,000,000	6,604,646	0.78	23,395,354	0	23,030,765	1,481,340	24,512,105	0.98	1.05	0.06	0.74
Total Real Estate		30,000,000	6,604,646	0.78	23,395,354	0	23,030,765	1,481,340	24,512,105	0.98	1.05	0.06	0.74
Total		731,975,000	226,609,141	0.73	534,281,581	501,012	590,005,305	289,131,977	879,137,283	1.10	1.65	0.54	8.13



Closed End Funds

Statistics

Detail for Period Ending September 30, 2022											
Account Name	Vintage Year	IRR (1 Yr) (%)	IRR (3 Yrs) (%)	IRR (5 Yrs) (%)	IRR (7 Yrs) (%)	IRR (10 Yrs) (%)	IRR (%)	Prim PME (Long Nickels) (%)	Prim PME ^{Se} Benchmark	ec PME (Long Nickels) (%)	Sec PME Benchmark
Infrastructure											
Macquarie Fund II	2008	-0.34	40.54	12.98	11.13	9.32	8.95	13.06	Russell 3000	11.86	Russell 2000
Alinda Fund II	2008	-5.44	-8.66	-8.52	-5.06	1.74	2.13	13.39	Russell 3000	11.59	Russell 2000
Total Infrastructure		-5.32	8.13	2.74	2.89	5.82	6.15	13.22		11.73	
Other											
H.I.G. Bayside Opportunity VI	2020								Bloomberg US Aggregate TR		
Owl Rock Diversified Lending	2022								Bloomberg US Aggregate TR		
Total Other		-4.64					4.68	-16.84			
Private Equity											
Fort Washington Fund V	2007	-5.07	13.45	10.29	7.82	10.69	10.52	11.22	Russell 3000	10.73	Russell 2000
North Sky Fund III - LBO	2007	-17.12	14.93	10.25	13.86	15.86	10.96	9.77	Russell 3000	9.59	Russell 2000
North Sky Fund III - VC	2007	-78.95	-21.28	4.83	6.20	14.21	8.40	9.34	Russell 3000	8.78	Russell 2000
Portfolio Advisors IV - Special Sit	2007	6.95	1.11	2.45	-0.25	5.70	5.40	8.51	Russell 3000	8.14	Russell 2000
Fort Washington Fund VI	2008	-15.66	11.58	14.56	10.43	15.68	14.24	13.21	Russell 3000	12.51	Russell 2000
North Sky Fund IV - LBO	2008	-23.28	9.86	14.64	15.84	15.64	12.82	14.08	Russell 3000	12.88	Russell 2000
Portfolio Advisors V - Special Sit	2008	11.18	6.20	4.77	4.16	9.03	8.57	11.93	Russell 3000	10.88	Russell 2000
Fort Washington Fund VIII	2014	-1.18	20.27	16.34	16.27		16.44	12.31	Russell 3000	9.40	Russell 2000
Fort Washington Opp Fund III	2014	1.10	-0.11	7.95	12.74		15.09	11.07	Russell 3000	8.24	Russell 2000
North Sky Fund V	2014	3.22	25.32	26.45	22.81		20.91	13.16	Russell 3000	10.23	Russell 2000
Fort Washington Fund IX	2016	5.85	25.98	21.07			21.10	8.87	Russell 3000	4.85	Russell 2000
Fort Washington Fund X	2019	8.99	29.96				26.46	0.96	Russell 3000	-2.18	Russell 2000
JP Morgan Global Private Equity VIII	2019	17.26	21.08				20.35	-3.43	Russell 3000	-8.24	Russell 2000
JP Morgan Global Private Equity IX	2020								Russell 3000		Russell 2000
JP Morgan Global Private Equity X	2022								Russell 3000		Russell 2000
Siguler Guff Small Buyout Opportunities V	2022								Russell 3000		Russell 2000
Blue Chip Fund IV	2000	13.35	11.67	-3.82	-7.45	-4.69	0.44	8.01	Russell 3000	7.91	Russell 2000
Total Private Equity		3.11	19.47	16.77	14.47	14.51	10.99	10.19		9.30	

-											
Closed End Funds											Statistics
Account Name	Vintage Year	IRR (1 Yr) (%)	IRR (3 Yrs) (%)	IRR (5 Yrs) (%)	IRR (7 Yrs) (%)	IRR (10 Yrs) (%)	IRR (%)	Prim PME (Long Nickels) (%)	Prim PME Benchmark	Sec PME (Long Nickels) (%)	Sec PME Benchmark
Real Estate											
StepStone RE Intl Partnership I	2007	-9.13	-7.70	-5.00	-0.51	3.36	0.74	7.58	FTSE NAREIT All REIT		
Total Real Estate		-9.13	-7.70	-5.00	-0.51	3.36	0.74	7.58			
Total		2.17	17.61	13.08	10.68	11.20	8.13	10.33			

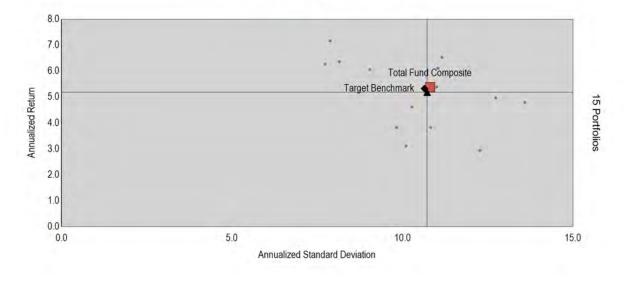


Detail for Period Ending June 30, 2022

Account Name	Burgiss Universe	Vintage Year	IRR (%)	Quartile Rank	Top Quartile (%)	Median (%)	Bottom Quartile (%)	# of Funds
Infrastructure					E			
Macquarie Fund II	Real Assets - North America	2008	8.95	2nd	12.18	7.92	1.73	54
Alinda Fund II	Real Assets - North America	2008	2.15	3rd	12.18	7.92	1.73	54
Other					1	_		
H.I.G. Bayside Opportunity VI	Private Debt - North America	2020						
Private Equity								
Fort Washington Fund V	Private Equity - North America	2007	10.55	2nd	16.28	10.44	3.73	189
North Sky Fund III - LBO	Private Equity - North America	2007	10.97	2nd	16.28	10.44	3.73	189
North Sky Fund III - VC	Private Equity - North America	2007	8.41	3rd	16.28	10.44	3.73	189
Portfolio Advisors IV - Special Sit	Private Equity - North America	2007	5.41	3rd	16.28	10.44	3.73	189
Fort Washington Fund VI	Private Equity - North America	2008	14.27	2nd	19.61	11.08	4.36	154
North Sky Fund IV - LBO	Private Equity - North America	2008	12.84	2nd	19.61	11.08	4.36	154
Portfolio Advisors V - Special Sit	Private Equity - North America	2008	8.59	3rd	19.61	11.08	4.36	154
Fort Washington Fund VIII	Private Equity - North America	2014	16.9	3rd	28.14	20.03	11.44	205
Fort Washington Opp Fund III	Private Equity - North America	2014	15.34	3rd	28.14	20.03	11.44	205
North Sky Fund V	Private Equity - North America	2014	21.39	2nd	28.14	20.03	11.44	205
Fort Washington Fund IX	Private Equity - North America	2016	22.57	3rd	31.26	23.60	16.87	190
Fort Washington Fund X	Private Equity - North America	2019	30.66	2nd	49.07	29.10	15.39	246
JP Morgan Global Private Equity VIII	Private Equity - Global	2019	23.31	3rd	49.07	29.10	15.39	246
JP Morgan Global Private Equity IX	Private Equity - Global	2020						
Blue Chip Fund IV	Private Equity - North America	2000	0.44	3rd	10.53	2.29	-5.07	206
Real Estate				1.1	1			
StepStone RE Intl Partnership I	Real Estate - Global	2007	0.74	3rd	7.27	2.91	-5.28	102

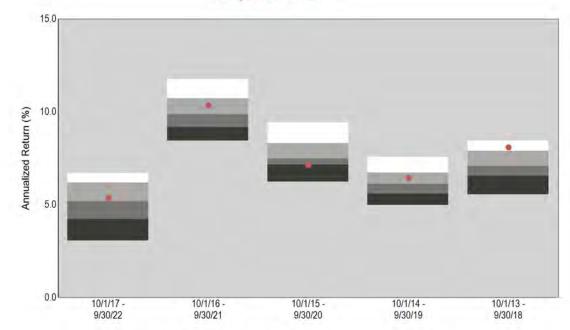
Total Fund vs. Peer Universe

Market Value: \$2,120.0 Million and 100.0% of Fund



Annualized Return vs. Annualized Standard Deviation 5 Years Ending September 30, 2022

Rolling 5 Year Returns



	Return (Rank)									
5th Percentile	6.7		11.8		9.4		7.6		8.5	
25th Percentile	6.2		10.7		8.3		6.7		7.9	
Median	5.2		9.9		7.5		6.1		7.1	
75th Percentile	4.2		9.2		7.2		5.6		6.6	
95th Percentile	3.1		8.4		6.2		5.0		5.5	
# of Portfolios	15		80		75		69		60	
Total Fund Composite	5.4	(44)	10.3	(39)	7.1	(76)	6.4	(35)	8.1	(12)

Statistics

Market Value: \$2,120.0 Million and 100.0% of Fund

3 Year	s Ending	September	30, 2022
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	Sharpe Ratio	Tracking Error	Anlzd Alpha	Beta	R-Squared	Information Ratio	Anlzd Standard Deviation	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Total Fund Composite	0.4	9.8%	1.1%	0.6	0.9	-0.2	12.5%	47.9%	65.1%
S&P 500	0.4						20.3%		
Total Fund Composite	0.4	8.0%	3.4%	0.6	0.9	0.3	12.5%	58.2%	64.7%
MSCI ACWI	0.2						19.4%		
Total Fund Composite	0.4	2.1%	0.5%	1.0	1.0	0.2	12.5%	100.6%	97.9%
Target Benchmark	0.4						12.4%		
Fixed Income Composite	-0.2	4.2%	2.1%	1.0	0.6	0.5	6.8%	137.0%	95.7%
Bloomberg US Aggregate TR	-0.7						5.4%		
Loomis Sayles Core-Plus	-0.3	1.9%	1.9%	1.1	0.9	0.9	6.0%	132.0%	97.3%
Bloomberg US Aggregate TR	-0.7						5.4%		
Shenkman - Four Points	0.2	3.6%	3.1%	0.9	0.9	0.9	10.4%	96.2%	76.2%
Bloomberg US High Yield TR	-0.1						11.0%		
U.S. Equity Composite S&P 500	0.3	5.9%	-1.7%	1.1	0.9	-0.2	22.5% 20.3%	101.4%	103.5%
				-	-				
U.S. Equity Composite	0.3	5.2%	2.8%	1.1	1.0	0.6	22.5%	123.2%	102.8%
MSCI ACWI	0.2		-		-		19.4%		
U.S. Equity Composite	0.3	4.8%	-1.0%	1.1	1.0	-0.1	22.5%	100.1%	101.6%
Russell 3000	0.3						21.0%		
NTGI Russell 1000 Value	0.2	0.1%	0.1%	1.0	1.0	1.3	20.4%	100.2%	99.9%
Russell 1000 Value	0.2						20.5%		
Vanguard Mid Cap Value	0.2	0.0%	0.0%	1.0	1.0	-0.4	23.0%	100.0%	100.0%
CRSP US Mid Cap Value TR USD	0.2						23.0%		
NTGI Russell 2000 Value	0.2	0.1%	0.1%	1.0	1.0	0.8	26.5%	100.1%	99.9%
Russell 2000 Value	0.2						26.5%		

Investment Manager

Statistics

Market Value: \$2,120.0 Million and 100.0% of Fund

	Sharpe Ratio	Tracking Error	Anlzd Alpha	Beta	R-Squared	Information Ratio	Anlzd Standard Deviation	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Non-U.S. Equity Composite	-0.1	3.2%	0.2%	1.1	1.0	0.0	20.2%	110.1%	104.1%
MSCI ACWI ex USA	-0.1						18.5%		
DFA Emerging Markets Small Cap	0.1	4.2%	-1.8%	0.9	1.0	-0.5	22.7%	80.9%	94.9%
MSCI Emerging Markets Small Cap	0.2						24.0%		
Risk Parity Composite	-0.1	6.5%	-2.8%	0.7	0.8	-0.6	10.7%	54.9%	81.5%
60% Wilshire 5000/40% BarCap Aggregate	0.2						13.8%		
AQR Risk Parity	-0.1	6.5%	-2.8%	0.7	0.8	-0.6	10.7%	54.9%	81.5%
60% Wilshire 5000/40% BarCap Aggregate	0.2						13.8%		

3 Years Ending September 30, 2022



Investment Manager

Statistics

Market Value: \$2,120.0 Million and 100.0% of Fund

5 Years	Ending	September	30, 2022
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	Sharpe Ratio	Tracking Error	Anlzd Alpha	Beta	R-Squared	Information Ratio	Anlzd Standard Deviation	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Total Fund Composite	0.4	8.9%	0.2%	0.6	0.9	-0.4	10.8%	37.7%	67.1%
S&P 500	0.5						18.1%		
Total Fund Composite	0.4	7.2%	2.7%	0.6	0.9	0.1	10.8%	50.7%	67.0%
MSCI ACWI	0.2						17.2%		
Total Fund Composite	0.4	1.8%	0.0%	1.0	1.0	0.0	10.8%	98.1%	98.3%
Target Benchmark	0.4						10.6%		
Fixed Income Composite	0.0	3.7%	1.2%	0.9	0.6	0.3	5.5%	101.7%	84.1%
Bloomberg US Aggregate TR	-0.3						4.8%		
Loomis Sayles Core-Plus	0.0	1.7%	1.2%	1.0	0.9	0.7	5.0%	114.0%	93.0%
Bloomberg US Aggregate TR	-0.3						4.8%		
Shenkman - Four Points	0.3	3.0%	2.1%	0.9	0.9	0.6	8.6%	95.6%	79.0%
Bloomberg US High Yield TR	0.1						9.0%		

U.S. Equity Composite	0.3	5.1%	-3.1%	1.1	0.9	-0.5	20.0%	96.0%	104.1%
S&P 500	0.5						18.1%		
U.S. Equity Composite	0.3	5.0%	1.8%	1.1	1.0	0.5	20.0%	128.0%	103.7%
MSCI ACWI	0.2						17.2%		
U.S. Equity Composite	0.3	4.1%	-2.2%	1.1	1.0	-0.4	20.0%	95.8%	102.5%
Russell 3000	0.4						18.6%		
NTGI Russell 1000 Value	0.2	0.1%	0.1%	1.0	1.0	1.4	18.1%	100.3%	99.9%
Russell 1000 Value	0.2						18.1%		
NTGI Russell 2000 Value	0.1	0.1%	0.1%	1.0	1.0	1.3	23.4%	100.3%	99.9%
Russell 2000 Value	0.1						23.4%		

Investment Manager

Statistics

Market Value: \$2,120.0 Million and 100.0% of Fund

	Sharpe Ratio	Tracking Error	Anlzd Alpha	Beta	R-Squared	Information Ratio	Anlzd Standard Deviation	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Non-U.S. Equity Composite	-0.2	2.7%	-0.9%	1.1	1.0	-0.3	17.6%	104.9%	103.6%
MSCI ACWI ex USA	-0.1						16.4%		
DFA Emerging Markets Small Cap	0.0	3.7%	-0.6%	0.9	1.0	-0.2	19.9%	88.4%	97.7%
MSCI Emerging Markets Small Cap	0.0						20.6%		
Risk Parity Composite	0.2	5.9%	-0.8%	0.7	0.8	-0.4	9.6%	55.2%	77.2%
60% Wilshire 5000/40% BarCap Aggregate	0.4						12.0%		
AQR Risk Parity	0.2	5.9%	-0.8%	0.7	0.8	-0.4	9.6%	55.2%	77.2%
60% Wilshire 5000/40% BarCap Aggregate	0.4						12.0%		

5 Years Ending September 30, 2022





As of September 30, 2022

Characteristics

Market Value: \$111.6 Million and 5.3% of Fund

Maturity

<1 Year

1-3 Years

3-5 Years

5-7 Years

7-10 Years

10-15 Years

15-20 Years

>20 Years

Not Rated/Cash

Q3-22

0.2%

21.6%

15.8%

13.5%

19.0%

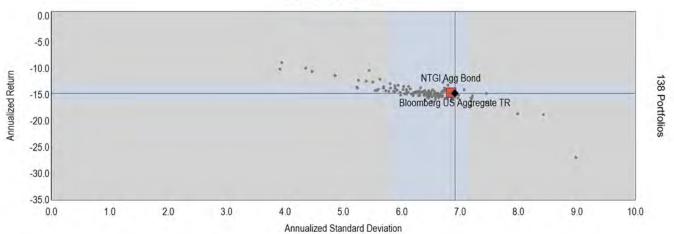
14.0%

4.8%

10.9%

0.0%





Characteristics

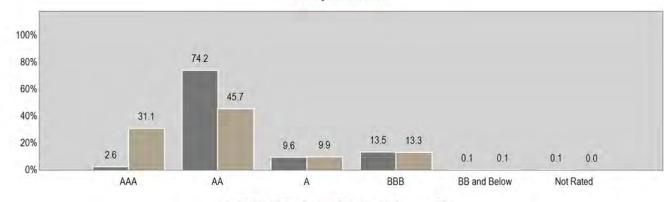
	Portfolio	Index
	Q3-22	Q3-22
Yield to Maturity	4.7%	4.7%
Avg. Eff. Maturity	8.8 yrs.	8.7 yrs.
Avg. Duration	6.4 yrs.	6.4 yrs.
Avg. Quality	AA	

Region	Number Of Assets
North America ex U.S.	105
United States	7,057
Europe Ex U.K.	104
United Kingdom	72
Pacific Basin Ex Japan	17
Japan	30
Emerging Markets	54
Other	82
Total	7,521

Sector

	Portfolio	Index
	Q3-22	Q3-22
US Sector Allocation		
UST/Agency	42.4	42.2
Corporate	23.8	23.9
MBS	28.8	29.5
ABS	0.3	0.4
Foreign	3.0	3.3
Muni	0.7	0.6
Cash	-0.2	

Quality Distribution



NTGI Agg Bond Bloomberg US Aggregate TR

Loomis Sayles Core-Plus

As of September 30, 2022

Characteristics

Market Value: \$132.6 Million and 6.3% of Fund

Risk / Return - 1 Year 0.0 -5.0 Annualized Return 91 Portfolios -10.0 Loomis Sayles Core-Plus Bloomberg US Aggregate TR -15.0 -20.0 -25.0 0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 Annualized Standard Deviation

Characteristics

	Portfolio	Index
	Q3-22	Q3-22
Yield to Maturity	5.8%	4.7%
Avg. Eff. Maturity	10.8 yrs.	8.7 yrs.
Avg. Duration	7.2 yrs.	6.4 yrs.
Avg. Quality	А	

Region	Number Of Assets
North America ex U.S.	0
United States	231
Europe Ex U.K.	23
United Kingdom	7
Pacific Basin Ex Japan	2
Japan	2
Emerging Markets	28
Other	18
Total	311

Portfolio Index Q3-22 Q3-22 **US Sector Allocation** 42.2 UST/Agency 26.0 Corporate 28.9 23.9 2.5 MBS 29.5 ABS 2.6 0.4 4.6 3.3 Foreign Muni 0.2 0.6 Cash 0.9 ---

Sector

<1 Year

1-3 Years

3-5 Years

5-7 Years	15.4%
7-10 Years	18.2%
10-15 Years	1.1%
15-20 Years	13.7%
>20 Years	14.5%
Not Rated/Cash	0.0%

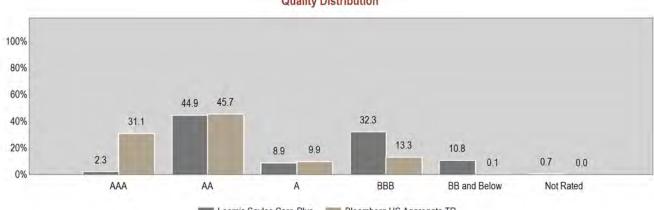
Maturity

Q3-22

9.6%

14.8%

12.8%



Bloomberg US Aggregate TR Loomis Sayles Core-Plus

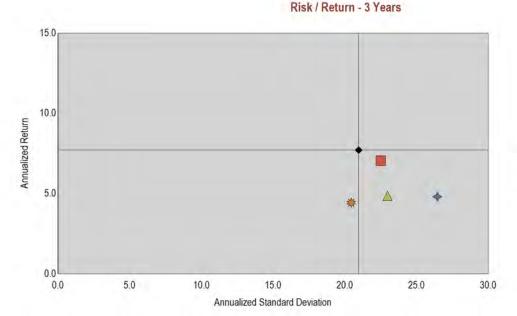
Quality Distribution

U.S. Equity Composite

As of September 30, 2022

Characteristics

Market Value: \$585.6 Million and 27.6% of Fund



U.S. Equity Composite

- NTGI Russell 1000 Value ÷
- Vanguard Mid Cap Value Δ
- NTGI Russell 2000 Value
- Russell 3000

Characteristics

	Portfolio	Russell 3000
Number of Holdings	3,144	2,986
Weighted Avg. Market Cap. (\$B)	301.2	402.3
Median Market Cap. (\$B)	2.5	2.3
Price To Earnings	15.3	17.5
Price To Book	2.8	3.5
Price To Sales	1.5	1.7
Return on Equity (%)	21.0	24.7
Yield (%)	2.0	1.8
Beta	1.1	1.0
R-Squared	1.0	1.0

Characteristics

	Portfolio	Russell 3000
INDUSTRY SECTOR DISTRIBUTION (% Equity)		
Energy	5.0	4.8
Materials	3.3	2.7
Industrials	9.5	8.8
Consumer Discretionary	10.2	11.4
Consumer Staples	5.8	6.2
Health Care	14.0	13.2
Financials	14.8	11.3
Information Technology	19.3	28.0
Communication Services	6.5	6.8
Utilities	4.1	3.2
Real Estate	4.8	3.7
Unclassified	2.1	0.0

	Largest Holdings	
	End Weight	Return
APPLE INC	4.1	1.2
MICROSOFT CORP	3.4	-9.1
AMAZON.COM INC	1.9	6.4
TESLA INC	1.3	18.2
BERKSHIRE HATHAWAY INC	1.3	-2.2

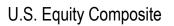
Top Contributors			
	End Weight	Return	Contribution
TESLA INC	1.3	18.2	0.2
AMAZON.COM INC	1.9	6.4	0.1
NETFLIX INC	0.2	34.6	0.1
PAYPAL HOLDINGS INC	0.2	23.2	0.1
CONOCOPHILLIPS	0.3	16.0	0.1

Bottom Contributors

	End Weight	Return	Contribution
MICROSOFT CORP	3.4	-9.1	-0.3
ALPHABET INC	1.2	-12.2	-0.1
ALPHABET INC	1.0	-12.1	-0.1
META PLATFORMS INC	0.8	-15.9	-0.1
NVIDIA CORPORATION	0.6	-19.9	-0.1

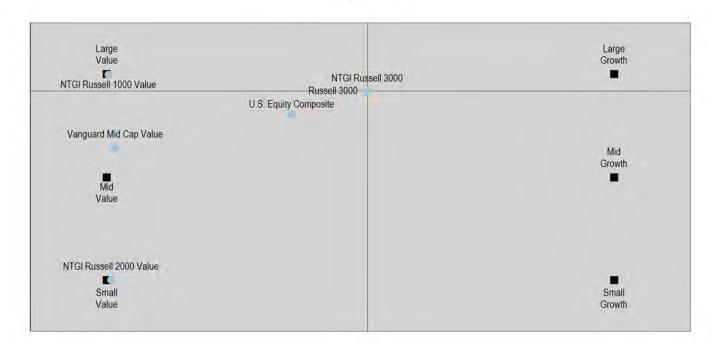
Market Capitalization

	Small Cap	Small/ Mid	Mid Cap	Mid/ Large	Large Cap
U.S. Equity Composite	11.7%	9.1%	18.9%	22.8%	37.5%
Russell 3000	6.0%	7.3%	15.1%	25.6%	46.0%
Weight Over/Under	5.7%	1.8%	3.9%	-2.8%	-8.6%

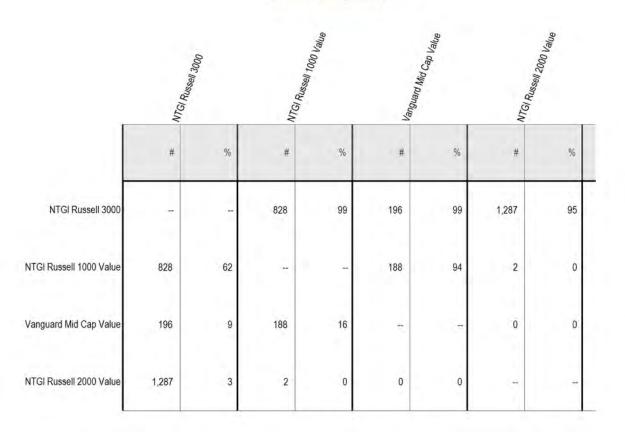


As of September 30, 2022

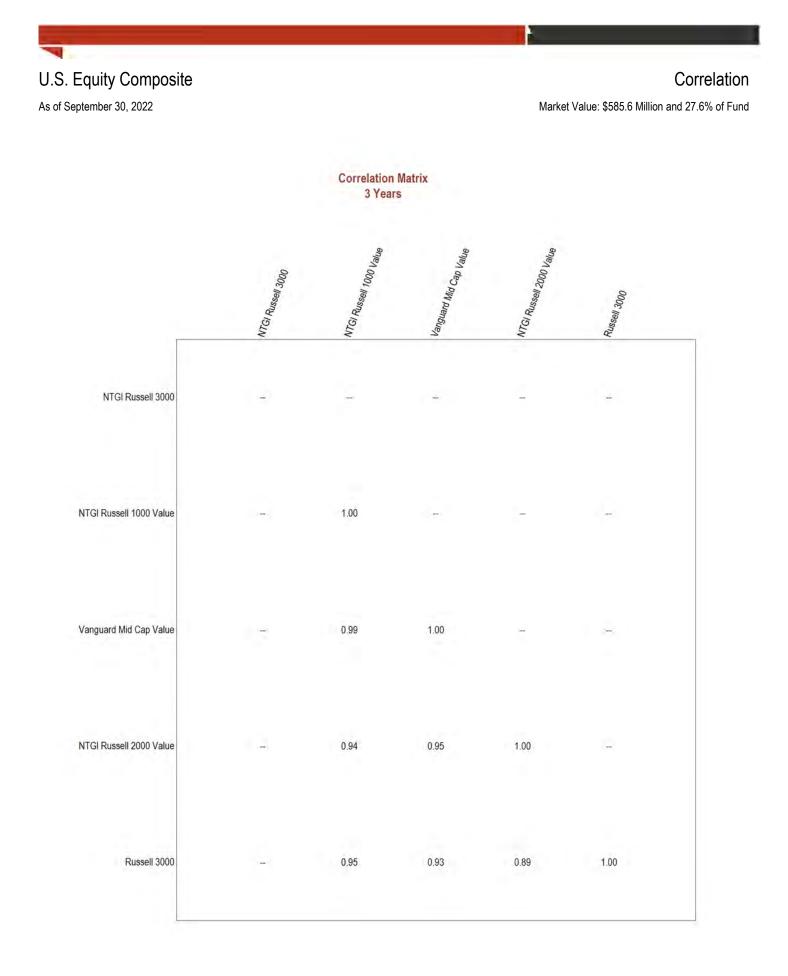




Common Holdings Matrix



Marquette Associates



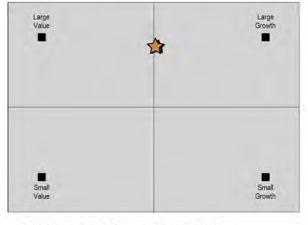
NTGI Russell 3000

As of September 30, 2022

Characteristics

Market Value: \$412.7 Million and 19.5% of Fund

Style Drift - 3 Years

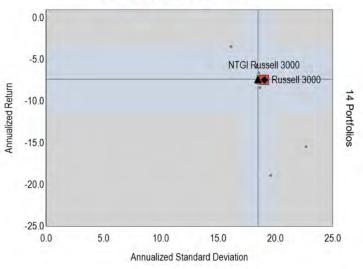


Characteristics

	Portfolio	Russell 3000
Number of Holdings	2,991	2,986
Weighted Avg. Market Cap. (\$B)	401.7	402.3
Median Market Cap. (\$B)	2.3	2.3
Price To Earnings	17.3	17.5
Price To Book	3.5	3.5
Price To Sales	1.7	1.7
Return on Equity (%)	24.7	24.7
Yield (%)	1.8	1.8
Beta		1.0
R-Squared		1.0

Characteristics

	Portfolio	Russell 3000
INDUSTRY SECTOR DISTRIBUTION (%	Equity)	
Energy	4.6	4.8
Materials	2.7	2.7
Industrials	8.7	8.8
Consumer Discretionary	11.2	11.4
Consumer Staples	6.1	6.2
Health Care	14.6	13.2
Financials	11.4	11.3
Information Technology	24.5	28.0
Communication Services	7.3	6.8
Utilities	2.9	3.2
Real Estate	3.3	3.7
Unclassified	2.1	0.0



	Largest Holdings	
	End Weight	Return
APPLE INC	5.8	1.2
MICROSOFT CORP	4.8	-9.1
AMAZON.COM INC	2.7	6.4
TESLA INC	1.8	18.2
ALPHABET INC	1.6	-12.2

Top Contributors

	End Weight	Return	Contribution
TESLA INC	1.8	18.2	0.3
AMAZON.COM INC	2.7	6.4	0.2
NETFLIX INC	0.3	34.6	0.1
APPLE INC	5.8	1.2	0.1
PAYPAL HOLDINGS INC	0.3	23.2	0.1

	Bottom Contributor	S	
	End Weight	Return	Contribution
MICROSOFT CORP	4.8	-9.1	-0.4
ALPHABET INC	1.6	-12.2	-0.2
ALPHABET INC	1.4	-12.1	-0.2
NVIDIA CORPORATION	0.8	-19.9	-0.2
META PLATFORMS INC	0.9	-15.9	-0.1

