

Wilshire

Quarterly Market Review

December 31, 2021

Market Commentary

U.S. Equity

The U.S. stock market, represented by the FT Wilshire 5000 IndexSM, was up 9.6% for the fourth quarter of 2021. Nearly all sectors were in positive territory, with Real Estate (+14.7%), Information Technology (+14.6%) and Materials (+14.4%) representing the best performing sectors. The only sector that was negative this quarter was Communication Services (-0.8%). Large-cap outperformed small-cap while growth stocks outperformed value within the large-cap segment of the market.

Sharply rising inflation will likely be remembered as the economic story of 2021. Increases in CPI have reached rates not seen in 40 years. Food and energy prices are up meaningfully, but so too are the major “core” CPI items of automobiles and apparel. Consumers’ ability to manage this period will help determine whether the U.S. can continue its economic progress. The employment picture is quite strong but the personal savings rate has fallen to a level last seen in late-2017, suggesting that consumers are saving less as they adjust to rising prices.

Non-U.S. Equity

In Europe, Germany is facing a potential recession as supply issues and new coronavirus cases weigh on the economy. Growth has slowed in the U.K., as well, and is expected to face additional headwinds. Emerging Markets have experienced weakness this year, particularly in China, South Korea and Brazil. In China, the real estate market, which accounts for nearly a third of China’s GDP, has been experiencing a major slump and developers are heavily indebted.

Fixed Income

The U.S. Treasury yield curve was up 45 basis points in the short end (at the 2-year maturity) but down in the long end of the curve. The 10-year Treasury yield ended the quarter at 1.51%, up two basis points. Through the Fed’s “dot plot,” they are messaging that the current intent is for three 25 basis point increases in the overnight rate before the end of 2022. During the December meeting, the committee announced that it would begin to reduce (i.e., taper) the monthly pace of its asset purchases starting in January.

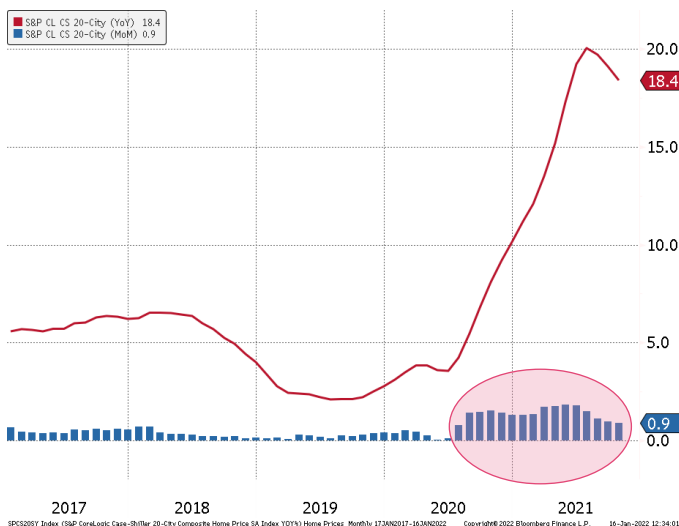
December 2021 Asset Class Assumptions

	Equity						Fixed Income					Real Assets						
	US	Dev		Global					LT			Dev ex-	Real Estate				Real	US
	Stock	ex-US	Emg	ex-US	Global	Private	Cash	Core	Core	TIPS	High	US Bond	US	Global	Private	Cmdty	Assets	CPI
	Stock	Stock	Stock	Stock	Stock	Equity		Bond	Bond		Yield	(Hdg)	RES	RES	RE			
Compound Return (%)	4.50	5.50	5.50	5.75	5.10	8.10	1.70	2.00	2.30	1.45	3.60	0.85	4.55	4.70	5.90	4.30	5.60	2.60
Expected Risk (%)	17.00	18.00	26.00	19.10	17.10	28.00	0.75	4.25	8.90	6.00	10.00	4.25	17.50	16.45	14.00	16.00	10.35	1.75
Cash Yield (%)	1.25	2.50	2.00	2.35	1.70	0.00	1.70	2.95	3.15	2.25	7.35	1.65	2.60	2.60	2.30	1.70	1.85	0.00
Growth Exposure	8.00	8.00	8.00	8.00	8.00	13.50	0.00	-0.85	-2.25	-3.00	4.00	-1.00	6.00	6.00	3.50	0.00	1.80	0.00
Inflation Exposure	-3.00	0.00	5.00	1.50	-1.25	-3.80	0.00	-2.50	-6.70	2.50	-1.00	-3.00	1.00	1.80	1.00	12.00	4.85	1.00
Correlations																		
US Stock	1.00																	
Dev ex-US Stock (USD)	0.81	1.00																
Emerging Mkt Stock	0.74	0.74	1.00															
Global ex-US Stock	0.83	0.96	0.87	1.00														
Global Stock	0.95	0.92	0.83	0.94	1.00													
Private Equity	0.74	0.64	0.62	0.67	0.74	1.00												
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.07	0.00	1.00											
Core Bond	0.28	0.13	0.00	0.09	0.20	0.31	0.19	1.00										
LT Core Bond	0.31	0.16	0.01	0.12	0.23	0.32	0.11	0.92	1.00									
TIPS	-0.05	0.00	0.15	0.05	0.00	-0.03	0.20	0.59	0.47	1.00								
High Yield Bond	0.54	0.39	0.49	0.45	0.51	0.34	-0.10	0.25	0.32	0.05	1.00							
Dev ex-US Bond (Hdg)	0.16	0.25	-0.01	0.17	0.18	0.26	0.10	0.66	0.65	0.39	0.26	1.00						
US RE Securities	0.58	0.47	0.44	0.49	0.56	0.50	-0.05	0.17	0.23	0.10	0.56	0.05	1.00					
Global RE Securities	0.64	0.58	0.56	0.61	0.65	0.58	-0.05	0.17	0.22	0.11	0.61	0.03	0.96	1.00				
Private Real Estate	0.54	0.44	0.44	0.47	0.52	0.51	-0.05	0.19	0.25	0.09	0.57	0.05	0.77	0.75	1.00			
Commodities	0.25	0.34	0.39	0.38	0.32	0.27	0.00	-0.02	-0.02	0.25	0.29	-0.10	0.25	0.28	0.25	1.00		
Real Assets	0.48	0.51	0.58	0.57	0.54	0.47	-0.02	0.23	0.25	0.39	0.56	0.05	0.70	0.75	0.70	0.65	1.00	
Inflation (CPI)	-0.10	-0.15	-0.13	-0.15	-0.13	-0.10	0.10	-0.12	-0.12	0.15	-0.08	-0.08	0.05	0.03	0.05	0.44	0.26	1.00

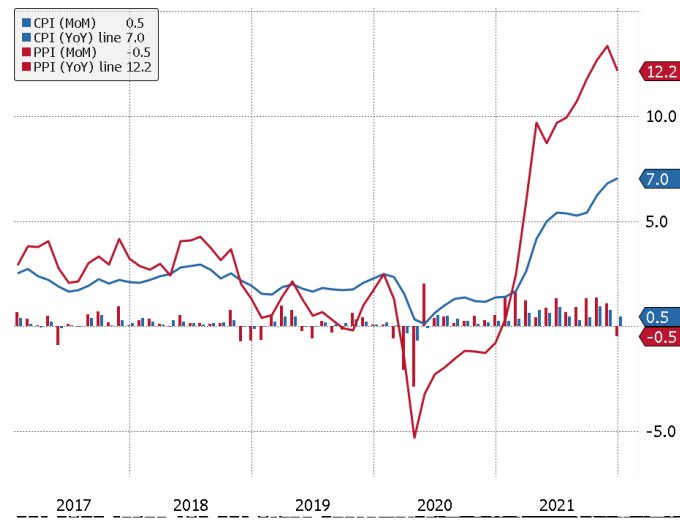
Inflation Roundup: “Lyn’ in a Bed of Fire”¹



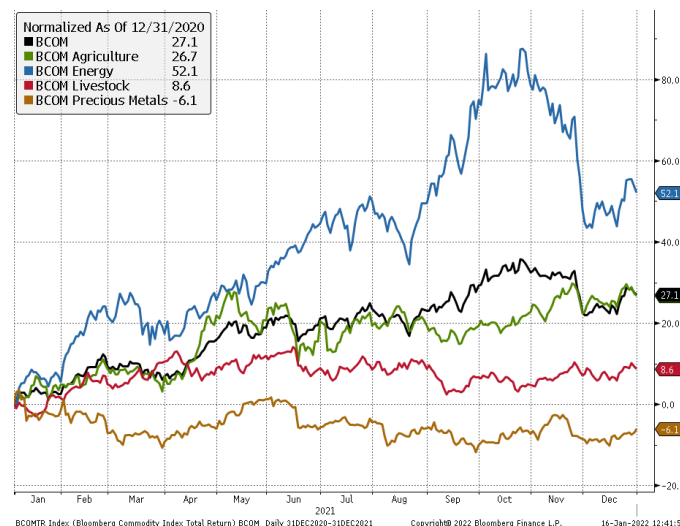
CPI
+7.0%



Home Prices
+18.4%



PPI
+12.2%

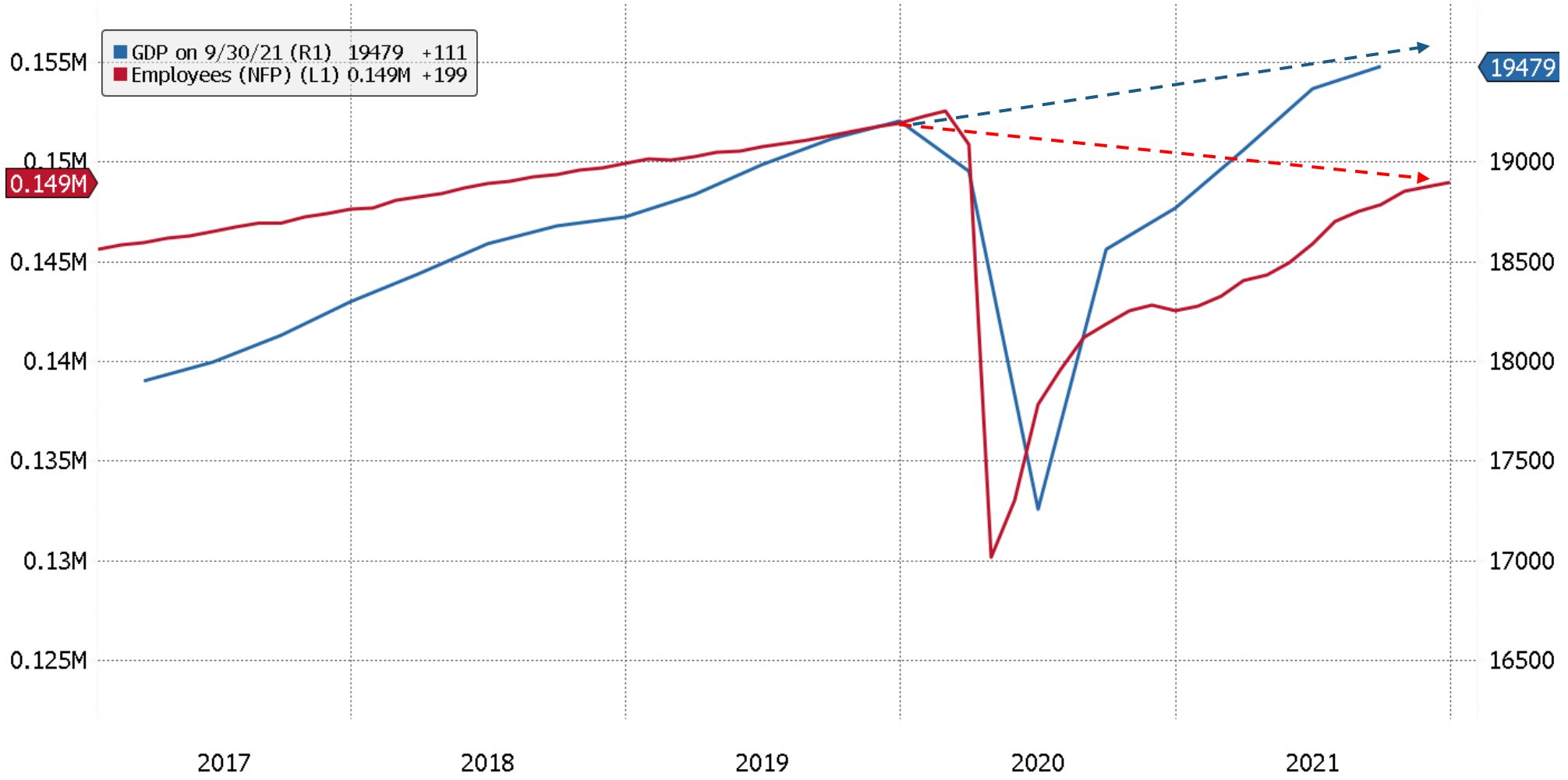


Commodities
+27.1%

Data Source: Bloomberg

1 Little Steven & The Disciples of Soul, “Lyn’ in a Bed of Fire”, Men Without Women, 1982

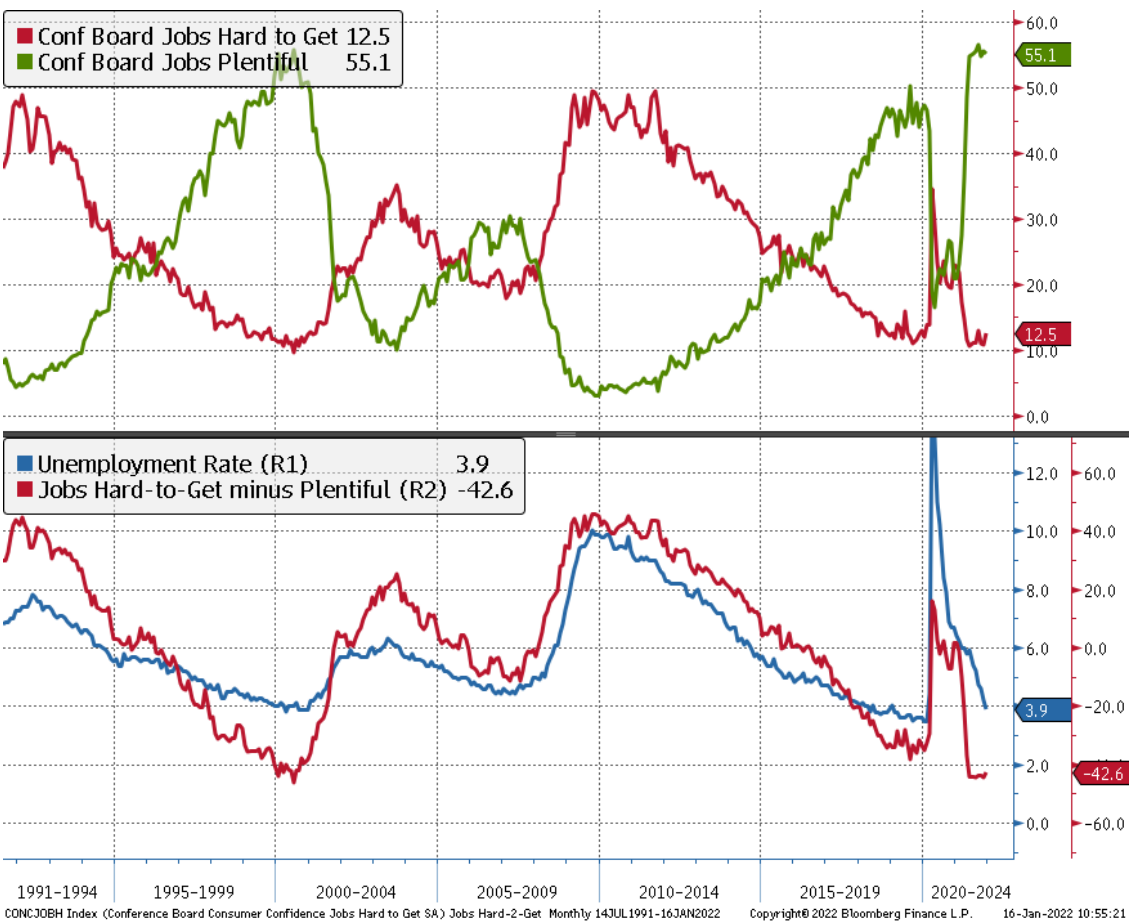
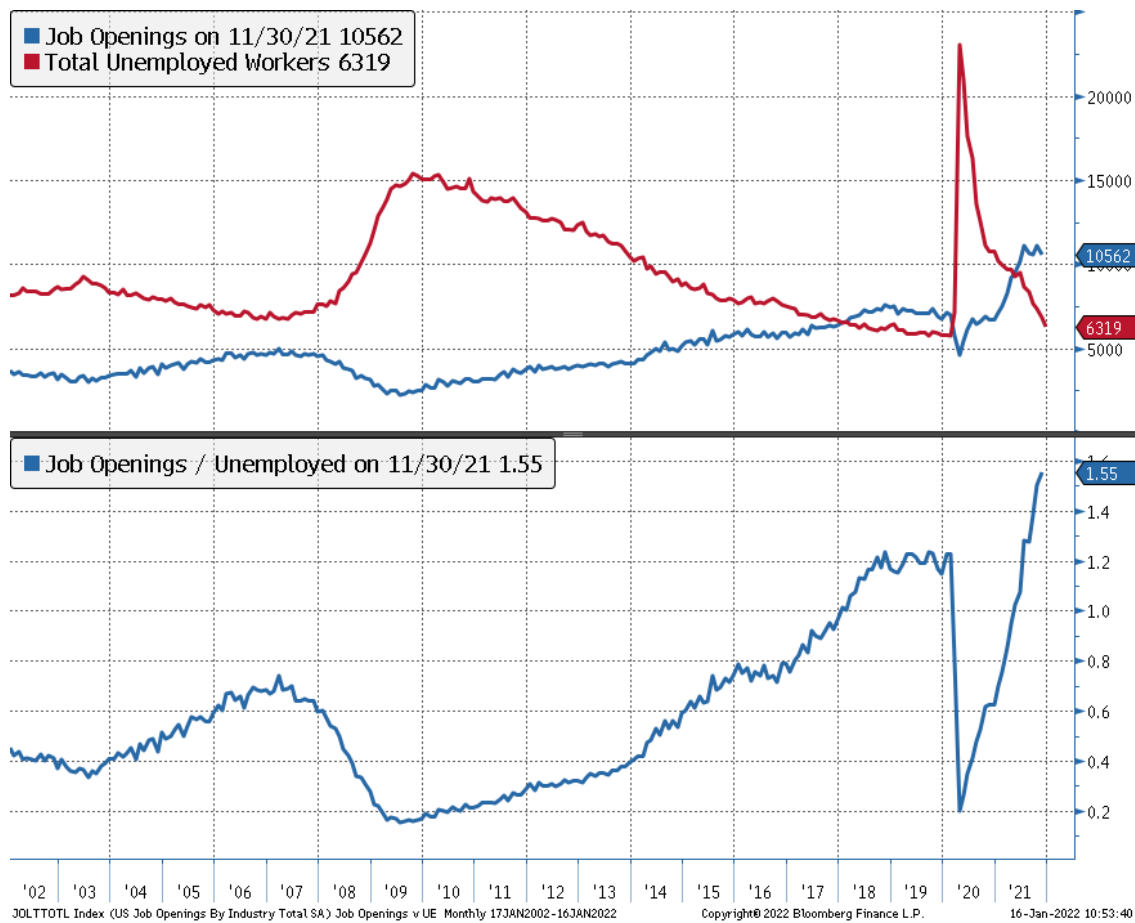
Employment Lagging Economic Growth



GDP CHWG Index (GDP US Chained 2012 Dollars SAAR) GDP v Emp Monthly 17JAN2017-16JAN2022 Copyright© 2022 Bloomberg Finance L.P. 16-Jan-2022 10:51:45

Data Source: Bloomberg

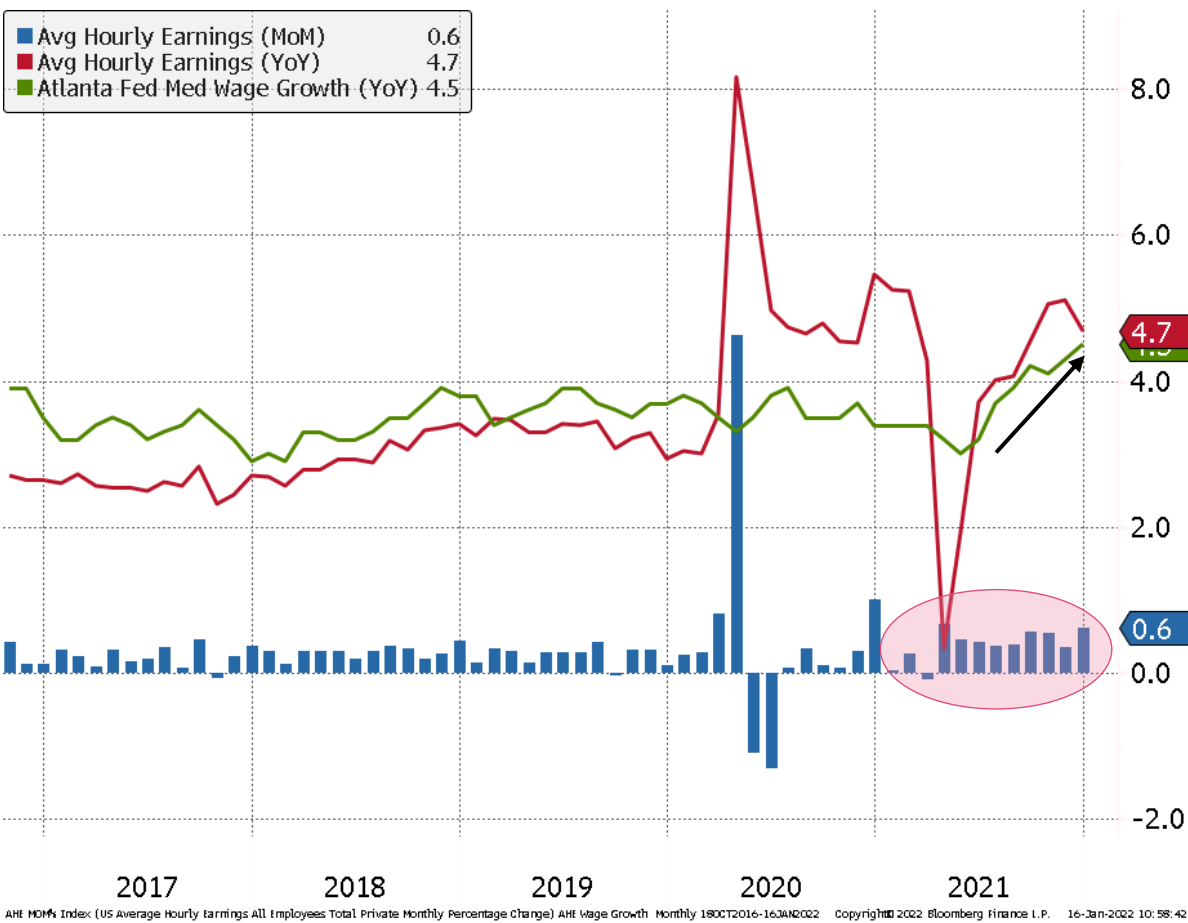
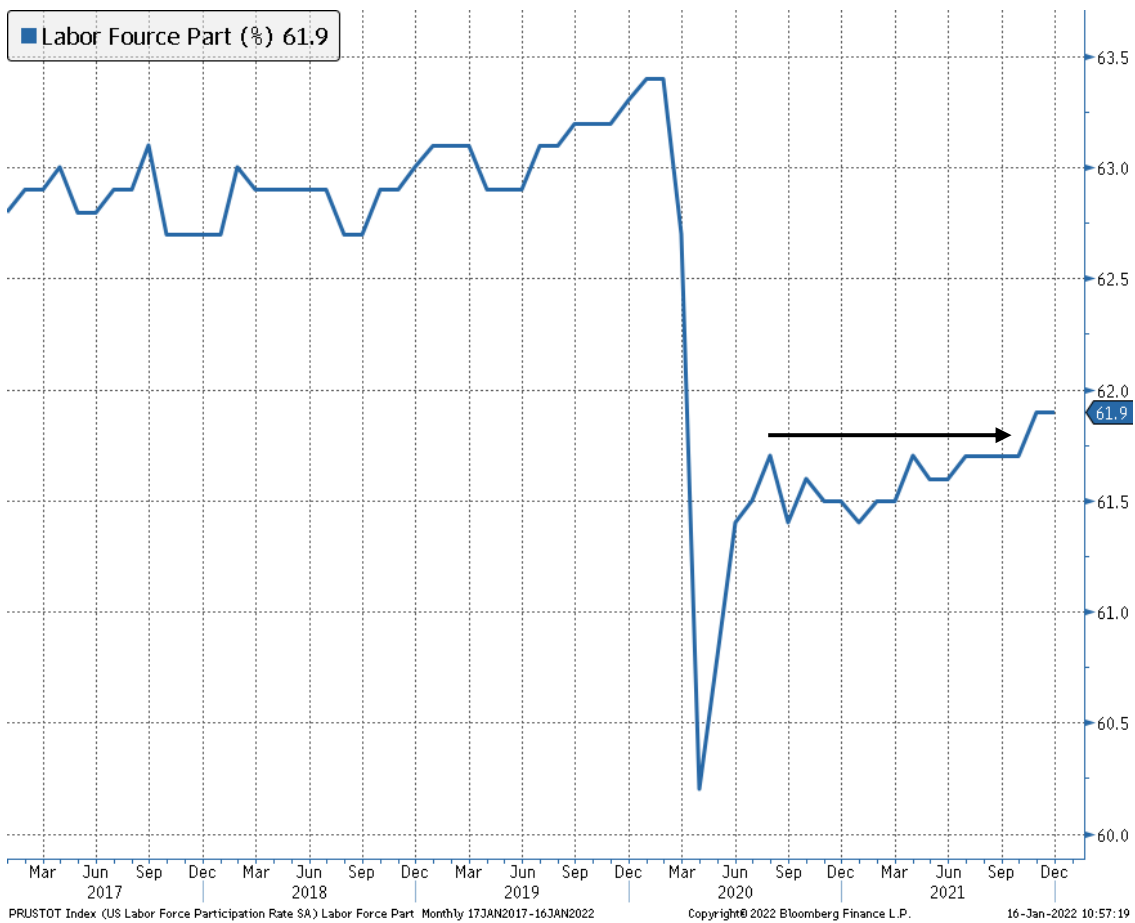
Job Shortage: “the neighborhood ain’t what it used to be” ¹



Data Source: Bloomberg

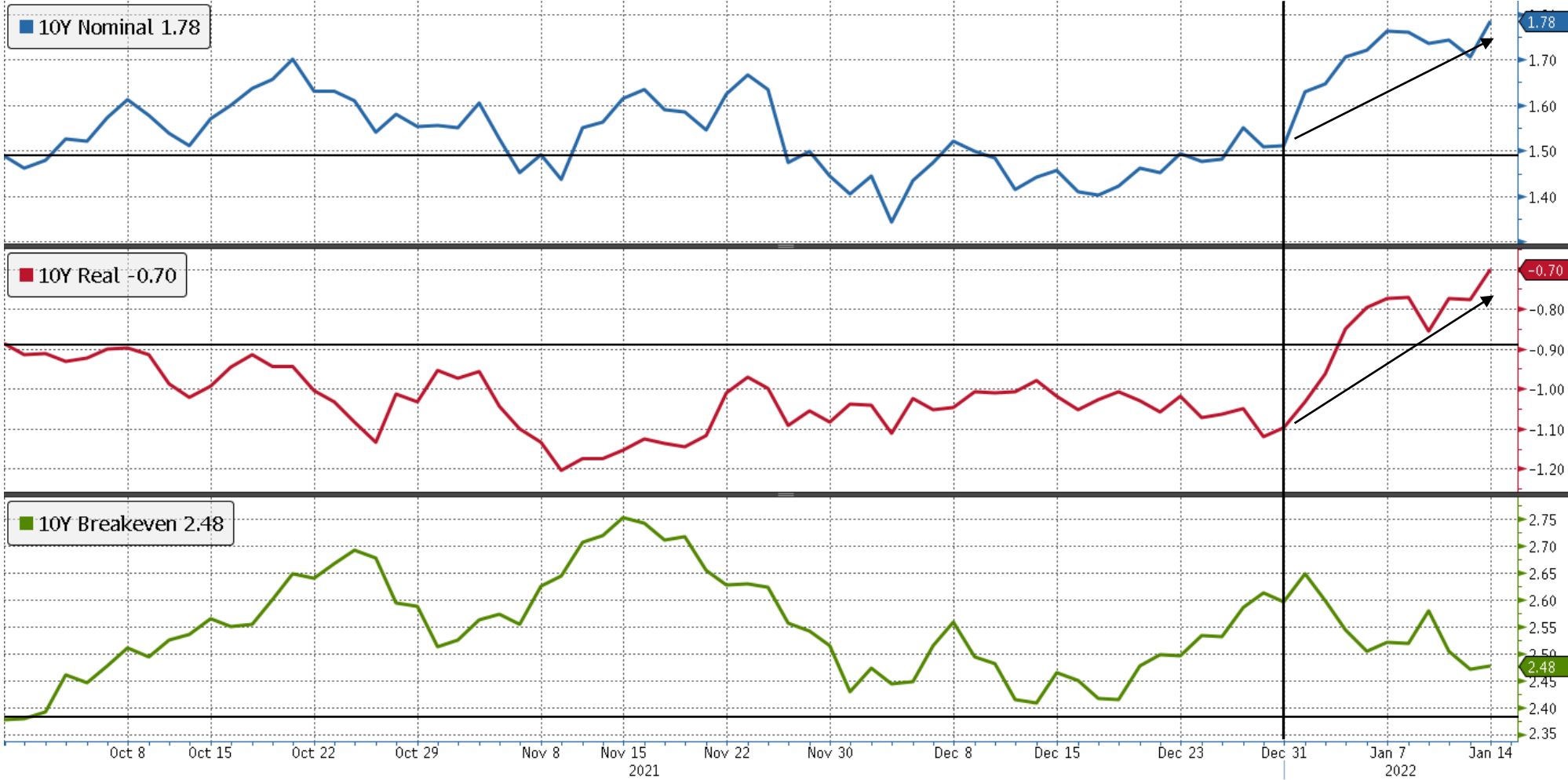
1 Little Steven & The Disciples of Soul, “Lyn’ in a Bed of Fire”, Men Without Women, 1982

What Will It Take to Get Employees Back in Labor Force?



Data Source: Bloomberg

Rate Splits: Yield / Inflation Environment



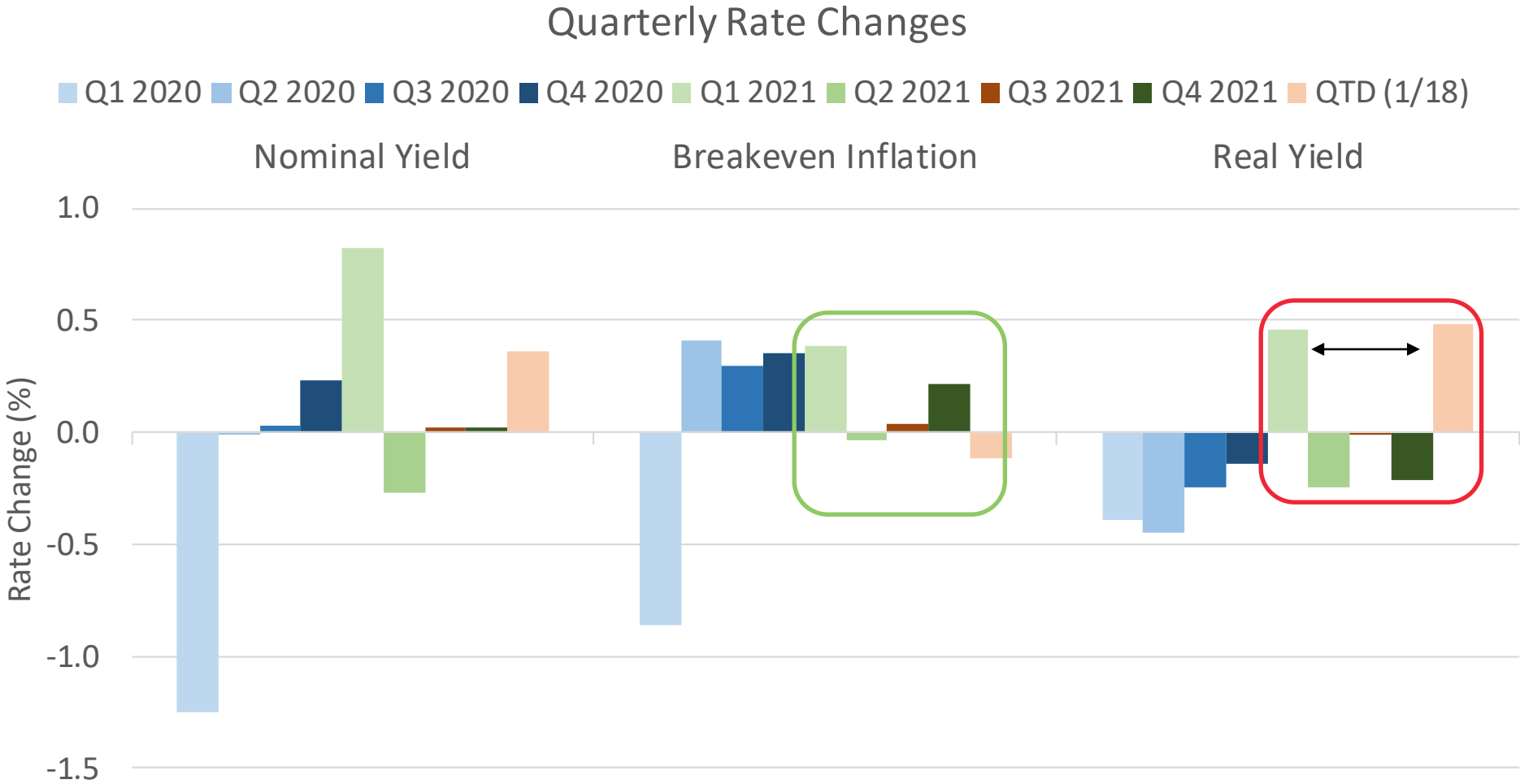
USGG10YR Index (US Generic Govt 10 Yr) 10yr Splits Daily 30SEP2021-14JAN2022

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Data Source: Bloomberg

Rate Change Attribution (8+ Quarters)



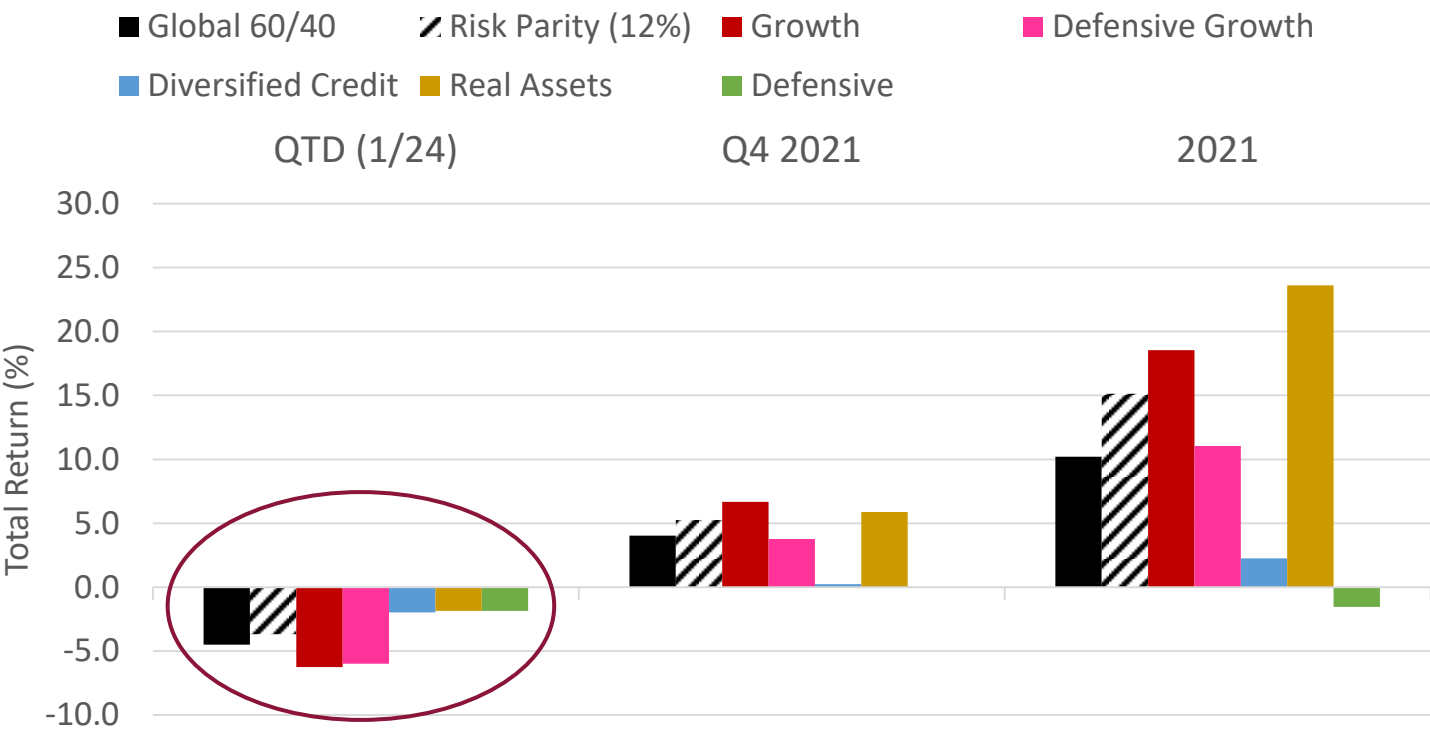
Data Source: Bloomberg

2022 Environmental Risk: A Year of Transition?

If some/much of COVID market returns have been liquidity fueled, can we expect to hang on to these gains when support is withdrawn?

- YTD market activity provides a glimpse at the potential challenges of the 2022 environment

Asset Allocation & Thematic Returns



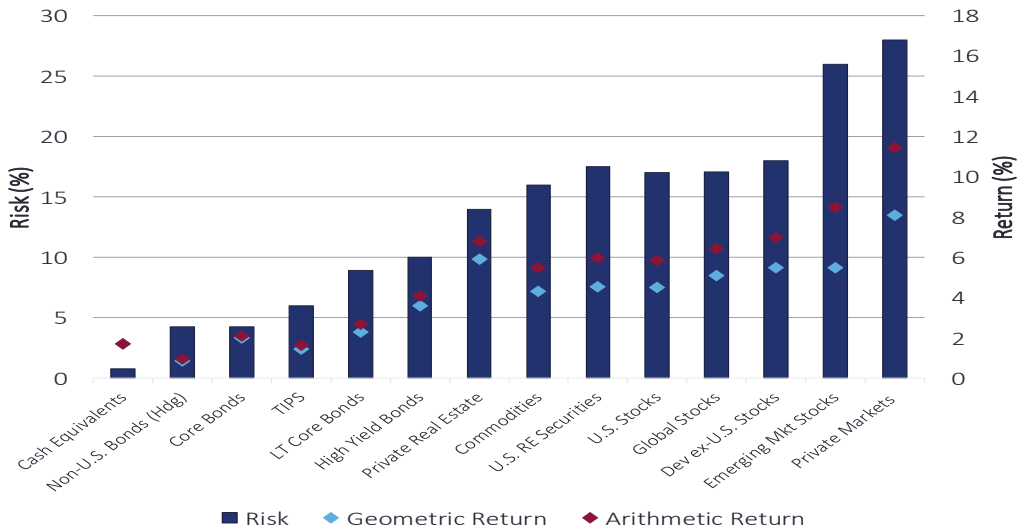
	QTD (1/24)	Q4 2021	2021
Global 60/40	(4.51)	4.02	10.20
Risk Parity (12%)	(3.68)	5.26	15.12
Growth	(6.27)	6.68	18.54
Defensive Growth	(5.98)	3.76	11.05
Diversified Credit	(1.97)	0.22	2.26
Real Assets	(1.86)	5.88	23.61
Defensive	(1.87)	0.01	(1.54)

Data Source: Bloomberg, Wilshire

Summary of Changes in Asset Class Expectations

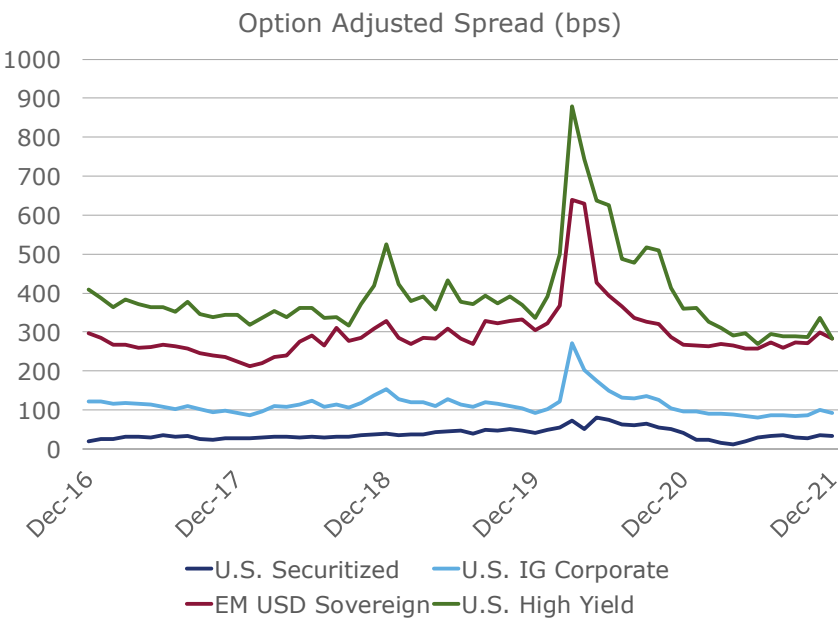
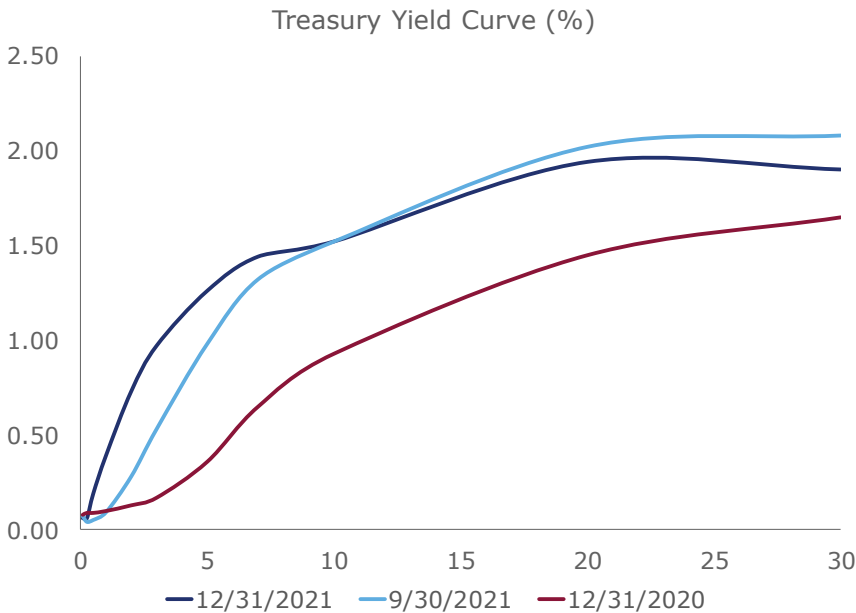
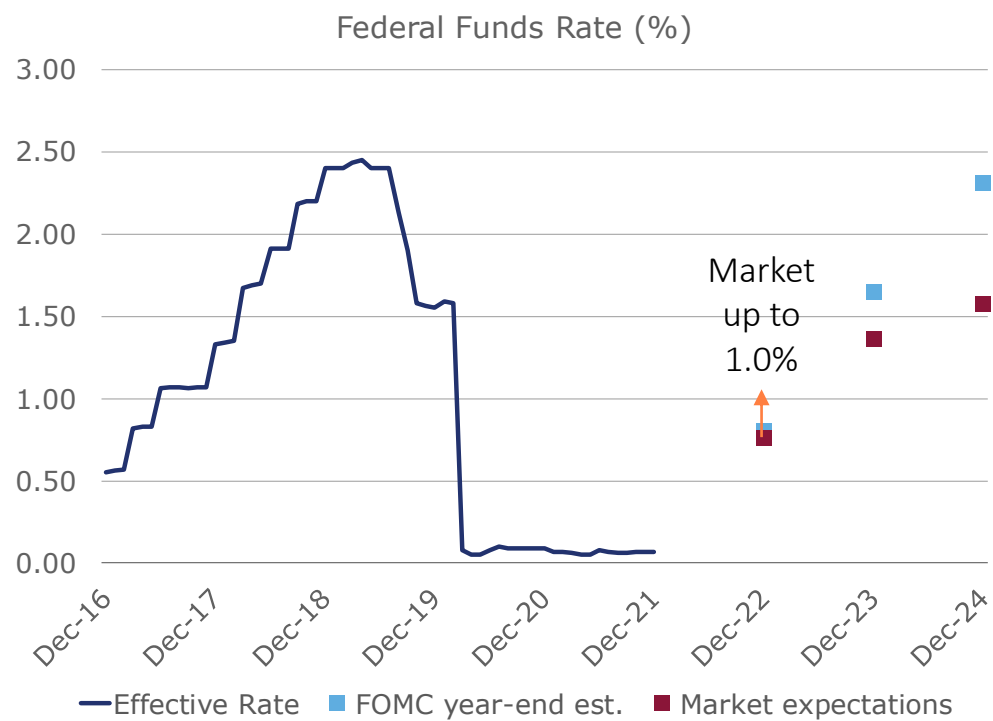
- Short end of the yield curve rose while longer-term rates fell
 - Yield curve movements resulted in an increased assumption for Core Bonds but a drop in the Long-Core forecast
 - Credit spreads tightened somewhat in the broad High Yield market
- Inflation expectation continued to move higher
- Equity assumptions are lower on higher valuations
 - Risk premium versus bonds has fallen to 2.5% from 3.7% at the start of 2021
 - Equity return relative to inflation fell below 2%

December 2021 Return and Risk Assumptions



Implied Risk Premia	Relative Return (%)		
	Sep 2021	Change	Dec 2021
Cash - Inflation	-0.95	0.05	-0.90
Treasury - Cash	-0.40	0.05	-0.35
Core - Treasury	0.70	-0.05	0.65
Long-Term Core - Core	0.50	-0.20	0.30
High Yield - Core	1.75	-0.15	1.60
Global RESI - Core	3.05	-0.35	2.70
U.S. Stocks - Core	3.15	-0.65	2.50
Private Equity - U.S. Stocks	3.40	0.20	3.60
Implied Real Return (ACA - CPI)			
U.S. Stocks	2.50	-0.60	1.90
U.S. Bonds	-0.65	0.05	-0.60
Cash Equivalents	-0.95	0.05	-0.90

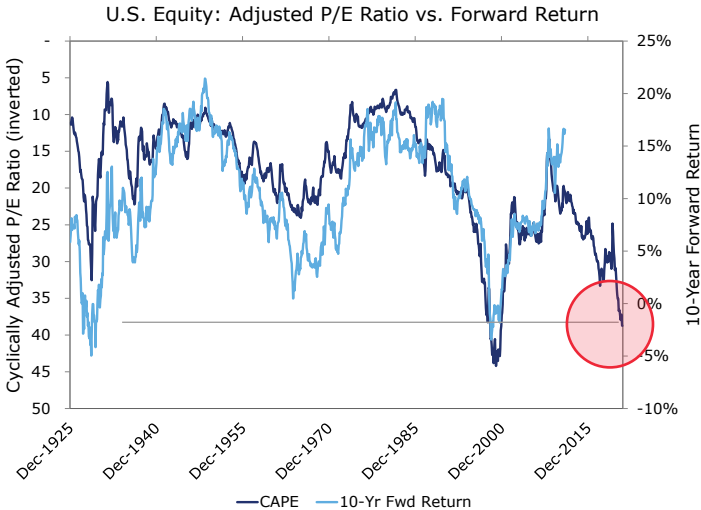
Fixed Income Environment



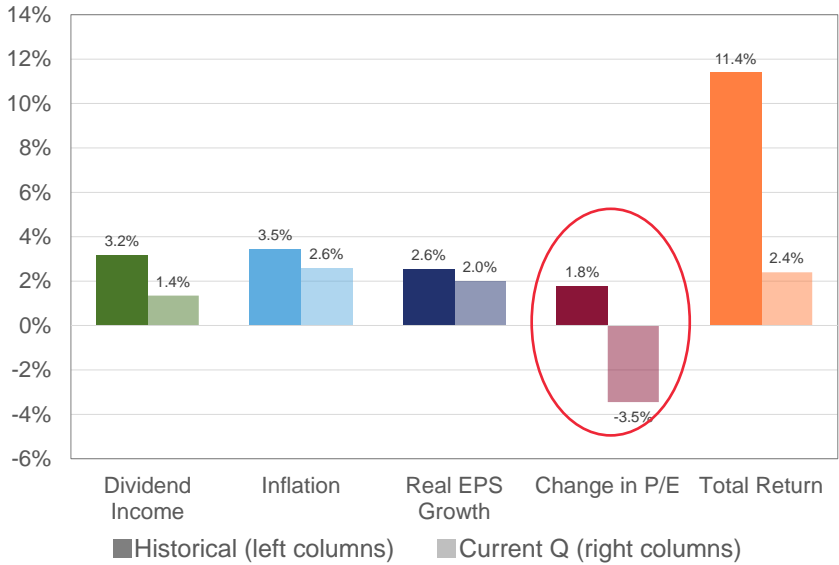
Data Source: Bloomberg

Equity Markets

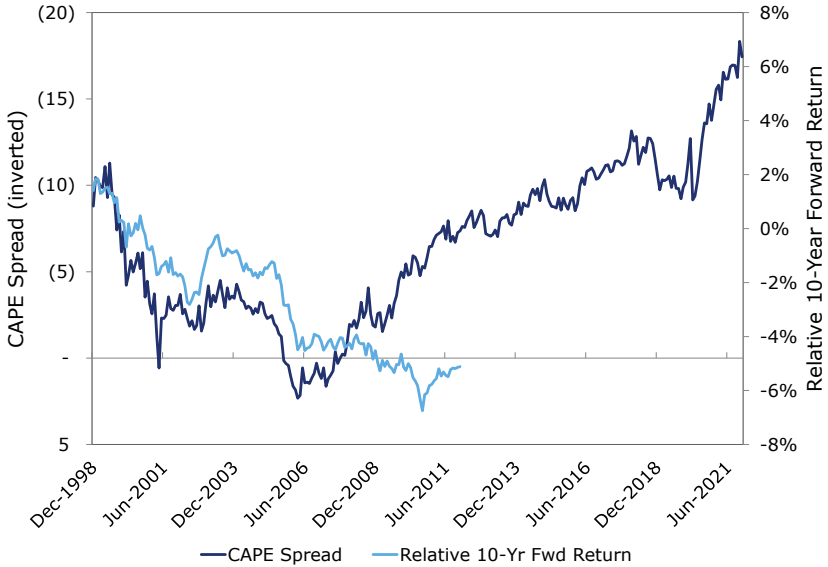
Equity: Public & Private		Sep 2021	Change	Dec 2021
Equity	DDM	7.50	0.00	7.50
	IGV	3.25	(0.85)	2.40
	CAPE	0.75	(0.50)	0.25
	U.S. Equity Forecast	5.00	(0.50)	4.50
	Dev-ex-US Equity Forecast	6.00	(0.50)	5.50
Private	EM Equity Forecast	6.00	(0.50)	5.50
	Cost of Debt (Public)	3.55	(0.10)	3.45
	Cost of Debt (Private)	5.50	0.15	5.65
	Private Market Basket Forecast	8.40	(0.30)	8.10