Market Capitalization

	Small Cap	Small/ Mid	Mid Cap	Mid/ Large	Large Cap
NTGI Russell 3000	4.2%	7.4%	15.3%	26.2%	46.8%
Russell 3000	6.0%	7.3%	15.1%	25.6%	46.0%
Weight Over/Under	-1.8%	0.1%	0.3%	0.6%	0.8%

Risk / Return - Since Inception

NTGI Russell 1000 Value

As of September 30, 2022

Characteristics

Market Value: \$67.6 Million and 3.2% of Fund

Style Drift - 3 Years



NTGI Russell 1000 Value

🚖 Russell 1000 Value

. 11

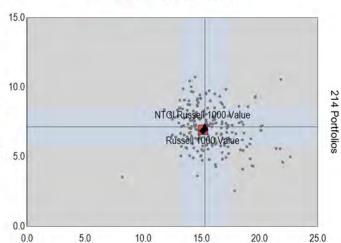
Annualized Return

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	861	855
Weighted Avg. Market Cap. (\$B)	135.0	135.4
Median Market Cap. (\$B)	11.4	11.5
Price To Earnings	14.0	14.1
Price To Book	2.3	2.3
Price To Sales	1.6	1.6
Return on Equity (%)	17.1	17.0
Yield (%)	2.5	2.5
Beta	1.0	1.0
R-Squared	1.0	1.0

Characteristics

	Portfolio	Russell 1000 Value
INDUSTRY SECTOR DISTRIBUTION (% E	quity)	
Energy	7.7	7.2
Materials	4.1	4.3
Industrials	9.9	9.8
Consumer Discretionary	5.9	5.6
Consumer Staples	7.2	5.5
Health Care	17.2	18.1
Financials	19.8	20.6
Information Technology	8.7	9.6
Communication Services	8.0	9.1
Utilities	5.8	5.7
Real Estate	4.8	4.5
Unclassified	1.0	0.0



Largest Holdings

Annualized Standard Deviation

	End Weight	Return
BERKSHIRE HATHAWAY INC	2.9	-2.2
JOHNSON & JOHNSON	2.6	-7.4
EXXON MOBIL CORP	2.2	2.9
JPMORGAN CHASE & CO	1.8	-6.4
CHEVRON CORP	1.7	0.1

Top Contributors

	End Weight	Return	Contribution
CONOCOPHILLIPS	0.8	16.0	0.1
NETFLIX INC	0.3	34.6	0.1
PAYPAL HOLDINGS INC	0.4	23.2	0.1
WALMART INC	1.1	7.1	0.1
FIRST SOLAR INC	0.1	94.1	0.1

Bottom Contributors End Weight Contribution Return PFIZER INC 1.5 -15.9 -0.2 META PLATFORMS INC 1.5 -15.9 -0.2 VERIZON COMMUNICATIONS INC 1.0 -24.2 -0.2 INTEL CORP 0.6 -30.4 -0.2 COMCAST CORP -0.2 0.8 -24.7

Market Capitalization

	Small Cap	Small/ Mid	Mid Cap	Mid/ Large	Large Cap
NTGI Russell 1000 Value	0.7%	9.2%	21.6%	31.4%	37.1%
Russell 1000 Value	1.9%	9.1%	21.3%	30.9%	36.8%
Weight Over/Under	-1.3%	0.1%	0.3%	0.6%	0.3%

Risk / Return - Since Inception

Marquette Associates

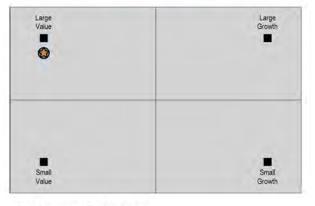
Vanguard Mid Cap Value

As of September 30, 2022

Characteristics

Market Value: \$38.2 Million and 1.8% of Fund

Style Drift - 2 Years



Vanguard Mid Cap Value
 CRSP US Mid Cap Value TR
 USD

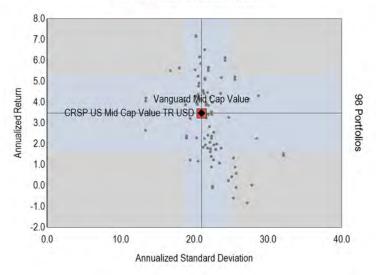
Characteristics

Portfolio	MidCap Value
199	702
21.4	17.9
15.7	8.7
12.7	13.4
2.2	2.1
1.2	1.5
19.2	14.6
2.7	2.4
1.0	1.0
1.0	1.0
	199 21.4 15.7 12.7 2.2 1.2 19.2 2.7 1.0

Characteristics

	Portfolio	Russell MidCap Value
INDUSTRY SECTOR DISTRIBUTION (% E	quity)	
Energy	4.1	4.4
Materials	7.8	7.4
Industrials	11.8	15.0
Consumer Discretionary	9.1	9.5
Consumer Staples	6.1	4.1
Health Care	8.7	7.7
Financials	18.7	17.9
Information Technology	6.2	9.4
Communication Services	2.5	3.5
Utilities	12.7	9.1
Real Estate	11.2	12.0
Unclassified	1.0	0.0

Risk / Return - Since Inception



Largest Holdings

	End Weight	Return
CENTENE CORP	1.6	-8.0
CORTEVA INC	1.5	5.8
ARTHUR J. GALLAGHER & CO.	1.3	5.3
M&T BANK CORP	1.1	11.3
CONSOLIDATED EDISON INC.	1.1	-9.1

Top Contributors

	End Weight	Return	Contribution
CONSTELLATION ENERGY CORP	1.0	45.5	0.4
PG&E CORP	0.9	25.3	0.2
CARDINAL HEALTH INC	0.6	28.5	0.2
KEYSIGHT TECHNOLOGIES INC	1.0	14.2	0.1
M&T BANK CORP	1.1	11.3	0.1

Bottom Contributors

	End Weight	Return	Contribution
WELLTOWER INC	1.1	-21.3	-0.2
BAKER HUGHES A GE CO	0.8	-26.9	-0.2
INTERNATIONAL FLAVORS & FRAGRANCES INC	0.8	-23.1	-0.2
TYSON FOODS INC.	0.7	-22.9	-0.2
DOLLAR TREE INC	1.0	-12.7	-0.1

Market Capitalization

	Small Cap	Small/ Mid	Mid Cap	Mid/ Large	Large Cap
Vanguard Mid Cap Value	0.0%	8.5%	82.2%	9.3%	0.0%
Russell MidCap Value	4.8%	26.8%	58.9%	9.5%	0.0%
Weight Over/Under	-4.8%	-18.3%	23.3%	-0.2%	0.0%

Vanguard Mid Cap Value

Attribution

As of September 30, 2022

Market Value: \$38.2 Million and 1.8% of Fund

Sector Attribution vs Russell MidCap Value

GICS Sector	Portfolio Weight	Index Weight	Excess Weight	Portfolio USD Return	Index USD Return	Excess Return	Allocation Effect (Local)	Selection Effect (Local)	Active Contrib.	Passive Contrib.	Total Contrib.
Energy	5.6%	4.9%	0.6%	-6.8%	-0.8%	-6.0%	0.0%	-0.3%	-0.3%	0.2%	-0.1%
Materials	8.1%	7.6%	0.5%	-9.2%	-6.8%	-2.4%	0.0%	-0.2%	-0.2%	-0.1%	-0.3%
Industrials	10.9%	14.5%	-3.6%	-2.0%	-0.4%	-1.6%	-0.2%	-0.2%	-0.3%	0.6%	0.3%
Consumer Discretionary	9.3%	9.5%	-0.2%	-6.8%	-5.4%	-1.4%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%
Consumer Staples	6.1%	4.0%	2.0%	-6.0%	-7.9%	1.8%	-0.1%	0.1%	0.1%	-0.1%	-0.1%
Health Care	8.1%	7.4%	0.6%	-6.4%	-7.5%	1.0%	0.0%	0.1%	0.1%	-0.2%	-0.1%
Financials	17.4%	18.0%	-0.5%	-0.8%	-2.0%	1.2%	0.0%	0.2%	0.2%	0.5%	0.7%
Information Technology	6.8%	9.4%	-2.6%	-5.8%	-5.6%	-0.2%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Communication Services	2.7%	3.6%	-0.9%	-10.5%	-9.7%	-0.8%	0.0%	0.0%	0.0%	-0.2%	-0.2%
Utilities	12.7%	9.1%	3.6%	-6.3%	-5.6%	-0.7%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%
Real Estate	12.4%	12.0%	0.4%	-9.7%	-9.4%	-0.3%	0.0%	0.0%	-0.1%	-0.5%	-0.6%
Total				-5.7%	-4.9%	-0.8%	-0.2%	-0.6%	-0.8%	0.0%	-0.8%

Vanguard Mid Cap Value Performance Attribution vs. Russell MidCap Value

	Total	Selection	Allocation	Interaction
	Effects	Effect	Effect	Effects
Energy	-0.3%	-0.3%	0.0%	0.0%
Materials	-0.2%	-0.2%	0.0%	0.0%
Industrials	-0.2%	-0.2%	0.0%	0.1%
Consumer Discretionary	-0.1%	-0.1%	0.0%	0.0%
Consumer Staples	0.0%	0.1%	-0.2%	0.0%
Health Care	0.0%	0.1%	0.0%	0.0%
Financials	0.2%	0.2%	0.0%	0.0%
Information Technology	0.1%	0.0%	0.1%	0.0%
Communication Services	0.1%	0.0%	0.1%	0.0%
Utilities	-0.3%	-0.1%	-0.2%	0.0%
Real Estate	-0.1%	0.0%	0.0%	0.0%
Cash	0.0%			-
Portfolio	-0.8% =	-0.6% +	-0.2% +	0.0%

Market Cap Attribution vs. Russell MidCap Value

	Portfolio Weight	Index Weight	Excess Weight	Portfolio USD Return	Index USD Return	Excess USD Return	Allocation Effect (Local)	Selection Effect (Local)	Active Contrib.	Passive Contrib.	Total Contrib.
Market Cap. Quintile (\$Bil)											
1) Above 28.69	22.2%	19.6%	2.6%	-3.7%	-2.9%	-0.8%	0.0%	-0.2%	-0.1%	0.4%	0.3%
2) 20.45 - 28.69	31.4%	20.3%	11.1%	-5.4%	-5.7%	0.2%	-0.1%	0.1%	0.0%	-0.2%	-0.2%
3) 13.76 - 20.45	29.2%	20.2%	9.0%	-5.6%	-6.5%	1.0%	-0.1%	0.3%	0.1%	-0.3%	-0.2%
4) 7.57 - 13.76	15.9%	19.8%	-3.9%	-8.7%	-5.1%	-3.6%	0.0%	-0.6%	-0.6%	0.0%	-0.6%
5) 0.00 - 7.57	1.2%	20.0%	-18.8%	-11.8%	-4.0%	-7.8%	-0.2%	-0.1%	-0.3%	0.2%	-0.1%
Total				-5.7%	-4.9%	-0.8%	-0.3%	-0.5%	-0.8%	0.0%	-0.8%

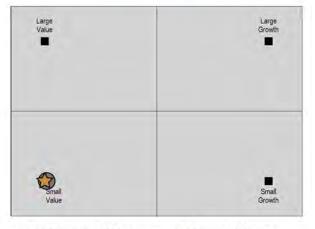
NTGI Russell 2000 Value

As of September 30, 2022

Characteristics

Market Value: \$67.1 Million and 3.2% of Fund

Style Drift - 3 Years



NTGI Russell 2000 Value

.

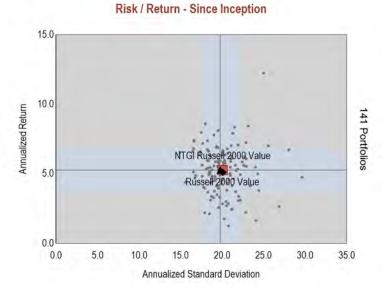
🔺 Russell 2000 Value

Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	1,398	1,394
Weighted Avg. Market Cap. (\$B)	2.2	2.2
Median Market Cap. (\$B)	0.9	0.9
Price To Earnings	9.5	9.5
Price To Book	1.5	1.5
Price To Sales	1.0	1.0
Return on Equity (%)	5.9	5.9
Yield (%)	2.5	2.5
Beta	1.0	1.0
R-Squared	1.0	1.0

Characteristics

	Portfolio	Russell 2000 Value
INDUSTRY SECTOR DISTRIBUTION (% E	quity)	
Energy	5.4	5.3
Materials	3.6	3.6
Industrials	12.2	12.1
Consumer Discretionary	9.2	9.1
Consumer Staples	2.6	2.6
Health Care	10.8	12.6
Financials	28.4	29.0
Information Technology	5.4	5.9
Communication Services	2.8	3.0
Utilities	5.1	5.3
Real Estate	10.4	11.6
Unclassified	4.1	0.0



Largest Holdings

	End Weight	Return
SOUTHSTATE CORPORATION	0.6	3.2
AGREE REALTY CORP	0.5	-5.4
STAG INDUSTRIAL INC	0.5	-6.8
RBC BEARINGS INC	0.5	12.4
SELECTIVE INSURANCE GROUP INC	0.5	-6.1

Top Contributors

	End Weight	Return	Contribution
1LIFE HEALTHCARE INC	0.3	118.7	0.3
AKERO THERAPEUTICS INC	0.1	260.3	0.2
ATLAS AIR WORLDWIDE HOLDINGS INC.	0.3	54.9	0.1
FORMA THERAPEUTICS HOLDINGS	0.1	189.6	0.1

Bottom Contributors

	End Weight	Return	Contribution
SOUTHWEST GAS HOLDINGS INC	0.4	-19.3	-0.1
INDEPENDENCE REALTY TRUST INC	0.3	-18.6	-0.1
ARCONIC CORP	0.2	-39.3	-0.1
BROADSTONE NET LEASE INC	0.2	-22.9	-0.1
BLACKSTONE MORTGAGE TRUST	0.4	-13.5	-0.1

Market Capitalization

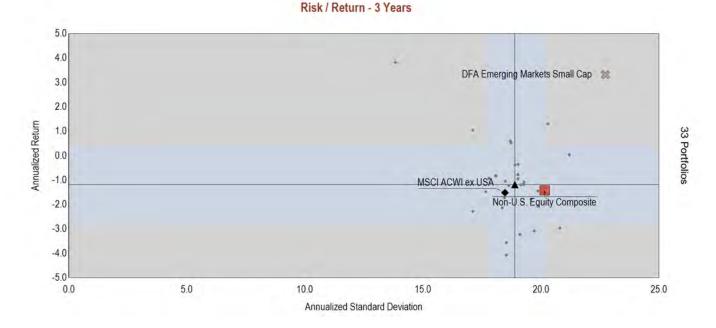
	Small Cap	Small/ Mid	Mid Cap	Mid/ Large	Large Cap
NTGI Russell 2000 Value	79.6%	20.0%	0.4%	0.0%	0.0%
Russell 2000 Value	81.5%	18.2%	0.3%	0.0%	0.0%
Weight Over/Under	-1.9%	1.9%	0.0%	0.0%	0.0%

Non-U.S. Equity Composite

Characteristics

Market Value: \$373.7 Million and 17.6% of Fund

As of September 30, 2022



Characteristics

	Portfolio	MSCI ACWI ex USA
Number of Holdings	7,211	2,270
Weighted Avg. Market Cap. (\$B)	64.5	71.1
Median Market Cap. (\$B)	0.6	7.8
Price To Earnings	11.1	11.4
Price To Book	2.3	2.4
Price To Sales	1.1	1.2
Return on Equity (%)	14.6	15.1
Yield (%)	3.7	3.7
Beta	1.1	1.0
R-Squared	1.0	1.0

Region	% of Total	% of Bench
North America ex U.S.	7.2%	8.9%
United States	1.5%	0.0%
Europe Ex U.K.	28.7%	29.4%
United Kingdom	6.7%	8.2%
Pacific Basin Ex Japan	8.9%	8.4%
Japan	12.7%	12.2%
Emerging Markets	32.8%	32.0%
Other	1.4%	0.9%
Total	100.0%	100.0%

Characteristics

	Portfolio	MSCI ACWI ex USA
INDUSTRY SECTOR DISTRIBUTION (% Equ	uity)	
Energy	5.7	6.5
Materials	8.7	8.4
Industrials	12.1	12.2
Consumer Discretionary	11.3	9.6
Consumer Staples	8.9	8.9
Health Care	9.5	11.2
Financials	19.3	21.2
Information Technology	11.0	9.6
Communication Services	5.6	6.6
Utilities	3.5	3.4
Real Estate	2.7	2.4
Unclassified	1.1	0.0

Market Capitalization

	Small Cap	Mid Cap	Large Cap
Non-U.S. Equity Composite	24.1%	24.5%	51.3%
MSCI ACWI ex USA	17.7%	26.5%	55.8%
Weight Over/Under	6.4%	-2.0%	-4.5%

Non-U.S. Equity Composite

As of September 30, 2022

-0.4%

-0.2%

Attribution

0.6%

Market Value: \$373.7 Million and 17.6% of Fund

0.4%

Total Effects

Americas Europe 0 Asia/Pacific Other Total

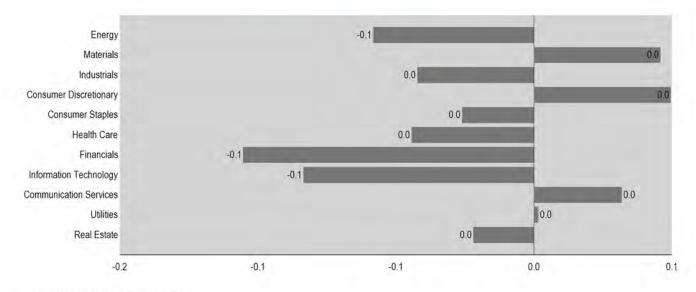
0.0%

Selection Effect Allocation Effect Effect Interaction Effect

Non-U.S. Equity Composite Performance Attribution vs. MSCI ACWI ex USA

Active Contribution vs. MSCI ACWI ex USA

0.2%



Non-U.S. Equity Composite

Market Cap Attribution vs. MSCI ACWI ex USA

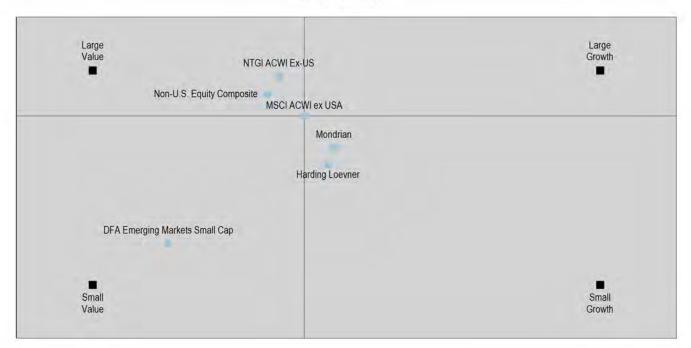
	Portfolio Weight	Index Weight	Excess Weight	Portfolio USD Return	Index USD Return	Excess USD Return	Allocation Effect (Local)	Selection Effect (Local)	Active Contrib.	Passive Contrib.	Total Contrib.
Market Cap. Quintile (\$Bil)											
1) Above 127.42	18.8%	19.6%	-0.9%	-13.1%	-12.8%	-0.2%	0.0%	0.0%	0.0%	-0.6%	-0.6%
2) 50.69 - 127.42	16.9%	20.5%	-3.6%	-8.2%	-8.0%	-0.1%	-0.1%	0.2%	0.1%	0.4%	0.5%
3) 25.68 - 50.69	16.5%	20.0%	-3.5%	-7.5%	-7.7%	0.2%	-0.1%	0.2%	0.1%	0.4%	0.6%
4) 10.57 - 25.68	18.2%	20.1%	-1.8%	-9.4%	-9.4%	-0.1%	0.0%	0.1%	0.1%	0.1%	0.2%
5) 0.00 - 10.57	29.6%	19.9%	9.7%	-9.7%	-11.6%	1.9%	-0.2%	0.1%	-0.1%	-0.3%	-0.4%
Total				-9.7%	-9.9%	0.2%	-0.3%	0.5%	0.2%	0.0%	0.2%



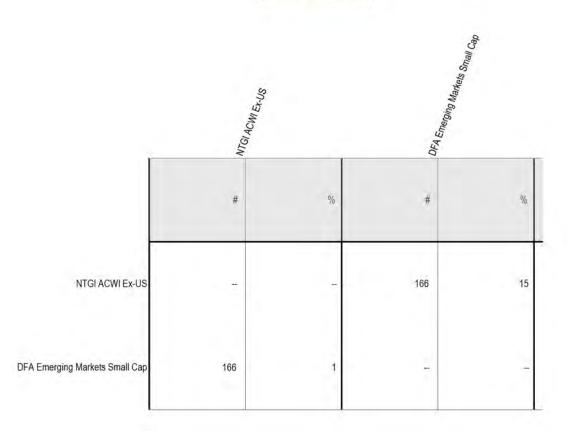
Non-U.S. Equity Composite

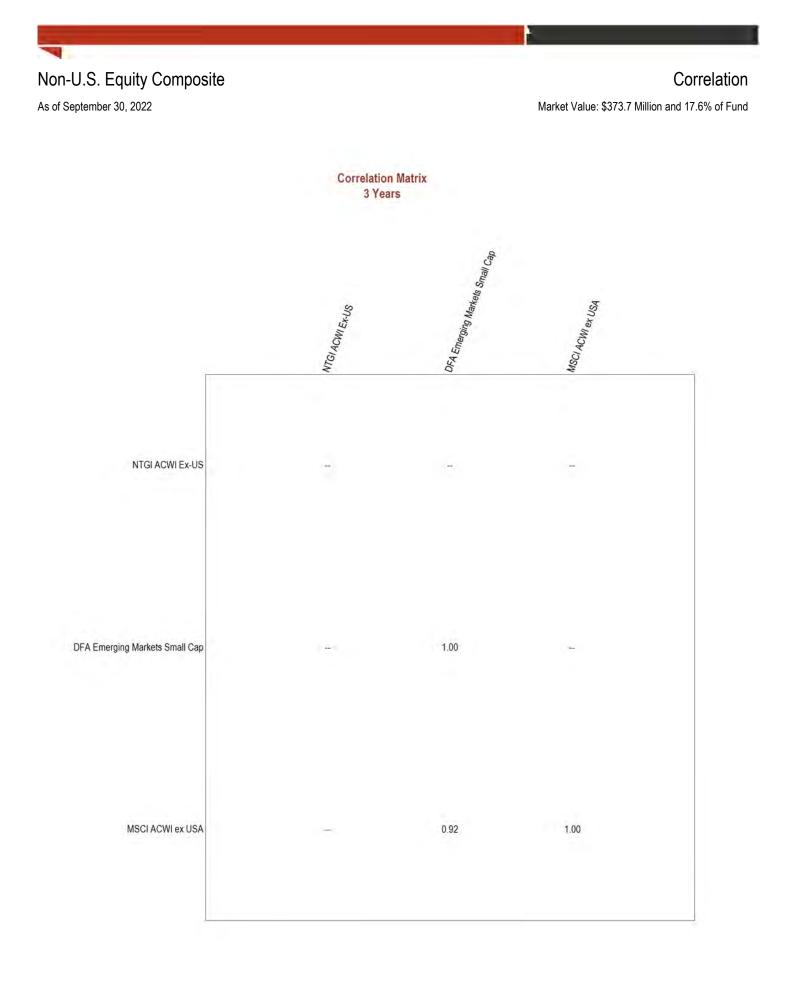
As of September 30, 2022

Equity Style Map



Common Holdings Matrix





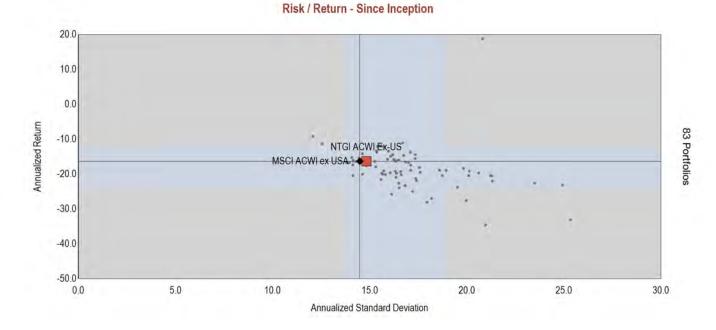
MarquetteAssociates



As of September 30, 2022

Characteristics

Market Value: \$333.0 Million and 15.7% of Fund



Characteristics

	Portfolio	MSCI ACWI ex USA
Number of Holdings	2,434	2,270
Weighted Avg. Market Cap. (\$B)	71.7	71.1
Median Market Cap. (\$B)	7.6	7.8
Price To Earnings	11.4	11.4
Price To Book	2.4	2.4
Price To Sales	1.2	1.2
Return on Equity (%)	15.4	15.1
Yield (%)	3.7	3.7
Beta		1.0
R-Squared		1.0

North America ex U.S. 8.1%	
	8.9%
United States 1.6%	0.0%
Europe Ex U.K. 32.0%	29.4%
United Kingdom 7.5%	8.2%
Pacific Basin Ex Japan 9.2%	8.4%
Japan 14.2%	12.2%
Emerging Markets 26.1%	32.0%
Other 1.4%	0.9%
Total 100.0%	100.0%

Characteristics

	Portfolio	MSCI ACWI ex USA
INDUSTRY SECTOR DISTRIBUTION (% Eq	uity)	
Energy	6.1	6.5
Materials	8.0	8.4
Industrials	11.7	12.2
Consumer Discretionary	11.0	9.6
Consumer Staples	9.1	8.9
Health Care	9.7	11.2
Financials	20.5	21.2
Information Technology	10.5	9.6
Communication Services	5.9	6.6
Utilities	3.3	3.4
Real Estate	2.3	2.4
Unclassified	1.1	0.0

Market Capitalization

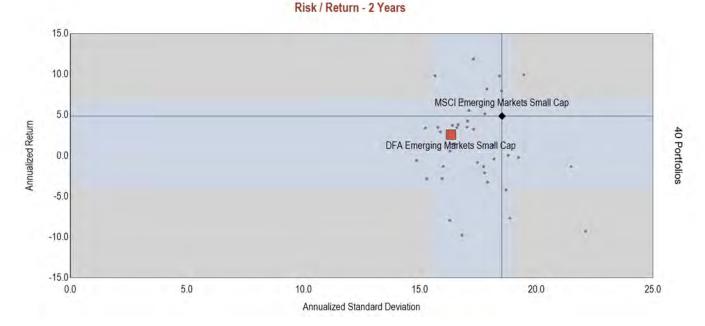
	Small Cap	Mid Cap	Large Cap
NTGI ACWI Ex-US	15.6%	27.3%	57.2%
MSCI ACWI ex USA	17.7%	26.5%	55.8%
Weight Over/Under	-2.1%	0.8%	1.4%

DFA Emerging Markets Small Cap

Characteristics

Market Value: \$39.2 Million and 1.8% of Fund

As of September 30, 2022



Characteristics

	Portfolio	MSCI Emerging Markets Small Cap
Number of Holdings	4,943	1,822
Weighted Avg. Market Cap. (\$B)	1.9	1.6
Median Market Cap. (\$B)	0.3	0.8
Price To Earnings	9.7	10.4
Price To Book	2.1	2.4
Price To Sales	0.7	1.0
Return on Equity (%)	12.2	13.8
Yield (%)	3.8	3.7
Beta	0.9	1.0
R-Squared	1.0	1.0

Characteristics

	Portfolio	MSCI Emerging Markets Small Cap
INDUSTRY SECTOR DISTRIBUTION (% Ed	quity)	
Energy	2.0	2.5
Materials	14.6	13.8
Industrials	15.5	16.1
Consumer Discretionary	13.9	13.0
Consumer Staples	6.8	6.8
Health Care	8.1	8.7
Financials	9.0	11.1
Information Technology	14.9	14.1
Communication Services	3.4	3.7
Utilities	5.0	3.8
Real Estate	6.1	6.4
Unclassified	0.8	0.0

Region	% of Total	% of Bench
EM Asia	69.7%	75.7%
EM Latin America	9.3%	9.7%
EM Europe & Middle East	1.9%	2.5%
EM Africa	3.7%	4.2%
Other	15.4%	7.9%
Total	100.0%	100.0%

Market Capitalization

	Small Cap	Mid Cap	Large Cap
DFA Emerging Markets Small Cap	91.5%	7.6%	0.9%
MSCI Emerging Markets Small Cap	97.1%	2.9%	0.0%
Weight Over/Under	-5.6%	4.7%	0.9%

DFA Emerging Markets Small Cap

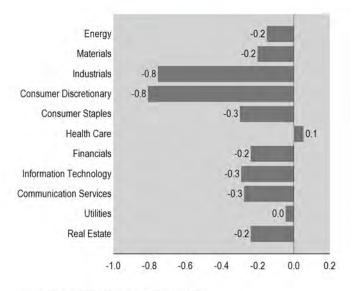
As of September 30, 2022

Attribution

Market Value: \$39.2 Million and 1.8% of Fund

DFA Emerging Markets Small Cap Performance Attribution vs. MSCI Emerging Markets Small Cap Americas Europe Asia/Pacific Other Total -3.0% -2.0% -1.0% 0.0% 1.0% -2.5% -1.5% -0.5% 0.5% Total Effects Selection Effect Currency Effect Allocation Effect Interaction Effect

Active Contribution





Performance By Characteristic

	Portfolio Weight	Index Weight	Excess Weight	Portfolio USD Return	Index USD Return	Excess USD Return	Allocation Effect (Local)	Selection Effect (Local)	Active Contrib.	Passive Contrib.	Total Contrib.
Market Cap. Quintile (\$Bil)											
1) Above 2.16	26.9%	20.0%	6.8%	-5.9%	4.6%	-10.5%	0.6%	-3.1%	-2.5%	1.9%	-0.5%
2) 1.47 - 2.16	10.1%	20.3%	-10.2%	-6.9%	-7.0%	0.1%	0.2%	0.5%	0.7%	-0.4%	0.3%
3) 0.97 - 1.47	14.4%	20.4%	-6.0%	-7.4%	-7.3%	-0.1%	0.1%	0.3%	0.4%	-0.4%	0.0%
4) 0.61 - 0.97	14.4%	20.4%	-6.0%	-7.3%	-8.0%	0.8%	0.2%	0.4%	0.6%	-0.6%	0.0%
5) 0.00 - 0.61	34.3%	18.9%	15.4%	-9.9%	-7.9%	-2.0%	-0.3%	-1.5%	-1.8%	-0.5%	-2.4%
Total				-7.8%	-5.1%	-2.7%	0.7%	-3.4%	-2.7%	0.0%	-2.7%

AQR Risk Parity

As of September 30, 2022

Characteristics

Market Value: \$48.7 Million and 2.3% of Fund

Investment	Strategy:	
Strategy:	Hedge Funds - Risk Parity	Benchmark 2:
Product:	Global Risk Premium Strategy	Benchmark 1: 3 Month T-Bill +4%
Manager:	AQR Capital Management AUM: \$138,424.96 MM 9/30/2022	Date as of: Sep 30th, 2022

AQR has one of the longest active track records in the risk parity space, which includes 2008. The GRP-EL ("enhanced liquidity") product does not include exposure to credit spreads and as a result has better liquidity terms. AQR's approach to risk parity includes a very active monitoring process that reduces exposure to asset classes as the volatility increases. AQR does this to help maintain the 10% volatility target they have set for the fund. As a result, exposures in this fund typically fluctuate more than peers.

Monthly Returns: (Net of Fees)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2022	-3.40%	0.35%	-0.97%	-4.30%	-0.54%	-4.78%	4.35%	-4.27%	-6.38%	-	-24		-18.63%
2021	0.19%	-1.61%	0.52%	4.08%	2.21%	1.22%	3.77%	0.00%	-3.35%	1.41%	-0.38%	2.05%	10.33%
2020	0.58%	-2.51%	-8.19%	1.52%	1.69%	1.84%	3.44%	1.51%	-0.89%	-1.18%	5.35%	3.16%	5.79%
2019	5.44%	1.05%	3.24%	1.13%	-1.42%	5.38%	0.70%	1.22%	-0.04%	0.91%	0.01%	2.53%	21.84%
2018	0.18%	-2.96%	0.79%	0.60%	2.60%	-0.95%	-0.57%	1.16%	-0.64%	-4.00%	-0.04%	-2.23%	-6.09%
2017	0.92%	3.03%	-1.16%	0.97%	0.90%	-1.78%	2,40%	1.90%	-0.39%	2.70%	0.38%	1.57%	11.92%

			Growt	th of \$1000 Since Inc	eption			
2,500 2,000 1,500 2,000 5500								
\$0 Jan-06	Jan-08	Jan-10	Jan-12	Jan-14	Jan-16	Jan-18	Jan-20	Jan-22
			Mana	ger 3 Month	T-Bill +4%			

Trailing Returns			YTD	3MO	1YR	3YR	5YR	10YR	INCEPT		
Manager			-18.63%	-6.48%	-16.11%	-0.58%	2.62%	2.45%	4.49%		
3 Month T-Bill +4%			3.61%	1.45%	4.64%	4.51%	5.12%	4.67%	5.08%		
Calendar Returns	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Manager	6.23%	9.69%	-2.88%	6.52%	-9.42%	11.15%	11.92%	-6.09%	21.84%	5.79%	10.33%
3 Month T-Bill +4%	4.05%	4.08%	4.05%	4.02%	4.04%	4.31%	4.95%	6.01%	6.15%	4.47%	4.04%

Risk and Return 3YR Statistics			Risk and Return Since Inception Statistics				
	Manager	Benchmark 1		Manager	Benchmark 1		
Annualized Return	-0.58%	4.51%	Annualized Return	4.49%	5.08%		
Standard Deviation	10.70%	0.21%	Standard Deviation	8.85%	0.44%		
Sharpe Ratio	-0.10	18.71	Sharpe Ratio	0.39	9.29		
Skew	-0.70	1.71	Skew	-0.60	1.61		
Kurtosis	0.32	2.36	Kurtosis	0.53	1.45		
Up Capture	+	-12.87%	Up Capture	-	88.53%		
Down Capture	-		Down Capture				

Benchmark Based Return Statistics 3 Year		Benchmark Ba	sed Return Statistics Since Inception	
(Benchmark1		Benchmark1	
Alpha	97.85%	Alpha	8.53%	
Beta	-21.81	Beta	-0.79	
R2	19.17%	R2	0.15%	

Crisis Performance

	Financial Crisis	Euro Crisis	Taper Tantrum	
	May '07 - Feb '09	April '11 - Sept '11	April '13 - Aug '13	
Manager	-15.3%	-5.6%	-9.0%	
3 Month T-Bill +4%	11.1%	1.7%	1.3%	

Crisis Performance Cont.

Oil/Shale Crash	COVID-19	
May '15 - Jan '16	Dec '19 - Mar '20	
-12.3%	-10.0%	
2.7%	1.4%	
	May '15 - Jan '16 -12.3%	May '15 - Jan '16 Dec '19 - Mar '20 -12.3% -10.0%

Investment Terms & Service Providers

Inception Date	1/31/2006	
Management Fee	0.38%	
Liquidity	Weekly	
Administrator	Institutional Fund Services	
Auditors	PricewaterhouseCoopers	

J.P. Morgan SPF

As of June 30, 2022

Characteristics

Market Value: \$70.8 Million and 3.2% of Fund

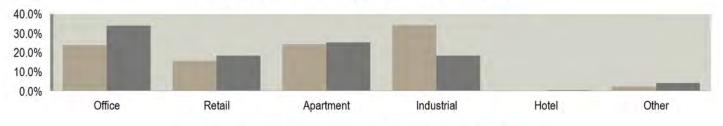
Characteristics			Strateg	y Breakdow	vn	
					Top Five Metro Areas	% of NAV
GAV (\$MM)	\$47,076.3	Pre-Development			Los Angeles-Long Beach-Santa	15.2%
IAV (\$MM)	\$35,611.9	Development	8.5%		Riverside-San Bernardino-Onta	12.8%
% of NAV)	1.3%	Initial Leasing	2.4%		Dallas-Fort Worth-Arlington, TX	9.3%
vestments	159	Operating	88.8%		New York-Newark-Jersey City,	8.6%
op 10 by NAV	31.2%	Re-Development	0.3%		San Jose-Sunnyvale-Santa Cla	8.5%
ge %	24.9%	Other				
ancy	93.3%					
SAs	62	Queue In:			Queue Out:	
Dividend Yield	3.4%	Contribution Queue (\$MM)	\$768.40		Redemption Queue (\$MM)	\$1,261.40
Date	30-Jun-22	Anticipated Drawdown (Months)	3		Anticipated Payout (Months)	3
		Top Ten Holdings Inves	tment Detail			
Property				Location	% of Fund	NAV
Black Creek Build t	to Core		Industrial	Various	4.	3%
Alliance Texas - Inc	dustrial		Industrial	Fort Worth,	TX 3.	6%
Valley Fair Mall			Retail	San Jose, C	CA 3.	4%
Edens - SPF			Retail	Various	3.	4%
RealTerm Portfolio			Industrial	Various	3.	4%
Greater Los Angele	es Industrials		Industrial	Various, CA	3.	2%
Century Plaza Tow	ers		Office	Los Angeles	s, CA 2.	7%
China Basin			Office	San Francis	sco, CA 2.	5%
Vineyard Industrial	1		Industrial	Ontario, CA	2.	4%
Royal Hawaiian Ce	enter		Retail	Honolulu, H	1 2.	3%
					31	.2%
	GAV (\$MM) IAV (\$MM) % of NAV) restments op 10 by NAV ge % ancy GAs Dividend Yield Date Property Black Creek Build 1 Alliance Texas - Int Valley Fair Mall Edens - SPF RealTerm Portfolio Greater Los Angele Century Plaza Tow China Basin Vineyard Industrial	AV (\$MM) \$47,076.3 IAV (\$MM) \$35,611.9 % of NAV) 1.3% restments 159 pp 10 by NAV 31.2% ge % 24.9% ancy 93.3% BAs 62 Dividend Yield 3.4% pate 30-Jun-22 Property Black Creek Build to Core Alliance Texas - Industrial Valley Fair Mall Edens - SPF RealTerm Portfolio Greater Los Angeles Industrials Century Plaza Towers	GAV (\$MM) \$47,076.3 Pre-Development IAV (\$MM) \$35,611.9 Development % of NAV) 1.3% Initial Leasing % of NAV) 1.3% Initial Leasing pestments 159 Operating op 10 by NAV 31.2% Re-Development ge % 24.9% Other ancy 93.3% Operating SAs 62 Queue In: Dividend Yield 3.4% Contribution Queue (\$MM) Date 30-Jun-22 Anticipated Drawdown (Months) Top Ten Holdings Inves Property Black Creek Build to Core Alliance Texas - Industrial Valley Fair Mall Edens - SPF RealTerm Portfolio Greater Los Angeles Industrials Century Plaza Towers China Basin Vineyard Industrial I Vineyard Industrial I	SAV (\$MM) \$47,076.3 Pre-Development % of Portfolio IAV (\$MM) \$35,611.9 Development 8.5% % of NAV) 1.3% Initial Leasing 2.4% % of NAV) 1.3% Initial Leasing 2.4% vestments 159 Operating 88.8% op 10 by NAV 31.2% Re-Development 0.3% ge % 24.9% Other 0.3% ancy 93.3% Other 3 SAs 62 Queue In: 0.1% \$768.40 Dividend Yield 3.4% Contribution Queue (\$MM) \$768.40 Date 30-Jun-22 Anticipated Drawdown (Months) 3 Top Ten Holdings Investment Detail Property Type Black Creek Build to Core Industrial Industrial Alliance Texas - Industrial Industrial Industrial Valley Fair Mall Retail Retail Edens - SPF RealTerm Portfolio Industrial Industrial Industrial Greater Los Angeles Industrials Industrial Office	SAV (\$MM) \$47,076.3 Pre-Development IAV (\$MM) \$35,611.9 Development 8.5% Vof NAV) 1.3% Initial Leasing 2.4% % of NAV) 1.3% Initial Leasing 2.4% vestments 159 Operating 88.8% op 10 by NAV 31.2% Re-Development 0.3% ge % 24.9% Other 3.3% SAs 62 Queue In: 0.3% Dividend Yield 3.4% Contribution Queue (\$MM) \$768.40 ate 30-Jun-22 Anticipated Drawdown (Months) 3 Top Ten Holdings Investment Detail Property Type Location Black Creek Build to Core Industrial Various Alliance Texas - Industrial Industrial San Jose, O Cedens - SPF Retail San Jose, O RealTerm Portfolio Industrial Various Greater Los Angeles Industrials Industrial Various RealTerm Portfolio Industrial Various Greater Los Angeles Industrials Office San Fran	Kornel (SAV (\$MM) \$47,076.3 Pre-Development Top Five Metro Areas IAV (\$MM) \$35,611.9 Development 8.5% Riverside-San Bernardino-Onta IAV (\$MM) \$35,611.9 Development 8.5% Riverside-San Bernardino-Onta % of NAV) 1.3% Initial Leasing 2.4% Dallas-Fort Worth-Arington, TX vestments 159 Operating 88.8% New York-Newark-Jersey City, pp 10 by NAV 31.2% Re-Development 0.3% San Jose-Sunnyvale-Santa Clage% ancy 93.3% Other San Jose-Sunnyvale-Santa Clage% Queue In; Dividend Yield 3.4% Contribution Queue (\$MM) \$768.40 Redemption Queue (\$MM) late 30-Jun-22 Anticipated Drawdown (Months) 3 Anticipated Payout (Months) Property Top Ten Holdings Investment Detail Various 4. Alliance Texas - Industrial Fort Worth, TX 3. Alliance Texas - Industrial Various 3. RealTerm Portfolio Industrial Various 3. RealTerm Portfolio Industrial Various 3.

Total

Regional Breakdown by NAV (Excluding Cash & Debt)



Property Type Breakdown by NAV (Excluding Cash & Debt)



Property Size Breakdown by NAV (Excluding Cash & Debt)

0%	\$0-10 million	\$10-20 million	\$20-50 million	\$50-100 million	Over \$100 million
0% 0%					
0%					
%					

Morgan Stanley

As of June 30, 2022

Characteristics

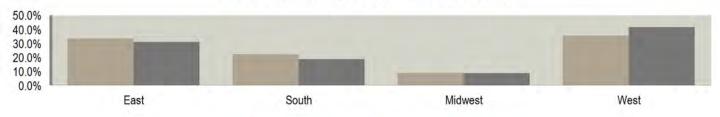
15.3%

Market Value: \$53.9 Million and 2.4% of Fund

Characteristics				Strate	gy Breakdowr	1	
				% of Portfol		op Five Metro Areas	% of NAV
Fund	GAV (\$MM)	\$45,430.9	Pre-Development	0.4		os Angeles, CA	14.0%
Fund I	NAV (\$MM)	\$38,032.9	Development	2.3	% N	lew York, NY	8.1%
Cash	(% of NAV)	2.3%	Initial Leasing	2.8	% E	Boston, MA	7.8%
# of In	vestments	536	Operating	91.2	% N	/liami, FL	7.7%
% in T	op 10 by NAV	15.3%	Re-Development	3.3	%	Chicago, IL	7.5%
Levera	age %	18.0%	Other	0.0	%		
Occup	ancy	95.0%					
# of M	SAs	53	Queue In:		9	Queue Out:	
1-Yea	r Dividend Yield	4.0%	Contribution Queue (\$MM)	\$348.3	31 F	Redemption Queue (\$MM)	\$440.35
As of I	Date	30-Jun-22	Anticipated Drawdown (Months)		0 A	Anticipated Payout (Months)	0
			Top Ten Holdings Inves	tment Detail			
#	Property			Туре	Location	% of Fund	NAV
1	One Post Office Squ	are		Office	Boston, MA	2	.5%
2	Hills Plaza			Office	San Francisco	o, CA 2	.2%
3	Fashion Valley Mall			Retail	San Diego, C	A 1	.6%
4	One Maritime Plaza			Office	San Francisco	o, CA 1	.5%
5	Two Park Avenue			Office	New York, NY	/ 1	.4%
6	151 N. Franklin			Office	Chicago, IL	1	.3%
7	Wilshire Beverly Cen	iter		Office	Los Angeles,	CA 1	.2%
8	155 North Wacker			Office	Chicago, IL		.2%
9	Waterview Tower			Office	Washington,	DC 1	.2%
10	AMLI Midtown Miami	-		Apartment	Miami, FL	1	.2%

Total

Regional Breakdown by NAV (Excluding Cash & Debt)



Property Type Breakdown by NAV (Excluding Cash & Debt)



Property Size Breakdown by NAV (Excluding Cash & Debt)

30.0% 50.0%					The second se
0.0%					
.0%					
				And and a second se	and the second se
.0%					
.0%	\$0-10 million	\$10-20 million	\$20-50 million	\$50-100 million	Over \$100 million



PRISA III

As of June 30, 2022

Characteristics

Market Value: \$42.1 Million and 1.9% of Fund

	Characterist	tics		Strateg	y Breakdo	wn	
				% of Portfolio		Top Five Metro Areas	% of NAV
Fund	GAV (\$MM)	\$5,121.0	Pre-Development	4.0%		Seattle-Tacoma-Bellevue, WA	15.1%
Fund	NAV (\$MM)	\$2,931.0	Development	34.5%		New York-Northern New Jersey	13.4%
Cash	(% of NAV)	6.1%	Initial Leasing	4.7%		Miami-Fort Lauderdale-Pompan	5.8%
# of Ir	vestments	88	Operating	34.8%	6	Atlanta-Sandy Springs-Marietta	5.5%
% in 1	Top 10 by NAV	39.0%	Re-Development	13.5%		Denver-Aurora, CO	5.4%
Lever	age %	32.0%	Other	8.4%			
Occup	bancy	88.5%					
# of N	ISAs	34	Queue In:			Queue Out:	
1-Yea	r Dividend Yield	27.5%	Contribution Queue (\$MM)	\$246.70	0	Redemption Queue (\$MM)	\$0.00
As of	Date	30-Jun-22	Anticipated Drawdown (Months)	C)	Anticipated Payout (Months)	0
			Top Ten Holdings Inves	tment Detail			
#	Property			Туре	Location	% of Fund	NAV
1	295 Fifth Avenue (Textile Building)		Office	New York,	NY 8.	0%
2	One Esterra Park			Office	Redmond,	WA 6.	2%
3	Estorra Commona	Apartmonto		Anartmont	Dodmond	10/0	50/

3	Esterra Commons Apartments	Apartment	Redmond, WA	4.5%
4	Park 7 Student Housing Portfolio	Other	Waco, TX	3.7%
5	Alta Potrero Hill	Apartment	San Francisco, CA	3.5%
6	Montrose & Clarendon	Apartment	Chicago, IL	2.9%
7	Broadstone Uptown	Apartment	Denver, CO	2.6%
8	Glover House	Apartment	Washington, DC	2.6%
9	Sway	Apartment	Santa Monica, CA	2.6%
10	Hanover Hermann Park (Mosaic)	Apartment	Houston, TX	2.4%
Total				39.0%





Property Type Breakdown by NAV (Excluding Cash & Debt)





■ PRISA III ■ NCREIF-ODCE

Principal Enhanced

As of September 30, 2022

Characteristics

Market Value: \$54.5 Million and 2.6% of Fund

Characterist	tics		Strateg	y Breakdo	own	
			% of Portfolio		Top Five Metro Areas	% of NAV
Fund GAV (\$MM)	\$5,639.0	Pre-Development	0.0%	÷	Houston, TX	13.4%
Fund NAV (\$MM)	\$3,510.0	Development	3.5%	0111	Oakland, CA	10.7%
Cash (% of NAV)	4.6%	Initial Leasing	9.4%		Phoenix, AZ	10.1%
# of Investments	65	Operating	87.1%		Seattle, WA	9.7%
% in Top 10 by NAV	32.4%	Re-Development	0.0%	÷	Charlotte, NC	6.5%
Leverage %	34.0%	Other	0.0%	in a c	1	
Occupancy	92.0%					
# of MSAs	27	Queue In:			Queue Out:	
1-Year Dividend Yield	4.0%	Contribution Queue (\$MM)	\$431.00	i.	Redemption Queue (\$MM)	\$95.00
As of Date	30-Sep-22	Anticipated Drawdown (Months)	g		Anticipated Payout (Months)	9
		Top Ten Holdings Inves	tment Detail			
# Property			Туре	Location	% of Fun	d NAV
1 Mid-South Logistic	s Center		Industrial	Nashville	TN	4 9%

1	Mid-South Logistics Center	Industrial	Nashville, TN	4.9%
2	Bay Center	Other	Oakland, CA	4.4%
3	Bay Area Business Park (Phase III)	Industrial	Houston, TX	4.3%
4	Bay Area Business Park (Phase I)	Industrial	Houston, TX	3.8%
5	San Leandro Business Center	Industrial	Oakland, CA	3.8%
6	Bay Area Business Park (Phase II)	Industrial	Houston, TX	3.1%
7	Piedmont Office	Office	Charlotte, NC	3.1%
8	7140 Optima Kierland	Apartment	Phoenix, AZ	2.7%
9	Solaris Key	Apartment	Tampa, FL	2.5%
10	The Beacon	Apartment	Oakland, CA	2.5%
Total				35.1%

Regional Breakdown by NAV (Excluding Cash & Debt)



Property Type Breakdown by NAV (Excluding Cash & Debt)



Property Size Breakdown by NAV (Excluding Cash & Debt)





Alinda

As of December 31, 2017

Characteristics

Characteristics

7.3%

Market Value: \$13.1 Million and 0.6% of Fund

Strategy Breakdown

	Alinda Capital Partners LLC		# of Cos.	Current or Realized MV (\$M)	% of Portfolio
Fund Vintage Year	2008	Assets in Portfolio	7	\$2,783.40	100.0%
Total Size of Fund (\$M)	\$4,065.08	Active Assets in Portfolio	7	\$2,783.40	100.0%
% of Capital Called	0.56%	Assets Realized	4	-\$5.30	0.0%
Total Fund GAV (\$M)	\$2,809.70	Assets Written Off	0	\$0.00	0.0%
Total Fund NAV (\$M)	\$2,788.80	Assets Written Down	2	-\$129.51	0.0%
		Assets Written Up	5	\$1,032.24	0.0%
		Active Assets			

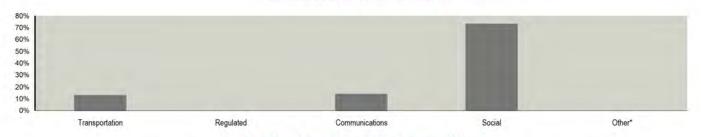
Holding	Sector	Location	Investment (\$M)	Distributions (\$M)	Fair Mkt Val (\$M)	% of Portfolio
Binnenlandse Container Terminals Nederland b.	Transportaion	Netherlands	\$103.7	\$50.6	\$151.0	5.4%
Regency Gas Pipeline System	Regulated	Louisiana	\$159.8	\$717.0	\$45.0	1.6%
BCTN Currency Options	Not Applicable	Not Applicable	\$12.9	\$0.0	\$7.3	0.3%
Santa Paula Water LLC	Other	Santa Paula, California	\$0.0	\$0.0	\$0.0	0.0%

Total





Sector Breakdown of Active Assets



Total Fund Annual Cash Flow Summary (\$M)

	2011	2012	2013	2014	2015	2016	2017
Paid-In Capital	-\$1,541	-\$133	-\$730	-\$1,111	-\$172	-\$112	-\$86
Return of Capital	98	141	334	651	333	316	1,273
Income + Gains	3	24	-9	774	639	-236	-325
Fees	-65	-63	-59	-46	-52	43	40
Yearly Total	-1,508	-55	-455	-506	109	160	1,146
Cumulative Total	-\$2,335	-\$2,391	-\$2,846	-\$3,352	-\$3,243	-\$3,082	-\$1,936

Other * =

Macquarie

As of December 31, 2018

Characteristics

Characteristics

Market Value: \$0.3 Million and 0.0% of Fund

Strategy Breakdown

Macquarie Asset Management		# of Cos.	Current or Realized MV (\$M)	% of Portfolio
2008	Assets in Portfolio	6	\$1,631.50	104.0%
\$1,568.95	Active Assets in Portfolio	5	\$1,631.50	104.0%
94.94%	Assets Realized	1	\$965.62	61.5%
\$1,644.86	Assets Written Off	0	\$0.00	0.0%
\$1,640.09	Assets Written Down	2	\$244.10	15.6%
	Assets Written Up	3	\$1,387.40	88.4%
	2008 \$1,568.95 94.94% \$1,644.86	2008Assets in Portfolio\$1,568.95Active Assets in Portfolio94.94%Assets Realized\$1,644.86Assets Written Off\$1,640.09Assets Written Down	2008Assets in Portfolio6\$1,568.95Active Assets in Portfolio594.94%Assets Realized1\$1,644.86Assets Written Off0\$1,640.09Assets Written Down2	2008 Assets in Portfolio 6 \$1,631.50 \$1,568.95 Active Assets in Portfolio 5 \$1,631.50 94.94% Assets Realized 1 \$965.62 \$1,644.86 Assets Written Off 0 \$0.00 \$1,640.09 Assets Written Down 2 \$244.10

Active Assets

Holding	Sector	Location	Investment (\$M)	Distributions (\$M)	Fair Mkt Val (\$M)	% of Portfolio
Puget	Regulated	USA - WA	\$342.4	\$142.6	\$684.5	42.0%
WCA Waste Corporation	Other	USA - Texas	\$275.4	\$4.7	\$504.9	30.9%
Elizabeth River Tunnels	Transportation	USA - VA	\$75.6	\$3.0	\$198.0	12.1%
Leaf River Energy Center	Other	USA - MS	\$238.5	\$0.0	\$144.7	8.9%
Broadrock Renewables	Other	Brea, California and Johnst	\$128.0	\$0.0	\$99.4	6.1%
GTP	Communication	USA, Puerto Rico & Mexico	\$0.0	\$1,019.7	\$0.0	0.0%







Total Fund Annual Cash Flow Summary (\$M)

	2013	2014	2015	2016	2017	2018	2019
Paid-In Capital	-\$43	\$0	\$0	-\$75	\$0	\$0	\$0
Return of Capital	889	20	0	0	40	0	0
Income + Gains	161	-51	110	107	258	46	42
Fees	-22	-17	-16	-16	-16	-16	-4
Yearly Total	824	3	-16	-91	24	-16	-4
Cumulative Total	-\$745	-\$742	-\$758	-\$849	-\$825	-\$841	-\$845

Other * =



J.P. Morgan Infrastructure

As of June 30, 2022

Characteristics

Market Value: \$106.5 Million and 4.7% of Fund

Characteristics

Strategy Breakdown

JPMorgan					
Fund Inception/Vintage Year	2007	# of Investments			20
Total Fund GAV (\$M)	\$50,915.3	# of Investors			1168
Total Fund NAV (\$M)	\$26,016.6	# OECD Countries			28
Cash Balance % of NAV		Trailing 12-month Divi	dend Yield		6.3%
% in Top 10 by NAV	75.7%	Queue Out:	\$279.0	Queue In:	\$5,108.5

Top 10 Fund investments by NAV

Investment	Sector	Location	Investment (\$M)	Fair Mkt Val (\$M)	% of Portfolio
GETEC	Other	Europe		\$3,558.9	13.1%
Falck Renewables	Wind	UK/Europe/United States		\$2,680.8	9.9%
El Paso Electric	Electric	United States		\$2,646.1	9.8%
Summit Utilities	Gas	United States		\$2,380.3	8.8%
Onward Energy	Wind	United States		\$2,077.3	7.7%
Ventient Energy Limited	Wind	UK/Europe		\$1,729.7	6.4%
Koole Terminals	Storage	Netherlands		\$1,591.8	5.9%
Adven	Other	Finland/Sweden		\$1,479.3	5.5%
Sonnedix	Solar	Various OECD		\$1,323.3	4.9%
BWC Terminals	Storage	United States		\$1,097.7	4.0%
Total			\$0	.0 \$20,565.2	75.7%





Sector Breakdown of Active Assets



Investment by Revenue Source





As of June 30, 2022

Characteristics

Market Value: \$143.0 Million and 6.4% of Fund

Characteristics

Strategy Breakdown

Industry Funds Management					
Fund Inception/Vintage Year	2004	# of Investments			22
Total Fund GAV (\$M)	\$70,051.0	# of Investors			552
Total Fund NAV (\$M)	\$43,355.5	# OECD Countries			22
Cash Balance % of NAV	0.6%	Trailing 12-month Divider	nd Yield		5.8%
% in Top 10 by NAV	79.4%	Queue Out:	\$0.0	Queue In:	\$4,100.0
will top to by this	10.470	Group Out.	90.0	Guodo III.	