IGV Components: History (since 1951) vs. Forecast



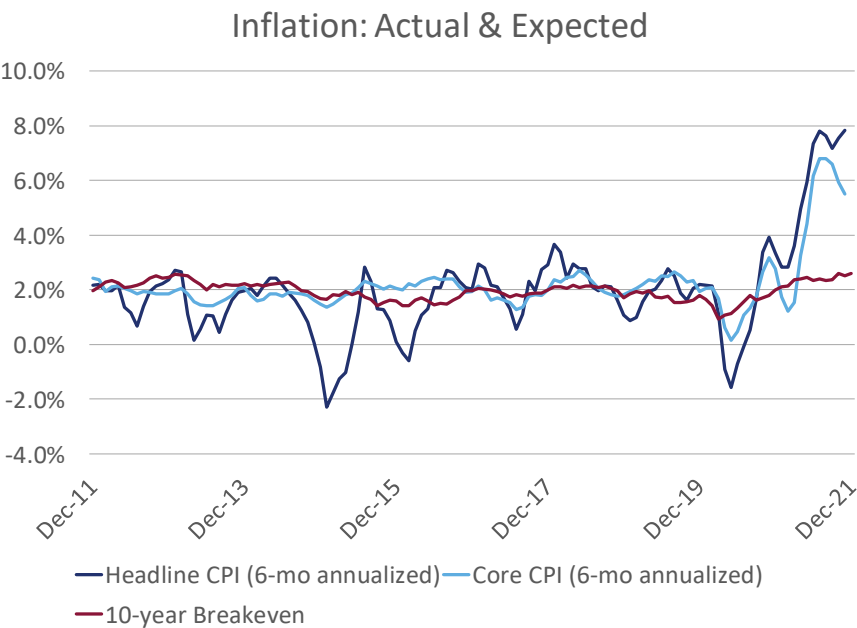
Relative Dev. ex-U.S. Equity: CAPE vs. Forward Return



Real Assets

- Inflation assumption of 2.60% is now equal to breakeven, after being higher than the signal since March 2020
- Changes in real asset yields are mixed
- Commodity assumption is up on higher cash and inflation rates

Asset Class Assumption	Total Return (%)			Risk (%)
	Sep 2021	Change	Dec 2021	
U.S. TIPS	1.55	-0.10	1.45	6.00
Global RE Securities	4.90	-0.20	4.70	16.45
Private Real Estate	6.35	-0.45	5.90	14.00
Commodities	4.05	0.25	4.30	16.00
Inflation	2.50	0.10	2.60	1.75

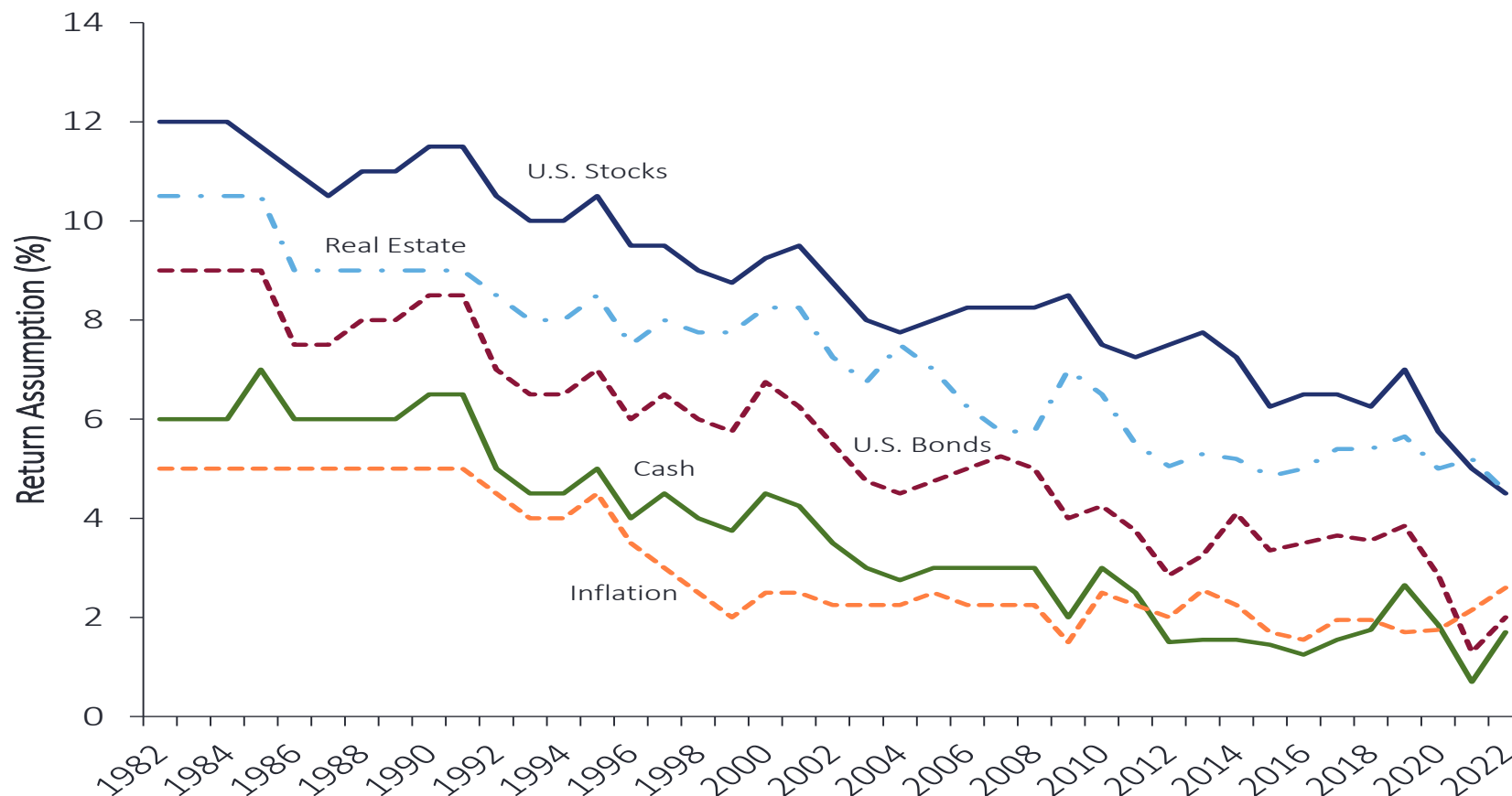


Real Assets		Sep 2021	Change	Dec 2021
Listed	Inflation Capture (75%)	1.88	0.08	1.95
	REIT Yield	2.85	(0.25)	2.60
	Midstream Energy Yield	6.00	0.35	6.35
	Global Infrastructure Yield	3.05	(0.05)	3.00
Private	Real Estate Cap Rate	3.95	0.05	4.00
	Cost of Debt (Private)	4.05	(0.05)	4.00
Infra. v RE Cap Rate Differential		0.20	0.20	0.40
Infra. Leverage / RE Leverage		2.5	0.0	2.5

Alternative Investment Assumptions

	Basket Weight	Expected Return & Risk (%)	
Private Equity			
Buyouts	50%	6.75	30.00
Venture Capital	20%	7.65	44.00
Distressed Debt	5%	6.00	20.00
Mezzanine Debt	5%	5.75	20.00
Non-U.S. Buyouts	20%	7.25	32.00
Private Equity Basket		8.10	28.00
Private Real Estate			
Core	70%	5.15	12.00
Value Added	15%	6.30	17.50
Opportunistic	15%	7.55	25.00
Private Real Estate Basket		5.90	14.00
Public Real Assets			
Global Real Estate	31%	4.70	16.45
U.S. TIPS	48%	1.45	6.00
Commodities	33%	4.30	16.00
Gold	9%	4.30	18.00
Infra. / Mdstrm Energy	12%	5.35	16.20
Borrowing	-33%	1.95	0.75
Public Real Assets Basket		4.50	11.45
Private Real Assets			
Private Real Estate	35%	5.90	14.00
Timber	35%	5.80	15.00
Oil & Gas	30%	6.40	18.00
Private Real Assets Basket		6.55	11.25
Hedge Funds			
Equity Market Neutral	10%	3.60	4.50
Event Driven	25%	4.80	7.00
Equity Long/Short	35%	5.30	9.75
Global Macro	5%	4.60	6.75
Relative Value	25%	4.35	5.75
Hedge Fund Basket		4.80	6.60

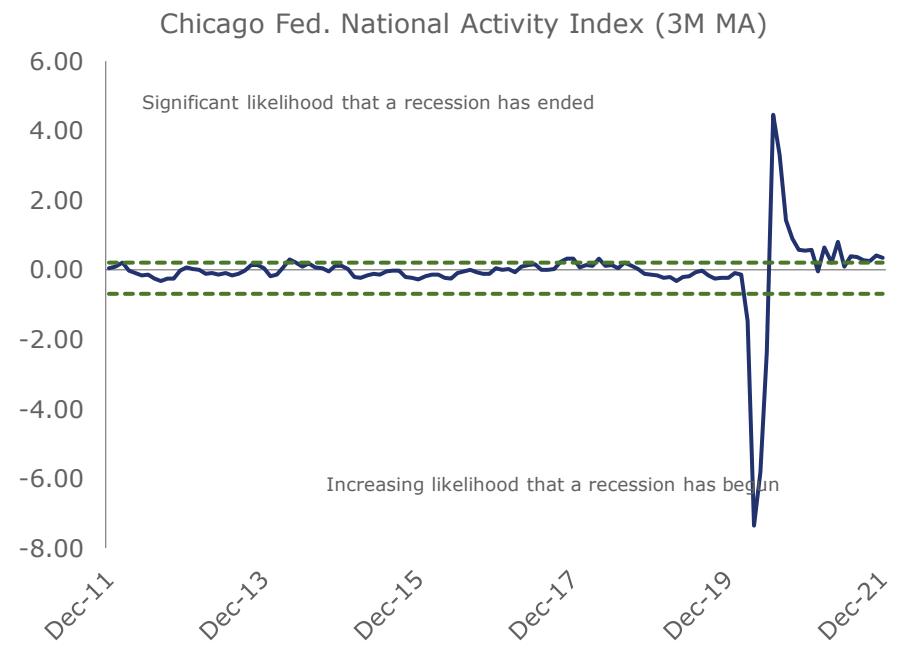
Historical Asset Class Expectations



- Long term review illustrates a secular decline in asset class expected returns, leading to an environment Wilshire has referred to as the “Investor’s Challenge”
- Wilshire’s annual asset allocation return and risk assumptions paper provides additional detail on our forecasting methodology and results

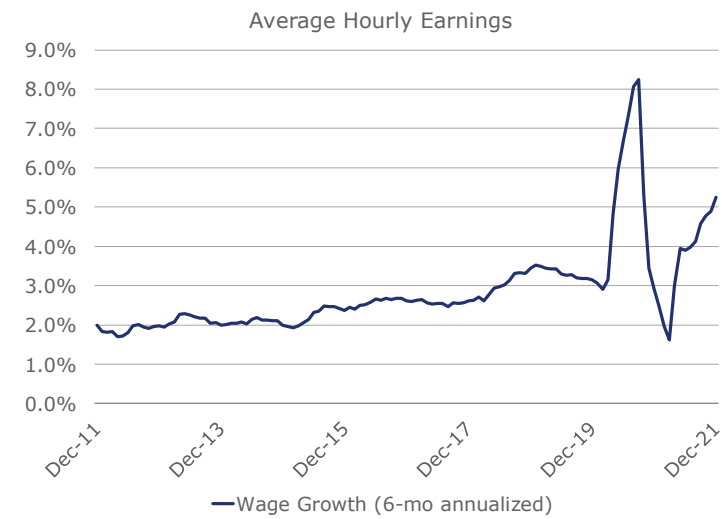
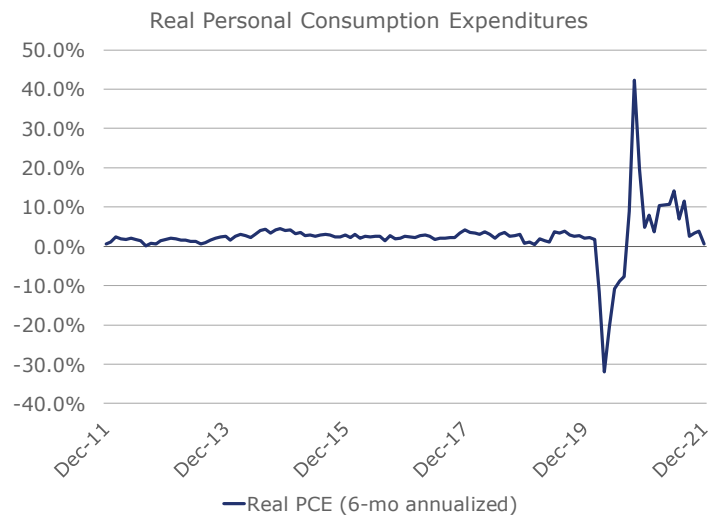
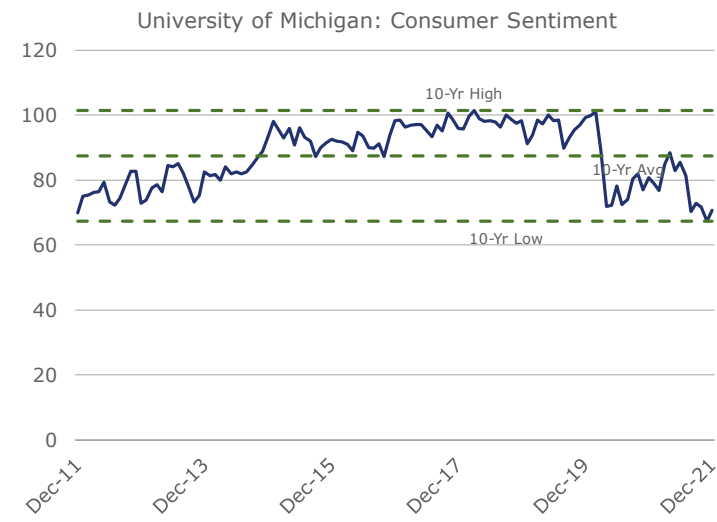
Economic/Market Activity

Economic Growth



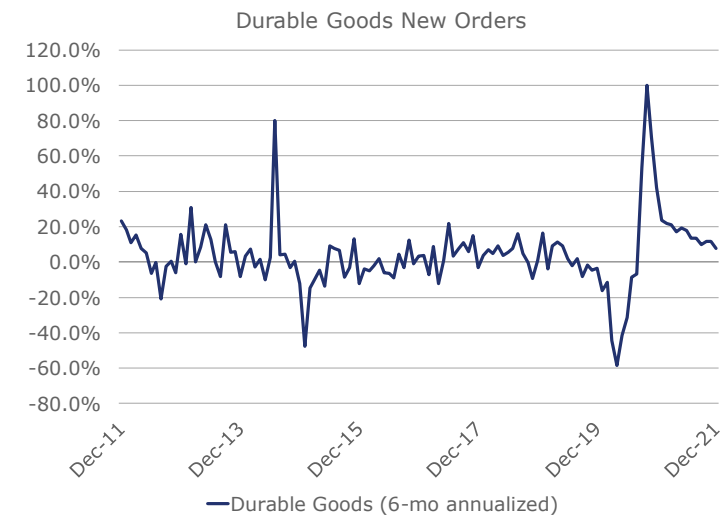
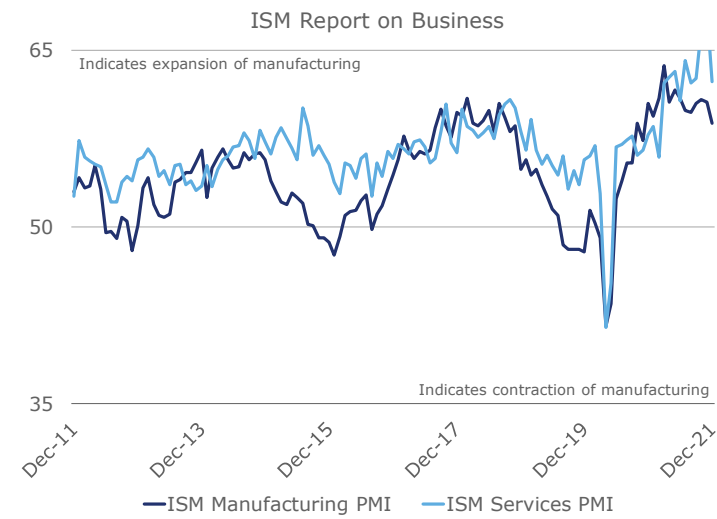
Data Sources: Bloomberg

Consumer Activity

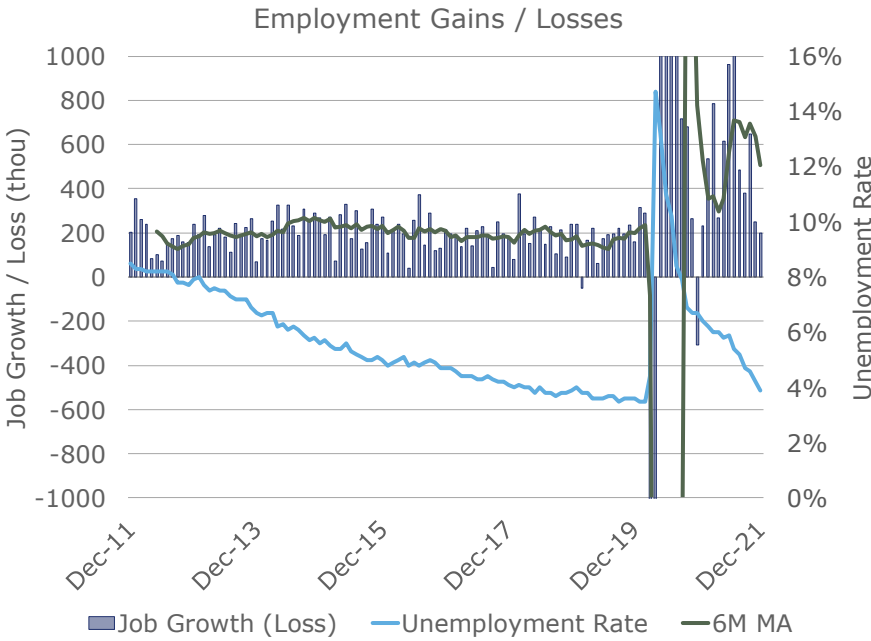
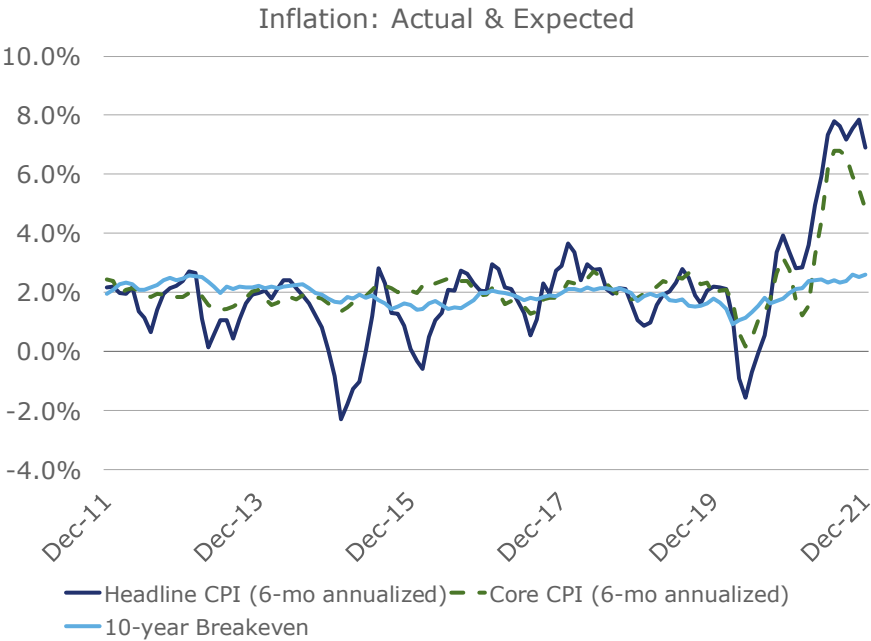


Data Sources: Bloomberg

Business Activity



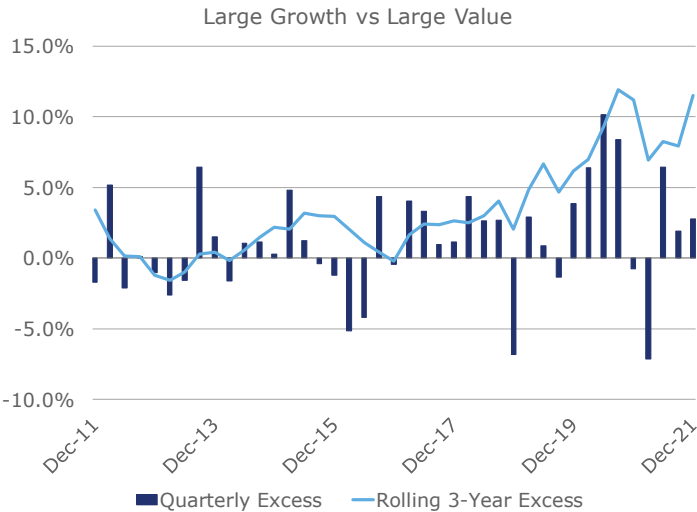
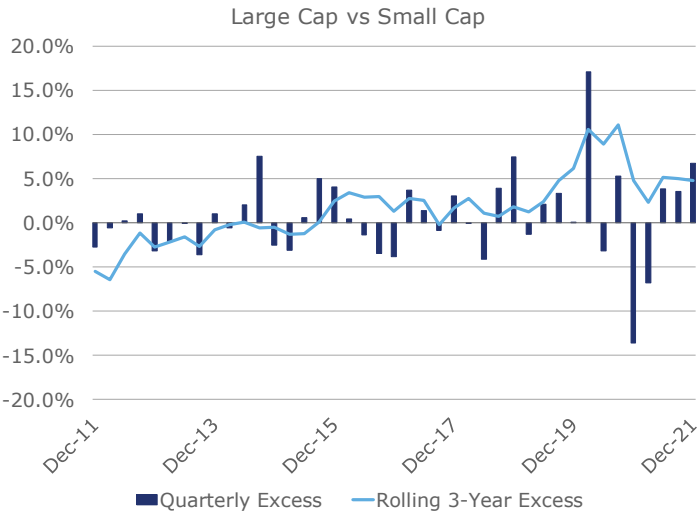
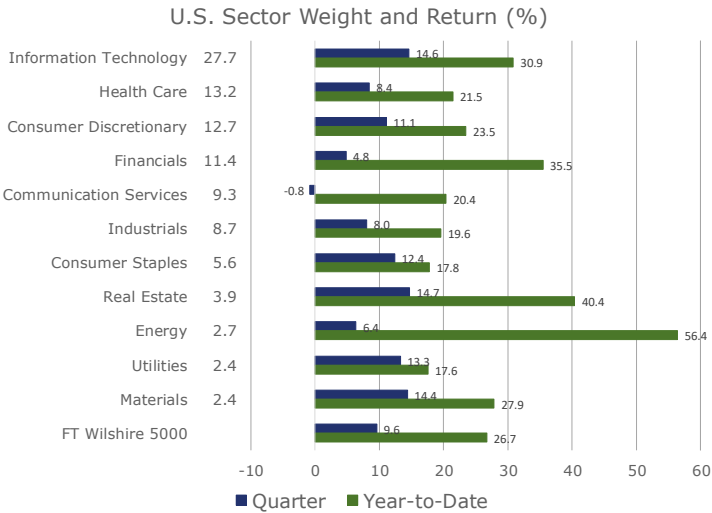
Inflation and Employment



Data Sources: Bloomberg

U.S. Equity Market

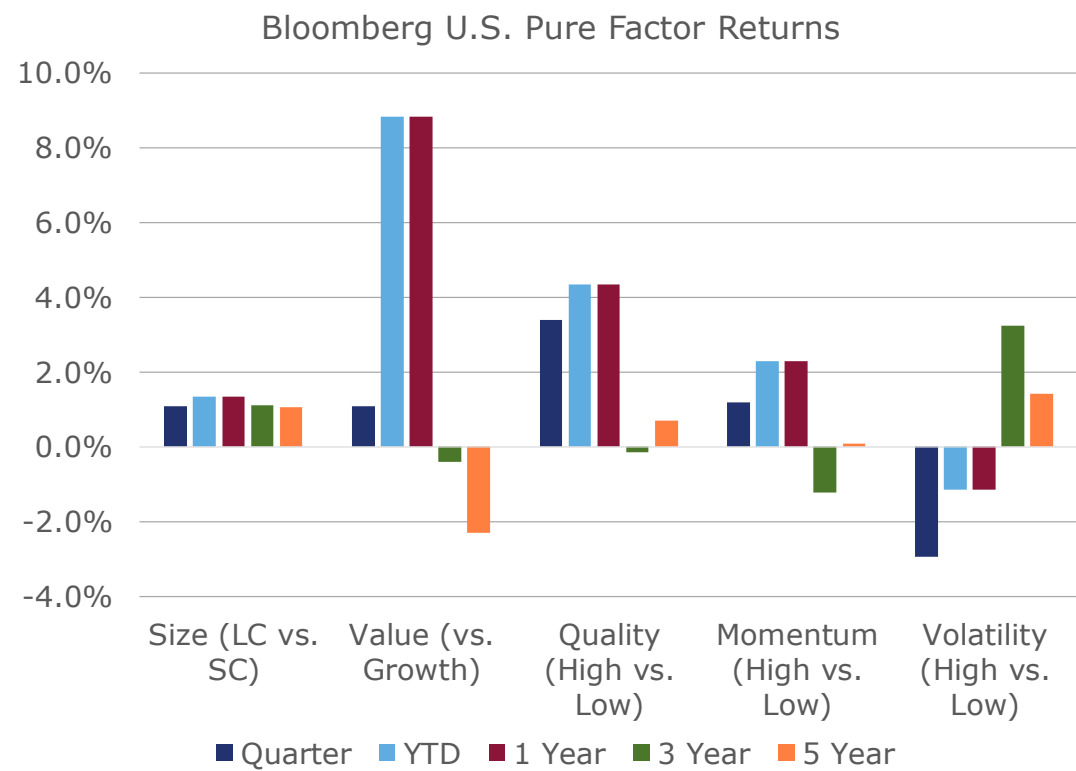
As of 12/31/2021	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
FT Wilshire 5000	9.6	26.7	26.7	26.1	18.1	16.4
Wilshire U.S. Large Cap	10.2	27.5	27.5	26.6	18.7	16.7
Wilshire U.S. Small Cap	3.3	19.2	19.2	20.9	12.3	13.9
Wilshire U.S. Large Growth	11.6	28.9	28.9	33.3	23.9	19.5
Wilshire U.S. Large Value	8.6	24.5	24.5	19.5	13.3	13.7
Wilshire U.S. Small Growth	1.8	10.1	10.1	22.7	14.8	14.5
Wilshire U.S. Small Value	4.8	29.2	29.2	19.1	9.8	13.2
Wilshire REIT Index	17.1	46.2	46.2	19.2	10.9	11.5
MSCI USA Min. Vol. Index	10.4	21.0	21.0	17.9	14.7	14.2
FTSE RAFI U.S. 1000 Index	9.0	31.6	31.6	22.1	14.2	14.8



Data Sources: Bloomberg, Wilshire Atlas

U.S. Factor Returns

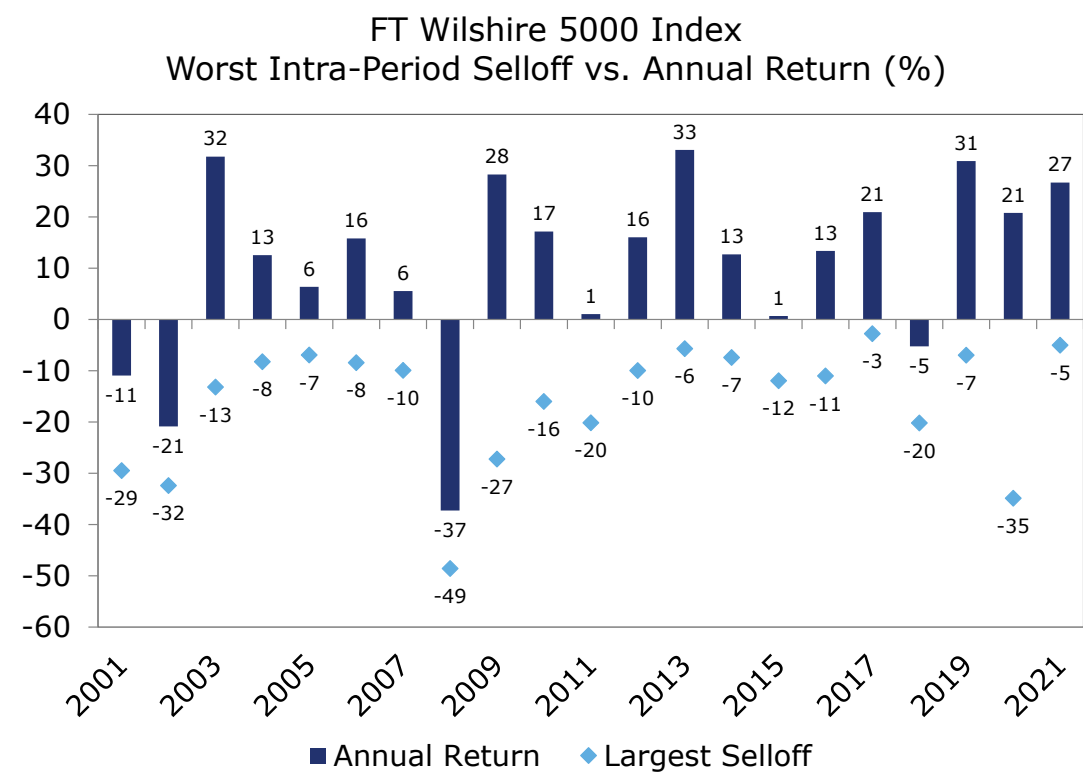
- Factor returns represent the contribution from large cap, value, etc. stocks within Bloomberg’s Portfolio & Risk Analytics module
- Value stocks have rebounded during the past year



Data Sources: Bloomberg

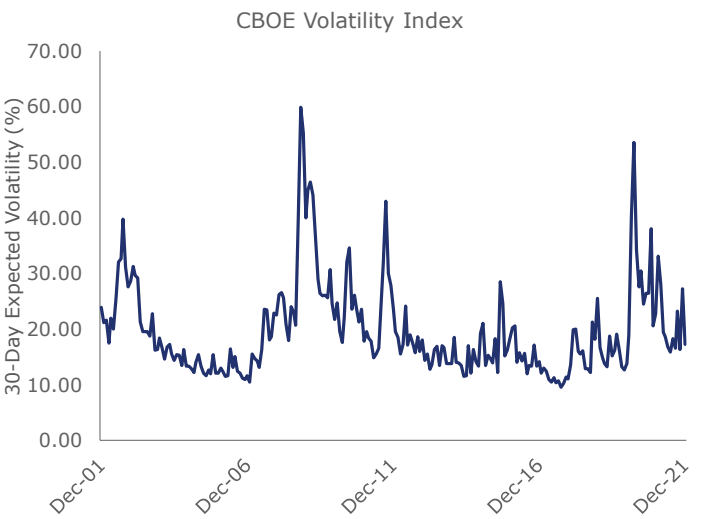
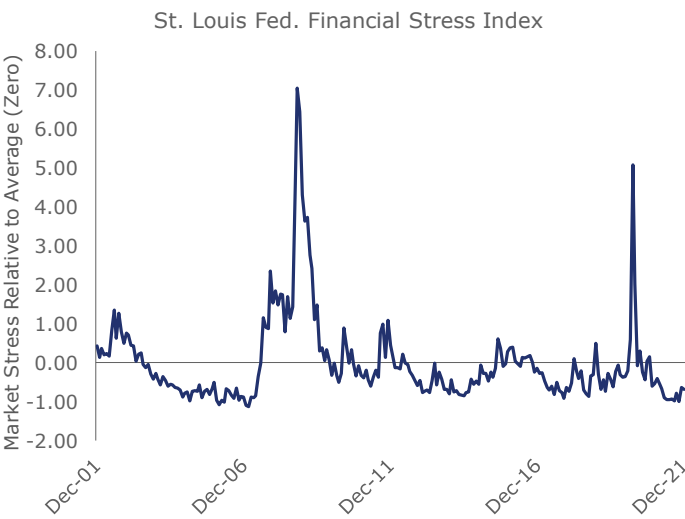
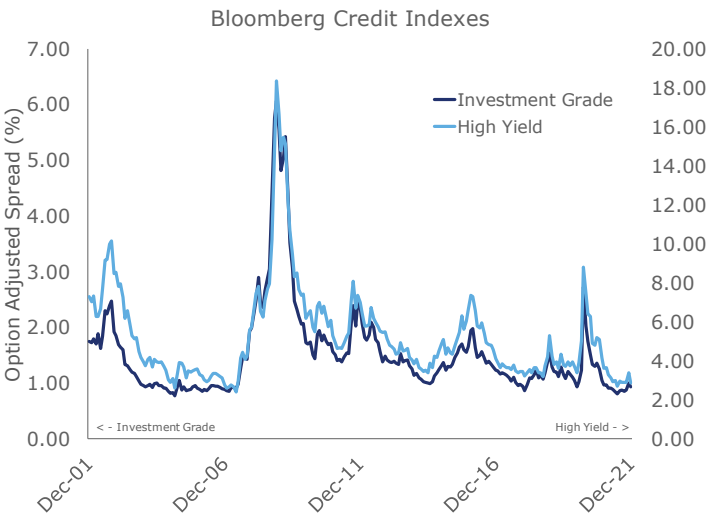
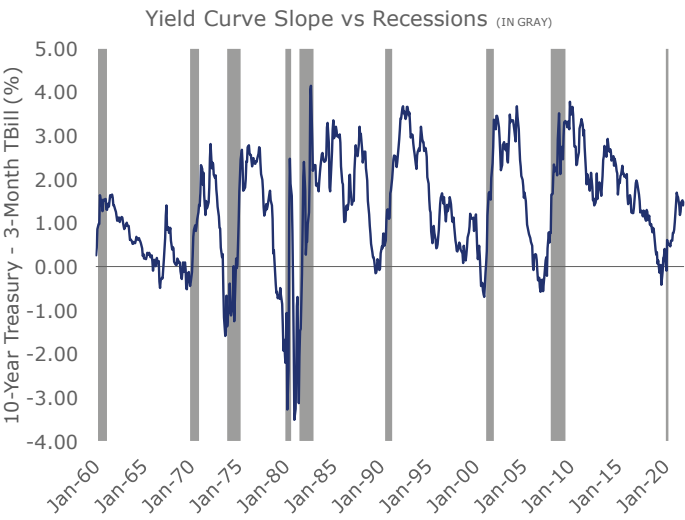
Annual Equity Market Selloffs

Third consecutive year of very strong performance; relatively minor selloff compared to previous years



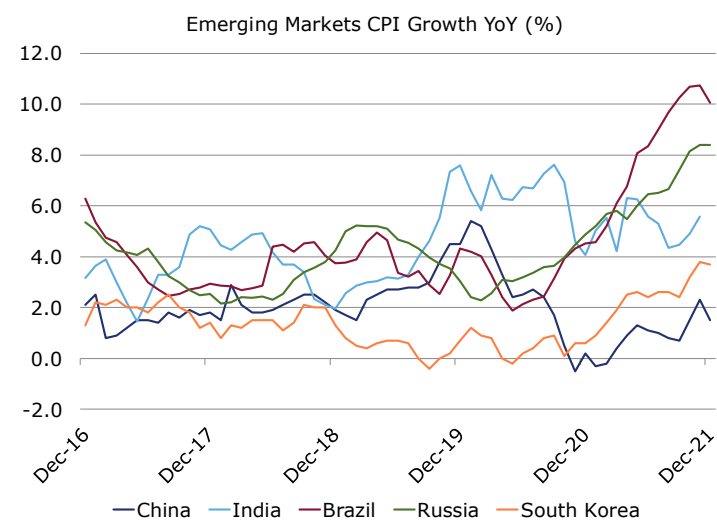
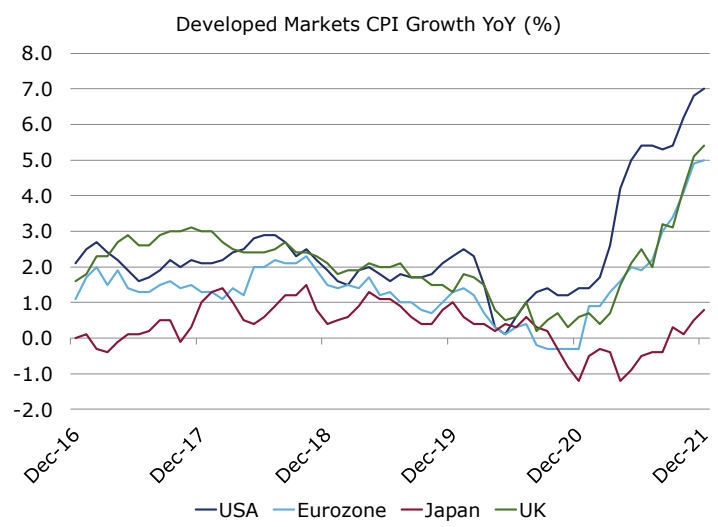
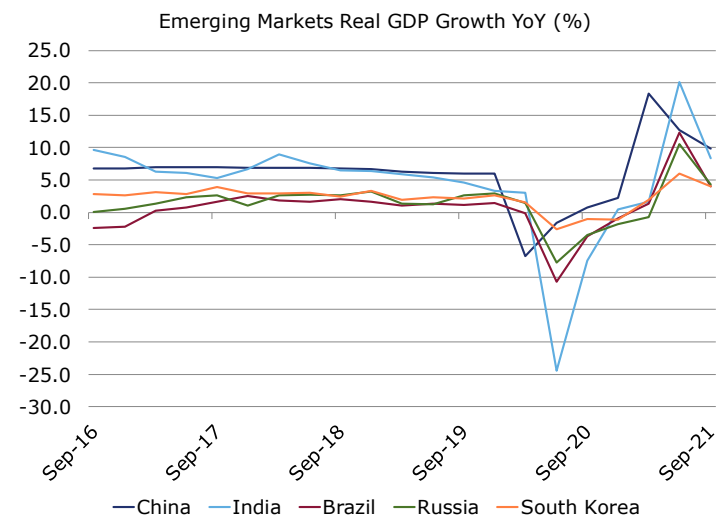
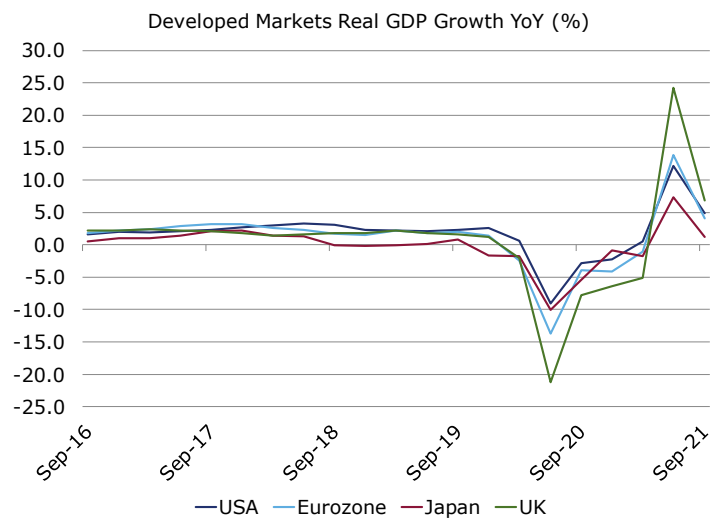
Data Sources: Wilshire Web, Bloomberg

Risk Monitor



Data Sources: Bloomberg

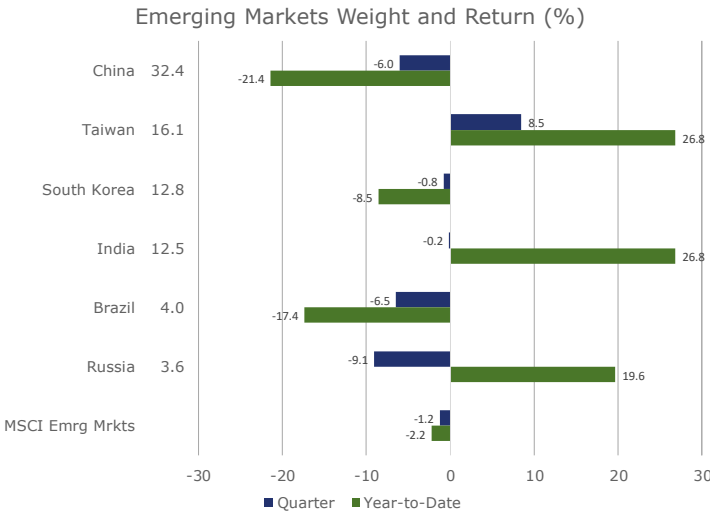
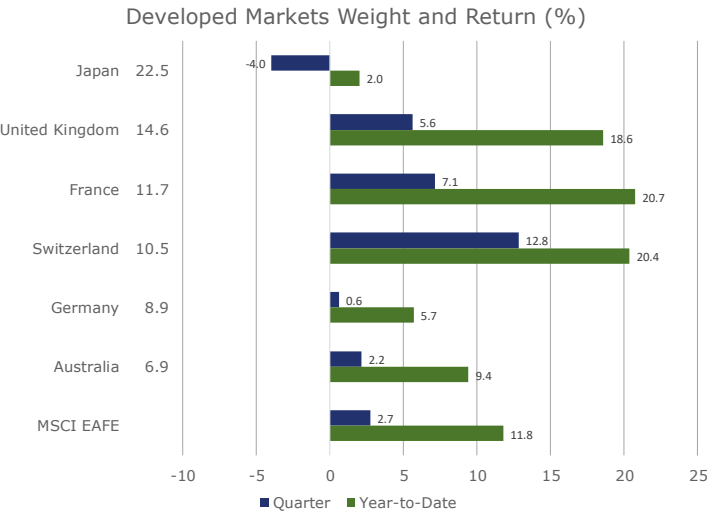
Non-U.S. Growth and Inflation



Data Sources: Bloomberg

Non-U.S. Equity Market

As of 12/31/2021	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
MSCI ACWI ex-US (\$G)	1.9	8.3	8.3	13.7	10.1	7.8
MSCI EAFE (\$G)	2.7	11.8	11.8	14.1	10.1	8.5
MSCI Emerging Markets (\$G)	-1.2	-2.2	-2.2	11.3	10.3	5.9
MSCI Frontier Markets (\$G)	2.0	4.6	4.6	5.3	5.0	4.1
MSCI ACWI ex-US Growth (\$G)	2.4	5.4	5.4	18.2	13.4	9.5
MSCI ACWI ex-US Value (\$G)	1.2	11.6	11.6	9.5	7.0	6.3
MSCI ACWI ex-US Small (\$G)	0.7	13.4	13.4	16.9	11.6	9.9
MSCI ACWI Minimum Volatility	6.4	14.5	14.5	13.0	11.1	10.7
MSCI EAFE Minimum Volatility	2.5	7.6	7.6	8.3	8.0	8.0
FTSE RAFI Developed ex-US	2.6	15.5	15.5	12.0	8.3	7.5
MSCI EAFE LC (G)	4.0	19.2	19.2	13.9	8.9	10.6
MSCI Emerging Markets LC (G)	-0.8	0.1	0.1	12.3	10.9	8.4

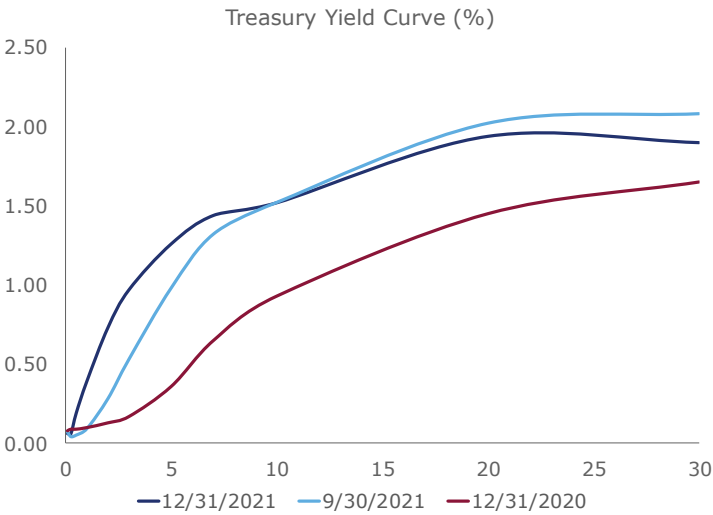
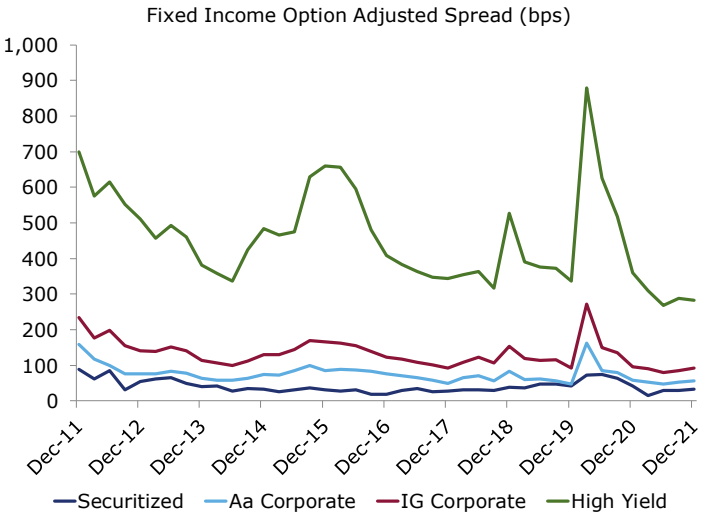


Data Sources: Bloomberg

U.S. Fixed Income

As of 12/31/2021	YTW	DUR.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Aggregate	1.8	6.8	0.0	-1.5	-1.5	4.8	3.6	2.9
Bloomberg Treasury	1.2	7.1	0.2	-2.3	-2.3	4.1	3.1	2.1
Bloomberg Gov't-Rel.	1.6	6.1	0.0	-1.3	-1.3	4.5	3.6	2.8
Bloomberg Securitized	2.0	4.8	-0.4	-1.0	-1.0	3.1	2.6	2.4
Bloomberg Corporate	2.3	8.7	0.2	-1.0	-1.0	7.6	5.3	4.7
Bloomberg LT Gov't/Credit	2.6	16.5	2.2	-2.5	-2.5	10.6	7.4	5.7
Bloomberg LT Treasury	1.9	18.6	3.1	-4.6	-4.6	8.8	6.5	4.5
Bloomberg LT Gov't-Rel.	3.0	13.6	1.9	-1.5	-1.5	8.6	6.8	5.5
Bloomberg LT Corporate	3.1	15.2	1.5	-1.1	-1.1	11.8	7.7	6.5
Bloomberg U.S. TIPS *	1.4	8.2	2.4	6.0	6.0	8.4	5.3	3.1
Bloomberg High Yield	4.2	3.8	0.7	5.3	5.3	8.8	6.3	6.8
S&P/LSTA Leveraged Loan	3.9	0.3	0.7	5.2	5.2	5.6	4.3	4.7
Treasury Bills	0.1	0.3	0.0	0.0	0.0	1.0	1.2	0.7