Top 10 Fund investments by NAV

Investment	Sector	Location	Investment (\$M)	Fair Mkt Val (\$M)	% of Portfolio
Indiana Toll Road	Toll Roads	United States	\$4,216.4	\$7,353.0	16.6%
Buckeye Partners	Midstream Services	United States	\$4,463.6	\$7,074.0	16.0%
Aleatica	Toll Roads	Mexico	\$5,679.4	\$6,636.1	15.0%
Manchester Airport Group	Airports	United Kingdom	\$1,648.2	\$3,165.1	7.2%
Sydney Airport		Australia	\$3,142.3	\$3,052.4	6.9%
Naturgy Energy Group	Diversified	Spain	\$2,509.3	\$3,039.4	6.9%
Freeport Train 2	Midstream Services	United States	\$1,299.8	\$2,566.2	5.8%
Aqualia	Water	Spain	\$1,206.6	\$1,727.7	3.9%
VTTI	Midstream Services	Global	\$1,222.4	\$1,288.5	2.9%
Vienna		Poland	\$882.6	\$1,150.4	2.6%
Total			\$26,270.5	\$37,052.8	83.8%





Sector Breakdown of Active Assets





As of December 31, 2021

Characteristics

Fort Washington	Capital Partners
Total Size of Fund (\$M)	\$120.1
Total Capital Called to Date	\$112.2
% of Committed Capital Called	93.9%
Capital Distributed (\$M)	\$193.0
Capital Distributed (as a % of Capital Calle	172.0%

Characteristics

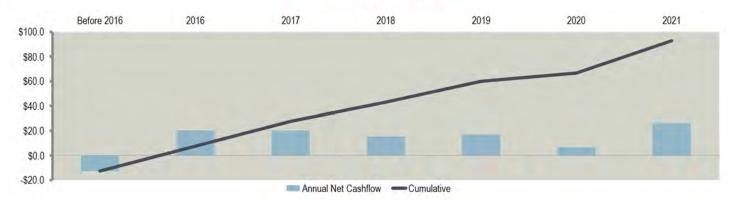
Market Value: \$10.0 Million and 0.5% of Fund

Fund Vintage Year	2006
Total Underlying Commitments	\$132.1
# of Underlying Commitments	31
% of Capital Commited	110.0%
Fund NAV (\$M)	\$35.4
Net Multiple	2x
Net IRR	10.6%

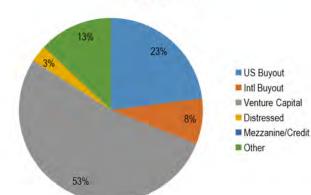
Top Ten Funds by Market Value

Fund	Туре	Vintage Year	% of Portfolio	l otal Commitment (\$M)	Total Investment (\$M)	Fair Market Value (\$M)	Total Distribution (\$M)
Upfront III, LP	Venture Capital	2007	30.3%	\$5.0	\$4.7	\$10.6	\$4.7
Shasta Ventures II, L.P.	Venture Capital	2008	13.9%	\$2.5	\$2.4	\$4.9	\$8.3
Draper Fisher Jurvetson Fund IX, L.P.	Venture Capital	2007	11.6%	\$5.0	\$5.0	\$4.1	\$11.2
Inventus Capital Partners, L.P.	Venture Capital	2007	9.8%	\$2.5	\$2.5	\$3.4	\$7.9
FTVentures III, L.P.	Other	2007	5.2%	\$5.0	\$3.5	\$1.8	\$8.9
SL SPV-2, L.P.	US Buyout	2006	4.5%	\$0.0	\$0.8	\$1.6	\$0.1
Sun Capital Partners V, L.P.	Distressed	2008	3.3%	\$6.0	\$5.7	\$1.1	\$5.6
KKR 2006, L.P.	US Buyout	2006	3.2%	\$1.1	\$7.7	\$1.1	\$13.3
SV Life Sciences Fund IV CF, L.P.	Venture Capital	2007	3.0%	\$1.1	\$1.1	\$1.1	\$0.0
Catterton Partners VI, L.P.	US Buyout	2006	3.0%	\$4.0	\$3.8	\$1.1	\$7.1

Annual Cash Flow Summary (\$M)

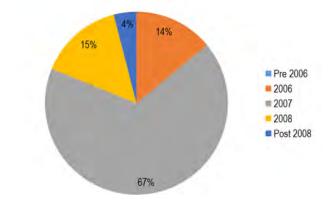


	Before 2016	2016	2017	2018	2019	2020	2021
Paid In Capital w/o Fees	\$117.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Fees Paid	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Distribution	\$105.1	\$20.2	\$20.1	\$15.4	\$16.9	\$6.7	\$26.2
Cumulative	-\$12.7	\$7.5	\$27.6	\$43.0	\$59.9	\$66.6	\$92.8



Strategy Exposure





Fort Washington Fund VI

As of December 31, 2021

Characteristics

Fort Washington	Capital Partners
Total Size of Fund (\$M)	\$169.1
Total Capital Called to Date	\$144.1
% of Committed Capital Called	85.6%
Capital Distributed (\$M)	\$273.2
Capital Distributed (as a % of Capital Calle	189.6%

Characteristics

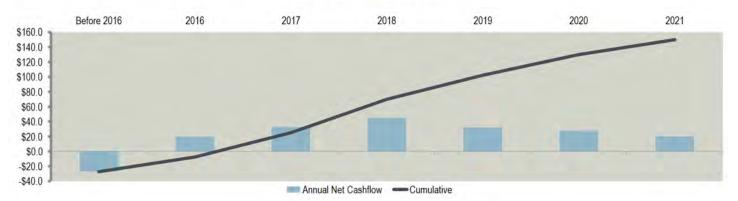
Market Value: \$5.3 Million and 0.2% of Fund

Fund Vintage Year	2007
Total Underlying Commitments	\$184.6
# of Underlying Commitments	41
% of Capital Commited	109.2%
Fund NAV (\$M)	\$52.2
Net Multiple	2.3x
Net IRR	14.8%

Top Ten Funds by Market Value

Fund	Туре	Vintage Year	% of Portfolio	I otal Commitment (\$M)	Total Investment (\$M)	Fair Market Value (\$M)	Total Distribution (\$M)
Atlas Capital Resources, L.P.	US Buyout	2010	14.5%	\$5.0	\$4.0	\$7.6	\$9.3
Pangaea Two, L.P.	Other	2010	10.2%	\$5.0	\$4.8	\$5.3	\$2.9
Highland Capital Partners VIII, L.P.	Venture Capital	2015					
Shasta Ventures II, L.P.	Venture Capital	2008	9.3%	\$2.5	\$2.4	\$4.9	\$8.3
Hellman & Friedman Capital Partners VII, L.P.	US Buyout	2011					
Draper Fisher Jurvetson Fund IX, L.P.	Venture Capital	2008	7.8%	\$5.0	\$5.0	\$4.1	\$11.2
Great Hill Equity Partners IV, L.P.	Other	2007	7.3%	\$5.0	\$5.0	\$3.8	\$11.9
SV Life Sciences Fund V, L.P.	Venture Capital	2009	4.9%	\$5.0	\$4.9	\$2.5	\$4.3
Fort Washington Private Equity Opportunities Fund	Other	2008	4.6%	\$9.1	\$8.0	\$2.4	\$4.0
New Enterprise Associates 13, L.P.	Venture Capital	2008	3.5%	\$5.0	\$5.0	\$1.8	\$11.9

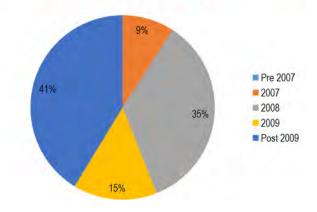
Annual Cash Flow Summary (\$M)



	Before 2016	2016	2017	2018	2019	2020	2021
Paid In Capital w/o Fees	\$158.8	\$5.2	\$5.6	\$1.3	\$1.6	\$0.5	\$0.3
Fees Paid	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Distribution	\$131.5	\$24.9	\$38.2	\$46.2	\$33.9	\$28.2	\$20.3
Cumulative	-\$27.3	-\$7.6	\$25.0	\$69.9	\$102.2	\$129.9	\$149.9



Vintage Year Exposure



As of December 31, 2021

Characteristics

Capital Partners
\$300.0
\$197.1
73.0%
\$164.0
83.2%

Characteristics

Market Value: \$42.6 Million and 2.0% of Fund

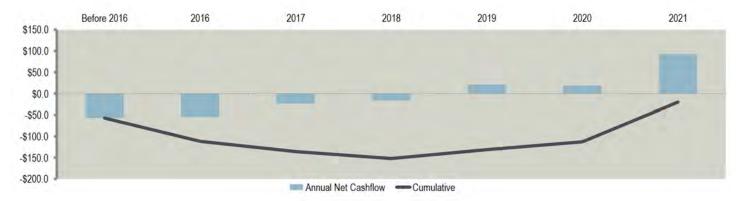
Fund Vintage Year	2013
Total Underlying Commitments	\$305.5
# of Underlying Commitments	41
% of Capital Commited	101.8%
Fund NAV (\$M)	\$261.8
Net Multiple	2.2x
Net IRR	18.6%

Top Ten Funds by Market Value

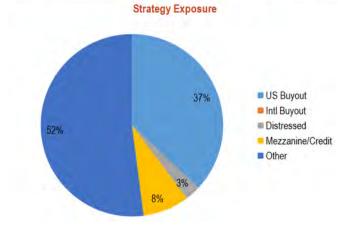
Intel

				lotal	T.1.1)		T .1.1
				Commitment	Total Investment	Fair Market Value	Total
Fund	Туре	Vintage Year	% of Portfolio	(\$M)	(\$M)	(\$M)	Distribution (\$M)
Summit Partners Venture Capital Fund IV-A, L.P.	Other	2015	8.5%	\$14.0	\$14.7	\$22.4	\$15.7
OrbiMed Private Investments VI, L.P.	Venture Capital	2015	8.0%	\$14.0	\$13.1	\$21.0	\$7.6
Cressey & Company Fund V, L.P.	US Buyout	2015	7.0%	\$14.0	\$13.4	\$18.2	\$13.5
Meritech Capital Partners V, L.P.	Venture Capital	2014	6.8%	\$4.3	\$4.1	\$17.8	\$21.2
HitecVision VII, L.P.	Other	2014	5.5%	\$12.8	\$11.4	\$14.3	\$6.0
PeakSpan Capital Growth Partners I, L.P.	Other	2016	5.4%	\$9.3	\$8.7	\$14.2	\$8.6
Accel-KKR Capital Partners Fund V, LP	Other	2016	5.2%	\$11.7	\$11.5	\$13.5	\$8.3
TCV IX, L.P.	Venture Capital	2016	4.8%	\$9.3	\$7.4	\$12.6	\$4.2
EnCap Energy Capital Fund X, L.P.	Other	2019	4.2%	\$11.2	\$10.5	\$11.1	\$4.8
Accel-KKR Growth Capital Partners Fund II, L.P	Other	2014	3.5%	\$11.1	\$10.9	\$9.1	\$16.6

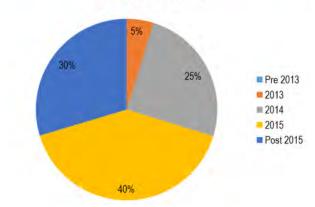
Annual Cash Flow Summary (\$M)

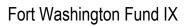


	Before 2016	2016	2017	2018	2019	2020	2021
Paid In Capital w/o Fees	\$58.1	\$57.3	\$53.4	\$45.7	\$31.0	\$18.6	\$15.1
Fees Paid	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Distribution	\$1.0	\$2.7	\$29.3	\$29.4	\$51.9	\$37.0	\$107.9
Cumulative	-\$57.1	-\$111.7	-\$135.8	-\$152.1	-\$131.2	-\$112.8	-\$20.0



Vintage Year Exposure





As of March 31, 2022

Characteristics

Fort Washington	Capital Partners	Fund Vi
Total Size of Fund (\$M)	\$212.6	Total Ur
Total Capital Called to Date	\$147.8	# of Und
% of Committed Capital Called	69.5%	% of Ca
Capital Distributed (\$M)	\$28.7	Fund N
Capital Distributed (as a % of Capital Calle	19.4%	Net Mul

Characteristics

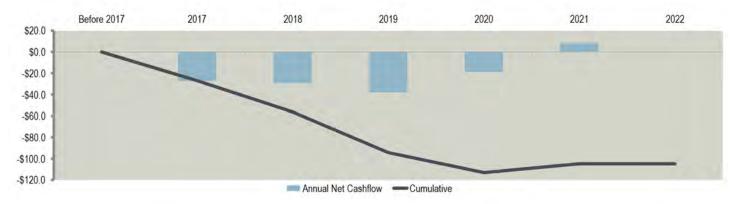
Market Value: \$63.0 Million and 2.5% of Fund

2016
\$244.1
49
114.8%
\$266.9
2x
24.8%

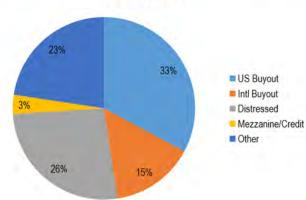
Top Ten Funds by Market Value

Fund	Туре	Vintage Year	% of Portfolio	I otal Commitment (\$M)	Total Investment (\$M)	Fair Market Value (\$M)	Total Distribution (\$M)
G Square Capital II, L.P.	Intl Buyout	2016	6.5%	\$10.6	\$11.9	\$17.7	\$7.5
Pfingsten Partners IV, L.P.	US Buyout	2019	5.8%	\$4.1	\$3.3	\$15.6	\$6.2
Zarvona III-A, L.P.	Other	2018	5.4%	\$8.7	\$8.2	\$14.6	\$1.1
EBS Aggregator LLC	US Buyout	2018	4.1%	\$2.4	\$2.3	\$11.0	\$2.6
OrbiMed Private Investments VII, L.P.	Venture Capital	2018	4.1%	\$8.8	\$7.9	\$11.0	\$2.7
ABRY Partners IX, L.P.	US Buyout	2018	3.8%	\$11.7	\$9.6	\$10.4	\$1.7
ABRY Senior Equity V, L.P.	Mezzanine/Credit	2017	3.7%	\$8.7	\$8.6	\$10.1	\$2.4
FS Equity Partners VIII, L.P.	US Buyout	2019	3.4%	\$10.0	\$6.2	\$9.3	\$0.3
Livingbridge 6 L.P.	Other	2016	3.4%	\$9.0	\$9.1	\$9.1	\$2.4
Georgian Partners Growth Fund (International) IV,	Venture Capital	2018	3.3%	\$5.8	\$5.7	\$8.9	\$1.8



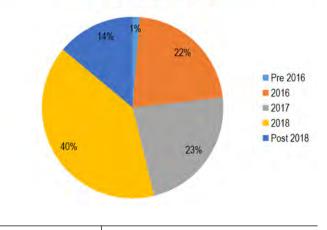


	Before 2017	2017	2018	2019	2020	2021	2022
Paid In Capital w/o Fees	\$0.0	\$27.0	\$32.0	\$41.9	\$37.6	\$37.8	\$0.0
Fees Paid	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Distribution	\$0.0	\$0.0	\$2.7	\$3.9	\$18.8	\$46.1	\$0.0
Cumulative	\$0.0	-\$27.0	-\$56.3	-\$94.3	-\$113.1	-\$104.8	-\$104.8



Strategy Exposure





As of December 31, 2021

Characteristics

on Capital Partners
\$372.0
\$85.1
37.0%
\$0.0
0.0%

Characteristics

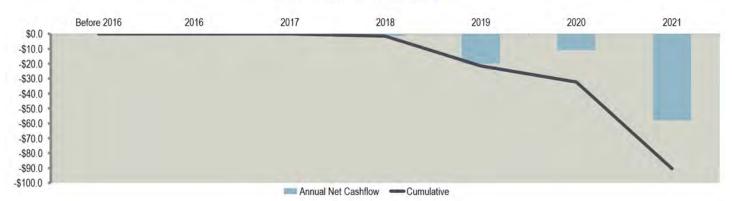
Market Value: \$28.4 Million and 1.3% of Fund

Fund Vintage Year	2018
Total Underlying Commitments	\$141.6
# of Underlying Commitments	37
% of Capital Commited	38.1%
Fund NAV (\$M)	\$131.9
Net Multiple	1.6x
Net IRR	44.9%

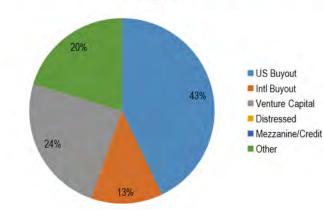
Top Ten Funds by Market Value

		15-1	0 - (D - (- 1) -	I otal Commitment	Total Investment	Fair Market Value	
Fund	Туре	vintage Year	% of Portfolio	(\$M)	(\$M)	(\$M)	Distribution (\$M)
TCV X, L.P.	Other	2018	10.9%	\$7.2	\$5.4	\$15.4	\$0.0
HitecVision North Sea Opportunity Fund, L.P.	Intl Buyout	2019	7.8%	\$7.0	\$5.1	\$11.0	\$0.0
G Square Capital III L.P.	Intl Buyout	2019	7.8%	\$11.9	\$9.0	\$11.0	\$0.0
OceanSound Partners Fund, LP	US Buyout	2018	7.4%	\$10.9	\$9.2	\$10.4	\$0.5
PeakSpan Capital Growth Partners II, L.P.	Venture Capital	2019	5.8%	\$7.2	\$6.3	\$8.3	\$2.6
Sky Island MSC Investment LP	US Buyout	2018	4.9%	\$4.7	\$3.9	\$6.9	\$1.0
5AM Ventures VI, L.P.	Venture Capital	2019	4.8%	\$5.8	\$4.6	\$6.8	\$0.0
Verdane Capital X, L.P.	Venture Capital	2019	4.8%	\$5.3	\$3.9	\$6.7	\$0.1
Longitude Venture Partners IV, L.P.	Venture Capital	2018	4.3%	\$7.2	\$3.0	\$6.0	\$1.0
Luminate Capital Partners II, LP	Other	2019	3.9%	\$5.8	\$5.5	\$5.5	\$2.2

Annual Cash Flow Summary (\$M)

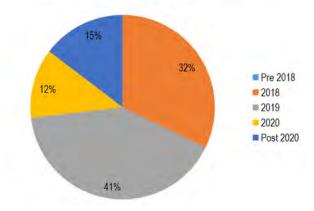


	Before 2016	2016	2017	2018	2019	2020	2021
Paid In Capital w/o Fees	\$0.0	\$0.0	\$0.0	\$1.5	\$21.2	\$11.8	\$71.9
Fees Paid	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Distribution	\$0.0	\$0.0	\$0.0	\$0.0	\$1.2	\$1.0	\$13.8
Cumulative	\$0.0	\$0.0	\$0.0	-\$1.5	-\$21.5	-\$32.3	-\$90.4



Strategy Exposure





Fort Washington Opp Fund III

As of December 31, 2021

Characteristics

Fort Washington	Capital Partners
Total Size of Fund (\$M)	\$150.0
Total Capital Called to Date	\$98.3
% of Committed Capital Called	74.0%
Capital Distributed (\$M)	\$114.5
Capital Distributed (as a % of Capital Calle	116.5%

Characteristics

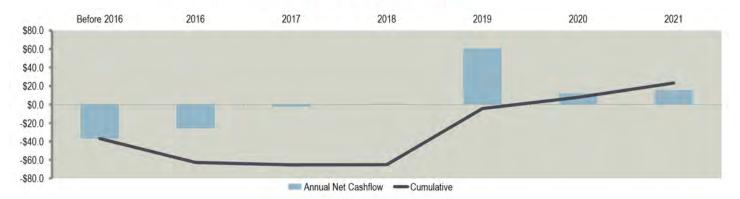
Market Value: \$10.7 Million and 0.5% of Fund

Fund Vintage Year	2014
Total Underlying Commitments	\$105.3
# of Underlying Commitments	14
% of Capital Commited	70.2%
Fund NAV (\$M)	\$48.3
Net Multiple	1.7x
Net IRR	15.9%

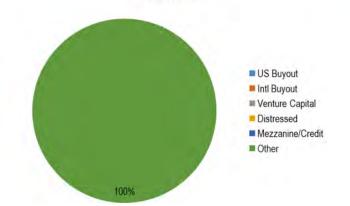
Top Ten Funds by Market Value

				I otal	Total Incompany	Cale Mandata Malua	Total
				Commitment	Total Investment	Fair Market Value	Total
Fund	Туре	Vintage Year	% of Portfolio	(\$M)	(\$M)	(\$M)	Distribution (\$M)
Airdrie Partners I, L.P.	Other	2017	21.8%	\$8.3	\$8.3	\$12.5	\$1.9
Scribe Aggregator, LLC	Other	2014	20.1%	\$6.7	\$6.7	\$11.6	\$0.9
Lime Rock Partners IV AF, L.P.	Other	2016	18.2%	\$6.7	\$6.7	\$10.5	\$0.3
Capital Resource Partners V, L.P.	Other	2018	13.0%	\$8.1	\$8.1	\$7.5	\$0.0
Pangaea Two, L.P.	Other	2018	12.3%	\$6.3	\$6.0	\$7.1	\$3.4
DCCP (FW) SPV Fund, L.P.	Other	2015	11.4%	\$7.3	\$7.3	\$6.6	\$0.3
Ascent Venture Partners IV-B, L.P.	Other	2017	1.6%	\$16.9	\$16.4	\$0.9	\$13.5
Accel-KKR Growth Capital Partners, L.P.	Other	2016	1.2%	\$4.3	\$4.2	\$0.7	\$11.7
Exaltare Capital Partners Fund I, L.P.	Other	2017	0.3%	\$6.7	\$4.9	\$0.1	\$13.2
	Other	2015					

Annual Cash Flow Summary (\$M)

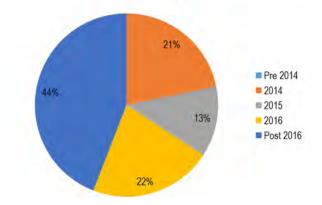


	Before 2016	2016	2017	2018	2019	2020	2021
Paid In Capital w/o Fees	\$37.2	\$26.6	\$17.7	\$16.7	\$0.6	\$0.6	\$0.6
Fees Paid	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Distribution	\$0.3	\$0.8	\$15.1	\$16.9	\$61.3	\$12.7	\$16.1
Cumulative	-\$36.9	-\$62.7	-\$65.3	-\$65.1	-\$4.4	\$7.7	\$23.2



Strategy Exposure

Vintage Year Exposure





As of June 30, 2022

Characteristics

Characteristics

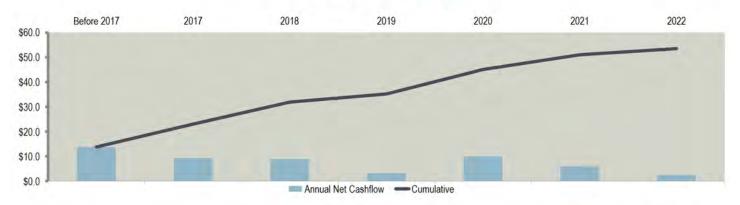
Market Value: \$1.4 Million and 0.1% of Fund

Characteristics			
	North Sky Capital	Fund Vintage Year	2006
Total Size of Fund (\$M)	\$74.0	Total Underlying Commitments	\$73.4
Total Capital Called to Date	\$53.3	# of Underlying Commitments	11
% of Committed Capital Called	72.0%	% of Capital Committed	99.2%
Capital Distributed (\$M)	\$109.8	Fund NAV (\$M)	\$3.6
Capital Distributed (as a % of Capital Calle	206.0%	Net Multiple	1.9x
		Net IRR	10.9%

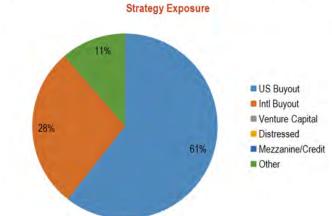
Top Ten Funds by Market Value

				I otal Commitment	Total Investment	Fair Market Value	Total
Fund	Туре	Vintage Year	% of Portfolio	(\$M)	(\$M)	(\$M)	Distribution (\$M)
Water Street II	US Buyout	2008	36.7%	\$8.0	\$8.3	\$0.7	\$17.7
Advent GPE VI	Intl Buyout	2008	21.5%	\$10.0	\$10.0	\$0.4	\$20.1
Castle Harlan V	US Buyout	2008	20.1%	\$2.5	\$4.8	\$0.4	\$6.1
TCV VII	Other	2008	11.2%	\$10.0	\$9.8	\$0.2	\$30.2
Warburg Pincus X	Intl Buyout	2007	6.7%	\$10.0	\$10.0	\$0.1	\$17.7
Madison Dearborn V	US Buyout	2006	3.4%	\$5.0	\$4.9	\$0.1	\$7.8
Lightyear II	US Buyout	2006	0.4%	\$5.0	\$5.0	\$0.0	\$8.0
CarVal	Mezzanine/Credit	2006	0.0%	\$5.0	\$4.8	\$0.0	\$7.3
CarVal SVF	Mezzanine/Credit	2007	0.0%	\$5.0	\$2.1	\$0.0	\$0.9
Riverside III	Intl Buyout	2008	0.0%	\$2.9	\$3.0	\$0.0	\$2.4

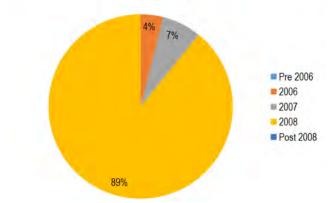
Annual Cash Flow Summary (\$M)



	Before 2017	2017	2018	2019	2020	2021	2022
Paid In Capital w/o Fees	\$53.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Fees Paid	\$2.6	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0
Distribution	\$69.6	\$9.3	\$9.0	\$3.4	\$10.0	\$6.0	\$2.5
Cumulative	\$13.8	\$23.0	\$31.9	\$35.2	\$45.1	\$51.0	\$53.5



Vintage Year Exposure



North Sky Fund III - Venture

As of June 30, 2022

Characteristics

Unaracteristics	
	North Sky Capital
Total Size of Fund (\$M)	\$67.1
Total Capital Called to Date	\$61.4
% of Committed Capital Called	91.5%
Capital Distributed (\$M)	\$109.6
Capital Distributed (as a % of Capital Calle	178.5%

Characteristics

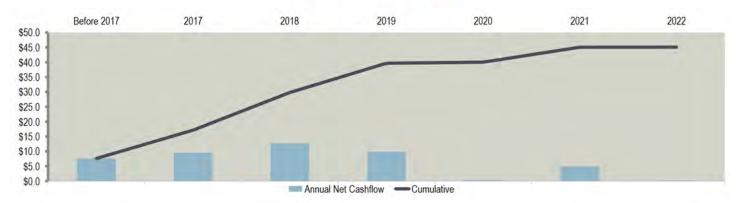
Market Value: \$0.6 Million and 0.0% of Fund

Fund Vintage Year	2006
Total Underlying Commitments	\$78.5
# of Underlying Commitments	9
% of Capital Committed	117.0%
Fund NAV (\$M)	\$6.1
Net Multiple	1.8x
Net IRR	8.3%

Top Ten Funds by Market Value

Tuno	Vintage Veer	% of Dortfolio	I otal Commitment	Total Investment	Fair Market Value	Total Distribution (\$M)
	•		1. /	N. 1	A. 7	
Venture Capital	2008	56.1%	\$3.0	\$3.0	\$2.7	\$3.3
Venture Capital	2006	36.4%	\$10.0	\$10.0	\$1.7	\$23.0
Venture Capital	2007	5.2%	\$3.0	\$3.0	\$0.2	\$7.3
Venture Capital	2007	2.3%	\$10.0	\$9.9	\$0.1	\$4.0
Venture Capital	2007	0.0%	\$10.0	\$10.0	\$0.0	\$21.0
Venture Capital	2006	0.0%	\$11.0	\$10.7	\$0.0	\$29.4
Venture Capital	2007	0.0%	\$5.0	\$5.0	\$0.0	\$13.6
Venture Capital	2006	0.0%	\$21.5	\$21.5	\$0.0	\$25.6
Venture Capital	2005	0.0%	\$5.0	\$5.0	\$0.0	\$5.3
	Venture Capital Venture Capital Venture Capital Venture Capital Venture Capital Venture Capital	Venture Capital2008Venture Capital2006Venture Capital2007Venture Capital2007Venture Capital2007Venture Capital2006Venture Capital2007Venture Capital2007Venture Capital2007Venture Capital2007Venture Capital2007Venture Capital2006	Venture Capital 2008 56.1% Venture Capital 2006 36.4% Venture Capital 2007 5.2% Venture Capital 2007 2.3% Venture Capital 2007 0.0% Venture Capital 2006 0.0% Venture Capital 2007 0.0% Venture Capital 2007 0.0% Venture Capital 2006 0.0% Venture Capital 2006 0.0%	Type Vintage Year % of Portfolio (\$M) Venture Capital 2008 56.1% \$3.0 Venture Capital 2006 36.4% \$10.0 Venture Capital 2007 5.2% \$3.0 Venture Capital 2007 0.0% \$10.0 Venture Capital 2007 0.0% \$10.0 Venture Capital 2007 0.0% \$10.0 Venture Capital 2006 0.0% \$11.0 Venture Capital 2007 0.0% \$5.0 Venture Capital 2007 0.0% \$21.5	Type Vintage Year % of Portfolio Commitment Total Investment Venture Capital 2008 56.1% \$3.0 \$3.0 Venture Capital 2006 36.4% \$10.0 \$10.0 Venture Capital 2007 5.2% \$3.0 \$3.0 Venture Capital 2007 0.0% \$10.0 \$10.0 Venture Capital 2006 0.0% \$11.0 \$10.7 Venture Capital 2007 0.0% \$5.0 \$5.0 Venture Capital 2006 0.0% \$21.5 \$21.5	Type Vintage Year % of Portfolio Commitment Total Investment Fair Market Value Venture Capital 2008 56.1% \$3.0 \$3.0 \$2.7 Venture Capital 2006 36.4% \$10.0 \$10.0 \$1.7 Venture Capital 2007 5.2% \$3.0 \$3.0 \$2.7 Venture Capital 2007 5.2% \$3.0 \$3.0 \$2.7 Venture Capital 2007 0.0% \$10.0 \$10.0 \$1.7 Venture Capital 2007 0.0% \$10.0 \$9.9 \$0.1 Venture Capital 2007 0.0% \$10.0 \$9.0 \$0.0 Venture Capital 2006 0.0% \$11.0 \$10.7 \$0.0 Venture Capital 2007 0.0% \$5.0 \$5.0 \$0.0 Venture Capital 2006 0.0% \$21.5 \$21.5 \$0.0

Annual Cash Flow Summary (\$M)

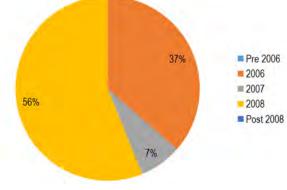


	Before 2017	2017	2018	2019	2020	2021	2022
Paid In Capital w/o Fees	\$61.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Fees Paid	\$2.7	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0
Distribution	\$71.7	\$9.6	\$12.8	\$10.0	\$0.5	\$5.1	\$0.1
Cumulative	\$7.6	\$17.1	\$29.8	\$39.7	\$40.0	\$45.1	\$45.1



Strategy Exposure

Vintage Year Exposure





As of June 30, 2022

Characteristics

North Sky Capital
\$34.2
\$22.0
64.5%
\$48.1
218.6%

Characteristics

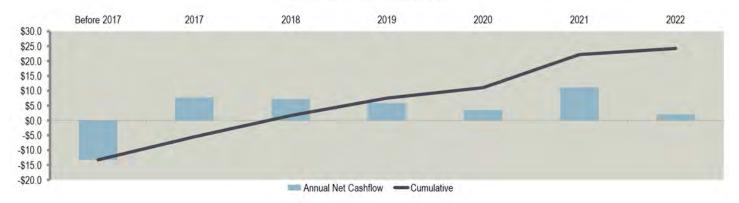
Market Value: \$2.1 Million and 0.1% of Fund

Fund Vintage Year	2008
Total Underlying Commitments	\$37.0
# of Underlying Commitments	12
% of Capital Commited	108.3%
Fund NAV (\$M)	\$5.1
Net Multiple	1.9x
Net IRR	12.8%

Top Ten Funds by Market Value

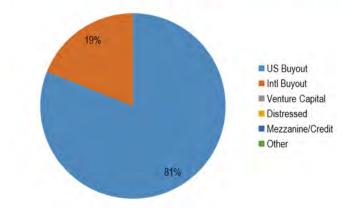
				lotal			
				Commitment	Total Investment	Fair Market Value	Total
Fund	Туре	Vintage Year	% of Portfolio	(\$M)	(\$M)	(\$M)	Distribution (\$M)
Stone Arch Capital II	US Buyout	2008	25.1%	\$7.5	\$6.2	\$1.3	\$8.9
CapStreet III	US Buyout	2010	15.6%	\$4.0	\$4.2	\$0.8	\$7.7
DWHP III	US Buyout	2012	13.8%	\$4.0	\$3.7	\$0.7	\$6.1
Francisco III	US Buyout	2011	12.7%	\$2.5	\$2.3	\$0.7	\$7.0
CITIC II	Intl Buyout	2010	8.0%	\$1.5	\$1.5	\$0.4	\$2.2
Insight II	US Buyout	2009	7.3%	\$2.3	\$2.3	\$0.4	\$3.2
Procuritas IV	Intl Buyout	2010	6.4%	\$1.3	\$1.5	\$0.3	\$2.4
AEA SBA II	US Buyout	2009	4.7%	\$3.0	\$3.5	\$0.2	\$8.0
Riverside Europe IV	Intl Buyout	2009	4.5%	\$3.2	\$3.5	\$0.2	\$4.4
Insight Mezzanine I	US Buyout	2009	1.5%	\$0.8	\$0.7	\$0.1	\$0.9