* Yield and Duration statistics are for a proxy index based on similar maturity, the Bloomberg Barclays U.S. Treasury 7-10 Year Index

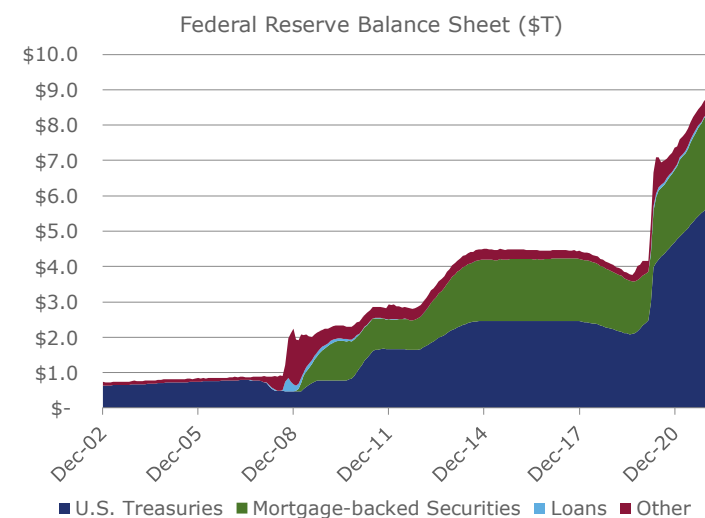
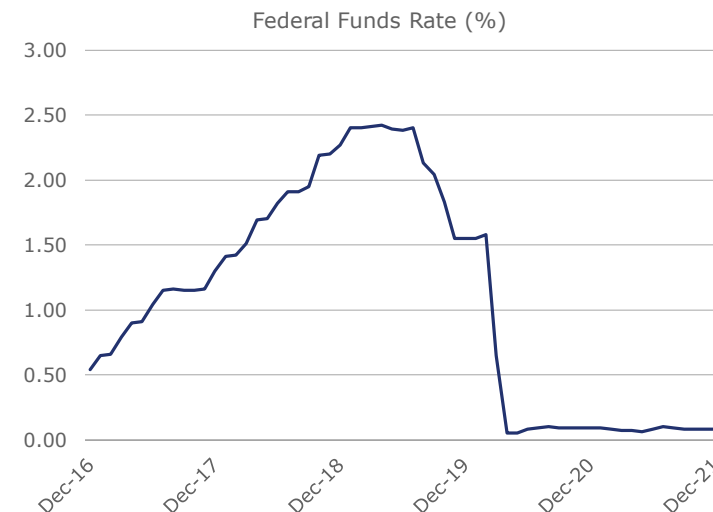


Data Sources: Bloomberg

Federal Reserve

- Current FOMC expectation is for three 25 basis point increases (or 0.75%) in the Fed-funds rate during 2022
- Federal Reserve has added more than \$4.5 trillion in assets to their balance sheet during the past 21 months
- QE4 is now larger than the 3 phases of quantitative easing – combined – following the global financial crisis

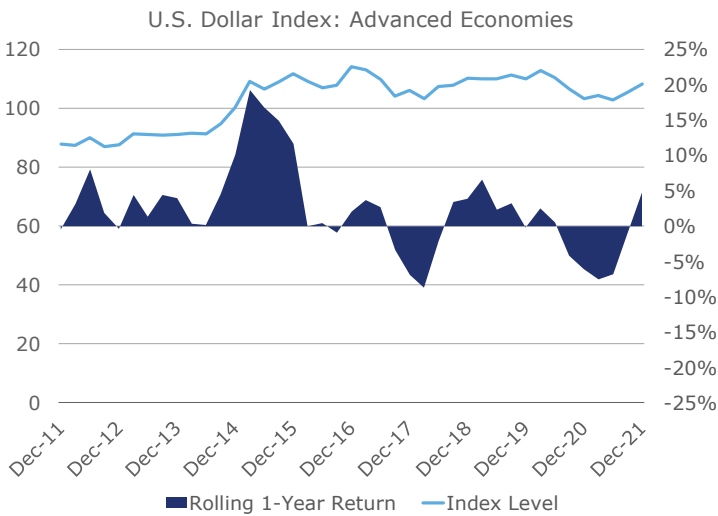
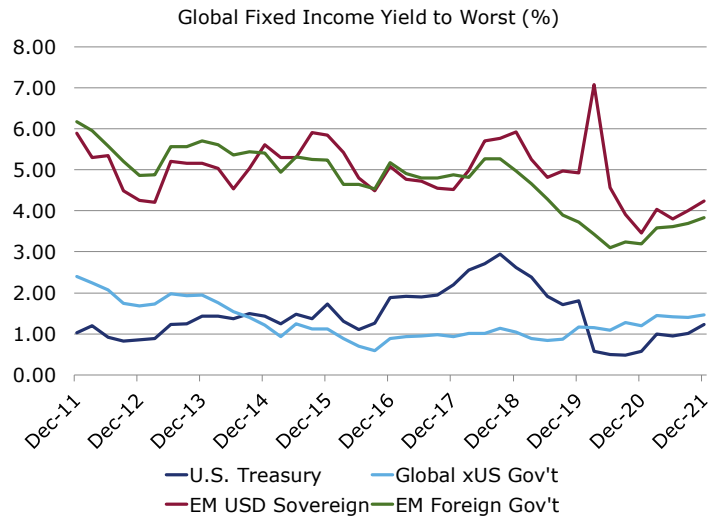
	Announced	Closed	Amount (bil)
QE1	11/25/2008	3/31/2010	\$1,403
QE2	11/3/2010	6/29/2012	\$568
QE3	9/13/2012	10/29/2014	\$1,674
QE4	3/23/2020		\$4,599



Non-U.S. Fixed Income

As of 12/31/2021	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Developed Markets						
Bloomberg Global Aggregate xUS	-1.2	-7.0	-7.0	2.5	3.1	0.8
Bloomberg Global Aggregate xUS *	0.1	-1.4	-1.4	3.3	3.1	3.8
Bloomberg Global Inflation Linked xUS	2.9	0.7	0.7	7.2	5.5	3.6
Bloomberg Global Inflation Linked xUS *	3.5	4.9	4.9	7.1	5.2	5.8
Emerging Markets (Hard Currency)						
Bloomberg EM USD Aggregate	-0.5	-1.7	-1.7	5.8	4.6	5.1
Emerging Markets (Foreign Currency)						
Bloomberg EM Local Currency Gov't	0.4	-1.6	-1.6	4.3	4.6	2.5
Bloomberg EM Local Currency Gov't *	-0.4	-1.4	-1.4	3.4	3.3	2.9
Euro vs. Dollar	-1.8	-6.9	-6.9	-0.3	1.6	-1.3
Yen vs. Dollar	-3.3	-10.3	-10.3	-1.6	0.3	-3.9
Pound vs. Dollar	0.4	-1.0	-1.0	2.0	1.9	-1.4

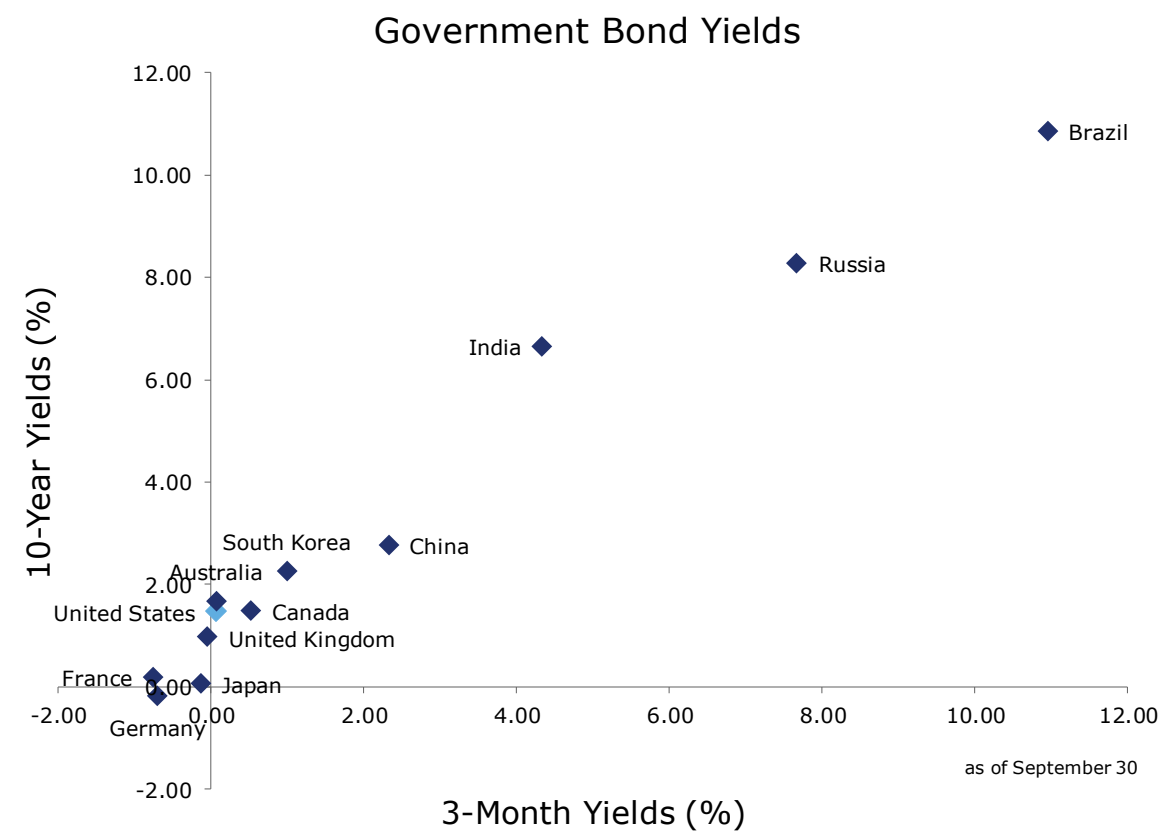
* Returns are reported in terms of local market investors, which removes currency effects.



Data Sources: Bloomberg

Global Interest Rates

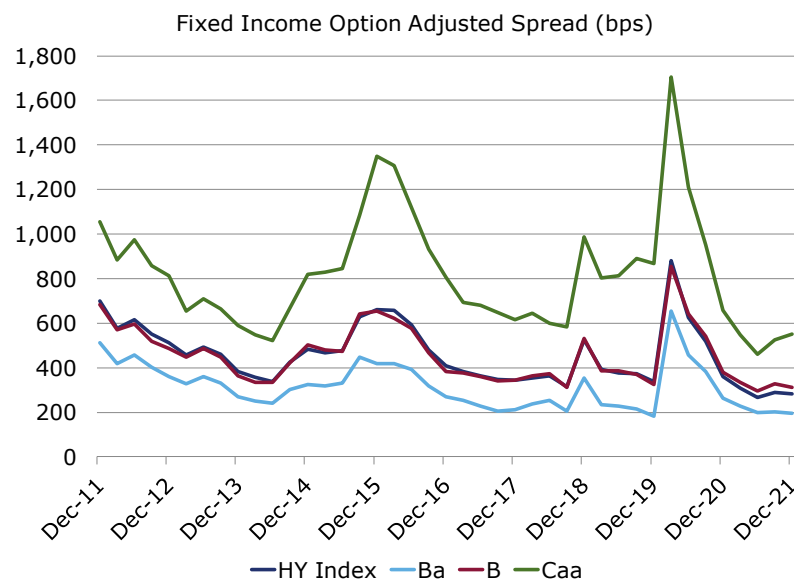
Negative rates found in Germany and France; low but positive rates, and at similar levels, in the U.S., Australia and in the U.K.



Data Sources: Bloomberg

High Yield Bond Market

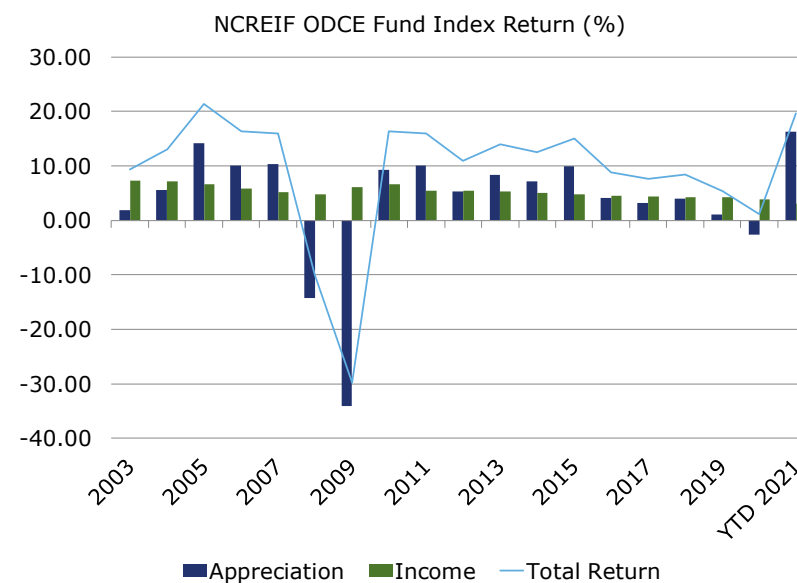
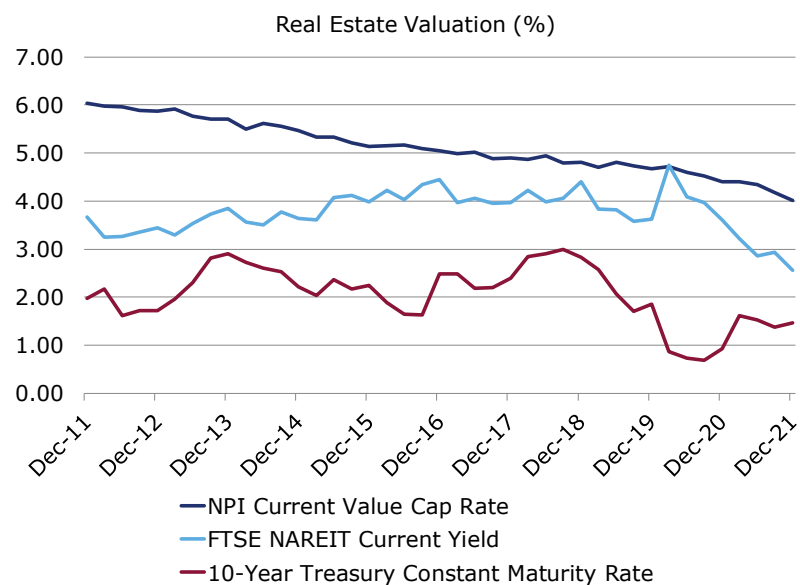
As of 12/31/2021		YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg High Yield		4.2	0.7	5.3	5.3	8.8	6.3	6.8
S&P LSTA Leveraged Loan		3.7	0.4	3.5	3.5	5.6	3.9	4.3
High Yield Quality Distribution	Weight							
Ba U.S. High Yield	52.8%	3.3	0.7	4.6	4.6	10.0	6.9	7.0
B U.S. High Yield	35.7%	4.6	0.8	4.8	4.8	8.0	5.8	6.3
Caa U.S. High Yield	11.3%	6.8	0.5	8.6	8.6	6.7	5.2	7.1
Ca to D U.S. High Yield	0.3%	27.8	-12.9	12.5	12.5	4.8	5.3	-1.4
Non-Rated U.S. High Yield	0.0%	0.0	0.0	0.0	0.0	-0.2	1.9	2.5



Data Sources: Bloomberg

Real Assets

As of 12/31/2021	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg U.S. TIPS	2.4	6.0	6.0	8.4	5.3	3.1
Bloomberg Commodity Index	-1.6	27.1	27.1	9.9	3.7	-2.9
Bloomberg Gold Index	4.0	-4.3	-4.3	11.0	8.4	0.7
Wilshire Global RESI Index	13.1	34.1	34.1	15.1	9.7	10.5
NCREIF ODCE Fund Index	8.0	22.2	22.2	9.2	8.7	10.4
NCREIF Timberland Index	4.6	9.2	9.2	3.7	3.6	5.3
FTSE Global Core Infrastructure 50/50	7.7	15.7	15.7	12.2	10.3	9.7
Alerian Midstream Energy	-0.4	38.4	38.4	9.6	2.2	n.a.
Bitcoin	6.7	59.8	59.8	132.8	117.5	153.4



Data Sources: Bloomberg, National Council of Real Estate Investment Fiduciaries

Asset Class Performance

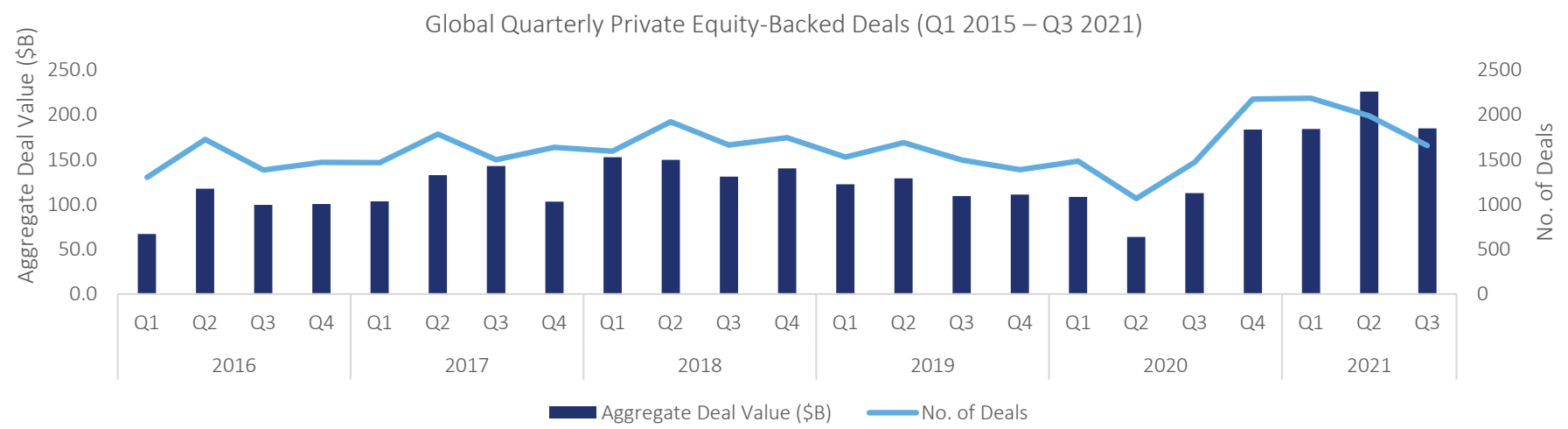
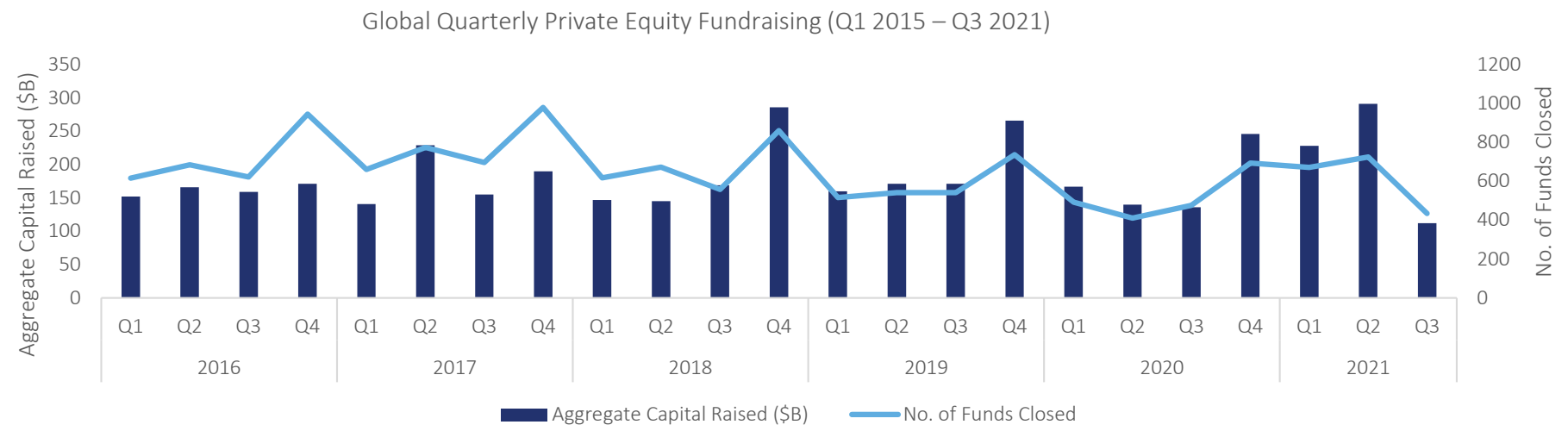
Asset Class Returns - Best to Worst

2016	2017	2018	2019	2020	2021 YTD	Annualized 5-Year as of 12/21
High Yield 17.1%	Emrg Mrkts 37.7%	T-Bills 1.9%	U.S. Equity 31.0%	U.S. Equity 20.8%	REITs 46.2%	U.S. Equity 18.1%
U.S. Equity 13.4%	Developed 25.6%	Core Bond 0.0%	REITs 25.8%	Emrg Mrkts 18.7%	Commodities 27.1%	REITs 10.9%
Commodities 11.8%	U.S. Equity 21.0%	U.S. TIPS -1.3%	Developed 22.7%	U.S. TIPS 11.0%	U.S. Equity 26.7%	Emrg Mrkts 10.3%
Emrg Mrkts 11.6%	High Yield 7.5%	High Yield -2.1%	Emrg Mrkts 18.9%	Developed 8.3%	Developed 11.8%	Developed 10.1%
REITs 7.2%	REITs 4.2%	REITs -4.8%	High Yield 14.3%	Core Bond 7.5%	U.S. TIPS 6.0%	High Yield 6.3%
U.S. TIPS 4.7%	Core Bond 3.6%	U.S. Equity -5.3%	Core Bond 8.7%	High Yield 7.1%	High Yield 5.3%	U.S. TIPS 5.3%
Core Bond 2.6%	U.S. TIPS 3.0%	Commodities -11.2%	U.S. TIPS 8.4%	T-Bills 0.7%	T-Bills 0.0%	Commodities 3.7%
Developed 1.5%	Commodities 1.7%	Developed -13.4%	Commodities 7.7%	Commodities -3.1%	Core Bond -1.5%	Core Bond 3.6%
T-Bills 0.3%	T-Bills 0.8%	Emrg Mrkts -14.2%	T-Bills 2.3%	REITs -7.9%	Emrg Mrkts -2.2%	T-Bills 1.2%

Data Sources: Bloomberg Note: Developed asset class is developed equity markets ex-U.S., ex-Canada

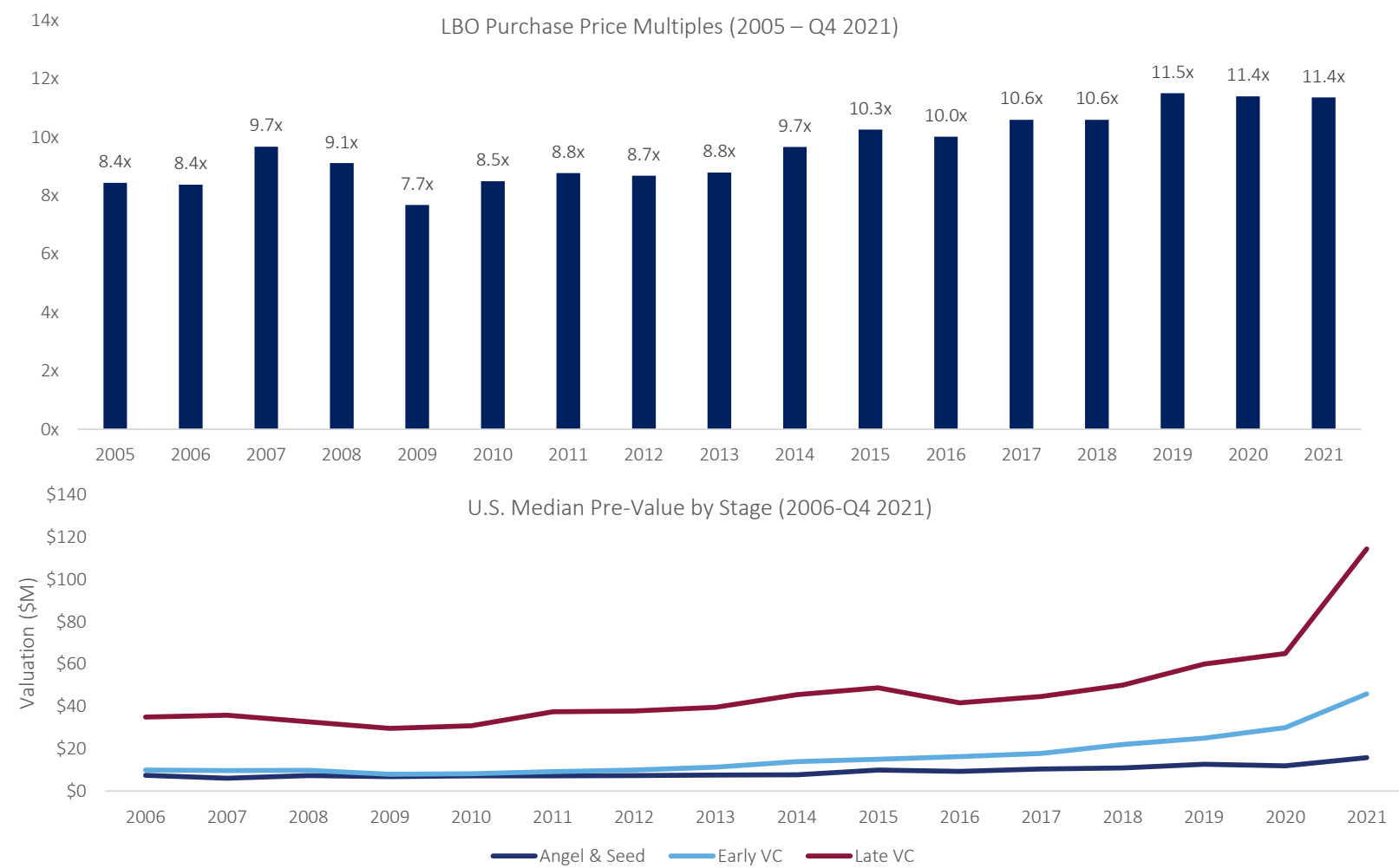
Appendix: Private Market Trends

Private Equity – Fundraising & Investment Activity



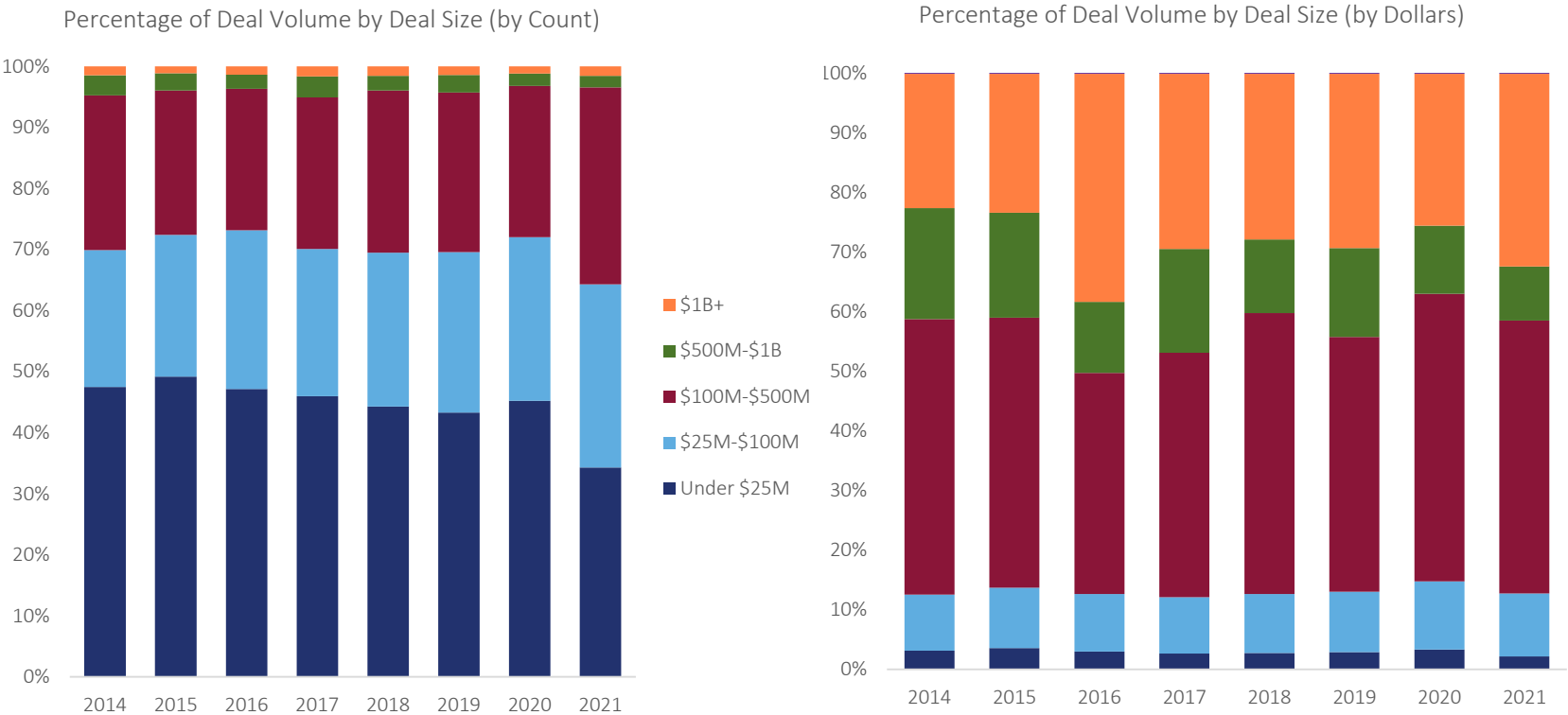
Source: Preqin, as of September 30, 2021.

Private Equity – Pricing & Valuations



Source: S&P LBO; Pitchbook, *as of December 31, 2021.

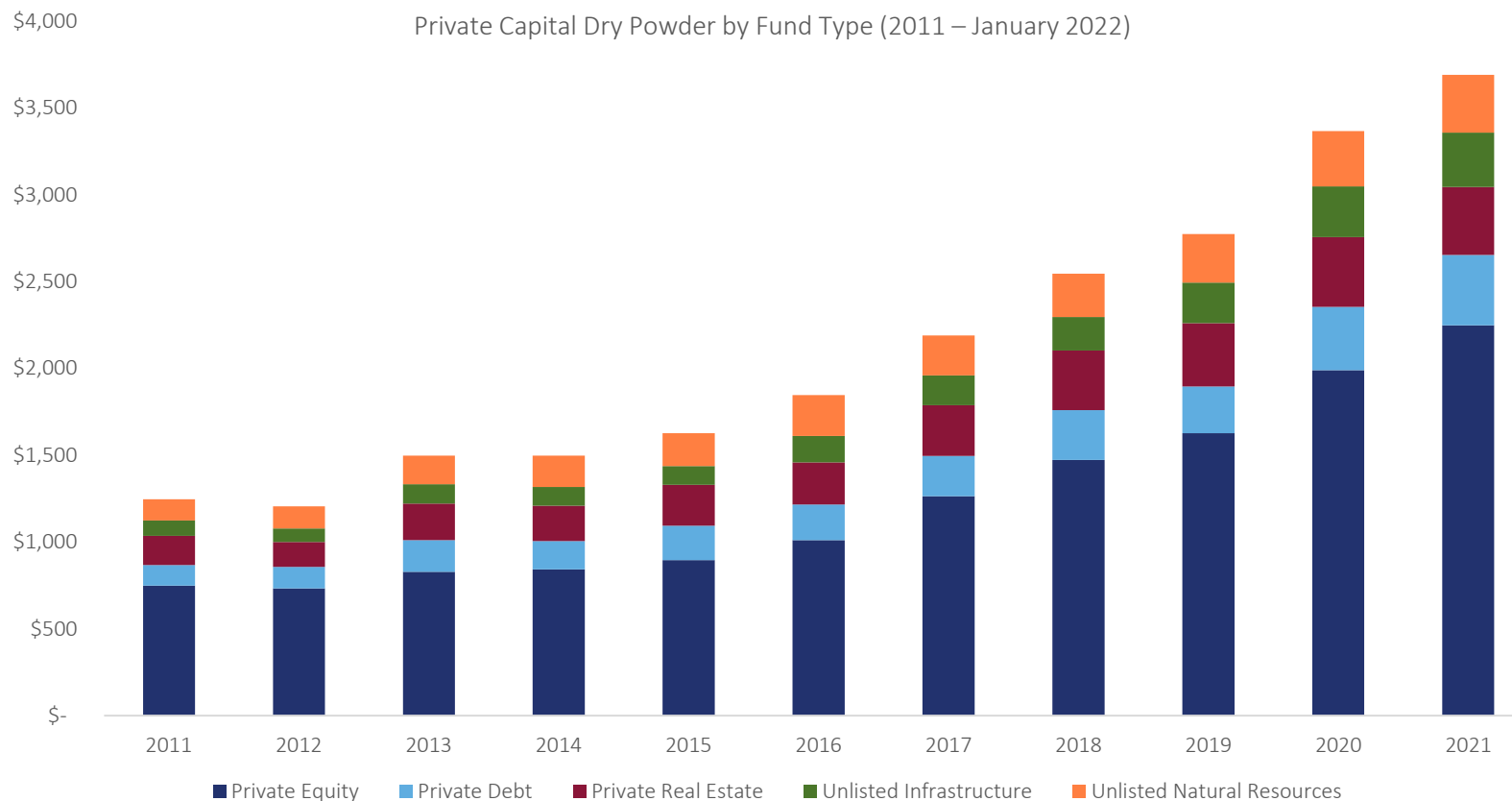
U.S. Investment Activity by Deal Size



- Deal volume continues to be dominated by lower middle market deals with investment sizes below \$100 million through the fourth quarter of 2021
- However, deals with below \$100 million check sizes comprised only 13% of all deal volume by amount of capital invested in 2021

Source: Pitchbook, *as of December 31, 2021.

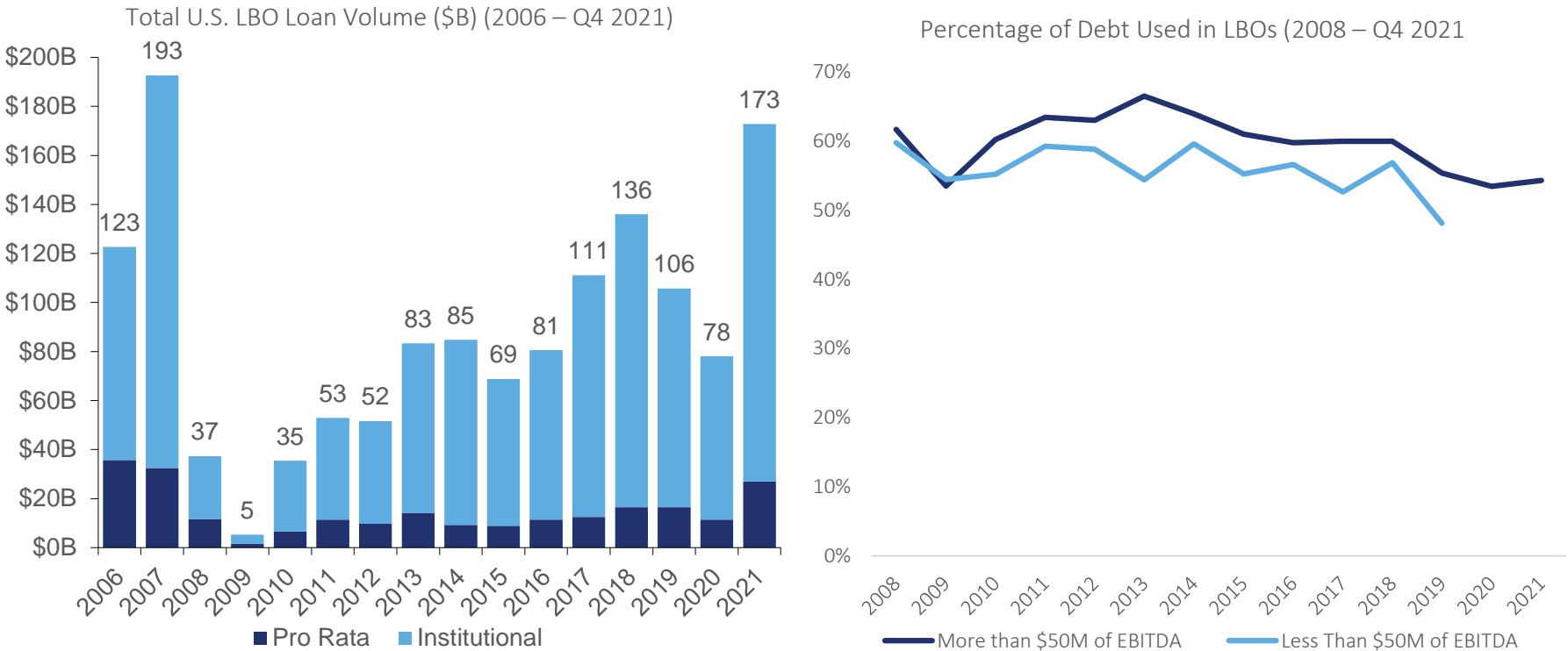
Private Capital Dry Powder



- Global private capital dry power continues to increase, topping \$3.7 trillion across all fund types
- Private equity comprises just under 61% of total dry powder in the market as of January 2022

Source: Preqin, *as of January 27, 2022.

Private Equity – U.S. Debt Markets

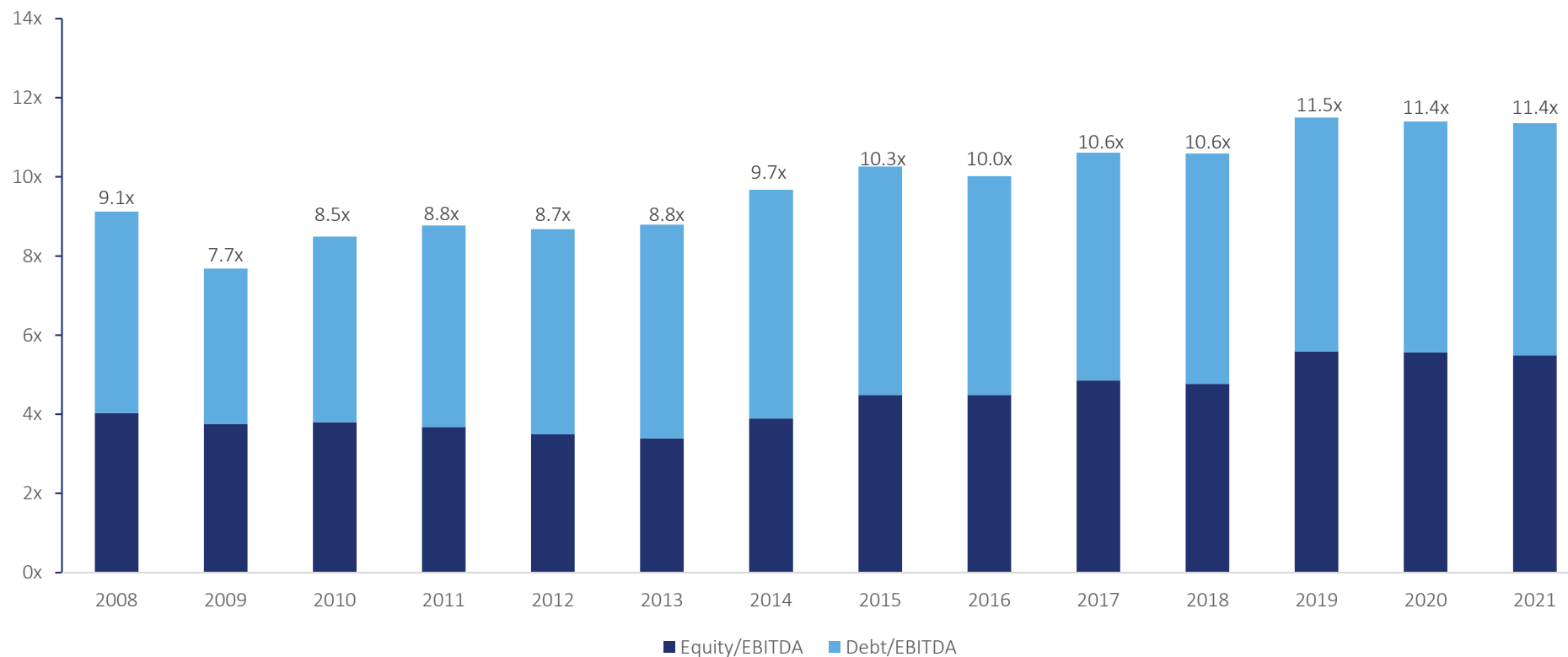


- 2021 has generated approximately \$173 billion in loan volume so far, has surpassed the loan volume from all prior years since 2008
- As debt multiples have increased, the percentage of debt used to finance leveraged buyouts through Q4 2021 has minimally increased from 2020 marks

Source: S&P LBO, *as of December 31, 2021. “Less than \$50M of EBITDA” data for 2020 and 2021 not yet available.

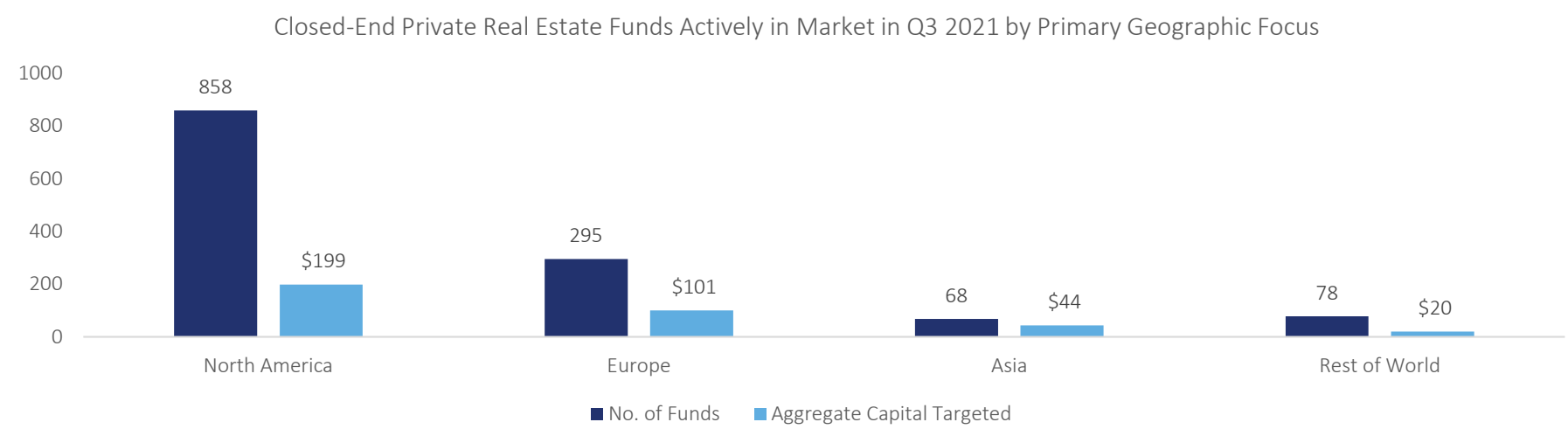
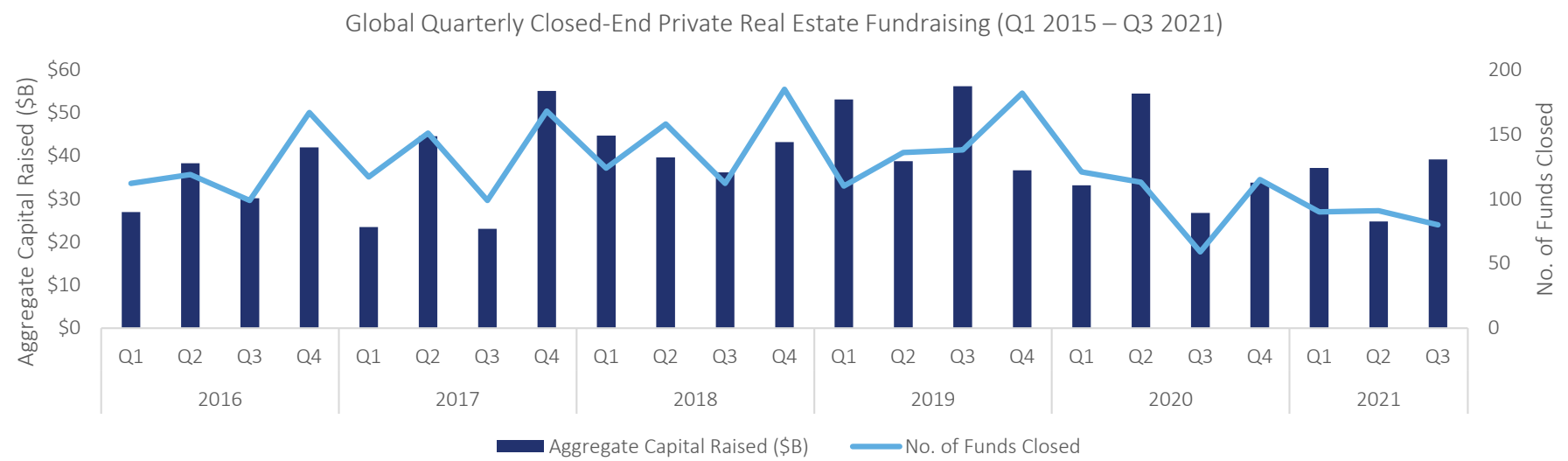
Private Equity – U.S. LBO Purchase Price Multiples

Purchase Price Multiples of U.S. LBO Transactions (2008 – Q4 2021)



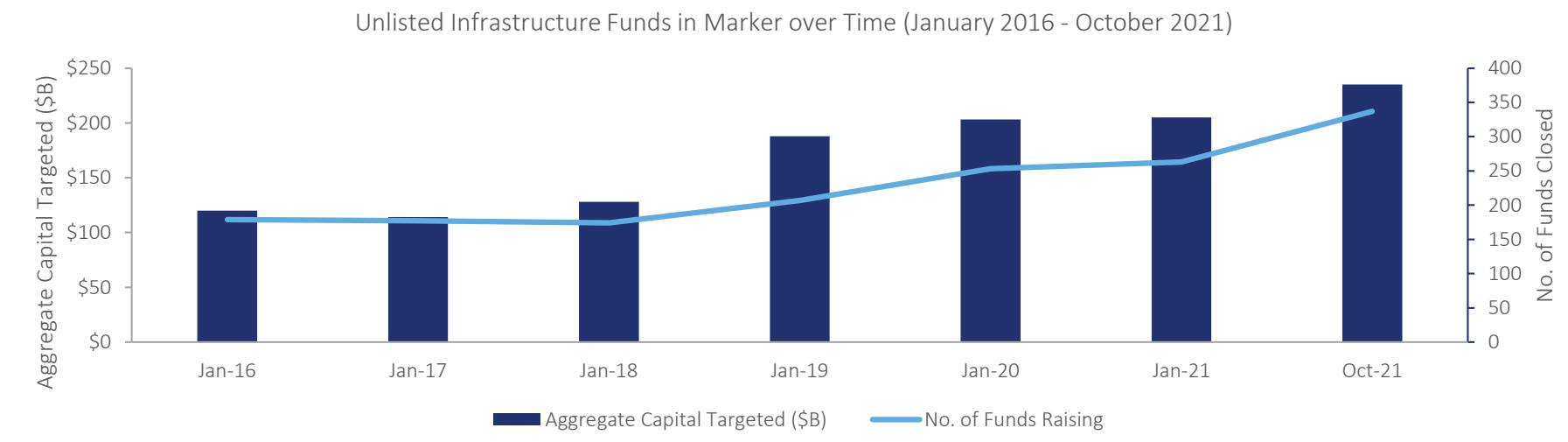
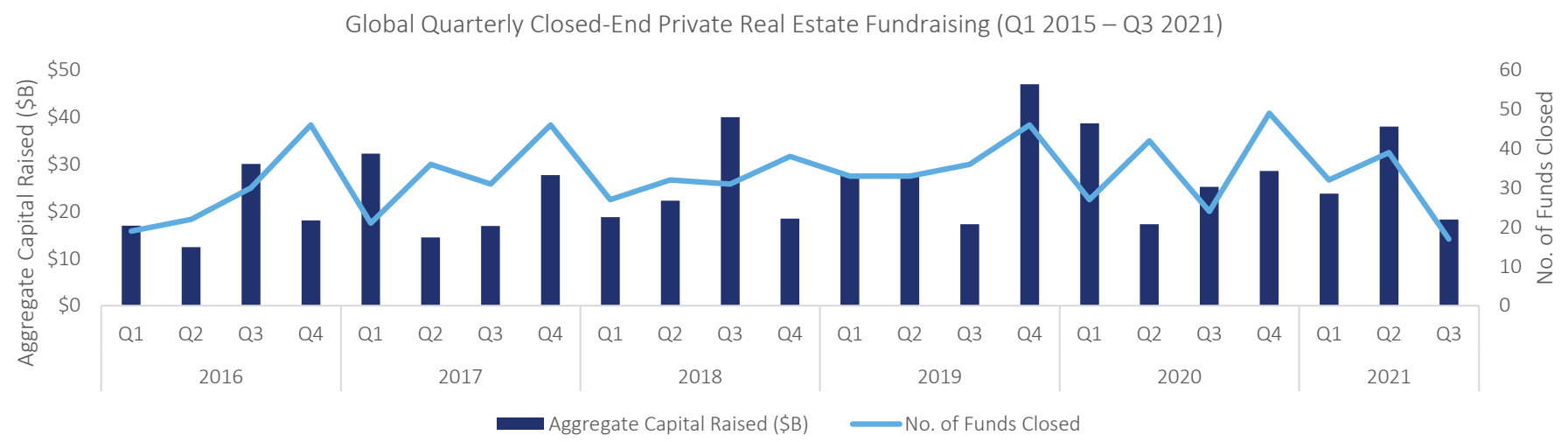
- Purchase price multiples for U.S. LBOs have remained steady through Q4 2021, relative to 2020 levels.