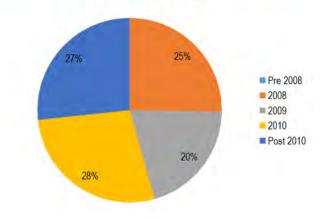


	Before 2017	2017	2018	2019	2020	2021	2022
Paid In Capital w/o Fees	\$22.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Fees Paid	\$1.4	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0
Distribution	\$10.1	\$7.8	\$7.2	\$6.0	\$3.6	\$11.2	\$2.1
Cumulative	-\$13.3	-\$5.5	\$1.6	\$7.5	\$11.0	\$22.2	\$24.2

Strategy Exposure



Vintage Year Exposure





As of June 30, 2022

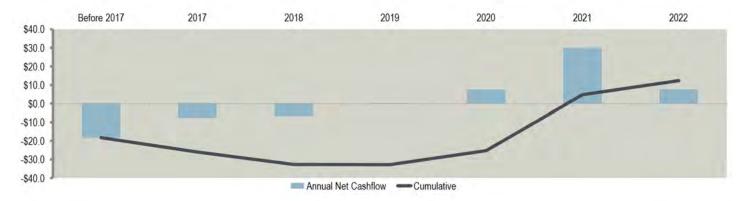
Characteristics

	North Sky Capital	Fund Vintage Year	2014
Total Size of Fund (\$M)	\$50.9	Total Underlying Commitments	\$53.0
Total Capital Called to Date	\$33.2	# of Underlying Commitments	11
% of Committed Capital Called	66.0%	% of Capital Committed	104.1%
Capital Distributed (\$M)	\$46.8	Fund NAV (\$M)	\$47.7
Capital Distributed (as a % of Capital Calle	141.0%	Net Multiple	2.3x
		Net IRR	21.4%

Top Ten Funds by Market Value

Fund	Туре	Vintage Year	% of Portfolio	l otal Commitment (\$M)	Total Investment (\$M)	Fair Market Value (\$M)	Total Distribution (\$M)
IVP XV	Venture Capital	2015	17.9%	\$5.0	\$5.0	\$8.2	\$8.7
Cressey V	US Buyout	2015	13.9%	\$5.0	\$4.8	\$6.4	\$4.8
Guardian II	US Buyout	2015	11.1%	\$6.5	\$6.3	\$5.1	\$7.1
AEA SBA II	US Buyout	2015	9.7%	\$3.5	\$3.5	\$4.5	\$3.0
CapStreet IV	US Buyout	2016	9.7%	\$5.0	\$4.9	\$4.4	\$3.0
Francisco IV	US Buyout	2014	8.8%	\$4.0	\$3.9	\$4.0	\$7.7
Staple Street II	Distressed	2015	7.5%	\$5.0	\$3.9	\$3.4	\$2.7
Stone Arch III	US Buyout	2015	6.1%	\$5.0	\$4.1	\$2.8	\$4.3
Southfield II	US Buyout	2014	6.1%	\$3.0	\$3.2	\$2.8	\$3.4
Tritium I	Venture Capital	2015	5.9%	\$2.0	\$2.3	\$2.7	\$3.7

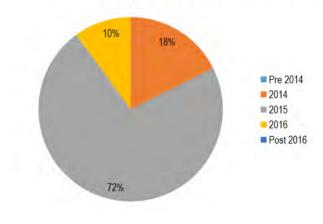




	Before 2017	2017	2018	2019	2020	2021	2022
Paid In Capital w/o Fees	\$17.6	\$7.5	\$8.1	\$0.0	\$0.0	\$0.0	\$0.0
Fees Paid	\$0.7	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.0
Distribution	\$0.0	\$0.0	\$1.5	\$0.0	\$7.6	\$30.1	\$7.6
Cumulative	-\$18.3	-\$26.0	-\$32.7	-\$32.8	-\$25.3	\$4.7	\$12.3



Vintage Year Exposure



Market Value: \$36.4 Million and 1.6% of Fund



Securities Lending Income

As of September 30, 2022

2022 BNY Mellon Securities Lendin		2022 Northern Trust Securit	
<u>Month</u>	CRS Earnings	Quarter	CRS Earning
January	\$1,985	Q1	\$27,086
February	\$1,739	Q2	\$43,793
March	\$2,223	Q3	\$47,927
April	\$1,376		
May	\$243		
June	-\$609		
July	-\$2,115		
August	-\$4,471		
September	-\$5,629		
	AE 050		¢110.00
Total YTD BNY Mellon Sec. Lending Revenue	-\$5,258	Total YTD Northern Trust Sec. Lending Revenue	\$118,800
Historic BNY Mellon Securities Lendi	ng Revenue	Historic Northern Trust Securities	Lending Revenue
Year	CRS Earnings	Year	CRS Earnings
2021	\$14,480	2021	\$196,183
2020	\$297	2020	\$373,74
2019	-\$76,416	2019	\$426,454
2018	-\$29,442	2018	\$384,112
2017	\$125,636	2017	\$390,918
2016	\$351,379		
2015	\$542,312		
2014	\$562,374		
2013	\$321,534		
2012	\$277,849		
2011	\$362,989		
2010	\$340,835		
2009	\$964,503		
2008	\$2,365,591		
2008	\$1,432,567		
2001	\$983,293		
2006			
2006	CO0 400		
2005	\$989,492		
	\$989,492 \$1,513,575 \$352,142		

As of September 30, 2022

3/31/2013 Beginning Balance: \$ 10,427,650.13

Calendar E Year		Beginning Balance		Securities Lending Income(Loss)		Monthly Loan Payments		Ending Balance	
2013	\$	10,427,650	\$	284,392	\$		\$	10,143,259	
2014		10,143,259		539,863				9,603,396	
2015		9,603,396		575,942		-		9,027,454	
2016		9,027,454		356,642				8,670,812	
2017		8,670,812		143,015				8,527,797	
2018		8,527,797		(16,909)		1,400,000		7,144,706	
2019		7,144,706		(85,053)		650,000		6,579,758	
2020		6,579,758		296		600,000		5,979,462	
2021		5,979,462		14,480		600,000		5,364,983	
Through Sep 30, 2022	2	5,364,983		6,957		450,000		4,908,026	
			\$	1,819,625	\$	3,700,000			



Fee Schedule

Market Value: \$2,120.0 Million and 100.0% of Fund

Expense Ratio & mated Annual Fee ¹ 0.22% \$644,299	Industry Median ² 0.24%
	0.24%
1.49% \$387,292	1.50%
0.02% \$132,855	0.06%
0.10% \$368,395	0.21%
0.38% \$185,205	0.45%
0.30% \$157,588	1.00%
1.03% \$2,228,691	1.00%
0.84% \$2,220,317	1.50%
0.92% \$2,271,826	1.00%
0.41% \$8,596,468	0.47%
	1.49% \$387,292 0.02% \$132,855 0.10% \$368,395 0.38% \$185,205 0.30% \$185,205 0.30% \$157,588 1.03% \$2,228,691 0.84% \$2,220,317 0.92% \$2,271,826 0.41%

¹ Expense Ratio & Estimated Annual Fee are Based on Market Value at Quarter End.

² Source: Marquette Associates Investment Management Fee Study.

Fee Schedule

Market Value: \$2,120.0 Million and 100.0% of Fund

Asset Class	Investment Manager	Fee Schedule	Expense Ratio & Estimated Annual Fee ¹	Industry Median
Core Fixed Income	NTGI Agg Bond	.0125% on the balance	0.01% \$13,946	0.06%
Core Plus Fixed Income	Loomis Sayles Core-Plus	0.30% on the first \$100 million 0.25% on the next \$100 million 0.20% on the next \$200 million 0.15% on the balance	0.29% \$381,532	0.30%
High Yield Fixed Income	Shenkman - Four Points	0.55% on the balance	0.55% \$248,821	0.50%
Private Debt	H.I.G. Bayside Opportunity VI	1.5% on invested assets 0.25% on the difference between aggregate commitments and invested assets	1.59% \$287,292	1.50%
Private Debt	Owl Rock Diversified Lending	1.25% of called capital Plus 10% incentive fee over 6% preferred return (beg. 1/1/26)	1.25% \$100,000	1.50%
Private Debt	Carlyle		0.00% \$0	1.50%
All-Cap Core	NTGI Russell 3000	.02% on the balance	0.02% \$82,533	0.06%
Large-Cap Value	NTGI Russell 1000 Value	0.015% on the balance	0.02% \$10,145	0.06%
Mid-Cap Value	Vanguard Mid Cap Value	0.07% on the balance	0.07% \$26,755	0.16%
Small-Cap Value	NTGI Russell 2000 Value	0.02% on the balance	0.02% \$13,422	0.04%
Non-U.S. All-Cap Core	NTGI ACWI Ex-US	.04% on the balance	0.04% \$133,209	0.08%
EM Small-Cap	DFA Emerging Markets Small Cap	0.60% on the balance	0.60% \$235,186	1.35%
Risk Parity	AQR Risk Parity	0.38% on the balance	0.38% \$185,205	0.45%
Volatility Risk Premium	NB US Index PutWrite	0.30% on the balance	0.30% \$157,588	1.00%
Core Real Estate	J.P. Morgan SPF	1.00% on the first \$25 million 0.95% on the next \$25 million 0.85% on the next \$50 million	0.94% \$642,983	1.00%
Core Real Estate	Morgan Stanley P.P.	0.90% on the balance Incentive Fee: 5%*NAV*(Return-NCREIF)	0.90% \$450,648	1.00%
/alue-Added Real Estate	PRISA III	1.10% on assets 0.10% on cash balance 0.40% on distributions All expenses capped at 2.0%	1.10% \$466,626	1.00%
Value-Added Real Estate	Principal Enhanced	1.20% on the balance 15% performance fee on returns > 11%	1.20% \$653,621	1.00%
Non-U.S. Core Real Estate	StepStone RE Intl Partnership I	1.00% on the balance (Following seventh anniversary, fee drops to 90% of prior years fee). (8% preferred internal rate of return to investor) 5% carry with 100% catch up provision	1.00% \$14,813	1.50%
Core Infrastructure	Alinda Fund II	0.765% on ordinary capital contributions (20% incentive over 8% preferred return)	0.77% \$99,929	1.50%
Core Infrastructure	Macquarie Fund II	1.50% on invested capital (20% incentive over 8% preferred return)	1.50% \$4,983	1.50%

Fee Schedule

Market Value: \$2,120.0 Million and 100.0% of Fund

Asset Class	Investment Manager	Fee Schedule	Expense Ratio & Estimated Annual Fee ¹	Industry Median
Core Infrastructure	J.P. Morgan Infrastructure	0.95% on the Balance Performance Fee: 15% with 7% Hurdle	0.95% \$1,011,920	1.07%
Global Infrastructure	IFM Global Infrastructure (U.S)	0.77% on the Balance Performance Fee: 10% of return above 8%, with 33.3% catch-up	0.77% \$1,103,485	0.00%
Venture Private Equity	Blue Chip Fund IV	\$100,000 annual fee for administrative expenses Plus 20% of profits after all capital returned	4.91% \$100,000	0.60%
Divers. Private Equity	Fort Washington Fund V	0.40% on committed assets (5% incentive over 8% return)	1.60% \$160,000	2.40%
Divers. Private Equity	Fort Washington Fund VI	0.40% on committed assets (5% incentive over 8% return)	2.27% \$120,000	3.41%
Divers. Private Equity	Fort Washington Fund VIII	0.20% on committed assets Yr 1 0.30% on committed assets Yr 2 0.40% on committed assets Yrs 3-8	0,47% \$200,000	0.70%
Divers. Private Equity	Fort Washington Fund IX	0.09% on committed assets Yr 1 0.18% on committed assets Yr 2 0.27% on committed assets Yr 3 0.36% on committed assets Yrs 4-10	0.30% \$180,000	0.84%
Divers. Private Equity	Fort Washington Fund X	0.15% on committed assets Yr 1 0.30% on committed assets Yr 2 0.45% on committed assets Yr 3 0.60% on committed assets Yrs 4-10	0.84% \$240,000	1.41%
Secondary Private Equity FoF	Fort Washington Opp Fund III	0.75% on committed assets (15% incentive over 8% preferred return)	2.10% \$225,000	1,68%
LBO Private Equity	North Sky Fund III - LBO	0.45% on committed assets (5% incentive over 8% return)	9.85% \$135,000	13.14%
Venture Private Equity	North Sky Fund III - VC	0.45% on committed assets (5% incentive over 8% return)	7.40% \$45,000	9.87%
LBO Private Equity	North Sky Fund IV - LBO	0.45% on committed assets (5% incentive over 8% return)	3.19% \$67,500	4.25%
Divers. Private Equity	North Sky Fund V	0.65% on committed assets Yrs 1-3 0.55% on committed assets Yrs 4-6 0.45% on committed assets Yrs 7-9 0.35% on committed assets thereafter	0.52% \$180,000	0.70%
Mezz /Special Sit. Private Equity FoF	Portfolio Advisors IV - Special Sit	0.375% on committed assets Yrs 1-3 0.30% on committed assets Yrs 4-5 0.30% on invested capital thereafter (5% incentive over 8% preferred return)	0.30% \$5,036	0.60%
Mezz./Special Sit. Private Equity FoF	Portfolio Advisors V - Special Sit	0.375% on committed assets Yrs 1-3 0.30% on committed assets Yrs 4-5 0.30% on invested capital thereafter (5% incentive over 8% preferred return)	0.30% \$2,289	0.60%
Slobal Divers. Private Equity FoF	JP Morgan Global Private Equity VIII	0.31% on committed capital (est.) Performance Fee (Hurdle Rate 8%): Primary: 5% Secondary: 10% Direct: 15%	0.34% \$124,000	1.11%
Global Divers. Private Equity FoF	JP Morgan Global Private Equity IX	0.34% on committed capital (est.) Performance Fee (Hurdle Rate 8%): Primary: 5% Secondary: 10% Direct 15%	0.65% \$68,000	1.90%

Direct: 15%

Fee Schedule

Market Value: \$2,120.0 Million and 100.0% of Fund

Asset Class	Investment Manager	Fee Schedule	Expense Ratio & Estimated Annual Fee ¹	Industry Median ²
Global Divers. Private Equity FoF	JP Morgan Global Private Equity X	0.55% on Commitment Years 1-5 0.55% is reduced by 5% per year after year 5 Plus performance fee after 8% preferred return: 5% for primary partnerships 10% for secondary investments 15% for direct investments	12.67% \$220,000	23.04%
LBO Private Equity	Siguler Guff Small Buyout Opportunities V	0.80% on the Committed Capital 5% carried interest on fund investments 15% carried interest on direct investments 8% preferred return	36.09% \$200,000	90.22%
Total Investment Management Fees			0.41% \$8,596,468	0.47%

¹ Expense Ratio & Estimated Annual Fee are Based on Market Value at Quarter End.

² Source: Marquette Associates Investment Management Fee Study.

³ Annualized



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Marquette is an independent investment adviser registered under the Investment Advisers Act of 1940, as amended. Registration does not imply a certain level of skill or training. More information about Marquette including our investment strategies, fees and objectives can be found in our ADV Part 2, which is available upon request.



To:	All Clients
From:	Marquette Associates, Inc.
Date:	October 25, 2022
Re:	Private Markets Benchmark Transition

Topic:

In an effort to ensure our clients have access to best-in-class performance reporting, Marquette Associates, Inc. ("Marquette") regularly reviews the benchmarks used in client reports. After a thorough review of private markets benchmarks, Marquette has licensed and will be transitioning to the comparable Burgiss Manager Universe ("Burgiss") benchmarks in client reports. Marquette has previously used Cambridge Associates Private Investment Benchmarks ("Cambridge"). As further detailed in this memo, while the performance of the two benchmarks is very similar, Burgiss has a longer history, a large constituent universe, preliminary performance estimates are available sooner, and more granular subcategories for benchmarking. Based on Marquette's research, we believe Burgiss is the best private markets benchmarking platform available to the marketplace today.

Description:

Burgiss is wholly owned by MSCI and is a market-leading research and benchmarking platform for private markets. Burgiss provides global investors research-quality performance data for private capital funds, fund of funds, and their holdings that date back to 1978, making it the oldest available benchmark. The Burgiss dataset covers over 12,000 private capital funds and fund-of -funds, nearly 190,000 underlying holdings, and represents over \$9 trillion in committed capital across the full spectrum of private capital strategies, including private equity, private debt, infrastructure, real assets, and real estate. Preliminary performance estimates for Burgiss benchmarks are available 85 days after quarter end.

The tables below are a side-by-side comparison of the two benchmarking platforms. The first table shows the category and number of funds in each respective benchmark as of 2021.

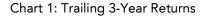
Cambridge Associates		Burgiss		
Benchmark	# Funds	Benchmark	# Funds	
All Private Equity	5,207	Global All Private Equity	6,596	
US Private Equity	3,477	US All Private Equity	4,098	
US Buyout	612	US Buyout Private Equity	1,367	

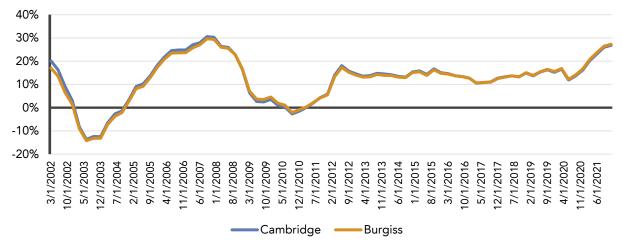
Table 1

The second table compares the performance of the two benchmarks. As detailed in the table and chart below, the two benchmarks track each other very closely, as expected. Over the last 20 years, the broadest benchmarks for each provider (Global Private Equity) have demonstrated an average annual tracking error of just 0.74% and a correlation of 0.99866.

Table 2: Trailing Returns as of December	31,	2021
--	-----	------

Benchmark	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years
Cambridge	38.0%	29.3%	23.8%	18.4%	14.1%	14.6%
Burgiss	38.7%	29.6%	24.1%	18.5%	14.2%	14.5%





Client Performance Reporting:

This change will have the following effects on performance reporting:

- The new most commonly used benchmarks, which will be used in client reports, are called:
 - o Burgiss Global All Private Equity
 - o Burgiss US Private Equity
 - o Burgiss US Buyout Private Equity
 - o Burgiss US Venture Capital
 - o Burgiss US Private Debt
 - o Burgiss US Real Estate
 - o Burgiss Global Infrastructure
- Clients may choose to implement the benchmark change for historical periods as well as on a good forward basis
- Private equity composite returns will be benchmarked against the applicable Burgiss index.

Additional Considerations:

Clients may want to update their Investment Policy Statement ("IPS") to reflect the new private equity benchmark.

PREPARED BY MARQUETTE ASSOCIATES

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ABOUT MARQUETTE ASSOCIATES

Marquette was founded in 1986 with the sole objective of providing investment consulting at the highest caliber of service. Our expertise is grounded in our commitment to client service — our team aims to be a trusted partner and as fiduciaries, our clients' interests and objectives are at the center of everything we do. Our approach brings together the real-world experience of our people and our dedication to creativity and critical thinking in order to empower our clients to meet their goals. Marquette is an independent investment adviser registered under the Investment Advisers Act of 1940, as amended. Registration does not imply a certain level of skill or training. More information about Marquette including our investment strategies, fees and objectives can be found in our ADV Part 2, which is available upon request and on our website. For more information, please visit <u>www.MarquetteAssociates.com</u>.

Cincinnati Retirement System

Statement of Investment Policy

FebruaryNovember, 2022

Definition of Terms

"System" Defined

In this Policy, the "System" refers to the pool of assets held in trust under the terms of a Trust Agreement established by the Cincinnati Retirement System, which will be used to pay qualified employee, disability, and health benefits (see Addendum C).

"Board of Trustees" Defined

In this Policy, the "Board of Trustees" refers to the named fiduciary appointed to administer the System pursuant to the Trust Agreement (see Addendum E).

"Investment Professionals" Defined

In this Policy, the "Investment Professionals" refers to investment managers, the cash equitization manager, the investment consultant(s), the custodian, the securities lending provider, commission re-capturing agent(s), and third party proxy voting service provider.

"Investment Manager" Defined

In this Policy, the "Investment Manager" refers to any firm, fund, or individual that analyzes, selects, and executes the purchase or sale of individual securities. The investment manager may manage the assets of the System in separate accounts held by a third party custodian, a commingled fund, a limited partnership, or a mutual fund.

"Investment Consultant" Defined

In this Policy, the "Investment Consultant" refers to any firm that provides investment advice and information and assists the Board of Trustees in fulfilling their fiduciary responsibilities as Trustees.

"Cash Equitization Manager" Defined

In this policy the "Cash Equitization Manager" refer to any firm, fund, or individual that executes the purchase or sale of futures contracts in order to replicate the returns of the equity markets on the cash holdings in the equity manager portfolios.

"Custodian" Defined

In this Policy, the "Custodian" refers to any third party firm that safe-keeps the assets of the System.

"Securities Lending Provider" Defined

In this Policy, the "Securities Lending Provider" refers to any third party firm or investment manager that lends the assets of the System to other parties in exchange for collateral and interest.

The Statement of Purpose

The System's Purpose

The System was established in 1931 as a defined benefit System and provides for both monthly pension benefits and medical benefits to qualified retirees, survivors of retirees, and disabled retirees of the City as well as retired members from closed groups (University Hospital, University of Cincinnati, and Hamilton County). The System is governed by Section 203 of the Cincinnati Municipal Code as adopted by the City of Cincinnati Council. A Board of Trustees has been established to oversee the operation of the System.

The Purpose of the Investment Policy

This investment policy is set forth by the Board of Trustees in order to:

- Define and assign the responsibilities of all involved parties.
- Establish a clear understanding of all involved parties of the investment goals and objectives of System.
- Establish the relevant investment horizon for which the System assets will be managed.
- Establish a target asset allocation and re-balancing procedures.
- Establish a methodology and criteria for hiring and firing investment professionals.
- Offer guidance and limitations to all investment managers regarding the investment of System.
- Establish a basis of evaluating investment results.

In general, the purpose of this Policy is to outline a philosophy which will guide the investment management of the assets toward the desired results. It is intended to be sufficiently specific to be meaningful, yet flexible enough to be practical. This document is intended to serve as a reference tool, an operating code, and a communications link between the Board of Trustees, its staff, and its investment professionals.

Distinction of Responsibilities

The Board of Trustees' Authority and Responsibilities

Chapter 203-65 of the Cincinnati Municipal Code assigns a Board of Trustees with the responsibility for managing the assets of the System. The Board of Trustees must discharge its duties solely in the interest of the System and the System participants. The standards of care for the System are specified in Section 203-65 of the Cincinnati Municipal Code and conform to the standards described in Section 5809.02 of the Ohio Revised Code.

The Board of Trustees will generally be responsible for the following:

- 1) Complying with applicable laws, regulations, and rulings, including the Collaborative Settlement Agreement between the City of Cincinnati and various plantiff groups representing certain active and retired members of the System that was approved by the Court on October 5, 2015 and generally effective January **1**, 2016.
- 2) Selecting all qualified investment professionals.
- 3) Monitoring and evaluating investment performance and compliance with this Policy.
- 4) Reviewing and suggesting changes, as needed, to this Policy.
- 5) Establishing and reviewing the appropriateness of the System's asset allocation policy.
- 6) Taking action according to this Policy.

The Investment Manager's Authority and Responsibilities

The Board of Trustees will hire competent, registered professional investment managers to manage the assets of the System. Investment managers have the following responsibilities:

- 1) Vote proxy issues on securities held, unless a third party proxy voting service provider has been retained by the System. All proxies will be voted exclusively for the best interests of the System and their participants. Managers will maintain written policies for proxy voting and keep a proper record of all proxies to which the Program is entitled. Managers will provide an annual report that including their current proxy voting policy, a summary and detailed records of all proxies voted, and a statement indicating whether proxies were voted in conformance with the manager's internal proxy voting guidelines.
- 2) Provide written reports to the plan sponsor and consultant on at least a quarterly basis detailing performance for the most recent period as well as the current outlook of the markets.

- 3) Notify the client and the investment consultant on a timely basis of any significant changes in the ownership, organizational structure, investment strategy, portfolio design, or configuration of the investment team.
- 4) The investment firm shall notify the client annually when, in aggregate as a firm, the organization owns more than 10% of the outstanding shares in a single stock.
- 5) All qualified investment managers retained by the Board of Trustees will exercise discretion within the parameters set forth in these guidelines for the portfolio(s) they manage on behalf of the System (see Addendum A).

The Investment Consultant's Authority and Responsibilities

The Board of Trustees will hire an investment consultant to assist the Board of Trustees in fulfilling their fiduciary responsibilities and in fulfilling their responsibilities in accord with this Policy. The investment consultant will generally be responsible for the following:

- 1) Complying with applicable laws, regulations, and rulings.
- 2) Maintaining databases of qualified investment managers, custodians, securities lending providers, and any other pertinent professionals that may assist in oversight of assets.
- 3) If needed, the investment consultant will assist the Board of Trustees with the search and selection of investment managers, custodians, and securities lending providers.
- 4) Calculate investment performance and reconcile that performance with the investment managers.
- 5) Providing written reports that summarize the performance and analysis of the System's investments to the Board of Trustees no later than 45 days after of the end of each calendar quarter.
- 6) Monitoring and evaluating investment performance and compliance with this Policy. This includes meeting with the System's investment managers on a regular basis.
- 7) Make long-term assumptions on the capital markets for the purpose of evaluating the System's asset allocation policy.
- 8) Establishing and reviewing the appropriateness of the System's asset allocation policy.
- 9) Reviewing and suggesting changes, as needed, to this Policy.

The investment consultant retained by the Board of Trustees will exercise discretion within the parameters set forth in these guidelines on behalf of the System (see Addendum A).

The Custodian's Authority and Responsibilities

The Board of Trustees may utilize a third party custodian for the following:

- 1) hold and safeguard the assets of the System,
- 2) collect the interest, dividends, distributions, redemptions or other amounts due,
- 3) provide monthly reporting to all necessary parties,
- 4) forward any proxies to the investment manager, the client, or their designee,
- 5) sweep all interest and dividend payments and any other un-invested cash into a short-term money market fund for re-deployment, and
- 6) other duties as detailed in the respective custodial agreement

The custodian retained by the Board of Trustees will exercise discretion within the parameters set forth in these guidelines on behalf of the System (see Addendum A).

The Cash Equitization Manager's Authority and Responsibilities

The Board of Trustees may utilize a cash equitization manager to replicate the investment returns of the equity markets on the cash held in the equity managers portfolios. The cash equitization manager will purchase and sell futures contracts whose market value is based on the returns of specific equity markets. The notional value of the futures contracts will be closely equivalent to the aggregate cash holdings of all equity managers employed by the Board of Trustees. In addition, the Board may utilize a cash equitization manager to replicate the investment returns of the overall portfolio on the cash held in the margin account and/or checking accounts. These cash holdings will be monitored on a daily basis and futures contracts will be bought or sold accordingly (see Addendum A and B).

The Securities Lending Provider's Authority and Responsibilities

The Board of Trustees may utilize a securities lending provider to create income through the lending of the assets of the System. Securities lending providers will provide reports on a monthly basis to all necessary parties. The securities lending provider will be responsible for ensuring that adequate collateral will be provided to the System for the securities that are lent and that the interest rate generated by the securities lending program is fair and reasonable. Furthermore, the securities lending provider will attempt to return all lent securities to the System's appropriate account before any transactions on the lent securities are executed. The securities lending provider retained by the Board of Trustees will exercise discretion within the parameters set forth in these guidelines on behalf of the System (see Addendum A).

Investment Objectives

Return Objectives

The primary return objectives of the System are to:

- (a) preserve the safety of principal,
- (b) earn the highest possible total return consistent with prudent levels of risk, and
- (c) create a stream of investment returns to insure the systematic and adequate funding of actuarially determined benefits through contributions and professional management of the System assets.

To achieve these goals, the System has been optimized to meet its actuarial assumed rate of return (see Addendum C). The performance objective for the System is to exceed, after investment management fees, a customized blended benchmark. To evaluate success, the Board of Trustees will compare the performance of the System to the actuarial assumed rate of return and the performance of a custom benchmark. This benchmark represents a passive implementation of the historical investment policy targets and it is re-balanced regularly.

Risk Tolerance

While achieving the return objectives, the System is able to tolerate certain levels of risk, which are:

- (a) to accept prudent levels of short and long-term volatility consistent with the near-term cash flow needs, funding level, and long-term liability structure of the System,
- (b) to tolerate appropriate levels of downside risk relative to the System's actuarial assumed rate of return (see Addendum C). In doing so, the Board of the Trustees will attempt to minimize the probability of underperforming the System's actuarial assumed rate of return over the long-term and to minimize the shortfall in the event such underperformance occurs,
- (c) to accept prudent variances in the asset allocation structure of the System relative to the broad financial markets and peer groups, and
- (d) to tolerate prudent levels of short-term underperformance by the System's investment managers.

Constraints on the Investment Objectives

The investment objectives of the System are constrained by Federal law, State law, Section 203 of the Cincinnati Municipal Code, time, taxes, and liquidity. The System has a long-term time horizon as the assets are used to pay qualified participant and disability benefits. The System is a tax-exempt entity, but can be subject to taxes involving unrelated business taxable income ("UBTI"). UBTI is income earned by a tax-exempt entity that does not result from tax-exempt activities. The liquidity needs of the System are to meet the regular cash flow requirements of the System.

Investment Philosophy

Fixed Income

The fixed income portion of the portfolio is intended to offset the volatility of equities, particularly during market downturns, as well as generate yield and provide deflation protection. The System's current fixed income investment philosophy is to allocate approximately 35% to core plus fixed income (core investment grade bonds with the ability of the manager to add high yield and global bonds to the portfolio), approximately 35% to core fixed income, approximately 12% to opportunistic fixed income (comprised mostly of non-investment grade bonds and loans), and approximately 18% to private debt (non-publicly traded fixed income offering higher returns, offset by less liquidity). This approach allows the fixed income portfolio to provide higher yield (and therefore a higher expected return) than a core fixed income portfolio while also providing diversification to the rest of the portfolio.

U.S. Equity

U.S. equities are a source of long-term growth for the portfolio. The System's current U.S. equity investment philosophy is to allocate 65% to large cap stocks, 18.5% to mid cap stocks, and 16.5% to small cap stocks. Considering the overall U.S. public equity market is roughly 76% large cap, 17% mid cap, and 7% small cap, the System's U.S. equity allocation is roughly in line with the broad market. Further, because value stocks are expected to outperform growth stocks over the long-term (and this is more pronounced in small), a value bias is also targeted, with 70% of small cap equities managed in a value style, approximately 35% of mid cap managed in a value style, and approximately 18% of large cap managed in a value style. This results in a total U.S. equity portfolio overweight to value of 29.5%. Due to the efficiency of the U.S. equity market, the assets are passively managed, which also significantly lowers management fees.

International Equities

International equities also provide long-term growth for the portfolio. Today nearly half of the world's public equity market capitalization is outside the U.S., and therefore, allocating to non-U.S. stocks reduces overall portfolio volatility, expands the universe of stocks and countries to invest, and potentially increases expected returns with higher risk emerging markets. The System's current investment philosophy is to allocate approximately 80% to large cap stocks, 10% to mid cap stocks, and 10% to small cap stocks, resulting in an overweight to small cap stocks of approximately 10%. Separately, the System is targeting 37% to emerging markets (with 27% of the emerging markets exposure allocated to small caps). Emerging markets comprise approximately 30% of the non-U.S. public equity market capitalization, and therefore the System employs a 7% overweight to emerging markets in order to capture the higher expected returns. Due to the efficiency of the Non-U.S. equity market, the vast majority of the assets are passively managed, which also significantly lowers management fees.

Private Equity

The allocation to private equity is meant to capture outperformance of over 2 percentage points, net of fees, above the traditional equity portfolio. The System will utilize a Fund of Funds approach of multiple managers and allocate as evenly as possible among calendar years to properly diversify. Although private equity funds are illiquid and incur higher fees, the expected benefits of higher returns should outweigh these costs.

<u>Real Estate</u>

The allocation to real estate is meant to capture consistent yield in excess of fixed income, as well as provide some inflation protection and diversification from other asset classes. The System currently uses open-end core real estate funds to maintain maximum liquidity and minimum risk in the asset class.

Infrastructure

The allocation to infrastructure is meant to capture consistent yield in excess of fixed income as well as provide diversification from other asset classes. The System is moving to an open-end, core investment philosophy in infrastructure for maximum liquidity and minimum risk in the asset class.

<u>Risk Parity</u>

The allocation to risk parity is meant to add diversification to the overall portfolio and help stabilize overall volatility by targeting a 10% standard deviation. This mandate serves as a liquid and low cost approach to diversification and eliminates many of the issues with traditional hedge funds.

Volatility Risk Premium

The allocation to volatility risk premium is meant to add diversification to the overall portfolio by capturing premiums via selling S&P 500 puts to generate consistent monthly premiums on the equity market with volatility that has historically been 50-75% less than the equity markets.

Asset Allocation and Re-Balancing Procedures

General Methods and Frequency of Evaluating the Asset Allocation

The Board of Trustees, with the assistance of the investment consultant, will review the target asset allocation of the System at least every three years. They will take into consideration applicable statutes, the actuarial rate of return of the System, the long-term nature of the asset pool, the cash flow needs of the System, and the general asset allocation structure of their peers. They

will make assumptions on the capital markets over the long-term and optimize the asset allocation to best meet the actuarial and cash flow needs of the System at a prudent level of risk.

Asset Allocation/Rebalancing

The minimum and maximum allocation range for each specific asset class is also shown in the table set forth below:

Asset Class	Target	Minimum*	Maximum*
Core Plus Bonds	6.0%	4.0%	8.0%
Core Bonds	6.0%	4.0%	8.0%
Opportunistic Credit	2.0%	1.0%	3.0%
Private Debt	<u>3.0%</u>	0.0%	<u>5.0%</u>
Total Fixed Income	<u>17.0%</u>	<u>13.0%</u>	<u>21.0%</u>
All-Cap Core Equity	21.5%	16.5%	26.5%
Large-Cap Value Equity	3.5%	1.5%	5.5%
Mid-Cap Value Equity	2.0%	0.0%	4.0%
Small-Cap Value Equity	3.5%	<u>1.5%</u>	5.5%
Total Domestic Equity	30.5%	25.5%	35.5%
All-Cap Non-U.S.	18.0%	13.0%	23.0%
EM Small-Cap	2.0%	0.0%	4.0%
Total Non-U.S. Equity	20.0%	15.0%	25.0%
Real Estate Core	7.5%	5.0%	10.0%
Total Real Estate	7.5%	5.0%	10.0%
Infrastructure	<u>10.0%</u>	<u>5.0%</u>	15.0%
Total Infrastructure	10.0%	5.0%	15.0%
Risk Parity	2.5%	<u>1.0%</u>	4.0%
Total Risk Parity	2.5%	1.0%	4.0%
Volatility Risk Premium	<u>2.5%</u>	<u>1.0%</u>	<u>4.0%</u>
Total Volatility Risk Premium	<u>2.5%</u>	<u>1.0%</u>	<u>1.0%</u>
Private Equity - Fund of Funds	<u>10.0%</u>	<u>0.0%</u>	<u>14.0%</u>
Total Private Equity	10.0%	0.0%	14.0%
TOTAL	100.0%		

*May not equal 100%

The Board of Trustees, with the assistance of the investment consultant, will review the asset allocation of the System on a regular basis and adjust the portfolio to comply with the guidelines above. The Board of Trustees anticipates that the on-going natural cash flow needs of the System (contributions and withdrawals) will be sufficient to maintain the asset allocation of the System within policy guidelines under most market conditions.

The Retirement System Finance staff will monitor the asset allocation structure of the portfolio and attempt to stay within the ranges allowed for each asset category. The Finance staff, with advice from the investment consultant, will develop and implement a plan of action to rebalance when necessary. The Board of Trustees is to be notified within 24 hours.

Investment Professional Selection, Communication, and Evaluation

Investment Manager Selection

No investment managers shall be hired who are a party in interest or who have not, by their record and experience, demonstrated their fiduciary responsibility, their investment expertise, their investment experience, and their capacity to undertake the mandate for which they are being considered. Investment manager candidates must be GIPS® compliant and have a track record of at least three years. (The GIPS® compliance and three-year track record requirements do not apply to managers of real estate, private equity, infrastructure, hedge funds, risk parity, and overlay managers.) The firm's GIPS® compliance must be audited at least every 4 years.

Investment managers are required to comply with the following:

- 1) Acknowledge in writing a fiduciary and investment manager relationship with respect to the System.
- 2) Be granted by the System the power to manage, acquire or dispose of any assets of the System pursuant to the System documents.

The System will establish this Policy for the investment managers and, with the assistance of the investment consultant, will conduct due diligence before the appointment of all investment managers.

Frequency of Measurement and Meetings

The Board of Trustees, with the assistance of the investment consultant, expects to measure investment performance quarterly.

Investment Manager Communication and Evaluation Terminology

The following terminology has been developed to facilitate efficient communication between the investment managers, investment consultant, and the System's staff. Each term signifies a particular status with the System and any conditions that may require improvement. In each case, communication is made only after consultation with the Board of Trustees.

STATUS DESCRIPTION

<i>A</i> .	''In Compliance''	The investment manager is acting in accordance with the Investment
		Policy Guidelines.

- B. "Alert" The investment manager is notified of a problem in performance (usually related to a benchmark or volatility measure), a change in investment characteristics, an alteration in management style or key investment professionals, and/or any other irregularities. The investment manager will be completing a monthly compliance checklist from the investment consultant to ensure thorough oversight.
- C. "On Notice" The investment manager is notified of continued concern with one or more Alert issues. Failure to improve upon stated issues within a specific time frame justifies termination. The investment manager will be completing a monthly compliance checklist from the investment consultant to ensure thorough oversight.
- **D.** "Termination" The program's management has decided to terminate the investment manager. The investment manager is notified and transition plans are in place.

Operational Guidelines

Investment Policy Guidelines for the Core Plus Bond Manager(s)

This document contains the guidelines and restrictions that apply to the core plus bond investment manager(s) of the Pension Fund (see Addendum A).

Permissible Investments

- 1. No single issuer should comprise more than 5% of the market value of the portfolio, as determined at the time of purchase. The only exception is for securities issued by the U.S. Treasury, its agencies, instrumentalities or government sponsored entities (such as FNMA and FHLMC), and G-7 sovereigns.
- 2. Up to 20% of the market value of the portfolio may be invested in securities rated below investment grade. If the ratings assigned to a security by Standard & Poor's, Moody's, and/or Fitch are not the same, the highest rating of these rating agencies will be used. If an issue is not rated by any of these agencies, then the investment manager will determine a rating. If an investment grade security already held in the portfolio is downgraded to below investment and a breach of the 20% limit occurs, prompt client notification is required concerning intent to hold the issue going forward. The minimum average portfolio quality shall be A-.
- 3. At least 75% of the market value of the portfolio must be invested in U.S. dollar denominated securities, counting cash and cash equivalents toward this percentage, as determined at the time of purchase. Included in this limit are U.S. dollar denominated securities issued in the U.S. by foreign domiciled issuers and traded in U.S. markets. Non-U.S. dollar denominated bonds may be held up to 25% of the portfolio.
- 4. Effective aggregate currency exposure is limited to a maximum of 10% of portfolio market value. This includes direct currency exposure (long and short foreign currency positions held without owning securities denominated in such currencies).
- 5. Local currency emerging market debt (defined using the World Bank definition, which is based on GNP per capita) is limited to 10% of portfolio market value. Emerging market yankee bonds limited to 20% of portfolio market value.
- 6. In aggregate, investment in convertible, convertible preferred and preferred securities (including trust preferreds) may not exceed 25% of the market value of the portfolio, as determined at the time of purchase.
- 7. Common stock may only be held if it is acquired as a result of a financial restructuring, bankruptcy or from an exchange or conversion of a permissible security held in the portfolio. The investment manager will provide notification concerning the intent to hold the issue going forward.

- 8. The portfolio may invest up to 75% of the market value of the portfolio, as determined at the time of purchase, in securities issued pursuant to Rule 144(a), including those issued with and without registration rights.
- 9. Eligible derivatives include contracts to buy or sell futures on securities, indices, interest rates and currencies ("Futures"); structured notes; forward contracts for securities, indices, interest rates and currencies; credit default swaps (long and short) and swap contracts on indices, interest rates and currencies ("Swaps"); put and call options on securities, indices, interest rates, Futures, Swaps, and currencies ("Options"), foreign currency exchange contracts, and senior loans. Futures cannot be used to create economic leverage. Additionally, there is a 50% gross notional limit on futures.
- 10. Put and call options on exchange-traded options on Treasury Futures may be written if they are fully covered. Call options are considered covered if the manager owns an amount equal to the exercise cost in high-quality fixed income securities (A- rated or higher) with maturities that are comparable to the maturities in the deliverable basket for the Treasury futures contract. Put options are considered covered if cash equivalent assets in an amount equal to the exercise cost are maintained in the account. Investment managers may purchase back options on exchange-traded Treasury future contracts in order to close out positions. The aggregate value of each manager's option positions shall not exceed 25% on an absolute basis of the account's market value.
- 11. The average effective duration of the portfolio is not to vary more than +/-30% of the duration of the portfolio's benchmark index.
- 12. The investment manager may hold up to 15% of its portfolio in cash and cash equivalents. The only exception to this rule is during trading activity associated with the initial start-up phase of the portfolio. The portfolio should be fully-invested and construction completed within 60 days of the start date. The investment manager is not responsible for investments made pursuant to any cash sweep arrangement with the custodian.
- 13. If any of the parameters described above are breached as a result of market movements, capital additions, or withdrawals, the investment manager shall have a reasonable period, not to exceed sixty (60) days, to bring the portfolio into compliance with the applicable investment guidelines. The investment manager must receive written permission to permit such a breach to continue past this 60-day window.
- 14. Eligible investments include public or private debt obligations issues or guaranteed by U.S. or foreign issuers, including but not limited to corporations, governments (including their agencies, instrumentalities and sponsored entities, partnerships and trusts (such obligations may be issued at fixed, variable, adjustable or zero coupon rates or convertible into equity securities); private debt obligations are limited to those issued pursuant to regulations S and Rule 144A; preferred, hybrid, mortgage-backed, commercial mortgage-backed or asset-backed securities issues by any of the above-names entities; senior loans; interests specified under

"Eligible Commingled Investments"; derivatives specified under "Eligible Derivatives" and cash equivalents specified under "Eligible Cash Equivalents."

Investment Objective

Over reasonable measurement periods (3 to 5 years), the portfolio's return net of fees should exceed the return of the appropriate benchmark index (see Addendum A).

Investment Policy Guidelines for the Separately-Managed, U.S. Equity Manager(s)

This document contains the guidelines and restrictions that apply to the separately-managed equity investment manager(s) of the System (see Addendum A).

Permissible Investments

- 1. The investment manager may hold up to 5% of its portfolio in a money market and/or cash. The only exception to this rule is during trading activity, which can only be maintained for very short time periods, i.e. less than 30 days.
- 2. Options, financial futures, private placements, restricted stock, issues related to the investment manager, or venture capital may not be purchased. The purchase of securities on margin and short selling is prohibited.
- 3. No investments should be made in securities not traded on an U.S. exchange or traded in U.S. dollars.
- 4. The combined holdings of preferred stocks and convertible bonds shall not exceed 5% of the portfolio.
- 5. No single security in the manager's portfolio, including Exchange Traded Funds, will comprise more than 10% of the portfolio at market.
- 6. Investments in Rule 144a securities are permitted if the securities have registration rights requiring the issuer to swap the securities for fully registered publicly traded bonds and if the investment is otherwise consistent with the above guidelines. The combined holdings of these investments may not exceed 10% of the portfolio's overall asset allocation.
- 7. At no point in time should the aggregate position (within each equity investment manager's portfolio in the System) in any company exceed 5% of the fair market value of the outstanding stock in the company.

Investment Objective

Over reasonable measurement periods (3 to 5 years), the portfolio's return net of fees should exceed the return of the appropriate benchmark index (see Addendum A).

Investment Policy Guidelines for the Separately-Managed, Non-U.S. Equity Manager(s)

This document contains the guidelines and restrictions that apply to the separately-managed non-U.S. equity investment manager(s) of the System (see Addendum A).

Permissible Investments

- 1. The investment manager may hold up to 5% of its portfolio in a money market and/or cash. The only exception to this rule is during trading activity, which can only be maintained for very short time periods, i.e. less than 30 days.
- 2. Options, financial futures, private placements, restricted stock, issues related to the investment manager, or venture capital may not be purchased. The purchase of securities on margin and short selling is prohibited.
- 3. The maximum investment in companies classified by MSCI in the United States is 5%. Investment in ADRs and GDRs, which are classified by MSCI in non-U.S. countries, are excluded from the calculation. ADRs, or American Deposit Receipts, is a stock that trades in the United States but represents a specified number of shares in a foreign corporation. GDRs, or Global Deposit Receipts, are the global equivalent of ADRs.,
- 4. The combined holdings of preferred stocks and convertible bonds shall not exceed 5% of the portfolio.
- 5. No single security in the investment manager's portfolio, including Exchange Traded Funds, will comprise more than 10% of the portfolio at market.
- 6. Investments in Rule 144a securities are permitted if the securities trade on a recognized exchange; are fully fungible with securities traded on a recognized exchange; or will be, when seasoned, fully fungible with securities traded on a recognized exchange, provided that the investment is otherwise consistent with the other guidelines. The combined holdings of these investments may not exceed 10% of the portfolio's overall asset allocation.
- 7. At no point in time should the aggregate position (within each equity manager's portfolio in the System) in any company exceed 1.5% of the fair market value of the outstanding stock in the company.
- 8. Currency hedging for defensive purposes will be permitted. Forward currency contracts may be used to hedge currencies. This includes hedging back into the base currency. Cross currency hedging is permitted.
- 9. The combined holdings of emerging and frontier market equities as defined by. MSCI in aggregate shall not exceed 30% of the portfolio at market.
- 10. The combined holdings of Canada stocks and convertible bonds shall not exceed 10% of the portfolio at market.

Investment Objective

Over reasonable measurement periods (3 to 5 years), the portfolio's return net of fees should exceed the return of the appropriate benchmark index (see Addendum A).

Investment Policy Guidelines for Limited Partnership, Commingled Fund, Collective Trusts, Limited Liability Companies, Mutual Fund, and any other type of Commingled Fund Manager(s) ("Commingled Funds")

This document contains the guidelines and restrictions that apply to all commingled fund investment manager(s) of the System (see Addendum A).

Permissible Investments

1. These funds are governed by the guidelines and restrictions contained in any of the following applicable documents: prospectus', subscription agreements, limited partnership agreements, and confidential information memorandums.

Investment Objective

Over reasonable measurement periods (3 to 5 years), the portfolio's return net of fees should exceed the return of the appropriate benchmark index (see Addendum A).

Investment Policy Guidelines for the Cash Equitization Manager

This document contains the guidelines and restrictions that apply to the cash equitization investment manager of the System (see Addendum A).

Permissible Investments

1. The cash equitization program is governed by Addendum B.

Investment Objective

The cash equitization program should maintain a futures program for unallocated cash and cash reserves in accordance with the guidelines set forth in Addendum B.

Investment Policy Modification and Revision

Policy Modification

The Board of Trustees, with the assistance of the investment consultant, will review this Policy annually. Key environmental or operational occurrences, which could result in a Policy modification, include:

- (1) significant changes in expected patterns of the System's liability stream,
- (2) impractical time horizons or changes,
- (3) change in the System's priorities,
- (4) convincing arguments for change presented by investment professionals,
- (5) legislation, and
- (6) areas found to be important, but not covered by the Policy.

Modification of Addendums

Changes to investment professionals, Board of Trustees, or plan information contained within Addendums A-D can and should be modified, as necessary, without a complete review by the Board of Trustees.

Asset Class	Investment Manager	Benchmark Index	
Core Bonds	Northern Trust	Bloomberg U.S. Aggregate	
Core Plus Bonds	Loomis	Bloomberg U.S. Aggregate	
Opportunistic Bonds	Shenkman	Bloomberg High Yield Bond	
Private Debt	H.I.G.	Bloomberg U.S. Aggregate	
Private Debt	Carlyle	Bloomberg U.S. Aggregate	
Private Debt	Blue Owl	Bloomberg U.S. Aggregate	
U.S. Large-Cap Value Equity	Northern Trust	Russell 1000 Value	
Broad U.S. Equity	Northern Trust	Russell 3000	
U.S. Mid-Cap Value Equity	Vanguard Mid Cap Value	CRSP US Mid Cap Value	
U.S. Small-Cap Value Equity	Northern Trust	Russell 2000 Value	
Broad Non-U.S. Core Equity	Northern Trust	MSCI ACWI ex. U.S.	
Emerging Market Small Cap Equity	Dimensional Fund Advisors	MSCI EM Small Cap	
Real Estate - Core	Morgan Stanley	NCREIF ODCE	
Real Estate - Core	J.P. Morgan	NCREIF ODCE	
Real Estate- Value Added	Prudential	NCREIF ODCE	
Real Estate - Value Added	Principal	NCREIF ODCE	
Real Estate-Non U.S.	Mesirow/Courtland	NCREIF ODCE	
Private Equity Fund of Funds	Fort Washington	<u>Burgiss Global</u> Cambridge All PE	
Private Equity Fund of Funds	North Sky	Cambridge Burgiss Global All PE	
Private Equity Fund of Funds	Portfolio Advisors	Cambridge Burgiss Global All PE	
Private Equity Fund of Funds	Siguler Guff	Cambridge Burgiss Global All PE	
Infrastructure	Macquarie	T-Bill + 4%	
Infrastructure	Alinda	T-Bill + 4%	
Infrastructure	JP Morgan	T-Bill + 4%	
Infrastructure	IFM	T-Bill + 4%	
Infrastructure	Ullico	T-Bill + 4%	
Risk Parity	AQR	60% W5000/40% Bar. Agg.	
Volatility Risk Premium	Neuberger Berman	CBOE Put/Write Index	

Addendum A-Defining the Investment Professionals and Benchmark Indexes

Investment Professional	Service Provider
Custodian	Bank of New York Mellon
Investment Consultant	Marquette Associates
Cash Equitization Manager	Parametric
Securities Lending Provider	Bank of New York Mellon

The Total Fund customized benchmark is currently 15% Bloomberg U.S. Aggregate Index, 2% Bloomberg US High Yield Index, , 21.5% Russell 3000 Index, 3.5% Russell 1000 Value Index, 2%

CRSP US Mid Value Index, 3.5% Russell 2000 Value Index, 18% MSCI ACWI ex. U.S. Index, 2% MSCI Emerging Markets Small-Cap Index, 2.5% 60/40 S&P 500/Bloomberg U.S. Aggregate, 2.5% CBOE Put/Write Index, 7.5% NCREIF ODCE Index, 10.0% T-Bill+4%, 10% Cambridge-Associates Burgiss Global All Private Equity Index.

Addendum B-Cash Equitization Guidelines

The System will select the assets to be overlaid by Parametric's PIOS program. Specifically, that portion shall consist of those funds designated by the System as cash reserves at its custodian as well as cash held from time to time by other investment managers for the System (the investment manager portfolio(s)).

The asset class allocation targets and associated benchmark indexes are as follows:

<u>Asset Class</u> Domestic Equity International Equity-Dev	<u>Target %</u> 30.5% 20.0%	<u>Benchmark Index</u> Russell 3000 MSCI ACWI ex. U.S.
Fixed Income	17.0%	Bloomberg U.S. Aggregate
Real Estate	7.5.0%	NCREIFODCE
Infrastructure	10.0%	T-Bill 4%
Risk Parity	2.5%	60% W5000/40% Bar. U.S.
VRP	2.5%	CBOE Put/Write
Private Equity	10.0%	Cambridge Burgiss All PE
Total	100.0%	

It is the System's responsibility to establish and revise as necessary the asset class categories.

INVEST UNALLOCATED CASH COMPONENT OF CASH/MARGIN ACCOUNTS:

Unallocated cash will be synthetically invested as follows:

<u>Asset Class</u>	<u>Target %</u>	Benchmark Index
Domestic Equity	45.5%	Russell 3000 MSCI
International Equity	20.0%	ACWI ex. U.S.
Fixed Income	<u>34.5%</u>	Bloomberg U.S. Aggregate
Total	100%	

INVEST UNALLOCATED CASH COMPONENT OF EQUITY ACCOUNTS:

Unallocated cash will be synthetically invested as follows:

<u>Asset Class</u> Domestic Equity International Equity <u>Target %</u> 100.0% 100.0%

<u>Benchmark Index</u> Russell 3000 MSCI ACWI ex. U.S.

Addendum C-Summary of Plan Information

Plan Name:	City of Cincinnati Retirement System
Type of Plan:	Defined Benefit
Plan Adoption Date:	<u>1931</u>
Plan Year-End Date:	December 31st
Assumed Actuarial Rate of Return (Net-o	of-fees): <u>7.50%</u>

Addendum D-Investment Professional Adoption of Policy

This Policy document was adopted by the Board of Trustees for the Cincinnati Retirement System on February November 3, 2022.

Investment Professional's Acknowledgments:

The firm has received this copy of the System's Policy. The firm has studied its provisions and believe that we can both abide by its restrictions and fulfill its goals and expectations over the timetables set forth in the Policy.

Firm Name

Investment Professional

Addendum E-Board of Trustees Adoption of Policy

This Policy document was adopted by the Board of Trustees for the System on February-<u>3November 3</u>, 2022.

Board of Trustees' Acknowledgments:

The Board of Trustees of the Cincinnati Retirement System has approved the System's Policy.

Secretary of the CRS Board of Trustees

Progress of Board Approved & Discussed Investment Actions November 3, 2022

- 1) At the August 5, 2021 Board meeting a \$50 million commitment to Ullico was approved
 - a. The Investment Documents were completed September 30, 2021 but capital has not been called
 - b. It will be partially funded with the \$15 million IFM Infrastructure withdrawal.
- 2) The status of the November 4, 2021, Board meeting investment decision:
 - a. The Investment documents for the commitment of \$20 million to Carlyle were completed in October 2022. The commitment has not been called.
 - b. The investment documents for the commitment of \$20 million to Owl Rock were completed in June. First capital call in August (\$8.4 million)
- 3) At the May 5, 2022 Board meeting an investment commitment of \$25 million to Siguler Guff was approved:
 - a. The investment documents were completed in June.
 - b. Two capital calls have occurred. (\$1.3 million)
- 4) The status of the three withdrawals from Real Estate Funds discussed at the April 7th Board meeting are:
 - a. Partial Redemption Request of \$13 million from Morgan Stanley Prime:
 - i. Received \$10.6 million on June 30^{th}
 - ii. The balance of \$2.4 million was received on September 30th
 - b. Partial Redemption Request of \$7.5 million from Principal Enhanced Property Fund was received in July.
 - c. Partial Redemption Request of \$23 million from JP Morgan Strategic Property Fund:
 - i. Received \$1.5 million in July and \$1 million in October
 - ii. Balance \$20.5 million in early January if cash available
- 5) Two withdrawals from Real Estate and one withdrawal from Infrastructure initiated in June based upon Investment Consultant discussions. Notification provided to Board chair.
 - a. Partial Redemption Request of \$13.5 million from Morgan Stanley Prime:
 - i. Sent at end of June (on June 23rd)
 - ii. Confirmed by email (on June 27th)
 - iii. Received \$0.9 million September 30th
 - iv. Balance \$12.6 million in early January if cash available
 - b. Partial Redemption Request of \$5 million from Principal Enhanced Property Fund:
 - i. Sent at end of June (on June 23rd)
 - ii. Confirmed by email (on June 24th)
 - iii. Payment in January subject to cash availability
 - c. Partial Redemption Request of \$25 million from IFM:
 - i. Sent at end of June (on June 27th)
 - ii. Confirmed by email (on July 6th)
 - iii. Received \$25 million on October 14th
- 6) One additional withdrawal from Real Estate based upon Investment Consultant discussions :
 - a. Partial Redemption Request of \$10.5 million from JP Morgan Strategic Property Fund
 - i. Sent in August (on August 10th)
 - ii. Payment in early January if cash available



Investment Education

This presentation is furnished on a confidential basis to the recipient for informational purposes only. For disclosure information, please refer to the end of this presentation.

Agenda

- Basic Concepts
- Active vs. Passive
- Bonds
- Stocks
- Rebalancing
- Real Estate
- Infrastructure
- Private Equity

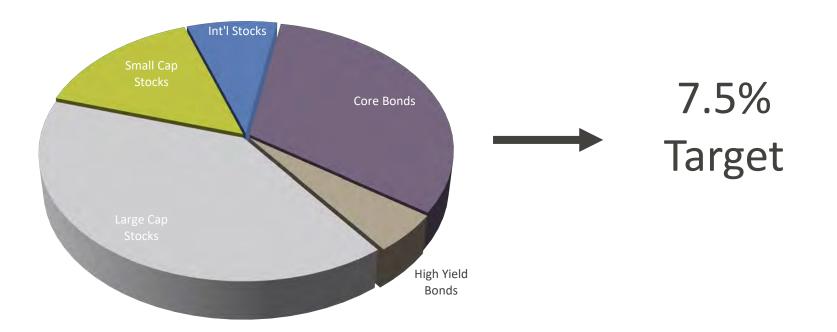
Basic Concepts

- Return
- Risk
- Diversification & Correlation
- Portfolio Construction

What's the goal?

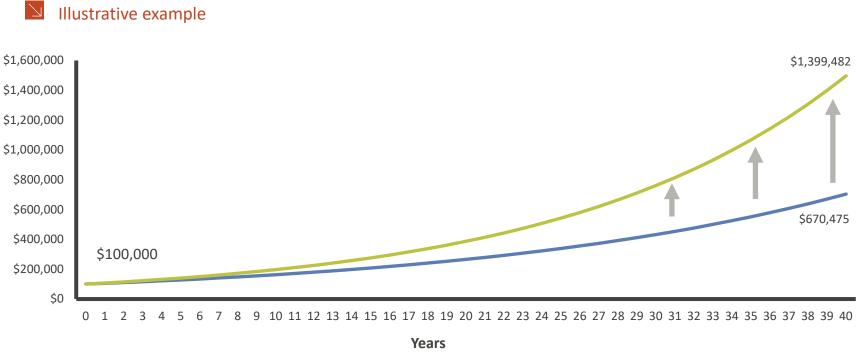
The goal of portfolio construction is to build a portfolio of investments in different asset classes to achieve your target return while minimizing risk

Asset allocation



The eighth wonder of the world

Compound interest exponentially increases return over long periods of time



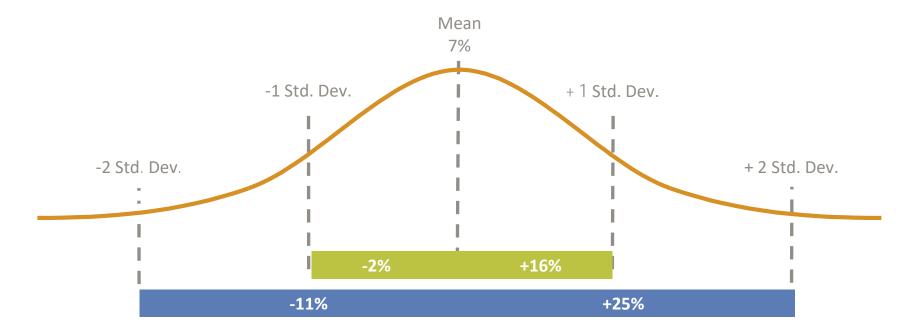
——5% Return ——7% Return



How is risk measured?