Private Real Estate – Fundraising Activity



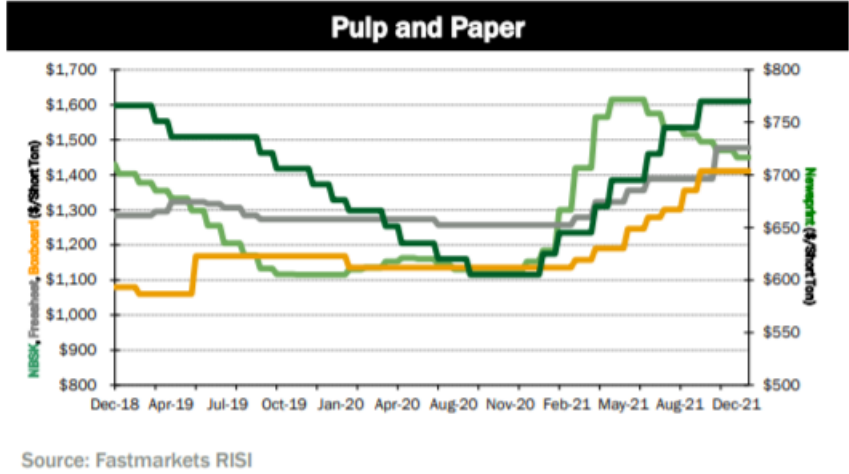
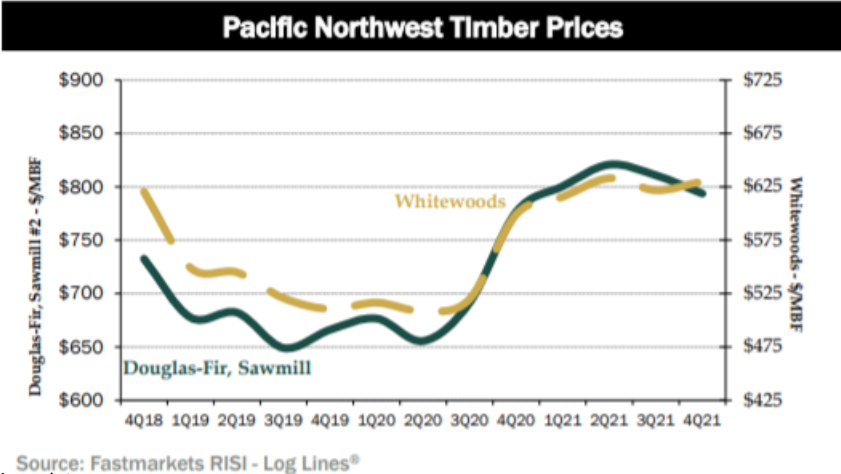
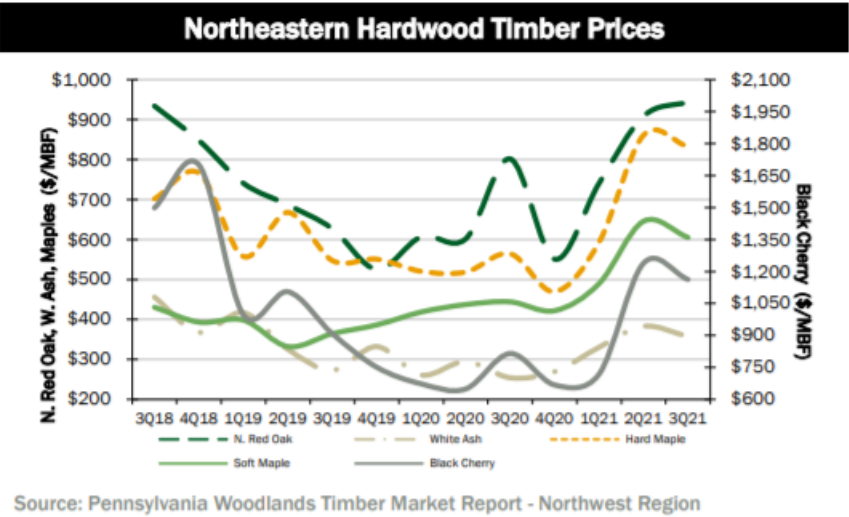
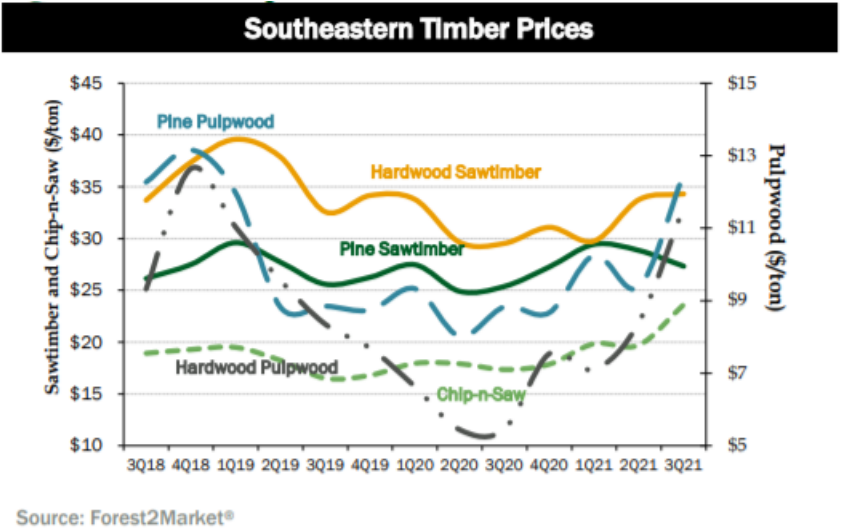
Source: Preqin, as of September 30, 2021.

Unlisted Infrastructure – Fundraising & Investment Activity



Source: Preqin, as of September 30, 2021.

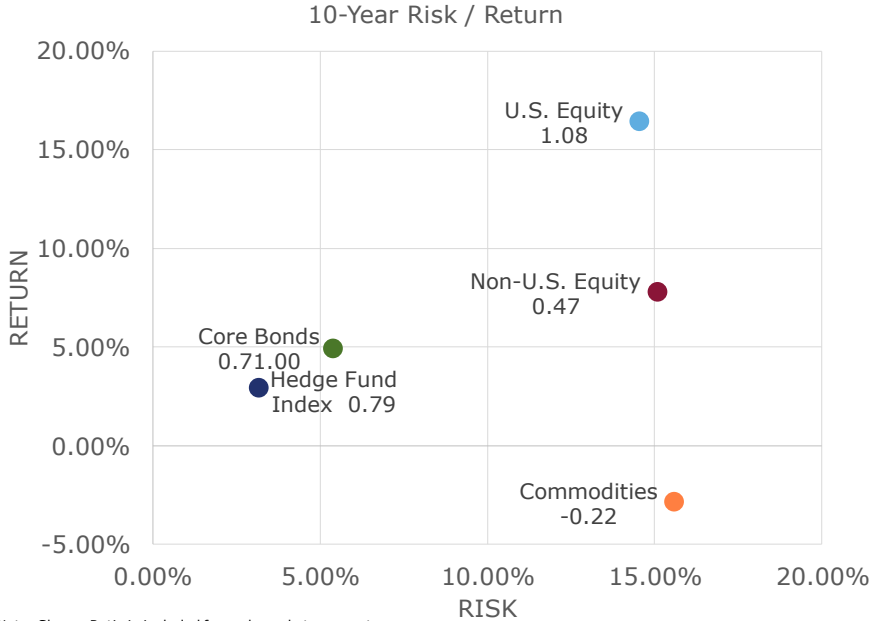
Timber Investments



Data Sources: Forest Investment Associates

Hedge Fund Performance

As of 12/31/2021	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Credit Suisse Hedge Fund Index	0.9	8.2	8.2	8.0	5.5	4.9
Event Driven	0.1	12.9	12.9	9.3	5.9	5.2
Global Macro	0.6	9.6	9.6	8.8	5.6	4.4
Long/Short Equity	2.1	8.3	8.3	9.4	7.2	6.7
Multi-Strategy	1.0	7.0	7.0	6.6	5.1	6.2
FT Wilshire 5000	9.6	26.7	26.7	26.1	18.1	16.4
MSCI ACWI ex-US (\$G)	1.9	8.3	8.3	13.7	10.1	7.8
Bloomberg Aggregate	0.0	-1.5	-1.5	4.8	3.6	2.9
Bloomberg Commodity Index	-1.6	27.1	27.1	9.9	3.7	-2.9



Data Source: Bloomberg

EXECUTIVE SUMMARY OF PERFORMANCE

Employees' Retirement Fund of the City of Dallas



Fourth Quarter 2021



FOURTH QUARTER 2021

Quarterly Market Commentary

Market Dashboard

Multi-Asset	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Global 60/40 (ACWI/U.S. Core Bonds)	2.30	4.02	10.20	10.20
Wilshire Risk Parity Index™ – 12% Volatility	2.73	5.26	15.12	15.12

Source: Bloomberg. Indexes are total return.

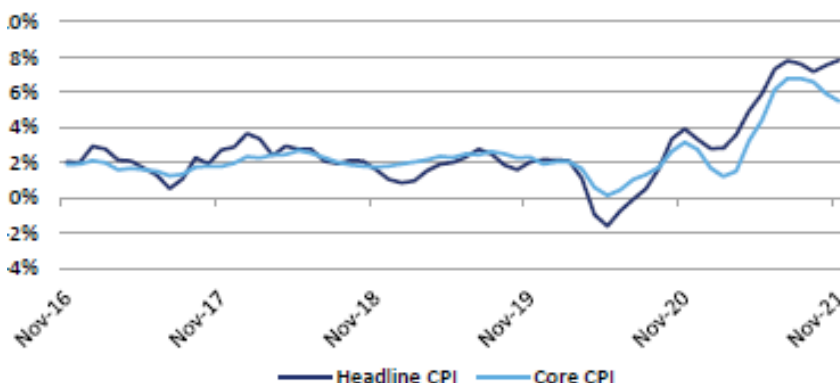
Strategic Allocation Themes	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Growth ¹	4.00	6.68	18.54	18.54
Defensive Growth ²	3.45	3.76	11.05	11.05
Diversified Credit ³	1.49	0.22	2.26	2.26
Real Assets ⁴	4.65	5.88	23.61	23.61
Defensive ⁵	(0.26)	0.01	(1.54)	(1.54)

Source: Bloomberg. Indexes are total return.

Quarterly Insight

Sharply rising inflation will likely be remembered as the economic story of 2021. Increases in CPI have reached rates not seen in 40 years. Food and energy prices are up meaningfully, but so too are the major "core" CPI items of automobiles and apparel. Consumers' ability to manage this period will help determine whether the U.S. can continue its economic progress. The employment picture is quite strong, including an unemployment rate approaching 4% and continued above-trend growth in wages. However, the personal savings rate has fallen to a level last seen in late-2017, suggesting that consumers are saving less as they adjust to rising prices. Inflation and new COVID variants are likely behind depressed consumer sentiment surveys.

Inflation Rate (6-months Annualized)



Source: Bloomberg

Economic highlights

GDP: Real GDP growth slowed during the third quarter, up an annualized 2.3%. The main drivers of growth were private investment (up 12.4%) and personal consumption (up 2.0%). Imports continue to rise while exports fell during the quarter, the net effect being a drag on economic growth of -1.3%. The Atlanta Fed's GDPNow forecast for the fourth quarter currently stands at 7.6%.

Source: Bureau of Economic Analysis

Interest Rates: The Treasury curve rose meaningfully in the short end during the fourth quarter, while longer term rates were down. The 10-year Treasury closed at 1.51%, up two basis points since September. The 10-year real yield (i.e., net of inflation) fell 21 basis points to -1.10%. The Federal Open Market Committee left the Fed Funds rate unchanged this quarter. At the December meeting, the committee's median outlook moved to three, 25 basis point increases in the overnight rate by the end of 2022.

Source: U.S. Treasury

Inflation: Consumer price changes have accelerated rapidly as the Consumer Price Index jumped 2.1% for the three months ending November. For the one-year period, the CPI is up 6.9%. The 10-year breakeven inflation rate increased to 2.59% in December versus 2.38% in September.

Source: Dept. of Labor (BLS), U.S. Treasury

Employment: Jobs growth has been quite strong this year, with an average of 378k jobs/month added during the three months ending in November. The unemployment rate continued to fall, dropping to 4.2%. Reported job openings continue to rise and are now above the number of unemployed persons.

Source: Dept. of Labor (BLS)

Housing: Low borrowing rates and a shortage of properties have driven home prices to record highs. The S&P Case-Shiller 20-city Home Price Index was up 3.0% and 18.4%, respectively, for the three- and 12-months ending October.

Source: Standard & Poor's



U.S. Economy and Markets

The U.S. stock market, represented by the FT Wilshire 5000 Index™, was up 9.58% for the fourth quarter of 2021. Nearly all sectors were in positive territory, with Real Estate (+14.7%), Information Technology (+14.6%) and Materials (+14.4%) representing the best performing sectors. The only sector that was negative this quarter was Communication Services (-0.8%). From a size perspective, large-cap outperformed small-cap during the quarter. Growth stocks outperformed value within the large-cap segment of the market but underperformed in small-caps, while large-growth was the best performing market segment overall.

U.S. Equity	MTD (%)	QTD (%)	YTD (%)	1Y (%)
FT Wilshire 5000 Index™	3.89	9.58	26.70	26.70
Standard & Poor's 500	4.48	11.03	28.71	28.71
Wilshire 4500 Completion Index™	1.24	1.73	16.02	16.02
MSCI USA Minimum Volatility	6.79	10.41	21.01	21.01

Source: Bloomberg. Indexes are total return.

U.S. Equity by Size/Style	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Wilshire US Large-Cap Index™	3.97	10.24	27.46	27.46
Wilshire US Large-Cap Growth Index™	2.24	11.56	28.86	28.86
Wilshire US Large-Cap Value Index™	6.36	8.56	24.53	24.53
Wilshire US Small-Cap Index™	3.23	3.28	19.17	19.17
Wilshire US Small-Cap Growth Index™	1.67	1.78	10.12	10.12
Wilshire US Small-Cap Value Index™	4.82	4.81	29.24	29.24
Wilshire US Micro-Cap Index™	(1.56)	(8.36)	14.50	14.50

Source: Bloomberg. Indexes are total return.

GICS sector returns	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Communication Services	2.12	(0.77)	20.40	20.40
Consumer Discretionary	(0.70)	11.11	23.47	23.47
Consumer Staples	9.87	12.39	17.81	17.81
Energy	2.60	6.36	56.35	56.35
Financials	3.00	4.82	35.45	35.45
Health Care	7.65	8.44	21.46	21.46
Industrials	4.64	8.04	19.57	19.57
Information Technology	2.62	14.61	30.85	30.85
Materials	7.15	14.37	27.86	27.86
Real Estate	9.60	14.74	40.39	40.39
Utilities	9.46	13.27	17.55	17.55

Source: Wilshire Atlas. Indexes are total return.

Large-Cap Growth was the best performing segment, up 11.6% this quarter



International Economy and Markets

Performance results within international equity markets were mixed for the second straight quarter, with meaningful differences in return between developed and emerging markets. The MSCI EAFE Index was up 2.2% for the past six months, while the MSCI Emerging Markets Index was down -9.3%. The main sources of weakness were China, South Korea and Brazil. In China, the real estate market, which accounts for nearly a third of China's GDP, has been experiencing a major slump and developers are heavily indebted. While their economic growth forecasts are on the decline, the economy is still expected to expand in 2021. In Europe, Germany is the area's largest economy and is facing a potential recession as supply issues and new coronavirus cases weigh on growth. Germany's Ifo Institute for Economic Research has forecasted a 0.5% drop in growth during the fourth quarter, with more weakness to begin 2022. Growth has slowed in the U.K., as well, and is expected to face additional headwinds.

Heavily indebted real estate developers in China are facing a major slump in prices

Non-U.S. Equity	MTD (%)	QTD (%)	YTD (%)	1Y (%)
MSCI ACWI	4.00	6.67	18.54	18.54
MSCI ACWI ex USA	4.13	1.82	7.82	7.82
MSCI ACWI ex USA Minimum Volatility	4.00	2.74	9.54	9.54
MSCI EAFE	5.12	2.69	11.26	11.26
MSCI Emerging Markets	1.88	(1.31)	(2.54)	(2.54)
MSCI ACWI ex USA Small Cap	4.23	0.62	12.93	12.93

Source: Bloomberg. Indexes are total return.

Non-U.S. Equity (local currency)	MTD (%)	QTD (%)	YTD (%)	1Y (%)
MSCI ACWI	3.71	7.03	20.90	20.90
MSCI ACWI ex USA	3.39	2.69	13.04	13.04
MSCI ACWI ex USA Minimum Volatility	3.54	3.20	13.71	13.71
MSCI EAFE	4.31	3.91	18.70	18.70
MSCI Emerging Markets	1.48	(0.91)	(0.19)	(0.19)
MSCI ACWI ex USA Small Cap	3.46	1.69	19.05	19.05

Source: Bloomberg. Indexes are total return.

Fixed Income Markets

The U.S. Treasury yield curve was up 45 basis points in the short end (at the 2-year maturity) but down in the long end of the curve. The 10-year Treasury yield ended the quarter at 1.51%, up two basis points from September. Investment-grade credit spreads widened during the quarter, but the spread on the broad high yield tightened, closing the quarter at 2.83%. The Federal Open Market Committee met twice during the quarter, as scheduled, with no change to their overnight rate. Through the Fed's "dot plot," they are messaging that the current intent is for three 25 basis point increases in the overnight rate before the end of 2022. Their median forecast for year-end 2023 is for a Fed funds rate of 1.625%. During the December meeting, the committee announced that it would begin to reduce (i.e., taper) the monthly



pace of its asset purchases starting in January. Despite previously labeling increased inflation as “transitory,” Fed chair Jerome Powell acknowledged that increases have spread to a broader range of goods and that inflation may now be “more persistent.”

U.S. Fixed Income	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Bloomberg U.S. Aggregate	(0.26)	0.01	(1.54)	(1.54)
Bloomberg Long Term Treasury	(1.42)	3.08	(4.65)	(4.65)
Bloomberg Long Term Corporate	(0.43)	1.47	(1.13)	(1.13)
Bloomberg U.S. TIPS	0.32	2.36	5.96	5.96
Bloomberg U.S. Credit	(0.08)	0.22	(1.08)	(1.08)
Bloomberg U.S. Corporate High Yield	1.87	0.71	5.28	5.28
S&P/LSTA Leveraged Loan	0.64	0.75	5.20	5.20

Source: Bloomberg. Indexes are total return.

Market Rates	Dec 31	Sept 30	June 30	Mar 31
10-Year Treasury	1.51	1.49	1.47	1.74
10-Year Breakeven Inflation	2.59	2.38	2.34	2.37

Source: Bloomberg. Indexes are total return.

Global Fixed Income	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Bloomberg Global Aggregate	(0.14)	(0.67)	(4.71)	(4.71)
Bloomberg Global Aggregate (Hdg)	(0.41)	0.04	(1.39)	(1.39)
Bloomberg EM LC Gov't Universal	0.70	0.36	(1.15)	(1.15)
Bloomberg EM LC Gov't Universal (Hdg)	(0.09)	(0.47)	(1.58)	(1.58)

Source: Bloomberg. Indexes are total return.

Long-term bond prices were up as rates fell in the long portion of the curve

Real Asset Markets

Real estate securities were up during the fourth quarter in both the U.S. and abroad. Commodity results were negative for the quarter, although crude oil was up slightly, 0.2% to \$75.21 per barrel. Commodities were quite strong for 2021, up broadly more than 27%. Natural gas prices rose dramatically during 2021, increasing by more than 100% during a six month period. Prices were down by -36%, however, during the fourth quarter, ending at \$3.73 per million BTUs. Gold prices were volatile in 2021 and were up 4.2% during the quarter, finishing at approximately \$1,829 per troy ounce.



Real Assets	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Wilshire US Real Estate Securities Index™	8.86	17.15	46.11	46.11
Wilshire Global Real Estate Securities Index™	7.38	13.12	34.05	34.05
FTSE Global Core Infrastructure 50/50	7.36	7.72	15.71	15.71
Alerian Midstream Energy	1.13	(0.35)	38.42	38.42
Bloomberg Commodity	3.53	(1.56)	27.11	27.11
Gold	3.08	4.11	(3.64)	(3.64)
Bitcoin	(18.91)	6.67	59.79	59.79

Source: Bloomberg. Indexes are total return.

Alternatives

Liquid alternative managers posted a positive quarter, though sub-strategy performance was mixed. Equity Hedge managers led the way for the Index, posting strong returns for the quarter despite a difficult environment in late November. Multi-strategy managers also performed positively for the quarter. Global Macro managers struggled during the quarter as many managers struggled to navigate reversals and choppy trading environments in multiple asset classes, most notably equities and commodities. Event Driven managers also posted small losses for the quarter, with tightening deal spreads and elevated merger activity outweighed by the equity sell-off in late November. Relative Value managers ended the quarter in negative territory as rising yields had a negative impact on most credit markets.

Global macro managers
struggled to navigate
choppy trading
environments

Alternatives	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Wilshire Liquid Alternative Index™	0.71	0.57	4.68	4.68
Wilshire Liquid Alternative Equity Hedge Index™	1.89	3.25	12.75	12.75
Wilshire Liquid Alternative Event Driven Index™	0.03	(0.35)	2.04	2.04
Wilshire Liquid Alternative Global Macro Index™	0.33	(1.33)	2.67	2.67
Wilshire Liquid Alternative Multi-Strategy Index™	0.78	0.91	5.32	5.32
Wilshire Liquid Alternative Relative Value Index™	0.15	(0.65)	0.43	0.43

Source: Bloomberg. Indexes are total return.

¹ 100% Global Equity

² 60% Low Vol Global Equity, 40% US Convertibles

³ 42.5% U.S. High Yield, 42.5% EMD, 15% Banks Loans

⁴ 43% Global REITS/GLI, 33% Commodities, 48% TIPS, 9% Gold, -31% Cash

⁵ 100% US Core Bonds



Total Fund Overview

Asset Class Performance

	Assets		Performance (%)					
	(\$Mil)	(%)	QTR	YTD	1-year	3-year	5-year	10-year
U.S. Equity	622.6	15.4	9.39	29.60	29.60	24.86	16.66	15.48
International Equity	507.8	12.6	1.76	10.32	10.32	16.06	10.91	9.06
Global Equity	295.7	7.3	4.85	14.22	14.22	17.66	12.97	
Global Low Volatility	511.8	12.7	6.84	15.69	15.69	12.11	10.23	
Real Estate	404.9	10.0	8.46	25.45	25.45	12.33	8.66	9.87
Global Fixed Income	511.3	12.7	-0.10	-0.93	-0.93	5.47	4.02	3.55
High Yield	378.5	9.4	0.74	5.06	5.06	8.53	5.71	6.15
Credit Opportunities	184.5	4.6	-0.24	2.69	2.69	6.54	5.37	
Global Listed Infra.	228.4	5.7	3.36	32.24	32.24	3.13	-1.81	3.45
Private Equity	339.7	8.4	5.86	39.74	39.74	17.15	16.55	13.29
Cash Equivalents	53.1	1.3	0.01	0.05	0.05	1.00	1.14	0.63
Total Fund	4,038.2	100.0	4.36	16.10	16.10	13.02	9.35	9.10
Asset Allocation Policy			4.20	14.85	14.85	13.46	9.41	8.93
Value Added vs Policy			0.16	1.25	1.25	-0.43	-0.06	0.16
Actuarial Rate			1.77	7.25	7.25	7.25	7.45	7.80
Wilshire 5000 Index			9.58	26.70	26.70	26.11	18.11	16.40
S&P 500 Index			11.03	28.71	28.71	26.07	18.47	16.55
MSCI ACWI x-U.S. IMI Index			1.64	8.53	8.53	13.62	9.83	7.57
MSCI EAFE Index			2.69	11.26	11.26	13.54	9.55	8.03
Bloomberg Aggregate Bond Index			0.01	-1.55	-1.55	4.79	3.57	2.90
Citigroup High Yield Cash Pay			0.77	5.32	5.32	8.47	5.97	6.43
Wilshire RE Securities Index			17.15	46.11	46.11	19.16	11.05	11.64
91-Day Treasury Bill			0.01	0.05	0.05	0.99	1.14	0.61

Total Fund Asset Growth

	Beg. Mkt (\$Millions)	Net Contrib.	Net Distrib.	Investment Fees	Investment Gain/Loss	End Mkt Value	Total Return
1Q17	3,337.8	36.2	74.6	2.6	140.0	3,436.7	4.15%
2Q17	3,436.7	24.9	68.7	3.2	86.6	3,476.4	2.46%
3Q17	3,476.4	47.8	84.0	3.5	110.0	3,546.6	3.10%
4Q17	3,546.6	31.1	74.1	3.3	107.5	3,607.8	3.02%
1Q18	3,607.8	31.9	74.7	3.1	(37.9)	3,524.0	-1.09%
2Q18	3,524.0	27.2	71.0	3.6	68.0	3,544.4	1.83%
3Q18	3,544.4	31.6	75.1	3.3	101.0	3,598.8	2.74%
4Q18	3,598.8	27.5	73.9	3.5	(274.6)	3,274.3	-7.66%
1Q19	3,274.3	32.4	71.8	3.2	292.5	3,524.2	8.90%
2Q19	3,524.2	27.7	76.6	3.4	108.0	3,579.9	3.04%
3Q19	3,579.9	32.8	76.2	3.2	20.4	3,553.7	0.49%
4Q19	3,553.7	27.7	79.8	3.6	154.3	3,653.6	4.31%
1Q20	3,653.6	32.7	75.8	3.8	(570.4)	3,036.3	-15.91%
2Q20	3,036.3	28.3	76.4	3.2	337.8	3,322.8	11.03%
3Q20	3,322.8	31.5	77.0	3.1	115.4	3,389.6	3.46%
4Q20	3,389.6	33.0	76.5	3.4	321.1	3,663.7	9.46%
1Q21	3,663.7	27.3	81.3	3.7	156.8	3,762.9	4.21%
2Q21	3,762.9	27.8	79.6	4.3	201.7	3,908.6	5.26%
3Q21	3,908.6	32.4	82.0	4.3	60.1	3,914.7	1.42%
4Q21	3,914.7	33.8	80.0	3.7	173.4	4,038.2	4.36%

- At the end of the fourth quarter of 2021, the Fund's market value was \$4,038.2 million, which represented an increase of \$123.5 million in total net asset value over the previous quarter. The change in the Fund's value was driven by \$33.8 million in net contributions, \$173.4 million investment gain, \$80 million in net distributions and \$3.7 million in investment management fees.

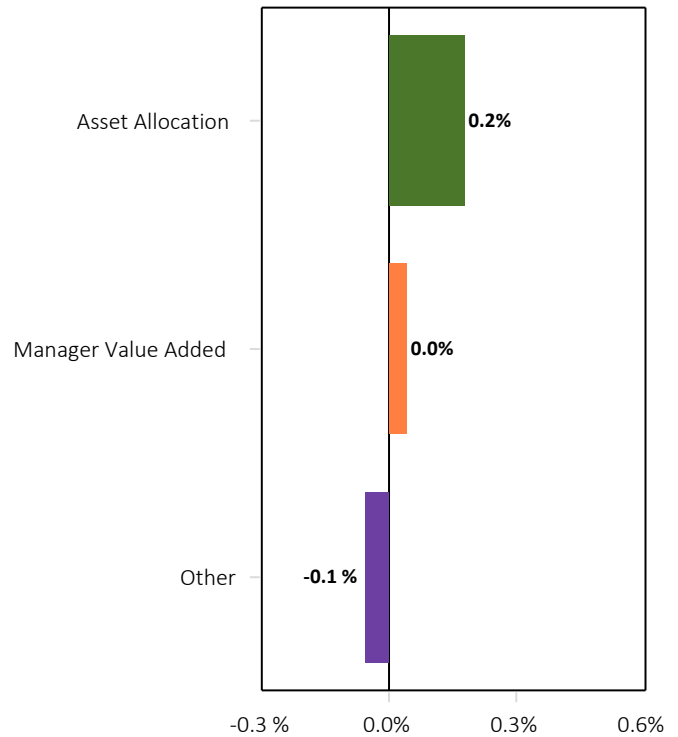
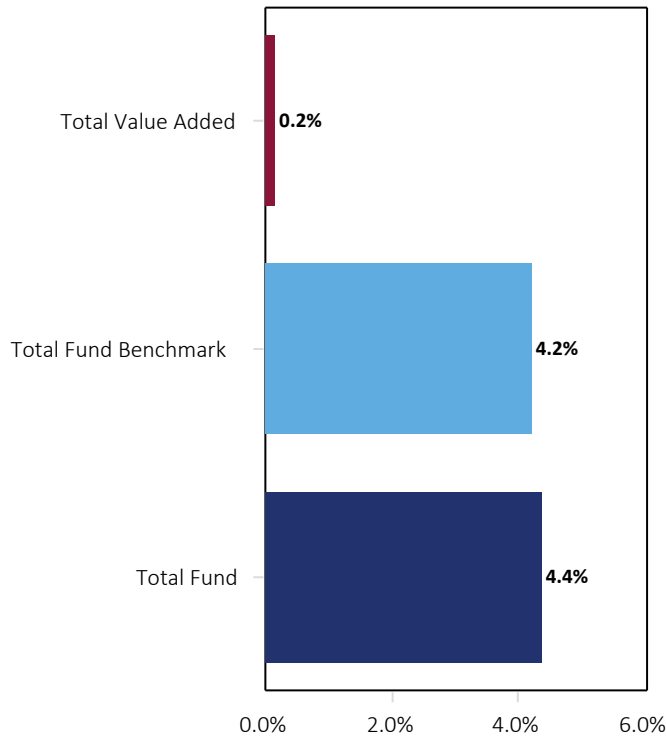
Total Fund Attribution

Dallas Total Fund

Periods Ended 1 Quarter Ending December 31, 2021

Total Fund Performance

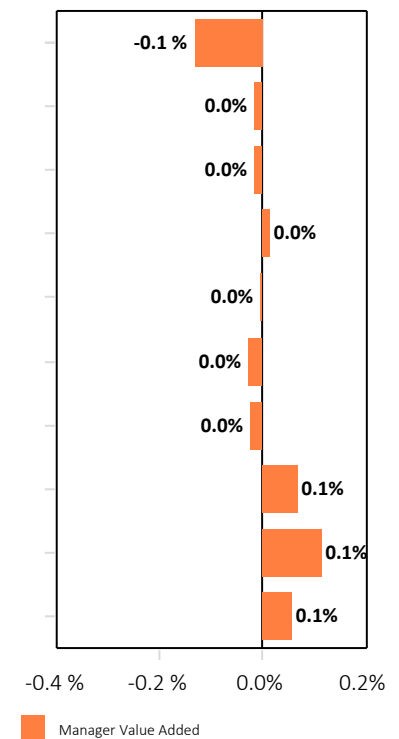
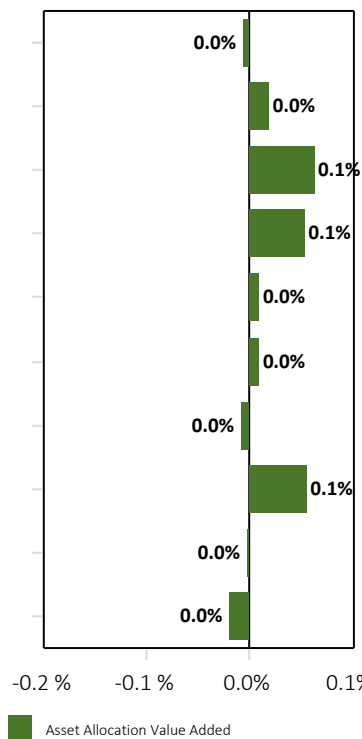
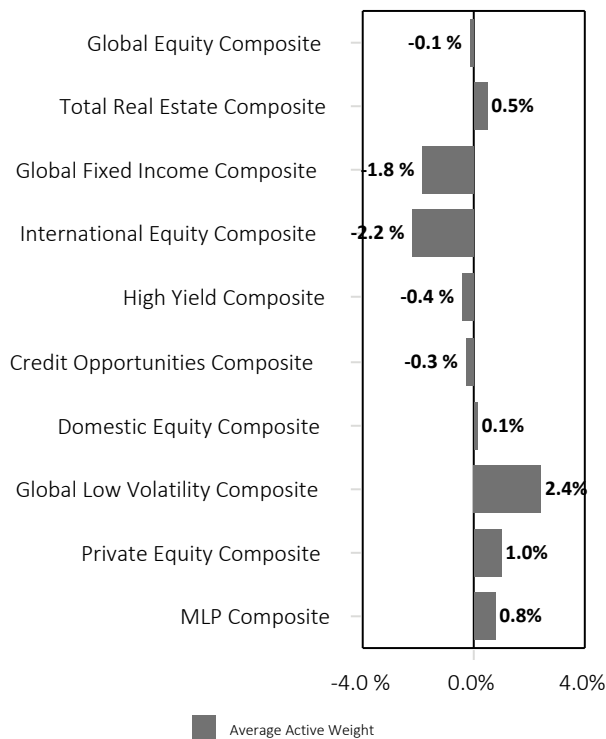
Total Value Added: 0.2%



Total Asset Allocation: 0.2%

Asset Allocation Value: 0.2%

Total Manager Value: 0.0%



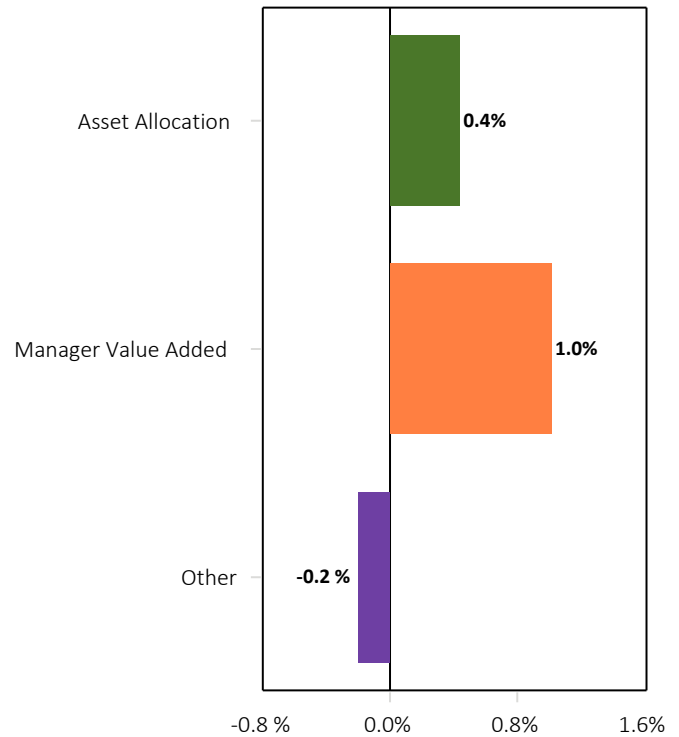
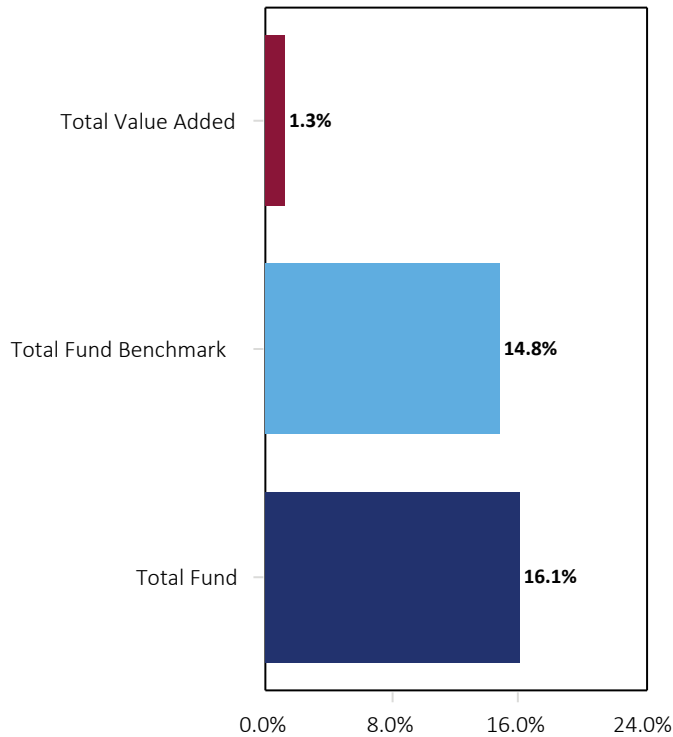
Total Fund Attribution

Dallas Total Fund

Periods Ended 1 Year Ending December 31, 2021

Total Fund Performance

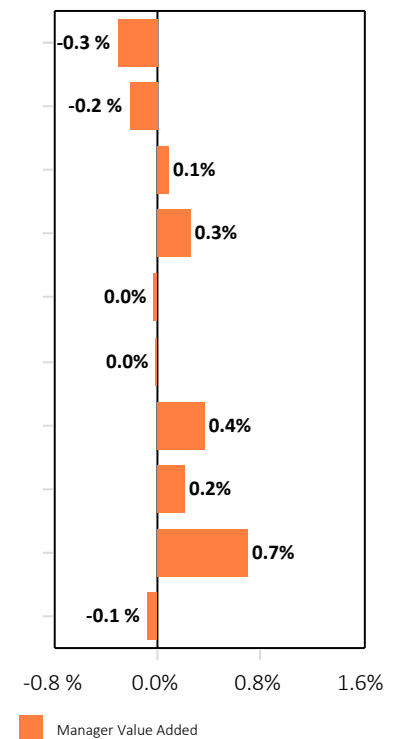
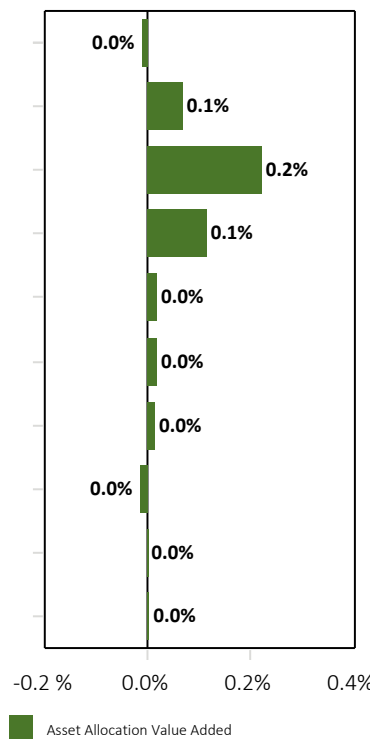
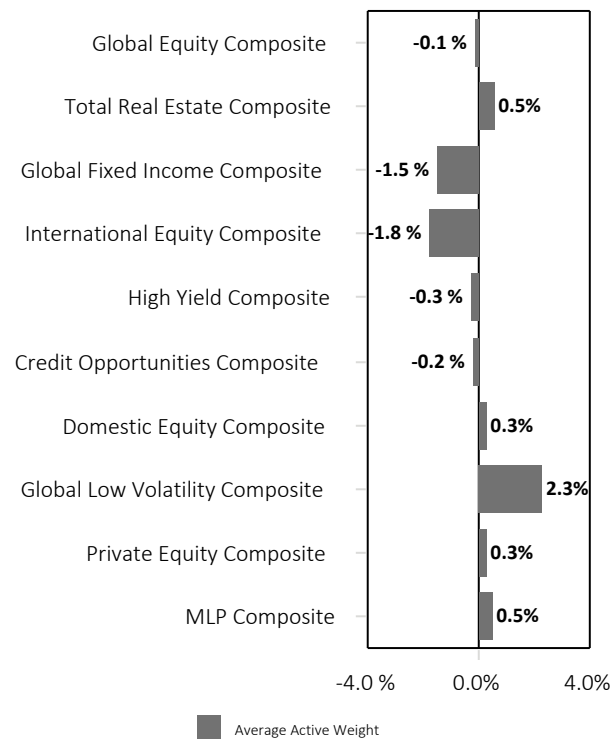
Total Value Added: 1.3%



Total Asset Allocation: 0.4%

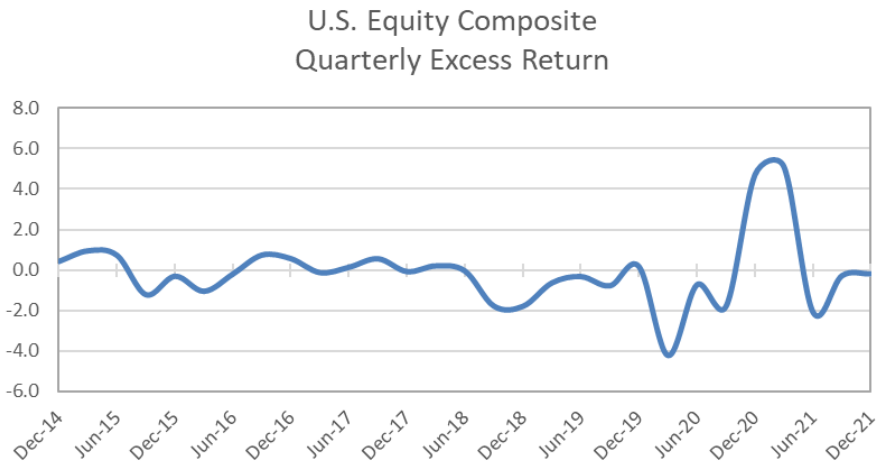
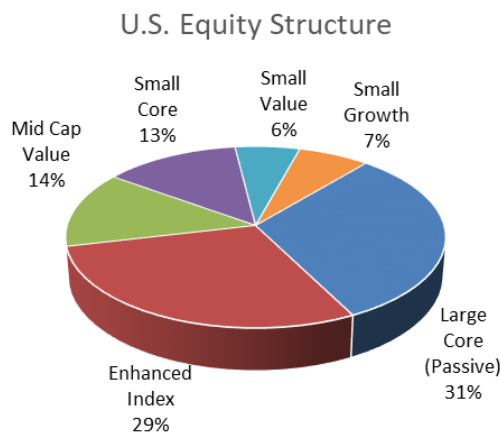
Asset Allocation Value: 0.4%

Total Manager Value: 1.0%





U.S. Equity Overview



Composite

	Assets (Millions)	QTR	YTD	1-year	3-year	5-year	10-year
Total U.S. Equity (Gross)	\$ 622.6	9.50	30.13	30.13	25.39	17.12	15.91
Total U.S. Equity (Net)		9.39	29.60	29.60	24.86	16.66	15.48
Custom Benchmark ¹		9.58	26.70	26.70	26.11	18.11	16.40
<i>Net of Fee Value Added vs Benchmark</i>		<i>-0.19</i>	<i>2.90</i>	<i>2.90</i>	<i>-1.24</i>	<i>-1.45</i>	<i>-0.92</i>
Small Cap Composite	\$ 162.8	6.27	25.64	25.64	21.59	12.56	13.66
Wilshire 5000 Index		9.58	26.70	26.70	26.11	18.11	16.40
S&P 500 Index		11.03	28.71	28.71	26.07	18.47	16.55
Russell 2000 Index		2.14	14.82	14.82	20.02	12.02	13.23

U.S. Equity Managers

	Assets (Millions)	QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Large Core - Passive								
Northern Trust S&P 500 (Gross)	\$ 195.2	11.02	28.69	28.69	26.03	18.45	11.21	Dec-94
Northern Trust S&P 500 (Net)		11.02	28.69	28.69	26.03	18.45	11.18	Dec-94
S&P 500 Index		11.03	28.71	28.71	26.07	18.47	11.15	Dec-94
<i>Net of Fee Value Added vs Benchmark</i>		<i>0.00</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.04</i>	<i>-0.02</i>	<i>0.04</i>	
Enhanced Index								
T. Rowe Price (Gross)	\$ 179.7	10.84	28.44	28.44	27.21	19.72	11.75	Mar-06
T. Rowe Price (Net)		10.76	28.07	28.07	26.83	19.36	11.42	Mar-06
S&P 500 Index		11.03	28.71	28.71	26.07	18.47	10.87	Mar-06
<i>Net of Fee Value Added vs Benchmark</i>		<i>-0.27</i>	<i>-0.64</i>	<i>-0.64</i>	<i>0.76</i>	<i>0.89</i>	<i>0.56</i>	
Information Ratio				-0.56	0.56	0.72		
Sharpe Ratio				2.49	1.43	1.15		

¹ Domestic Equity Custom Benchmark: Wilshire 5000 Index (3q99 – Present); S&P 500 Index (1q90 – 2q99).



U.S. Equity Overview (Continued)

U.S. Equity Managers

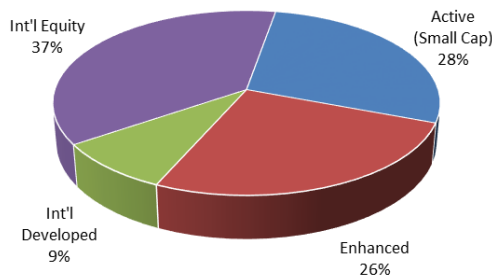
	Assets (Millions)	QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Small Core - Active								
Systematic Financial (Gross)	\$ 81.4	7.98	31.04	31.04	20.05	13.29	12.35	Jun-03
Systematic Financial (Net)		7.76	29.98	29.98	19.05	12.35	11.51	Jun-03
Russell 2000 Index		2.14	14.82	14.82	20.02	12.02	10.23	Jun-03
Net of Fee Value Added vs Benchmark		5.62	15.16	15.16	-0.98	0.33	1.28	
Information Ratio				1.56	-0.12	0.05		
Sharpe Ratio				2.27	0.78	0.56		
Small Value - Active								
Channing Capital Management (Gross) *	\$ 38.7	5.16	20.79	20.79	21.34	9.86	9.85	Oct-13
Channing Capital Management (Net) *		4.92	19.66	19.66	20.19	8.82	8.83	Oct-13
Russell 2000 Value Index		4.36	28.27	28.27	17.99	9.07	8.94	Oct-13
Net of Fee Value Added vs Benchmark		0.56	-8.61	-8.61	2.19	-0.25	-0.11	
Information Ratio				-0.68	0.26	-0.04		
Sharpe Ratio				1.14	0.72	0.33		
Small Growth - Active								
Redwood Investments (Gross) *	\$ 42.7	4.92	24.44	24.44	28.07	16.92	16.37	Sep-16
Redwood Investments (Net) *		4.74	23.60	23.60	27.20	16.15	15.65	Sep-16
Russell 2000 Growth Index		0.01	2.83	2.83	21.17	14.53	14.56	
Net of Fee Value Added vs Benchmark		4.73	20.76	20.76	6.03	1.62	1.09	
Information Ratio				2.29	0.51	0.20		
Sharpe Ratio				2.37	1.46	0.86		
Mid Cap Value - Active								
Smith Graham Mid Cap Value (Gross) *	\$ 84.9	9.19	42.24	42.24	24.04		13.12	Dec-17
Smith Graham Mid Cap Value (Net) *		8.99	41.21	41.21	23.11		12.31	Dec-17
Russell Midcap Index		6.44	22.58	22.58	23.29		14.26	
Net of Fee Value Added vs Benchmark		2.55	18.62	18.62	-0.17		-1.94	
Information Ratio				1.37	-0.01	--		
Sharpe Ratio				2.69	0.78	--		

- ◆ The Fund's domestic equity composite generated a return of 9.39% (net of fees) during the fourth quarter of 2021, lagging the Wilshire 5000 Total Market Index, which returned 9.58%. Relative performance was positive during the quarter for all managers except T. Rowe Price. Following this quarter's results, the domestic equity composite is trailing its benchmark over the three-, five- and ten- year periods but is outperforming over the one- year period.

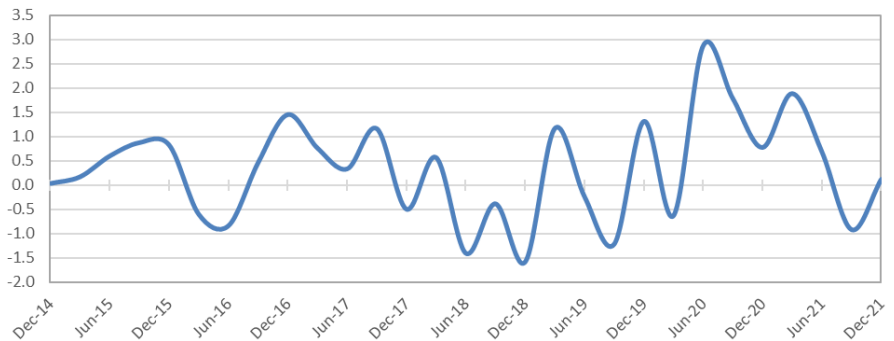


International Equity Overview

International Equity Structure



International Equity Composite
Quarterly Excess Return



International Equity Composite

	Assets (Millions)	Performance					
		QTR	YTD	1-year	3-year	5-year	10-year
Total International Equity (Gross)	\$ 507.8	1.90	10.93	10.93	16.66	11.46	9.55
Total International Equity (Net)		1.76	10.32	10.32	16.06	10.91	9.06
Custom Benchmark ¹		1.64	8.53	8.53	13.62	9.83	7.57
Net of Fee Value Added vs Benchmark		0.12	1.80	1.80	2.44	1.08	1.49
MSCI ACWI x-US IMI (Net)		1.64	8.53	8.53	13.62	9.83	7.57
MSCI ACWI x-US (Net)		1.82	7.82	7.82	13.18	9.61	7.28
MSCI EAFE (Net)		2.69	11.26	11.26	13.54	9.55	8.03
MSCI Emerging Markets		-1.31	-2.54	-2.54	10.94	9.87	5.49

International Equity Managers

	Assets (Millions)	Performance (%)					Since Inception
		QTR	YTD	1-year	3-year	5-year	Inception Date
Int'l Small Cap - Active							
Acadian International (Gross)	\$ 141.8	3.01	19.07	19.07	18.65	13.23	9.31 Mar-89
Acadian International (Net)		2.88	18.46	18.46	18.01	12.61	8.84 Mar-89
Custom Benchmark		0.62	12.93	12.93	16.46	11.21	Mar-89
Net of Fee Value Added vs Benchmark		2.26	5.54	5.54	1.56	1.40	
Information Ratio				1.11	0.30	0.30	
Sharpe Ratio				1.41	0.86	0.65	

² International Equity Custom Benchmark: MSCI ACWI x-US IMI (2q10 – Present); MSCI ACWI x-US (1q99 – 1q10); Wilshire Non-US/Non-SA (2q96 – 4q98); MSCI EAFE (4q89 – 1q96)

³ Acadian Custom Benchmark: MSCI ACWI x-US Small Cap (3q09 – Present); MSCI EAFE Small Cap (4q99 – 2q09); S&P/Citigroup Eur/Pac EMI Index (2q96 – 3q99); MSCI EAFE (2q89 – 1q96). Performance Objective: Custom Benchmark +2% (1q05 – Present); +1% (2q89 – 4q04).



International Equity Overview (Continued)

International Equity Managers

	Assets (Millions)	QTR	Performance (%)				Since Inception	Inception Date
			YTD	1-year	3-year	5-year		
Int'l Enhanced Index								
AQR Capital Management (Gross)	\$ 131.9	1.34	7.20	7.20	13.89	9.43	4.83	Mar-06
AQR Capital Management (Net)		1.21	6.60	6.60	13.26	8.81	4.29	Mar-06
Custom Benchmark		1.82	7.82	7.82	13.18	9.61	3.96	Mar-06
Net of Fee Value Added vs Benchmark		-0.61	-1.23	-1.23	0.08	-0.80	0.33	
Information Ratio				-0.35	0.03	-0.27		
Sharpe Ratio				0.66	0.70	0.49		
Int'l Developed								
Ativo International Developed (Gross) *	\$ 44.9	5.30	16.63	16.63	13.83		6.69	Dec-17
Ativo International Developed (Net) *		5.15	15.95	15.95	13.17		6.08	Dec-17
MSCI EAFE Index		2.69	11.26	11.26	13.54		5.99	
Net of Fee Value Added vs Benchmark		2.45	4.69	4.69	-0.37		0.09	
Information Ratio				1.51	-0.06	--		
Sharpe Ratio				1.42	0.69	--		
Int'l Equity (Active)								
Baillie Gifford (Gross)	\$ 88.3	-0.61	0.30	0.30			15.85	Mar-19
Baillie Gifford (Net)		-0.74	-0.22	-0.22			15.34	Mar-19
MSCI ACWI x-US (Net)		1.82	7.82	7.82			10.45	
Net of Fee Value Added vs Benchmark		-2.56	-8.05	-8.05			4.89	
Information Ratio				-1.75	--	--		
Sharpe Ratio				-0.02	--	--		
Int'l Equity (Active)								
Earnest Partners (Gross) *	\$ 100.9	1.89	13.48	13.48			13.80	Mar-19
Earnest Partners (Net) *		1.74	12.84	12.84			13.18	Mar-19
MSCI ACWI x-US (Net)		1.82	7.82	7.82			10.45	
Net of Fee Value Added vs Benchmark		-0.08	5.01	5.01			2.73	
Information Ratio				1.08	--	--		
Sharpe Ratio				1.34	--	--		

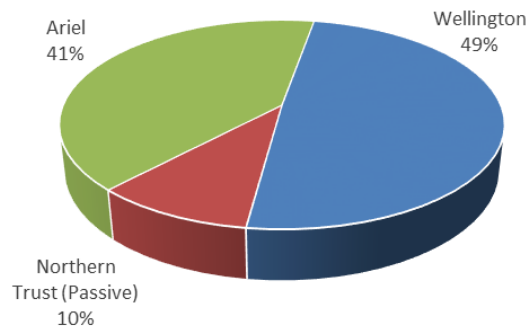
- ◆ The Fund's international equity composite returned 1.76% (net of fees) during the fourth quarter of 2021, outperforming the MSCI ACWI x-US Investable Market Index (IMI) which returned 1.64%. Active management was inconsistent for the Fund's international equity program with three of the managers trailing their respective benchmarks and two outperforming. The program's long-standing small cap international equity mandate managed by Acadian outperformed its benchmark by a robust margin. The program's positive performance was fueled by Acadian and Ativo International, which both outperformed their benchmarks by a significant margin. The recently funded Earnest Partners portfolio is also outperforming its benchmark over all time periods back through inception. The international equity composite is currently outperforming against its benchmark for all time periods.

⁵ AQR Custom Benchmark: MSCI ACWI x-US (2q10 – Present); MSCI EAFE (1q06 – 1q10); Performance Objective: Custom Benchmark + 1.5%.



Global Equity Overview

Global Equity Structure



Global Equity Composite

	Assets (Millions)	QTR	YTD	Performance 1-year	3-year	5-year	10-year
Total Global Equity (Gross)	\$ 295.7	4.99	14.82	14.82	18.31	13.53	
Total Global Equity (Net)		4.85	14.22	14.22	17.66	12.97	
MSCI ACWI (Net)		6.68	18.54	18.54	20.38	14.40	
Net of Fee Value Added vs Index		-1.82	-4.32	-4.32	-2.72	-1.43	
MSCI ACWI IMI (Net)		6.10	18.22	18.22	20.20	14.12	11.84
MSCI ACWI (Net)		6.68	18.54	18.54	20.38	14.40	11.85
MSCI World (Net)		7.77	21.82	21.82	21.70	15.03	12.70

Global Equity Managers

	Assets (Millions)	QTR	YTD	Performance (%) 1-year	3-year	5-year	Since Inception	Inception Date
Global Equity - Active								
Wellington (Gross)	\$ 146.0	4.00	15.06	15.06	21.99	14.98	13.85	Aug-12
Wellington (Net)		3.85	14.41	14.41	21.28	14.31	13.21	Aug-12
MSCI ACWI (Net)		6.68	18.54	18.54	20.38	14.40	11.67	Aug-12
Net of Fee Value Added vs Benchmark		-2.82	-4.12	-4.12	0.89	-0.08	1.54	
Information Ratio				-0.99	0.22	-0.02		
Sharpe Ratio				1.40	1.15	0.83		
Global Equity - Active								
Ariel (Gross) *	\$ 120.5	5.88	13.64	13.64	13.52		8.55	Dec-17
Ariel (Net) *		5.73	12.96	12.96	12.83		7.91	Dec-17
MSCI ACWI (Net)		6.68	18.54	18.54	20.38		12.12	
Net of Fee Value Added vs Benchmark		-0.95	-5.57	-5.57	-7.55		-4.21	
Information Ratio				-1.08	-0.92	--		
Sharpe Ratio				1.43	0.88	--		
Global Equity - Passive								
Northern Trust (Gross)	\$ 29.2	6.36	18.50	18.50	20.73	14.63	13.95	Oct-15
Northern Trust (Net)		6.36	18.50	18.50	20.72	14.59	13.92	Oct-15
MSCI ACWI IMI (Net)		6.10	18.22	18.22	20.20	14.12	13.45	Oct-15
Net of Fee Value Added vs Benchmark		0.25	0.28	0.28	0.52	0.47	0.47	



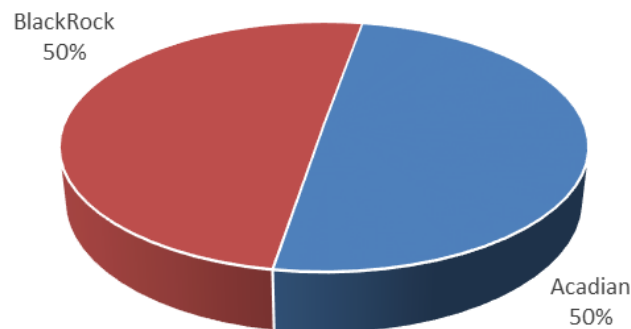
Global Equity Overview (Continued)

- ◆ The global equity composite is comprised of an actively managed strategy (with a U.S. bias relative to the benchmark) managed by Wellington and is complemented by a passively managed strategy provided by Northern Trust. The composite also added an exposure to the Ariel Global Product strategy nearly four years ago. The current structure favors active management (currently 90% active/10% passive) versus the previous 50%/50% allocation between active and passively managed funds within the composite. During the fourth quarter, both actively managed mandates trailed their benchmarks while the passive strategy outperformed. The global equity composite is currently trailing its benchmark over all time periods.



Global Low Volatility Equity Overview

Global Low Volatility Structure



Global Low Volatility Composite

	Assets	Performance					
	(Millions)	QTR	YTD	1-year	3-year	5-year	10-year
Total Global Low Volatility (Gross)	\$ 511.8	6.89	15.89	15.89	12.33	10.43	
Total Global Low Volatility (Net)		6.84	15.69	15.69	12.11	10.23	
MSCI ACWI Minimum Volatility (Net)		6.29	13.94	13.94	12.31	10.46	
Net of Fee Value Added vs Index		0.55	1.74	1.74	-0.19	-0.23	
MSCI ACWI Minimum Volatility (Net)		6.29	13.94	13.94	12.31	10.46	9.99
MSCI World x-US Minimum Volatility (Net)		3.12	8.59	8.59	8.67	7.82	7.73
MSCI ACWI (Net)		6.68	18.54	18.54	20.38	14.40	11.85

Global Equity Managers

	Assets	Performance (%)					Since	Inception
	(Millions)	QTR	YTD	1-year	3-year	5-year	Inception	Date
Global Low Volatility - Active								
Acadian Global Low Vol (Gross)	\$ 256.2	7.43	17.59	17.59	12.35	10.17	9.11	Jun-15
Acadian Global Low Vol (Net)		7.34	17.21	17.21	11.96	9.80	8.75	Jun-15
MSCI ACWI (Net)		6.68	18.54	18.54	20.38	14.40	11.34	Jun-15
Net of Fee Value Added vs MSCI ACWI		0.66	-1.33	-1.33	-8.43	-4.59	-2.58	
MSCI ACWI Min Vol (Net)		0.08	7.20	14.08	7.55	8.48	8.56	Jun-15
Net of Fee Value Added vs MSCI ACWI Min Vol		7.25	10.01	3.13	4.40	1.33	0.19	
Information Ratio				-0.15	-1.06	-0.72		
Sharpe Ratio				1.68	0.74	0.69		
Global Low Volatility - Passive								
BlackRock Global Low Vol (Gross)	\$ 255.6	6.35	14.24	14.24	12.31	10.68	9.54	Jun-15
BlackRock Global Low Vol (Net)		6.34	14.20	14.20	12.27	10.65	9.51	Jun-15
MSCI ACWI Min Vol (Net)		6.29	13.94	13.94	12.31	10.46	9.24	Jun-15
Net of Fee Value Added vs Benchmark		0.05	0.25	0.25	-0.04	0.19	0.27	

*Acadian Info Ratio/Sharpe Ratio statistics based on MSCI ACWI Min Vol benchmark.



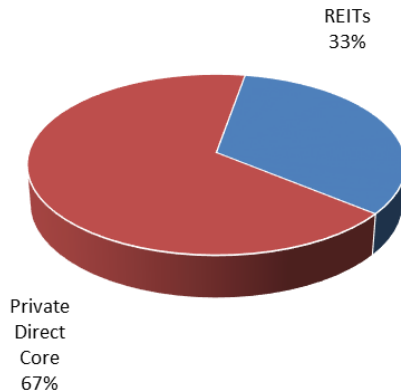
Global Low Volatility Equity Overview (Continued)

- ◆ In 2015, the Board elected to transfer assets from existing strategies elsewhere in the Fund into two new global low volatility equity portfolios. The first portfolio is actively-managed and run by Acadian. Its primary mandate is to provide the Fund with a better risk/return profile relative to the broad MSCI ACWI, its primary benchmark (the Acadian portfolio's performance is also measured against the MSCI ACWI Minimum Volatility as a secondary benchmark). The second portfolio is a passively-managed index fund provided through BlackRock. Taken together, both funds will add diversification benefits to the existing suite of public equity managers. The global low volatility equity composite currently trails the MSCI ACWI Minimum Volatility Index across longer time-periods but outperformed for the quarter-, and one-year periods.

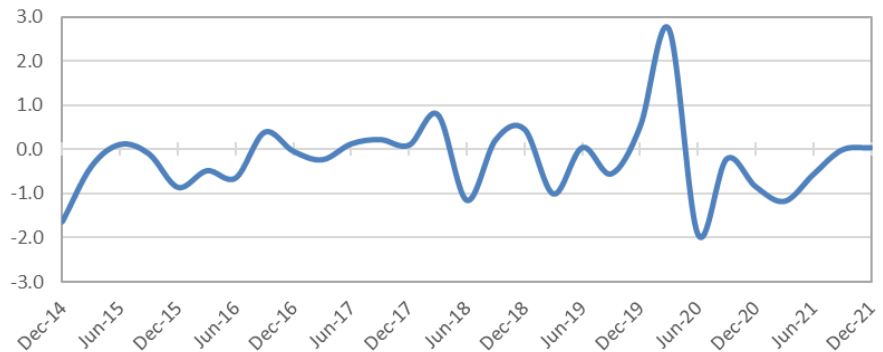


Real Estate Overview

Real Estate Structure



Total Real Estate Composite
Quarterly Excess Return



Real Estate Composite

	Assets (Millions)	Performance					
		QTR	YTD	1-year	3-year	5-year	10-year
Total Real Estate (Gross)	\$ 404.9	8.57	26.10	26.10	12.96	9.28	10.59
Total Real Estate (Net)		8.46	25.45	25.45	12.33	8.66	9.87
Custom Benchmark ¹		8.41	27.50	27.50	13.20	9.02	10.04
Net of Fee Value Added vs Benchmark		0.04	-2.05	-2.05	-0.87	-0.36	-0.17
REIT Strategies	\$ 124.0	15.91	45.04	45.04	20.64	11.91	11.65
Private Core Real Estate	\$ 280.9	4.27	15.54	15.54	7.40	6.78	8.72
Wilshire Real Estate Securities Index		17.15	46.11	46.11	19.16	11.05	11.64
NCREIF Open Diversified Core Equity (Net)		7.69	21.06	21.06	8.24	7.75	9.44

Real Estate Managers

	Assets (Millions)	QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Real Estate Securities - Public								
Adelante Capital Management (Gross)	\$ 62.8	16.53	48.38	48.38	21.96	13.19	11.54	Sep-01
Adelante Capital Management (Net)		16.37	47.58	47.58	21.27	12.55	10.95	Sep-01
Wilshire Real Estate Securities		17.15	46.11	46.11	19.16	11.05	11.04	Sep-01
Net of Fee Value Added vs Index		-0.78	1.47	1.47	2.11	1.50	-0.09	
Information Ratio				0.77	0.94	0.76		
Sharpe Ratio				3.60	1.11	0.71		
CenterSquare (Gross)	\$ 61.2	15.59	43.20	43.20	20.59		16.48	May-18
CenterSquare (Net)		15.45	42.54	42.54	20.01		15.95	May-18
Wilshire Real Estate Securities		17.15	46.11	46.11	19.16		15.10	May-18
Net of Fee Value Added vs Index		-1.70	-3.57	-3.57	0.85		0.85	
Information Ratio				-1.42	0.40	--		
Sharpe Ratio				2.91	0.98	--		

⁶ Real Estate Custom Benchmark: 50% Wilshire RESI / 39% NCREIF ODCE NOF/11% Invesco Custom Benchmark (4q13 – Present); Wilshire RESI (4q89 – 4q10).



Real Estate Overview (Continued)

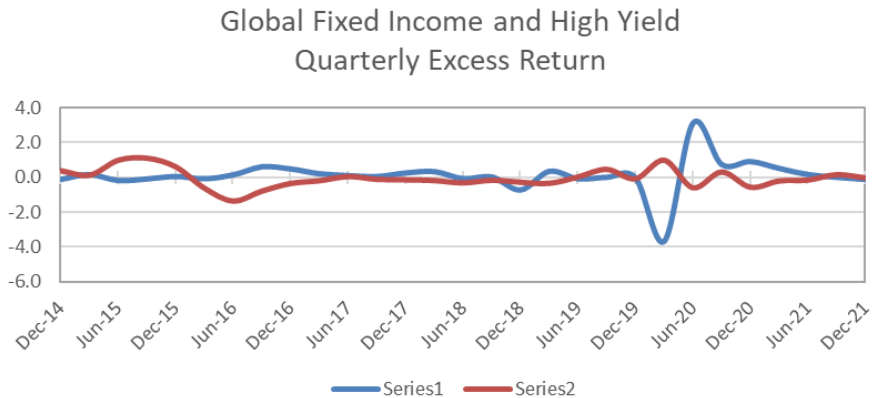
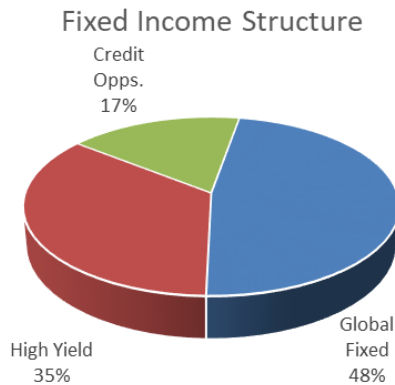
Real Estate Managers

	Assets (Millions)	QTR	Performance (%) YTD	1-year	3-year	5-year	Since Inception	Inception Date
Direct Core Real Estate - Private								
Heitman America Real Estate Trust (Gross)	\$ 99.1	8.91	24.67	24.67	8.06	7.73	11.28	Aug-10
Heitman America Real Estate Trust (Net)		8.88	23.80	23.80	7.16	6.81	10.27	Aug-10
NCREIF Open-End Diversified Core (Net)		7.69	21.06	21.06	8.24	7.75	10.31	Aug-10
Net of Fee Value Added vs Index		1.19	2.74	2.74	-1.07	-0.94	-0.04	
Invesco Core Real Estate USA (Gross)	\$ 81.3	6.11	22.32	22.32	9.30	9.52	11.70	Aug-10
Invesco Core Real Estate USA (Net)		5.88	21.24	21.24	8.36	8.58	10.73	Aug-10
NCREIF Open-End Diversified Core (Net)		7.69	21.06	21.06	8.24	7.75	10.31	Aug-10
Net of Fee Value Added vs Index		-1.81	0.19	0.19	0.12	0.83	0.42	
AEW Partners Real Estate Fund IX (Gross)	\$ 15.0	-2.56					-29.22	Apr-21
AEW Partners Real Estate Fund IX (Net)		-2.56					-29.22	Apr-21
NCREIF Open-End Diversified Core (Net)		7.69					21.06	Apr-21
Net of Fee Value Added vs Index		-10.25					-50.28	
Virtus Real Estate Capital III (Gross)	\$ 15.5	-7.62					7.44	Feb-21
Virtus Real Estate Capital III (Net)		-7.62					7.44	Feb-21
NCREIF Open-End Diversified Core (Net)		7.69					21.06	Feb-21
Net of Fee Value Added vs Index		-15.31					-13.62	
Invesco II	\$ 70.0	0.00	2.93	2.93	8.43	5.60	2.84	Oct-13

- ◆ The Fund's total real estate composite is comprised of both public market real estate securities (REITs) and private investment in direct core real estate. The total segment returned 8.46% (net of fees) during the fourth quarter, outperforming its benchmark (split 50% Wilshire Real Estate Securities Index, 39% NCREIF Open-End Diversified Core Index and 11% Invesco II Custom Benchmark) which returned 8.41%. On the public side, both REIT's underperformed the Wilshire Real Estate Securities Index. On the private side, results were mixed with the one original manager outperforming and the three other managers underperforming the NCREIF ODCE Index. Currently, the Fund's total real estate composite is underperforming over all time periods except the quarter end period.



Fixed Income Overview



Fixed Income Composites

	Assets (Millions)	QTR	YTD	Performance 1-year	3-year	5-year	10-year
Global Fixed Income (Gross)	\$ 511.3	-0.07	-0.75	-0.75	5.68	4.24	3.74
Global Fixed Income (Net)		-0.10	-0.93	-0.93	5.47	4.02	3.55
Bloomberg Aggregate Bond Index		0.01	-1.55	-1.55	4.79	3.57	2.90
Net of Fee Value Added vs Benchmark		-0.11	0.61	0.61	0.68	0.46	0.65
High Yield (Gross)	\$ 378.5	0.86	5.55	5.55	9.04	6.21	6.66
High Yield (Net)		0.74	5.06	5.06	8.53	5.71	6.15
Custom Benchmark ¹		0.77	5.32	5.32	8.47	5.97	6.43
Net of Fee Value Added vs Benchmark		-0.03	-0.26	-0.26	0.06	-0.26	-0.28
Bloomberg Aggregate		0.01	-1.55	-1.55	4.79	3.57	2.90
Citigroup High Yield Cash Pay		0.77	5.32	5.32	8.47	5.97	6.43
BofA ML High Yield Master II		0.64	5.35	5.35	8.57	6.09	6.72

Global Fixed Income Managers

	Assets (Millions)	QTR	YTD	Performance (%) 1-year	3-year	5-year	Since Inception	Inception Date
Global Fixed Income								
Securian Asset Mgmt. (Gross)	\$ 223.3	-0.13	-0.10	-0.10	5.40	4.22	4.72	May-07
Securian Asset Mgmt. (Net)		-0.17	-0.28	-0.28	5.22	4.03	4.55	May-07
Bloomberg Aggregate		0.01	-1.55	-1.55	4.79	3.57	4.16	May-07
Net of Fee Value Added vs Benchmark		-0.18	1.27	1.27	0.43	0.46	0.39	
Information Ratio				2.28	0.12	0.16		
Sharpe Ratio				-0.12	0.79	0.67		

⁷ High Yield Custom Benchmark: Citigroup High Yield Cash Pay (4q99 – Present); Citigroup High Yield Composite Index (1q97 – 3q99).



Fixed Income Overview (Continued)

Global Fixed Income Managers

	Assets (Millions)	QTR	Performance (%)				Since Inception	Inception Date
			YTD	1-year	3-year	5-year		
NT Collective Agg. Bond Index (Gross)	\$ 221.4	-0.03					0.05	Jul-21
NT Collective Agg. Bond Index (Net)		-0.03					0.05	Jul-21
Bloomberg Aggregate		0.01					0.06	Jul-21
Net of Fee Value Added vs Benchmark		-0.04					-0.02	
Information Ratio				--	--	--		
Sharpe Ratio				--	--	--		
Global Fixed Income								
Garcia Hamilton (Gross)	\$ 66.5	-0.02	-1.97	-1.97	4.33	3.54	3.59	Oct-13
Garcia Hamilton (Net)		-0.08	-2.22	-2.22	4.06	3.27	3.34	Oct-13
Bloomberg Aggregate		0.01	-1.55	-1.55	4.79	3.57	3.18	Oct-13
Net of Fee Value Added vs Benchmark		-0.09	-0.68	-0.68	-0.73	-0.30	0.16	
Information Ratio				-1.03	-0.56	0.25		
Sharpe Ratio				-0.96	0.92	0.75		

- ◆ The Fund's global fixed income segment returned -0.10% (net of fees) during the fourth quarter of 2021, underperforming the Bloomberg Aggregate Bond Index, which returned 0.01%. The segment has historically been comprised of three actively managed strategies: (1) Securian Asset Management (previously Advantus Capital Management), (2) Aberdeen Asset Management, and (3) Garcia Hamilton. Last period, Aberdeen Asset Management was defunded while the passive Collective Aggregate Bond Index managed by Northern Trust was funded as its replacement. The remaining actively managed portfolios had similar performance, with both managers trailing the Bloomberg Aggregate Index. Securian and Northern Trust manage roughly the same level of assets for the Fund while the Garcia Hamilton portfolio has a smaller mandate. Therefore, quarter to quarter performance will largely be driven by the results of the Securian and Northern Trust while the Garcia Hamilton account does not have the ability to move the needle as much, so to speak, on account of its smaller size. Following this period's results, the global fixed income composite continues to outperform the Bloomberg Aggregate over all periods beyond this quarter-end.



Fixed Income Overview (Continued)

High Yield/Credit Opportunities Managers

	Assets (Millions)	QTR	Performance (%) YTD	1-year	3-year	5-year	Since Inception	Inception Date
High Yield								
Oaktree Capital Management (Gross)	\$ 190.6	0.78	5.47	5.47	8.74	5.84	7.17	Dec-96
Oaktree Capital Management (Net)		0.66	4.96	4.96	8.21	5.33	6.63	Dec-96
Citigroup High Yield Cash Pay		0.77	5.32	5.32	8.47	5.97	6.83	Dec-96
Net of Fee Value Added vs Benchmark		-0.11	-0.36	-0.36	-0.26	-0.64	-0.20	
Information Ratio				-0.64	-0.22	0.64		
Sharpe Ratio				2.04	0.83	0.59		
BlackRock High Yield (Gross)								
BlackRock High Yield (Gross)	\$ 187.8	0.93	5.64	5.64	9.34	6.57	6.93	Sep-06
BlackRock High Yield (Net)		0.82	5.16	5.16	8.83	6.08	6.45	Sep-06
Citigroup High Yield Cash Pay		0.77	5.32	5.32	8.47	5.97	6.87	Sep-06
Net of Fee Value Added vs Benchmark		0.05	-0.16	-0.16	0.36	0.11	-0.42	
Information Ratio				-0.28	0.11	0.05		
Sharpe Ratio				1.96	0.83	0.65		
Credit Opportunities								
Neuberger Berman (Gross)	\$ 184.5	-0.16	2.99	2.99	6.86	5.68	6.59	Jan-16
Neuberger Berman (Net)		-0.24	2.69	2.69	6.54	5.37	6.30	Jan-16
Custom Benchmark		0.31	2.89	2.89	6.73	5.03	6.49	Jan-16
Net of Fee Value Added vs Benchmark		-0.55	-0.20	-0.20	-0.19	0.34	-0.19	
Information Ratio				-0.33	-0.10	0.22		
Sharpe Ratio				0.99	0.52	0.50		

- ◆ The high yield composite returned 0.74% (net of fees) during the fourth quarter, trailing the Citigroup High Yield Cash Pay Index, which returned 0.77%. The composite is currently split equally between the two actively-managed strategies. During the period, performance was split with one manager outperforming and the other trailing the benchmark. The high yield composite is currently trailing its benchmark over all time periods except the three-year period.

⁸ Oaktree Capital Management Performance Objective: Citigroup High Yield Cash Pay + 1% (4q99 – Present); Citigroup High Yield Composite Index + 1% (2q97 – Present).



Private Equity Overview

Private Equity Composite

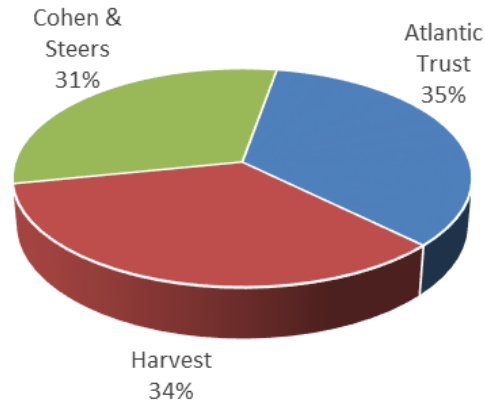
	Total Commitment	Commit. Year	Cumulative Capital Called		Cumulative Distributions	Capital Balance	Multiple	Calculated IRR
Hamilton Lane Fund VII LP (Series A)	30,000,000	2010	27,569,673	91.9%	35,982,062	13,766,529	1.80	12.2%
Hamilton Lane Fund VII LP (Series B)	20,000,000	2010	18,031,161	90.2%	16,239,097	6,017,936	1.23	4.0%
<i>Hamilton Lane Fund VII LP (Total)</i>	<i>50,000,000</i>		<i>45,600,834</i>	<i>91.2%</i>	<i>52,221,159</i>	<i>19,784,465</i>	<i>1.58</i>	<i>7.0%</i>
Hamilton Lane Secondary Fund II LP	25,000,000	2009	22,058,532	88.2%	31,103,855	471,844	1.43	13.6%
Hamilton Lane Secondary Fund III LP	30,000,000	2012	23,372,292	77.9%	26,393,122	4,923,406	1.34	10.3%
Hamilton Lane Secondary Fund IV LP	30,000,000	2017	25,907,343	86.4%	18,537,004	24,468,735	1.66	24.0%
Hamilton Lane Secondary Fund V LP	65,000,000	2020	33,517,866	51.6%	4,110,097	43,066,875	1.41	55.3%
Hamilton Lane Fund VIII LP (Global)	30,000,000	2012	22,270,594	74.2%	11,076,603	21,448,604	1.46	7.6%
GCM Grosvenor - Partnership, L.P.	75,000,000	2011	86,094,430	114.8%	110,955,310	36,320,917	1.71	14.3%
GCM Grosvenor - Partnership II, L.P. (2014)	60,000,000	2014	69,559,751	115.9%	52,696,582	47,063,822	1.43	15.7%
GCM Grosvenor - Partnership II, L.P. (2015)	30,000,000	2015	37,109,319	123.7%	9,770,143	43,415,803	1.43	16.3%
GCM Grosvenor - Partnership II, L.P. (2017)	30,000,000	2018	20,451,710	68.2%	3,376,212	20,646,692	1.17	13.2%
GCM Grosvenor - Advance Fund, L.P.	10,000,000	2021	2,203,034	22.0%	53,279	2,050,618	0.95	
Fairview Capital - Lone Star Fund I	40,000,000	2015	35,563,040	88.9%	11,757,231	53,720,095	1.84	19.7%
Fairview Capital - Lone Star Fund II	30,000,000	2018	14,822,991	49.4%	107,274	19,593,067	1.33	14.6%
Fairview Capital - Lone Star Fund III	25,000,000	2021	2,800,540	11.2%		2,687,623	0.96	-6.7%
Total Private Equity Program	530,000,000	2009	441,332,275	83.3%	332,157,870	339,662,566	1.52	14.1%

- Multiple calculation = (market value + distributions) / capital called
- Internal Rate of Return shown here is calculated by Wilshire based on cumulative cash flows and annualized since inception.



Global Listed Infrastructure Overview

Global Listed Infrastructure



Global Listed Infrastructure Composite

	Assets (Millions)	Performance					
		QTR	YTD	1-year	3-year	5-year	10-year
Global Listed Infra (Gross)	\$ 228.4	3.52	33.05	33.05	3.84	-1.15	4.12257
Global Listed Infra (Net)		3.36	32.24	32.24	3.13	-1.81	3.45
GLI Custom Benchmark		2.29	33.84	33.84	-0.63	-4.28	-1.07
Net of Fee Value Added vs Index		1.07	-1.61	-1.61	3.76	2.47	4.52
Alerian MLP Index		0.55	40.17	40.17	2.12	-2.70	-0.26
S&P MLP Index		-0.67	31.03	31.03	-5.45	-9.46	-6.38
Bloomberg Commodities Index		-1.56	27.11	27.11	9.86	3.66	-2.85
FTSE Global Core Infra 50/50 Idx Net		7.54	14.88				

Managers

	Assets (Millions)	QTR	Performance (%)				Since Inception	Inception Date
			YTD	1-year	3-year	5-year		
MLPs								
Harvest Fund Advisors (Gross)	\$ 78.8	1.45	41.76	41.76	9.13	1.97	5.16	
Harvest Fund Advisors (Net)		1.27	40.76	40.76	8.28	1.19	4.40	Dec-11
Alerian MLP Index		0.55	40.17	40.17	2.12	-2.70	-0.26	Dec-11
Net of Fee Value Added vs Benchmark		0.72	0.59	0.59	6.15	3.89	4.66	
Information Ratio				0.08	0.42	0.36		
Sharpe Ratio				2.81	0.20	0.00		
Atlantic Trust CIBC (Gross)	\$ 78.9	1.66	39.80	39.80	6.57	0.23	5.15	
Atlantic Trust CIBC (Net)		1.52	39.01	39.01	5.93	-0.36	4.55	Dec-11
Alerian MLP Index		0.55	40.17	40.17	2.12	-2.70	-0.26	Dec-11
Net of Fee Value Added vs Benchmark		0.96	-1.16	-1.16	3.80	2.34	4.81	
Information Ratio				-0.15	0.38	0.31		
Sharpe Ratio				2.65	0.12	-0.05		



Global Listed Infrastructure Overview (Continued)

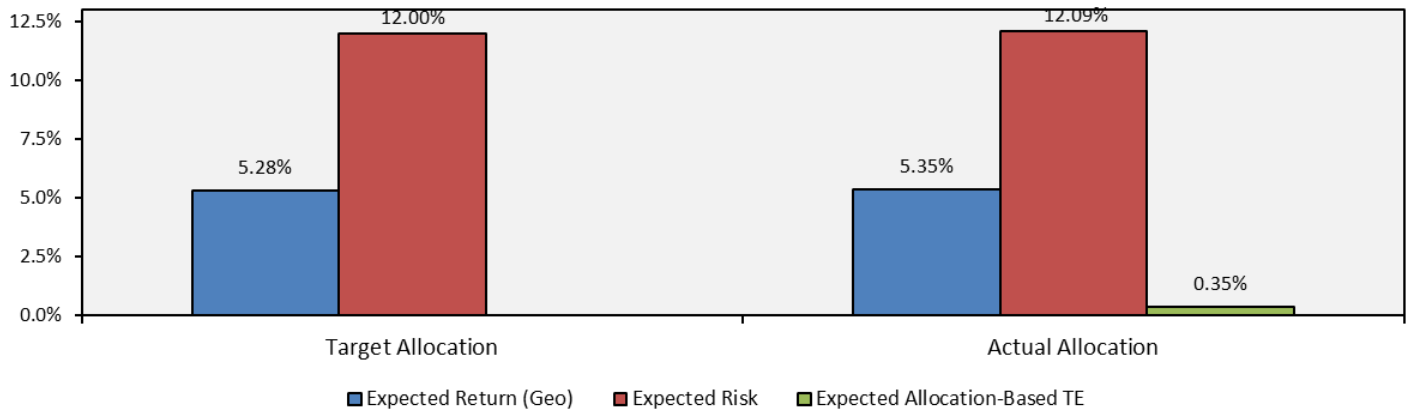
	Assets (Millions)	QTR	Performance (%)			5-year	Since Inception	Inception Date
			YTD	1-year	3-year			
Global Listed Infrastructure								
Cohen & Steers GLI (Gross)	\$ 70.7	8.19	17.42	17.42			22.61	
Cohen & Steers GLI (Net)		8.03	16.78	16.78			22.03	Nov-20
FTSE Global Core Infra 50/50 Index		7.54	14.88	14.88			21.47	Nov-20
		0.50	1.90	1.90			0.56	
				0.73	--	--		
				1.35	--	--		

- ◆ The Fund's Master Limited Partnership (MLP) program, which is comprised with nearly equal weights of Harvest Fund Advisors and Atlantic Trust, was joined a year ago by a Global Listed Infrastructure strategy managed by Cohen & Steers. The three managers will now make up the Global Listed Infrastructure composite. The Global Listed Infrastructure composite is outperforming across the longer time periods, including the three- year, five- year, ten- year and since inception periods.

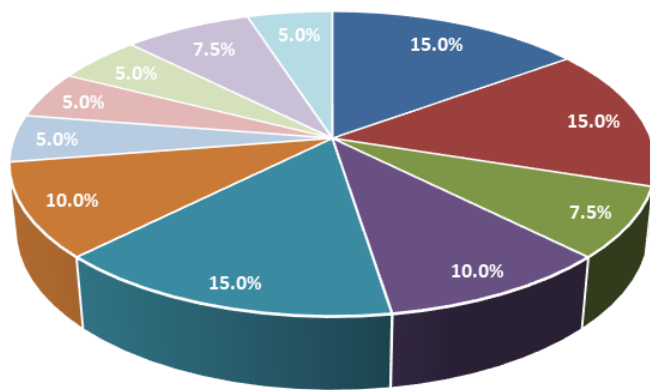
Appendix: Risk Analysis & Performance Objectives



Expected Return and Risk

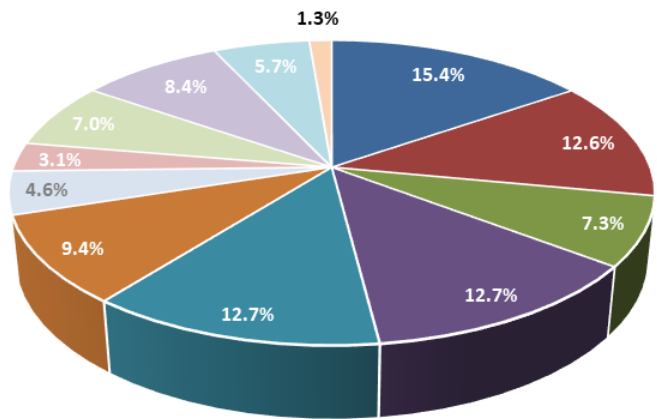


Target Asset Allocation



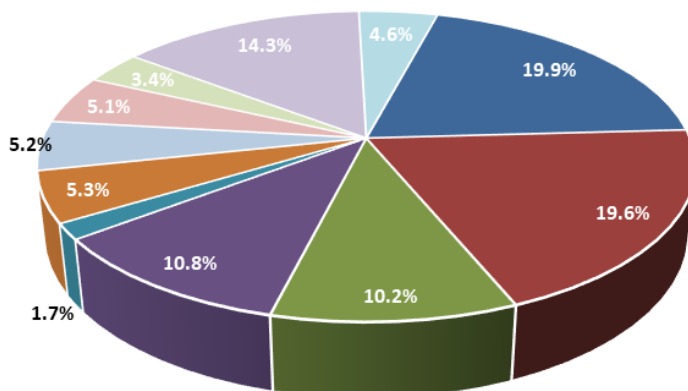
Domestic Equity, Int'l Equity, Global Equity, Private Real Est., Global Low Vol, Global Fixed Income, High Yield, Global Listed Infra, Private Equity, Cash, Opp Credit, Public REITs

Actual Asset Allocation



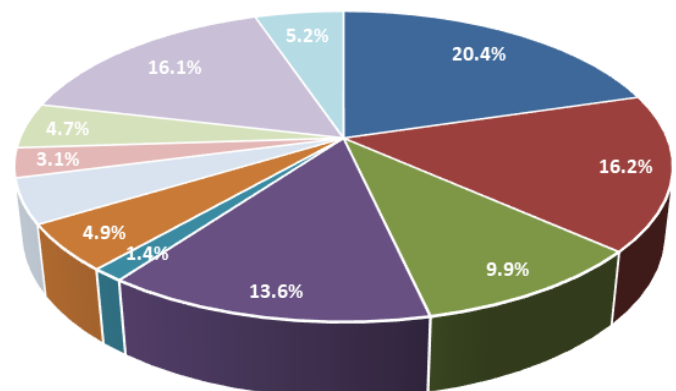
Global Low Vol, Global Fixed Income, High Yield, Global Listed Infra, Private Equity, Cash, Opp Credit, Public REITs

Contribution to Total Risk - Target Allocation



Domestic Equity, Int'l Equity, Global Equity, Private Real Est., Global Low Vol, Global Fixed Income, High Yield, Global Listed Infra, Private Equity, Cash, Opp Credit, Public REITs

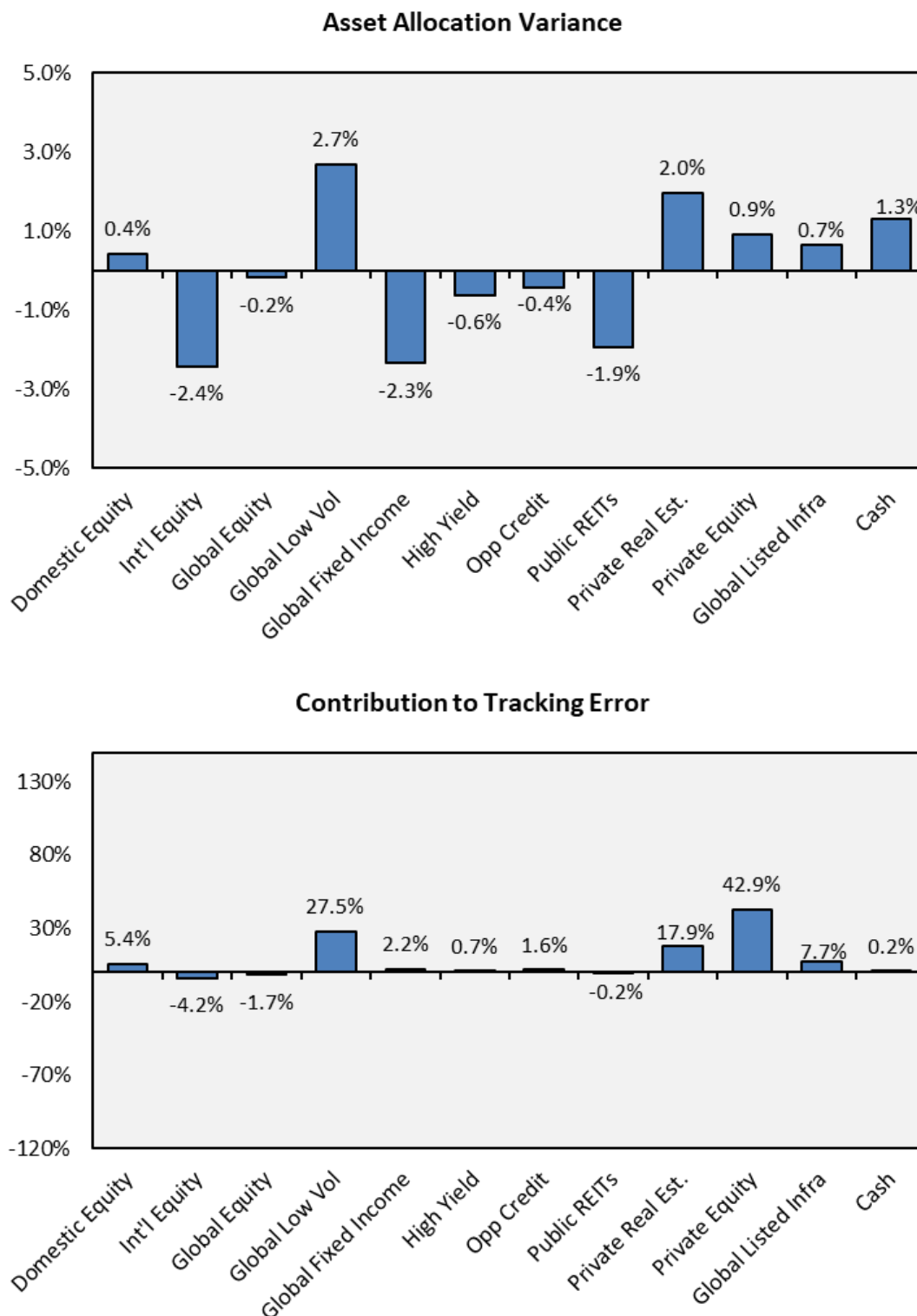
Contribution to Total Risk - Actual Allocation



Global Low Vol, Global Fixed Income, High Yield, Global Listed Infra, Private Equity, Cash, Opp Credit, Public REITs



Expected Return and Tracking Error based on Wilshire's Asset Assumptions



- ◆ The variance between the Fund's actual asset allocation and the target allocation is a source of tracking error for the Fund. This "asset allocation tracking error" is currently forecasted to be 0.35% (for the one-year period) at quarter-end. Private Equity and Global Low Volatility provided the largest contributions to tracking error at the total fund level.



Manager Risk Statistics

U.S. Equity					Non-U.S. Equity				
T. Rowe Price (Enhanced Index)	1 Yr	3 Yr	5 Yr	10 Yr	Acadian (Int'l Small Cap)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	11.24	17.85	15.72	13.36	Standard Deviation	13.01	19.70	17.49	15.78
Standard Deviation (Index)	11.04	17.41	15.39	13.08	Standard Deviation (Index)	9.95	20.14	17.18	15.34
Sharpe Ratio	2.49	1.43	1.15	1.22	Sharpe Ratio	1.41	0.86	0.65	0.69
Sharpe Ratio (Index)	2.59	1.43	1.11	1.21	Sharpe Ratio (Index)	1.29	0.76	0.58	0.57
Excess Risk	0.89	1.08	1.04	1.05	Excess Risk	4.40	4.49	4.21	3.86
Information Ratio	-0.56	0.56	0.72	0.42	Information Ratio	1.11	0.30	0.30	0.49
Systematic (Small Core)	1 Yr	3 Yr	5 Yr	10 Yr	AQR (Int'l Equity)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	13.19	22.80	19.82	16.90	Standard Deviation	9.96	1.40	15.51	14.40
Standard Deviation (Index)	11.58	23.68	20.64	17.81	Standard Deviation (Index)	9.27	17.03	14.81	14.06
Sharpe Ratio	2.27	0.78	0.56	0.81	Sharpe Ratio	0.66	0.70	0.49	0.53
Sharpe Ratio (Index)	1.27	0.80	0.52	0.70	Sharpe Ratio (Index)	0.84	0.71	0.57	0.47
Excess Risk	8.44	6.81	5.85	4.78	Excess Risk	3.22	2.90	2.69	2.55
Information Ratio	1.56	-0.12	0.05	0.22	Information Ratio	-0.35	0.03	-0.27	0.36
Channing Capital (Small Value)	1 Yr	3 Yr	5 Yr	10 Yr	Ativo (Int'l Developed)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	17.15	26.38	22.83	n/a	Standard Deviation	11.17	17.59	n/a	n/a
Standard Deviation (Index)	13.54	25.35	21.74	n/a	Standard Deviation (Index)	9.80	17.16	n/a	n/a
Sharpe Ratio	1.14	0.72	0.33	n/a	Sharpe Ratio	1.42	0.69	n/a	n/a
Sharpe Ratio (Index)	2.08	0.66	0.36	n/a	Sharpe Ratio (Index)	1.14	0.72	n/a	n/a
Excess Risk	9.89	7.27	6.53	n/a	Excess Risk	2.79	4.99	n/a	n/a
Information Ratio	-0.68	0.26	-0.04	n/a	Information Ratio	1.51	-0.06	n/a	n/a
Redwood (Small Growth)	1 Yr	3 Yr	5 Yr	10 Yr	Global Equity				
Standard Deviation	11.26	18.54	17.85	n/a	Wellington (Global Equity)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation (Index)	13.01	23.40	20.64	n/a	Standard Deviation	10.28	17.42	15.60	n/a
Sharpe Ratio	2.37	1.46	0.86	n/a	Standard Deviation (Index)	9.46	17.08	14.84	n/a
Sharpe Ratio (Index)	0.21	0.85	0.64	n/a	Sharpe Ratio	1.40	1.15	0.83	n/a
Excess Risk	10.17	11.5	9.54	n/a	Sharpe Ratio (Index)	1.95	1.12	0.88	n/a
Information Ratio	2.29	0.51	0.20	n/a	Excess Risk	3.51	3.36	3.37	n/a
Smith Graham (Mid-Cap)	1 Yr	3 Yr	5 Yr	10 Yr	Information Ratio	-0.99	0.22	-0.02	n/a
Standard Deviation	15.28	27.93	n/a	n/a	Global Low Volatility				
Standard Deviation (Index)	11.36	20.84	n/a	n/a	Acadian (Global Low Volatility)	1 Yr	3 Yr	5 Yr	10 Yr
Sharpe Ratio	2.69	0.78	n/a	n/a	Standard Deviation	10.22	14.33	12.33	n/a
Sharpe Ratio (Index)	1.98	1.06	n/a	n/a	Standard Deviation (Index)	9.46	17.08	14.84	n/a
Excess Risk	11.06	11.85	n/a	n/a	Sharpe Ratio	1.68	0.74	0.69	n/a
Information Ratio	1.37	-0.01	n/a	n/a	Sharpe Ratio (Index)	1.95	1.12	0.88	n/a
Real Estate Investment Trusts					Excess Risk	4.37	6.84	n/a	n/a
Adelante (REIT)	1 Yr	3 Yr	5 Yr	10 Yr	Information Ratio	-1.08	-0.92	n/a	n/a
Standard Deviation	13.19	18.07	15.84	14.69	Fixed Income (Core)				
Standard Deviation (Index)	13.91	19.17	16.75	15.51	Securian (Core Fixed Income)	1 Yr	3 Yr	5 Yr	10 Yr
Sharpe Ratio	3.60	1.11	0.71	0.77	Standard Deviation	2.68	5.27	4.29	3.64
Sharpe Ratio (Index)	3.31	0.94	0.58	0.71	Standard Deviation (Index)	2.84	3.40	3.06	2.98
Excess Risk	1.31	1.89	1.78	1.80	Sharpe Ratio	-0.12	0.79	0.67	0.85
Information Ratio	0.77	0.94	0.76	0.21	Sharpe Ratio (Index)	-0.56	1.11	0.78	0.76
Real Estate Investment Trusts					Excess Risk	0.56	3.5	2.72	1.95
Centersquare (REIT)	1 Yr	3 Yr	5 Yr	10 Yr	Information Ratio	2.28	0.12	0.16	0.42
Standard Deviation	14.62	19.12	n/a	n/a					
Standard Deviation (Index)	13.91	19.17	n/a	n/a					
Sharpe Ratio	2.91	0.98	n/a	n/a					
Sharpe Ratio (Index)	3.31	0.94	n/a	n/a					
Excess Risk	1.72	1.77	n/a	n/a					
Information Ratio	-1.42	0.40	n/a	n/a					



Manager Risk Statistics

High Yield Fixed Income					Fixed Income (Core)				
<u>BlackRock (High Yield)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<u>Garcia Hamilton (Core Fixed Income)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation	2.60	9.29	7.48	6.34	Standard Deviation	2.37	3.31	2.8	n/a
Standard Deviation (Index)	2.67	9.25	7.46	6.61	Standard Deviation (Index)	2.84	3.40	3.06	n/a
Sharpe Ratio	1.96	0.83	0.65	0.89	Sharpe Ratio	-0.96	0.92	0.75	n/a
Sharpe Ratio (Index)	1.98	0.80	0.64	0.87	Sharpe Ratio (Index)	-0.56	1.11	0.78	n/a
Excess Risk	0.54	3.07	2.38	2.06	Excess Risk	0.67	1.25	1.15	n/a
Information Ratio	-0.28	0.11	0.05	-0.06	Information Ratio	-1.03	-0.56	-0.25	n/a
<u>Oaktree (High Yield)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	Master Limited Partnerships				
Standard Deviation	2.40	8.64	7.06	6.33	<u>Harvest (MLP)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation (Index)	2.67	9.25	7.46	6.61	Standard Deviation	14.49	35.43	29.68	n/a
Sharpe Ratio	2.04	0.83	0.59	0.80	Standard Deviation (Index)	1864.00	47.52	38.30	n/a
Sharpe Ratio (Index)	1.98	0.80	0.64	0.87	Sharpe Ratio	2.81	0.20	0.00	n/a
Excess Risk	0.54	1.09	0.94	0.93	Sharpe Ratio (Index)	2.15	0.02	-0.10	n/a
Information Ratio	-0.64	-0.22	-0.64	-0.69	Excess Risk	5.58	14.30	11.20	n/a
<u>Neuberger Berman (Credit Opps)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	Information Ratio	0.08	0.42	0.36	n/a
Standard Deviation	2.66	10.58	8.40	n/a	<u>Atlantic Trust CIBC (MLP)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation (Index)	2.53	9.28	7.35	n/a	Standard Deviation	14.67	39.65	32.54	26.34
Sharpe Ratio	0.99	0.52	0.50	n/a	Standard Deviation (Index)	18.64	47.52	38.30	29.76
Sharpe Ratio (Index)	1.12	0.61	0.52	n/a	Sharpe Ratio	2.65	0.12	-0.05	0.15
Excess Risk	0.6	1.67	1.50	n/a	Sharpe Ratio (Index)	2.15	0.02	-0.10	-0.03
Information Ratio	-0.33	-0.10	0.22	n/a	Excess Risk	5.51	9.70	7.70	6.25
					Information Ratio	-0.15	0.38	0.31	0.77



Manager Performance Objectives

Domestic Equity	3-year	5-year	Since Inception	Inception Date
<u>Enhanced Index</u>				
T. Rowe Price (Net)	26.83	19.36	11.42	Mar-06
S&P 500 Index + 1%	27.31	19.65	12.00	Mar-06
<i>Net of Fee Value Added vs Objective</i>	<i>-0.48</i>	<i>-0.29</i>	<i>-0.58</i>	
S&P 500 Index	26.07	18.47	10.87	Mar-06
<i>Net of Fee Value Added vs Benchmark</i>	<i>0.76</i>	<i>0.89</i>	<i>0.56</i>	
<u>Small Core - Active</u>				
Systematic Financial (Net)	19.05	12.35	11.51	Jun-03
Russell 2000 Index + 1.25%	21.51	13.42	11.61	Jun-03
<i>Net of Fee Value Added vs Objective</i>	<i>-2.46</i>	<i>-1.07</i>	<i>-0.10</i>	
Russell 2000 Index	20.02	12.02	10.23	Jun-03
<i>Net of Fee Value Added vs Benchmark</i>	<i>-0.98</i>	<i>0.33</i>	<i>1.28</i>	
<u>Small Value - Active</u>				
Channing Capital Management (Net) *	20.19	8.82	8.83	Oct-13
Russell 2000 Value Index + 1.25%	19.46	10.43	10.30	Oct-13
<i>Net of Fee Value Added vs Objective</i>	<i>0.73</i>	<i>-1.61</i>	<i>-1.47</i>	
Russell 2000 Value Index	17.99	9.07	8.94	Oct-13
<i>Net of Fee Value Added vs Benchmark</i>	<i>2.19</i>	<i>-0.25</i>	<i>-0.11</i>	
<u>Small Growth - Active</u>				
Redwood Investments (Net) *	27.20	16.15	15.65	Sep-16
Russell 2000 Growth Index + 1.50%	22.97	16.25	16.34	Sep-16
<i>Net of Fee Value Added vs Objective</i>	<i>4.23</i>	<i>-0.10</i>	<i>-0.69</i>	
Russell 2000 Growth Index	21.17	14.53	14.56	
<i>Net of Fee Value Added vs Benchmark</i>	<i>6.03</i>	<i>1.62</i>	<i>1.09</i>	
<u>Mid Cap Value - Active</u>				
Smith Graham Mid Cap Value (Net) *	23.11		12.31	Dec-17
Russell Midcap Index + 2%	25.74		16.54	Dec-17
<i>Net of Fee Value Added vs Objective</i>	<i>-2.63</i>		<i>-4.23</i>	
Russell Midcap Index	23.29		14.26	
<i>Net of Fee Value Added vs Benchmark</i>	<i>-0.17</i>		<i>-1.94</i>	



Manager Performance Objectives

International Equity	3-year	5-year	Since Inception	
<u>Int'l Small Cap - Active</u>				
Acadian International (Net)	18.01	12.61	8.84	Mar-89
Custom Benchmark + 2%	18.78	13.43	8.59	Mar-89
<i>Net of Fee Value Added vs Objective</i>	<i>-0.77</i>	<i>-0.82</i>	<i>0.25</i>	
Custom Benchmark	16.46	11.21		Mar-89
<i>Net of Fee Value Added vs Benchmark</i>	<i>1.56</i>	<i>1.40</i>		
<u>Int'l Enhanced Index</u>				
AQR Capital Management (Net)	13.26	8.81	4.29	Mar-06
Custom Benchmark + 1.5%	14.88	11.25	5.52	Mar-06
<i>Net of Fee Value Added vs Objective</i>	<i>-1.62</i>	<i>-2.44</i>	<i>-1.23</i>	
Custom Benchmark	13.18	9.61	3.96	Mar-06
<i>Net of Fee Value Added vs Benchmark</i>	<i>0.08</i>	<i>-0.80</i>	<i>0.33</i>	
<u>Int'l Developed</u>				
Ativo International Developed (Net) *	13.17		6.08	Dec-17
MSCI EAFE Index + 2%	15.81		8.41	
<i>Net of Fee Value Added vs Objective</i>	<i>-2.64</i>		<i>-2.33</i>	
MSCI EAFE Index	13.54		5.99	
<i>Net of Fee Value Added vs Benchmark</i>	<i>-0.37</i>		<i>0.09</i>	
<u>Int'l Equity (Active)</u>				
Baillie Gifford (Net)	-.-	-.-	15.34	Mar-19
MSCI ACWI x-US (Net) + 2%	-.-	-.-	12.57	
<i>Net of Fee Value Added vs Objective</i>			<i>2.77</i>	
MSCI ACWI x-US (Net)	-.-	-.-	10.45	
<i>Net of Fee Value Added vs Benchmark</i>			<i>4.89</i>	
<u>Int'l Equity (Active)</u>				
Earnest Partners (Net) *	-.-	-.-	13.18	Mar-19
MSCI ACWI x-US (Net) + 2%	-.-	-.-	12.57	
<i>Net of Fee Value Added vs Objective</i>			<i>0.61</i>	
MSCI ACWI x-US (Net)	-.-	-.-	10.45	
<i>Net of Fee Value Added vs Benchmark</i>			<i>2.73</i>	



Manager Performance Objectives

Global Equity	3-year	5-year	Since Inception	Inception Date
<u>Global Equity - Active</u>				
Wellington (Net)	21.28	14.31	13.21	Aug-12
MSCI ACWI (Net) + 2%	22.78	16.68	13.90	Aug-12
<i>Net of Fee Value Added vs Objective</i>	<i>-1.50</i>	<i>-2.37</i>	<i>-0.69</i>	
MSCI ACWI (Net)	20.38	14.40	11.67	Aug-12
<i>Net of Fee Value Added vs Benchmark</i>	<i>0.89</i>	<i>-0.08</i>	<i>1.54</i>	
<u>Global Equity - Active</u>				
Ariel (Net) *	12.83		7.91	Dec-17
MSCI ACWI (Net) + 1.5%	22.18		13.80	
<i>Net of Fee Value Added vs Objective</i>	<i>-9.35</i>		<i>-5.89</i>	
MSCI ACWI (Net)	20.38		12.12	
<i>Net of Fee Value Added vs Benchmark</i>	<i>-7.55</i>		<i>-4.21</i>	
	3-year	5-year	Since Inception	Inception Date
<u>Global Low Volatility - Active</u>				
Acadian Global Low Vol (Net)	11.96	9.80	8.75	Jun-15
MSCI ACWI (Net) + 2%	22.78	16.68	13.00	Jun-15
<i>Net of Fee Value Added vs Objective</i>	<i>-10.82</i>	<i>-6.88</i>	<i>-4.25</i>	
MSCI ACWI (Net)	20.38	14.40	11.34	Jun-15
<i>Net of Fee Value Added vs MSCI ACWI</i>	<i>-8.43</i>	<i>-4.59</i>	<i>-2.58</i>	
MSCI ACWI Min Vol (Net)	7.55	8.48	8.56	Jun-15
<i>Net of Fee Value Added vs MSCI ACWI Min Vol</i>	<i>4.40</i>	<i>1.33</i>	<i>0.19</i>	



Manager Performance Objectives

Real Estate	<u>3-year</u>	<u>5-year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<u>Real Estate Securities - Public</u>				
Adelante Capital Management (Net)	21.27	12.55	10.95	Sep-01
Wilshire Real Estate Securities + 1%	20.34	12.15	12.15	Sep-01
<i>Net of Fee Value Added vs Objective</i>	<i>0.93</i>	<i>0.40</i>	<i>-1.20</i>	
Wilshire Real Estate Securities	19.16	11.05	11.04	Sep-01
<i>Net of Fee Value Added vs Index</i>	<i>2.11</i>	<i>1.50</i>	<i>-0.09</i>	
<u>CenterSquare (Net)</u>				
CenterSquare (Net)	20.01		15.95	May-18
Wilshire Real Estate Securities + 1%	20.35		16.25	May-18
<i>Net of Fee Value Added vs Objective</i>	<i>-0.34</i>		<i>-0.30</i>	
Wilshire Real Estate Securities	19.16		15.10	May-18
<i>Net of Fee Value Added vs Index</i>	<i>0.85</i>		<i>0.85</i>	



Manager Performance Objectives

Fixed Income

	<u>3-year</u>	<u>5-year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<u>Global Fixed Income</u>				
Securian Asset Mgmt. (Net)	5.22	4.03	4.55	May-07
Bloomberg Aggregate + 0.5%	5.31	4.09	4.63	May-07
<i>Net of Fee Value Added vs Objective</i>	<i>-0.09</i>	<i>-0.06</i>	<i>-0.08</i>	
Bloomberg Aggregate	4.79	3.57	4.16	May-07
<i>Net of Fee Value Added vs Benchmark</i>	<i>0.43</i>	<i>0.46</i>	<i>0.39</i>	

Garcia Hamilton (Net)	4.06	3.27	3.34	Oct-13
Bloomberg Aggregate + 0.5%	5.31	4.09	3.69	Oct-13
<i>Net of Fee Value Added vs Objective</i>	<i>-1.25</i>	<i>-0.82</i>	<i>-0.35</i>	
Bloomberg Aggregate	4.79	3.57	3.18	Oct-13
<i>Net of Fee Value Added vs Benchmark</i>	<i>-0.73</i>	<i>-0.30</i>	<i>0.16</i>	

	<u>3-year</u>	<u>5-year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<u>High Yield</u>				
Oaktree Capital Management (Net)	8.21	5.33	6.42	Dec-96
Performance Objective	9.55	7.03	8.02	Dec-96
<i>Net of Fee Value Added vs Objective</i>	<i>-1.34</i>	<i>-1.70</i>	<i>-1.60</i>	
Custom Benchmark	8.47	5.97		Dec-96
<i>Net of Fee Value Added vs Benchmark</i>	<i>-0.26</i>	<i>-0.64</i>		

BlackRock High Yield (Net)	8.83	6.08	6.45	Sep-06
Citigroup High Yield Cash Pay + 1%	9.54	7.02	7.94	Sep-06
<i>Net of Fee Value Added vs Objective</i>	<i>-0.71</i>	<i>-0.94</i>	<i>-1.49</i>	
Citigroup High Yield Cash Pay	8.47	5.97	6.87	Sep-06
<i>Net of Fee Value Added vs Benchmark</i>	<i>0.36</i>	<i>0.11</i>	<i>-0.42</i>	

Credit Opportunities

Neuberger Berman (Net)	6.54	5.37	6.30	Jan-16
Custom Benchmark + 1%	7.79	6.08	7.55	Jan-16
<i>Net of Fee Value Added vs Objective</i>	<i>-1.25</i>	<i>-0.71</i>	<i>-1.25</i>	
Custom Benchmark	6.73	5.03	6.49	Jan-16
<i>Net of Fee Value Added vs Benchmark</i>	<i>-0.19</i>	<i>0.34</i>	<i>-0.19</i>	



Manager Performance Objectives

MLP's	3-year	5-year	Since Inception	Inception Date
MLPs				
Harvest Fund Advisors (Net)	8.28	1.19	4.40	Dec-11
Alerian MLP Index + 1.5%	3.68	-1.22	1.82	Dec-11
<i>Net of Fee Value Added vs Objective</i>	4.60	2.41	2.58	
Alerian MLP Index	2.12	-2.70	-0.26	Dec-11
<i>Net of Fee Value Added vs Benchmark</i>	6.15	3.89	4.66	
Atlantic Trust CIBC (Net)	5.93	-0.36	4.55	Dec-11
Alerian MLP Index + 1.5%	3.68	-1.22	1.82	Dec-11
<i>Net of Fee Value Added vs Objective</i>	2.25	0.86	2.73	
Alerian MLP Index	2.12	-2.70	-0.26	Dec-11
<i>Net of Fee Value Added vs Benchmark</i>	3.80	2.34	4.81	

DISCUSSION SHEET

Employees' Retirement Fund Board of Trustees Meeting

February 8, 2022

- Issue:** Oaktree Capital Management Guideline Change
- Attachments:** Redlined Oaktree High Yield Fixed Income guidelines
- Discussion:** During Q3 2021, the benchmark for Oaktree's U.S. High Yield Bond product changed to include U.S. dollar-denominated bonds of Non-North American issuers, commonly referred to as Yankee Bonds.
- Oaktree has requested to include Yankee Bonds as part of their mandate by adding the index plus 5% to the guidelines, allowing Oaktree closer benchmark alignment.
- Additionally, during Q3 2021 the Citigroup High Yield Cash Pay Capped Index was acquired by FTSE (Financial Times Stock Exchange). Oaktree is also requesting to make this benchmark name change reflected in their guidelines.
- ERF Staff has discussed this guideline change with Wilshire and they agree with the change, per Board approval.
- Recommendation:** Suggested motion for the approval is as follows: Move to approve the requested Manager guideline changes as noted and authorize the Board Chair to sign.

OAKTREE CAPITAL MANAGEMENT

for the

Employees' Retirement Fund of the City of Dallas (revised 7/99)

I. **Investment Philosophy** ***Active High Yield Fixed Income Management***

Oaktree Capital Management (Oaktree) emphasizes senior, cash-paying securities of solvent US and Canadian corporations. To limit further credit risk, Oaktree diversifies by company, industry and sector and purchases securities that they are prepared to hold for the long term. Oaktree seeks to boost its returns by reducing the incidence of credit losses.

11. **Portfolio Characteristics**

- A. Permitted Instruments
- Fixed Income Securities rated Bal - Caa3 by Moody's or BB+ - CCC- by Standard & Poor's (revised 11/09).
For split-rated bonds, the higher rating will prevail
 - Floating rate securities and debt obligations (including bank debt) ("Floating Rate Securities") rated B3 or higher by Moody's or B- by S&P (revised by adding 8/05).
 - Bridge Securities whether fixed or floating, with or without a payment in kind feature ("Bridge Securities") (revised by adding 8/05).
 - Investment Grade Bonds - may be purchased if their price provides a yield comparable to high yield debt. (revised 8/05)
 - Payment in Kind Bonds ("PIK"). (revised 6/07)
 - Zero Coupon Fixed Income Securities (revised by adding 3/10/98)
 - Rule 144A Fixed Income Securities
 - Securities issued or guaranteed by the US Government, its agencies, and instrumentalities
 - Units of the Master Custodian STIF fund
 - Contracts representing forward commitments to purchase securities which comply with these guidelines

- B. **Restricted Instruments** (revised by deleting zero coupon securities 3/10/98 and payment in kind securities 7/99)
The manager may not invest in the following securities without prior written approval:

- I. Derivatives (revised by adding 7/99)

2. Unregistered securities (including any unregistered equity security or warrant or option to acquire any such security), except Rule 144A securities, Bridge Securities and Floating Rate Securities. (revised 8/05)
3. Convertible preferred securities or warrants.
4. Securities for which the value of all outstanding securities of the issue is less than \$100 million at the time of purchase. (revised 7/99)
5. Securities of a company for the purpose of acquiring control or management.
6. Securities issued in connection with a highly leveraged transaction involving a company which, in the manager's judgment, is experiencing clear operating difficulty.
7. Real estate, real estate mortgage loans, except securities secured by real estate or interests therein, or issue by companies, including real estate investment trusts, which invest in real estate or interests therein.
8. Commodities or commodities contracts.
9. Units of mutual funds.
10. Securities of foreign issuers, except issues from the G7 countries (revised 11/98), or up to the greater of (i) Index (as defined below) + 5% or (ii) (revised by adding 11/21) 20% of the portfolio value in other foreign issuers ~~if over 50% of their assets or business are located in the US~~, and (revised by adding 11/09) if principal and interest is payable in U.S. dollars.
11. Purchase of common stocks, or warrants or options to acquire common stocks, unless such common stocks, warrants or options are issued as part of an investment unit the major portion of the value of which is attributable, in the manager's judgment, to fixed income securities, provided that such restriction shall not prohibit the acquisition of (A) convertible bonds, if, in the manager's judgment, most of their value is attributable to their yield and other fixed income features, or (B) equity securities upon conversion of a convertible bond or upon exercise of a warrant or option that is part of any such investment unit to the extent that exercise is deemed advisable to facilitate sale of the investment.

C. Other Portfolio Restrictions and Requirements:

Maximum amount of securities rated in the total
Caa or CCC range or non-rated securities
equivalent to Caa or CCC or better (other than
Floating Rate Securities and Bridge Securities)(revised 8/05)

20%, based on market value
(revised 11/09).

Maximum PIK and/or zero coupon securities	5%, based on market value (revised by adding zeros 3/10/98 and PIK's 7/99)
Maximum allocation to a single issuer	5%, based on market value except government securities
Maximum allocation to a single industry	20%, based on market value except government securities
Minimum amount of non-US treasury bonds	30 securities where no individual issue comprises more than 5% of the market value of the portfolio.
Maximum amount of Floating Rate Securities and Comparable Non-Rated Floating Rate Securities	10% based on market value (revised 6/07).
Maximum amount of Bridge Securities	10% based on market value (revised 6/07).

D. Special Guidelines Applicable to Restructuring Situations (revised by adding 05/14/02)

Notwithstanding the permitted investments and investment restrictions set forth in the guidelines, manager is hereby authorized to make the following investments:

1. Any debt or equity instruments (i) where received in a reorganization, restructuring or other exchange transaction or (ii) where purchased in connection with, or in anticipation of, a recapitalization or other financial restructuring transaction involving a pre-existing investment. (revised 11/09).
2. In any such restructuring transaction involving the purchase of any of these instruments, the amounts to be expended in a single restructuring may not exceed 100% of the pre-existing investment at cost. (revised 6/07)
3. In such a restructuring where securities are obtained without any additional investments, the manager will inform the Administrator in writing of the details of the transaction.
4. At no time shall the total market value of all the restructuring related instruments as defined in II.D.1(ii) (revised 11/09) exceed 5% of the portfolio.

III. General Investment Manager Guidelines and Requirements

1. Oaktree shall take note of and operate under the "Fixed Income Asset Class Policy for the Employees' Retirement Fund of the City of Dallas" (revised 7/99), which specifies the strategic role its portfolio is to fulfill in the overall investment structure of the Fund, a copy of which is appended to, and is a part of, these guidelines and objectives.

2. Purchases and sales, security selection, and portfolio implementation of investment strategies are delegated to the discretion of the investment manager. (revised 7/99)
3. The following transactions are prohibited: purchase of non-negotiable securities, short sales, stock and bond transactions on margin, straddles, options, leverage, or letter stock. (revised 7/99)
4. Transactions that involve a broker acting as a “principal” where such broker is also the investment manager who is making the transaction is prohibited.
5. Transactions shall be executed at a reasonable cost, taking into consideration prevailing market conditions and services and research provided by the executing broker.
6. Each investment manager shall have full responsibility for the exercise of all rights appurtenant to any securities under its management, including responsibility to vote proxies, except to the extent otherwise directed by the Trustees. Investment managers shall maintain records of proxy votes and make them available for inspection upon reasonable request.
7. Performance objectives are to be met on a net of fees basis.
8. Any investment or action with respect to an investment not expressly allowed is prohibited, unless presented to and approved prospectively by the Trustees of the Dallas Employees’ Retirement Fund. All guidelines must be adhered to by the external money managers; however, if from time to time an exception to the guidelines shall be deemed appropriate by a manager, it must seek review and approval by the Trustees prior to making such an exception.
9. Should any temporary or permanent change regarding a manager occur, the manager shall notify the Trustees immediately via phone. A letter, detailing the circumstances of the change and the possible impact to the portfolio management, will be faxed immediately to the Trustees. Changes include, but are not limited to:
 - a) a significant change in investment philosophy,
 - b) a loss of one or more key management personnel,
 - c) a new portfolio manager on the account,
 - d) a change in ownership structure of the firm, or
 - e) any occurrence which might potentially impact the management, professionalism, integrity or financial position of the investment manager.
10. For purposes of the guidelines, (a) all percentages apply immediately after a purchase or initial investment and (b) any subsequent change in any applicable percentage resulting from market fluctuations or other changes in total assets does not require immediate elimination of any security from the Portfolio. However, if a guideline is violated due to market events, actions, or conditions, the manager must immediately inform the Administrator to determine a course of action. This course

of action will be based upon the best judgment recommendation of the manager and the Administrator's discussion with the investment consultant and Board members. Correction of the violation may be postponed if it is deemed to be in the best interest of the Fund. (revised 11/09)

IV. Performance Objective

Exceed the return of the Citigroup High Yield Cash Pay Capped (revised 6/07) Index (the "Index") by 1% annually net of fees over a 3 year period.

Acknowledged: Oaktree Capital Management

By: _____ Date: _____

By: _____ Date: _____

Employees' Retirement Fund of the City of Dallas

By: _____ Date: _____

Date last revised: ~~November 10~~ December 1, 2009 2021

Document comparison by Workshare 10.0 on Wednesday, December 15, 2021
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Amendment to
INVESTMENT MANAGEMENT AGREEMENT

THIS AMENDMENT (this “Amendment”), effective as of ~~November~~December ~~1/11/18~~21/22, 2021, to the AGREEMENT entered into as of January 13, 1997 (as amended, restated, supplemented or otherwise modified, the “Agreement”), by and between the Employees’ Retirement Fund of the City of Dallas (“Client”), and Oaktree Capital Management, L.P., a Delaware limited partnership (“Manager”). Capitalized terms used herein but not otherwise defined herein shall have the meaning assigned to such terms in the Agreement.

WHEREAS, pursuant to the Agreement, Manager serves as an investment manager of Client in respect of an investment portfolio of certain assets; and

WHEREAS, Client and Manager wish to amend the Agreement to reflect Client’s name change and as further set forth herein.

NOW THEREFORE, in consideration of the premises and of the mutual covenants herein contained and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. **Amendment to Agreement.** The Agreement shall be amended by amending and restating Exhibit B and replacing it in its entirety with Annex 1 attached hereto.
2. **Applicable Law.** This Amendment shall be construed in accordance with and subject only to the laws of the State of Texas except to the extent preempted by federal law(s), if any, other ERISA (which does not pertain to Client, a governmental plan). Venue for any action arising from this Amendment, including but not limited to matters concerning validity, construction, performance, or enforcement, shall lie exclusively in the state or federal courts located in Dallas County, Texas.
3. **Counterparts.** This Amendment may be executed in any number of counterparts which shall together constitute one agreement. Each party may enter into this Amendment by signing such counterpart.
4. **Agreement Remains in Effect.** Except as amended herein, all other provisions, terms and conditions of the Agreement shall remain in full force and effect. As amended hereby, the Agreement is ratified and confirmed in all respects.

[Signature page follows]

IN WITNESS WHEREOF, the parties have agreed to the foregoing as of the date first above written.

Oaktree Capital Management, L.P.

By:
Title:

By:
Title:

Employees' Retirement Fund of the City of Dallas

By:
Title:

Annex 1

See attached.

OAKTREE CAPITAL MANAGEMENT

for the

Employees' Retirement Fund of the City of Dallas (revised 7/99)

I. **Investment Philosophy** ***Active High Yield Fixed Income Management***

Oaktree Capital Management (Oaktree) emphasizes senior, cash-paying securities of solvent US and Canadian corporations. To limit further credit risk, Oaktree diversifies by company, industry and sector and purchases securities that they are prepared to hold for the long term. Oaktree seeks to boost its returns by reducing the incidence of credit losses.

11. **Portfolio Characteristics**

- A. Permitted Instruments
 - Fixed Income Securities rated Bal - Caa3 by Moody's or BB+ - CCC- by Standard & Poor's (revised 11/09).
For split-rated bonds, the higher rating will prevail
 - Floating rate securities and debt obligations (including bank debt) ("Floating Rate Securities") rated B3 or higher by Moody's or B- by S&P (revised by adding 8/05).
 - Bridge Securities whether fixed or floating, with or without a payment in kind feature ("Bridge Securities") (revised by adding 8/05).
 - Investment Grade Bonds - may be purchased if their price provides a yield comparable to high yield debt. (revised 8/05)
 - Payment in Kind Bonds ("PIK"). (revised 6/07)
 - Zero Coupon Fixed Income Securities (revised by adding 3/10/98)
 - Rule 144A Fixed Income Securities
 - Securities issued or guaranteed by the US Government, its agencies, and instrumentalities
 - Units of the Master Custodian STIF fund
 - Contracts representing forward commitments to purchase securities which comply with these guidelines

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The manager may not invest in the following securities without prior written approval:

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2. Unregistered securities (including any unregistered equity security or warrant or option to acquire any such security), except Rule 144A securities, Bridge Securities and Floating Rate Securities. (revised 8/05)
3. Convertible preferred securities or warrants.
4. Securities for which the value of all outstanding securities of the issue is less than \$100 million at the time of purchase. (revised 7/99)
5. Securities of a company for the purpose of acquiring control or management.
6. Securities issued in connection with a highly leveraged transaction involving a company which, in the manager's judgment, is experiencing clear operating difficulty.
7. Real estate, real estate mortgage loans, except securities secured by real estate or interests therein, or issue by companies, including real estate investment trusts, which invest in real estate or interests therein.
8. Commodities or commodities contracts.
9. Units of mutual funds.
10. Securities of foreign issuers, except issues from the G7 countries (revised 11/98), or up to the greater of (i) Index (as defined below) + 5% or (ii) (revised by adding 11/21) 20% of the portfolio value in other foreign issuers, and (revised by adding 11/09) if principal and interest is payable in U.S. dollars.
11. Purchase of common stocks, or warrants or options to acquire common stocks, unless such common stocks, warrants or options are issued as part of an investment unit the major portion of the value of which is attributable, in the manager's judgment, to fixed income securities, provided that such restriction shall not prohibit the acquisition of (A) convertible bonds, if, in the manager's judgment, most of their value is attributable to their yield and other fixed income features, or (B) equity securities upon conversion of a convertible bond or upon exercise of a warrant or option that is part of any such investment unit to the extent that exercise is deemed advisable to facilitate sale of the investment.

C. Other Portfolio Restrictions and Requirements:

Maximum amount of securities rated in the total
Caa or CCC range or non-rated securities
equivalent to Caa or CCC or better (other than

Floating Rate Securities and Bridge Securities)(revised 8/05)

20%, based on market value
(revised 11/09).

Maximum PIK and/or zero coupon securities	5%, based on market value (revised by adding zeros 3/10/98 and PIK's 7/99)
Maximum allocation to a single issuer	5%, based on market value except government securities
Maximum allocation to a single industry	20%, based on market value except government securities
Minimum amount of non-US treasury bonds	30 securities where no individual issue comprises more than 5% of the market value of the portfolio.
Maximum amount of Floating Rate Securities and Comparable Non-Rated Floating Rate Securities	10% based on market value (revised 6/07).
Maximum amount of Bridge Securities	10% based on market value (revised 6/07).

D. Special Guidelines Applicable to Restructuring Situations (revised by adding 05/14/02)

Notwithstanding the permitted investments and investment restrictions set forth in the guidelines, manager is hereby authorized to make the following investments:

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2. In any such restructuring transaction involving the purchase of any of these instruments, the amounts to be expended in a single restructuring may not exceed 100% of the pre-existing investment at cost. (revised 6/07)
3. In such a restructuring where securities are obtained without any additional investments, the manager will inform the Administrator in writing of the details of the transaction.
4. At no time shall the total market value of all the restructuring related instruments as defined in II.D.1(ii) (revised 11/09) exceed 5% of the portfolio.

III. General Investment Manager Guidelines and Requirements

1. Oaktree shall take note of and operate under the "Fixed Income Asset Class Policy for the Employees' Retirement Fund of the City of Dallas" (revised 7/99), which specifies the strategic role its portfolio is to fulfill in the overall investment structure of the Fund, a copy of which is appended to, and is a part of, these guidelines and objectives.

2. Purchases and sales, security selection, and portfolio implementation of investment strategies are delegated to the discretion of the investment manager. (revised 7/99)
3. The following transactions are prohibited: purchase of non-negotiable securities, short sales, stock and bond transactions on margin, straddles, options, leverage, or letter stock. (revised 7/99)
4. Transactions that involve a broker acting as a “principal” where such broker is also the investment manager who is making the transaction is prohibited.
5. Transactions shall be executed at a reasonable cost, taking into consideration prevailing market conditions and services and research provided by the executing broker.
6. Each investment manager shall have full responsibility for the exercise of all rights appurtenant to any securities under its management, including responsibility to vote proxies, except to the extent otherwise directed by the Trustees. Investment managers shall maintain records of proxy votes and make them available for inspection upon reasonable request.
7. Performance objectives are to be met on a net of fees basis.
8. Any investment or action with respect to an investment not expressly allowed is prohibited, unless presented to and approved prospectively by the Trustees of the Dallas Employees’ Retirement Fund. All guidelines must be adhered to by the external money managers; however, if from time to time an exception to the guidelines shall be deemed appropriate by a manager, it must seek review and approval by the Trustees prior to making such an exception.
9. Should any temporary or permanent change regarding a manager occur, the manager shall notify the Trustees immediately via phone. A letter, detailing the circumstances of the change and the possible impact to the portfolio management, will be faxed immediately to the Trustees. Changes include, but are not limited to:
a) a significant change in investment philosophy, b) a loss of one or more key management personnel, c) a new portfolio manager on the account, d) a change in ownership structure of the firm, or e) any occurrence which might potentially impact the management, professionalism, integrity or financial position of the investment manager.
10. For purposes of the guidelines, (a) all percentages apply immediately after a purchase or initial investment and (b) any subsequent change in any applicable percentage resulting from market fluctuations or other changes in total assets does not require immediate elimination of any security from the Portfolio. However, if a guideline is violated due to market events, actions, or conditions, the manager must immediately inform the Administrator to determine a course of action. This course

of action will be based upon the best judgment recommendation of the manager and the Administrator's discussion with the investment consultant and Board members. Correction of the violation may be postponed if it is deemed to be in the best interest of the Fund. (revised 11/09)

IV. Performance Objective

Exceed the return of the ~~Citigroup~~ ETSE High Yield Cash Pay Capped Index (revised ~~6/07~~ 1/22) Index (the "Index") by 1% annually net of fees over a 3 year period.

Acknowledged: Oaktree Capital Management

By: _____ Date: _____

By: _____ Date: _____

Employees' Retirement Fund of the City of Dallas

By: _____ Date: _____

Date last revised: ~~November~~ December /•/, 2021

Document comparison by Workshare 10.0 on Tuesday, January 25, 2022
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DISCUSSION SHEET

Employees' Retirement Fund Board of Trustees Meeting

February 8, 2022

- Issue:** T. Rowe Price Associates, Inc.'s Guideline Change
- Attachments:** Redlined T. Rowe Price Associates, Inc.'s Domestic Equity guidelines
- Discussion:** T. Rowe Price has asked for the ability to hold the benchmark +1.5%, if the stock is over 3% of the benchmark, and +1.0% if the stock is under 3% of the benchmark.
- In the event the stock is greater than 3% of the benchmark, the 5% issue limit will not apply and the maximum position permitted would be +1.5% of the benchmark. This will permit T. Rowe Price to take an active overweight where securities have a significant benchmark weight and not force them into an underweight position.
- ERF Staff has discussed these guidelines with Wilshire and they agree with the change, per Board approval.
- Recommendation:** Suggested motion for the approval is as follows: Move to approve the requested Manager guideline changes as noted and authorize the Board Chair to sign.

Exhibit B
T. Rowe Price Associates, Inc.
Enhanced Domestic Equity Management
for
Employees' Retirement Fund of the City of Dallas

Investment Approach

The product utilizes a fundamental investment approach combined with a disciplined portfolio construction process. Each analyst assigned to the strategy is responsible for investing a portion of the overall portfolio with the goal of outperforming their respective industry/sector benchmark return. Capital is allocated to the individual analysts in proportion to their industry/sector weights in the S&P 500 Index, the benchmark for this strategy. All aspects of the portfolio are monitored daily by the senior portfolio management team of this strategy.

Typical Portfolio Characteristics

1. Market capitalization	Similar to the S&P 500 Index
2. Number of holdings	200 - 300
3. Maximum investment in a single issue at market value:	5% (revised 2/22)
4.3. Maximum percent of non-S&P 500 holdings at market	10%
5.4. Annual turnover	Typically 40 – 60%
6.5. Industry exposure around benchmark weight	+/- 100 basis points
7.6. Sector exposure around benchmark weight	+/- 150 basis points
8.7. Maximum active position size around benchmark weight If a stock weight in the S&P is larger than 3%	+/- 100 basis points. +/-150 basis points
9.8. Maximum cash allocation at market value:	5%
10.9. Tracking error	125 – 175 basis points
11.10. Information Ratio	1.0

The characteristics above are only representative of a portfolio with your firm's designated investment specialization. The characteristics are not intended to hinder the manager or inhibit its ability to implement its investment process and disciplines. However, the portfolio will be monitored to identify any significant deviations that may indicate a material change in investment approach.

Small deviations from the above constraints regarding security, industry and sector weightings are acceptable prior to monthly rebalancing, if in the judgment of the Manager the deviations do not contribute significantly to overall portfolio risk.

Authorized Investments

1. Common stocks or SEC-registered ADRs¹ listed on U.S. exchanges or traded through NASDAQ. It is understood that the Manager may invest in securities of foreign issuers listed on U.S. exchanges or traded through NASDAQ subject to a limit of 5% (including ADRs) at market.
2. Master Custodian's Short-Term Investment Fund (STIF).
3. Exchange Traded Funds (ETFs) solely as a cash management tool and not to leverage the portfolio.

General Investment Manager Guidelines and Requirements

1. The manager shall take note of and operate under the "Domestic Equity Asset Class Policy for the Employees' Retirement Fund of the City of Dallas", which specifies the strategic roles the portfolio is to fulfill in the overall investment structure of the Fund, a copy of which is appended to, and is part of these guidelines and objectives. The Domestic Equity Asset Class Policy will be developed and distributed when approved by the Board.
2. Purchases and sales, security selection, and portfolio implementation of investment strategies are delegated to the discretion of the investment manager.
3. The following transactions are prohibited: purchase of non-negotiable securities, short sales of stocks and bonds, stock and bond transactions on margin, straddles, options, leverage, or letter stock.
4. Derivatives.

Notwithstanding any other language in T. Rowe Price Associates, Inc.'s investment management agreement with the Employees' Retirement Fund of the City of Dallas effective March 20, 2006 and as thereafter amended, which may relate to T. Rowe Price Associates, Inc.'s investment authority in and use of derivatives of any type, the provisions of the Employees' Retirement Fund General Investment Policy, dated December 13, 2016, at Paragraph G.7, found as Exhibit B-1, as may later be amended, which is attached hereto and made a part hereof and a part of the March 20, 2006 investment management agreement as if fully set forth in both, shall control (revised 12/16).

¹ American Depositary Receipts

5. Transactions that involve a broker acting as a "principal" where such broker is also the investment manager who is making the transaction is prohibited.
6. Transactions shall be executed at a reasonable cost, taking into consideration prevailing market conditions and services and research provided by the executing broker (or through step outs.) At the discretion of the Board, the manager will prepare a report detailing all transaction costs and any soft dollar payments (for independent third party vendor research) and usage.
7. Each investment manager shall have full responsibility for the exercise of all rights appurtenant to any securities under its management, including responsibility to vote proxies, except to the extent otherwise occasionally directed in a timely manner by the Trustees. Investment managers shall maintain records of proxy votes and make them available for inspection upon reasonable request.
8. Performance objectives are to be met on a net of fees basis.
9. Any investment or action with respect to an investment not expressly allowed is prohibited, unless presented to and approved prospectively by the Trustees. All guidelines must be adhered to by the manager. If from time to time an exception to the guidelines shall be deemed appropriate by a manager, it may seek review by submitting a request in writing to the Administrator for approval by the Trustees to make such an exception. However, if a guideline is violated due to market events, actions, or conditions, the manager must immediately inform the Administrator to determine a course of action. This course of action will be based upon the best judgement recommendation of the manager and the Administrator's discussion with the investment consultant and Board members. Correction of the violation may be postponed if it is deemed to be in the best interest of the Fund.
10. Should any temporary or permanent change regarding a manager occur, the manager shall notify the Administrator immediately via phone. A letter, detailing the circumstances of the change and the possible impact to the portfolio management, will be faxed immediately to the Administrator. Changes include, but are not limited to: a) a significant change in investment philosophy, b) a loss of one or more key management personnel, c) a new portfolio manager on the account, d) a change in ownership structure of the firm, or e) any occurrence which might potentially impact the management, professionalism, integrity or financial position of the investment manager. It is understood that Manager will provide notifications as required above and as permitted under applicable pertaining to publicly traded companies and their subsidiaries regarding material inside information.
11. For purposes of the guidelines (and notwithstanding Item 9 above regarding guideline violations due to market events), (a) all percentages apply on a market value basis immediately after a purchase or initial or subsequent investment and (b) any subsequent change in any applicable percentage resulting from market fluctuations or other changes in total assets does not require immediate elimination (or reduction) of any security from the Portfolio.

Performance Objective

Outperform the S&P 500 Index by 1.00% (revised 09/15) per annum over a full market cycle (3 to 5 years), net of fees.

Acknowledged: T. Rowe Price Associates, Inc.

By: _____ Date: _____

Employees' Retirement Fund

By: _____ Date: _____

Adopted initially by the Board: February 14, 2006

Date last revised: February 08 13, 2022~~December 13, 2021~~

EMPLOYEES' RETIREMENT FUND

GENERAL INVESTMENT POLICY

A. PURPOSE

The investment policies of the Employees' Retirement Fund of the City of Dallas (the "Fund") will provide the framework for the management of the Fund's assets. It has been designed to allow for sufficient flexibility in the management process to capture investment opportunities as they may occur, yet provide reasonable parameters to ensure prudence and care in the execution of the investment program.

The General Investment policy of the Fund has been developed from a comprehensive study and evaluation of many alternatives. The primary objective of this policy is to implement a plan of action that will result in the highest probability of maximum investment return from the Fund's assets available for investment within prudent levels of risk.

The cornerstone of this policy rests upon the proposition that there is a direct correlation between risk and return for any investment alternative. While such a proposition is reasonable in logic, it is also probable based on empirical investigations.¹

It is essential that the Fund's investment management be intended to offset inflationary effects and achieve the investment goals of the Fund. Meeting the Fund's investment goals contributes to financing a reasonable package of retirement benefits for Dallas employees and maximizes the utilization of the members' contributions and the tax dollars of the citizens of Dallas.

It is the policy of the Employees' Retirement Fund Board of Trustees ("the Board") to diversify between various investment types as deemed suitable.

B. GENERAL INVESTMENT GOALS

The general investment goals are broad in nature to encompass the purpose of the Fund and its investments. They articulate the philosophy by which the Board will manage the Fund's assets within the applicable regulatory constraints.

1. The overall goal of the Fund is to provide benefits, as anticipated under the Fund document, Dallas City Code, Chapter 40A (revised 11/04), to its members and their beneficiaries through a carefully planned and executed investment program.

¹ Stocks, Bonds, Bills, and Inflation: Year by Year Historical Returns (1926-1995). Roger C. Ibbotson and Rex A. Sinquefeld.

2. The Fund seeks to produce the highest return on investment that is consistent with sufficient liquidity and investment risk that are prudent and reasonable, given prevailing capital market conditions. While the importance of the preservation of capital is recognized, the theory of capital market pricing which maintains that varying degrees of investment risk should be rewarded with compensating returns is also recognized. Consequently, prudent risk taking is reasonable and (revised 7/99) necessary.
3. The Fund (revised 07/99) investment program shall at all times comply with (revised 07/99) applicable local, state, and federal regulations.

C. GENERAL POLICIES

1. The Board, and any investment manager, in investing the Fund's assets shall discharge its duties solely in the interests of members and beneficiaries acting with the care, skill, prudence, and diligence under the prevailing circumstances that a prudent person acting in a like capacity and familiar with matters of the type would use in the conduct of an enterprise of a like character and like aims.
2. The General (revised 07/99) Investment Policy shall be based on an asset allocation study that considers the current and expected condition of the Fund, the expected long term capital market outlook and the Fund's risk tolerance. The asset allocation study shall measure the potential impact on pension costs of alternative asset allocation policies based on various degrees of diversification in terms of risk and return and the existing and projected liability structure of the Fund.
3. Based on the asset allocation study it will be the responsibility of the Board to determine the specific allocation of the investments among the various asset classes. This will constitute the asset allocation plan. The Board will undertake strategic asset allocation studies no less frequently than every five years. Such studies address the appropriateness of asset classes to be considered for inclusion in the investment portfolio, define the targeted or normal commitments to each asset class to achieve the desired level of diversification and return, and assign the range in which the commitments are permitted to fluctuate.
4. The asset allocation plan shall be predicated on the following factors:
 - a) the historical performance of capital markets adjusted for the perception of the future short and long-term capital market performance;
 - b) the correlation of returns among the relevant asset classes;
 - c) the perception of future economic conditions, including inflation and interest rate assumptions;
 - d) the projected liability stream of benefits and the costs of funding Fund benefits;
 - e) the relationship between the current and projected assets of the Fund and the projected actuarial liability stream.

5. The asset allocation shall be sufficiently diversified to maintain investment risk at a reasonable level as determined by the Board without imprudently sacrificing return.
6. In accordance with the asset allocation plan, the Board will select external investment managers with demonstrated experience and expertise whose investment styles collectively will implement the planned asset allocation to form the Fund's investment structure. Each investment manager shall be a registered advisor under the Investment Advisers Act of 1940 (or appropriately exempt from registration). Additionally, each investment manager will acknowledge its fiduciary status and other conformity with applicable state and federal laws. The Board will set guidelines for these managers and regularly review their investment performance on a total return basis against stated objectives. Formal meetings with the Fund's investment managers will be held at Board meetings at least biennially to discuss objectives, styles and returns, or other matters deemed important by the Board.
7. Notwithstanding any other provisions of this policy, assets of the Fund may be invested in any collective investment fund or funds, including common and group trust funds presently in existence or hereafter established which are maintained by a bank or trust company supervised by a state or federal agency, including BlackRock Institutional Trust Company, N.A. The assets so invested shall be subject to all the provisions of the instruments establishing such funds as they may be amended from time to time. Such instruments of group trusts as they may be amended from time to time are hereby adopted, incorporated and made a part of this policy as if fully set forth herein. The combining of money and other assets of the Fund with money and other assets of other trusts and accounts in such fund or funds is specifically authorized. (added 06/15)
8. The Board will utilize the service of a master custodian bank that will be responsible for holding the assets of the Fund that are not held in a collective investment fund described in paragraph 7, above, (revised 06/15), settling purchases and sales of securities, identifying and collecting income that becomes due and payable on assets held, and providing a management information and accounting system.
9. The Board may retain independent professional investment consultants to assist in the development and implementation of the investment policy, to monitor, oversee, report on and make recommendations with respect to the activity of current and, if appropriate, prospective investment managers.
10. A formal review of the Fund's asset allocation plan and investment structure will be conducted annually by the Board. The purpose of this review shall be to ensure that asset allocation policy guidelines as determined in the most recent asset allocation plan continue to be met. The source of information for these

reviews shall come from Fund staff, outside consultants, and investment managers, as they may be retained.

11. It is the responsibility of the Board to administer the investments of the Fund at reasonable cost, being careful to avoid sacrificing quality. These costs include, but are not limited to, management and custodial fees, consulting fees, transaction costs, and other administrative costs chargeable to the Fund.
12. The Board will reallocate assets on a periodic basis to balance the overall asset allocation against target when deviations occur because of capital market fluctuations. All percentage allocations in this policy are based on the market value of assets (revised 07/99).
13. The Board considers the active voting of proxies an integral part of the investment process. Proxy voting may be delegated to the discretion of investment managers retained by the Board. The managers shall be required to establish a proxy voting policy and maintain records of proxy votes and shall make these records available quarterly to the Board or its designee. The Board may at its discretion establish an overall policy of voting proxies in which case the managers' proxy voting policy shall be in accordance with that of the Board's. The Board recognizes that in certain non-U.S. (revised 07/99) markets, investment managers may, balancing the costs and benefits, not exercise proxy voting.
14. No investment or action pursuant to an investment may be taken unless expressly permitted by this Policy, unless separately reviewed and approved by the Board.
15. The Board may at any time amend, supplement, or rescind this General (revised 07/99) Investment Policy.
16. All transactions undertaken on behalf of the Fund shall be for the sole benefit of the members and beneficiaries.

D. STRATEGIC ASSET ALLOCATION POLICY

The Board has adopted the following asset allocation policy that has two primary asset groups, Equity and Fixed Income. Additionally, in December 2012 the ERF Board approved a 10% dedicated allocation to the Next Generation Investment Manager Program. (added 07/15)

EQUITY

Domestic Equity: 15.0% (revised 09/14) is the target of assets (revised 07/99) to be allocated within an acceptable range of 13.0% to 17.0% (revised 09/14) to domestic equity-oriented marketable securities to provide the Fund with the potential to earn high rates of return relative to other asset classes, recognizing that equity investments also generate commensurate risk levels.

International Equity: 15.0% (revised 09/14) is the target of assets (revised 07/99) to be allocated within an acceptable range of 13.0% to 17.0% (revised 09/14) to the equity securities of companies (revised 07/99) domiciled outside of the U.S. which may be traded (revised 07/99) on non-U.S. stock exchanges and may be (revised 07/99) denominated in non-U.S. (revised 07/99) dollars. This asset class (revised 07/99) should provide low correlation (revised 07/99) performance to U.S. equities over time thereby enhancing the overall rate of return through diversification. There is no fixed allocation to emerging market equity, but index weighting up to 8 to 10% (revised 05/09) of the international equity asset class (revised 07/99) may be invested in this asset class at the discretion of the active international equity managers, governed by specific investment manager guidelines. Emerging market equity represents equity investments in public securities of companies domiciled in developing markets which may be (revised 07/99) traded on non-U.S. stock exchanges and may be (revised 07/99) denominated in currencies other than the U.S. dollar. These markets are generally smaller and the public securities of such markets tend to offer the potential for somewhat higher long term returns than those of more developed markets.

Global Equity: 5.0% is the target of assets to be allocated within an acceptable range of 3.0% to 7.0% (revised 09/14) to the equity securities of companies domiciled inside and outside of the U.S.; and which may be traded on either U.S. or non-U.S. stock exchanges; and which may be denominated in U.S. and non-U.S. dollars. This asset class should provide low correlation performance to U.S. and international equities over time thereby enhancing the overall rate of return through diversification and also reducing the home country bias. Allocation to emerging markets will be governed by specific investment manager guidelines. (added 06/11)

Global Low Volatility Equity: 10.0% is the target of assets to be allocated within an acceptable range of 8.0% to 12.0% (revised 09/14) to holdings that will moderate the level of risk in the total equity portfolio by incorporating a strategic allocation to portfolios with an explicit low volatility objective relative to the broader global equity market. Low volatility strategies will generally have a higher allocation to sectors such as

utilities, healthcare, and consumer staples which exhibit more stable fundamental characteristics and lower price variation (added 09/14).

Real Estate Investment Trust: 5% is the target of assets to be allocated within an acceptable range of 3% to 7% (revised 09/14) to Real Estate Investment Trust (REIT) oriented marketable securities to provide the Fund with the potential to earn high rates of return relative to other asset classes, generate fixed income like net cash flow, and provide a broader diversification than equity and fixed income provides. (added 01/01)

Public Real Assets: 15.0% is the target of assets to be allocated within an acceptable range of 13.0% to 17.0% (revised 09/14) to public real assets-oriented investments (to include real estate, master limited partnerships (MLPs), timber, and farm land) as hedge against inflation and diversification for the Fund (revised 09/14). Funding of committed capital in the public real asset portfolio will occur over an extended time period and may take several years from the inception of this asset class before the total allocation becomes fully invested. In order to reach the allocation target, a “committed” allocation up to 1.5 times the allocation is authorized as of the date the commitment is approved. (revised by adding 05/09)

Private Equity: 5.0% is the target of assets to be allocated within an acceptable range of 0.0% to 7.0% to private equity-oriented investments to provide the Fund with the potential to earn high rates of return relative to other asset classes, recognizing that private equity investments also generate commensurate risk levels. Funding of committed capital in the private equity portfolio will occur over an extended time period and may take several years before the total allocation becomes fully invested. In order to reach the allocation target, a “committed” allocation up to 1.5 times the allocation is authorized as of the date the commitment is approved. (revised by adding 03/09)

FIXED INCOME

Global Investment Grade (revised 07/99) Fixed Income: 15.0% (revised 09/14; 1/16) is the target of assets (revised 07/99) to be allocated within an acceptable range of 13.0% to 17.0% (revised 09/14; 1/16) to an actively managed bond portfolio invested within a global universe (revised 07/99). This portfolio will be primarily invested in domestic issues and will allow exposure to non-US dollar issues on an opportunistic basis, up to 20% (revised 07/99). The Global Investment Grade Fixed Income segment is expected to provide returns above a market index by capturing yield opportunities around the world when US yields are not as favorable.

High Yield Fixed Income: 12.5% (revised 05/09, 1/16) is the target of assets (revised 07/99) to be allocated within an acceptable range of 10.5% to 14.5% (revised 05/09; 1/16) to high yield fixed income (revised 07/99). These are bonds which are rated below investment grade but have (revised 07/99) been issued by going concerns. They display a low correlation to virtually all asset classes, thereby reducing overall portfolio volatility. High yield bonds exhibit higher yield to maturity (revised 07/99) than investment grade bonds that improves the Fund’s net cash flow.

Credit Opportunities: 2.5% is the target of assets to be allocated within an acceptable range of 0.0% to 4.5% to credit opportunities. These investments are viewed as a separate macro asset class group resulting from the diversification benefits relative to individual asset classes. Despite higher correlations to stocks, credit products also generate higher levels of yield so sensitivity to economic growth drivers is substantially dampened offering some downside protection in stressful equity markets. In strong equity markets, credit products can benefit even if bonds are struggling (added 09/14).

CASH EQUIVALENTS

There is no specific allocation to cash equivalents. It is recognized that residual cash (revised 07/99) can result from normal trading activity, and sufficient cash is held in the STIF to accommodate expense payments (revised 07/99).

NEXT GENERATION INVESTMENT MANAGER PROGRAM

In December 2012, the ERF Board approved a 10% dedicated allocation to the Next Generation Investment Manager Program. The Program may include all asset classes. The purpose of the Program is to: generate investment returns by identifying earlier stage managers with strong performance; provide access to investment opportunities that may otherwise be overlooked; discover and cultivate the next generation of external portfolio management talent; and increase diversification among ERF managers. The criteria for Next Generation Investment Managers is defined by the Board. (added 07/15)

SUMMARY OF ASSET ALLOCATION TARGETS AND RANGES

	<u>Target</u>	<u>Minimum</u>	<u>Maximum</u>
EQUITY			
Domestic Equity	15.0% (revised 09/14)	13.0% (revised 09/14)	17.0% (revised 09/14)
International Equity	15.0% (revised 09/14)	13.0% (revised 09/14)	17.0% (revised 09/14)
Global Equity (added 06/11)	5.0%	3.0% (revised 09/14)	7.0% (revised 09/14)
Global Low Volatility Equity	10.0% (added 09/14)	8.0% (added 09/14)	12.0% (added 09/14)
Real Estate Investment Trusts (added 01/01)	5.0% (revised 09/14)	3.0% (revised 09/14)	7.0% (revised 09/14)
Public Real Assets (added 05/09)	15.0% (revised 09/14)	13.0% (revised 09/14)	17.0% (revised 09/14)
Private Equity (added 03/09)	<u>5.0%</u> (added 03/09)	0.0% (added 03/09)	7.0% (added 03/09)
TOTAL EQUITY	70.0%		
FIXED INCOME			
Fixed Income	15.0% (revised 09/14; 01/16)	13.0% (revised 09/14; 01/16)	17.0% (revised 09/14; 01/16)
High Yield	12.5% (revised 05/09; 01/16)	10.5% (revised 05/09; 01/16)	14.5% (revised 05/09; 01/16)
Credit Opportunities	<u>2.5%</u> (added 09/14)	0.0% (added 09/14)	4.5% (added 09/14)
TOTAL FIXED INCOME	30.0%		
TOTAL PORTFOLIO	100.0%		

E. REBALANCING TO THE ASSET ALLOCATION POLICY (revised 7/99)

An asset allocation review shall be conducted at least quarterly. This comparison shall be developed from the month end asset valuation obtained generally on line from the Fund's custodian. If this comparison reveals that an asset class is above the upper or below the lower boundary of the designated range, the Board shall direct the Executive Director to effect a reallocation of assets (except for private equity (added 03/09) and public real assets (added 05/09)) to achieve the target.

F. PERFORMANCE OBJECTIVES

Long term objectives have been established against which the performance of the investment policy is to be measured. Because capital markets fluctuate and given the duration of the liability stream, the viability of the asset allocation is to be judged over a period of a full market cycle which is generally three to five years. The performance objectives are:

1. To avoid actuarial loss;

Match or exceed the actuarial interest rate assumption as adopted periodically by the Board (revised 07/99) to avoid an actuarial loss.

2. To match or exceed inflation; (revised 07/99)

Match or exceed inflation as measured by an appropriate Consumer Price Index, to ensure that public real asset growth maintains pace with real pay growth and cost of living adjustments, primary determinants of benefits and, therefore, pension costs.

3. To add value by active management; (revised 07/99)

The value added by active management to the total Fund performance is intended to (revised 07/99) exceed a Board-approved policy-weighted index over time that is calculated by weighting the appropriate indices according to asset allocation.

G. GENERAL INVESTMENT MANAGER GUIDELINES

The investment management for the Fund is to be provided by external investment managers. The guidelines for the managers are provided below:

1. Each manager shall operate under a set of guidelines specific to the strategic role its portfolio is to fulfill in the overall investment structure and any other applicable investment related policies as referred to in Section H, OTHER INVESTMENT RELATED POLICIES (revised 07/99).

2. A manager under contract to the Board must advise the Board in writing within 24 hours if at any time there is:
 - a. a significant change in investment philosophy;
 - b. a loss of one or more key management personnel;
 - c. a new portfolio manager on the Fund's account;
 - d. a change in ownership structure of its firm;
 - e. any occurrence which might potentially impact the management, professionalism, integrity, or financial position of the investment management firm; or
 - f. a change in any other matter requiring notice in the contract between the investment manager and the Fund.
3. Sector and security selection, portfolio quality and timing of purchase and sales are delegated to the investment manager subject to the constraints within the manager's specific guidelines.
4. Unless specifically permitted in the investment manager guidelines or other governing document (revised 07/99), the following transactions are prohibited: purchase of non-negotiable securities, short sales, selling on margin, puts, calls, straddles, options, or "letter" (restricted) stock.
5. Transactions that involve a broker acting as a "principal", where such broker is also the investment manager who is making the transaction are prohibited.
6. Transactions will be made on a best execution basis, taking into consideration cost and prevailing market considerations.
7. The use of derivatives is prohibited unless specifically authorized in a manager's individual guidelines. Managers shall only be authorized to use derivatives if they can present a written detailed derivatives investment policy that addresses at a minimum the standard of care, the back office and accounting, valuation and reconciliation procedures, monitoring procedures and permitted uses and circumstances. Further, managers shall specifically demonstrate an understanding of and processes to manage: market, credit, liquidity, cash flow, basis, legal, settlement, operational and other pertinent risks associated with the use of derivatives.

The strategic objectives of the use of derivatives is to facilitate risk management and to manage the cost of investing in publicly-traded stocks and bonds. Of the four basic strategies that can be achieved through the use of derivatives, only substitution and risk control are permitted. Arbitrage and speculation are never permitted to be used as a strategy. Any derivative transaction that results in the leveraging of the portfolio is strictly prohibited.

In light of the amendment change to 40A permitting the use of futures, the Fund may now invest in the following classes of derivatives: futures contracts; options

on futures; warrants; options; currency forward contracts; swaps; and structured notes (revised 12/16).

The listing requirements for permitted derivatives are that they must be either exchange traded or traded over-the-counter.

Over-the-counter traded derivatives are subject to counter-party risk. Managers shall prepare, maintain, and review a detailed counter-party credit policy for non-exchange traded derivatives that outlines a standard of care in selecting appropriate counter-parties. Counter-party requirements are as follows:

- a. Counter-party creditworthiness shall be equivalent to “investment grade” of “A3” as defined by Moody’s Investor Services or “A-” by Standard and Poor’s. The use of counter-parties holding a split rating with one of the ratings below A3/A- is prohibited. Managers shall notify the Executive Director if a counter-party is downgraded below A3/A- while an instrument held in the portfolio is outstanding with that counter-party. The use of un-rated counter-parties is prohibited unless that counter-party has a written unconditional guarantee from a rated counter-party. The rated counter-party must meet the requirements listed above. (revised 01/07)
- b. For non-exchange traded derivatives, individual counter-party exposure, including the Fund’s master custodial bank, is limited to 33% of the notional amount of the derivative exposure of the portfolio being managed for the Fund.
- c. Any entity acting as a counter-party shall be regulated in either the United States or the United Kingdom.
- d. The manager shall, where applicable and enforceable, use master agreements permitting the netting of counter-party exposures to minimize credit risk.
- e. Managers are prohibited from “name washing” where credit guarantees extend through to another party or parties, regardless of which party holds a higher rating.

The Board may at its discretion in terms of time and content request reports from the manager on the use of derivatives in the Fund’s portfolio. (revised by adding 07/99)

8. If a guideline is violated due to market events, actions, or conditions, the manager must immediately inform the Executive Director to determine a course of action. This course of action will be based upon the best judgement recommendation of the manager and the Executive Director’s discussion with the investment consultant and Board members. Correction of the violation may be postponed if it is deemed to be in the best interest of the Fund. (revised by adding 07/99)

9. For purposes of the guidelines, (a) all percentages apply on a market value basis immediately after a purchase or initial investment and (b) any subsequent change in any applicable percentage resulting from market fluctuations or other changes in total assets does not require immediate elimination of any security from the Portfolio. (revised by adding 07/99)

The individual managers will be judged according to benchmarks that reflect the objectives and characteristics of the strategic role their portfolio is to fulfill.

H. OTHER INVESTMENT RELATED POLICIES (revised 07/99)

The Board from time to time at its discretion may adopt investment related policies that address specific issues. These issues may include but are not limited to specific asset classes, investment manager selection and monitoring, and others as may be deemed appropriate. (revised 07/99)

I. GLOSSARY

Actuarial Interest Rate	The actuary's assumed rate of investment return used to discount future benefits and amortize the unfunded liability.
Actuarial Liability	The excess of the present value of all benefits payable under the Fund over the present value of future normal costs.
Arbitrage	When the characteristics of a derivative are more attractive than either the cash market instrument or another related derivative, then the first derivative is purchased, or the cash market instrument is swapped, to garner the short-term return potential from the derivative instrument alone. This strategy is particularly useful to capture mispricing in the derivative instrument relative to either the cash market instrument or another derivative (revised 7/99).
Call Option	An instrument that conveys the right, but not the obligation to buy a deliverable instrument at a specified price.
Correlation	Correlation is a measure of the degree to which returns of asset classes move together.
Currency Forward Contracts	Currency forward contracts are permitted for use by managers who have permission to invest in the underlying or deliverable cash market instrument or whose mandate is to overlay a designated portfolio

of deliverable cash market instruments. Foreign Exchange (FX) transactions may occur between foreign currencies (cross currencies) when made in anticipation of future sales or purchases of securities or when consistent with the investment manager's currency management guidelines (revised 7/99).

Derivative

An instrument that derives its value, usefulness and marketability from an underlying instrument which represents direct ownership of an asset or a direct obligation of an issuer, i.e. a "spot" or cash market instrument (revised 7/99).

Diversification

The spreading of investment funds among classes of securities and localities in order to distribute the risk.

Futures Contracts

Stock index futures, bond futures and currency futures contracts which are Commodities and Futures Trading Commission (CFTC) approved are permitted when the manager has permission to invest in the underlying or deliverable cash market instrument (revised 7/99).

Investment Manager
Guidelines

Specifications for each manager's oversight and investment of a designated portfolio of assets which are included in each of the investment managers' contracts.

Investment Risk

The risk associated with the uncertainty of a given investment's future return. The theory of capital market pricing maintains that varying degrees of investment risk should be rewarded with compensating returns.

Letter Stock

Stock that is unregistered and sold directly to the purchaser, rather than through a public offering.

Liquidity

The capacity of the market place to accommodate a given supply of and/or demand for a security without unreasonable price changes resulting.

Margin

Collateral representing a portion of the notional amount of a transaction specified by the exchange clearing the transaction or the counter-party to the transaction.

Market Cycle	The length of time for a market to move from peak to trough to peak, on average three to five years.
Market Value	The value of securities and other investments at any specific point in time as reported by the custodian. Market value differs from cost value in that cost is the original value (revised 7/99).
Non-negotiable Securities	Securities that cannot be re-sold and are privately held.
Options	Contracts that give the holder the right (not obligation) to buy or sell a particular asset at a specified exercise price within a set time period.
Puts	The right (not obligation) to sell a given security or portfolio of securities at a specified exercise price within a fixed time period.
Real Estate Investment Trusts	A real estate investment trust that purchases real property with investors' money. Investors in an equity REIT earn dividend income from rental income earned by the REIT on property it owns. The investors also participate in increases in value of the owned real estate. (added 05/01)
Risk Control	When characteristics of the derivative instrument sufficiently parallel those of the cash market instrument, an opposite position in the derivative can be taken from the cash market instrument to alter the exposure to or the risk (volatility) of the cash instrument. This strategy is useful to manage risk without having to sell the cash instrument. Sometimes referred to as 'hedging', the use of derivatives in this context means that there is at least a .95 correlation in price movement between the cash market or instrument and derivative instrument, over a rolling three-year period. The .95 correlation refers to the correlation between the proxy basket and the underlying portfolio (revised 07/99).
Short Sales	The sale of a security that is not owned by the investor, but rather is borrowed from a broker. The investor eventually repays the broker in kind by

purchasing the same security in a subsequent transaction.

Structured Notes

Structured notes (such as, but not limited to, inverse floaters) and mortgages are not considered derivatives for the purposes of this Policy, and are prohibited, unless expressly permitted by the manager's investment guidelines contained within its contract with the Fund (revised 07/99).

Substitution

When the characteristics of the derivative sufficiently parallel those of the cash market instrument, the derivative may be substituted on a short-term basis for the cash market instrument, or on a longer-term basis to avoid withholding taxes. This strategy is particularly useful when investing cash flow or liquidating investments, as the derivative can be used to manage more precisely market entry and exit points (revised 07/99).

Speculation

When the characteristics of the derivative are the sole reason for its purchase or sale and an underlying naked cash position is taken in the portfolio. This strategy also implies the leveraging of the portfolio which may create an obligation of value in excess of the value of that portfolio (revised 07/99).

Straddles

An options strategy which involves buying both a call and a put on the same asset, with the options having the same exercise price and expiration date.

Strategic Asset Allocation

The long range asset allocation of a plan designed to obtain a reasonable long term total return consistent with the degree of risk assumed while emphasizing the preservation of long term capital.

Swaps

Swaps which provide for the receipt of the rate of return of the permitted cash market instrument are allowed (revised 07/99).

Tactical Asset Allocation

The procedural and implementation aspects of the strategic asset allocation to include periodic review and on-going adjustment to achieve goals of the plan.

Yield to Maturity

The single discount rate which sets the present value of all cash flows from a fixed income security equal

to the current price. It thus represents the internal rate of return of a particular fixed income investment.

Warrants

Purchasing warrants separately is prohibited; however, warrants are permitted when attached to securities authorized for investment.

[Remainder of page is intentionally blank. Signature page follows.]

Attest:

By: _____
Employees' Retirement Fund of the City of Dallas
Chair

Date: _____

By: _____
Employees' Retirement Fund of the City of Dallas
Executive Director

Date: _____

Date last revised: December 13, 2016

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The Must-Attend Industry Event for Senior-Level Women in Private Equity

Since its debut in 2008, the Women's Private Equity Summit has become the "must attend" major industry event for senior-level women in the private equity industry. These accomplished women — a thoughtfully balanced audience of GPs, LPs, and advisors to the industry — attend the Summit to swap stories and information, initiate deals, and forge new relationships.

Join us for the 15th annual Women's Private Equity Summit as the event returns to its usual slot in the annual calendar, taking place once again at the fabulous Monarch Beach Resort in Dana Point California from 9-11 March 2022.

r&

[Contact the organizer](#)



What you can expect

It may seem otherwise, but private equity is still an industry very much in its early stages. Throw in a global pandemic and you've got a situation with many potential challenges, but also opportunities. The 2022 Women's Private Equity Summit will see thought leaders come together at a pivotal moment, almost exactly two years from what was the beginning of the global pandemic for many, to share best practices on both operational and investment related topics as the industry looks forward. Topics will include but are not limited to:

- Valuations and the impact on growth vs. value investing
- ESG and how to know what is best in class
- Sector and geographic specializations
- The changing face of marketing, fund raising and due diligence
- Evolving fund structures and what's next

Become a Sponsor

As a sponsoring organization your firm will have an unparalleled opportunity to market your services and network with an inner circle of private equity professionals. In addition, this is a unique opportunity for your firm to demonstrate a commitment to helping women build networks, and be recognized as leaders in your field among conference speakers and delegates.

Additional benefits include

- Gain high visibility with an audience of influential decision makers before, during, and after the event, among alternative investment and finance leadership (program marketed widely to firms in the industry)
- Demonstrate a commitment to helping women in private equity build networks
- Showcase and educate decision makers about your products or services
- Gain access to high level keynoters and panellists
- Network with speakers, sponsors, and attendees
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2022 Sponsors



The logo for IEQT, featuring the letters 'IEQT' in a bold, orange, sans-serif font.The logo for Kelso Lindsay Goldberg, featuring the word 'KELSO' in a large, bold, blue, sans-serif font, with horizontal blue lines above and below it. To the right of 'KELSO', the name 'LINDSAY GOLDBERG' is written in a smaller, blue, sans-serif font.The logo for Morgan Stanley Investment Management, featuring the words 'Morgan Stanley' in a large, black, serif font, with 'INVESTMENT MANAGEMENT' in a smaller, black, sans-serif font below it.The logo for The Jordan Company, featuring the words 'THE JORDAN COMPANY' in a blue, serif font.The logo for Trilantic North America, featuring the words 'Trilantic North America' in a black, sans-serif font.The logo for Wellington Management, featuring the words 'WELLINGTON MANAGEMENT' in a black, serif font.The logo for NOMURA, featuring the word 'NOMURA' in a bold, red, sans-serif font.





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7TH ANNUAL

ALTS^{LA}2022

MARCH 23 & 24, 2022

JW Marriott Los Angeles L.A. LIVE | Los Angeles





Dear Colleagues,

ALTSLA has been developed as a local, investor-centric and educationally-focused one-day forum on behalf of CFA Society Los Angeles, CAIA Association, CalALTs and Markets Group. The purpose of the forum is to facilitate the dissemination of actionable investor content, coupled with supporting the continued development of the alternative investment industry in California.

The ALTSLA program's agenda has been specifically designed to provide relevant and topical educational content for people who manage, advise, allocate to, or oversee, alternative assets. Throughout this streamlined one-day forum, ALTSLA offers exclusive access to the leading minds from throughout the alternative investment industry, who will provide the latest insight on the future of venture capital, cannabis, cryptocurrency, AI, private equity, private debt, hedge fund and real asset investing.

We'd like to thank the ALTSLA program for their continued support of investor-centric, educational initiatives in Southern California. Additionally, we'd like to thank the board members and staff of the CFA Society Los Angeles, CAIA Association and CalALTs for their support of the alternative investment industry, and hands on development of the ALTSLA agenda and speaker faculty.

Sincerely,

William Kelly

Chief Executive Officer, Chartered Alternative Investment Analyst ("CAIA") Association

Robin Fink

President, CalALTs

Alicia Romo

President, CFA Society Los Angeles

Paul Hamann

Head of Alternatives and Strategic Partnerships, Markets Group

CO-HOSTS



CFA Society Los Angeles is an association of over 2,200 local investment professionals, consisting of portfolio managers, security analysts, investment advisors and other financial practitioners, that has served CFA charterholders and CFA Program candidates locally since 1931. The organization is a local member society of CFA Institute, the global association of investment professionals that sets the standard for professional excellence and credentials. CFA Society Los Angeles promotes integrity, professional excellence and engagement among its members and within the community. The end goal: is to create an environment where investors' interests come first, markets function at their best, and economies grow. For more information, visit www.cfala.org.



The CAIA Association is a global professional body dedicated to creating greater alignment, transparency, and education for all investors, with a specific emphasis on alternative investments. A Member-driven organization representing professionals in more than 95 countries, CAIA advocates for the highest ethical standards and provides authoritative, unbiased insight on a broad range of investment strategies and industry issues, key among them being efforts to bring greater diversification to portfolio construction decisions to achieve better long-term investor outcomes. Our Members represent senior leadership in the allocator, manager, regulator, and academic verticals. To learn more about the CAIA Association and how to become part of the organization's mission, please visit <https://caia.org/>.



CalALTs is a member-based professional association that helps asset managers, investors and service providers harness the power of connection to advance the alternative investment industry in California. Whether linking our members to peers, thought leaders, resources or ideas, everything we do is focused on fostering meaningful connections that drive tomorrow's success. To learn more about CalALTs, visit us online at www.calalts.org.

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PitchBook Data is a financial data and software company headquartered in Seattle, with additional offices in San Francisco, New York and London.

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Invesco is a leading independent global investment management firm, dedicated to helping investors worldwide achieve their financial objectives. By delivering the combined power of our distinctive investment management capabilities, Invesco provides a wide range of investment strategies and vehicles to our clients around the world. Operating in more than 20 countries, the firm is listed on the New York Stock Exchange under the symbol IVZ. Additional information is available at www.invesco.com.



PGIM Fixed Income is a global asset manager offering active solutions across all fixed income markets. The company has offices in Newark, New Jersey, London, Tokyo and Singapore. As of September 30, 2019, the firm has \$838 billion of assets under management including \$354 billion in institutional assets, \$152 billion in retail assets, and \$332 billion in proprietary assets. Over 700 institutional asset owners have entrusted PGIM Fixed Income with their assets.



Revitate pursues real estate, consumer-focused, and sports investments with transformative impact. The firm is a diversified investment platform based in Newport Beach, California supporting high -potential alternative investment strategies. Leveraging its multigenerational insights, expertise, and relationships, Revitate provides flexible capital and operating support to talented emerging investment managers to accelerate and elevate their success. In turn, Revitate's growing network of institutional, family office, and private investors gain early and exclusive access to new frontiers of talent, financial opportunity, and social impact. Current investment strategies include Revitate Cherry Tree (multifamily real estate); RevOZ Capital (Opportunity Zone real estate development); RX3 Growth Partners (consumer growth equity); and Revitate Sports (sports investments).



Cohen & Company ("Cohen") was founded in 1999 as a private investment firm focused on small-cap financial institutions and has grown into a financial services company with an asset management division and a broker-dealer. Cohen manages approximately \$2.9 billion in fixed income assets through a variety of investment vehicles. Cohen's primary focus is originating (through its affiliated broker-dealer, J.V.B. Financial Group, LLC) and managing hard to source debt instruments issued by small and medium sized insurance and reinsurance companies located primarily in the U.S., Bermuda and Europe.

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Anchorage is the most advanced Qualified Custodian for digital assets. Our platform brings the best of modern security engineering to cryptocurrency custody, providing institutional investors with greater safety and usability. Founded by security engineers from Square and Docker, Anchorage is trusted by top hedge funds and VCs, including a16z crypto, BlockTower, Paradigm, and Polychain. Anchorage has raised \$57 million from such leading investors as Visa, Blockchain Capital, and Andreessen Horowitz, and is a Founding Member of the Libra Association.



Kairos Ventures is a venture capital firm based in Los Angeles, California, that works closely with the world's leading universities and research institutions to identify and support the commercialization of transformative technologies. Kairos invests in patented scientific advances in life sciences and engineering that have the potential to deliver substantial impact for our world and remarkable returns for our Investors. In addition to providing capital, Kairos supports our portfolio of companies with the professional business and scientific expertise to maximize their potential from early seed through incubation and growth. For more information, visit <https://www.kairosventures.com/>.

CALAMOS
INVESTMENTS

Calamos Investments, Founded by John P. Calamos, Sr., is a diversified global investment firm offering innovative investment strategies including alternatives, multi-asset, convertible, fixed income, and equity. The firm offers strategies through separately managed portfolios, mutual funds, closed-end funds, private funds, and UCITS funds. Clients include major corporations, pension funds, endowments, foundations and individuals, as well as the financial advisors and consultants who serve them. For more information, please visit www.calamos.com.



For over six decades, institutions around the world have viewed **Franklin Templeton Investments** as a trusted partner in asset management. We leverage the expertise of multiple, independent investment teams to deliver truly specialized expertise across a wide range of styles and asset classes, from traditional to alternative strategies and multi-asset solutions. Our over 650 investment professionals are on the ground across the globe, spotting investment ideas and potential risks firsthand. Collectively, they allow us to offer clients a unique investment perspective, shaped by local expertise, global context and a long-term investment horizon.



Fidelity Institutional Asset Management is one of the largest investment management organizations serving the US institutional marketplace. FIAM serves financial advisors and advisory firms, offering them resources to help investors plan and achieve their goals. FIAM also works with institutions and consultants to meet their varying and custom investment needs. Fidelity Institutional Asset Management provides actionable strategies, enabling its clients to stand out in the marketplace, and is a gateway to Fidelity Investment's original insight and diverse investment capabilities across equity, fixed income, high-income, and global asset allocation.

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StepStone is a global private markets firm overseeing more \$250 billion of private capital allocations, including over \$46 billion of assets under management. The Firm creates customized portfolios for some of the world's most sophisticated investors using a highly disciplined, research-focused approach that prudently integrates fund investments, secondaries, and co-investments.



CBRE Investment Management is a dedicated real asset investment manager overseeing \$129 Billion in assets focused exclusively on Real Estate and Infrastructure. CBRE's investment platform seeks to deliver sustainable investment solutions across real assets categories, geographies, risk-return profiles and execution formats so that our clients, people and communities thrive.



CohnReznick is one of the top accounting, tax, and advisory firms in the United States, combining the deep re-sources of a national firm with the hands-on, agile approach that today's dynamic business environment demands. With diverse industry expertise, the Firm provides private equity firms with the insight and experience to help them break through and seize growth opportunities. The Firm, with origins dating back to 1919, is headquartered in New York with 2,700 employees in offices nationwide.



Marathon Asset Management is a New York-based global investment manager focused on credit and real assets with approximately \$20 billion of capital under management. The firm was found in 1998 by Louis Hanover and Bruce Richards and employs more than 165 professionals. Its corporate headquarters are located in New York City and it has international offices in London and Tokyo. Marathon is a Registered Investment Adviser with the Securities and Exchange Commission. For more information, please visit the company's web site at www.marathonfund.com.



Tracing our history to 1928, **Wellington Management** is one of the largest independent investment management firms in the world. We are a private firm whose sole business is investment management, and we serve as an investment adviser for institutional clients in over 60 countries. Our most distinctive strength is our commitment to rigorous, proprietary research — the foundation upon which our investment approaches are built. Our commitment to investment excellence is evidenced by our significant presence and long-term track records in nearly all sectors of the global securities markets.



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Pantera Capital was founded by former Tiger Management Head of Macro Trading and CFO Dan Morehead. Pantera's global macro strategy invested over \$1 billion of institutional allocations. In 2013, Pantera created the first blockchain hedge and venture funds in the United States.

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Applied Real Intelligence LLC ("A.R.I.") is a venture debt investment manager focused on providing financing solutions to innovative, high-growth, VC-backed companies operating in recession-resistant sectors and underserved regions throughout North America.



Silver Spike's investment platform has positioned the firm to be the leading, institutional quality provider of equity and debt capital to the burgeoning plant based and alternative health & wellness industry.



Markin Asset Management, LP is an independent investment management firm based in Rye, New York. When managing client portfolios, the firm utilizes high-growth and high-income long-short and long-only multi-asset strategies with a focus on minimizing exposure to large drawdowns. We work with institutional and advisor clients seeking a lower risk path to above average returns and income. Our strategies appeal to those with capital preservation and wealth accumulation objectives and those seeking meaningful all weather diversification in their portfolio.



Based in San Francisco, **Bitwise** is one of the world's largest and fastest-growing crypto asset managers. As of March 31, 2021, Bitwise managed over \$1.2 billion across an expanding suite of investment solutions. The firm is known for managing the world's largest crypto index fund, and pioneering products spanning Bitcoin, Ethereum, DeFi, and now crypto-focused equities, as examples. Bitwise focuses on partnering with financial advisors and investment professionals to provide quality education

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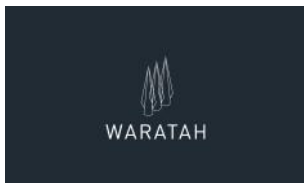
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Regulation is increasing. Investors are demanding more. The world of alternative investments is changing, fast. This change brings opportunities— but also complexity. That's where we come in. **Vistra** provides a seamless platform of global expertise to asset managers, issuers and investors enabling them to confidently raise capital across domestic and international markets. Our local knowledge and experience across our global network provides coverage in the geographies where your investors are located, the jurisdictions where you are domiciled and the markets where you invest. The Vistra Group is ranked among the top four service providers globally with more than 4000 staff worldwide covering 40 countries and 70 locations.

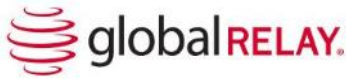


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Baillie Gifford is a 112 year old private investment partnership based out of Scotland focused on growth equity. Being structured as an independent partnership means that Baillie Gifford is not exposed to any outside interests, which means that we can put our clients first in everything we do. This structure allows us to think in decades, not quarters; it helps us to recruit and develop people for an entire career with the firm; and it allows us to seek out different sources of information.



Apex Group Ltd., established in Bermuda in 2003, is a global financial services provider. With 50 offices worldwide and 5,000 employees upon the close of announced acquisitions, Apex delivers an extensive range of services to asset managers, capital markets, private clients and family offices. The Group has continually improved and evolved its capabilities to offer a single-source solution through establishing the broadest range of services in the industry; including fund services, digital onboarding and bank accounts, depositary, custody and super ManCo services, business services including HR and Payroll and a pioneering ESG Ratings and Advisory service for private companies.



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Caïssa, LLC is a leading data and investment technology provider for multi-asset class investors, built exclusively for endowments, foundations, pension funds, family offices, and OCIOs. The Caïssa Platform allows institutions to integrate a wide spectrum of investment-related data into a dynamic web-based platform. Allocators leverage the harmonized data to view their entire portfolio holistically, and drill through exposures across traditional, public, and private investments. The platform allows institutional allocators to perform look-through exposure analysis, calculate performance, assess risk via holdings-based stress tests, review liquidity, analyze attribution, and build private equity pacing models across their multi-asset class portfolios.



Preqin is the home of alternative assets, providing industry-leading intelligence on the market and cutting-edge tools to support participants at every stage of the investment cycle. More than 73,000 industry participants in over 90 countries rely on Preqin as their indispensable source of data, solutions and insights. Preqin's products and services span the following asset classes: private equity, venture capital, hedge funds, real estate, infrastructure, private debt, natural resources and secondaries. Preqin's data and analysis is frequently presented at industry conferences, and is used in the global financial press and academic journals & white papers.



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J.P. Morgan Securities Services provides custody, accounting, administration, middle office, collateral and performance management services to institutional investment managers, pension funds and governments. For over four decades, we have helped clients enhance portfolio returns and meet their evolving needs with customized agency lending solutions linked to our global markets and trading capabilities. As an industry leader helping to safeguard over \$31 trillion in client assets under custody, we have a strong focus on risk management, innovation, operational excellence, global processing and superior client service. J.P. Morgan is a global leader in banking, markets and investor services. We provide strategic advice, raise capital, manage risk and extend liquidity to the world's most prominent corporations, governments and institutions across 100+ countries. www.jpmorgan.com/securities-services

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CO-HOSTS

**William Kelly, Chief Executive Officer, CAIA Association**

Mr. Kelly has been a frequent industry speaker, writer, and commentator on alternative investment topics around the world since becoming CEO at the CAIA Association in January, 2014. Previously, Bill was the CEO of Boston Partners and one of seven founding partners of the predecessor firm, Boston Partners Asset Management which, prior to a majority interest being sold to Robeco Group in Rotterdam in 2002, was an employee-owned firm. Bill's career in the institutional asset management space spans over 30 years where he gained extensive managerial experience through successive CFO, COO and CEO roles.

**Alicia Romo, President, CFA Society Los Angeles**

Ms. Romo is the Managing Director and head of Investments and Short Term Funding for MUFG Union Bank, located in Los Angeles. Alicia manages the team that oversees all aspects of the bank's investment portfolio including investment strategy, liquidity, capital, and regulatory requirements. She also supervises the short-term funding requirements of the bank. Prior to joining MUFG Union Bank, Alicia was a Senior Manager at Deloitte & Touche, LLP where she was an SME in structured finance and interest rate risk management. Alicia consulted nationally for investment portfolio management, securitization structures and in front-office and back-office securitization and derivative operations. She was a regular speaker at national MBA and securitization conferences.

**Robin Fink, President, CalALTs**

Mr. Fink is a 25-year Wall Street veteran and Founder of Taku Partners LLC, a Boutique Advisory firm that leads business start-ups and alternative managers in the art and science of capital raise campaigns. He began his career at Montgomery Securities and then Bank of America Securities as an Institutional Equity Salesman. Moving into the family office of Gordon Getty, Robin introduced the unique subscription and redemption product Reflow to the boards of directors of the 40 Act Mutual Fund Community. At Jefferies Prime Brokerage Group, he was the Head of West Coast Sales. Before he began his Wall Street career, Robin was the Head of Sales, Marketing, and Manufacturing design at a prescription medical device company in the Bay Area. Mr. Fink holds Series 7 & 63 licenses and is a registered representative of Butler Capital LLC, member FINRA/SIPC. He earned his Bachelor of Arts degree in Political Science from the University of California, Berkeley.

SPEAKERS

**Jonathan Grabel, Chief Investment Officer, Los Angeles County Employees Retirement Association**

Mr. Grabel is the CIO for the Los Angeles County Employees Retirement Association (LACERA). Mr. Grabel manages a \$55 billion defined benefit pension fund on behalf of LACERA's 165,000 active and retired members. He also oversees the investments for the LACERA-administered \$970 million healthcare benefits program. Prior to LACERA, Mr. Grabel was the CIO for New Mexico PERA. Previously, he was a general partner at Baker Capital, a New York-based private equity firm. Mr. Grabel received his BS in economics from the University of Pennsylvania Wharton School of Business and his MBA from the University of Chicago Booth School of Business.

**Ellen Chen, Investment Officer, The Los Angeles City Employees' Retirement System**

Ms. Chen is an ESG Risk Officer and Investment Officer I at Los Angeles City Employees' Retirement System (LACERS). Ellen's main areas of focus is looking at ESG risk factors to help mitigate them within LACERS' \$24 billion investment fund. This includes drafting LACERS' new Responsible Investment policy to provide the framework to ensure that ESG is considered systematically throughout the portfolio. Ellen also manages LACERS non-US equity portfolio.

**Ray Joseph, Chief Investment Officer, Los Angeles Fire and Police Pensions**

Previously, Mr. Joseph served as vice president at Wilshire Associates, providing investment strategies and solutions for pension plans, endowments, foundations and family offices. His public experience includes his position as Principal Deputy Special Trustee (Chief Investment Officer) for the Office of the Special Trustee within the U.S. Department of Interior, managing \$4.3 billion in assets for 566 American Indian Tribes and \$1.0 billion for the U.S. Treasury Department. He also served as the Deputy Director (Deputy Chief Investment Officer) and the Acting Director (Chief Investment Officer) for the State of New Jersey's Division of Investment, where he oversaw pension investments, deferred compensation plans, and the State of New Jersey's Cash Management program.

**Gina Sanchez, Chief Executive Officer, Chantico Global**

Ms. Sanchez is the Chief Executive Officer of Chantico Global. She also serves as a Trustee of the Los Angeles County Employee Retirement Association (LACERA). Chantico Global was spun out of Roubini Global Economics in 2013. Previously, Ms. Sanchez was the Director of Equity and Asset Allocation for Roubini Global Economics. Currently, Chantico Global collaborates with Oxford Economics, the world's largest independent macroeconomics consultancy. Prior to joining RGE, Ms. Sanchez spent four years as an institutional asset manager, serving at the California Endowment, a US\$3 billion Los Angeles-based foundation, as managing director of public investments and at the Ford Foundation.

**Sandip Bhagat, Chief Investment Officer, Whittier Trust**

Mr. Bhagat is in charge of policy, strategy and research for both alternative and traditional investment management for Whittier Trust. From 2009 to 2014, he headed global equity for Vanguard Group, overseeing active and passive equity. Prior to Vanguard, he worked as Managing Director for Morgan Stanley Investment Management. Mr. Bhagat began his 25-year career in financial services in 1987 with Travelers Investment Management, eventually becoming CIO then Managing Director of Citigroup Asset Management. He received a BS in Chemical Engineering from the University of Bombay and MS in Chemical Engineering and his MBA from the University of Connecticut. He is a CFA charter-holder.

**Maggie Ralbovsky, CFA, Managing Director, Wilshire Associates**

Ms. Ralbovsky is a senior consultant with Wilshire Associates. Her clients include corporate pension, insurance asset pool, non-profits, public pension and sovereign wealth entities. She is a member of Wilshire's Board of Directors. Ms. Ralbovsky joined Wilshire in 2002 and brings more than 20 years of industry experience. Prior to joining Wilshire, Ms. Ralbovsky was a Vice President with Goldman Sachs & Co., where she worked on derivatives-based risk hedging and other advisory services. She earned an MBA in finance from Cornell University and holds the designation of Chartered Financial Analyst.

SPEAKERS

**Kristina Serafim, Managing Director, Verizon Ventures**

Ms. Serafim is a Director at Verizon Ventures. Kristina joined Verizon Ventures from Verizon's Big Data and Artificial Intelligence product team. Prior to Verizon, Kristina was a Director at Intellectual Ventures, where she led investments in machine learning, media, advertising, and gaming technologies. Kristina's entrepreneurial experience includes co-founding and leading two software companies, from their inception to acquisition. Kristina also spent several years on the strategy and corporate development teams at IBM and at NAGRA Innovations. She received an electrical and mechanical engineering degree from Kettering University and an MBA from Harvard University.

**Ken Chilton, CFA, Retirement Investment Manager, Farmers Insurance Group**

Mr. Chilton manages over \$25 billion of insurance and retirement assets. As part of a two person pension & investments team, he contributes to managing defined benefit, defined contribution, and deferred compensation programs for Farmers Insurance employees. His team performs strategic asset allocation, tactical asset allocation, portfolio management, manager selection, and performance analysis for global fixed income, global equities, real estate, interest rate swap, and insurance products. He is a CFA charterholder.

**Erik Ridgley, Chief Executive Officer, Chief Investment Officer, Salem Partners Wealth Management**

Mr. Ridgley, 55, is CEO & Chief Investment Officer of Salem Partners Wealth Management, leading an experienced team dedicated to protecting and growing the wealth of our clients. He was previously Managing Director, Head of Investments for the Western U.S. Region, and Senior Investment Counselor at Citigroup Private Bank, supervising \$1.2 billion of investment assets under management for wealthy families during his distinguished and successful tenure. He began his investment career after graduate school as a buy-side (institutional investment management) equity research analyst and portfolio manager for pension plans and mutual funds at Provident Investment Counsel (acquired by Old Mutual), where he also led hundreds of in-person due diligence meetings with CEOs and CFOs of publicly traded companies of all industries and sizes, plus hundreds of consultations with sell-side (Wall Street broker-dealer) market strategists and research analysts.

**Alexander Stimpson, Founding Partner, Senior Investment Strategist, Corient Capital Partners**

Mr. Stimpson was a Senior Vice President in the Private Banking & Investment Group at Merrill Lynch for 16 years, where he was a specially qualified Senior Portfolio Manager in the Merrill Lynch Investment Advisory Program. Prior to joining Merrill, Alex worked for 10 years at HSBC Securities in the Global Markets and Investment Banking Group. Alex serves on the Regional Board of the Northwestern University Leadership Circle (Los Angeles), and served for 15 years on the Board of Directors of Arts Orange County.

**Rebecca Brown, USA Director, Tobacco Free Portfolios**

Ms. Brown serves as USA Director for Tobacco Free Portfolios and is committed to encouraging major US financial institutions to join the Tobacco-Free Finance Pledge and support them on their journey to becoming tobacco-free. Previously, Rebecca worked for Cramer Rosenthal McGlynn, LLC (CRM), a boutique asset manager. In addition to serving as Director of Marketing and Client Service, she led CRM's responsible investing efforts, including drafting and oversight of its policies and procedures. She also successfully advocated for CRM to become a signatory of the Principles for Responsible Investment (PRI) in 2017 and the firm's formal exclusion of tobacco from its investment portfolios in 2019.

**Jeffrey Smith, Senior Managing Director, Caisse de dépôt et placement du Québec (CDPQ)**

Mr. Smith was named Senior Managing Director at Caisse de dépôt et placement du Québec (CDPQ) in May of 2019 and will manage the organizations digital transformation of investing in a large diversified pension fund. Prior to that time, Mr. Smith served as Operating Partner - Private Equity at CDPQ, responsible for the direct private equity business unit at the Canadian Pension Fund. Previously, Mr. Smith served as CEO at Arago GmbH, General Manager at DXC Technologies, a global technology services company, and COO of Hewlett Packard Enterprises.

SPEAKERS**Sean Bill**, Investment Program Manager, **Santa Clara Valley Transportation Authority**

Mr. Bill is currently the Treasurer & Chief Investment Officer at the VTA where he is responsible for the management and oversight of a multi-billion-dollar multi-asset class portfolio. He also served as a Trustee for the City of San Jose Pension Plan and as a Sr. Advisor to the San Francisco Employees Retirement System. Sean was named to Chief Investment Officer Magazine's Power 100 list of the most influential institutional investors globally for 2021; magazine profile. Prior to entering public service, Sean was a Principal at a Global Macro hedge fund based in Newport Beach California; he began his career on the Agriculture Floor at the Chicago Board of Trade.

AGENDA**March 23rd, 2022 (Pacific Standard Time)****5:30pm – 7:30pm Welcome Reception**Hosted By:**CAIA Association****March 24th, 2022 (Pacific Standard Time)****7:20 Registration & One on One's****7:40 Breakfast Presentation hosted by PGIM Fixed Income****7:40 Breakfast Presentation hosted by Cohen & Company Asset Management****7:40 Breakfast Presentation by ARI****8:05 Welcome to ALTSLA 2022****Paul Hamann**, Head of Alternatives & Strategic Partnerships, **Markets Group****8:10 Chairperson's Remarks**Hosted By:**Speaker**, Managing Director, **EY****8:15 The Portfolio of the Future-CAIA**

The CAIA Association is a global professional credentialing body dedicated to creating greater alignment, transparency, and knowledge for all investors, with a specific emphasis on alternative investments. A Member-driven organization representing professionals in more than 95 countries, CAIA Association advocates for the highest ethical standards. The organization provides unbiased insight on a broad range of investment strategies and industry issues, key among them being efforts to bring greater diversification to portfolio construction decisions to achieve better long-term investor outcomes. To learn more about the CAIA Association and how to become part of the organization's mission, please visit <https://caia.org/>.

Speaker:**John Bowman**, CFA, Senior Managing Director, **Chartered Alternative Investment Analyst (CAIA)****8:35 Opening Keynote Panel: Post Covid Macroeconomic Indicators That are Shaping Today's Economy**

U.S equity valuations are at an all time high, with inflation and advances in technology being a large contributors to the post pandemic reality as well. What other factors are shaping today's new world? Do investors view the current environment as a unique opportunity to sell assets that might be viewed by some as attractively overvalued? Or is it wiser to pile into safe plays given deep concerns about inflation and overall economic behavior? Leading Chief Investment Officers will give their ideas and strategies for best immunizing their portfolios to volatility and uncertainty in the current environment.

Moderator:**Bill Kelly**, Chief Executive Officer, **CAIA**Panelists:**Elizabeth Burton**, Chief Investment Officer, **Employees' Retirement System State of Hawaii****Mark Anson**, CFA, CAIA, Chief Executive Officer, Chief Investment Officer, **Commonfund****Ariel Babcock**, CFA, Managing Director, Head of Research, **FCLTGlobal****Ashby Monk**, Executive Director, **Stanford Global Projects Center**

AGENDA

9:15 Keynote Interview

Interviewer:

Speaker, Managing Director, **EY**

Interviewee:

Jim Barry, Chief Investment Officer, **BlackRock Alternative Investors (BAI)**

9:40 Keynote Interview: Credit Investments

Interviewer:

Speaker, Managing Director, **Blue Owl**

10:05 Keynote Panel: Emerging Trends in Sports and Real Estate

Moderator:

Alex Bhathal, Executive Chairman, Revitate and Co-Owner, **Sacramento Kings**

Panelists:

Chris Marsh, General Partner, **Revitate Cherry Tree**

Kunal Merchant, Partner and COO, **Revitate Sports**

10:35 Networking Break

11:05 CFA Update

11:10 Keynote Presentation: Crypto Currencies and ETFs

Interviewer:

Sean Bill, Chief Investment Officer, **Santa Clara Valley Transportation Authority**

Interviewee:

Speaker, Managing Director, **Invesco**

11:35 CalALTS Update

11:40 Keynote Panel: Private Markets: Alternative Credit

Credit market has grown to be an alternative source of value for investors globally in recent years. The funds have offered low double-digit annual returns with minimal risk during a period of historically subdued interest rates, and a recent quarter point correction by the FED will only fuel this trend. How do investors see the credit market? Which strategies are drawing the most interest from institutional investors and what geographies are the most attractive?

Panelists:

Speaker, Managing Director, **Cohen & Company**

Jonathan Grabel, Chief Investment Officer, **Los Angeles County Employees Retirement Association**

Ray Joseph, Chief Investment Officer, **Los Angeles Fire and Police Pensions**

Speaker, Managing Director, **PGIM**

AGENDA**12:20 Roundtable Session One**

Roundtable 1— Called vs. Committed: A Unique Approach to Fulfilling your Private Market Allocation—**StepStone**

1:00 Networking Lunch**2:00 Roundtable Session two**

Roundtable 1 — *ESG Reporting Frameworks and Programs for Asset Managers*— **Weaver**

2:45 CONTENT STREAM I**2:45-3:20 Panel I****What is the US Real Estate Outlook Market Now**Panelists:

Randy Norton, Managing Partner, Global Head of Real Estate and Alternative Investments, **Green Mesa Capital**

3:25-4:00 Panel II**How The Pandemic Shifted Commercial Real Estate**

Ninety percent expect to have a commercial real estate (CRE) allocation in 2025 that is greater than or equal to what is currently hold. With a low global interest rate stay low, CRE will maintain cash yield and remain income oriented. But how to evaluate real estate in the current economic process?

Panelists:

JR Pearce, Senior Investment Officer, **Sacramento County Employees' Retirement System**

4:05-4:40 Panel III**Real Asset Revolution**

Monopolistic, inelastic demand, long-term horizon. Each is a characteristic on a real asset, namely a midstream energy, a public private partnership (PPP; P3) or commercial real estate. Our real asset session will examine how to invest.

Panelists:

Speaker, Managing Director, **Partners Group**

AGENDA

2:45 CONTENT STREAM II

2:45-3:20 Panel I

Portfolio Construction: How Allocators are Planning for the Future

The decade following the global financial crisis (GFC) capped not just the longest-running—but the most remarkable—bull market ever recorded. Between 2009 to 2019, the Dow Jones Industrial Average reached 28,000, Netflix posted a 4,000 percent return and—in a historic first—the U.S. ended a decade without entering economic recession. Though a bearish correction was inevitable, has the Coronavirus pandemic reduced passive indexing from Wall Street revolution to another too-big-to-fail enterprise? How to account for lower interest rates and replace fixed income with more alternative investments? How to approach valuation across different asset classes within portfolio construction?

Panelists:

John Calamos Sr, Founder, Chairman , Global Chief Investment Officer, **Calamos**

Erik Ridgley, Chief Executive Officer, Chief Investment Officer, **Salem Partners Wealth Management**

Samantha Foster, Managing Director, Investments, **University of Southern California**

3:25-4:00 Panel II

Investing in Emerging Managers

While emerging managers can offer multiple points of entry to niche investment strategies, the question is how to build an emerging manager program internally that is effective and that does not sacrifice the returns.

Panelists:

David Marra, Managing Director, **Markin Asset Management**

Emanuel Pleitez, Chairman, **Hispanic Heritage Foundation**

4:05– 4:40 Panel III

ESG Management: Navigating Growing Expectations

ESG is hard to define and measure and there is no agreement on benchmarking. However, ESG frameworks and disclosure standard setting companies have begun to consolidate in a step towards standardization. What can we derive from this effort? What can ESG metrics accomplish even without a standardized rating? Does the ESG disclosure create peer pressure? Do companies with the disclosure have other more solid metrics and have less volatility in their valuations?

Moderator:

Gina Sanchez, Chief Executive Officer, **Chantico Global**

Panelists:

Ellen Chen, Investment Officer, **The Los Angeles City Employees' Retirement System**

Rebecca Brown, USA Director, **Tobacco Free Portfolios**

AGENDA

2:45 CONTENT STREAM III

2:45-3:20 Panel I

FinTech and Post Pandemic Advances in Technology

Fintech, shorthand for the financial technology sector, is no longer industry defining—but is instead shaping the future of the financial market. In the new decade, artificial intelligence, blockchain, cryptocurrency and the roboadvisor are rooted in digitization, informing the retail investor sector. Our fintech session will explain how venture capital is now investing in financial technology, with JPMorgan Chase or Goldman Sachs Group either launching or purchasing controlling fintech stock.

Panelists:

Speaker, Managing Director, **Wellington Management**

Alexander Stimpson, Founding Partner, Senior Investment Strategist, **Corient Capital Partners**

Dail St. Claire, Investment Advisory Committee, **New York State Common Retirement Fund**

3:25– 4:00 Panel II

The Ups and Downs of Cryptocurrency –When is The Right Time to Invest?

Though cryptocurrency has grown in finance, a large cryptocurrency transaction has not. Investing in cryptocurrency can be a different allocation between a registered investment advisor or public pension. Our cryptocurrency session will examine each asset class challenge, including direct ownership and the different themed investment, bitcoin, ethereum and ripple as well as discuss cryptocurrency exchange, digital storage, and diversification.

Moderator:

David Fuhrman, Chief Financial Officer, **The Campanile Foundation at San Diego State University**

Panelists:

Maggie Ralbovsky, CFA, Managing Director, **Wilshire Associates**

Sean Bill, Chief Investment Officer, **Santa Clara Valley Transportation Authority**

4:05– 4:40 Panel III

How to Save Time and Money While Going Public? The role of SPACs.

Deal flow hit a minor standstill to rebound well with improved investor powder and industrywide merger and acquisition renewal. Our private equity panel will discuss growing awareness in private investment in public equity (PIPE) and special purpose acquisition company (SPAC), examining how management can share its equity tale, share data, preparedness to encounter legal risk and assign a key performance indicator (KPI) checklist.

AGENDA**2:45 CONTENT STREAM IV****2:45– 3:20 Panel I****Private Equity in a Post COVID-19 World**

What do high valuations and creeping inflation mean for the Private Equity Market. Will they affect the due diligence process?

Moderator:

Sandip Bhagat, Chief Investment Officer, **Whittier Trust**

Panelists:

Robert King, Investment Officer, **The Los Angeles City Employees' Retirement System**

Speaker, Managing Director, **StepStone**

Jeffrey Smith, Senior Managing Director, **Caisse de dépôt et placement du Québec (CDPQ)**

3:25– 4:00 Panel II**Venture Capital: What will Define the Next Generation of Investment Opportunities**

Silicon Valley is the venture capital epicenter, coining the term “unicorn” for a private seed-stage company valued over \$1 billion. But \$13 billion in venture capital spending in 2021 flowed outside of the Bay Area. Our venture capital session will examine how and where the newest generation of investing will evolve, as well as what product or service will be another startup goldmine.

Moderator:

Zack Ellison, CFA, CAIA, Managing General Partner, **Applied Real Intelligence LLC (“A.R.I.”)**

Panelists:

Kristina Serafim, Managing Director, **Verizon Ventures**

Alice Pomponio, Managing Director, **American Cancer Society / BrightEdge Ventures**

David York, Managing Director, Founder, **Top Tier Capital Partners**

4:05– 4:40 Panel III**Private Credit—Challenges, Risks, and Opportunities**

In a climate of increasing uncertainty, investors are trusting private credit to provide high-yield, stable solutions compared to other asset classes. While 2020 and 2021 were turbulent and devastating years for many across the globe, it was an interesting case study on the strengths of the private credit market compared to other debt and credit investments, and provided insights into how private credit can continue to play an important role in a private markets portfolio in 2022 and beyond. Leading allocators and managers discuss what changes they are seeing in the private credit markets and their outlooks on the future of the asset class.

Panelists:

Speaker, Managing Director, **Silver Spike Capital**

Ken Chilton, CFA, Retirement Investment Manager, **Farmers Insurance Group**

4:40 Afternoon Break**4:55 Closing Keynote Session****5:30 Cocktail Reception**

January 2022



Top Stories

6 Reasons You Should Attend TEXPERS' Annual Conference in Fort Worth, Texas



ANNUAL CONFERENCE 2022

April 3-6, 2022 | The Worthington Renaissance Fort Worth Hotel



In-person conferences are one of the best opportunities to take your professional development to the next level. And when it comes to the public pensions industry, no live event matches the niche learning you'll find to help you become a better trustee or administrator.

TEXPERS is hosting its Annual Conference April 3-6, 2022, at The Worthington Renaissance Hotel in Fort Worth, Texas. Click [here](#) to register for the association's most well-attended event of the year. Online registration is open through March 18.

Learning and sharpening your skills has never been easier: you can read blogs, listen to podcasts, watch videos on YouTube, or even attend webinars, to name a few options. Is an in-person conference really worth the time and expense? Yes!

Going to conferences can have enormous benefits for TEXPERS' public pension system member trustees and administrators. You get face-to-face

interaction, opportunities to learn and earn state-approved continuing education credit hours, and chance encounters that can change everything.

[Click Here to Read The Reasons Why You Should Attend](#)



TESTIMONIALS

Amazing!



Gracie Flores, PensionPlan Administrator,
Corpus Christi Firefighter's Retirement System

"I regularly attend the conferences offered by TEXPERS for the amazing educational sessions and the superb speaker who provides information on current topics. The conference offers exceptional opportunities to network with fellow peers and colleagues. Today's changing economic climate forces us to find solutions to issues and concerns that we all share and the TEXPERS Annual Conference offers the means for us to do so."

Sponsoring TEXPERS' Conference Helps Pension Fund Trustees and Administrators Gain Valuable Public Retirement Industry Insight

Sponsorship opportunities are available for TEXPERS' Associate Advisor, Associate, Consultant, Actuary, and Vendor members at our 2022 Annual Conference, April 3-6 in Fort Worth, Texas. Please join us as we empower our local public retirement system members from across the state with the tools and industry insights to manage and govern their retirement funds.

[Access Our Sponsor & Exhibitor Prospectus](#)

Houston Fund Selects Government Expert Tim Schauer as New Executive Director

NEWS



**Tim Schauer has more
than 25 years
experience working in
government affairs.**

Effective Feb. 1, 2022, Tim Schauer will step into the role of executive director of the Houston Firefighters' Relief and Retirement Fund, according to a recent news release.

The Fund announced the new hire on Jan. 18, ending a nationwide search for an executive director to replace Ralph Marsh, who retired from the position last year.

[Read More](#)

Texas News Headlines

Pensions

- [Best and Worst States for Pensions](#)
- [Texas Teachers' Pension Fund Buys New Austin Office Building](#)
- [Austin Firefighters Plan Appoints New Fund Administrator*](#)

Economy & Investments

- [These Are the Local Private Equity Funds That Closed in 2021](#)
- [Texas, Arizona have Recovered All the Jobs Lost When COVID-19 Hit](#)
- [Texas' Economy 'Surging' during Omicron as Some California businesses Voluntarily Shut Down](#)
- [Farm Economy Forecast Show High Inputs, High Market Returns](#)

Politics & Government

- [Campaign Trails Heat Up](#)
- [The Biggest Texas Political Stories to Watch for in 2022](#)
- [Race for Lieutenant Governor](#)
- [Battle for Texas Governor: Abbott, O'Rourke Fundraise Millions](#)

Perspectives

- [In Texas, ESG Virtue-Signaling is a Risky Investment](#)

Member Survey

As a pension trustee or administrator, how confident are you in your public speaking skills?

I'm an Old Pro.

Select

I Could Use Some Improvement.

Select

I'm a Newbie to Public Speaking.

Select

Last Month's Poll Results



In the [December Outlook](#) newsletter, we asked our readers how important pension benefits are in recruiting and retaining public employees. Out of the 17 respondents, 9 (52.9%) indicated pension benefits are "extremely" important. The remaining respondents, however, were split in their responses: 4 (23.5%) indicated that pension benefits were "moderately" important and 4 (23.5%) indicated that pension benefits were "not at all" important in recruiting and retaining public employees.

National News Headlines

Public Pensions

- [NCPERS Proposed New Measure for Public Pension Sustainability](#)
- [State Pension Plan Funding Rises in Fourth Quarter and Calendar Year: Wilshire*](#)
- [DB Plans Retain Cost Advantage Over DC Plans](#)

- [Big Pensions are Nearly 100% Funded, the Healthiest They've Been Since 2008 Financial Crisis](#)

Economics & Investments

- [Biden Says It's Appropriate for Fed to Recalibrate Support for U.S. Economy](#)
- [U.S.-China Tech War: Beijing Unveils Grand Plan to Grow Digital Economy as U.S. Moves Forward With Competition Bill](#)

Studies & Reports

- [Has COVID Affected Pensions for Workers Without Social Security?](#)
- [Milliman Analysis: 2021 Ends with Strong Fourth Quarter Deficit Reduction](#)
- [State and Local Government Contributions to Statewide Pension Plans: FY 20](#)
- [Fiscal Responsibility and 401\(K\)s: Why Converting Public Employees to Defined-Contribution Retirement Plans is Wrong for Your State](#)

Legislative/Government Updates

- [January See Flurry of State Plan Legislation](#)

Best Practices/Professional Development

- [Strategies to Stay Positive and Productive](#)
- [Learn How to Negotiate Using Logrolling](#)

*Some links to sites may require registration to access articles.

Mark Your Calendar

The New Era of Digital Trust
CISCO

Virtual | Noon CST, Jan. 26, 2022

[Click to Learn More](#)

Basics of Finding Data Using data.census.gov

U.S. Census Bureau

Virtual | 10 a.m. CST, Jan. 27, 2022

[Click to Learn More](#)

PRB Actuarial Committee Meeting

Texas Pension Review Board

In-Person & Virtual | 10 a.m. CST, Jan. 28, 2022 | Austin, TX

[Click to Learn More](#)

13th Annual Retirement Policy Conference

National Institute on Retirement Security

In-person Event | Feb. 28-March 1, 2022 | Washington, D.C.

[Click to Learn More](#)

Banking & Bourbon

The Bond Buyer

Virtual | 3:30 p.m. CST, March 16, 2022

[Click to Learn More](#)

Membership Magazine

TEXPERS Pension Observer



The first quarterly edition of TEXPERS Pension Observer, the association's membership magazine, should be arriving in the mail next month. The magazine is full of information about TEXPERS' 2022 Annual Conference April 3-6 in Fort Worth, Texas as well as other news and best practices regarding the public pension and investments industry.

(Pictured is the cover of the last edition of the membership magazine of 2021.)

Want to Advertise in TEXPERS' Membership Magazine? Here's How!

TEXPERS' quarterly publication Pension Observer offers its Advisor, Associate, Consultant, Actuarial, and Vendor members advertising packages to help you get the word out about your organizations. Click [here](#) to access our association's 2022 Rate Sheet.

Welcome New Members

- Boston Partners Global Investors, Associate Member
 - Manulife Investment Management, Associate Member
 - Richmond Capital Partners, Consultant Member
 - ASG Capco, Vendor Member
-

Our Associate Advisors.



ASSET MANAGEMENT



About The Texas Association of Public Employee Retirement Systems (TEXPERS) is a statewide voluntary nonprofit association that provides education and legislative advisory services to the trustees, administrators, professional service providers and employee groups that manage the retirement money of police, firefighters, municipal and district employees in cities across Texas.

STAY CONNECTED



Women's Venture Capital Summit

2022

Virtual Event | February 3-4,
2022

The Ritz Carlton, Half Moon Bay,
California | May 5-6, 2022

[Buy Your Ticket](#)



The Must-Attend Industry Event for Senior-Level Women in Venture Capital

The Women's Venture Capital Summit is a dynamic, two-day conference designed to forge valuable relationships between senior-level women in venture capital.

Spun out from our highly-regarded Women's Private Equity Summit, and taking place at the truly special Ritz Carlton Half Moon Bay, the event will continue our tradition of creating exclusive, retreat-style gatherings that are conducive to candid discussion, meaningful connections and helping women in investment reach their full potential.

With soaring valuations, record IPOs, and increased interest from allocators in venture capital, we felt that the time was right to create a new, dedicated event to provide insight into the specific opportunities and challenges that seed, early-stage and growth investing present, as well as enabling more relevant introductions to the limited and general partners who will be pivotal to your long-term success in this distinct asset class.

At the heart of the Women's Venture Capital Summit will be a carefully curated audience of 300 attendees, representing LPs who are actively looking to invest in venture, GPs from both emerging and established VC funds, and relevant industry advisors.

[View Agenda](#)

A number of industry-leading speakers will provide valuable, actionable insight on portfolio and firm management, fundraising, market trends and innovation. Content will be delivered in a variety of formats, including fireside chats, moderated panel discussions, quick fire TINA Talks, breakouts and small, focused discussion groups, in order to make this as interactive and beneficial as possible.

A range of structured and spontaneous networking activities, and pre-bookable one-to-one meeting slots will also help to facilitate valuable peer-to-peer conversations and business introductions, making this a truly worthwhile couple of days out of the office!

The Women's Venture Capital Summit is a continuation of our commitment to creating a community that helps women build valuable networks and promotes the advancement of women in private equity and venture capital. As a result, the conference itself is focused completely on business issues, not gender. Attendees come to our summits to get deals done.

[Learn More](#)

Featured Keynote Speakers



Kirsten Green
Partner
[Forerunner Ventures](#)



Jess Lee
Partner
[Sequoia Capital](#)

2022 Sponsors



[View Speakers](#)

Our Commitment to a Covid Secure Event

With Intelligence is committed to providing a Covid secure event. We will strictly follow government guidelines to make sure the event is Covid secure and have put in place additional required measures to ensure the safety of our attendees:

- All event attendees must be fully vaccinated to attend the Summit and provide proof of vaccination upon arrival.
- All attendees must wear masks in public spaces. The Health and Safety protocol for the Ritz-Carlton, Half Moon Bay requires all guests to wear face coverings in any public spaces.

Please review the document below for additional details.

[Learn more](#)

MORE INFORMATION

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ASSET ALLOCATION COMPARISON

December 31, 2021

	Market Value	% of Total Fund	Allocation Policy	% Difference from Allocation	Prior Period Market Value	Prior Period % of Total Fund
EQUITY						
CHANNING CAPITAL	38,700,458.20	0.96			36,525,034.24	0.94
REDWOOD- SL	42,727,357.51	1.06			42,223,184.53	1.08
SYSTEMATIC	81,404,747.49	2.02			77,397,344.15	1.98
<i>Total Small Cap</i>	162,832,563.20	4.04			156,145,562.92	4.00
SMITH GRAHAM	84,862,091.71	2.11			79,685,645.90	2.04
T. ROWE PRICE	179,738,754.00	4.46			171,790,035.59	4.40
<i>Total Domestic/Enhanced equity</i>	264,600,845.71	6.57			251,475,681.49	6.45
NTGI S&P 500 EQUITY INDEX	195,169,412.65	4.85			186,797,487.58	4.79
<i>Total Index</i>	195,169,412.65	4.85			186,797,487.58	4.79
<i>Total Domestic</i>	622,602,821.56	15.46	12.50	2.96	594,418,731.99	15.24
ADELANTE CAPITAL	62,788,876.66	1.56			57,700,457.44	1.48
CENTERSQUARE-SL	61,187,530.92	1.52			56,047,932.54	1.44
<i>Total REITS</i>	123,976,407.58	3.08	2.50	0.58	113,748,389.98	2.92
AEW PARTNERS	15,019,555.00	0.37			6,501,036.00	0.17
HEITMAN	91,637,576.84	2.28			91,637,576.84	2.35
INVESCO	70,009,887.00	1.74			70,304,119.00	1.80
INVESCO - SL	77,412,368.68	1.92			77,412,368.68	1.98
VIRTUS REAL ESTATE CAP	15,516,661.00	0.39			13,415,617.00	0.34
<i>Total Real Estate</i>	269,596,048.52	6.69	7.50	-0.81	259,270,717.52	6.64
FAIRVIEW CAPITAL	76,000,785.00	1.89			69,198,067.00	1.77
GROSVENOR GCM - CFGI	149,497,852.00	3.71			143,173,233.00	3.67
HAMILTON LANE	114,163,929.00	2.84			114,682,979.00	2.94
<i>Total Private Equity</i>	339,662,566.00	8.44	7.50	0.94	327,054,279.00	8.38
ACADIAN	141,838,975.10	3.52			132,972,840.28	3.41
AQR CAPITAL	131,912,924.05	3.28			125,786,607.77	3.22
ATIVO	44,922,467.00	1.12			42,330,299.54	1.09
BAILLIE GIFFORD	88,279,381.77	2.19			85,320,300.12	2.19
EARNST PARTNERS	100,753,005.60	2.50			96,673,304.10	2.48
<i>Total International</i>	507,706,753.52	12.62	12.50	0.12	483,083,351.81	12.40
ARIEL	120,495,440.96	2.99			114,670,903.46	2.94
NORTHERN TRUST INTL EQ ACWI INDEX	29,249,842.16	0.73			28,144,002.07	0.72
WELLINGTON MGMT	145,977,606.09	3.63			141,782,522.07	3.63
<i>Total Global Equity</i>	295,722,889.21	7.35	7.50	-0.15	284,597,427.60	7.30
ACADIAN-LVG	256,241,272.45	6.36			240,441,018.55	6.16
BLACKROCK	255,551,681.71	6.35			241,793,654.50	6.20
<i>Total Global Low Volatility Equity</i>	511,792,954.16	12.71	12.50	0.21	482,234,673.05	12.36
ATLANTIC TRUST	78,942,036.22	1.96			77,853,616.93	2.00
HARVEST FUND	78,791,429.83	1.96			77,661,694.58	1.99
COHEN & STEERS	70,656,479.30	1.75			66,101,893.31	1.69
<i>Total Global Listed Infrastructure</i>	228,389,945.35	5.67	5.00	0.67	221,617,204.82	5.68
<i>Total Marketable Alternatives</i>	-	0.00	2.50	-2.50	-	0.00
TOTAL EQUITY	2,899,450,385.90	72.02	70.00	2.02	2,766,024,775.77	70.91
FIXED INCOME						
GARCIA HAMILTON	66,535,500.95	1.65			66,698,355.15	1.71
NT COLLECTIVE AGGREGATE BOND INDEX FUND	221,427,427.49	5.50			222,046,625.36	5.69
SECURIAN ASSET MANAGEMENT	223,293,508.73	5.55			223,973,616.34	5.74
<i>Total Investment Grade</i>	511,256,437.17	12.70	15.00	-2.30	512,718,596.85	13.14
NEUBERGER BERMAN	183,768,529.96	4.56			182,173,210.30	4.67
<i>Total Opportunistic Credit</i>	183,768,529.96	4.56	5.00	-0.44	182,173,210.30	4.67
BLACKROCK-HY	187,837,101.79	4.67			184,174,111.82	4.72
OAKTREE	190,637,696.03	4.74			186,967,112.59	4.79
<i>Total High Yield</i>	378,474,797.82	9.40	10.00	-0.60	371,141,224.41	9.52
CASH ACCOUNT	53,109,508.43	1.32			68,486,600.64	1.76
<i>Total Short Term</i>	53,109,508.43	1.32	0.00	1.32	68,486,600.64	1.76
TOTAL FIXED INCOME	1,126,609,273.38	27.98	30.00	-2.02	1,134,519,632.20	29.09

TOTAL FUND \$ 4,026,059,659.28

\$ 3,900,544,407.97

Market Value YE 2020 \$ 3,701,350,125.97

Market Value Variance

Change from YE 2020: \$ 324,709,533.31

Change from prior month: \$ 125,515,251.31

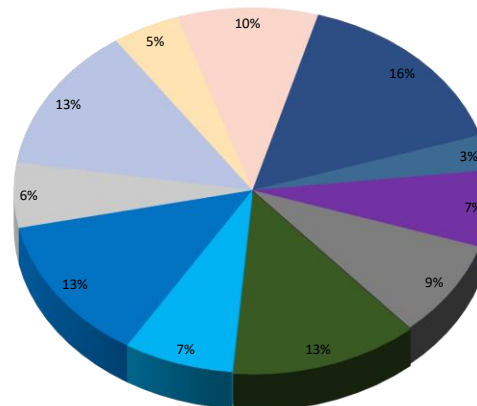
Asset Allocation: Actual vs. Target

December 31, 2021

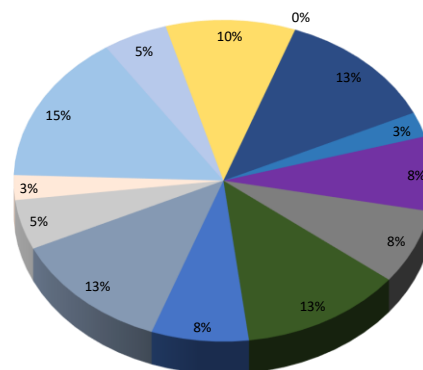
	Market Value	Gross Actual Allocation	Target Allocation	% Difference from Allocation
EQUITY				
CHANNING CAPITAL	38,700,458.20	0.96		
REDWOOD- SL	42,727,357.51	1.06		
SYSTEMATIC	81,404,747.49	2.02		
<i>Total Small Cap</i>	162,832,563.20	4.04		
SMITH GRAHAM	84,862,091.71	2.11		
T. ROWE PRICE	179,738,754.00	4.46		
<i>Total Domestic/Enhanced equity</i>	264,600,845.71	6.57		
NTGI S&P 500 EQUITY INDEX	195,169,412.65	4.85		
<i>Total Index</i>	195,169,412.65	4.85		
<i>Total Domestic</i>	622,602,821.56	15.46	12.50	2.96
ADELANTE CAPITAL	62,788,876.66	1.56		
CENTERSQUARE-SL	61,187,530.92	1.52		
<i>Total REITS</i>	123,976,407.58	3.08	2.50	0.58
AEW PARTNERS	15,019,555.00	0.37		
HEITMAN	91,637,576.84	2.28		
INVESCO	70,009,887.00	1.74		
INVESCO - SA	77,412,368.68	1.92		
VIRTUS REAL ESTATE CAP	15,516,661.00	0.39		
<i>Total Real Estate</i>	269,596,048.52	6.69	7.50	-0.81
FAIRVIEW CAPITAL	76,000,785.00	1.89		
GROSVENOR GCM - CFGI	149,497,852.00	3.71		
HAMILTON LANE	114,163,929.00	2.84		
<i>Total Private Equity</i>	339,662,566.00	8.44	7.50	0.94
ACADIAN	141,838,975.10	3.52		
AQR CAPITAL	131,912,924.05	3.28		
ATIVO	44,922,467.00	1.12		
BAILLIE GIFFORD	88,279,381.77	2.19		
EARNST PARTNERS	100,753,005.60	2.50		
<i>Total International</i>	507,706,753.52	12.62	12.50	0.12
ARIEL	120,495,440.96	2.99		
NORTHERN TRUST INTL EQ ACWI INDEX	29,249,842.16	0.73		
WELLINGTON MGMT	145,977,606.09	3.63		
<i>Total Global Equity</i>	295,722,889.21	7.35	7.50	-0.15
ACADIAN-LVG	256,241,272.45	6.36		
BLACKROCK	255,551,681.71	6.35		
<i>Total Global Low Volatility Equity</i>	511,792,954.16	12.71	12.50	0.21
ATLANTIC TRUST	78,942,036.22	1.96		
HARVEST FUND	78,791,429.83	1.96		
COHEN & STEERS	70,656,479.30	1.75		
<i>Total Global Listed Infrastructure</i>	228,389,945.35	5.67	5.00	0.67
<i>Total Marketable Alternatives</i>	-	0.00	2.50	-2.50
TOTAL EQUITY	2,899,450,385.90	72.02	70.00	2.02
FIXED INCOME				
GARCIA HAMILTON	66,535,500.95	1.65		
NT COLLECTIVE AGGREGATE BOND INDEX FUND	221,427,427.49	5.50		
SECURIAN ASSET MANAGEMENT	223,293,508.73	5.55		
<i>Total Investment Grade</i>	511,256,437.17	12.70	15.00	-2.30
NEUBERGER BERMAN	183,768,529.96	4.56		
<i>Total Opportunistic Credit</i>	183,768,529.96	4.56	5.00	-0.44
BLACKROCK-HY	187,837,101.79	4.67		
OAKTREE	190,637,696.03	4.74		
<i>Total High Yield</i>	378,474,797.82	9.40	10.00	-0.60
CASH ACCOUNT	53,109,508.43	1.32		
<i>Total Short Term</i>	53,109,508.43	1.32	0.00	1.32
TOTAL FIXED INCOME	1,126,609,273.38	27.98	30.00	-2.02

TOTAL FUND \$ 4,026,059,659.28

Gross Actual Allocation



Target Allocation



Wilshire

Dallas Employees' Retirement Fund

Monthly Investment Summary

Dec-2021

Market Commentary

Quarter Ended December 31, 2021

U.S. Economy and Markets

- The U.S. stock market, represented by the FT Wilshire 5000 IndexSM, was up 9.58% for the fourth quarter of 2021.
- Nearly all sectors were in positive territory, with Real Estate (+14.7%), Information Technology (+14.6%) and Materials (+14.4%) representing the best performing sectors. The only sector that was negative this quarter was Communication Services (-0.8%).
- From a size perspective, large-cap outperformed small-cap during the quarter. Growth stocks outperformed value within the large-cap segment of the market but underperformed in small-caps, while large-growth was the best performing market segment overall.

International Economy and Markets

- Performance results within international equity markets were mixed for the second straight quarter, with meaningful differences in return between developed and emerging markets. The MSCI EAFE Index was up 2.2% for the past six months, while the MSCI Emerging Markets Index was down -9.3%.
- The main sources of weakness were China, South Korea and Brazil. In China, the real estate market, which accounts for nearly a third of China's GDP, has been experiencing a major slump and developers are heavily indebted. While their economic growth forecasts are on the decline, the economy is still expected to expand in 2021.
- In Europe, Germany is the area's largest economy and is facing a potential recession as supply issues and new coronavirus cases weigh on growth. Germany's Ifo Institute for Economic Research has forecasted a 0.5% drop in growth during the fourth quarter, with more weakness to begin 2022. Growth has slowed in the U.K., as well, and is expected to face additional headwinds.

Fixed Income & Real Assets

- The U.S. Treasury yield curve was up 45 basis points in the short end (at the 2- year maturity) but down in the long end of the curve. The 10-year Treasury yield ended the quarter at 1.51%, up two basis points from September.
- Investment-grade credit spreads widened during the quarter, but the spread on the broad high yield tightened, closing the quarter at 2.83%.
- The Federal Open Market Committee met twice during the quarter, as scheduled, with no change to their overnight rate. Through the Fed's "dot plot," they are messaging that the current intent is for three 25 basis point increases in the overnight rate before the end of 2022. The committee announced in December that it would begin to reduce (i.e., taper) the monthly pace of its asset purchases starting in January. Fed chair Jerome Powell acknowledged that inflation may now be "more persistent."
- Real Assets performance was mixed for the quarter. Real estate securities were up both in the U.S. and abroad, while Commodities were slightly negative.

Monthly Index Performance

Periods Ended December 31, 2021

	Performance (%)				
	1 Month	QTD	1 Year	3 Years	5 Years
U.S. Equity					
FT Wilshire 5000 Total Market TR Index	3.89	9.58	26.70	26.11	18.11
S&P 500	4.48	11.03	28.71	26.07	18.47
FT Wilshire 4500 Completion Index	1.24	1.73	16.03	25.17	15.89
MSCI USA Minimum Volatility Index	6.79	10.41	21.01	17.87	14.66
U.S. Equity by Size/Style					
FT Wilshire U.S. Large-Cap Index	3.97	10.24	27.46	26.64	18.93
FT Wilshire U.S. Large-Cap Growth Index	2.24	11.56	28.86	33.30	23.30
FT Wilshire U.S. Large-Cap Value Index	6.36	8.56	24.53	19.53	13.49
FT Wilshire U.S. Small-Cap Index	3.23	3.28	19.17	20.88	12.29
FT Wilshire U.S. Small-Cap Growth Index	1.67	1.78	10.12	22.74	14.36
FT Wilshire U.S. Small-Cap Value Index	4.82	4.81	29.24	19.08	9.77
FT Wilshire U.S. Micro-Cap Index	-1.56	-8.36	14.50	16.30	9.09
Non-U.S. Equity (USD)					
MSCI AC World ex USA (Net)	4.13	1.82	7.82	13.18	9.61
MSCI ACWI ex USA Minimum Volatility Index (Net)	4.01	2.74	9.54	8.62	8.24
MSCI EAFE Index (Net)	5.12	2.69	11.26	13.54	9.55
MSCI Emerging Markets (Net)	1.88	-1.31	-2.54	10.94	9.87
MSCI AC World ex USA Small Cap (Net)	4.23	0.62	12.93	16.46	11.21
U.S. Fixed Income					
Blmbg. U.S. Aggregate	-0.26	0.01	-1.55	4.79	3.57
Blmbg. U.S. Treasury: Long	-1.42	3.08	-4.65	8.82	6.54
Blmbg. U.S. Long Corporate Index	-0.43	1.47	-1.13	11.75	7.73
Blmbg. U.S. TIPS	0.32	2.36	5.96	8.44	5.34
Blmbg. U.S. Credit Index	-0.08	0.22	-1.08	7.17	5.05
Blmbg. U.S. Corp: High Yield	1.87	0.71	5.28	8.83	6.30
S&P LSTA Leverage Loan Index					

Asset Allocation & Performance

Dallas Total Fund

Periods Ended December 31, 2021

	Performance (%) net of fees							Allocation	
	1 Month	1 Quarter	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Global Equity Composite	3.91	4.85	14.22	17.66	12.97	10.52	9/1/2012	295,722,889	7.36
Global Low Volatility Composite	6.13	6.84	15.69	12.11	10.23	9.14	7/1/2015	511,792,954	12.74
Domestic Equity Composite	4.74	9.39	29.60	24.86	16.66	10.95	1/1/1990	622,602,822	15.49
International Equity Composite	5.11	1.74	10.30	16.05	10.91	6.04	1/1/1990	507,706,754	12.63
Global Fixed Income Composite	-0.29	-0.10	-0.93	5.47	4.02	4.96	10/1/1995	511,256,437	12.72
High Yield Composite	1.91	0.74	5.06	8.53	5.71	6.49	1/1/1997	378,474,798	9.42
Credit Opportunities Composite	0.88	-0.64	2.27	6.39	5.28	6.23	2/1/2016	183,768,530	4.57
Total Real Estate Composite	2.73	4.75	21.17	11.04	7.90	6.86	1/1/1990	391,460,633	9.74
Global Listed Infrastructure Composite	3.06	3.36	32.24	3.13	-1.81	3.45	1/1/2012	228,389,945	5.68
Private Equity Composite	3.39	3.48	36.61	16.27	16.02	14.28	6/1/2009	334,460,358	8.32
Managed Short Term Composite	0.01	0.01	0.05	1.00	1.14	2.77	1/1/1990	53,109,508	1.32
Dallas Total Fund	3.31	3.77	15.44	12.81	9.23	9.17	1/1/1985	4,018,745,628	100.00
Policy Index	2.87	4.21	14.85	13.46	9.41	9.77			

Asset Allocation & Performance

Domestic Equity

Periods Ended December 31, 2021

	Performance (%) net of fees							Allocation	
	1 Month	1 Quarter	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Systematic Financial	5.18	7.76	29.98	19.05	12.35	11.51	8/1/2003	81,404,747	13.07
Russell 2000 Index	2.23	2.14	14.82	20.02	12.02	10.23			
Redwood Investments *	1.19	4.74	23.60	27.20	16.15	15.65	10/1/2016	42,727,358	6.86
Russell 2000 Growth Index	0.44	0.01	2.83	21.17	14.53	14.56			
Channing Capital *	5.96	4.92	19.66	20.19	8.82	8.83	12/1/2013	38,700,458	6.22
Russell 2000 Value Index	4.08	4.36	28.27	17.99	9.07	8.94			
Domestic Equity Small Cap Composite	4.28	6.27	25.64	21.59	12.56	10.63	6/1/2003	162,832,563	26.15
Smith Graham *	6.50	8.99	41.21	23.11		12.31	1/1/2018	84,862,092	13.63
Russell Midcap Index	4.08	6.44	22.58	23.29		14.26			
T. Rowe Price	4.63	10.76	28.07	26.83	19.36	11.42	4/1/2006	179,738,754	28.87
S&P 500	4.48	11.03	28.71	26.07	18.47	10.87			
Northern Trust S&P 500 (Lending)	4.48	11.02	28.69	26.03	18.45	11.18	1/1/1995	195,169,413	31.35
S&P 500	4.48	11.03	28.71	26.07	18.47	11.15			
Domestic Equity Composite	4.74	9.39	29.60	24.86	16.66	10.95	1/1/1990	622,602,822	100.00
Custom Benchmark	3.89	9.58	26.70	26.11	18.11	11.08			

Asset Allocation & Performance

Real Estate

Periods Ended December 31, 2021

	Performance (%) net of fees							Allocation	
	1 Month	1 Quarter	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Adelante Capital Management	8.82	16.37	47.58	21.27	12.55	10.95	10/1/2001	62,788,877	16.04
Wilshire U.S. Real Estate Securities Index	8.86	17.15	46.11	19.16	11.05	11.04			
CenterSquare	9.17	15.45	42.54	20.01		15.95	6/1/2018	61,187,531	15.63
Wilshire U.S. Real Estate Securities Index	8.86	17.15	46.11	19.16		15.10			
REIT Composite	8.99	15.91	45.04	20.64	11.91	10.98	10/1/2001	123,976,408	31.67
Wilshire U.S. Real Estate Securities Index	8.86	17.15	46.11	19.16	11.05	11.04			
Heitman America Real Estate Trust, LP	0.00	0.00	13.70	4.17	5.01	9.42	12/1/2010	90,974,397	23.24
NCREIF ODCE NOF	0.00	0.00	12.41	5.60	6.16	9.57			
Invesco Core Real Estate USA, LLC	0.00	0.00	14.52	6.32	7.35	10.16	12/1/2010	76,989,955	19.67
NCREIF ODCE NOF	0.00	0.00	12.41	5.60	6.16	9.57			
Virtus Real Estate Capital III	0.00	-14.04				-0.04	2/1/2021	14,490,431	3.70
NCREIF ODCE NOF	0.00	0.00				12.41			
AEW Partners Real Estate Fund IX	0.00	-2.56				-29.22	4/1/2021	15,019,555	3.84
NCREIF ODCE NOF	0.00	0.00				10.33			

Asset Allocation & Performance

Real Estate

Periods Ended December 31, 2021

	Performance (%) net of fees							Allocation	
	1 Month	1 Quarter	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Private Core Real Estate Composite	0.00	-0.90	9.82	5.59	5.70	8.96	10/1/2010	267,484,225	68.33
Custom Benchmark	0.00	0.00	10.29	6.32	6.13	8.62			
Total Real Estate Composite	2.73	4.75	21.17	11.04	7.90	6.86	1/1/1990	391,460,633	100.00
Custom Benchmark	4.43	8.41	27.50	13.20	9.02	8.91			

W *Wilshire*

Periods Ended 12/31/21

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple ³
Invesco II	70,009,887	65,188,333	65,188,333	10,152,848	Jan-14	4.0%	1.2
Total Direct Private Real Estate	70,009,887	65,188,333	65,188,333	10,152,848	Jan-14	4.0%	1.2

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple ³
Hamilton Lane Secondary Fund II	461,599	25,000,000	22,058,532	31,103,855	Jul-09	13.6%	1.4
Hamilton Lane Secondary Fund III	4,676,433	30,000,000	23,372,292	26,393,122	Nov-12	10.1%	1.3
Hamilton Lane Secondary Fund IV	23,060,012	30,000,000	25,907,343	18,537,004	Mar-17	22.5%	1.6
Hamilton Lane Secondary Fund V	43,066,875	65,000,000	33,517,866	4,110,097	Mar-20	55.3%	1.4
Hamilton Lane Fund VII Composite	19,570,752	50,000,000	45,600,834	52,221,159	Jan-10	7.0%	1.6
Hamilton Lane Fund VIII (Global)	21,448,604	30,000,000	22,270,594	11,076,603	Nov-12	7.6%	1.5
GCM Grosvenor - Partnership, L.P.	32,379,804	75,000,000	86,094,430	110,955,310	Jun-11	14.3%	1.7
GCM Grosvenor - Partnership II, L.P. (2014)	47,063,822	60,000,000	69,559,751	52,696,583	Jul-14	15.7%	1.4
GCM Grosvenor - Partnership II, L.P. (2015)	43,415,803	30,000,000	37,109,319	9,770,143	Dec-15	16.3%	1.4
GCM Grosvenor - Partnership II, L.P. (2017)	20,646,692	30,000,000	20,451,710	3,376,212	Jan-18	13.2%	1.2
GCM Grosvenor - Advance Fund, L.P.	2,050,618	10,000,000	2,203,034	53,279	Jun-21	-	1.0
Fairview Capital - Lone Star Fund I	56,203,672	40,000,000	35,563,040	11,757,231	Aug-15	19.7%	1.9
Fairview Capital - Lone Star Fund II	17,728,049	30,000,000	14,822,991	107,274	Dec-18	5.9%	1.2
Fairview Capital - Lone Star Fund III	2,687,623	25,000,000	2,800,540	-	Apr-21	-6.7%	1.0
Total Private Equity Composite	334,460,358	530,000,000	441,332,275	332,157,871	Jul-09	13.9%	1.5

Public Market Equivalent (PME) ²

501,473,374

19.3%

* Next Generation Manager

¹ Total Value to Paid-in Capital ("TVPI") multiple calculation = *(market value + distributions) / capital called*

² The Public Market Equivalent (PME) approach creates a hypothetical investment vehicle that mimics the private equity composite cash flows. The performance difference between the PME vehicle and the private equity portfolio is determined by their net asset value (NAV) at the end of the benchmarking period. The performance of the "public market" is simulated using the monthly S&P 500 index returns, plus a 300 BPs annual hurdle rate.

³ Private Equity cash account

Asset Allocation & Performance

International Equity

Periods Ended December 31, 2021

	Performance (%) net of fees							Allocation	
	1 Month	1 Quarter	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Acadian International	6.67	2.88	18.46	18.01	12.61	8.84	4/1/1989	141,838,975	27.94
Custom Benchmark	4.23	0.62	12.93	16.46	11.21	6.44			
Ativo International *	6.12	5.15	15.95	13.17		6.08	1/1/2018	44,922,467	8.85
MSCI EAFE Index (Net)	5.12	2.69	11.26	13.54		5.99			
AQR Capital Management	4.91	1.21	6.60	13.26	8.81	4.29	4/1/2006	131,912,924	25.98
Custom Benchmark	4.13	1.82	7.82	13.18	9.61	3.96			
Baillie Gifford	3.47	-0.74	-0.22			15.34	4/1/2019	88,279,382	17.39
MSCI AC World ex USA (Net)	4.13	1.82	7.82			10.45			
Earnest Partners	4.22	1.63	12.72			13.14	4/1/2019	100,753,006	19.84
MSCI AC World ex USA (Net)	4.13	1.82	7.82			10.45			
International Equity Composite	5.11	1.74	10.30	16.05	10.91	6.04	1/1/1990	507,706,754	100.00
Custom Benchmark	4.15	1.64	8.53	13.62	9.83	5.00			

Asset Allocation & Performance

Global Equity

Periods Ended December 31, 2021

	Performance (%) net of fees							Allocation	
	1 Month	1 Quarter	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Ariel Global *	5.08	5.73	12.96	12.83		7.91	1/1/2018	120,495,441	40.75
MSCI AC World Index (Net)	4.00	6.68	18.54	20.38		12.12			
Wellington	2.96	3.85	14.41	21.28	14.31	13.21	9/1/2012	145,977,606	49.36
MSCI AC World Index (Net)	4.00	6.68	18.54	20.38	14.40	11.67			
Northern Trust Global Equity	3.93	6.36	18.50	20.72	14.59	13.92	10/1/2015	29,249,842	9.89
MSCI AC World IMI (Net)	3.97	6.10	18.22	20.20	14.12	13.45			
Global Equity Composite	3.91	4.85	14.22	17.66	12.97	10.52	9/1/2012	295,722,889	100.00
MSCI AC World Index (Net)	4.00	6.68	18.54	20.38	14.40	11.67			

Asset Allocation & Performance

Global Low Volatility

Periods Ended December 31, 2021

	Performance (%) net of fees							Allocation	
	1 Month	1 Quarter	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Acadian Global Low Vol.	6.58	7.34	17.21	11.96	9.80	8.75	7/1/2015	256,241,272	50.07
MSCI AC World Index (Net)	4.00	6.68	18.54	20.38	14.40	11.34			
MSCI ACWI Minimum Volatility Index (Net)	5.71	6.29	13.94	12.31	10.46	9.24			
BlackRock Global Low Vol.	5.69	6.34	14.20	12.27	10.65	9.51	7/1/2015	255,551,682	49.93
MSCI ACWI Minimum Volatility Index (Net)	5.71	6.29	13.94	12.31	10.46	9.24			
Global Low Volatility Composite	6.13	6.84	15.69	12.11	10.23	9.14	7/1/2015	511,792,954	100.00
MSCI ACWI Minimum Volatility Index (Net)	5.71	6.29	13.94	12.31	10.46	9.24			

Asset Allocation & Performance

Global Listed Infrastructure

Periods Ended December 31, 2021

	Performance (%) net of fees							Allocation	
	1 Month	1 Quarter	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Atlantic Trust CIBC	1.40	1.52	39.01	5.93	-0.36	4.55	1/1/2012	78,942,036	34.56
Alerian MLP Index	3.56	0.55	40.17	2.12	-2.70	-0.26			
Harvest Fund Advisors MLP	1.45	1.27	40.76	8.28	1.19	4.40	1/1/2012	78,791,430	34.50
Alerian MLP Index	3.56	0.55	40.17	2.12	-2.70	-0.26			
C&S Global Listed Infrastructure	6.89	8.03	16.78			22.03	11/1/2020	70,656,479	30.94
FTSE Global Core Infrastructure 50/50 (Net)	7.27	7.54	14.88			21.47			
Global Listed Infrastructure Composite	3.06	3.36	32.24	3.13	-1.81	3.45	1/1/2012	228,389,945	100.00
Global Listed Infrastructure Benchmark	4.49	2.29	33.84	-0.63	-4.28	-1.07			

Asset Allocation & Performance

Global Fixed Income

Periods Ended December 31, 2021

	Performance (%) net of fees							Allocation	
	1 Month	1 Quarter	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Securian Asset Management	-0.30	-0.17	-0.28	5.22	4.03	4.55	7/1/2007	223,293,509	43.68
Blmbg. U.S. Aggregate	-0.26	0.01	-1.55	4.79	3.57	4.16			
Garcia Hamilton *	-0.24	-0.08	-2.22	4.06	3.27	3.34	11/1/2013	66,535,501	13.01
Blmbg. U.S. Aggregate	-0.26	0.01	-1.55	4.79	3.57	3.18			
NT Collective Aggregate Bond Index	-0.28	-0.03				0.05	7/1/2021	221,427,427	43.31
Blmbg. U.S. Aggregate	-0.26	0.01				0.06			
Aberdeen Global Fixed Income									0.00
Global Fixed Income Composite	-0.29	-0.10	-0.93	5.47	4.02	4.96	10/1/1995	511,256,437	100.00
Blmbg. U.S. Aggregate	-0.26	0.01	-1.55	4.79	3.57	5.01			

Asset Allocation & Performance

Opportunistic Credit

Periods Ended December 31, 2021

	Performance (%) net of fees							Allocation	
	1 Month	1 Quarter	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Neuberger Berman	0.88	-0.64	2.27	6.39	5.28	6.23	2/1/2016	183,768,530	
Custom Benchmark	1.31	0.31	2.89	6.73	5.03	6.49			

Asset Allocation & Performance

High Yield

Periods Ended December 31, 2021

	Performance (%) net of fees							Allocation	
	1 Month	1 Quarter	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Oaktree Capital Management	1.83	0.66	4.96	8.21	5.33	6.66	2/1/1997	190,637,696	50.37
FTSE High Yield Cash Pay	2.00	0.77	5.32	8.47	5.97	6.82			
BlackRock	1.99	0.82	5.16	8.83	6.08	6.45	10/1/2006	187,837,102	49.63
FTSE High Yield Cash Pay	2.00	0.77	5.32	8.47	5.97	6.87			
High Yield Composite	1.91	0.74	5.06	8.53	5.71	6.49	1/1/1997	378,474,798	100.00
FTSE High Yield Cash Pay	2.00	0.77	5.32	8.47	5.97	6.83			

Asset Allocation & Performance

Cash

Periods Ended December 31, 2021

	Performance (%) net of fees							Allocation	
	1 Month	1 Quarter	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Cash Account	0.01	0.01	0.05	1.00	1.14	3.12	1/1/1988	53,109,508	100.00
Managed Short Term Composite	0.01	0.01	0.05	1.00	1.14	2.77	1/1/1990	53,109,508	100.00

At A Glance

For period ended December 31, 2021

	2020		2021	
	This Month	YTD	This Month	YTD
Retirements				
Age	11	187	12	204
Service	1	25	1	16
Rule of 78	2	91	1	98
QDRO	0	6	0	2
Total	14	309	14	320
Disability Retirements				
Service	0	0	0	0
Non-service	0	3	0	3
Total	0	3	0	3
Benefits Paid	\$ 24,273,235.21	\$ 287,484,431.49	\$ 25,471,153.37	\$ 296,507,737.46
Refunds	\$ 587,808.29	\$ 6,857,418.09	\$ 703,395.87	\$ 10,415,511.00
Number of refunds	51	456	45	641
*Contributions	\$ 13,930,700.96	\$ 123,504,924.80	\$ 9,370,997.03	\$ 120,571,025.71

Members on record at month end					
	Retirees & beneficiaries	Disabilities	Actives	Tier A actives	Tier B Actives
Jan	7,534	151	7,280	4,762	2,518
Feb	7,584	151	7,268	4,706	2,562
Mar	7,547	148	7,258	4,655	2,603
April	7,562	145	7,263	4,622	2,641
May	7,588	144	7,277	4,576	2,701
June	7,597	143	7,266	4,530	2,706
July	7,612	143	7,285	4,504	2,781
Aug	7,630	143	7,240	4,462	2,778
Sep	7,634	142	7,275	4,422	2,853
Oct	7,644	142	7,288	4,382	2,906
Nov	7,658	142	7,257	4,329	2,928
Dec	7,648	141	7,240	4,310	2,930

At A Glance

For period ended January 31, 2022

	2021		2022	
	This Month	YTD	This Month	YTD
Retirements				
Age	13	13	17	17
Service	1	1	0	0
Rule of 78	6	6	7	7
QDRO	0	0	0	0
Total	20	20	24	24
Disability Retirements				
Service	0	0	0	0
Non-service	0	3	0	3
Total	0	3	0	3
Benefits Paid	\$ 24,416,301.54	\$ 24,416,301.54	\$ 25,993,522.35	\$ 25,993,522.35
Refunds	\$ 706,644.76	\$ 706,644.76	\$ 860,299.08	\$ 860,299.08
Number of refunds	48	48	54	54
*Contributions	\$ 9,099,909.73	\$ 9,099,909.73	\$ 9,518,894.72	\$ 9,518,894.72

Members on record at month end					
	Retirees & beneficiaries	Disabilities	Actives	Tier A actives	Tier B Actives
Jan	7,658	139	7,313	4,279	3,034
Feb					
Mar					
April					
May					
June					
July					
Aug					
Sep					
Oct					
Nov					
Dec					