Standard deviation is the deviation from the expected return, or, a measure of dispersion around the mean

7% return with 9% standard deviation



Diversification

- Not putting all your eggs in one basket has the benefit of protecting your portfolio at different extremes of the market
- Diversify while minimizing costs in terms of management fees, transaction charges and man-hours of oversight





What is correlation?

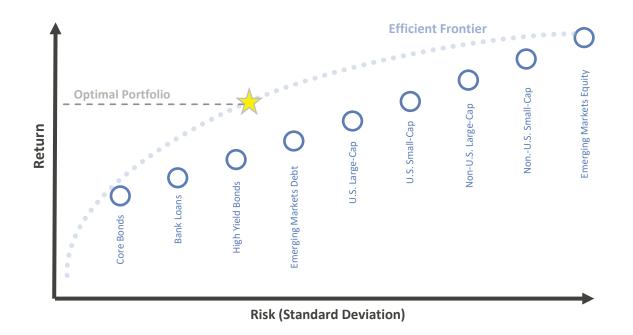
Correlation is how closely two investments behave in relation to one another

	Fixed Income	Non-U.S. Equity	U.S. Equity
Fixed Income	1.0	0.2	0.2
Non-U.S. Equity	0.1	1.0	0.6
U.S. Equity	0.2	0.6	1.0

Source: eVestment Jan 1976 – Mar 2019. Fixed income is represented by the BbgBarc US Aggregate index, Non-U.S. Equity is the MSCI EAFE, U.S. Equity is the S&P 500.



Putting it all together



- The aim is to achieve the optimal portfolio on the risk/return spectrum by combining asset classes
- Lower correlation between asset classes reduces overall portfolio risk
- Choose the portfolio on the "Efficient Frontier" that meets your organization's target return

Active vs. Passive

- What is an index?
- What is active vs. passive management?
- Why use one over the other?

What is an index?

- 1. <u>Replicable and investable</u> investors should be able to invest in and closely replicate the performance of a given index
- <u>Representative of the investment universe</u> a well constructed index will approximate the characteristics and performance of the market it is meant to represent
- **3.** <u>Maintained</u> an index must be maintained to address changes to the companies in the index (mergers, acquisitions, bankruptcies)

Glossary of indices

	S&P 500	Russell 3000	Russell 2000	MSCI EAFE	MSCI ACWI
Representative Market	U.S. Large-Cap Stocks	All U.S. Stocks	U.S. Small-Cap Stocks	Developed World Non-U.S. Large-Cap Stocks	All Large-Cap Global Stocks
Geography	United States	United States	United States	Non-U.S.	Global
Market Value	\$21 Trillion	\$27 Trillion	\$2 Trillion	\$16 Trillion	\$53 Trillion
Holdings	505	2,925	1,990	921	2,774
Methodology	Cap-weighted	Cap-weighted	Cap-weighted	Cap-weighted	Cap-weighted
Index Provider	S&P Dow Jones Indices A Division of S&P Global	FTSE Russell	FTSE Russell	MSCI 🛞	MSCI 💮

What is active vs. passive management?

What exactly is active and passive management?

	Active Management	Passive Management
Objective	To outperform the index on an absolute or risk- adjusted basis	To match the return of the index
Return	Based on individual securities	Equal to the broad market
Risk	Less or more than the broad market	Equal to the broad market
Approach	Stock-picking through a top-down or bottom-up approach	Rules-based through replication or sampling
Decision Makers	Portfolio Managers and Analysts	Index Provider or Committee
Portfolio Construction	Conviction-Weighted	Market-Cap Weighted
Cost	Higher	Lower
Taxes	Varies by manager turnover	More tax efficient

Each management style in practice

S&P 500	S&P 500 Weight (%)	Active Manager Weight (%)	Passive Manager Weight (%)
1. Apple	3.81	0.00	3.80
2. Microsoft	2.89	4.33	2.83
3. Amazon.com	2.05	2.05	1.99
4. Facebook	1.84	2.02	1.84
5. Johnson & Johnson	1.67	0.00	1.65
6. Berkshire Hathaway	1.64	1.64	1.60
7. JP Morgan Chase	1.63	3.75	1.60
8. Exxon Mobil	1.55	0.00	1.55
9. Alphabet A	1.38	2.50	1.34
10. Alphabet C	1.38	1.38	1.34

Why choose one over the other?

Active management

Advantages

- Possibility of higher than index returns
- Ability to own securities not within the benchmark (index) securities
 - i.e., recently listed, new IPOs, etc.

Disadvantages

- Higher fees and operating expenses
- Managers can underperform and make mistakes
- Active management is a zerosum game; investors in aggregate cannot outperform the market

Passive management

Advantages

- Lower fees
- Highly consistent performance passive funds are designed to meet the returns of the index

Disadvantages

- Investors can <u>only</u> achieve market returns
- Not all asset classes are accessible with passive management

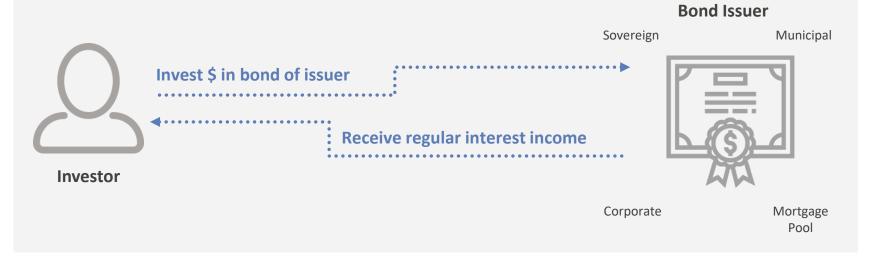
Bonds

- What is a bond?
- Categories
- Common terms

What is a bond?

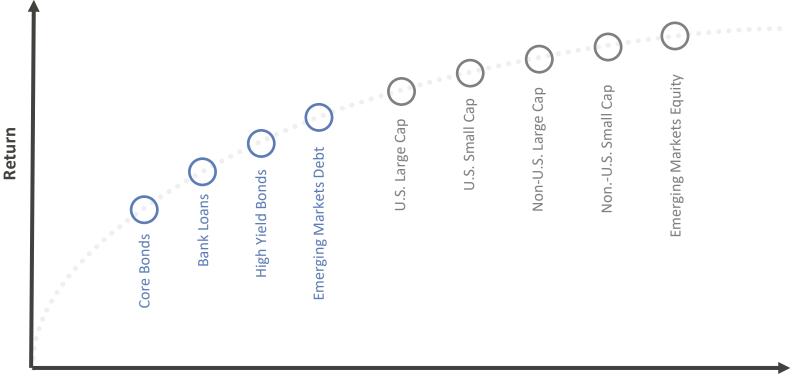
- A bond is a <u>loan</u> to a government, a company or a group of individuals
- Investors choose bonds primarily to receive regular interest income

When a bond matures, the investor receives the original principal amount back



Risk/return profile of bonds

The fixed income spectrum ranges from core bonds to emerging markets debt



Risk (Standard Deviation)

Non-U.S. bonds

Provide diversification through non-U.S. interest rates, credit and currency risk and return

Emerging Markets Debt





- Hard Currency Sovereign Bonds
- Local Currency Sovereign Bonds
- Hard Currency Corporate Bonds

Global Bonds



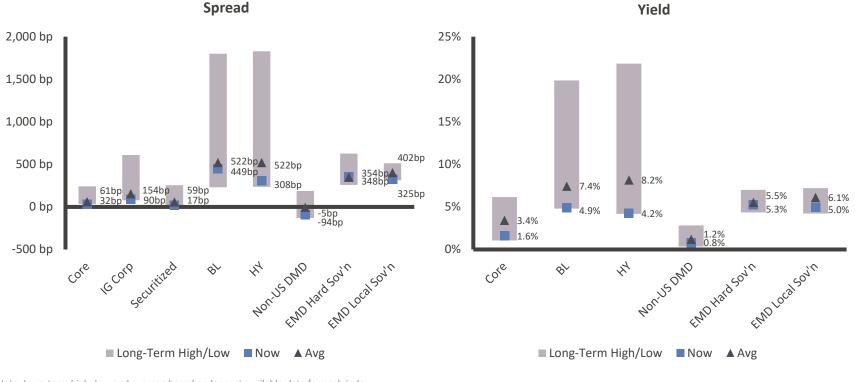
- Includes U.S., non-U.S developed markets, and emerging markets debt
- May be hedged or unhedged

Common Terms

Spread and yield

A spread is the difference between the yield over its base rate

Bond yield is the bond's return to an investor

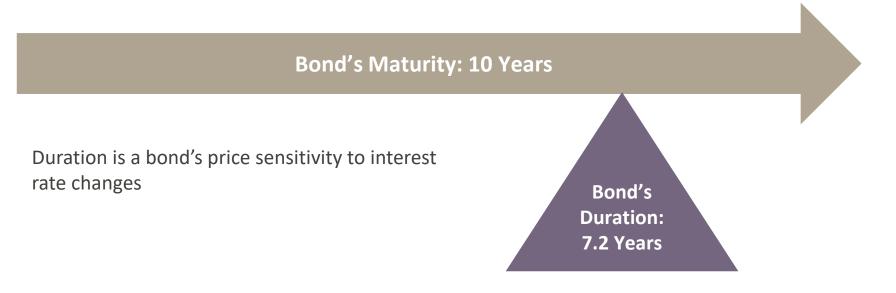


Note: Long-term high, low and average based on longest available data for each index Sources: Bloomberg Barclays, Credit Suisse, Deutsche, JPMorgan, as of March 31, 2021



Duration and maturity

Maturity is the time until the bond pays back principal



An inverse relationship: assume a bond has a duration of 7.2 years

- If interest rates drop by 1% (100 basis points), its price will rise by 7.2%
- If interest rates rise by 1% (100 basis points), its price will drop by 7.2%

Note: Duration measures the time it takes to recover half the present value of all future cash flows from the bond

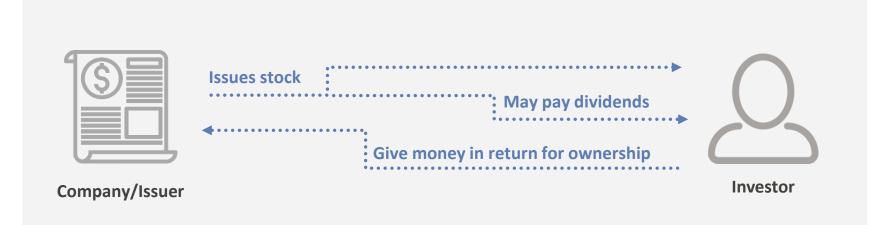


Stocks

- What is a stock?
- How to categorize stocks
- How to invest in stocks

What is a stock?

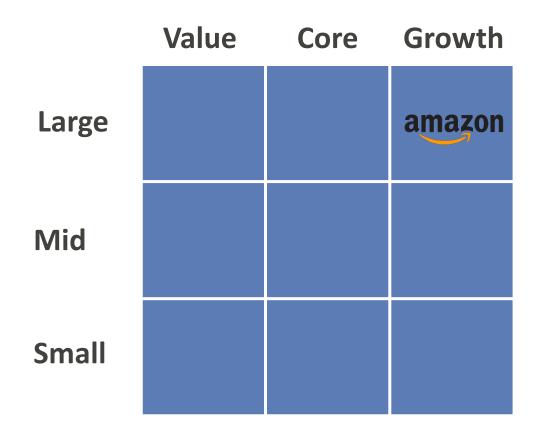
- A stock is a share of ownership in a company
- Shares give an investor voting rights on the direction of the company
- Investors choose stocks primarily for price appreciation opportunity



Stock categories

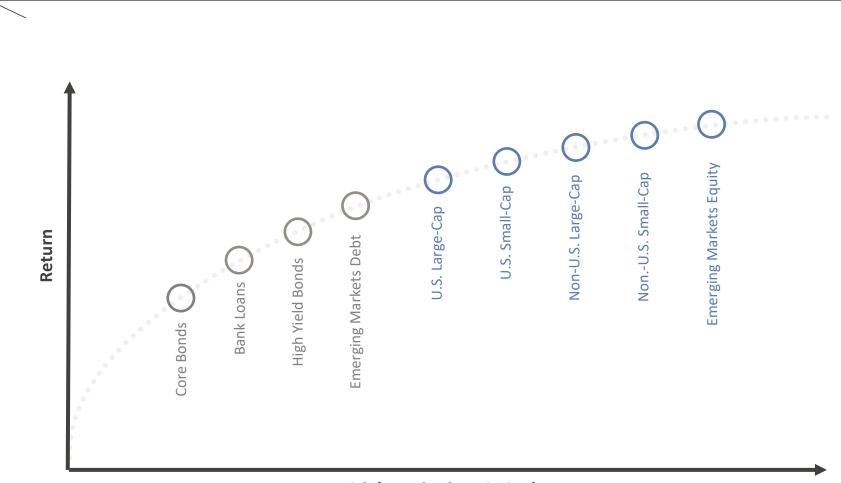
Size (market cap)		Style		
Large-Cap (over \$30B)	amazon	Growth	amazon	
Mid-Cap (\$5-\$30B)	CINTÁS ®	Core	Refers to a blend of growth & value	
Small-Cap (\$500м-\$5в)	Abercrombie & Fitch	Value	J.P.Morgan	
Micro-Cap (<\$500M)	TANDEM [®] DIABETES CARE			

Stock categorization



Non-U.S. stock categorization

MSCI ACWI INDEX						
	MSCI WORLD INDEX		MSCI EMERGING MARKETS INDEX			
DEVELOPED MARKETS		EMERGING MARKETS				
Americas	Europe & Middle East	Pacific	Americas Europe, Middle East Asia & Africa		Asia	
Canada United States	Austria Belgium Denmark Finland France Germany Ireland Israel Italy Netherlands Norway Portugal Spain Sweden Switzerland United Kingdom	Australia Hong Kong Japan New Zealand Singapore	Brazil Chile Columbia Mexico Peru	Czech Republic Egypt Greece Hungary Poland Qatar Russia Saudi Arabia South Africa Turkey United Arab Emirates	China India Indonesia Korea Malaysia Philippines Taiwan Thailand	



Risk (Standard Deviation)

Risk/return profile of stocks

More possibilities, but more risk

Pros

- Higher returns than bonds and cash
- Possibility of income and capital appreciation
- Voting rights
- Favorable liquidity
- Transparent financial reporting

Cons

- Higher volatility than cash and bonds
- Last in line to be paid in a bankruptcy
- No guaranteed return

Ways to access stocks

- Mutual Funds most expensive, lowest investment minimum
- Commingled Funds similar to a mutual fund but private and cheaper, less liquid, larger minimums
- Separate Accounts highest minimums, direct investments, customizable

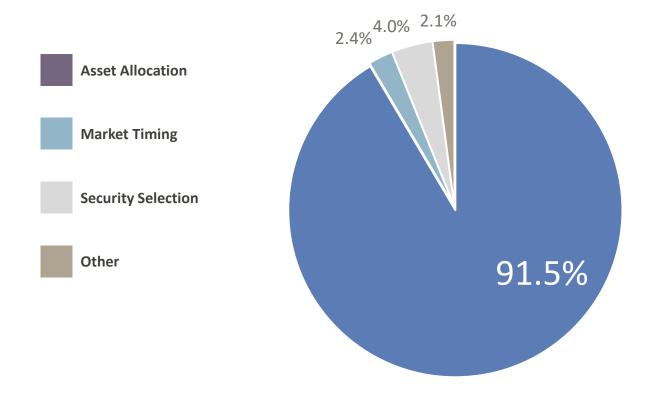


Rebalancing

- What is rebalancing?
- Why rebalancing is important
- How to rebalance

Asset allocation controls portfolio risk

Investing is more than just choosing securities and market timing



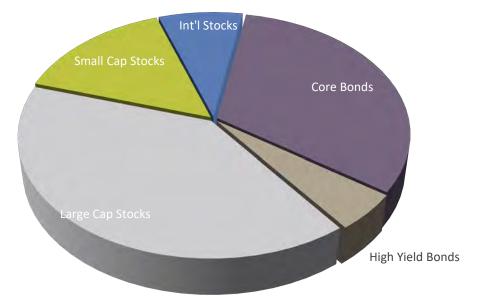
Source: Gary P. Brinson, L. Randolph Hood, and Gilbert L. Beebower, "Determinants of Portfolio Performance," Financial Analysts Journal. Gary P. Brinson, Brian D. Singer, and Gilbert L. Beebower, "Determinants of Portfolio Performance II: An Update," Financial Analysts Journal.



Asset allocation defined

The diversification of the portfolio and how much of it is in each investment

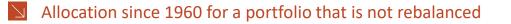
- Achieve your goals while minimizing risk
- Weightings change over time based on performance

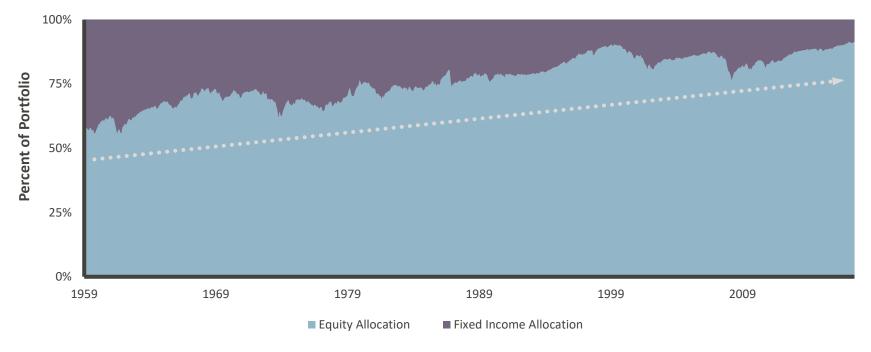


Why rebalance?

Portfolio drift

Equities gradually have greater weight in a portfolio due to higher performance





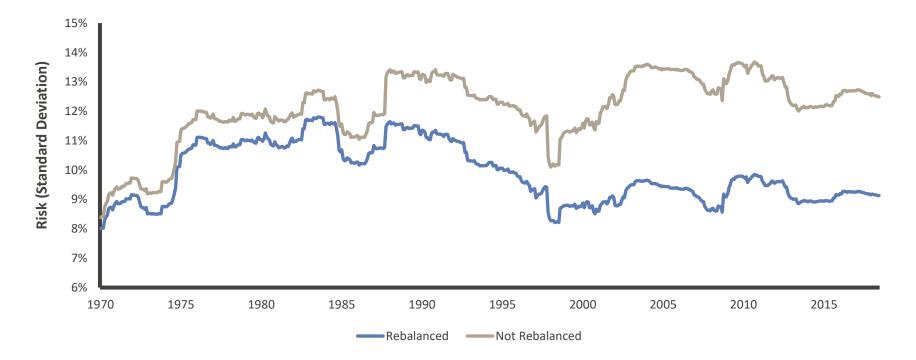
Illustrative example representing a simple portfolio made up of 60% stocks and 40% bonds, starting in 1960



Risk tolerance

Portfolios that are not rebalanced feature higher standard deviation over time



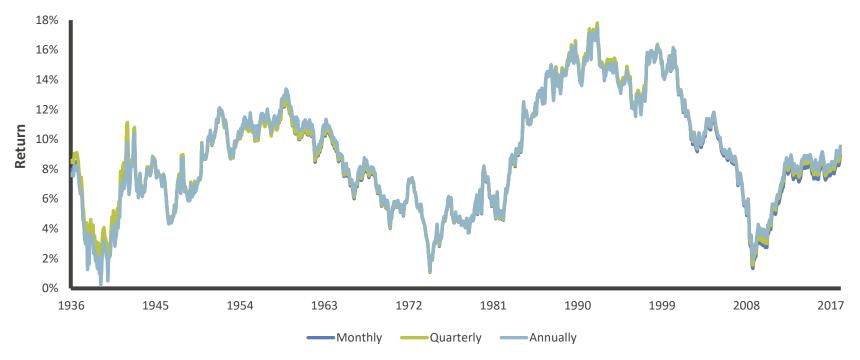


What's the best way to rebalance?

Calendar rebalancing

Returning to the target asset allocation on a periodic basis – no monitoring required

Different frequencies of calendar rebalancing show little impact on return



Illustrative example representing a simple portfolio made up of 60% stocks and 40% bonds

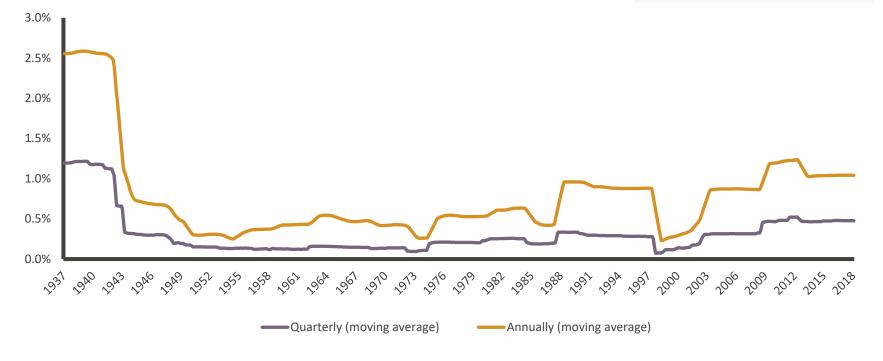


Calendar rebalancing

Less frequent rebalancing leads to higher tracking error



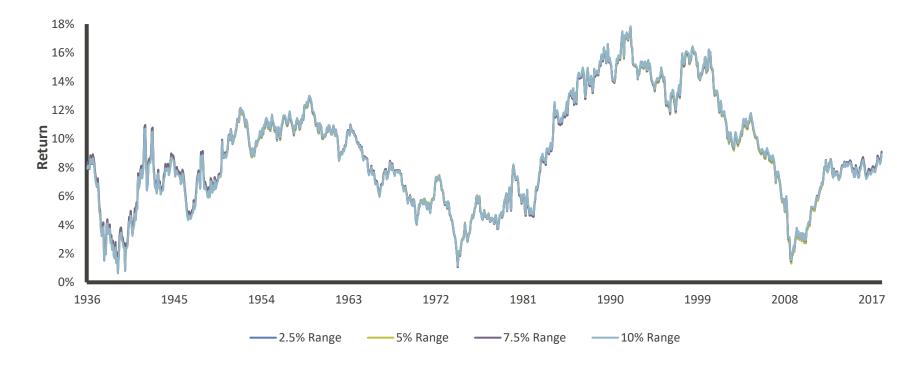
Tracking error is a measure of the difference in return fluctuations between an investment portfolio and a chosen benchmark



Deviation from policy target

Range-based strategy based on how far the portfolio has deviated from its target, only when necessary, avoiding any unneeded transaction and operational costs

10-year rolling returns for different ranges of rebalancing shows limited effect on return



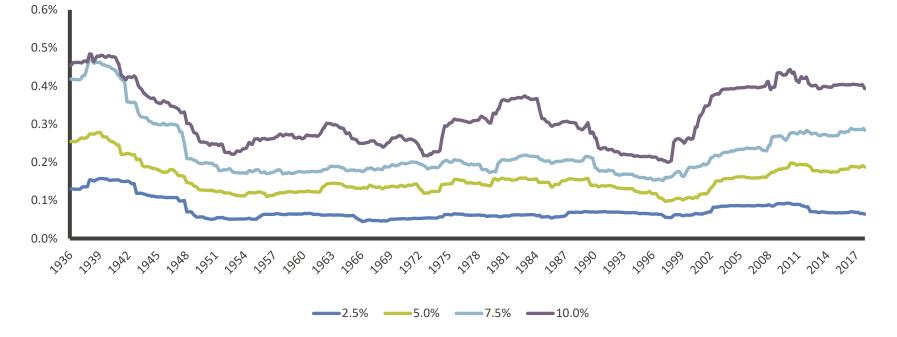
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Deviation from policy target

Larger ranges also lead to higher tracking errors

Tracking error of portfolios rebalanced using various ranges

Tracking error is a measure of the difference in return fluctuations between an investment portfolio and a chosen benchmark





Investors should choose a rebalancing program that best suits their constraints

- Target ranges are the optimal way to rebalance in order to minimize transaction costs
- Goal is to reduce risk by maintaining an asset allocation that meets investor's objectives
- Little return difference between strategies other methods may suit other goals
- If using target ranges, we recommend the following ranges based on size of allocation:

Size of the Allocation	Percentage Range (+/-)	Absolute Range (+/-)
Up to 5%	+/- 20%	+/- 1.0%
6% to 19%	+/- 15%	+/- 1.5%
Greater than 20%	+/- 10%	+/- 2.0%

The only obvious mistake that investors make is when they abandon their rebalancing policies.

Real Estate

- Real estate primer
- How to invest in real estate
- Real estate in a diversified portfolio

Residential vs. commercial

Substantial differences exist between owning a home and owning commercial real estate



- Homeownership is primarily a necessity and a lifestyle choice
- Considered an investment asset second
- Homes produce no income for the owner; returns driven by appreciation
- Impacted by affordability, household formation, the shifting household age distribution, and employment



Commercial

- Primarily a business function that generates regular cash flow from the rental income of tenants
- Commercial buildings also appreciate over time, but generally represents a relatively small portion of total return
- Strongly impacted by business employment, consumer spending, and other economic factors

Property types

Traditional

Office

Commercial Business District (CBD), Suburban, Special Purpose

Industrial Warehouse, R&D, Flex

Retail Shopping Malls, Lifestyle Centers, Neighborhood & Community Centers

Multi-family (apartments) High-Rise, Garden, Special Purpose



Non-traditional

HotelMedical OfficeSelf-StorageLandSenior LivingEtc.

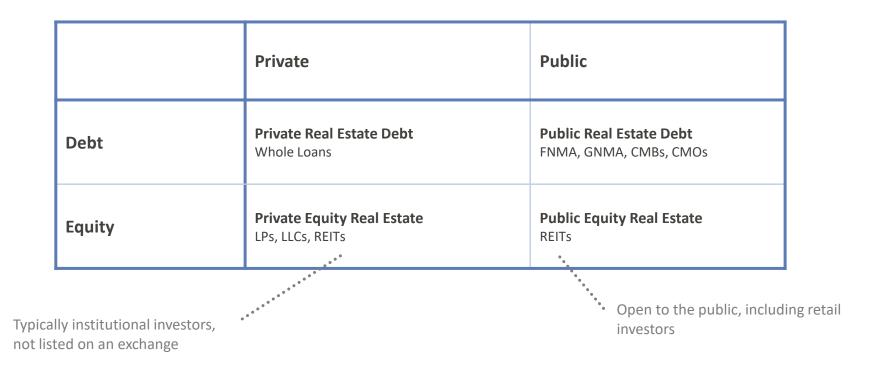






Sources of exposure to real estate

Investments can be made directly, indirectly (private or public), and through equity or debt



Real estate investment styles

The NCREIF has identified three distinct real estate investment styles

CORE

Equity investments:

- In high quality, fully-leased properties in prime locations
- □ Utilizing low leverage

Assets:

- Achieve relatively high percentage of return from income

VALUE-ADDED

Equity investments:

- In direct properties with significant leasing risk or development risk
- □ Utilizing higher leverage

These properties can involve repositioning, renovation, and redevelopment of existing properties.

Assets exhibit one or more of the following attributes:

- Substitution → Achieve significant portion of return from appreciation
- □ Exhibit moderate volatility
- Not currently considered core property types

OPPORTUNISTIC

Assets

- Are expected to derive most of their return from appreciation
- □ May exhibit significant volatility in returns

This may be due to a variety of **characteristics** such as:

- Substant Sector Sec
- Significant leasing risk
- ⊔ High leverage

but may also result from a combination of moderate risk factors that in total create a more volatile return profile.

Less Risk

More Risk

Source: NCREIF "Real Estate Investment Styles" Whitepaper



Real estate portfolio characteristics

	CORE	VALUE-ADDED	OPPORTUNISTIC
Expected return	7.0% - 10.0%	10.0% - 15.0%	>13%
Property Types	4 Major	Major + Specialty	All
Property Life Cycle	80%+ Operating	Operating, leasing, redevelopment	All stages
Occupancy	80%+	N/A	N/A
Holding Period	7+ years	3-5 years	1-4 years
Markets	Primary/Domestic	Primary/Secondary/Tertiary	Primary/Secondary/Tertiary/ International
Leverage	0% - 40%	40% - 70%	70%+
Income return as % of total return	70%+	40% - 60%	<30%
Investment vehicles available	Generally open-end	Most closed-end, few open-end	Closed-end
Typical fees	100 bps	180 – 200 bps all in	2% and 20%

Risks of real estate

General Real Estate Sector	 General economic conditions Financial condition of tenants Buyers and sellers of properties Changes in supply and demand Availability of financing Changes in interest rates
Liquidity	 Private equity commercial real estate is considerably less liquid than most financial assets Industry market cycles, downturns in demand, market disruptions, and the lack of available capital from potential lenders or investors will all impact liquidity Price and liquidity are jointly determined
Leverage	 Leverage magnifies the potential return on equity when income and property values are stable or improving Leverage can also magnify investor losses when income and property values are deteriorating Interest rate fluctuations will impact the mark-to-marking of debt
Transparency	 Private equity real estate is much less transparent than financial assets The property's underlying value is a function of its location, age, condition, and occupancy The property's financial and operational details are held by the investment manager and made available only to investors on a limited basis
Diversification	 Properties are subject to unique local and regional macroeconomic factors Returns can vary widely among markets and property types
Valuation Methodology	 Appraisal methodology is highly subjective Appraisal values tend to lag the underlying "true" market value Frequency of appraisals Internal vs. external appraisals

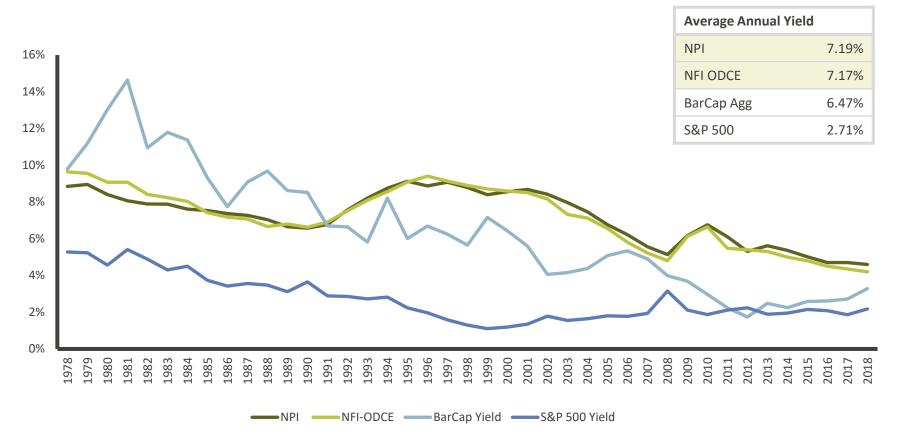
Real estate vehicles

	OPEN-END FUND	CLOSED-END FUND	SEPARATE ACCOUNT	FUND OF FUNDS
Vehicle Life	Infinite	Limited life 8–12 years	Infinite	Limited life 8–12 years
Primary Style	Core, Select Core-Plus, Value-Added	Primarily Value-Added, Opportunistic	Multiple	Value-Added, Opportunistic
Minimum Investment	\$1M-\$10M	\$5M-\$10M	REIT: \$10M Private: +\$100M	\$1M–5M
Legal Structure	LLC Private REIT Bank Commingled Insurance Annuity	Limited Partner Private REIT	Various	Limited Partner
Liquidity	Quarterly ¹	N/A	Depends on investment type	N/A
Investor Control	Low	Medium	High	Low

Real Estate in a Diversified Portfolio

Annual income yield

Historical Annual Yields (1978 – 2018)



Sources: NCRIEF, Bloomberg



Benefits of real estate

Healthy current income

- > Privately held and publicly traded real estate have generated attractive current income
- ↘ Produced compelling returns with lower volatility than other sectors

Diversification

- Low correlation with financial assets' returns
- **Local economic factors and supply dynamics**

Superior risk-adjusted performance

Let Superior State State

Large investable universe

□ Wide range of strategies and opportunities

Inflation hedge

Potential hedge against inflation

Infrastructure

- What is infrastructure?
- Benefits
- How to invest in infrastructure

The "backbone" of an economy

Infrastructure is a prerequisite for sustainable economic, industrial, and social growth & development

Common attributes of infrastructure assets:

- Essential service to society
- Inflation protection
- Long asset life
- Low elasticity of demand
- Monopoly/quasi-monopoly
- Regulatory oversight
- Stable and predictable cash flows



Infrastructure sectors

Economic Infrastructure

Transportation	Energy & Utility	Cor
Airports	Electricity	Bro
Bridges	Gas	Cab
Rail	Oil	Мо
Roads	Pipelines	Sate
Seaports	Water/wastewater	
Tunnels	Solar/wind	

insti-

Social Infrastructure

Courthouses

Hospitals

Prisons

Schools









Additional classification

Economic characteristics (demand and supply dynamics) are also used to identify sectors

Throughput assets	Regulated assets	Contracted assets		
 Derive income per usage Prices determined by operator/owner 	 Derive income per usage Prices determined by regulatory body Asset owner typically has some pricing power protection 	 Operated by a contract between operator and entity Contract determines pricing system and identifiable revenues 		
Ex: roads, airports, rail	Ex: utilities, water, gas	Ex: schools, satellite networks, broadcast towers		

Infrastructure maturity states

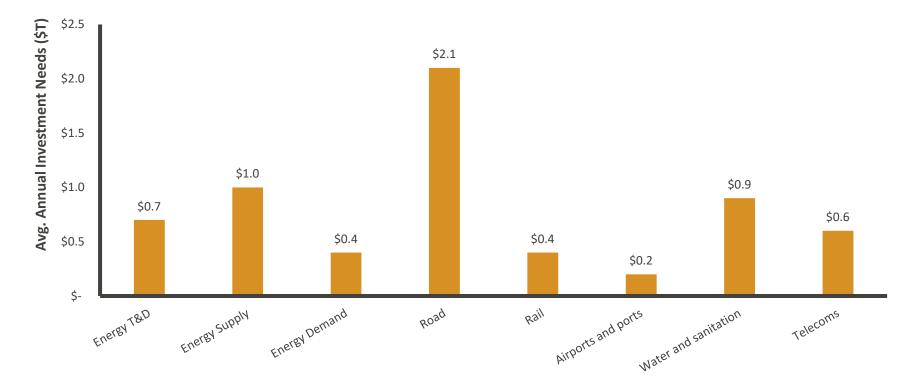
Stage of project's development impacts the risk/return profile of investment

Greenfield	New construction or development
Brownfield	Existing, established asset
Rehabilitated Brownfield	Redevelopment



Growing need

Need for infrastructure projects and assets grows with population, but construction comes at a cost



Source: OECD, "Investing in Climate, Investing in Growth," July 2017



Diversification opportunity

Correlation matrix (unlisted) (common period March 2009 – June 2019)

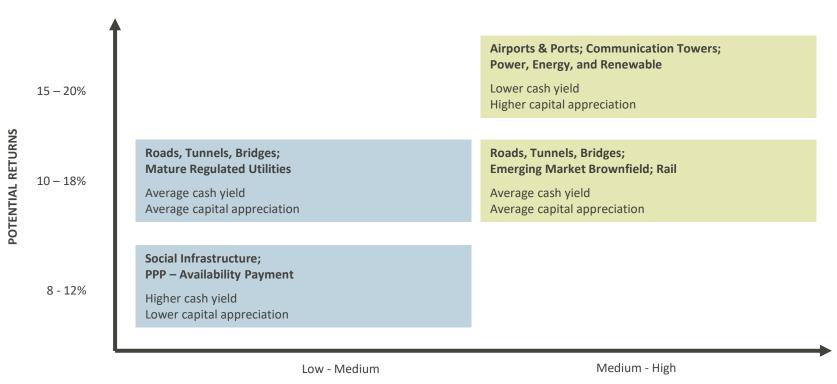
	MSCI Global Infrastructure	Wilshire 5000	MSCI ACWI ex-U.S.	Barclays Agg	NCREIF
MSCI Global Infrastructure	1.00				
Wilshire 5000	-0.23	1.00			
MSCI ACWI ex-U.S.	-0.29	0.87	1.00		
Barclays Agg	0.01	-0.12	0.02	1.00	
NCREIF	0.44	-0.07	-0.23	-0.06	1.00

Source: Bloomberg



Performance expectations

Illustrative unlisted infrastructure return profiles



RISK PROFILE

Source: RBC Global Asset Management, "The Global Infrastructure Investment Opportunity"



Mechanics

Private Vehicles/Unlisted Funds

- Open-end fund
- Closed-end fund
- Co-investment or direct investment
- Fund of funds

Public Vehicles/Listed Funds

- Open-end fund
- Listed closed-end fund

Unlisted vs. listed

Unlisted	(Private)	Infrastructure
----------	-----------	----------------

Advantages

- Greater opportunity set
- Direct investing
- Control of asset more likely

Disadvantages

- Limited liquidity
- Potential lack of diversification and high leverage
- High capital requirements

Listed (Public) Infrastructure

Advantages

- Traded on an exchange
- Transparent
- Liquid

Disadvantages

- Limited opportunity set
- Indirect exposure
- High regulatory parameters of assets
- Market volatility



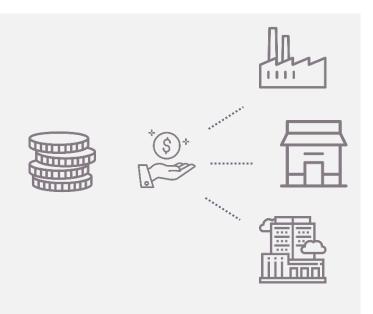
- Provides diversification
- Cash flows not highly correlated to other asset classes
- Well matched for long-term horizons
- Further diversification by revenue generation, sector, and geography
- Large, growing opportunity set

Private Equity

- What is private equity?
- Market segmentation
- Advantages and risks
- Measuring performance
- Fund structure and lifecycle
- Terms and fees
- Considerations when starting a private equity program

Introduction

- Private equity encompasses any equity investment in a private business
- Private equity funds deploy capital as they acquire equity control of businesses they believe to be undervalued and where their operational and sector expertise can help to accelerate growth
- Institutional investors continue to shift equity allocations from "Wall Street" to "Main Street" as active managers are able to source investments from a larger opportunity set of over 600,000 private businesses in the U.S. employing over 20 individuals
- The number of private equity owned businesses in the U.S. is likely to grow considerably over the next decade



Sources: Pitchbook, Worldbank.org, and U.S. Census Bureau



Market segmentation

- The global private equity industry currently manages nearly \$3 trillion in assets, as the industry has doubled in size over the past decade with dry powder (capital raised awaiting deployment) now exceeding \$1 trillion
- Subsegments of the industry continue to evolve as increasing capital has attracted a growing number of
 investment professionals to focus on subsectors with more narrowly defined risk and return characteristics

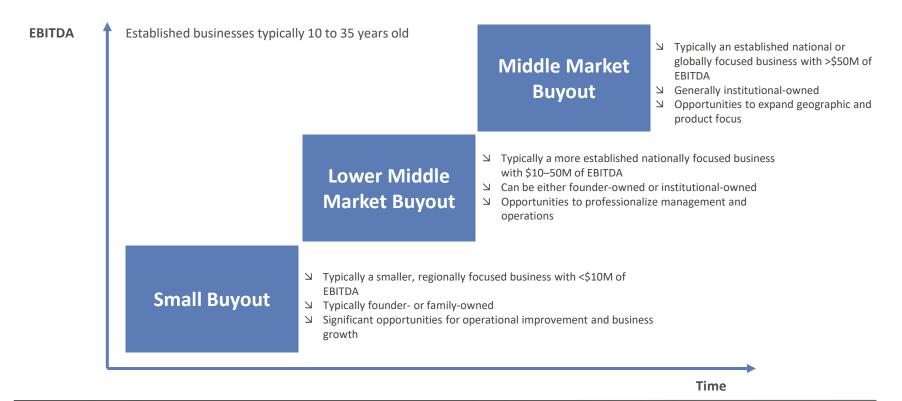
Subcategory	Expected Return	Financing	Duration of Investment	Relative Risk	Stage	Success Rate	Ownership Stake
Venture Capital	20%+	100% Equity	5 years +	High	Early	Low	Less than 50%
Growth Equity	15%–20%	100% Equity	3–5 years +	Medium–High	Early Growth	Medium	Less than 50%
Buyout	13%-20%	100% Equity	3–5 years +	Medium	Mature	Medium	More than 50%
Private Debt / Mezz	7%–15%	100% Debt	1–5 years +	Low	Mature	High	None
Distressed/ Turnaround	Varies	Varies	1–5 years +	Low-Medium	Mature – Declining	Medium	0–100%

Source: Marquette Associates. This table represents Marquette's best estimate of typical returns, risk, duration, and investment style of each investment category.



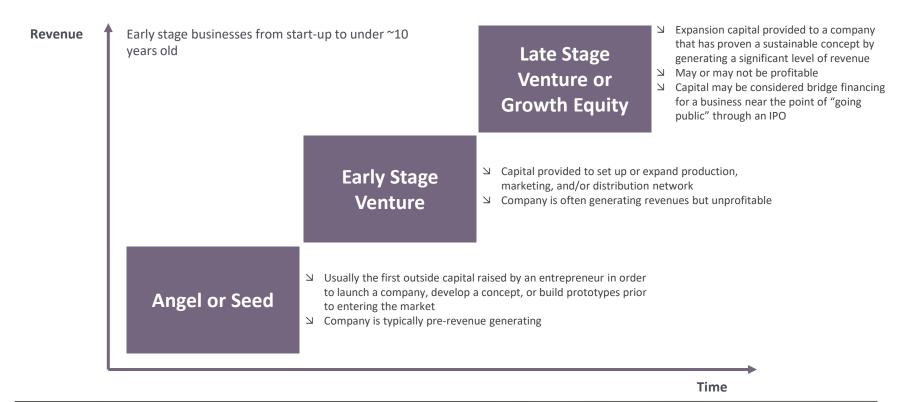
Buyout

The largest portion of the PE market, buyouts focus on controlling a business through a leveraged buyout



Venture Capital

The second largest portion of the PE market, VC focuses on investments in the form of minority equity ownership in less mature but rapidly growing businesses



Competitive advantages

Over a long time horizon, private equity has consistently delivered higher returns relative to other asset classes

Return drivers include:

Ы	Business control	Majority ownership allows for a greater ability to affect positive operational improvements in the underlying firm by leveraging the experience, sector knowledge, and network of a private equity firm
Ы	Investment leverage	Private equity acquisitions are typically completed with significant borrowing (40–60% of business value) which often magnifies investor returns
Ы	Alignment of interests	The relationship between the company management and private equity ownership ensures management maintains a sizable stake in the company, partaking in company performance
Ы	Price discovery	Deals tend to be competitive and infrequent allowing for a high level of due diligence, often leading to better price discovery over the longer term

Risks

Risks for investors include:

- Investment risks
 Private equity is riskier than public market investments because target firms tend to be smaller with more product and client concentration and with capital structures that are more aggressively leveraged
- **Fund risks** Regulatory oversight is weak and funds tend to be highly concentrated
- IlliquidityPrivate equity investments are illiquid, and after capital is committed, the investor has little
to no control over the size and timing of future cash flows
- High feesFunds tend to have high fees charged on committed capital and performance fees that
require investors to split profits
- Subjective performance Over the life of the fund, portfolio valuations are subjective because investments are not listed on public exchanges
- **Manager selection** There is a large dispersion in returns between the top and bottom quartiles of funds

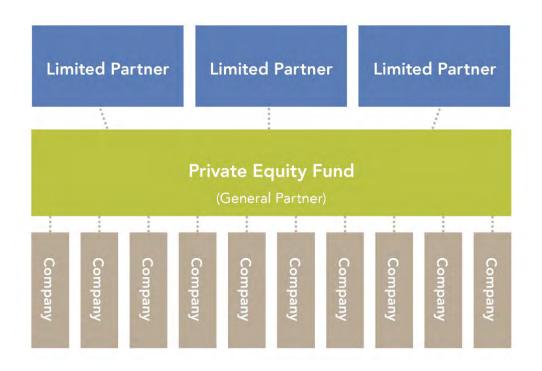
Performance measurement

Private equity investments are typically evaluated using three non-traditional performance measurements

Internal Rate of Return (IRR)	Total Value of Paid-In Capital (TVPI)	Public Market Equivalent (PME)
The annualized effective compounded return provided to investors in the fund calculated by determining the discount rate that sets the net present value of all cash distributions from the fund equal to the cash invested	The multiple is a cash-on-cash return multiple which is unaffected by the timing of cash flows and is calculated using the total cash returned to LPs divided by the total cash called by the GP	The timing and size of cash investments into a private equity fund is matched and converted to an equal purchase of a public index in order to generate a directly comparable IRR for evaluating relative performance

- Private equity return and benchmarking analysis requires patience.
- Fund returns are typically not meaningful indication of performance until at least year four due to the j-curve as well as the time it takes to deploy capital and begin to see operational improvement.

Legal structure



- Most private equity firms are organized as limited partnerships with the private equity firm acting as the general partner and the investors as the limited partners
- This structure limits the liability for the investors to their investments into the fund

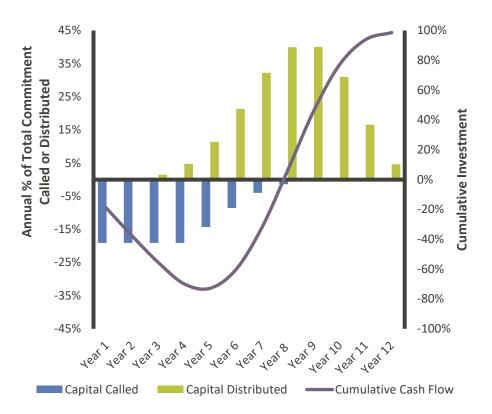
Fund lifecycle

- After fundraising concludes, managers typically make 8–15 investments over a four to five-year period, followed by a five to six-year period to grow and sell each business
- Private equity funds on average have a defined life of ten years
- Funds commonly include annual extension options of 1–3 years
- Full liquidation typically takes 11–15 years



Investment cash flows & the j-curve

- Committed capital is called from investors as investments are completed and as fees are generated
- Management fees are often calculated on committed capital, not invested capital
- A majority of capital is deployed during the first five years into leveraged buyouts with additional capital reserved for ongoing support of operational and growth initiatives
- Fees and slow deployment of capital often generates a negative return during the early years of a fund with higher returns in the later years as investments mature and capital is returned to investors following exits, forming a "j-curve"



This chart shows the amount of capital called and distributed each year on the left axis and shows the investor's total invested capital, as a percentage of committed capital, in each year on the right axis. Private equity funds typically have large capital calls in the early years of the fund's life and then make large distributions towards the end of the fund's life as portfolio companies are sold. In this example we show a fund with a 1.85x multiple, a 15% IRR, and two one-year extensions.

Fund terms & fees

Industry Standard Fees

Management Fees	Typically 2% of committed capital
Performance Fees	Typically 20% of profits ("carried interest") after an 8% preferred return ("hurdle rate") is achieved for investors

Industry Standard Fund Terms

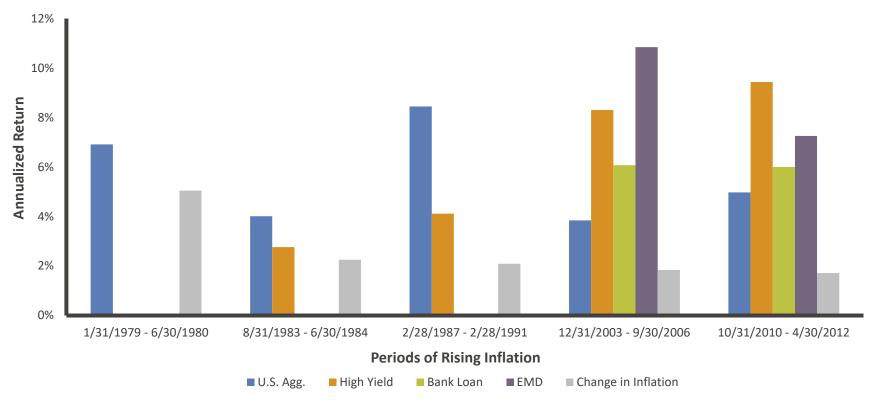
Target Fund Size	\$500 Million
GP Commitment	\$10 Million
Investment Period	5 Years
Term	10 Years + 2 one-year extensions
Management Fee	2%
GP Carry	20%
Preferred Return	8% hurdle rate

Inflation

- Overview
- Macro view
- Asset Class Expectations

Fixed income: below IG credit leads as inflation rises

High yield, bank loans, and emerging markets debt tend to outperform investment grade bonds

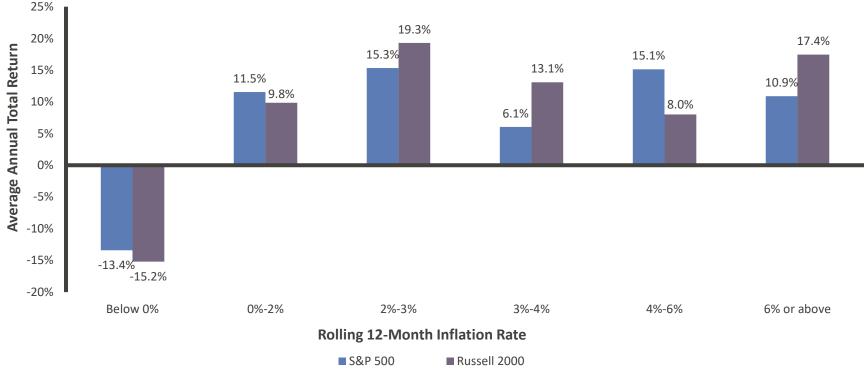


Source: Bloomberg. Data is not available for some indices during earlier periods.



Equities tend to rise during periods of high inflation

Despite some investor fears surrounding the potential for sustained elevated price levels, equities have generally served as a hedge during periods of sustained inflation

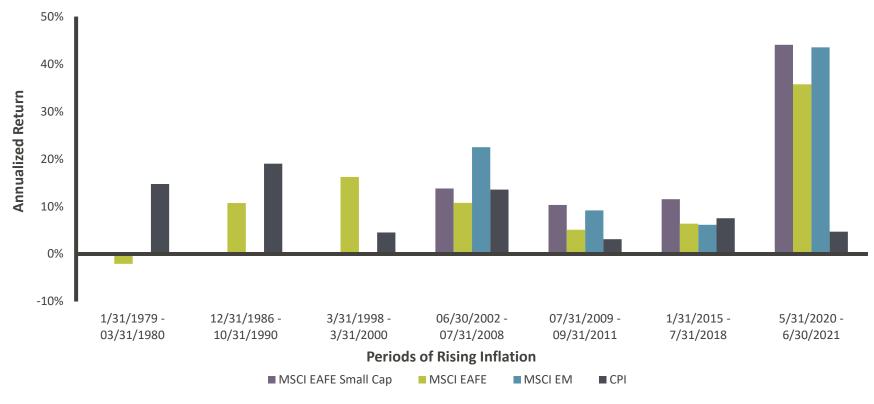


Sources: Bloomberg & Federal Reserve CPI as of December 31, 2021; data ranges 1970–2021



Inflation alone does not mean negative returns

In periods of rising inflation, non-U.S. markets posted positive returns

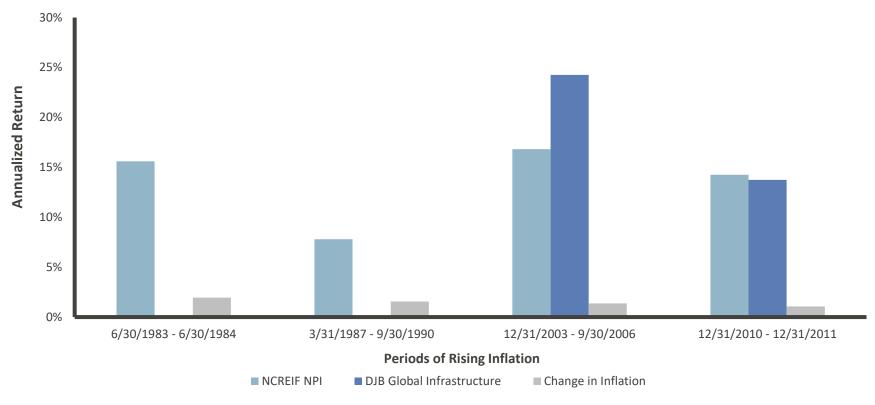


Sources: Bloomberg and FRED as of December 31, 2021



Real assets tend to perform well as inflation rises

Real estate and infrastructure tend to generate strong returns in periods of rising inflation

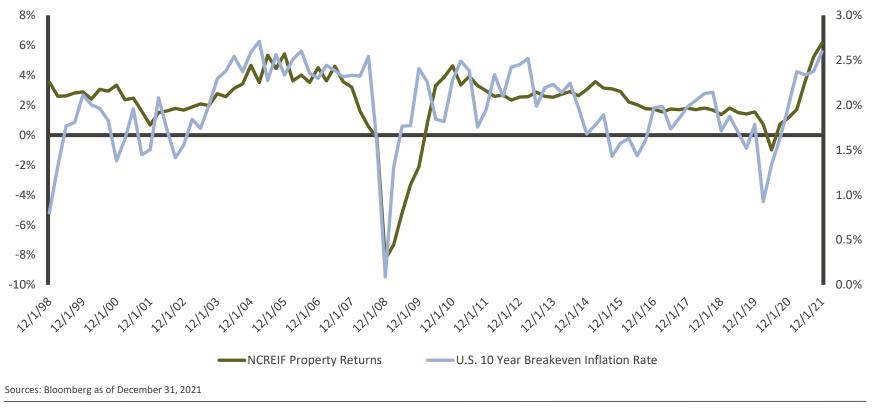


Source: Bloomberg. Data is not available for some indices during earlier periods.



Real estate returns are correlated with inflation expectations

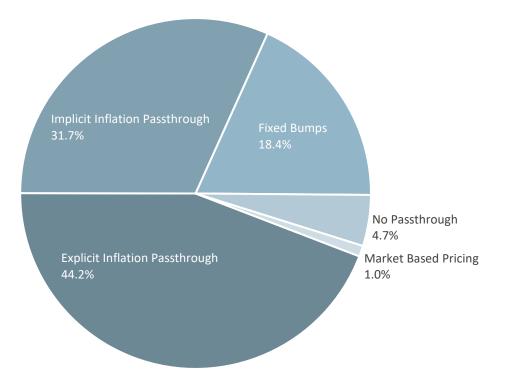
Inflation is typically passed on through higher rents, and higher construction costs can limit new supply and increase replacement costs, a key real estate valuation metric





Infrastructure has built-in inflation hedges

Nearly 95% of infrastructure assets, as measured by the DJB Listed Infrastructure Index, include some sort of pricing protection mechanism

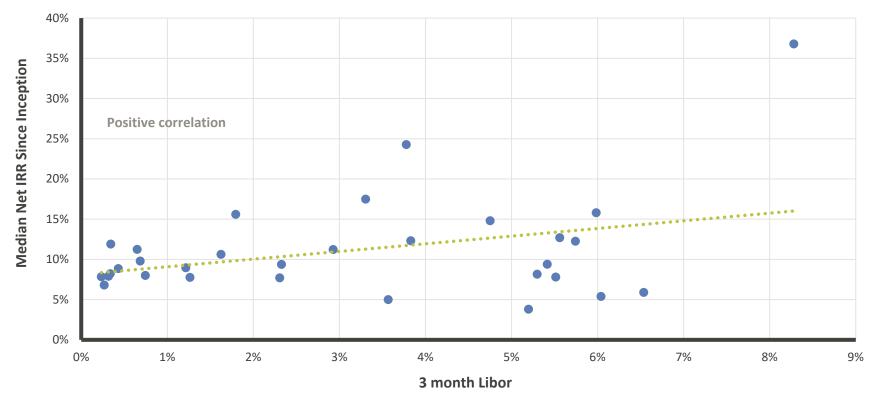


Sources: Bloomberg, Factset, DWS



Private credit is correlated with floating rates

Historically, there has been a modestly positive correlation between private credit IRRs and LIBOR rates, which are positively correlated with inflation



Sources: Churchill, S&P LCD, Pitchbook



Disclosures

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About Marquette Associates

Marquette was founded in 1986 with the sole objective of providing investment consulting at the highest caliber of service. Our expertise is grounded in our commitment to client service — our team aims to be a trusted partner and as fiduciaries, our clients' interests and objectives are at the center of everything we do. Our approach brings together the real-world experience of our people and our dedication to creativity and critical thinking in order to empower our clients to meet their goals. For more information, please visit www.MarquetteAssociates.com.



June 2, 2015

TO: Harry Black, City Manager

FROM: Paula Tilsley, Executive Director of Cincinnati Retirement System (CRS)

CC: P. Duhaney, D. Beresford

SUBJECT: Investment Consulting Services for the Cincinnati Retirement System: Selection of the Most Advantageous Offeror

The Board of Directors of the Cincinnati Retirement System, at their meeting of May 7, 2015, selected Marquette Associates for Investment Consulting Services to be effective January 1, 2016. This action was taken after recommendation of the Investment Committee through an ad hoc RFQ Special Selection Committee.

The above named RFQ was issued to the public November 21, 2014 with a submission due date of January 23, 2015. Six firms responded with proposals: Callan Associates, Dahab Associates, Marquette Associates, Meketa Investment Group, NEPC LLC and Portfolio Evaluations Inc.

The CRS Special Selection Committee members were as follows:

- Chris Meyer, CFA, Chief Investment Officer of Fund Evaluation Group CRS Board President and Investment Committee Member
- Susan Robinson, MBA, retired Macy's Vice President Retirement Plan Investments and Investor Relations
 – CRS Board and Investment Committee Chair
- Christopher Baucom, CFA, Managing Director Investment Consulting, Ascent Private Capital Management
 of U S Bank CRS Board and Investment Committee Member
- Don Beresford, CPA CRS Finance Manager
- Ron Wilson, CPA CRS Supervising Management Analyst

The Committee reviewed the RFQs and rated each firm based on pre-determined selection criteria. The results are attached. Three of the six candidates scored significantly lower than the others and were eliminated. The finalists included Marquette Associates (current provider), Meketa, and NEPC LLC. The Committee held interviews on May 1, 2015, after which they unanimously voted to recommend the selection of Marquette.

Marquette Associates was chosen primarily because of the quality and qualifications of the staff assigned to the account and their proven ability to communicate effectively to technical and non-technical audiences. Secondarily, the annual fees proposed by Marquette are lower than the other two firms.

The contract terms as directed by the City Manager will include a two year base term with three optional one year renewals. Marquette Associates has accepted these contract terms.

If you agree with the selection of Marquette Associates as the most advantageous offeror and that the City should, on behalf of the Cincinnati Retirement System, engage them through a contract, please acknowledge your concurrence by signing below.

Reviewed/Recommended:	P. Duhaney, Chief Procurement Officer/City Porchasing Agent	6/2/2015 Date
Approved:	City Manager or Designee	6215 Date

Exhibit A

Schedule of Fees

Period: From January 1, 2021 To December 31, 2022

Marquette Associates, Inc. has agreed to provide the Client with consulting services as described in Article II of the Investment Consulting Agreement dated January 1, 2016. For purposes of Section V.1., Marquette's annual fee for the above-referenced period shall be \$235,000. Marquette will review its fee agreement with Client upon expiration of this Schedule.

Marquette's fees are billed quarterly, in advance, and are payable immediately. All payments by the Client under this contract, shall be made by electronic funds transfer (EFT). Instructions will be included with each invoice.

ACKNOWLEDGED:

Marquette Associates, Inc. By: Brian Wrubel President/C.E.O.

City of Cincinnati

Beverly Russman By: Name: Bevery Nussman Finance Manager Title: Date: