

**Wilshire**

# Quarterly Market Review

June 30, 2022

## Market Commentary

### U.S. Equity

The U.S. stock market down -16.8% for the second quarter, the largest quarterly drop since the global COVID shutdown in early 2020. Every sector was in negative territory, with Consumer Discretionary (-26.3%), Information Technology (-21.1%) and Communication Services (-21.0%) representing the worst performing sectors. Large and small-cap performed similarly while growth stocks underperformed value.

Rising inflation, which began in late 2020-early 2021, continues to accelerate this year, reaching levels not seen in four decades. While energy is far and away the leading expenditure category in terms of price increases (up 35% for the 12-months ending May), surging prices can be found in nearly every segment of the overall CPI. The largest component of the index, shelter, is up 5.5% with the next largest segment, food, up 10% during the past year. Finally, transportation costs have accelerated with new and used vehicles up in the double-digits and transportation services up 8%. With such widespread inflationary pressures, the ability for the Federal Reserve to achieve a “soft landing” is quickly dissipating.

### Non-U.S. Equity

High inflation has become a global issue with rates in Europe approaching U.S. levels. In Germany, economic growth is slowing on both inflation and falling exports. While economic indicators in the U.K. are still in the expansion range, measures of new orders have fallen while business confidence levels have slumped. In China, new COVID controls were imposed in some areas but have since been lifted – although early economic indicators are not yet registering a strong return of growth.

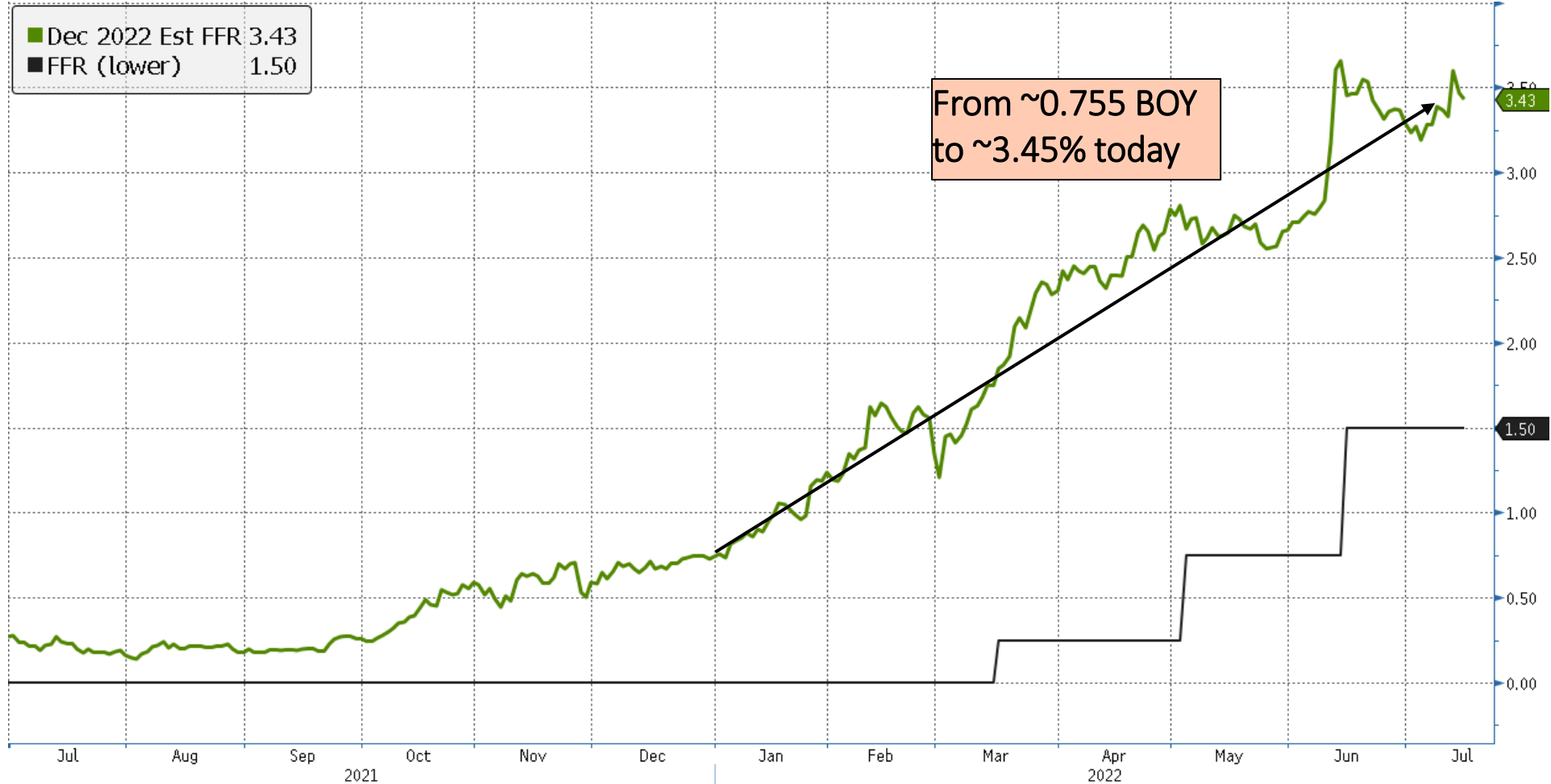
### Fixed Income

The U.S. Treasury yield curve was up across all maturities with the 10-year at 3.02%, up 68 basis points from March. The FOMC increased their overnight rate by 0.50% in May and 0.75% in June; targeting a range of 1.50% to 1.75%. Public statements from the Federal Reserve grew more pessimistic during the quarter as Fed chair Jerome Powell stated after the June meeting that controlling inflation at their 2% target, in exchange for a higher unemployment rate, would be a “successful outcome.”

# June 2022 Asset Class Assumptions

	Equity						Fixed Income					Real Assets						
	US Stock	Dev ex-US Stock	Emg Stock	Global ex-US Stock	Global Stock	Private Equity	Cash	Core Bond	LT Core Bond	TIPS	High Yield	Dev ex-US Bond (Hdg)	US RES	Global RES	Private RE	Cmdty	Real Assets	US CPI
Compound Return (%)	6.00	7.00	7.00	7.25	6.60	10.05	3.15	4.05	4.30	3.15	6.25	2.20	5.20	5.35	6.50	5.50	6.75	2.35
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 (%)	1.65	3.30	2.60	3.10	2.20	0.00	3.15	4.55	4.60	3.80	9.10	2.95	3.45	3.45	2.30	3.15	2.50	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
<b>Correlations</b>																		
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

# How Quickly Discounting Can Change...



US0ACH JUN2022 Index (WIRP Est Change from Current R) Fed Fut Imp Rate Daily 30JUN2021-15JUL2022

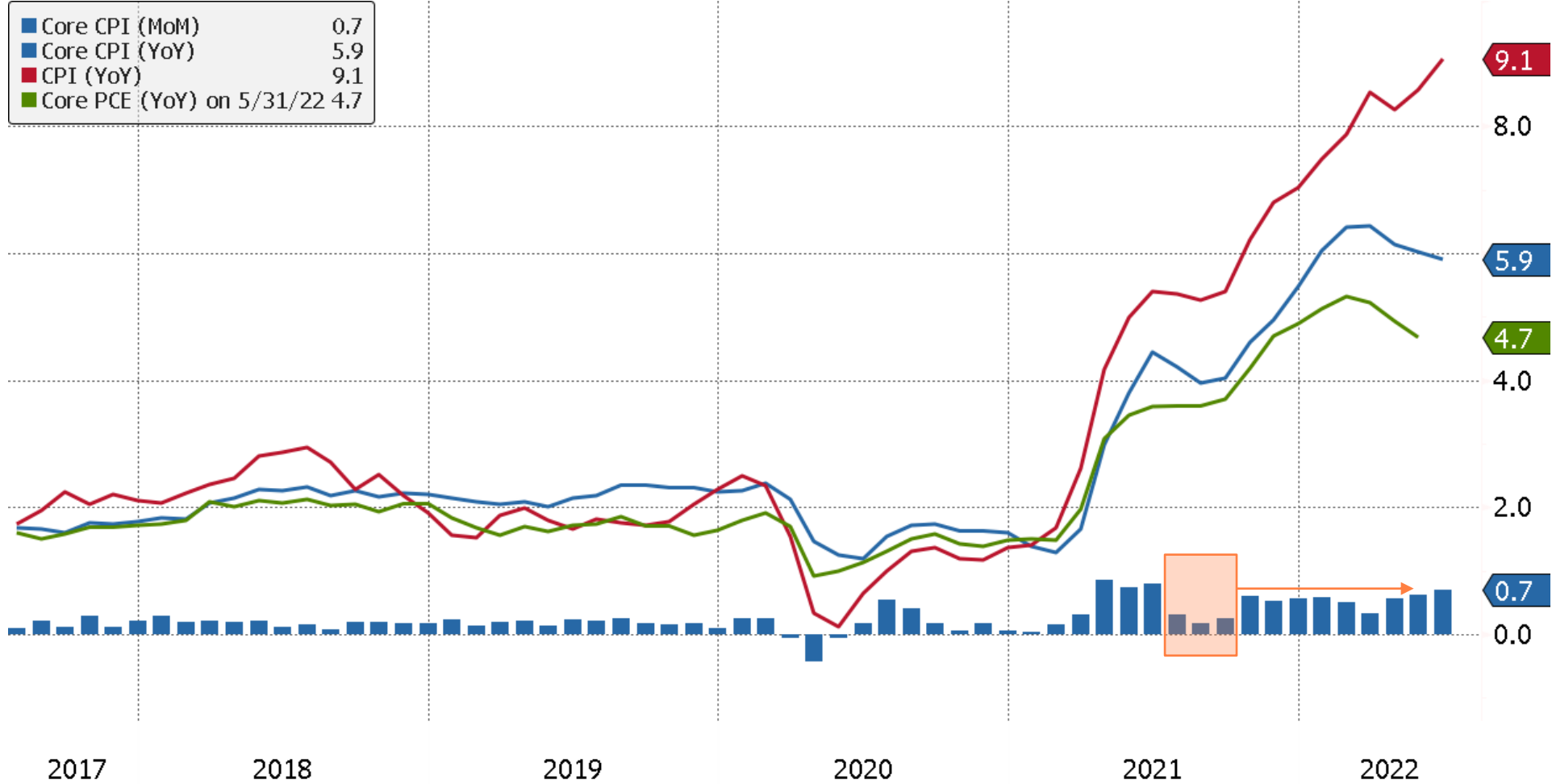
Data Source: Bloomberg

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# Any Signs of Inflation Slowing?

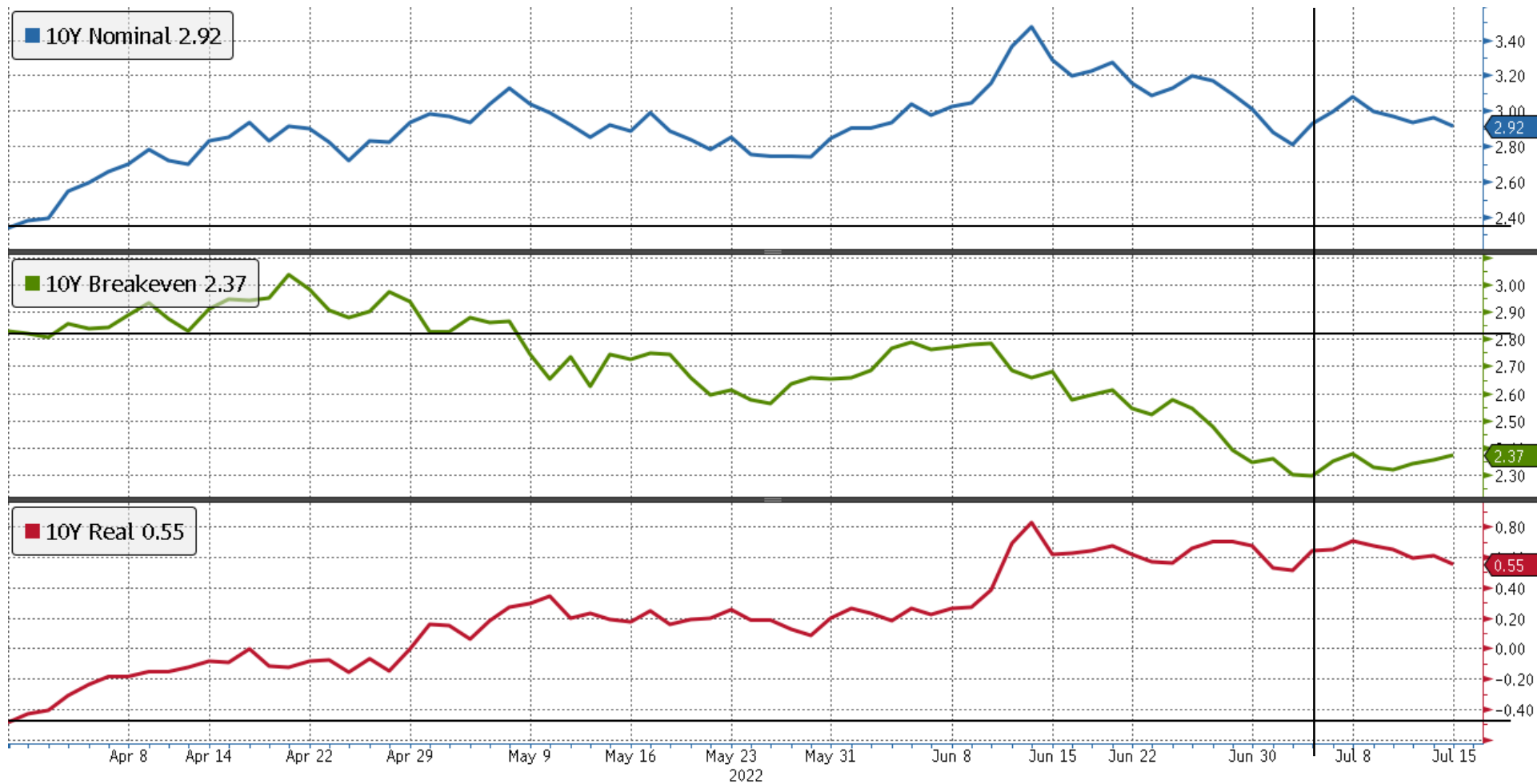


Data Source: Bloomberg

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# Quarterly Rate Moves (10Y Nominal, Real & BEI)



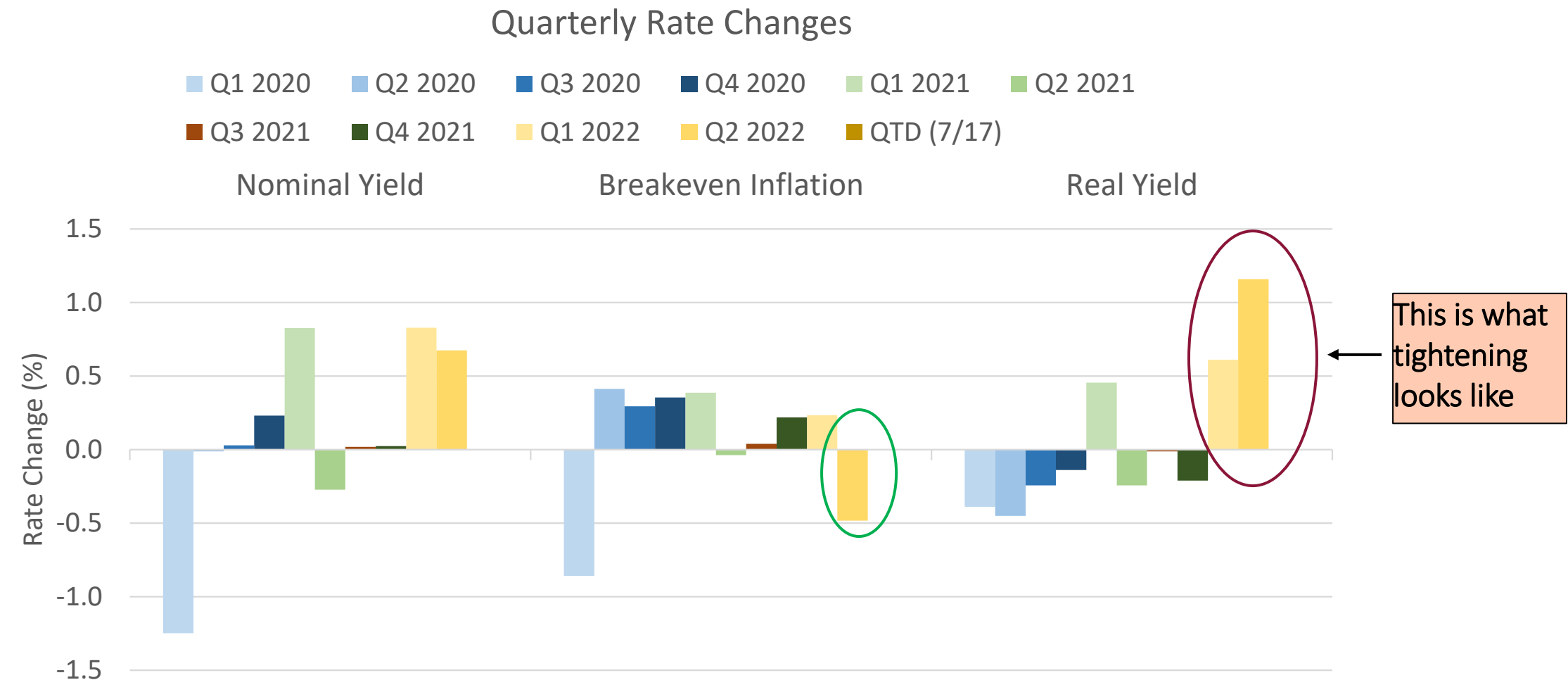
USGG10YR Index (US Generic Govt 10 Yr) 10yr Splits Daily 31MAR2022-15JUL2022

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Data Source: Bloomberg

Rate Changes (2020 – YTD 2022)

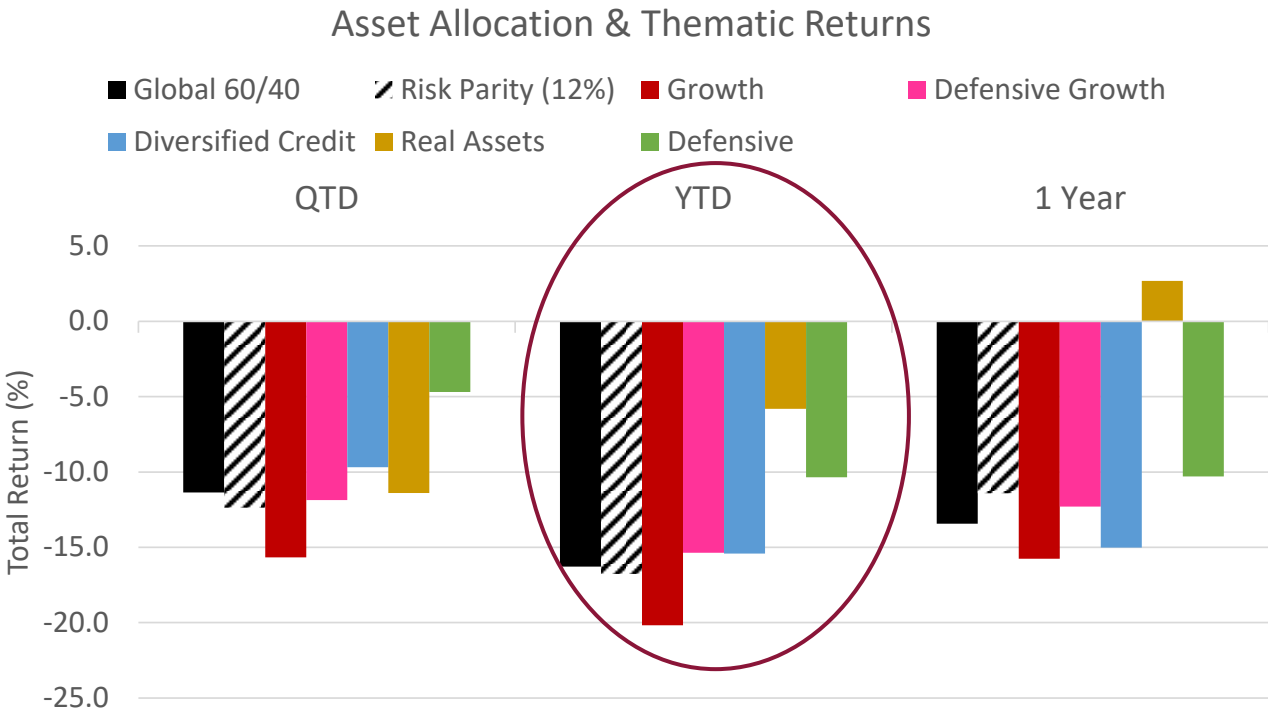


Data Source: Bloomberg

# 2022 Environmental Risk: A Year of Payback?

If some/much of COVID market returns have been liquidity fueled, can we expect to hang on to these gains when support is withdrawn? **apparently not**

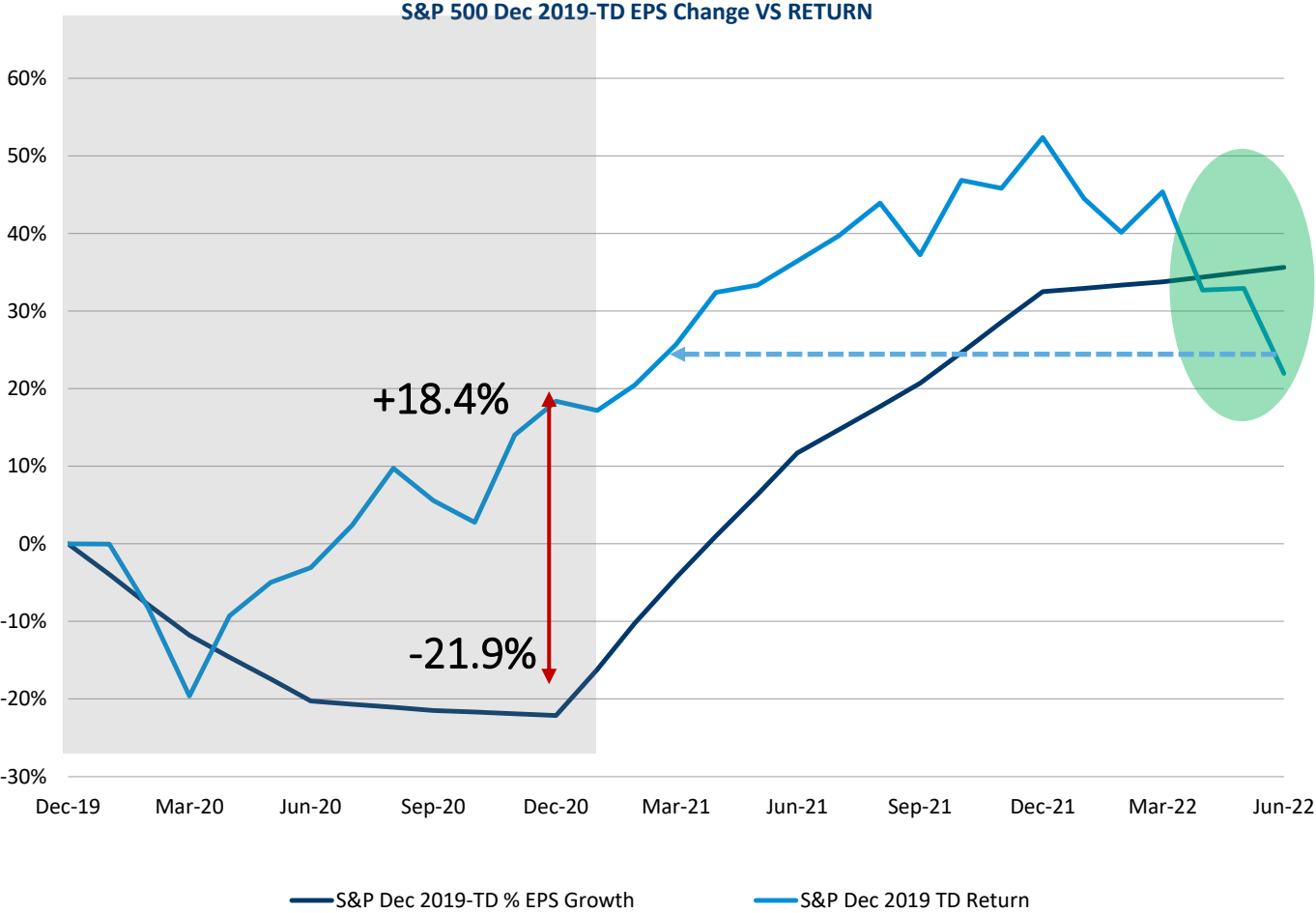
- Last week (i.e., the first week of 2022) provided a glimpse at the potential challenges of the 2022 environment **so far, YTD, it has**



Return through June 30, 2022

	QTD	YTD	1 Year
Global 60/40	(11.36)	(16.28)	(13.42)
Risk Parity (12%)	(12.37)	(16.77)	(11.41)
Growth	(15.66)	(20.18)	(15.75)
Defensive Growth	(11.86)	(15.36)	(12.30)
Diversified Credit	(9.68)	(15.42)	(15.02)
Real Assets	(11.39)	(5.81)	2.69
Defensive	(4.69)	(10.35)	(10.29)

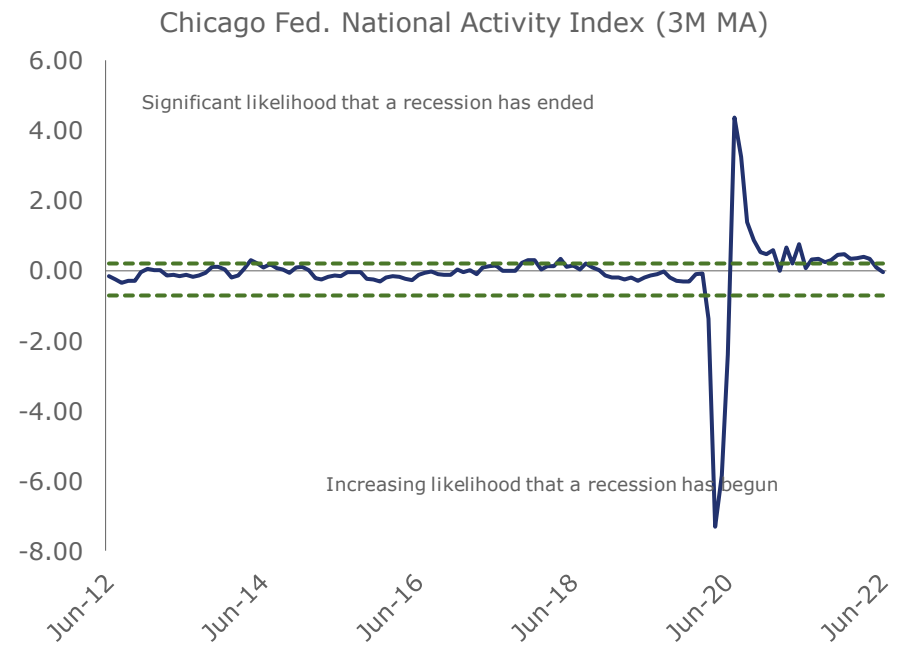
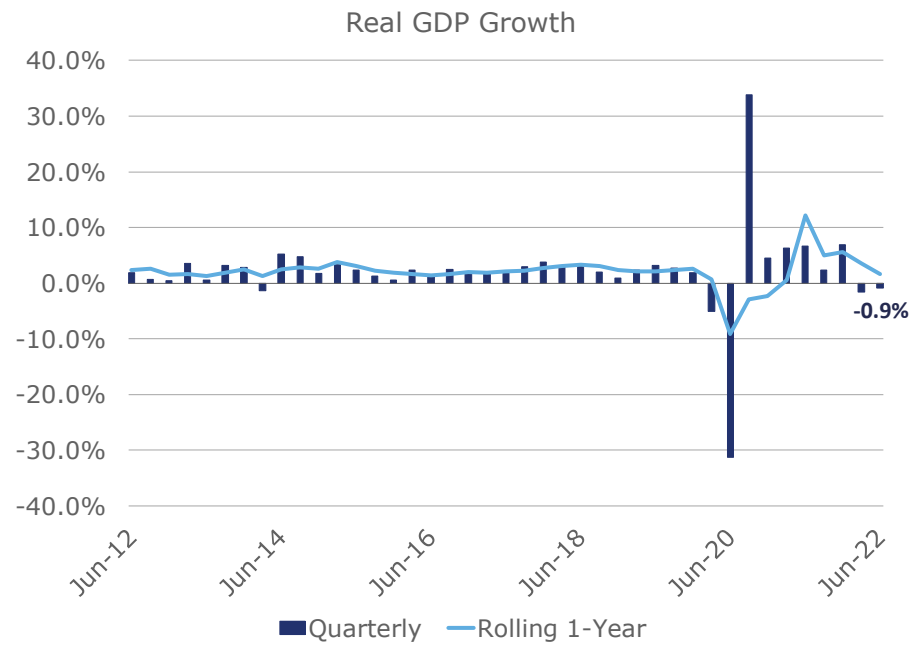
Another call back (this time from Jan 2021): EPS say...



Data Source: S&P, Bloomberg

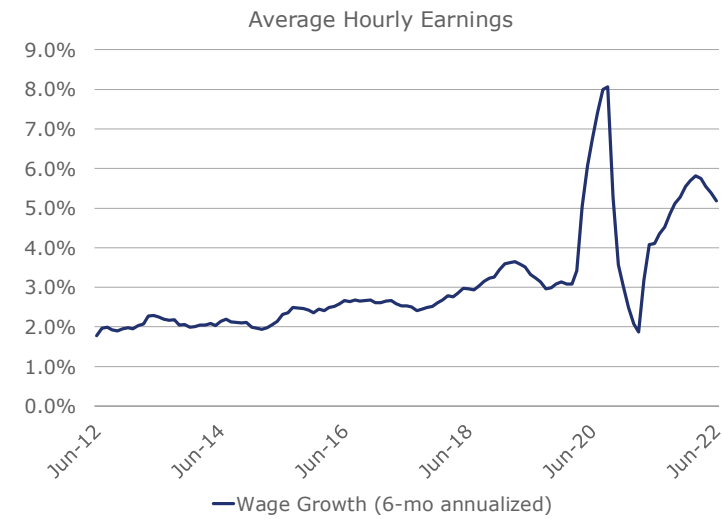
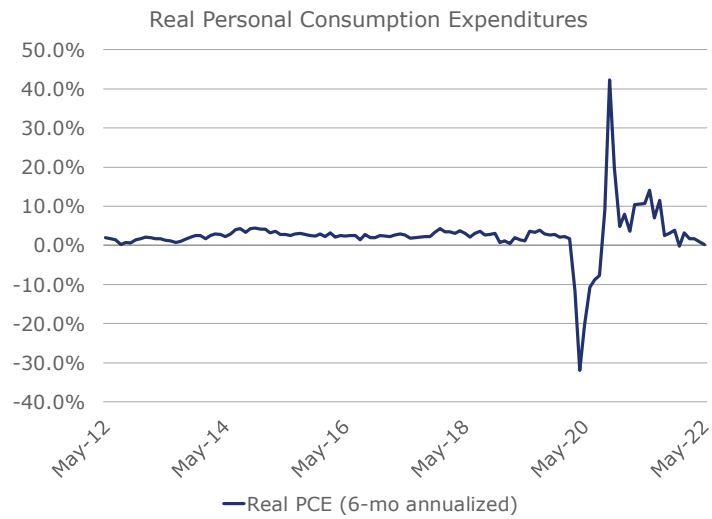
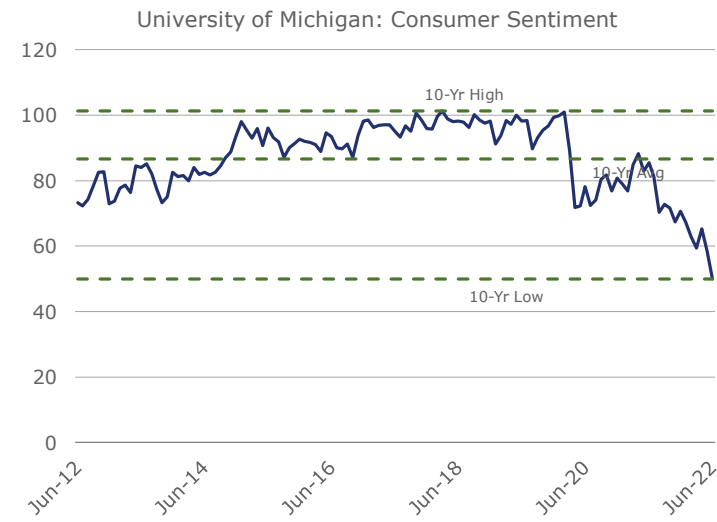
# Economic/Market Activity

Economic Growth



Data Sources: Bloomberg

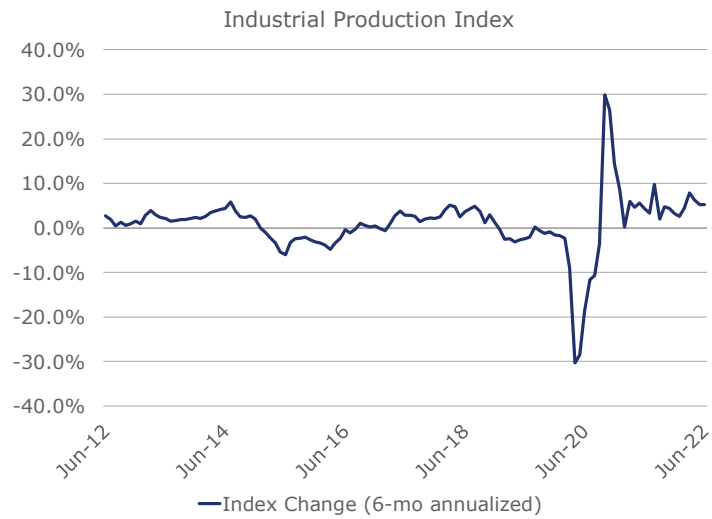
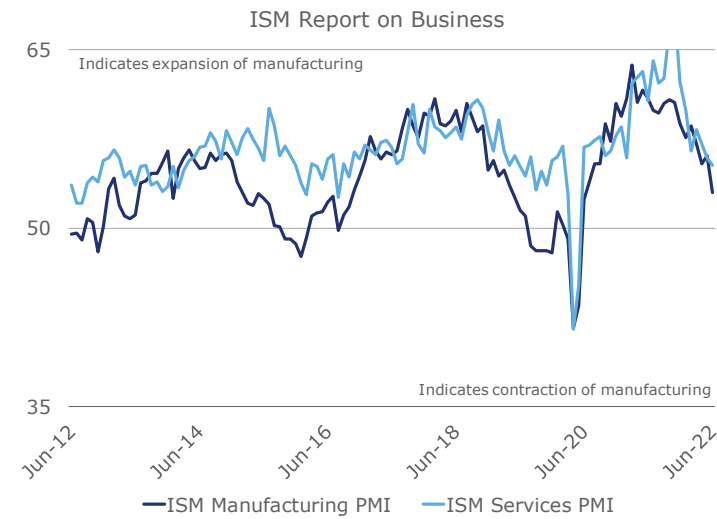
Consumer Activity



Data Sources: Bloomberg

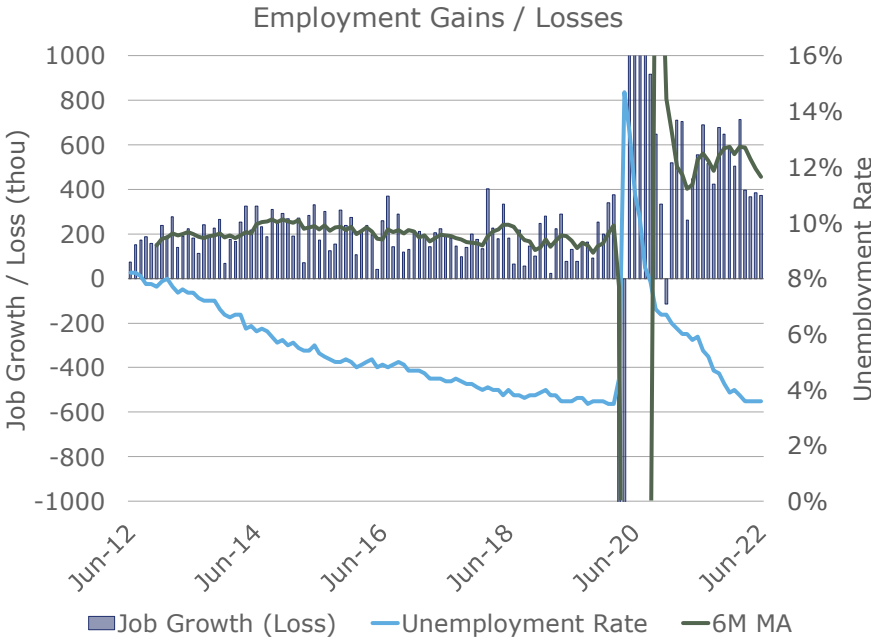
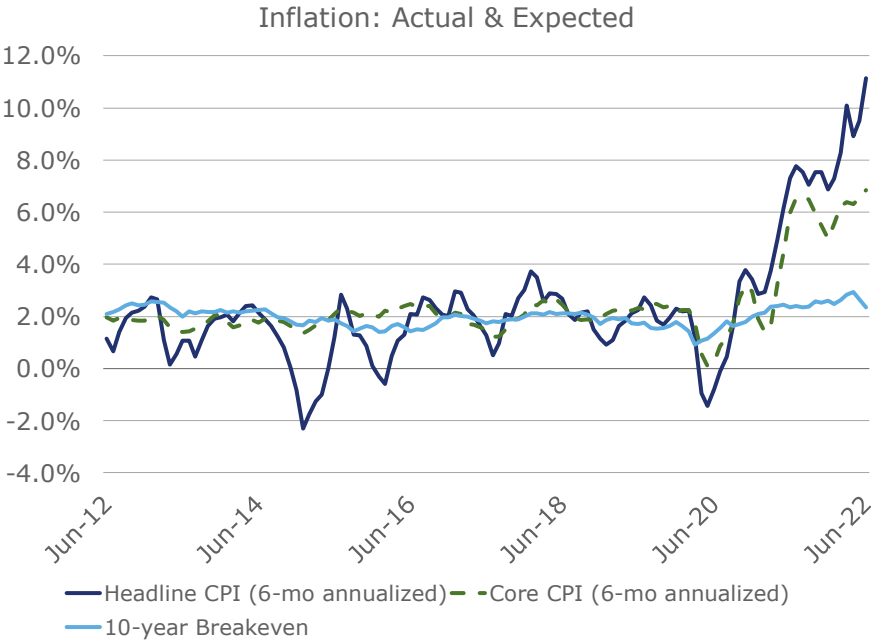


Business Activity



Data Sources: Bloomberg

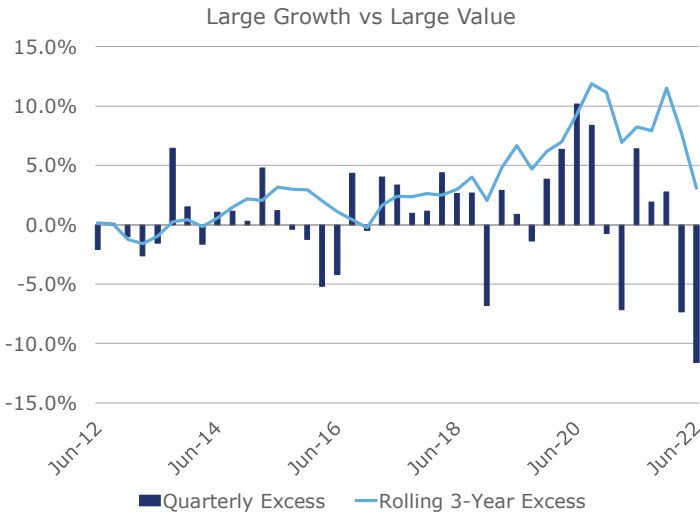
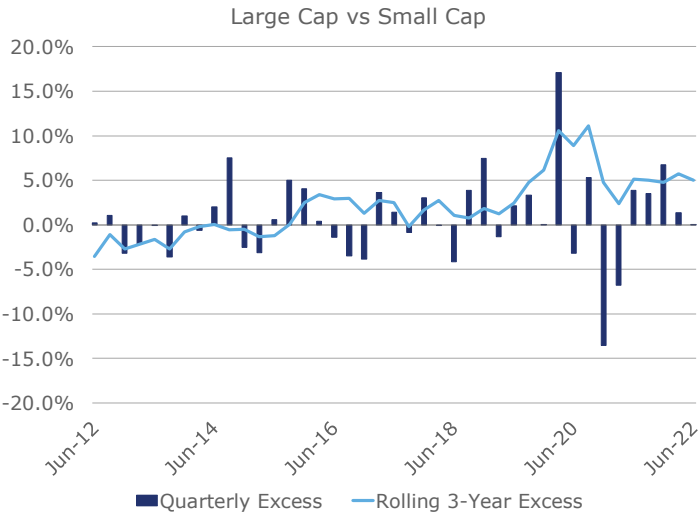
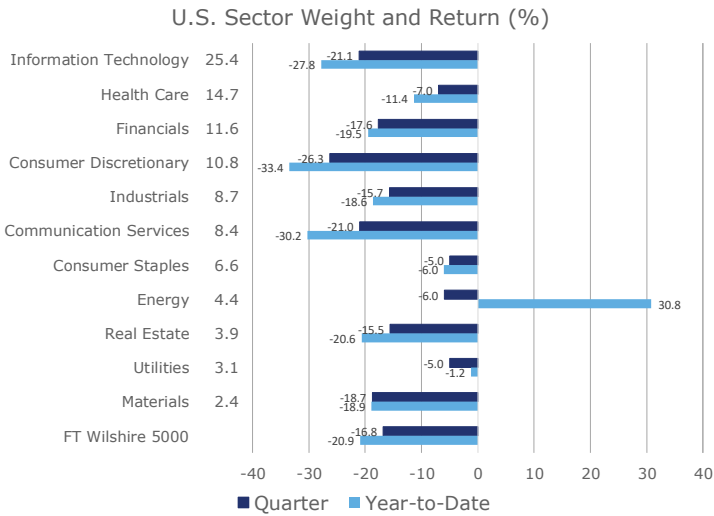
# Inflation and Employment



Data Sources: Bloomberg

# U.S. Equity Market

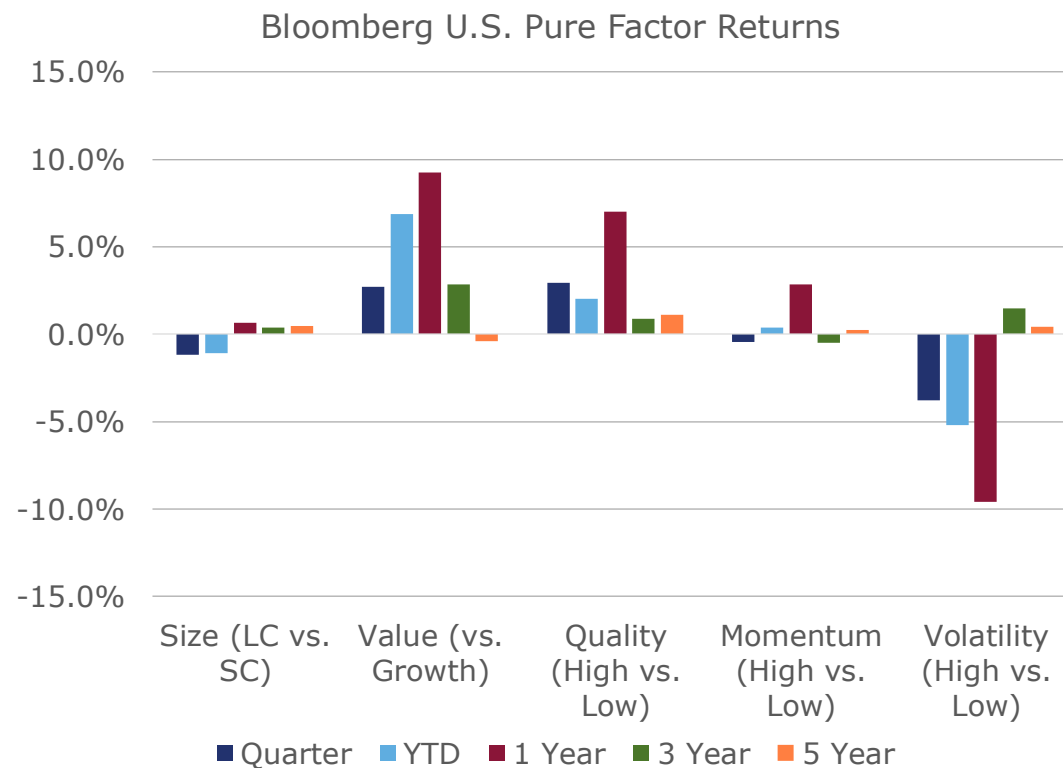
As of 6/30/2022	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
FT Wilshire 5000	-16.8	-20.9	-13.2	10.2	10.8	12.7
Wilshire U.S. Large Cap	-16.8	-20.8	-12.3	10.7	11.3	13.0
Wilshire U.S. Small Cap	-16.8	-21.8	-21.7	5.4	6.1	10.1
Wilshire U.S. Large Growth	-21.4	-27.7	-18.3	12.2	13.2	14.5
Wilshire U.S. Large Value	-11.2	-11.8	-4.8	8.9	9.3	11.5
Wilshire U.S. Small Growth	-18.2	-26.7	-28.2	3.9	6.3	10.1
Wilshire U.S. Small Value	-15.5	-17.0	-14.6	6.8	5.7	10.0
Wilshire REIT Index	-18.5	-21.6	-6.7	4.0	5.3	7.3
MSCI USA Min. Vol. Index	-9.1	-12.6	-3.2	6.3	9.6	11.7
FTSE RAFI U.S. 1000 Index	-12.7	-12.7	-5.6	11.0	10.1	12.4



Data Sources: Bloomberg, Wilshire Atlas

# U.S. Factor Returns

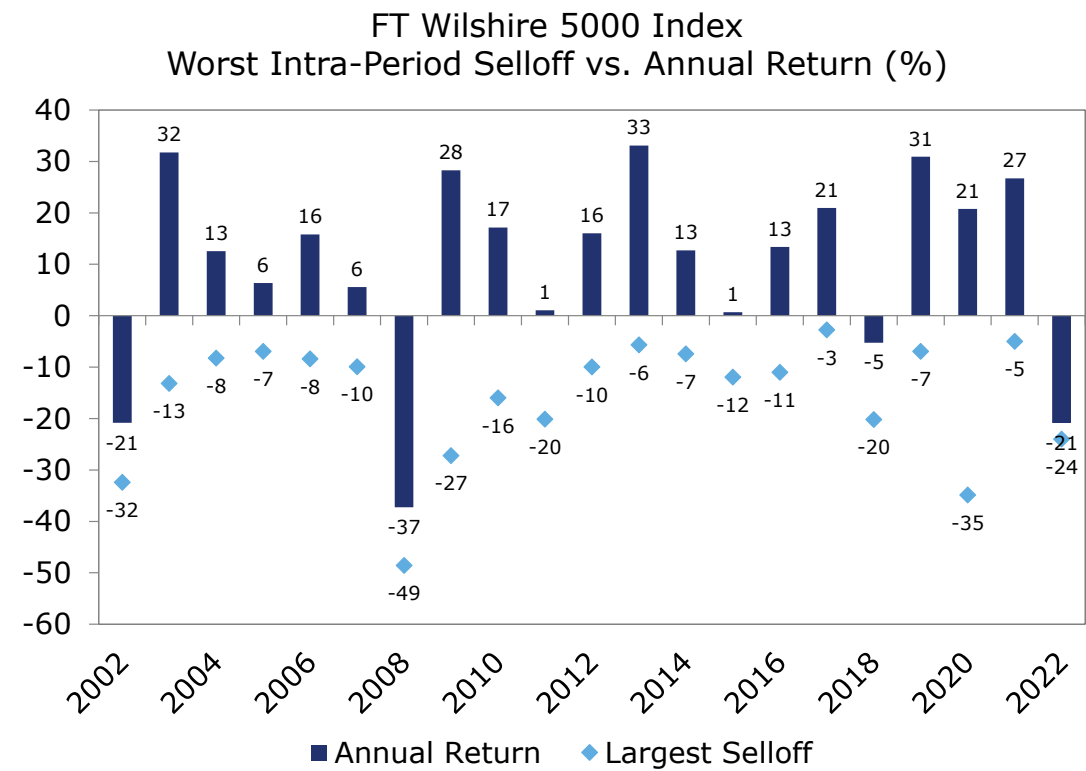
- Factor returns represent the contribution from large cap, value, etc. stocks within Bloomberg's Portfolio & Risk Analytics module
- Value stocks have rebounded during the past year



Data Sources: Bloomberg

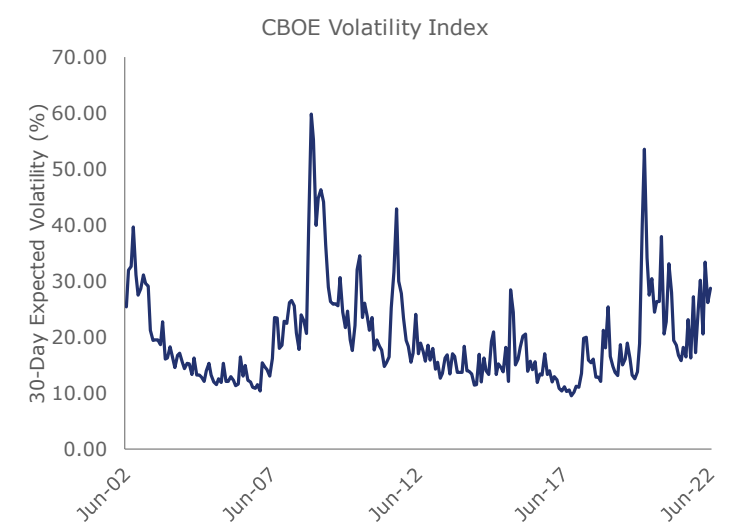
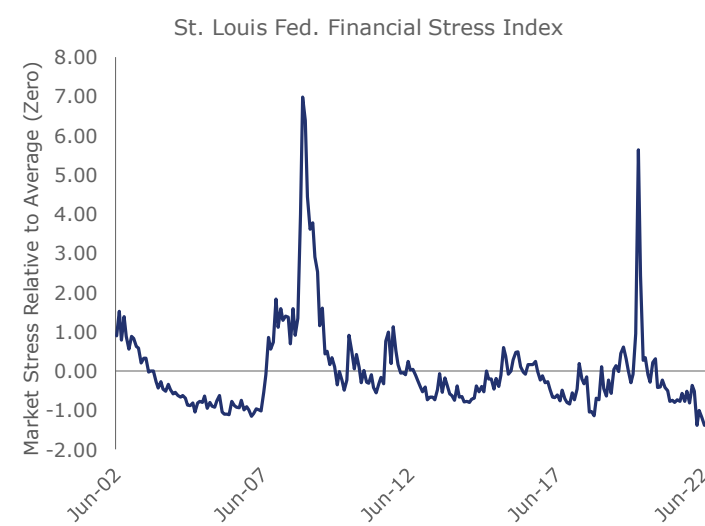
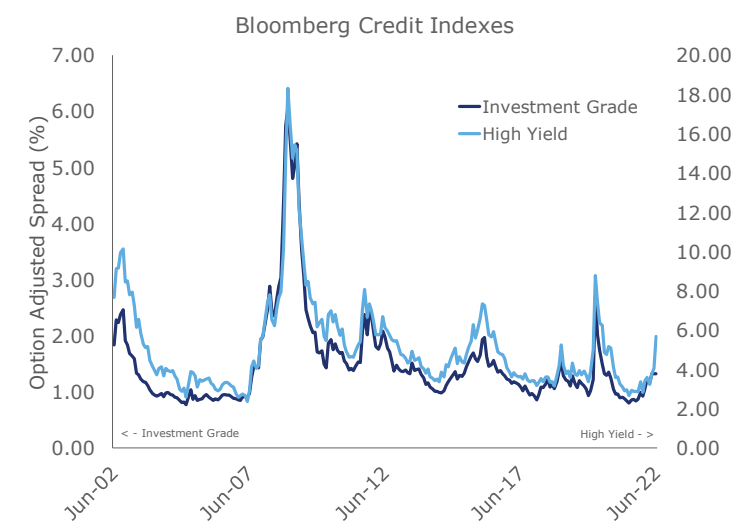
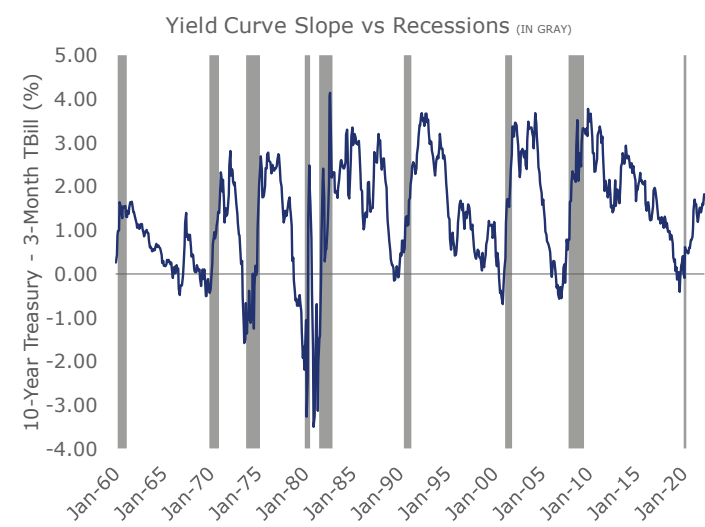
# Annual Equity Market Selloffs

U.S. equity has been selling-off all year, hitting its last market high on January 3<sup>rd</sup>



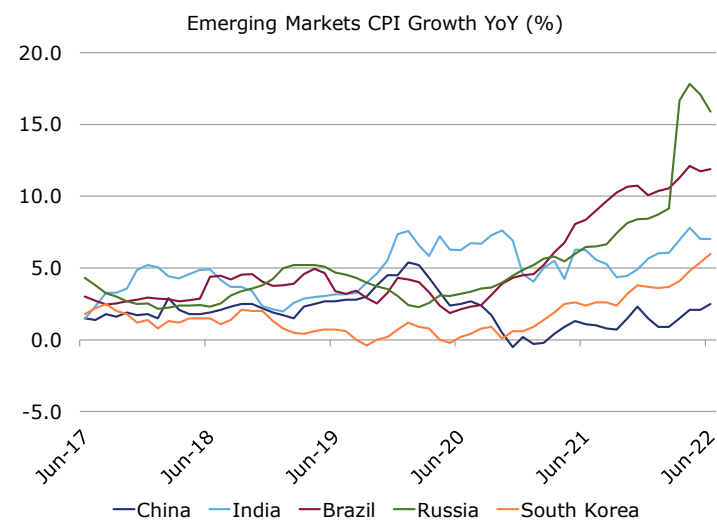
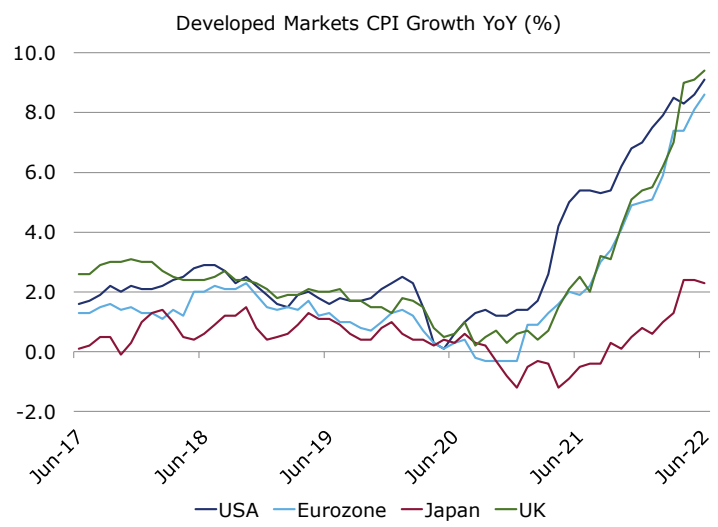
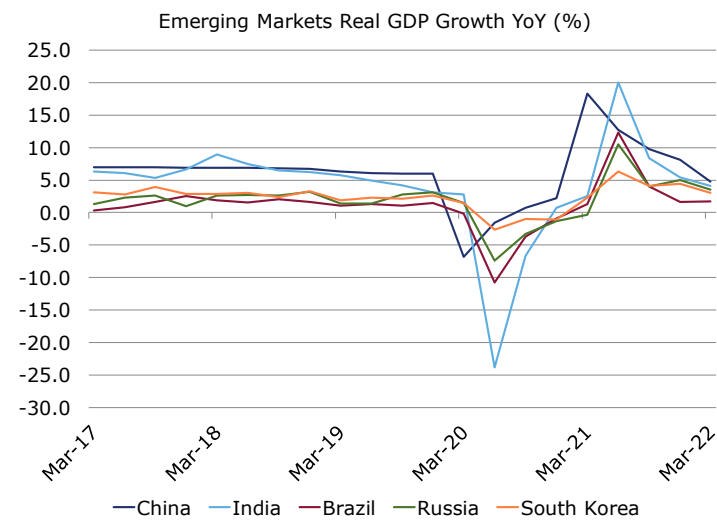
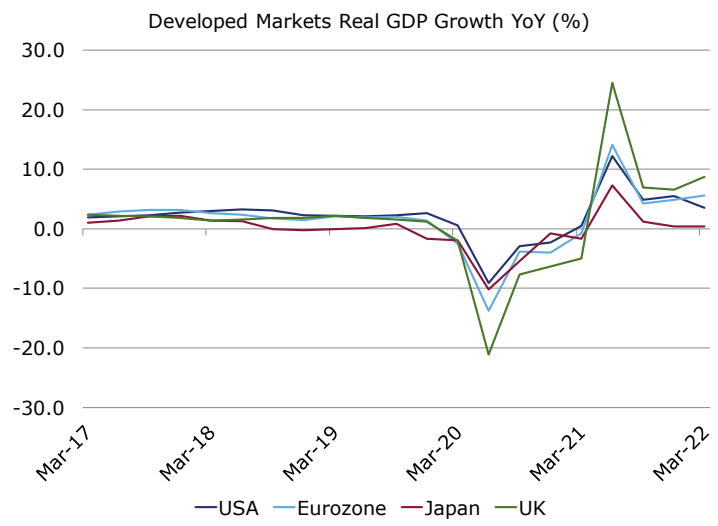
Data Sources: Wilshire Web, Bloomberg

Risk Monitor



Data Sources: Bloomberg

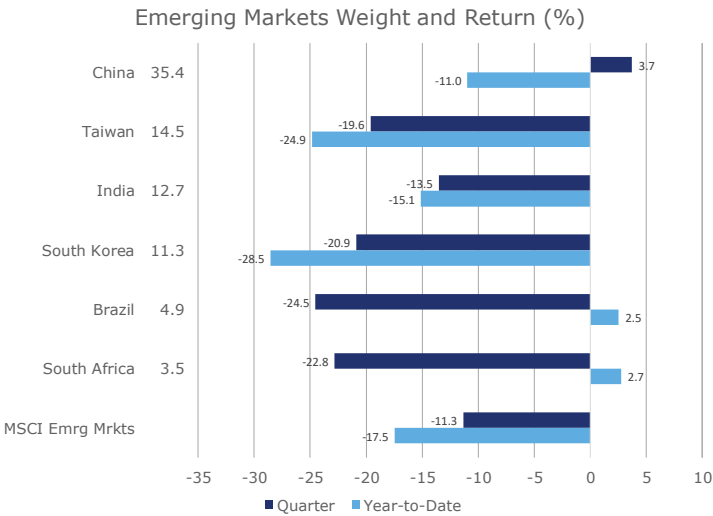
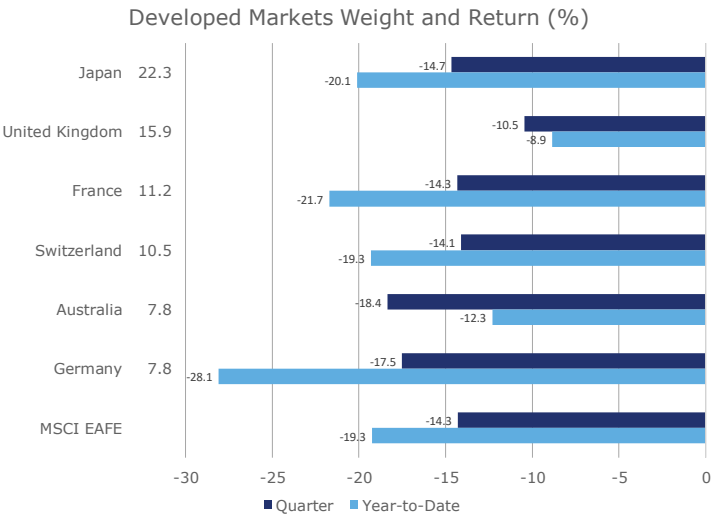
Non-U.S. Growth and Inflation



Data Sources: Bloomberg

# Non-U.S. Equity Market

As of 6/30/2022	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
MSCI ACWI ex-US (\$G)	-13.5	-18.2	-19.0	1.8	3.0	5.3
MSCI EAFE (\$G)	-14.3	-19.3	-17.3	1.5	2.7	5.9
MSCI Emerging Markets (\$G)	-11.3	-17.5	-25.0	0.9	2.5	3.4
MSCI Frontier Markets (\$G)	-18.2	-17.7	-14.7	-5.7	-1.7	1.3
MSCI ACWI ex-US Growth (\$G)	-15.6	-24.6	-25.6	1.9	3.8	6.1
MSCI ACWI ex-US Value (\$G)	-12.2	-12.3	-12.9	1.4	1.9	4.6
MSCI ACWI ex-US Small (\$G)	-17.4	-22.7	-22.1	3.4	3.0	6.6
MSCI ACWI Minimum Volatility	-9.1	-11.8	-5.9	3.5	6.3	8.6
MSCI EAFE Minimum Volatility	-11.6	-16.3	-14.0	-1.5	1.4	5.7
FTSE RAFI Developed ex-US	-13.4	-14.5	-13.2	2.8	2.6	5.8
MSCI EAFE LC (G)	-7.6	-10.9	-6.1	4.9	4.8	8.8
MSCI Emerging Markets LC (G)	-8.0	-13.5	-19.9	3.6	4.7	6.3



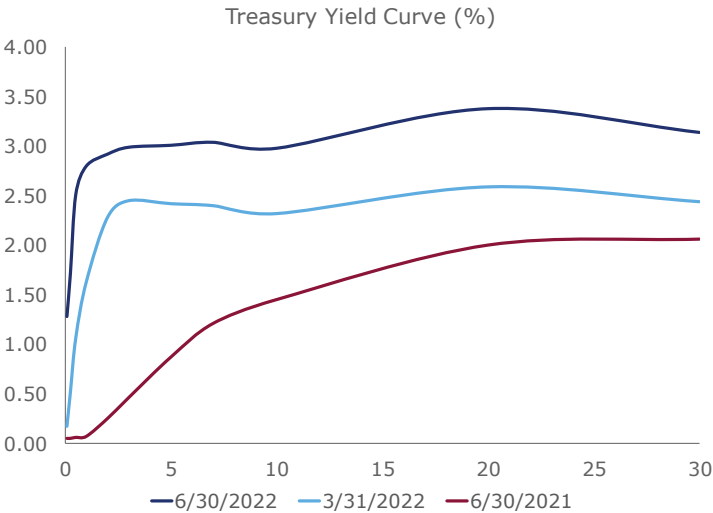
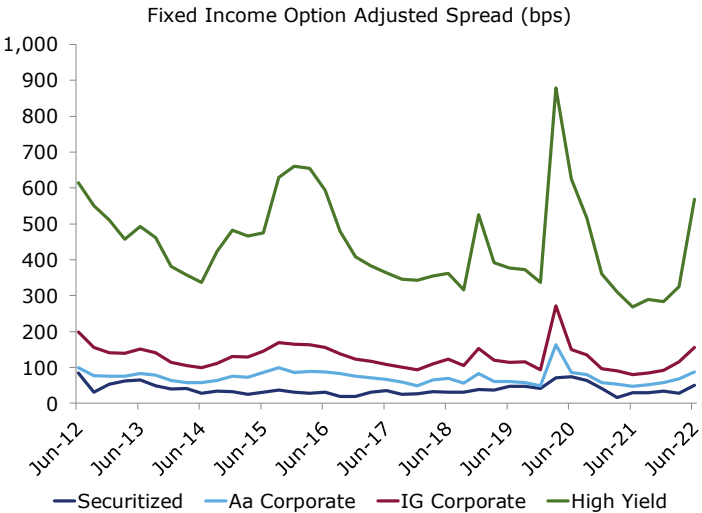
Data Sources: Bloomberg



# U.S. Fixed Income

As of 6/30/2022	YTW	DUR.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Aggregate	3.7	6.4	-4.7	-10.3	-10.3	-0.9	0.9	1.5
Bloomberg Treasury	3.1	6.4	-3.8	-9.1	-8.9	-0.9	0.7	1.0
Bloomberg Gov't-Rel.	3.7	5.4	-4.0	-9.2	-9.3	-0.8	1.0	1.6
Bloomberg Securitized	3.8	5.8	-3.9	-8.7	-9.0	-1.3	0.5	1.3
Bloomberg Corporate	4.7	7.6	-7.3	-14.4	-14.2	-1.0	1.3	2.6
Bloomberg LT Gov't/Credit	4.3	15.1	-12.3	-21.9	-20.1	-2.3	1.0	2.6
Bloomberg LT Treasury	3.3	17.2	-11.9	-21.3	-18.5	-2.9	0.5	1.6
Bloomberg LT Gov't-Rel.	4.8	12.2	-10.7	-19.4	-18.3	-2.8	1.0	2.6
Bloomberg LT Corporate	5.1	13.5	-12.8	-22.7	-21.7	-2.3	1.1	3.3
Bloomberg U.S. TIPS *	3.0	8.0	-6.1	-8.9	-5.1	3.0	3.2	1.7
Bloomberg High Yield	8.9	4.3	-9.8	-14.2	-12.8	0.2	2.1	4.5
S&P/LSTA Leveraged Loan	6.9	0.3	-4.5	-4.6	-2.8	2.1	2.9	3.7
Treasury Bills	1.8	0.3	0.1	0.0	0.0	0.6	1.1	0.6

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

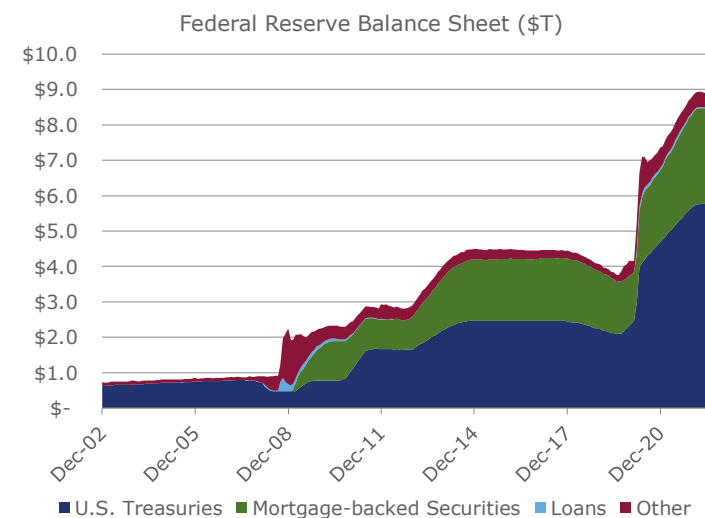
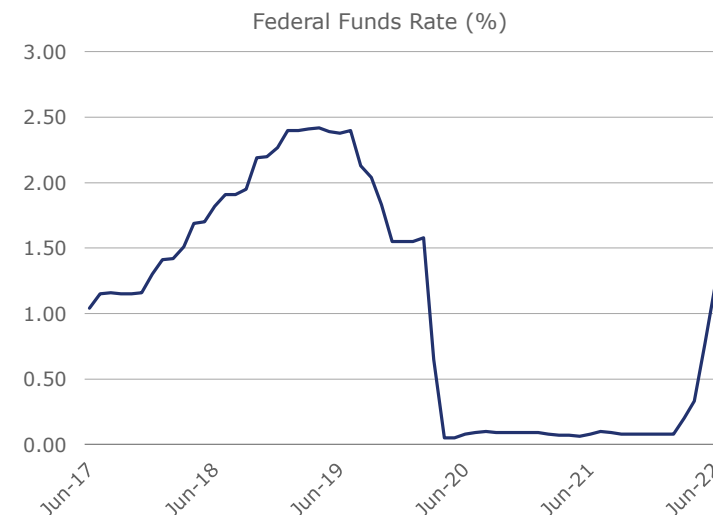


Data Sources: Bloomberg

## Federal Reserve

- After 150 basis point increase in the Fed-funds rate since the start of the year, current FOMC expectation is for another 175 basis point increase by the end of 2022
- Federal Reserve has added more than \$4.5 trillion in assets to their balance sheet during the past two years
- QE4 is now larger than the 3 phases of quantitative easing – combined – following the global financial crisis

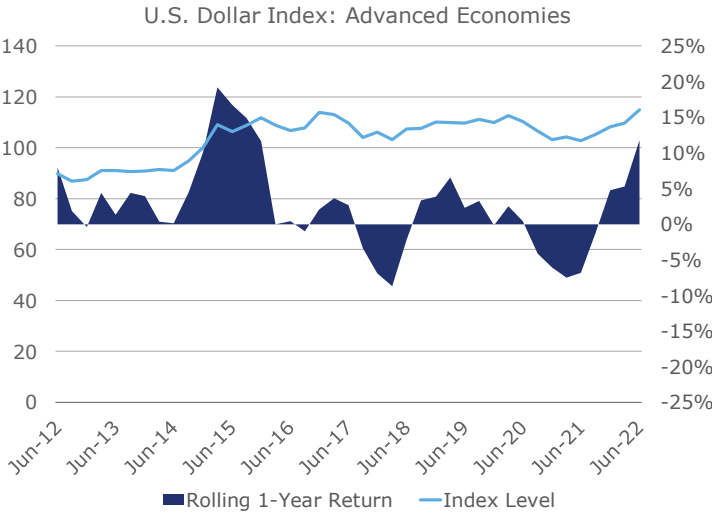
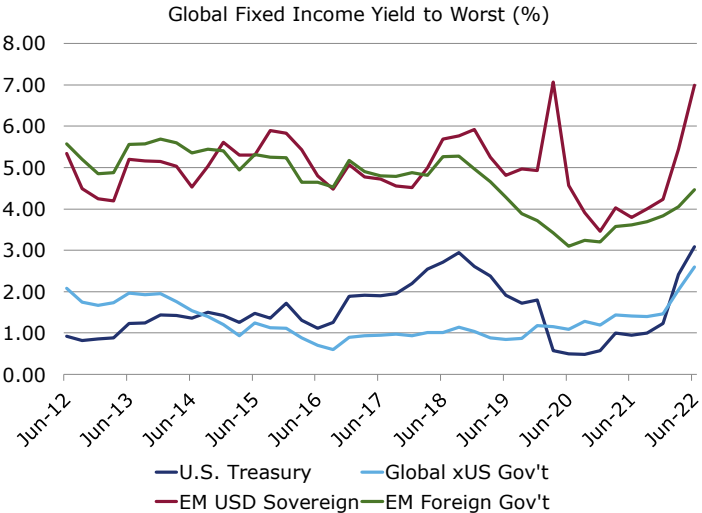
	Announced	Closed	Amount (bil)
QE1	11/25/2008	3/31/2010	\$1,403
QE2	11/3/2010	6/29/2012	\$568
QE3	9/13/2012	10/29/2014	\$1,674
QE4	3/23/2020	3/15/2022	\$4,779



# Non-U.S. Fixed Income

As of 6/30/2022	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
<b>Developed Markets</b>						
Bloomberg Global Aggregate xUS	-11.0	-16.5	-18.8	-5.1	-1.8	-1.1
Bloomberg Global Aggregate xUS *	-4.0	-7.9	-7.7	-1.4	1.3	2.7
Bloomberg Global Inflation Linked xUS	-18.9	-23.2	-21.0	-3.8	-0.9	0.8
Bloomberg Global Inflation Linked xUS *	-12.2	-14.7	-9.6	-0.8	1.9	4.0
<b>Emerging Markets (Hard Currency)</b>						
Bloomberg EM USD Aggregate	-8.7	-17.1	-18.0	-3.5	-0.3	2.5
<b>Emerging Markets (Foreign Currency)</b>						
Bloomberg EM Local Currency Gov't	-7.0	-9.0	-9.6	-0.8	0.9	1.0
Bloomberg EM Local Currency Gov't *	-1.6	-5.1	-5.2	-0.1	1.7	2.0
Euro vs. Dollar	-5.3	-7.8	-11.6	-2.7	-1.7	-1.9
Yen vs. Dollar	-10.3	-15.2	-18.1	-7.4	-3.7	-5.2
Pound vs. Dollar	-7.3	-10.0	-12.0	-1.4	-1.3	-2.5

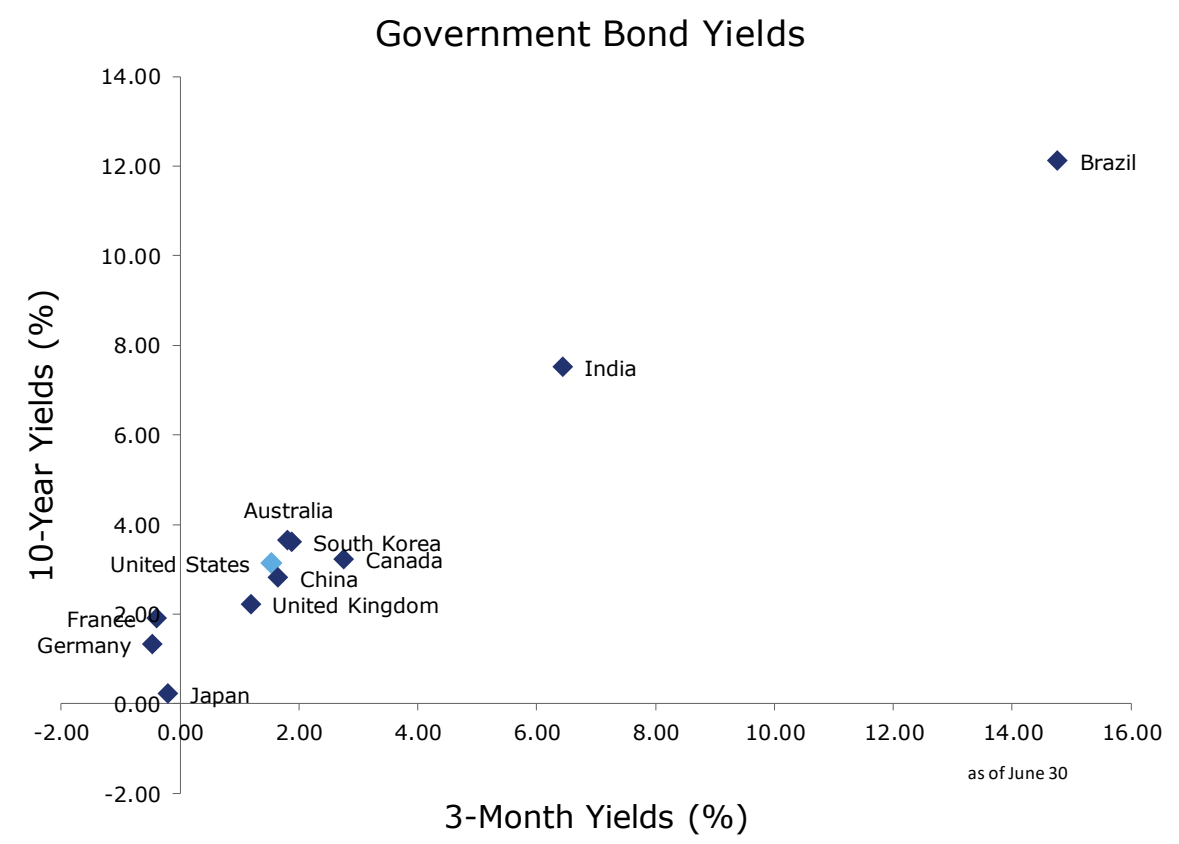
\* Returns are reported in terms of local market investors, which removes currency effects.



Data Sources: Bloomberg

Global Interest Rates

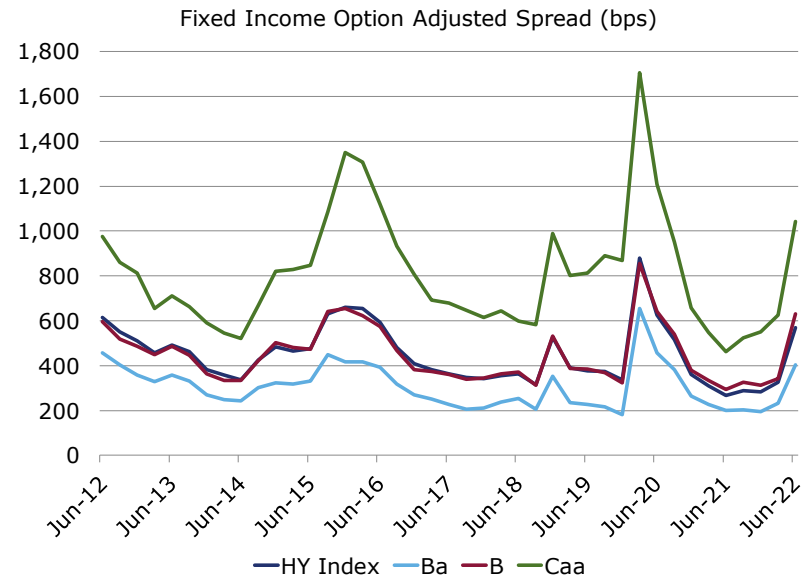
Negative rates found in Germany and France; higher rates, and at similar levels, in the U.S., Australia and in the U.K.



Data Sources: Bloomberg

# High Yield Bond Market

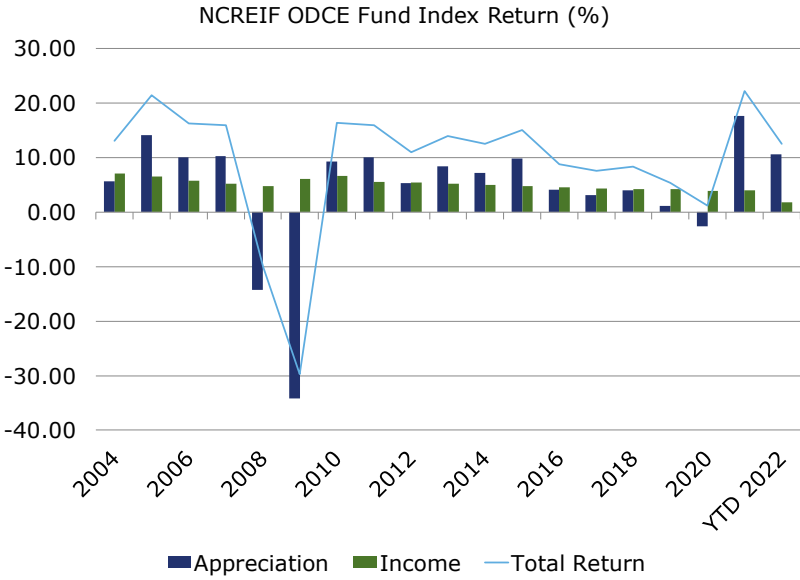
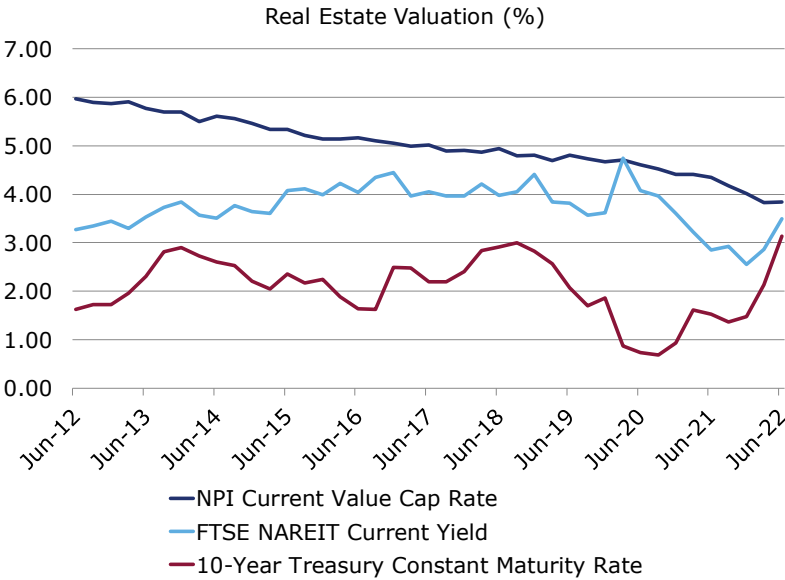
As of 6/30/2022		YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg High Yield		8.9	-9.8	-14.2	-12.8	0.2	2.1	4.5
S&P LSTA Leveraged Loan		4.4	-5.3	-5.5	-4.2	1.4	2.4	3.3
<b>High Yield Quality Distribution</b>	<b>Weight</b>							
Ba U.S. High Yield	52.3%	7.2	-8.4	-13.9	-12.3	1.2	2.8	4.8
B U.S. High Yield	36.1%	9.5	-10.8	-13.9	-12.7	-0.5	1.8	4.0
Caa U.S. High Yield	11.4%	13.6	-13.0	-16.4	-15.3	-1.8	0.3	4.3
Ca to D U.S. High Yield	0.3%	42.3	-15.7	-18.9	-29.2	-6.8	-1.2	-4.5



Data Sources: Bloomberg

# Real Assets

As of 6/30/2022	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg U.S. TIPS	-6.1	-8.9	-5.1	3.0	3.2	1.7
Bloomberg Commodity Index	-5.7	18.4	24.3	14.3	8.4	-0.8
Bloomberg Gold Index	-7.6	-1.5	1.3	6.9	6.6	0.3
Wilshire Global RESI Index	-18.0	-20.5	-9.7	1.3	3.7	6.3
NCREIF ODCE Fund Index	4.8	12.5	29.5	12.7	10.5	11.2
NCREIF Timberland Index	1.9	5.1	12.0	5.0	4.3	5.7
FTSE Global Core Infrastructure 50/50	-7.3	-3.7	3.7	4.7	6.7	8.7
Alerian Midstream Energy	-8.6	13.2	11.4	6.4	5.2	n.a.
Bitcoin	-59.1	-59.6	-45.8	18.0	49.6	121.3



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

# Asset Class Performance

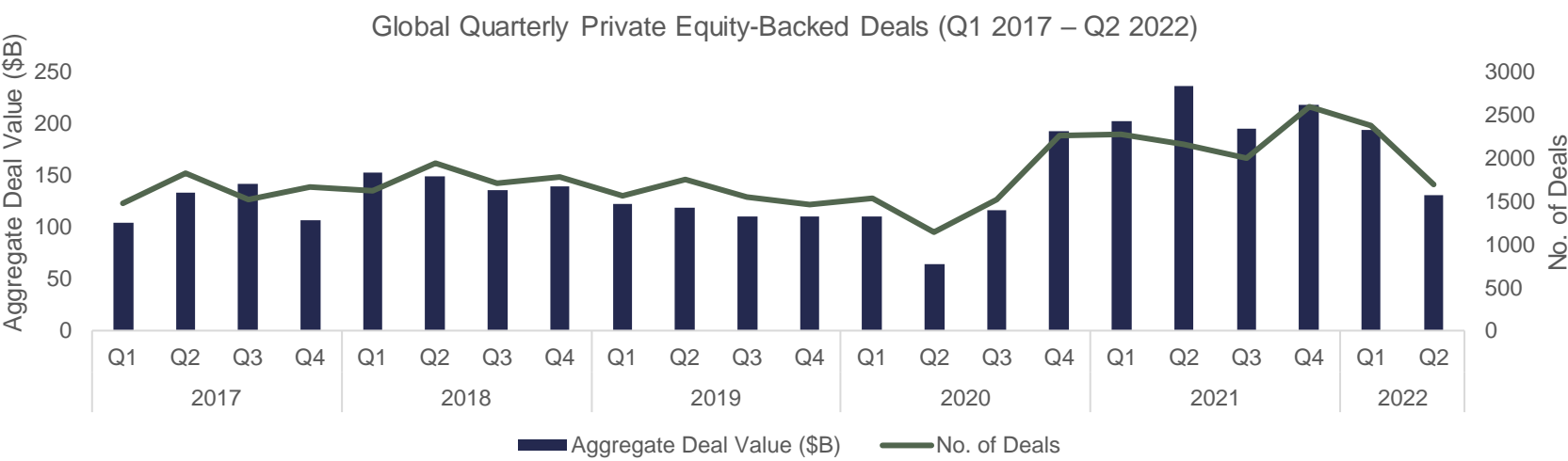
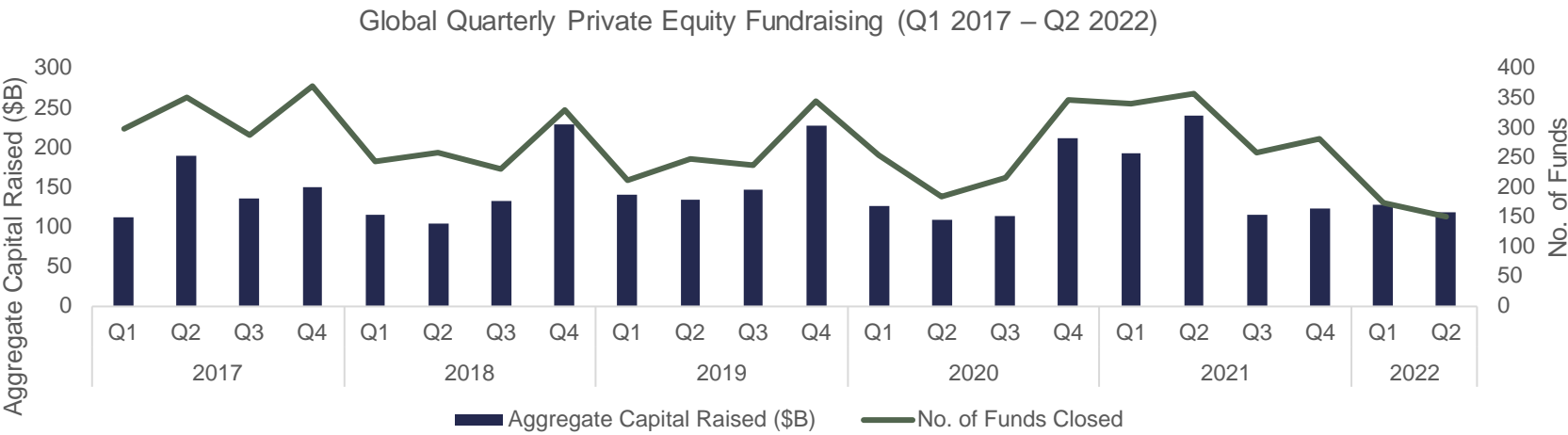
Asset Class Returns - Best to Worst						Annualized 5-Year as of 6/22
2017	2018	2019	2020	2021	2022 YTD	
Emrg Mkts 37.7%	T-Bills 1.9%	U.S. Equity 31.0%	U.S. Equity 20.8%	REITs 46.2%	Commodities 18.4%	U.S. Equity 10.8%
Developed 25.6%	Core Bond 0.0%	REITs 25.8%	Emrg Mkts 18.7%	Commodities 27.1%	T-Bills 0.0%	Commodities 8.4%
U.S. Equity 21.0%	U.S. TIPS -1.3%	Developed 22.7%	U.S. TIPS 11.0%	U.S. Equity 26.7%	U.S. TIPS -8.9%	REITs 5.3%
High Yield 7.5%	High Yield -2.1%	Emrg Mkts 18.9%	Developed 8.3%	Developed 11.8%	Core Bond -10.3%	U.S. TIPS 3.2%
REITs 4.2%	REITs -4.8%	High Yield 14.3%	Core Bond 7.5%	U.S. TIPS 6.0%	High Yield -14.2%	Developed 2.7%
Core Bond 3.6%	U.S. Equity -5.3%	Core Bond 8.7%	High Yield 7.1%	High Yield 5.3%	Emrg Mkts -17.5%	Emrg Mkts 2.5%
U.S. TIPS 3.0%	Commodities -11.2%	U.S. TIPS 8.4%	T-Bills 0.7%	T-Bills 0.0%	Developed -19.3%	High Yield 2.1%
Commodities 1.7%	Developed -13.4%	Commodities 7.7%	Commodities -3.1%	Core Bond -1.5%	U.S. Equity -20.9%	T-Bills 1.1%
T-Bills 0.8%	Emrg Mkts -14.2%	T-Bills 2.3%	REITs -7.9%	Emrg Mkts -2.2%	REITs -21.6%	Core Bond 0.9%

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

## Appendix: Private Market Trends

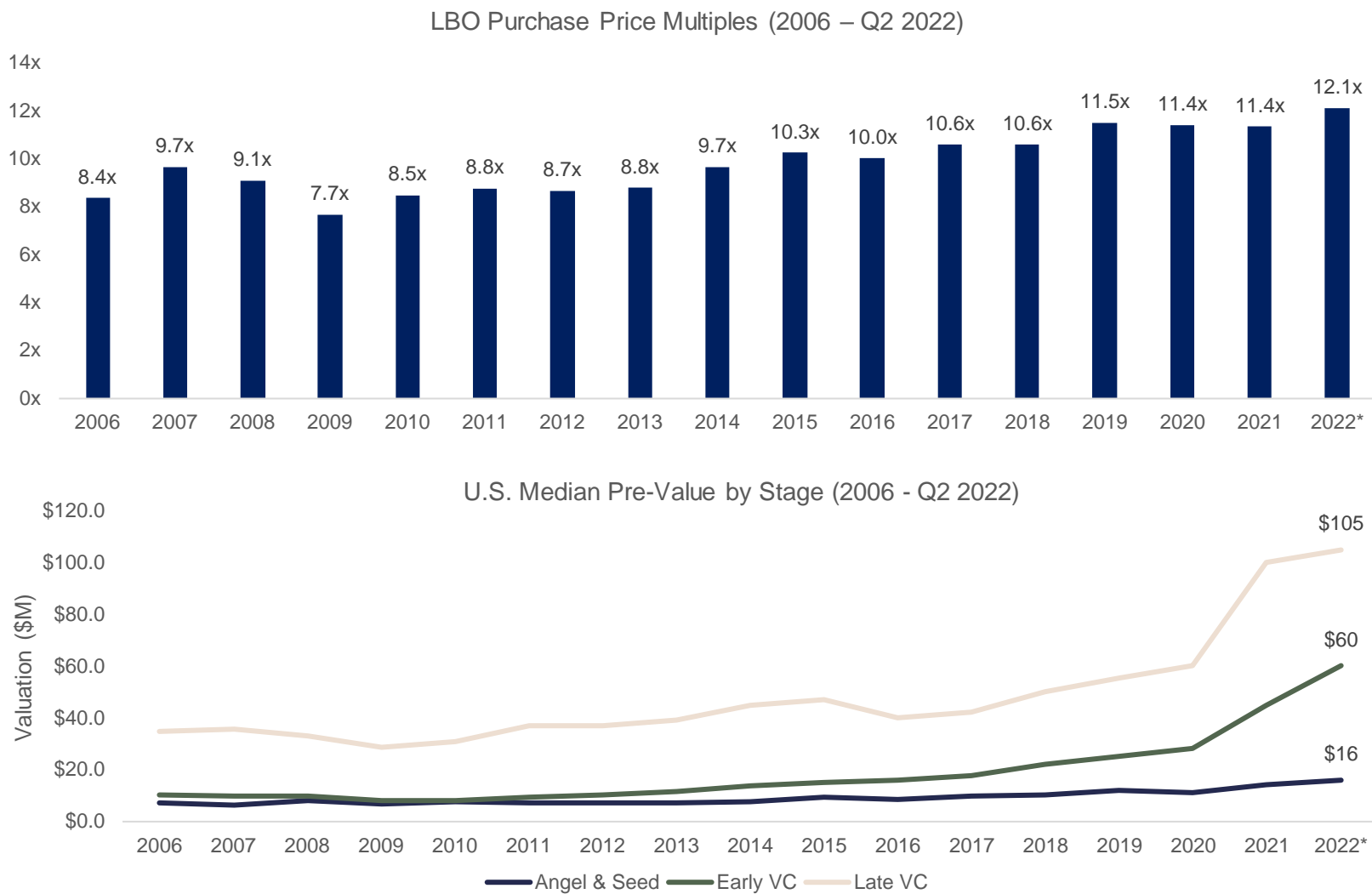


Private Equity – Fundraising & Investment Activity



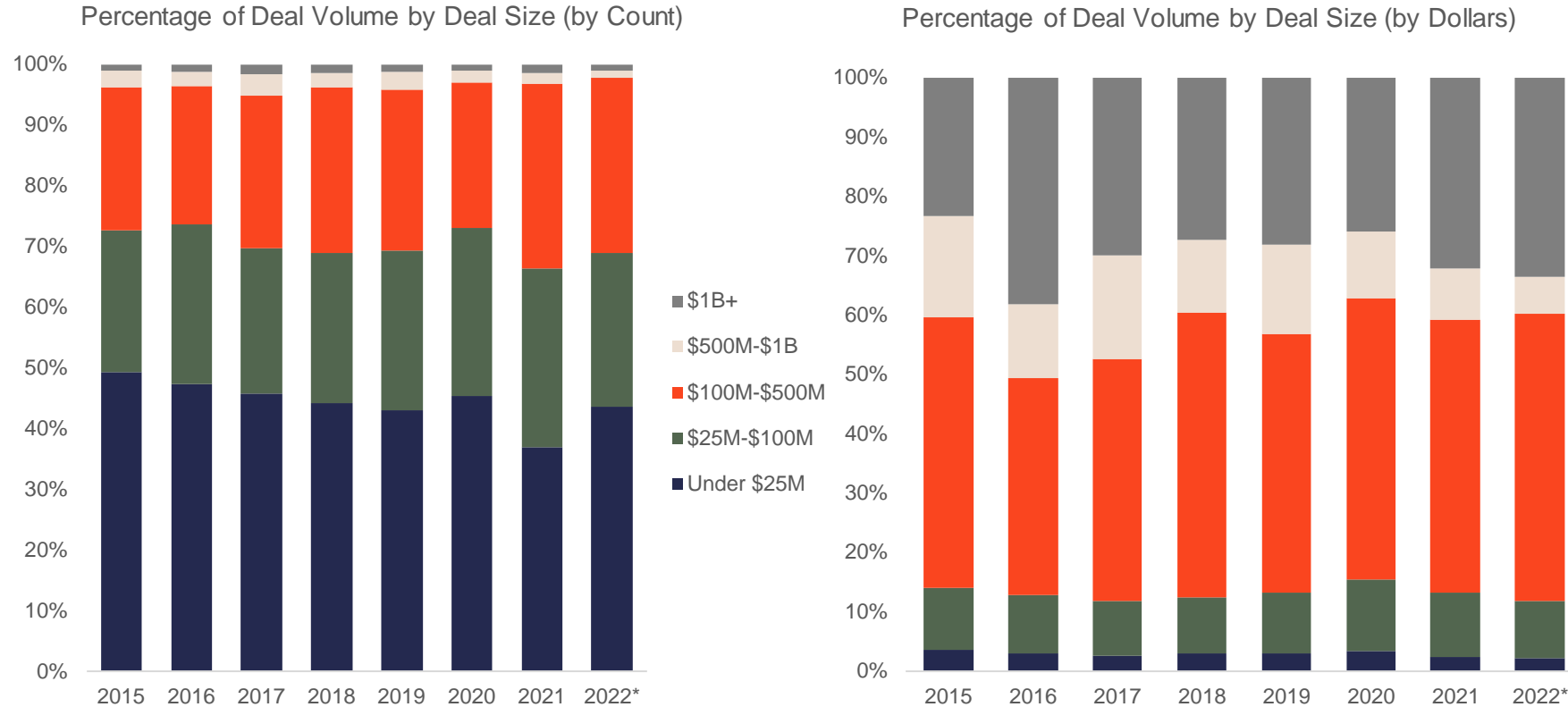
Source: Preqin, as of June 30, 2022.

# Private Equity – Pricing & Valuations



Source: S&P LBO; Pitchbook, \*as of June 30, 2022.

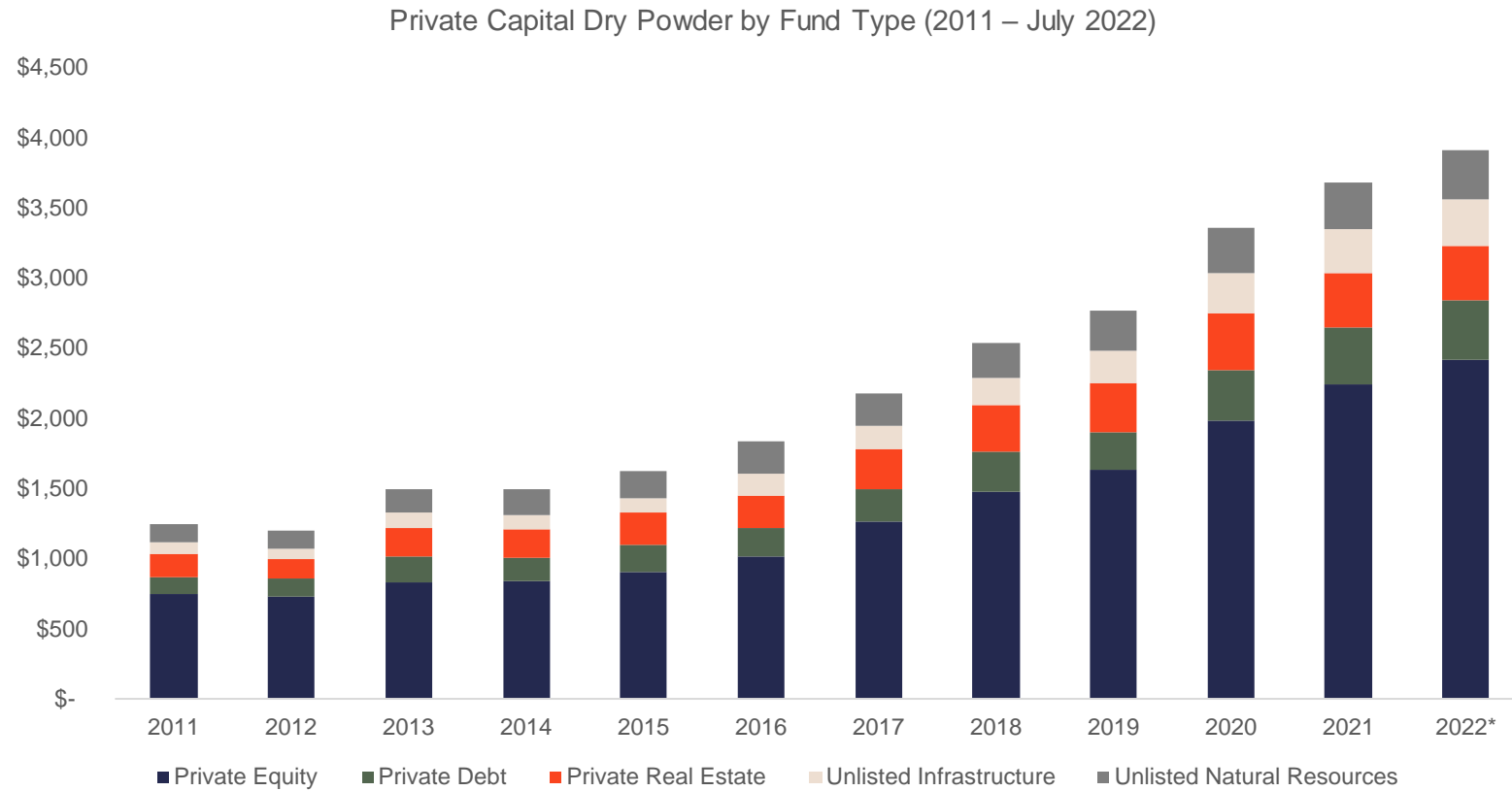
# U.S. Investment Activity by Deal Size



- Deal volume continues to be dominated by lower middle market deals with investment sizes below \$100 million through the second quarter of 2022
- However, deals with below \$100 million check sizes comprised only 12% of all deal volume by amount of capital invested through the second quarter of 2022

Source: Pitchbook, \*as of June 30, 2022.

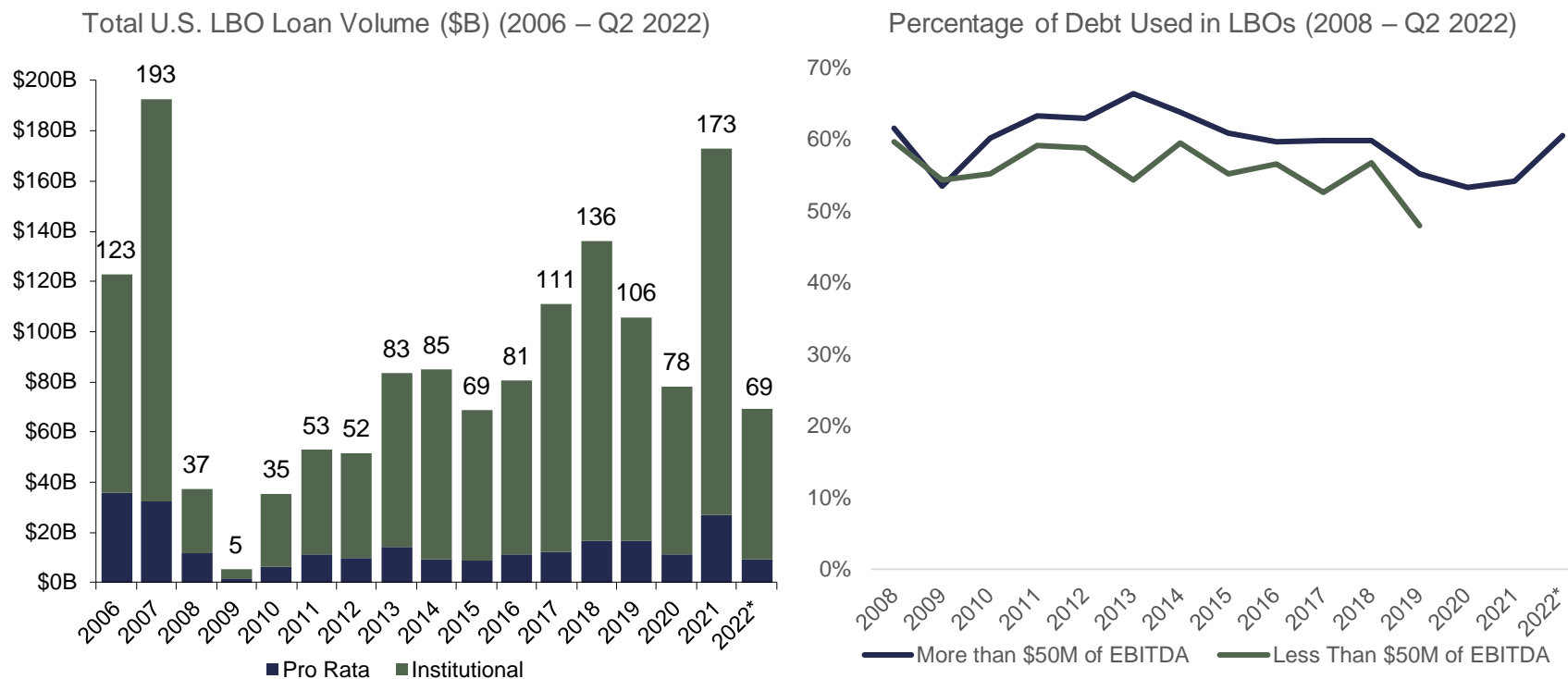
# Private Capital Dry Powder



- Global private capital dry power continues to increase, topping \$3.9 trillion across all fund types
- Private equity comprises just under 62% of total dry powder in the market as of July 2022

Source: Preqin, \*as of July 14, 2022.

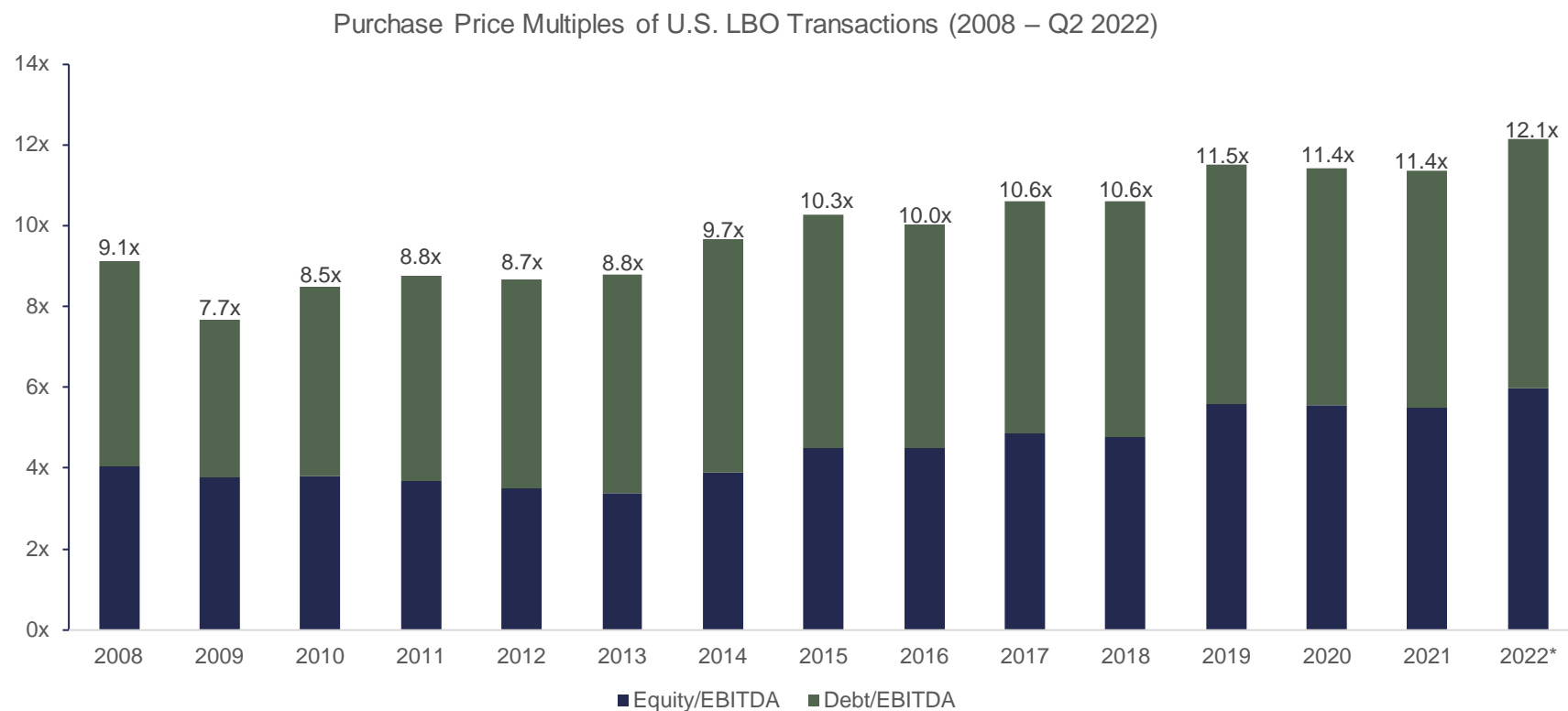
## Private Equity – U.S. Debt Markets



- 2022 has generated approximately \$69 billion in loan volume as of Q2 2022, which has slowed down comparatively to the Q1 2022 pace of \$47 billion
- As debt multiples have increased, the percentage of debt used to finance leveraged buyouts through Q2 2022 has increased from the 2021 marks

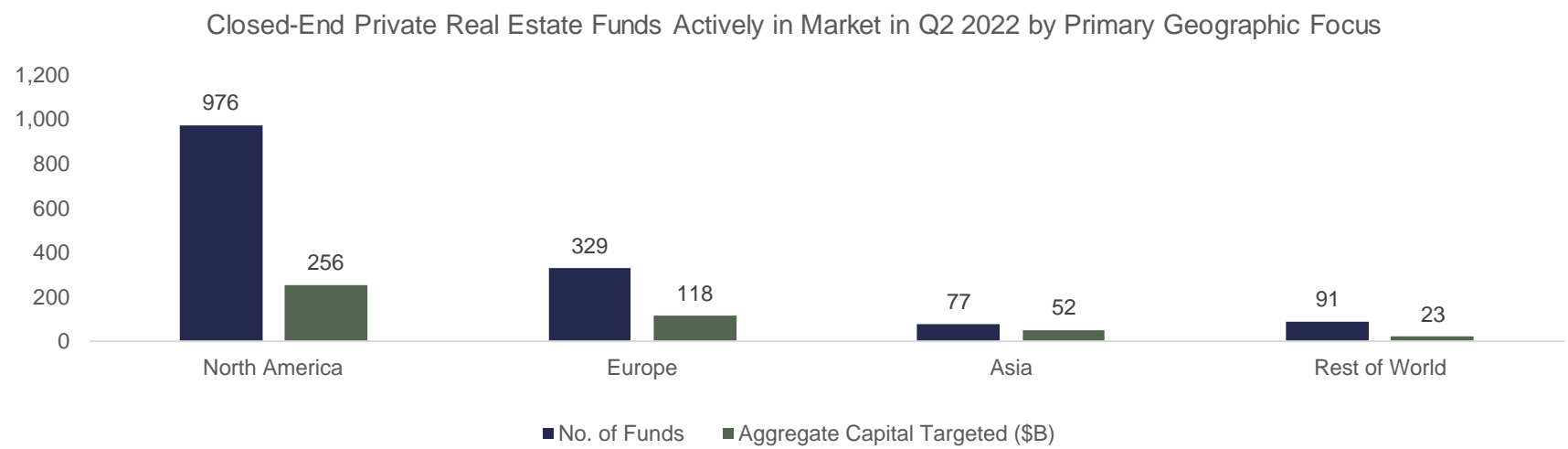
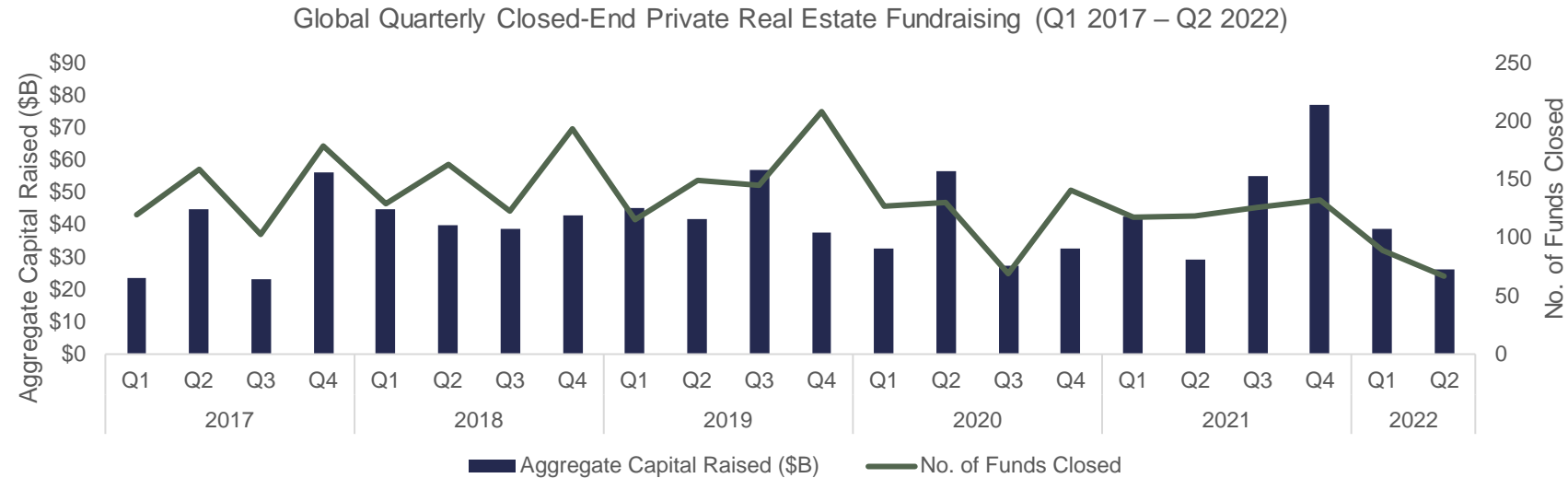
Source: S&P LBO, \*as of June 30, 2022. "Less than \$50M of EBITDA" data for 2020, 2021 and 2022 not yet available.

## Private Equity – U.S. LBO Purchase Price Multiples



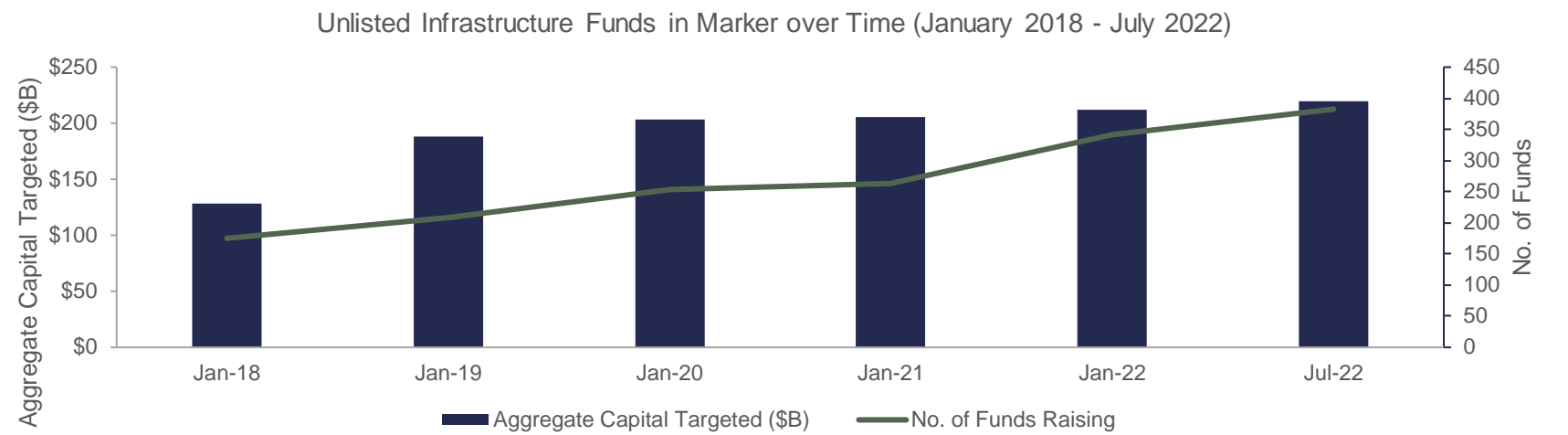
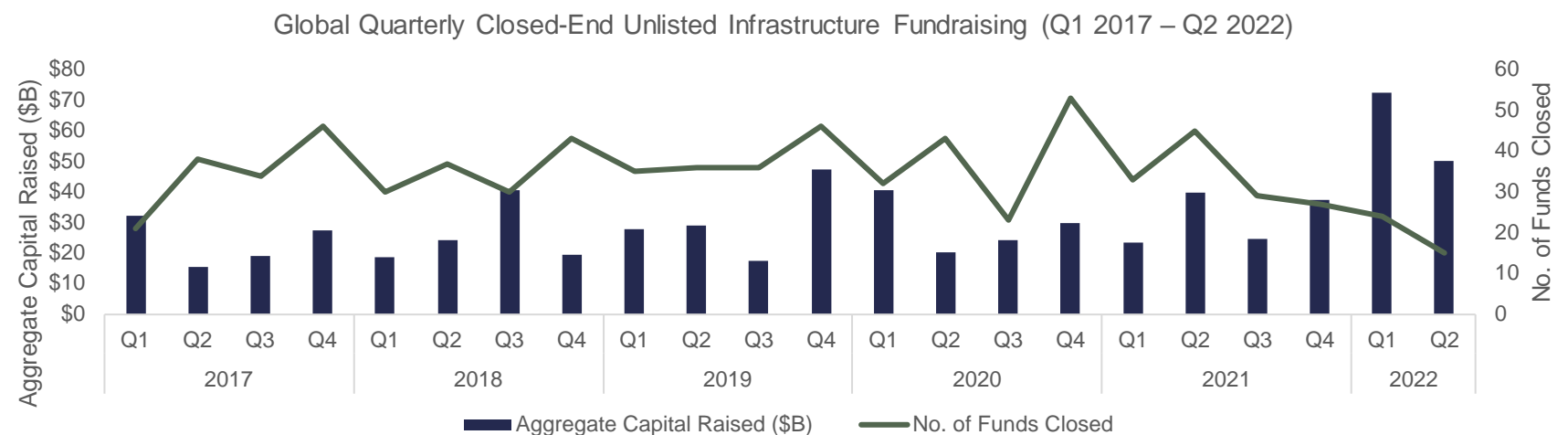
- Purchase price multiples for U.S. LBOs have remained steady from 2019 to 2021 and have increased through Q2 2022 compared to previous years.

# Private Real Estate – Fundraising Activity



Source: Preqin, as of June 30, 2022.

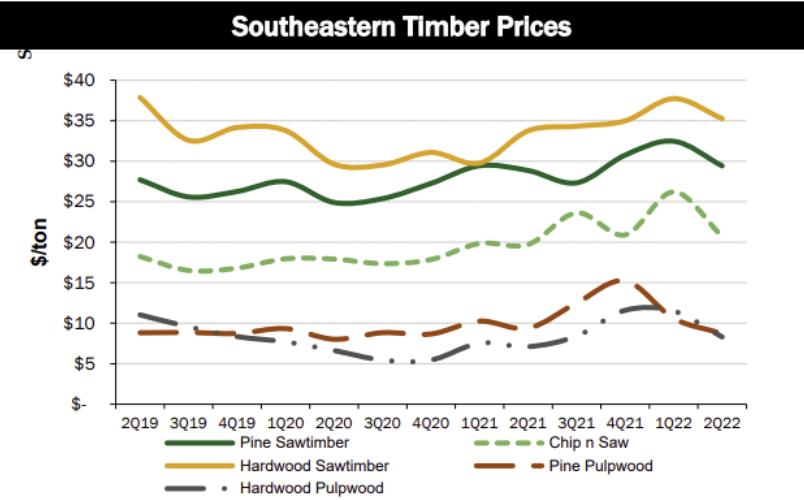
# Unlisted Infrastructure – Fundraising & Investment Activity



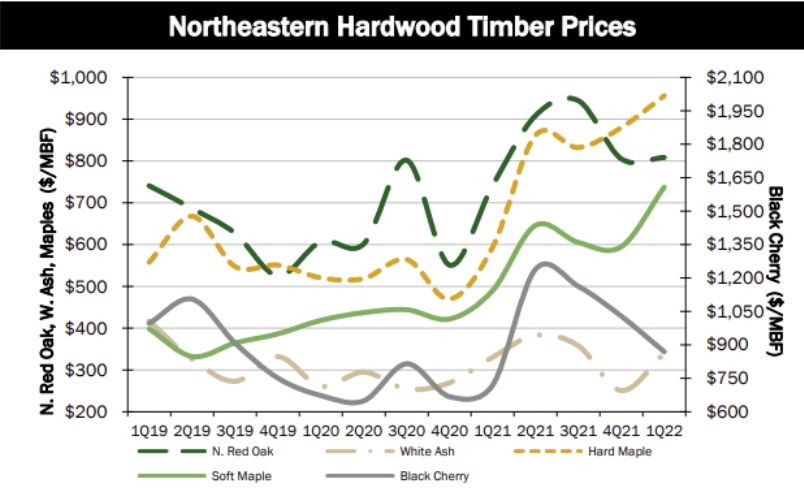
Source: Preqin, as of June 30, 2022.



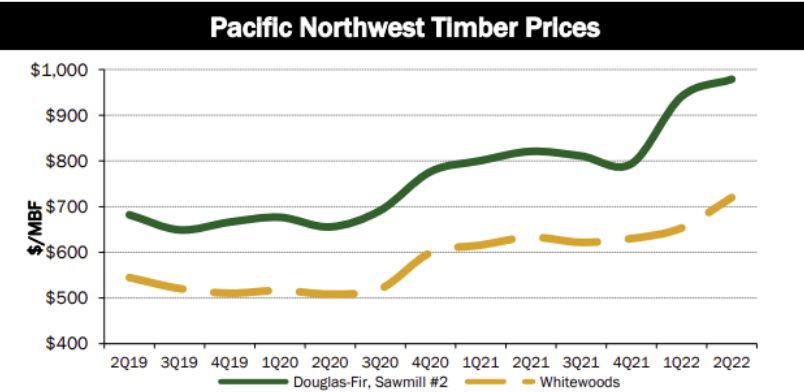
# Timber Investments



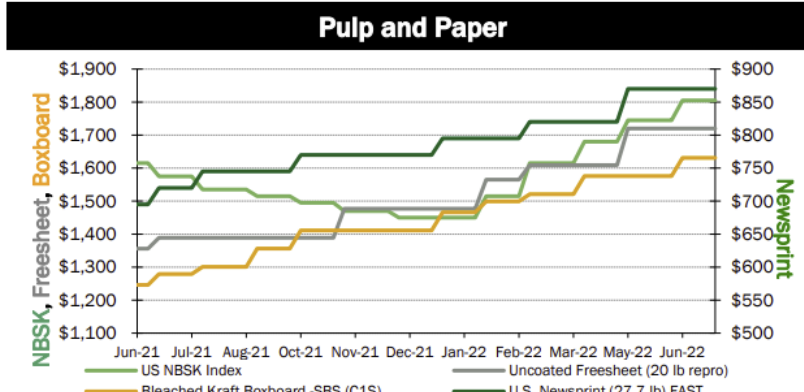
Source: Forest2Market®



Source: Pennsylvania Woodlands Timber Market Report - Northwest Region



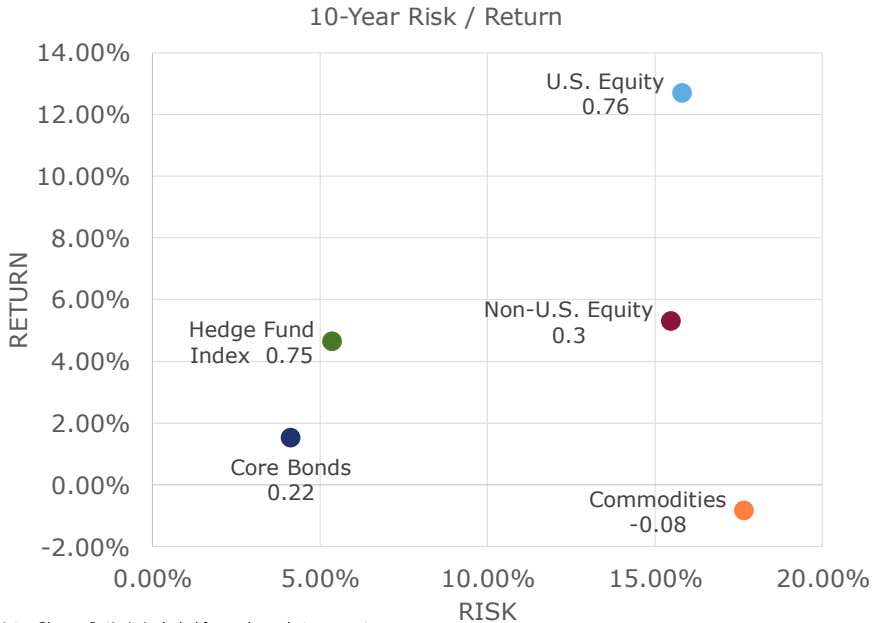
Source: Fastmarkets RISI - Log Lines®



Source: Fastmarkets RISI

# Hedge Fund Performance

As of 6/30/2022	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Credit Suisse Hedge Fund Index	-2.3	-0.2	1.9	5.7	4.8	4.7
Event Driven	-5.6	-7.7	-5.4	3.9	3.5	4.0
Global Macro	1.4	17.8	21.6	12.3	9.5	6.1
Long/Short Equity	-5.0	-8.2	-5.5	4.1	4.1	5.5
Multi-Strategy	-4.4	-1.4	1.0	4.3	3.7	5.6
FT Wilshire 5000	-16.8	-20.9	-13.2	10.2	10.8	12.7
MSCI ACWI ex-US (\$G)	-13.5	-18.2	-19.0	1.8	3.0	5.3
Bloomberg Aggregate	-4.7	-10.3	-10.3	-0.9	0.9	1.5
Bloomberg Commodity Index	-5.7	18.4	24.3	14.3	8.4	-0.8



Data Source: Bloomberg

**Wilshire**

# Dallas Employees' Retirement Fund

## Quarterly Investment Summary

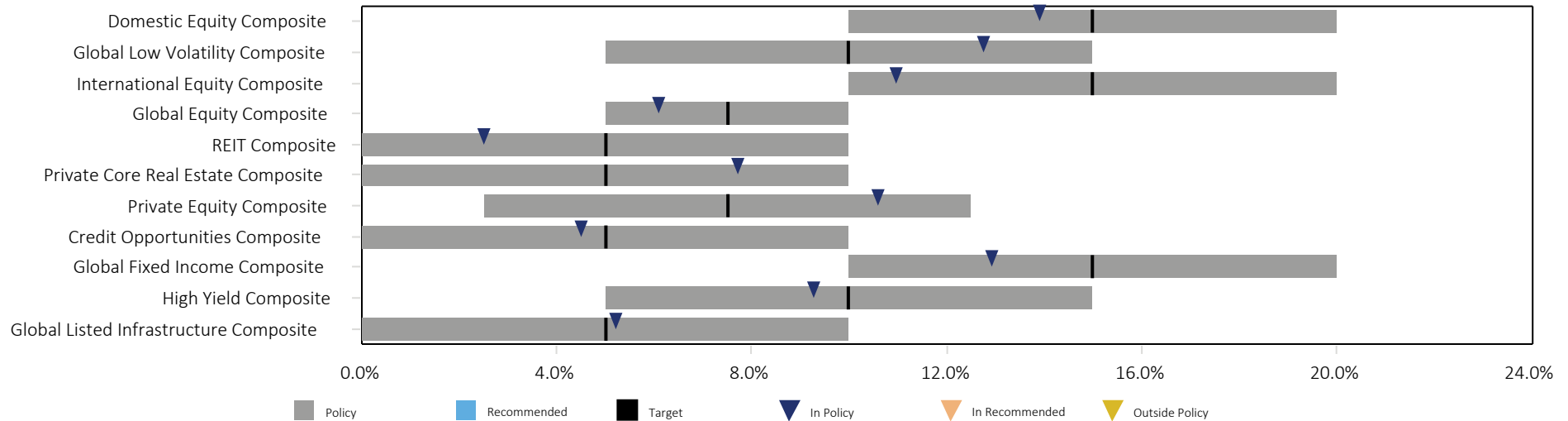
June 2022

# Asset Allocation Compliance

Dallas Total Fund

Periods Ended As of June 30, 2022

## Executive Summary



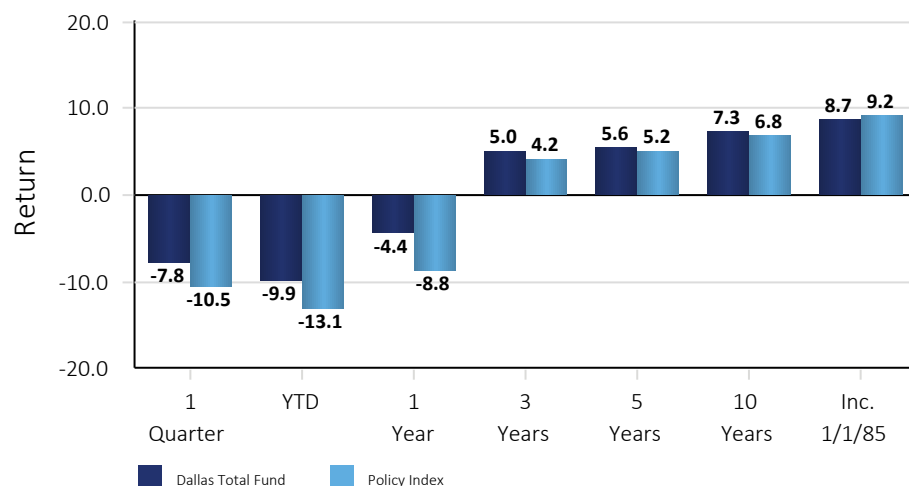
	Asset Allocation \$	Asset Allocation (%)	Target Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Rebalance \$
Dallas Total Fund	3,552,112,014	100.0	100.0			
Domestic Equity Composite	493,631,353	13.9	15.0	10.0	20.0	39,185,450
Global Low Volatility Composite	453,847,419	12.8	10.0	5.0	15.0	-98,636,218
International Equity Composite	389,674,928	11.0	15.0	10.0	20.0	143,141,874
Global Equity Composite	216,331,598	6.1	7.5	5.0	10.0	50,076,803
REIT Composite	89,473,720	2.5	5.0	0.0	10.0	88,131,881
Private Core Real Estate Composite	274,464,826	7.7	5.0	0.0	10.0	-96,859,226
Private Equity Composite	376,803,163	10.6	7.5	2.5	12.5	-110,394,762
Credit Opportunities Composite	160,429,188	4.5	5.0	0.0	10.0	17,176,413
Global Fixed Income Composite	459,384,285	12.9	15.0	10.0	20.0	73,432,517
High Yield Composite	329,675,236	9.3	10.0	5.0	15.0	25,535,965
Global Listed Infrastructure Composite	185,149,843	5.2	5.0	0.0	10.0	-7,544,243

# Composite Performance Summary

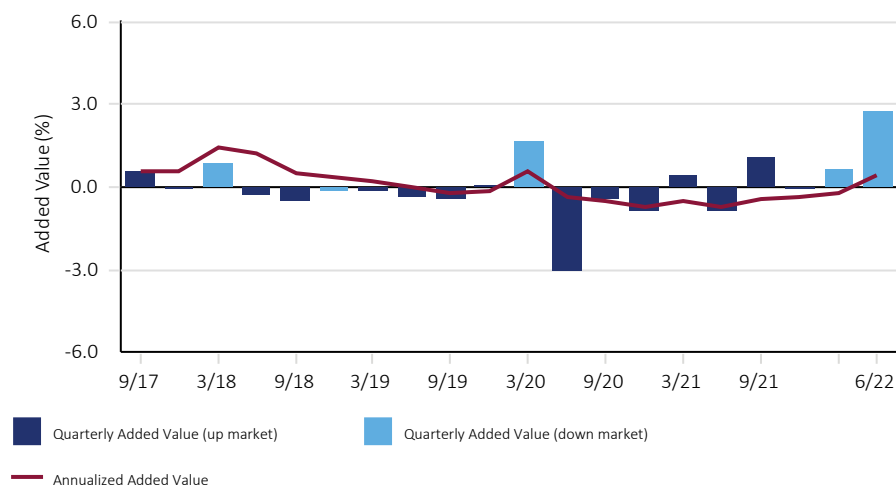
Dallas Total Fund

Periods Ended June 30, 2022

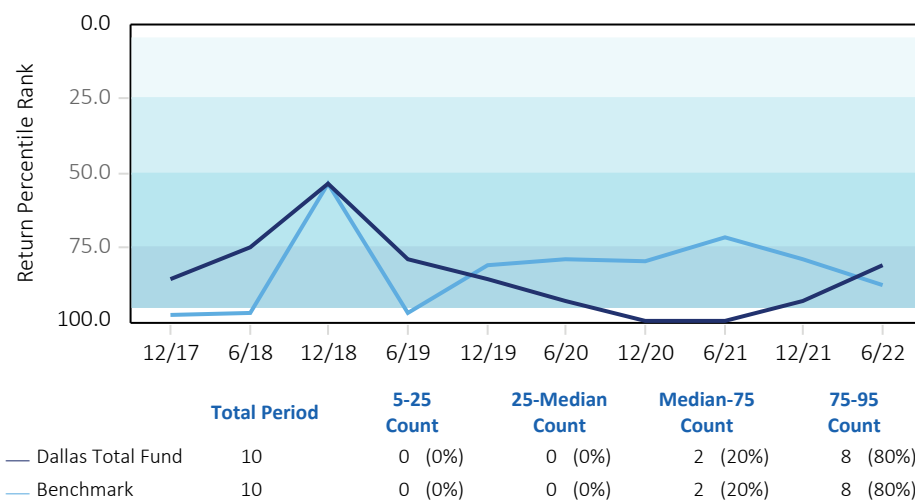
## Comparative Performance



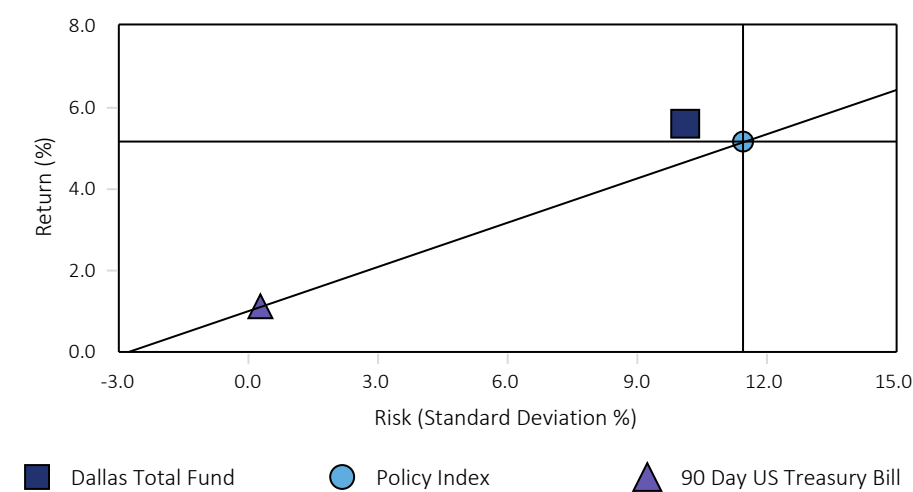
## Added Value History



## Rolling Percentile Rank: All Public Plans > \$1B-Total Fund



## Risk and Return 07/1/17 - 06/30/22

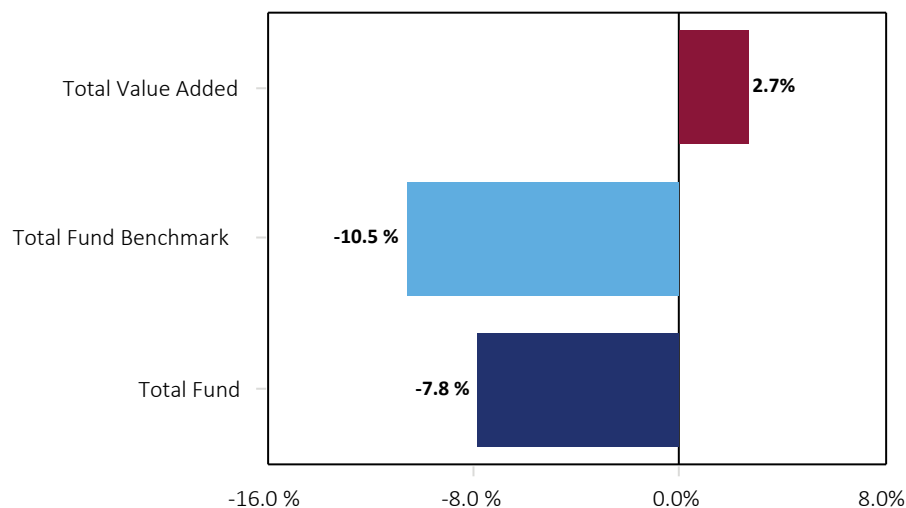


# Total Fund Attribution

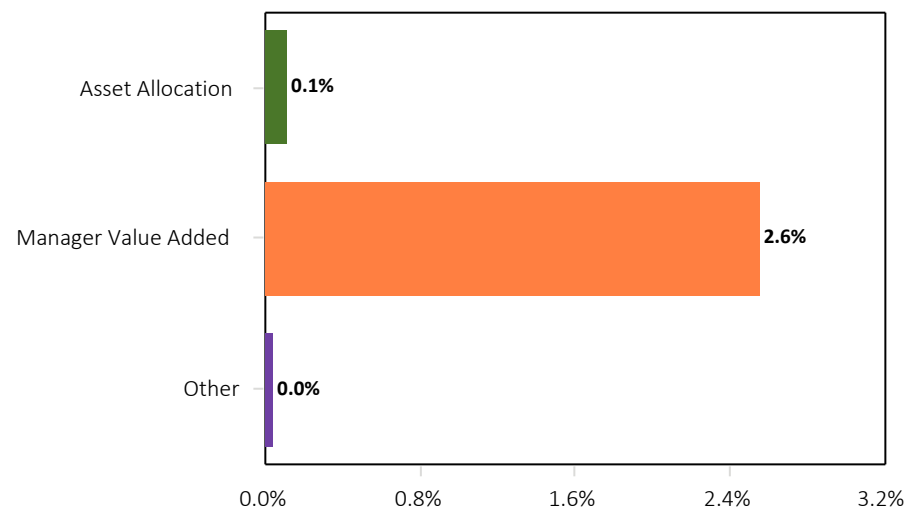
Dallas Total Fund

Periods Ended 1 Quarter Ending June 30, 2022

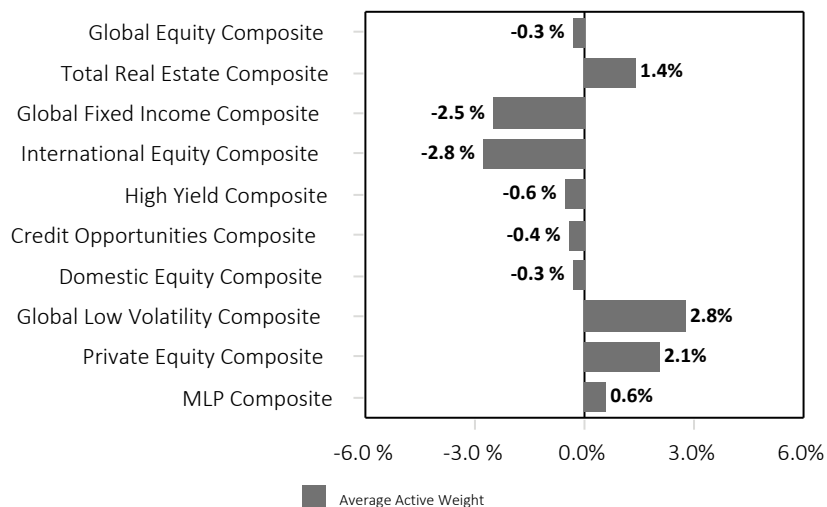
## Total Fund Performance



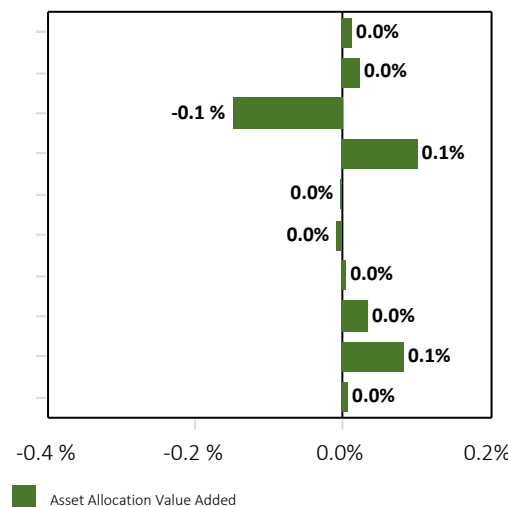
## Total Value Added:2.7%



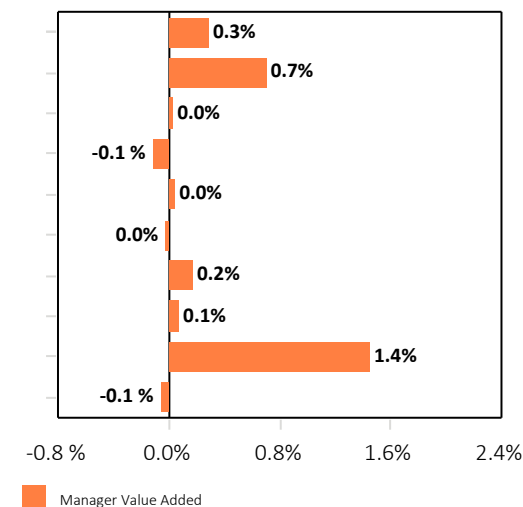
## Total Asset Allocation:0.1%



## Asset Allocation Value Added:0.1%



## Total Manager Value Added:2.6%

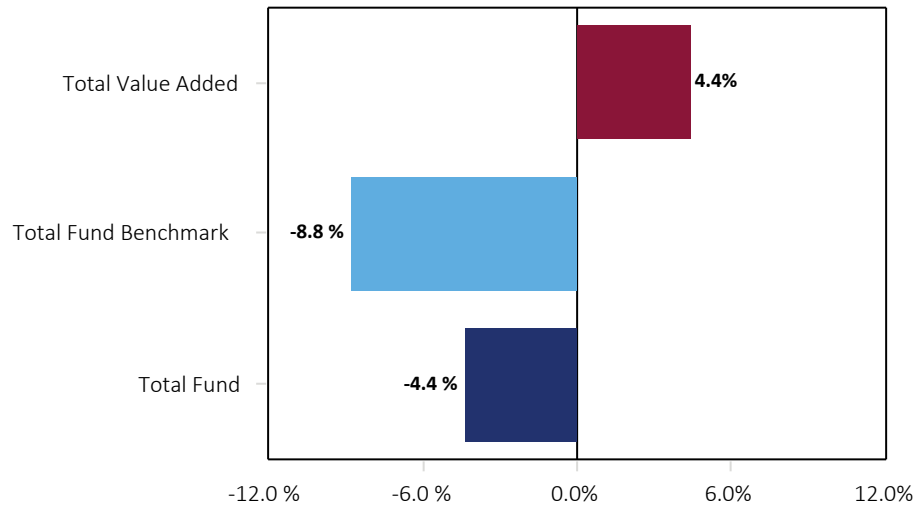


# Total Fund Attribution

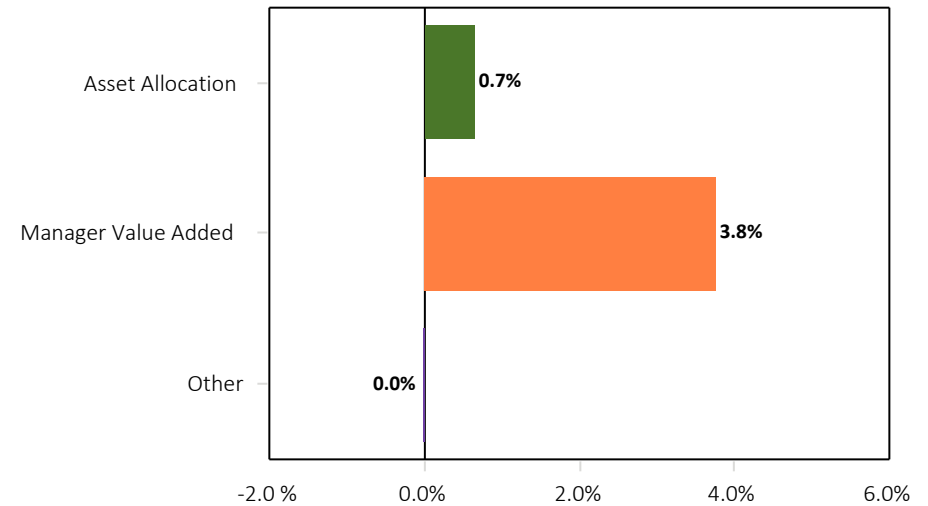
Dallas Total Fund

Periods Ended 1 Year Ending June 30, 2022

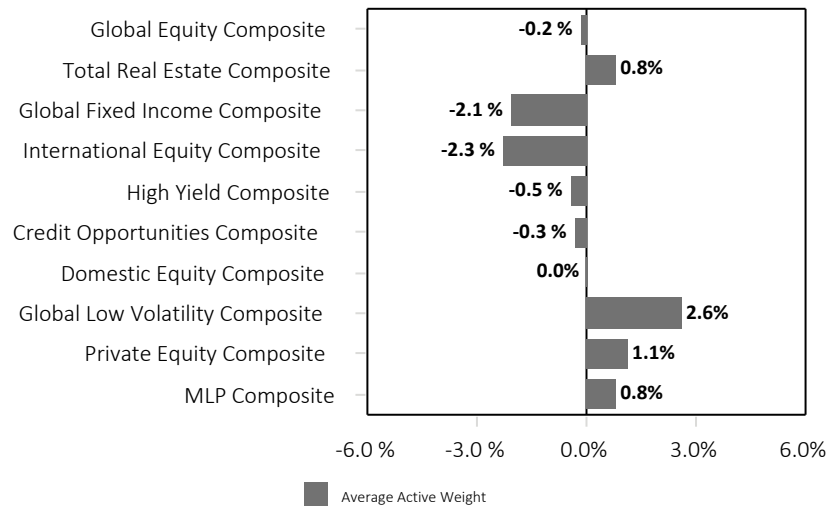
## Total Fund Performance



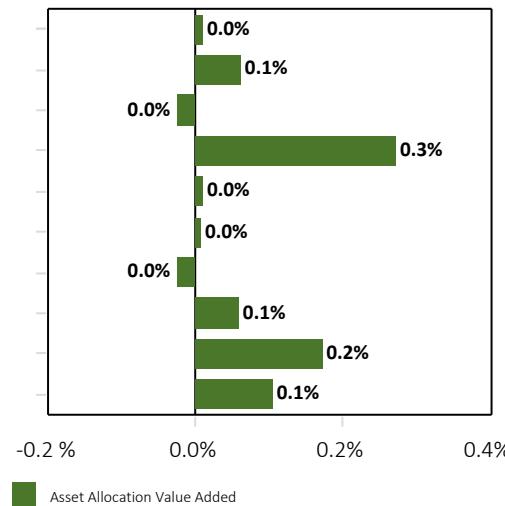
## Total Value Added: 4.4%



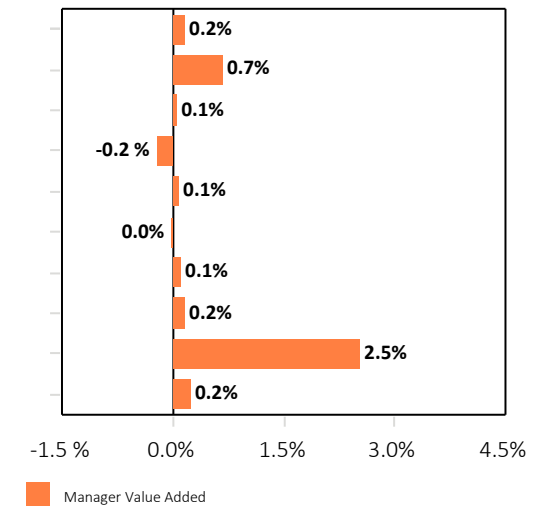
## Total Asset Allocation: 0.7%



## Asset Allocation Value Added: 0.7%



## Total Manager Value Added: 3.8%

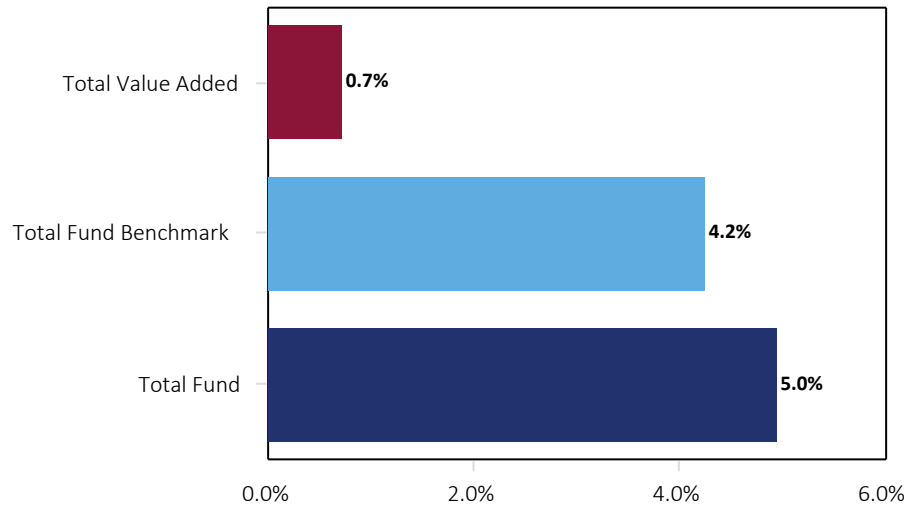


# Total Fund Attribution

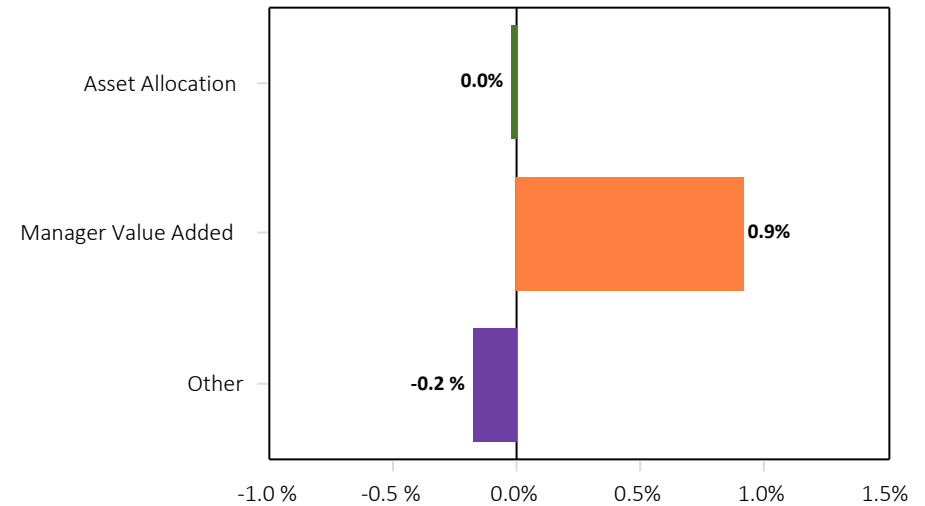
Dallas Total Fund

Periods Ended 3 Years Ending June 30, 2022

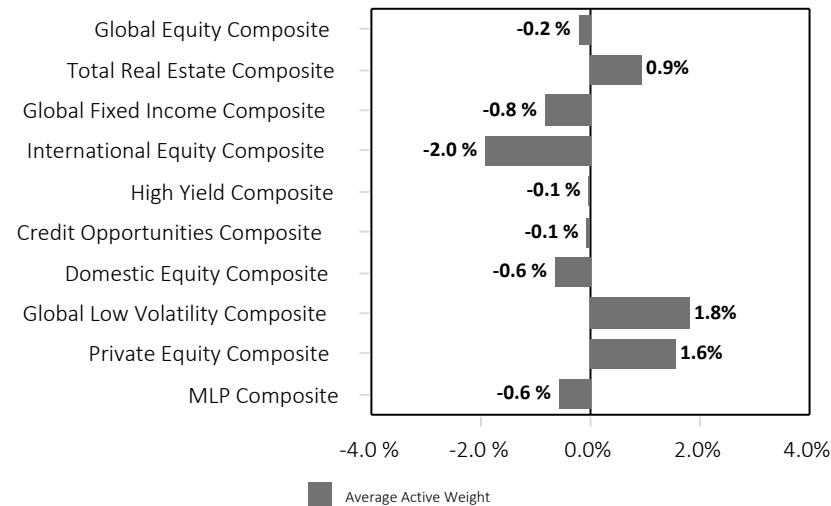
## Total Fund Performance



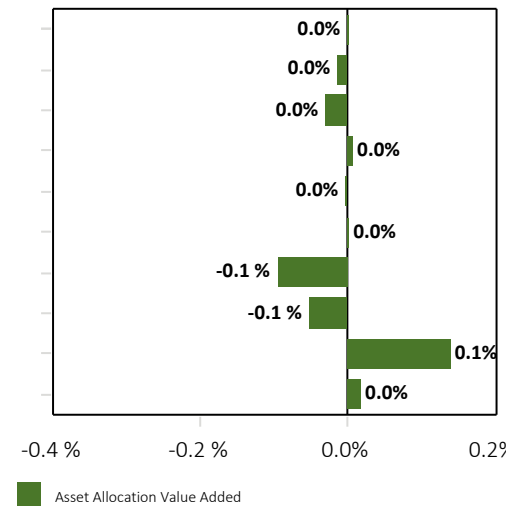
## Total Value Added:0.7%



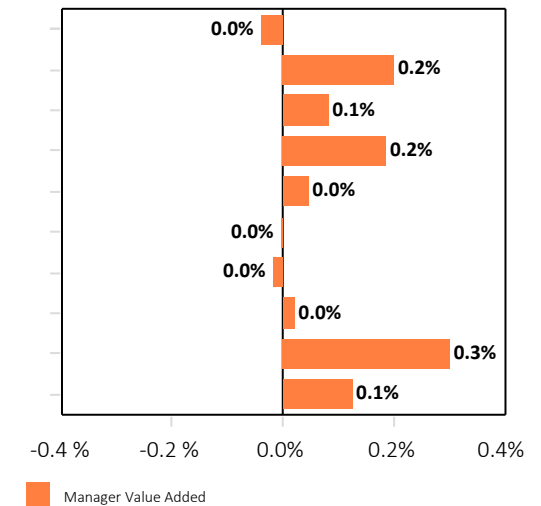
## Total Asset Allocation:0.0%



## Asset Allocation Value Added:0.0%



## Total Manager Value Added:0.9%





# Asset Allocation & Performance

Dallas Total Fund

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
Global Equity Composite	-11.78	-15.82	-13.40	5.87	6.52		8.05	9/1/2012	216,331,598	6.09
Global Low Volatility Composite	-8.75	-11.33	-5.07	2.90	5.39		6.61	7/1/2015	453,847,419	12.78
Domestic Equity Composite	-15.68	-19.93	-12.54	9.84	9.74	11.98	10.01	1/1/1990	493,631,353	13.90
International Equity Composite	-15.20	-19.87	-21.38	3.02	3.04	6.30	5.22	1/1/1990	389,674,928	10.97
Global Fixed Income Composite	-4.45	-9.88	-9.91	-0.22	1.36	2.15	4.46	10/1/1995	459,384,285	12.93
High Yield Composite	-9.46	-12.88	-11.37	0.51	1.95	4.05	5.78	1/1/1997	329,675,236	9.28
Credit Opportunities Composite	-9.23	-13.05	-12.88	-1.11	1.43		3.51	2/1/2016	160,429,188	4.52
Total Real Estate Composite	-0.48	-1.19	14.42	9.69	8.48	9.12	6.93	1/1/1990	416,089,368	11.71
Global Listed Infrastructure Composite	-8.25	6.70	9.46	-0.80	0.24	3.81	3.92	1/1/2012	185,149,843	5.21
Private Equity Composite	9.00	13.76	46.35	19.96	18.10	14.17	15.03	6/1/2009	376,803,163	10.61
Managed Short Term Composite	0.11	0.15	0.17	0.63	1.11	0.64	2.73	1/1/1990	71,095,633	2.00
<b>Dallas Total Fund</b>	<b>-7.83</b>	<b>-9.85</b>	<b>-4.37</b>	<b>4.96</b>	<b>5.60</b>	<b>7.26</b>	<b>8.74</b>	<b>1/1/1985</b>	<b>3,552,112,014</b>	<b>100.00</b>
Policy Index	-10.54	-13.11	-8.77	4.24	5.16	6.81	9.23			

# Asset Allocation & Performance

## Domestic Equity

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>Systematic Financial</b>	<b>-11.77</b>	<b>-16.27</b>	<b>-12.45</b>	<b>7.14</b>	<b>6.81</b>	<b>11.68</b>	<b>10.15</b>	<b>8/1/2003</b>	<b>68,155,415</b>	<b>13.81</b>
Russell 2000 Index	-17.20	-23.43	-25.20	4.21	5.17	9.35	8.40			
<b>Redwood Investments *</b>	<b>-20.51</b>	<b>-34.74</b>	<b>-30.98</b>	<b>3.83</b>	<b>5.16</b>		<b>6.02</b>	<b>10/1/2016</b>	<b>27,941,359</b>	<b>5.66</b>
Russell 2000 Growth Index	-19.25	-29.45	-33.43	1.40	4.80		6.55			
<b>Channing Capital *</b>	<b>-15.62</b>	<b>-16.84</b>	<b>-14.83</b>	<b>6.87</b>	<b>5.14</b>		<b>5.99</b>	<b>12/1/2013</b>	<b>32,184,263</b>	<b>6.52</b>
Russell 2000 Value Index	-15.28	-17.31	-16.28	6.18	4.89		6.02			
<b>Domestic Equity Small Cap Composite</b>	<b>-14.79</b>	<b>-21.26</b>	<b>-17.83</b>	<b>6.56</b>	<b>6.20</b>	<b>10.14</b>	<b>8.96</b>	<b>6/1/2003</b>	<b>128,281,036</b>	<b>25.99</b>
<b>Smith Graham *</b>	<b>-14.90</b>	<b>-16.71</b>	<b>-9.53</b>	<b>11.20</b>			<b>6.46</b>	<b>1/1/2018</b>	<b>70,815,286</b>	<b>14.35</b>
Russell Midcap Index	-16.85	-21.57	-17.30	6.59			6.66			
<b>T. Rowe Price</b>	<b>-16.42</b>	<b>-20.31</b>	<b>-11.06</b>	<b>10.80</b>	<b>11.65</b>	<b>13.38</b>	<b>9.51</b>	<b>4/1/2006</b>	<b>143,224,406</b>	<b>29.01</b>
S&P 500	-16.10	-19.96	-10.62	10.60	11.31	12.96	9.01			
<b>Northern Trust S&amp;P 500 (Lending)</b>	<b>-16.09</b>	<b>-19.89</b>	<b>-10.54</b>	<b>10.58</b>	<b>11.31</b>	<b>12.98</b>	<b>10.08</b>	<b>1/1/1995</b>	<b>151,310,625</b>	<b>30.65</b>
S&P 500	-16.10	-19.96	-10.62	10.60	11.31	12.96	10.04			
<b>Domestic Equity Composite</b>	<b>-15.68</b>	<b>-19.93</b>	<b>-12.54</b>	<b>9.84</b>	<b>9.74</b>	<b>11.98</b>	<b>10.01</b>	<b>1/1/1990</b>	<b>493,631,353</b>	<b>100.00</b>
Custom Benchmark	-16.77	-20.89	-13.19	10.17	10.83	12.71	10.10			

# Asset Allocation & Performance

## Real Estate

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>Adelante Capital Management</b>	-17.99	-21.03	-5.85	5.55	6.63	7.88	9.42	10/1/2001	44,599,346	
Wilshire U.S. Real Estate Securities Index	-18.50	-21.63	-6.68	3.99	5.26	7.46	9.47			
<b>CenterSquare</b>	-15.89	-18.51	-4.83	5.92			8.30	6/1/2018	44,874,374	
Wilshire U.S. Real Estate Securities Index	-18.50	-21.63	-6.68	3.99			6.58			
<b>REIT Composite</b>	-16.95	-19.78	-5.34	5.73	6.68	7.72	9.53	10/1/2001	89,473,720	
Wilshire U.S. Real Estate Securities Index	-18.50	-21.63	-6.68	3.99	5.26	7.46	9.47			

# Asset Allocation & Performance

## International Equity

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>Acadian International</b>	<b>-16.51</b>	<b>-18.62</b>	<b>-19.18</b>	<b>4.98</b>	<b>4.20</b>	<b>8.57</b>	<b>8.03</b>	<b>4/1/1989</b>	<b>97,653,275</b>	<b>25.06</b>
Custom Benchmark	-17.55	-22.92	-22.45	2.94	2.55	6.22	5.52			
<b>Ativo International *</b>	<b>-15.78</b>	<b>-21.94</b>	<b>-18.20</b>	<b>-0.64</b>			<b>-0.26</b>	<b>1/1/2018</b>	<b>35,067,451</b>	<b>9.00</b>
MSCI EAFE Index (Net)	-14.51	-19.57	-17.77	1.07			0.33			
<b>AQR Capital Management</b>	<b>-13.01</b>	<b>-16.50</b>	<b>-20.14</b>	<b>0.84</b>	<b>1.03</b>	<b>5.43</b>	<b>2.67</b>	<b>4/1/2006</b>	<b>110,147,977</b>	<b>28.27</b>
Custom Benchmark	-13.73	-18.42	-19.42	1.35	2.50	4.83	2.54			
<b>Baillie Gifford</b>	<b>-18.27</b>	<b>-30.48</b>	<b>-34.54</b>	<b>-0.92</b>			<b>0.89</b>	<b>4/1/2019</b>	<b>61,367,323</b>	<b>15.75</b>
MSCI AC World ex USA (Net)	-13.73	-18.42	-19.42	1.35			2.17			
<b>Earnest Partners</b>	<b>-13.59</b>	<b>-15.83</b>	<b>-15.26</b>	<b>4.87</b>			<b>5.31</b>	<b>4/1/2019</b>	<b>84,890,985</b>	<b>21.79</b>
MSCI AC World ex USA (Net)	-13.73	-18.42	-19.42	1.35			2.17			
<b>BlackRock ACWI Ex U.S.</b>										<b>0.00</b>
<b>International Equity Composite</b>	<b>-15.20</b>	<b>-19.87</b>	<b>-21.38</b>	<b>3.02</b>	<b>3.04</b>	<b>6.30</b>	<b>5.22</b>	<b>1/1/1990</b>	<b>389,674,928</b>	<b>100.00</b>
Custom Benchmark	-14.28	-19.08	-19.86	1.55	2.50	5.01	4.24			

# Asset Allocation & Performance

## Global Equity

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>Ariel Global *</b>	-5.21	-4.68	-2.71	7.18			5.87	1/1/2018	105,864,733	48.94
MSCI AC World Index (Net)	-15.66	-20.18	-15.75	6.21			5.30			
<b>Wellington</b>	-17.19	-24.32	-21.97	4.18	5.27		9.35	9/1/2012	110,466,865	51.06
MSCI AC World Index (Net)	-15.66	-20.18	-15.75	6.21	7.00		8.53			
<b>Northern Trust Global Equity</b>	-14.22	-19.06	-15.00	6.98	7.47		9.35	10/1/2015		0.00
MSCI AC World IMI (Net)	-15.83	-20.44	-16.52	5.98	6.70		8.65			
<b>Global Equity Composite</b>	-11.78	-15.82	-13.40	5.87	6.52		8.05	9/1/2012	216,331,598	100.00
MSCI AC World Index (Net)	-15.66	-20.18	-15.75	6.21	7.00		8.53			

# Asset Allocation & Performance

## Low Volatility

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>Acadian Global Low Vol.</b>	-8.29	-10.78	-3.94	2.98	4.91		6.36	7/1/2015	228,611,810	50.37
MSCI AC World Index (Net)	-15.66	-20.18	-15.75	6.21	7.00		6.98			
MSCI ACWI Minimum Volatility Index (Net)	-9.27	-12.01	-6.40	2.89	5.72		6.58			
<b>BlackRock Global Low Vol.</b>	-9.22	-11.88	-6.18	2.83	5.87		6.85	7/1/2015	225,235,609	49.63
MSCI ACWI Minimum Volatility Index (Net)	-9.27	-12.01	-6.40	2.89	5.72		6.58			
<b>Global Low Volatility Composite</b>	<b>-8.75</b>	<b>-11.33</b>	<b>-5.07</b>	<b>2.90</b>	<b>5.39</b>		<b>6.61</b>	<b>7/1/2015</b>	<b>453,847,419</b>	<b>100.00</b>
MSCI ACWI Minimum Volatility Index (Net)	-9.27	-12.01	-6.40	2.89	5.72		6.58			

# Asset Allocation & Performance

## Global Listed Infrastructure

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>Atlantic Trust CIBC</b>	-9.16	9.85	10.04	3.26	2.43	5.11	5.27	1/1/2012	63,400,455	34.24
Alerian MLP Index	-7.38	10.04	4.33	0.07	-0.29	0.74	0.67			
<b>Harvest Fund Advisors MLP</b>	-8.52	12.86	13.49	5.72	4.35	5.45	5.40	1/1/2012	63,967,660	34.55
Alerian MLP Index	-7.38	10.04	4.33	0.07	-0.29	0.74	0.67			
<b>C&amp;S Global Listed Infrastructure</b>	-7.11	-4.09	3.50				12.11	11/1/2020	57,781,728	31.21
FTSE Global Core Infrastructure 50/50 (Net)	-7.52	-4.08	2.90				11.76			
<b>Global Listed Infrastructure Composite</b>	-8.25	6.70	9.46	-0.80	0.24	3.81	3.92	1/1/2012	185,149,843	100.00
Global Listed Infrastructure Benchmark	-7.31	6.67	4.47	-3.63	-2.51	-0.40	-0.41			

# Asset Allocation & Performance

## Fixed Income

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>Garcia Hamilton *</b>	-3.78	-8.10	-8.25	-0.35	1.09		2.14	11/1/2013	150,467,327	32.75
Blmbg. U.S. Aggregate	-4.69	-10.35	-10.29	-0.94	0.88		1.70			
<b>Western Asset Management</b>								7/1/2022	154,803,820	33.70
Blmbg. U.S. Aggregate										
<b>Wellington Core Bond</b>								7/1/2022	154,036,082	33.53
Blmbg. U.S. Aggregate										
<b>NT Collective Aggregate Bond Index Fund</b>									1,769	0.00
<b>Securian Asset Management</b>									75,287	0.02
<b>Global Fixed Income Composite</b>	-4.45	-9.88	-9.91	-0.22	1.36	2.15	4.46	10/1/1995	459,384,285	100.00
Blmbg. U.S. Aggregate	-4.69	-10.35	-10.29	-0.94	0.88	1.54	4.49			



# Asset Allocation & Performance

Opportunistic Credit

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation
	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$
Neuberger Berman	-9.23	-13.05	-12.88	-1.11	1.43		3.51	2/1/2016	160,429,188
Custom Benchmark	-8.62	-13.11	-12.44	-1.06	1.25		3.67		

# Asset Allocation & Performance

## High Yield

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>Oaktree Capital Management</b>	-9.62	-12.91	-11.32	0.40	1.60	3.69	5.95	2/1/1997	165,972,574	50.34
FTSE High Yield Market Capped Index	-9.90	-13.77	-12.38	-0.18	1.84	4.06				
FTSE High Yield Cash Pay	-9.86	-13.80	-12.31	0.04	1.97	4.15	6.06			
<b>BlackRock</b>	-9.30	-12.85	-11.42	0.60	2.29	4.16	5.29	10/1/2006	163,702,662	49.66
FTSE High Yield Market Capped Index	-9.90	-13.77	-12.38	-0.18	1.84	4.06	5.55			
FTSE High Yield Cash Pay	-9.86	-13.80	-12.31	0.04	1.97	4.15	5.65			
<b>High Yield Composite</b>	-9.46	-12.88	-11.37	0.51	1.95	4.05	5.78	1/1/1997	329,675,236	100.00
FTSE High Yield Cash Pay	-9.86	-13.80	-12.31	0.04	1.97	4.15	6.07			

# Private Real Estate Summary

Periods Ended as of June 30, 2022

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	TVPI Multiple
Invesco II	81,077,195	65,188,333	65,188,333	12,207,172	Jan-14	6.4%	1.4
<b>Total Direct Private Real Estate</b>	<b>81,077,195</b>	<b>65,188,333</b>	<b>65,188,333</b>	<b>12,207,172</b>	<b>Jan-14</b>	<b>6.4%</b>	<b>1.4</b>

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	TVPI Multiple
Heitman America Real Estate Trust	107,423,966	75,000,000	88,210,161	90,247,268	Dec-10	8.0%	2.2
Invesco Core Real Estate USA	85,963,665	75,000,000	75,000,000	91,218,086	Oct-10	11.6%	2.4
<b>Total Core Private Real Estate</b>	<b>193,387,631</b>	<b>150,000,000</b>	<b>163,210,161</b>	<b>181,465,354</b>	<b>Oct-10</b>	<b>10.4%</b>	<b>2.3</b>

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	TVPI Multiple
AEW Partners Real Estate Fund IX	21,444,567	45,000,000	21,481,481	16,806	Mar-21	-0.3%	1.0
AEW PIX MM Co-Invest	3,247,769	10,000,000	3,113,207	132,389	Nov-21	12.0%	1.1
AEW PIX Oakland Park Co-Invest	5,125,570	5,000,000	5,000,000	-	Feb-22	2.5%	1.0
Virtus Real Estate Capital III	22,332,916	43,281,585	20,159,406	1,959,068	Jan-21	11.7%	1.2
<b>Total Value-Add Private Real Estate</b>	<b>52,150,822</b>	<b>103,281,585</b>	<b>49,754,094</b>	<b>2,108,263</b>	<b>Jan-21</b>	<b>8.8%</b>	<b>1.1</b>

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

# Private Equity Summary

Periods Ended as of June 30, 2022

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple <sup>3</sup>
Hamilton Lane Secondary Fund II	161,948	25,000,000	22,058,532	31,222,789	Jul-09	13.5%	1.4
Hamilton Lane Secondary Fund III	4,459,672	30,000,000	23,372,292	27,402,929	Nov-12	10.5%	1.4
Hamilton Lane Secondary Fund IV	21,475,603	30,000,000	25,907,343	21,413,313	Mar-17	21.6%	1.7
Hamilton Lane Secondary Fund V	50,462,947	65,000,000	36,826,419	5,438,471	Mar-20	43.1%	1.5
Hamilton Lane Fund VII Composite	19,033,391	50,000,000	45,600,834	53,478,581	Jan-10	7.0%	1.6
Hamilton Lane Fund VIII (Global)	20,429,488	30,000,000	22,270,594	14,579,019	Nov-12	8.5%	1.6
GCM Grosvenor - Partnership, L.P.	35,350,773	75,000,000	86,833,339	118,043,237	Jun-11	14.9%	1.8
GCM Grosvenor - Partnership II, L.P. (2014)	54,350,484	60,000,000	70,633,751	62,989,796	Jul-14	18.8%	1.7
GCM Grosvenor - Partnership II, L.P. (2015)	51,834,156	30,000,000	39,221,186	10,684,124	Dec-15	16.6%	1.6
GCM Grosvenor - Partnership II, L.P. (2017)	27,771,716	30,000,000	26,253,710	5,920,137	Jan-18	18.5%	1.3
GCM Grosvenor - Advance Fund, L.P.	3,164,488	10,000,000	3,180,001	53,279	Jun-21	-	1.0
Fairview Capital - Lone Star Fund I	55,688,507	40,000,000	35,713,040	12,887,383	Aug-15	18.9%	1.9
Fairview Capital - Lone Star Fund II	23,491,250	30,000,000	16,930,689	138,948	Dec-18	15.8%	1.4
Fairview Capital - Lone Star Fund III	7,667,393	25,000,000	7,818,534	-	Apr-21	-8.4%	1.0
Fairview Capital - Private Markets Fund VI	1,461,347	10,000,000	1,469,595	-	Apr-22	-0.6%	1.0
<b>Total Private Equity Composite</b>	<b>376,803,163</b>	<b>560,000,000</b>	<b>464,089,858</b>	<b>364,252,008</b>	<b>Jul-09</b>	<b>15.0%</b>	<b>1.6</b>

**Public Market Equivalent (PME) <sup>2</sup>**

**406,351,324**

**15.9%**

# Cash Flow Summary

Dallas Total Fund

1 Quarter Ending June 30, 2022

	Begin Value	Net Cash Flow	Fees	Expenses	Capital Apprec./ Deprec.	End Value
<b>Dallas Total Fund</b>	<b>3,910,313,665</b>	<b>-54,660,094</b>	<b>-3,568,481</b>	<b>-1,055,644</b>	<b>-298,917,432</b>	<b>3,552,112,014</b>
<b>Global Equity Composite</b>	<b>282,161,161</b>	<b>-32,656,935</b>	<b>-377,609</b>	<b>-10,331</b>	<b>-32,784,688</b>	<b>216,331,598</b>
Ariel Global *	121,166,494	-9,000,000	-181,684	-1,289	-6,118,788	105,864,733
Wellington	133,405,419		-195,925	-762	-22,741,867	110,466,865
Northern Trust Global Equity	27,589,248	-23,656,935		-8,279	-3,924,034	
<b>Domestic Equity Composite</b>	<b>585,451,834</b>	<b>7,020</b>	<b>-589,775</b>	<b>-4,899</b>	<b>-91,232,829</b>	<b>493,631,353</b>
Northern Trust S&P 500 (Lending)	180,330,180	7,020		-3,381	-29,023,193	151,310,625
Smith Graham *	83,218,779		-154,816	-196	-12,248,481	70,815,286
T. Rowe Price	171,360,328		-123,288	-159	-28,012,476	143,224,406
Systematic Financial	77,249,794		-160,365	-615	-8,933,400	68,155,415
Redwood Investments *	35,151,148		-62,617	-203	-7,146,969	27,941,359
Channing Capital *	38,141,606		-88,689	-345	-5,868,309	32,184,263
<b>Global Fixed Income Composite</b>	<b>482,160,023</b>	<b>-2,698,913</b>	<b>-136,400</b>	<b>-12,488</b>	<b>-19,927,936</b>	<b>459,384,285</b>
Garcia Hamilton *	63,553,894	89,999,936	-41,661	-1,358	-3,043,484	150,467,327
Wellington Core Bond		153,105,164			930,918	154,036,082
Western Asset Management		153,921,210			882,611	154,803,820
NT Collective Aggregate Bond Index Fund	208,263,459	-198,019,414		-10,710	-10,231,566	1,769
Securian Asset Management	210,342,669	-201,705,808	-94,739	-421	-8,466,415	75,287
<b>Managed Short Term Composite</b>	<b>68,629,010</b>	<b>3,019,680</b>		<b>-979,698</b>	<b>426,641</b>	<b>71,095,633</b>
Cash Account	68,629,010	3,019,680		-979,698	426,641	71,095,633
<b>International Equity Composite</b>	<b>479,851,878</b>	<b>-15,492,981</b>	<b>-655,601</b>	<b>-4,734</b>	<b>-74,023,634</b>	<b>389,674,928</b>
Acadian International	138,254,080	-17,821,746	-178,254	-976	-22,599,828	97,653,275
Ativo International *	41,636,279		-62,620	-121	-6,506,089	35,067,451

# Cash Flow Summary

Dallas Total Fund

1 Quarter Ending June 30, 2022

	Begin Value	Net Cash Flow	Fees	Expenses	Capital Apprec./ Deprec.	End Value
AQR Capital Management	126,623,884	-516	-167,263	-2,864	-16,305,263	110,147,977
Earnest Partners	98,247,548		-144,873	-460	-13,211,230	84,890,985
Baillie Gifford	75,090,086		-102,591	-313	-13,619,859	61,367,323
<b>Total Real Estate Composite</b>	<b>422,618,990</b>	<b>-4,407,930</b>	<b>-156,811</b>	<b>-469</b>	<b>-1,964,411</b>	<b>416,089,368</b>
Adelante Capital Management	60,464,708	-5,000,000	-86,048	-347	-10,778,968	44,599,346
CenterSquare	59,286,359	-5,000,000	-70,764	-123	-9,341,099	44,874,374
Heitman America Real Estate Trust, LP	99,056,494	-646,337			9,013,809	107,423,966
Invesco Core Real Estate USA, LLC	81,303,031	-480,447			5,141,081	85,963,665
Invesco II	82,392,169	-1,314,974				81,077,195
Virtus Real Estate Capital III	15,516,661	3,745,532			3,070,723	22,332,916
AEW PARTNERS REAL ESTATE FUND IX	17,203,342	3,703,703			537,522	21,444,567
AEW PIX MM CO-INVEST	2,396,226	584,592			266,951	3,247,769
AEW PIX OAKLAND PARK CO-INVEST	5,000,000				125,570	5,125,570
<b>Private Equity Composite</b>	<b>338,644,678</b>	<b>7,445,651</b>	<b>-468,915</b>	<b>-35,748</b>	<b>31,217,498</b>	<b>376,803,163</b>
Fairview Capital - Lone Star Fund I	52,418,006	-26,510	-50,000		3,347,011	55,688,507
Fairview Capital - Lone Star Fund II	19,561,393	2,017,698	-37,500		1,949,659	23,491,250
FAIRVIEW LONE STAR FUND III	5,063,860	2,721,590	-119,833	-27,500	29,276	7,667,393
Fairview Private Makets Fund VI		1,469,595		-8,248		1,461,347
Grosvenor Composite	149,567,410	5,152,983	-261,582		18,012,807	172,471,617
Hamilton Lane Secondary Fund II	471,844	-118,934			-190,962	161,948
Hamilton Lane Secondary Fund III	3,913,599				546,073	4,459,672
Hamilton Lane Secondary Fund IV	21,854,951	-262,525			-116,823	21,475,603
Hamilton Lane Secondary Fund V	46,375,428	-1,328,374			5,415,893	50,462,947
Hamilton Lane Fund VIII (Global)	19,633,722	-922,450			1,718,216	20,429,488
Hamilton Lane Fund VII (Series B)	6,017,936	-303,416			270,663	5,985,183
Hamilton Lane Fund VII (Series A)	13,766,529	-954,006			235,685	13,048,208

# Cash Flow Summary

Dallas Total Fund

1 Quarter Ending June 30, 2022

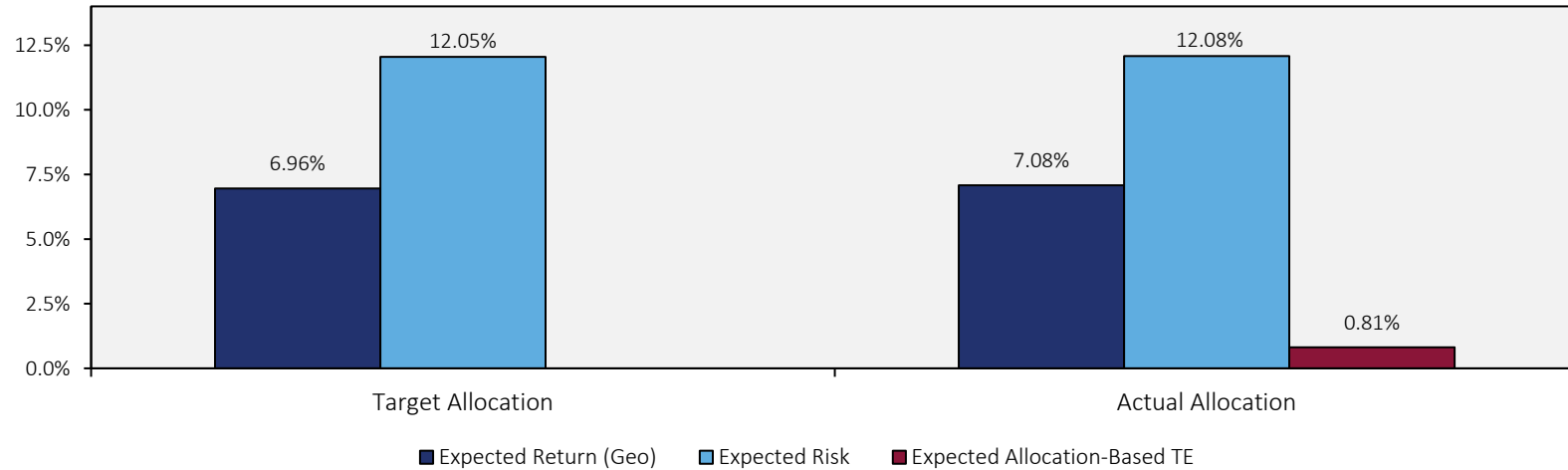
	Begin Value	Net Cash Flow	Fees	Expenses	Capital Apprec./ Deprec.	End Value
<b>Global Listed Infrastructure Composite</b>	<b>212,495,708</b>	<b>-9,830,276</b>	<b>-400,387</b>	<b>-1,232</b>	<b>-17,113,970</b>	<b>185,149,843</b>
Atlantic Trust CIBC	69,793,539		-128,739	-666	-6,263,680	63,400,455
Harvest Fund Advisors MLP	69,753,944	169,724	-169,724	-369	-5,785,915	63,967,660
C&S Global Listed Infrastructure	72,948,224	-10,000,000	-101,924	-197	-5,064,375	57,781,728
<b>High Yield Composite</b>	<b>364,196,122</b>	<b>-69,423</b>	<b>-429,806</b>	<b>-2,647</b>	<b>-34,019,010</b>	<b>329,675,236</b>
Oaktree Capital Management	183,707,160	-69,423	-225,903	-1,118	-17,438,142	165,972,574
BlackRock	180,488,962		-203,903	-1,529	-16,580,868	163,702,662
<b>Global Low Volatility Composite</b>	<b>497,363,281</b>	<b>24,013</b>	<b>-227,406</b>	<b>-710</b>	<b>-43,311,759</b>	<b>453,847,419</b>
Acadian Global Low Vol.	249,271,845		-203,393	-710	-20,455,932	228,611,810
BlackRock Global Low Vol.	248,091,436	24,013	-24,013		-22,855,827	225,235,609

# Risk Analysis & Performance Objectives

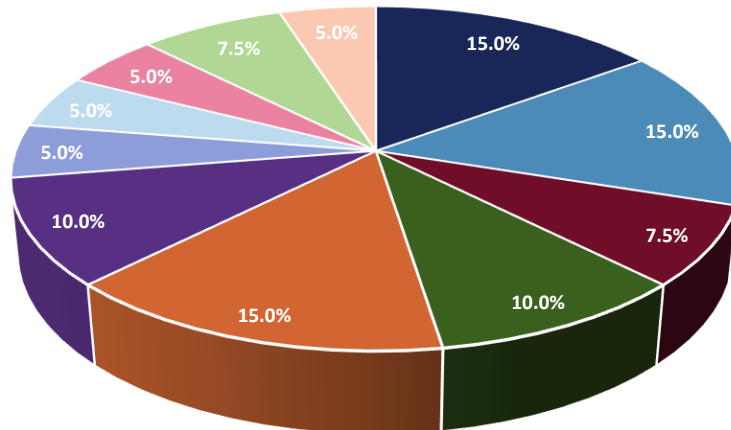


# Expected Return and Risk

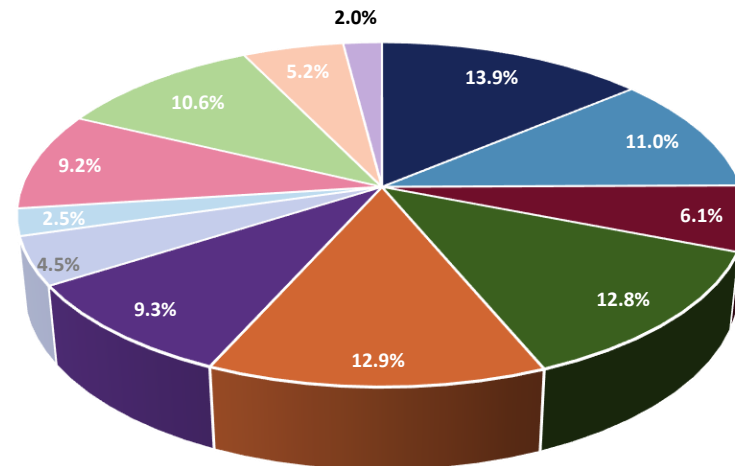
Periods Ended as of June 30, 2022



Target Asset Allocation



Actual Asset Allocation

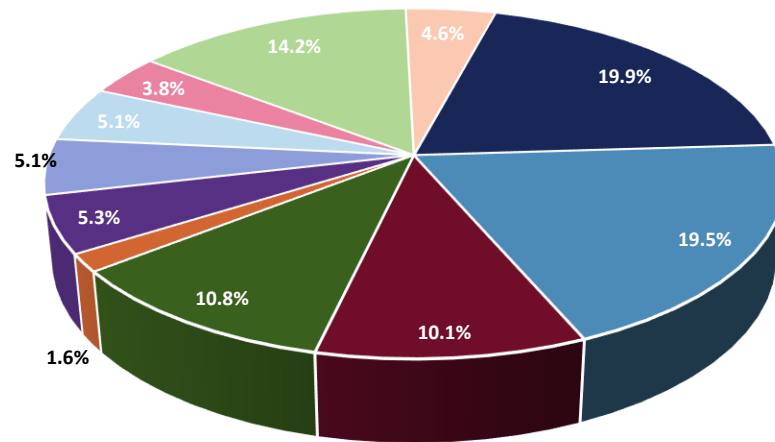


Domestic Equity    Int'l Equity    Global Equity    Global Low Vol    Global Fixed Income    High Yield  
 Opp Credit    Public REITs    Private Real Est.    Private Equity    Global Listed Infra    Cash

# Expected Return and Risk

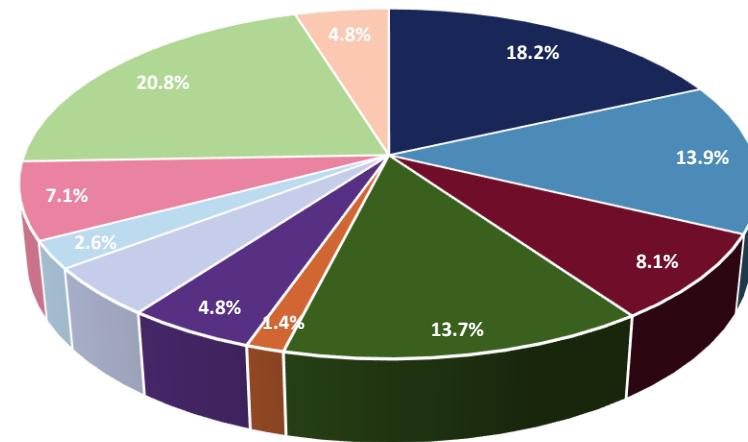
Periods Ended as of June 30, 2022

Contribution to Total Risk - Target Allocation



Domestic Equity    Int'l Equity    Global Equity  
Opp Credit    Public REITs    Private Real Est.

Contribution to Total Risk - Actual Allocation

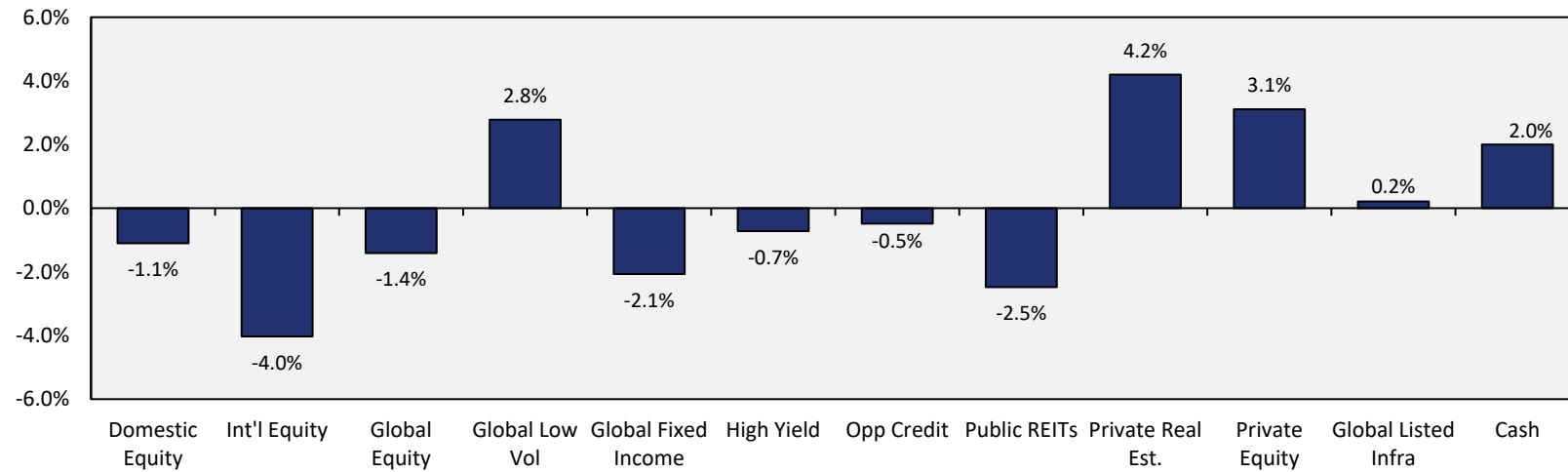


Global Low Vol    Global Fixed Income    High Yield  
Private Equity    Global Listed Infra    Cash

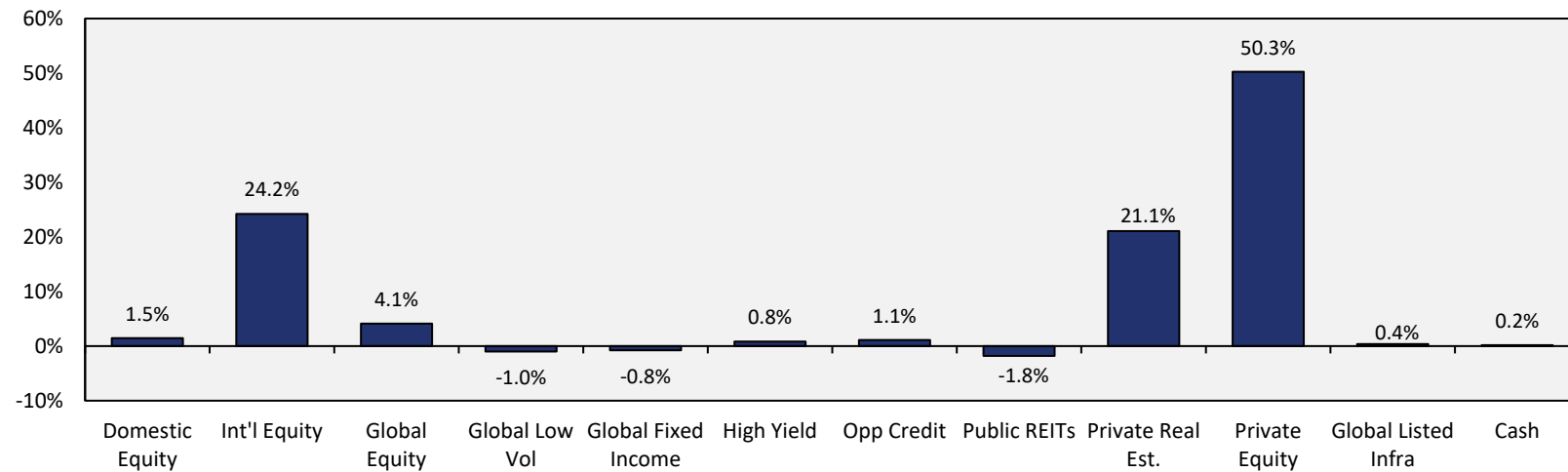
# Expected Return and Risk

Periods Ended as of June 30, 2022

Asset Allocation Variance



Contribution to Tracking Error



# 1-Year Risk Statistics

Periods Ended June 30, 2022

	1 Year Standard Deviation	1 Year Sharpe Ratio	1 Year Excess Risk	1 Year Information Ratio
<b>DOMESTIC EQUITY</b>				
<b>Systematic Financial</b>	<b>13.19</b>	<b>-0.95</b>	<b>13.19</b>	<b>2.15</b>
Russell 2000 Index	16.32	-1.68	16.31	
<b>Channing Capital *</b>	<b>17.31</b>	<b>-0.84</b>	<b>17.31</b>	<b>0.28</b>
Russell 2000 Value Index	15.70	-1.05	15.70	
<b>Redwood Investments *</b>	<b>20.55</b>	<b>-1.67</b>	<b>20.55</b>	<b>0.60</b>
Russell 2000 Growth Index	18.10	-2.12	18.10	
<b>Smith Graham *</b>	<b>16.05</b>	<b>-0.55</b>	<b>16.05</b>	<b>1.34</b>
Russell Midcap Index	16.83	-1.04	16.83	
<b>T. Rowe Price</b>	<b>16.88</b>	<b>-0.62</b>	<b>16.88</b>	<b>-0.56</b>
S&P 500	17.09	-0.58	17.09	
<b>INTERNATIONAL EQUITY</b>				
<b>Acadian International</b>	<b>17.18</b>	<b>-1.15</b>	<b>17.17</b>	<b>0.90</b>
MSCI AC World ex USA Small Cap (Net)	14.77	-1.64	14.77	
<b>AQR Capital Management</b>	<b>12.90</b>	<b>-1.68</b>	<b>12.89</b>	<b>-0.25</b>
Custom Benchmark	12.48	-1.66	12.48	
<b>Ativo International *</b>	<b>15.51</b>	<b>-1.22</b>	<b>15.51</b>	<b>-0.10</b>
MSCI EAFE Index (Net)	13.90	-1.34	13.90	
<b>GLOBAL EQUITY</b>				
<b>Wellington</b>	<b>15.52</b>	<b>-1.51</b>	<b>15.52</b>	<b>-2.76</b>
MSCI AC World Index (Net)	14.87	-1.08	14.88	
<b>Ariel Global *</b>	<b>10.84</b>	<b>-0.21</b>	<b>10.83</b>	<b>1.66</b>
MSCI AC World Index (Net)	14.87	-1.08	14.88	
<b>GLOBAL LOW VOLATILITY</b>				
<b>Acadian Global Low Vol.</b>	<b>11.43</b>	<b>-0.31</b>	<b>11.43</b>	<b>1.99</b>
MSCI AC World Index (Net)	14.87	-1.08	14.88	

# 1-Year Risk Statistics

Periods Ended June 30, 2022

	1 Year Standard Deviation	1 Year Sharpe Ratio	1 Year Excess Risk	1 Year Information Ratio
<b>REIT's</b>				
<b>Adelante Capital Management</b>	<b>20.55</b>	<b>-0.20</b>	<b>20.57</b>	<b>0.81</b>
Wilshire U.S. Real Estate Securities Index	20.91	-0.23	20.94	
<b>CenterSquare</b>	<b>19.66</b>	<b>-0.16</b>	<b>19.68</b>	<b>0.70</b>
Wilshire U.S. Real Estate Securities Index	20.91	-0.23	20.94	
<b>GLOBAL FIXED INCOME</b>				
<b>Garcia Hamilton *</b>	<b>4.02</b>	<b>-2.16</b>	<b>4.01</b>	<b>2.32</b>
Blmbg. U.S. Aggregate	4.85	-2.24	4.85	
<b>HIGH YIELD</b>				
<b>BlackRock</b>	<b>7.04</b>	<b>-1.70</b>	<b>7.05</b>	<b>1.43</b>
FTSE High Yield Cash Pay	7.61	-1.70	7.62	
<b>Oaktree Capital Management</b>	<b>7.55</b>	<b>-1.57</b>	<b>7.55</b>	<b>1.89</b>
FTSE High Yield Cash Pay	7.61	-1.70	7.62	
<b>CREDIT OPPORTUNITIES</b>				
<b>Neuberger Berman</b>	<b>5.99</b>	<b>-2.28</b>	<b>6.00</b>	<b>-0.60</b>
Custom Benchmark	5.91	-2.23	5.92	
<b>MLP's</b>				
<b>Harvest Fund Advisors MLP</b>	<b>20.48</b>	<b>0.72</b>	<b>20.48</b>	<b>1.16</b>
Alerian MLP Index	12.86	-0.37	12.86	
<b>Atlantic Trust CIBC</b>	<b>19.96</b>	<b>0.58</b>	<b>19.96</b>	<b>0.98</b>
Alerian MLP Index	12.86	-0.37	12.86	

# 3-Year Risk Statistics

Periods Ended June 30, 2022

	3 Years Standard Deviation	3 Years Sharpe Ratio	3 Years Excess Risk	3 Years Information Ratio
<b>DOMESTIC EQUITY</b>				
<b>Systematic Financial</b>	<b>21.98</b>	<b>0.40</b>	<b>22.11</b>	<b>0.30</b>
Russell 2000 Index	23.92	0.27	24.03	
<b>Channing Capital *</b>	<b>25.88</b>	<b>0.36</b>	<b>26.00</b>	<b>0.10</b>
Russell 2000 Value Index	25.10	0.34	25.22	
<b>Redwood Investments *</b>	<b>21.40</b>	<b>0.25</b>	<b>21.48</b>	<b>0.17</b>
Russell 2000 Growth Index	24.40	0.15	24.49	
<b>Smith Graham *</b>	<b>26.92</b>	<b>0.52</b>	<b>27.05</b>	<b>0.54</b>
Russell Midcap Index	21.36	0.38	21.47	
<b>T. Rowe Price</b>	<b>18.73</b>	<b>0.61</b>	<b>18.82</b>	<b>0.22</b>
S&P 500	18.38	0.61	18.47	
<b>INTERNATIONAL EQUITY</b>				
<b>Acadian International</b>	<b>20.88</b>	<b>0.31</b>	<b>20.99</b>	<b>0.40</b>
MSCI AC World ex USA Small Cap (Net)	21.14	0.22	21.25	
<b>AQR Capital Management</b>	<b>18.08</b>	<b>0.10</b>	<b>18.19</b>	<b>-0.11</b>
Custom Benchmark	17.22	0.13	17.32	
<b>Ativo International *</b>	<b>18.56</b>	<b>0.03</b>	<b>18.66</b>	<b>-0.31</b>
MSCI EAFE Index (Net)	17.76	0.11	17.85	
<b>GLOBAL EQUITY</b>				
<b>Wellington</b>	<b>18.22</b>	<b>0.28</b>	<b>18.31</b>	<b>-0.53</b>
MSCI AC World Index (Net)	17.77	0.39	17.87	
<b>Ariel Global *</b>	<b>12.59</b>	<b>0.56</b>	<b>12.68</b>	<b>0.01</b>
MSCI AC World Index (Net)	17.77	0.39	17.87	
<b>GLOBAL LOW VOLATILITY</b>				
<b>Acadian Global Low Vol.</b>	<b>14.13</b>	<b>0.23</b>	<b>14.24</b>	<b>-0.51</b>
MSCI AC World Index (Net)	17.77	0.39	17.87	

# 3-Year Risk Statistics

Periods Ended June 30, 2022

	3 Years Standard Deviation	3 Years Sharpe Ratio	3 Years Excess Risk	3 Years Information Ratio
<b>REIT's</b>				
<b>Adelante Capital Management</b>	<b>19.50</b>	<b>0.34</b>	<b>19.61</b>	<b>0.79</b>
Wilshire U.S. Real Estate Securities Index	20.46	0.27	20.57	
<b>CenterSquare</b>	<b>19.95</b>	<b>0.36</b>	<b>20.06</b>	<b>0.84</b>
Wilshire U.S. Real Estate Securities Index	20.46	0.27	20.57	
<b>GLOBAL FIXED INCOME</b>				
<b>Garcia Hamilton *</b>	<b>4.12</b>	<b>-0.22</b>	<b>4.10</b>	<b>0.44</b>
Blmbg. U.S. Aggregate	4.49	-0.33	4.43	
<b>HIGH YIELD</b>				
<b>BlackRock</b>	<b>9.91</b>	<b>0.05</b>	<b>10.00</b>	<b>0.18</b>
FTSE High Yield Cash Pay	9.99	-0.01	10.10	
<b>Oaktree Capital Management</b>	<b>9.41</b>	<b>0.02</b>	<b>9.51</b>	<b>0.29</b>
FTSE High Yield Cash Pay	9.99	-0.01	10.10	
<b>CREDIT OPPORTUNITIES</b>				
<b>Neuberger Berman</b>	<b>10.99</b>	<b>-0.10</b>	<b>11.11</b>	<b>0.05</b>
Custom Benchmark	9.76	-0.12	9.88	
<b>MLP's</b>				
<b>Harvest Fund Advisors MLP</b>	<b>35.31</b>	<b>0.33</b>	<b>35.46</b>	<b>0.24</b>
Alerian MLP Index	46.39	0.17	46.53	
<b>Atlantic Trust CIBC</b>	<b>39.39</b>	<b>0.28</b>	<b>39.54</b>	<b>0.24</b>
Alerian MLP Index	46.39	0.17	46.53	

# 5-Year Risk Statistics

Periods Ended June 30, 2022

	5 Years Standard Deviation	5 Years Sharpe Ratio	5 Years Excess Risk	5 Years Information Ratio
<b>DOMESTIC EQUITY</b>				
<b>Systematic Financial</b>	<b>20.44</b>	<b>0.37</b>	<b>20.54</b>	<b>0.19</b>
Russell 2000 Index	21.85	0.29	21.92	
<b>Channing Capital *</b>	<b>23.72</b>	<b>0.29</b>	<b>23.81</b>	<b>0.07</b>
Russell 2000 Value Index	22.49	0.28	22.58	
<b>Redwood Investments *</b>	<b>20.58</b>	<b>0.30</b>	<b>20.63</b>	<b>-0.01</b>
Russell 2000 Growth Index	22.46	0.27	22.51	
<b>Smith Graham *</b>				
Russell Midcap Index	19.16	0.44	19.24	
<b>T. Rowe Price</b>	<b>17.10</b>	<b>0.67</b>	<b>17.17</b>	<b>0.34</b>
S&P 500	16.80	0.66	16.87	
<b>INTERNATIONAL EQUITY</b>				
<b>Acadian International</b>	<b>18.64</b>	<b>0.26</b>	<b>18.73</b>	<b>0.38</b>
MSCI AC World ex USA Small Cap (Net)	18.27	0.17	18.35	
<b>AQR Capital Management</b>	<b>16.67</b>	<b>0.08</b>	<b>16.75</b>	<b>-0.42</b>
Custom Benchmark	15.57	0.17	15.64	
<b>GLOBAL EQUITY</b>				
<b>Wellington</b>	<b>17.05</b>	<b>0.32</b>	<b>17.11</b>	<b>-0.43</b>
MSCI AC World Index (Net)	16.07	0.43	16.13	
<b>GLOBAL LOW VOLATILITY</b>				
<b>Acadian Global Low Vol.</b>	<b>12.63</b>	<b>0.35</b>	<b>12.69</b>	<b>-0.38</b>
MSCI AC World Index (Net)	16.07	0.43	16.13	
<b>REIT's</b>				
<b>Adelante Capital Management</b>	<b>17.28</b>	<b>0.40</b>	<b>17.34</b>	<b>0.70</b>
Wilshire U.S. Real Estate Securities Index	18.11	0.32	18.17	



# 5-Year Risk Statistics

Periods Ended June 30, 2022

	5 Years Standard Deviation	5 Years Sharpe Ratio	5 Years Excess Risk	5 Years Information Ratio
<b>GLOBAL FIXED INCOME</b>				
<b>Garcia Hamilton *</b>	<b>3.51</b>	<b>0.01</b>	<b>3.45</b>	<b>0.16</b>
Blmbg. U.S. Aggregate	4.01	-0.04	3.92	
<b>HIGH YIELD</b>				
<b>BlackRock</b>	<b>8.24</b>	<b>0.18</b>	<b>8.29</b>	<b>0.13</b>
FTSE High Yield Cash Pay	8.33	0.14	8.40	
<b>Oaktree Capital Management</b>	<b>7.92</b>	<b>0.10</b>	<b>7.99</b>	<b>-0.47</b>
FTSE High Yield Cash Pay	8.33	0.14	8.40	
<b>CREDIT OPPORTUNITIES</b>				
<b>Neuberger Berman</b>	<b>8.93</b>	<b>0.08</b>	<b>9.01</b>	<b>0.19</b>
Custom Benchmark	7.97	0.06	8.03	
<b>MLP's</b>				
<b>Harvest Fund Advisors MLP</b>	<b>30.37</b>	<b>0.27</b>	<b>30.47</b>	<b>0.28</b>
Alerian MLP Index	37.89	0.11	38.00	
<b>Atlantic Trust CIBC</b>	<b>33.06</b>	<b>0.22</b>	<b>33.16</b>	<b>0.27</b>
Alerian MLP Index	37.89	0.11	38.00	

# 10-Year Risk Statistics

Periods Ended June 30, 2022

	10 Years Standard Deviation	10 Years Sharpe Ratio	10 Years Excess Risk	10 Years Information Ratio
<b>DOMESTIC EQUITY</b>				
<b>Systematic Financial</b>	<b>17.03</b>	<b>0.70</b>	<b>17.10</b>	<b>0.36</b>
Russell 2000 Index	18.28	0.55	18.33	
<b>T. Rowe Price</b>	<b>13.88</b>	<b>0.93</b>	<b>13.92</b>	<b>0.39</b>
S&P 500	13.65	0.92	13.69	
<b>INTERNATIONAL EQUITY</b>				
<b>Acadian International</b>	<b>15.71</b>	<b>0.56</b>	<b>15.76</b>	<b>0.58</b>
MSCI AC World ex USA Small Cap (Net)	15.26	0.43	15.31	
<b>AQR Capital Management</b>	<b>14.16</b>	<b>0.40</b>	<b>14.21</b>	<b>0.24</b>
Custom Benchmark	13.68	0.37	13.72	
<b>REIT's</b>				
<b>Adelante Capital Management</b>	<b>15.23</b>	<b>0.53</b>	<b>15.26</b>	<b>0.16</b>
Wilshire U.S. Real Estate Securities Index	16.00	0.49	16.03	
<b>HIGH YIELD</b>				
<b>BlackRock</b>	<b>6.75</b>	<b>0.54</b>	<b>6.79</b>	<b>-0.01</b>
FTSE High Yield Cash Pay	7.06	0.52	7.11	
<b>Oaktree Capital Management</b>	<b>6.77</b>	<b>0.47</b>	<b>6.82</b>	<b>-0.51</b>
FTSE High Yield Cash Pay	7.06	0.52	7.11	
<b>MLP's</b>				
<b>Harvest Fund Advisors MLP</b>	<b>24.73</b>	<b>0.32</b>	<b>24.79</b>	<b>0.43</b>
Alerian MLP Index	29.48	0.13	29.54	
<b>Atlantic Trust CIBC</b>	<b>26.62</b>	<b>0.30</b>	<b>26.68</b>	<b>0.55</b>
Alerian MLP Index	29.48	0.13	29.54	

# Asset Allocation & Performance

## DOMESTIC EQUITY

Periods Ended June 30, 2022

	Performance (%) net of fees			
	3 Years	5 Years	Since Inception	Inception Date
<b>DOMESTIC EQUITY</b>				
<b>T. Rowe Price</b>	<b>10.80</b>	<b>11.65</b>	<b>9.51</b>	<b>4/1/2006</b>
Standard & Poor's 500 +1%	11.70	12.42	10.10	
Value Added	-0.90	-0.77	-0.59	
<b>Systematic Financial</b>	<b>7.14</b>	<b>6.81</b>	<b>10.15</b>	<b>8/1/2003</b>
Russell 2000 + 1.25%	5.52	6.49	9.76	
Value Added	1.62	0.32	0.39	
<b>Channing Capital *</b>	<b>6.87</b>	<b>5.14</b>	<b>5.99</b>	<b>12/1/2013</b>
Russell 2000 Value + 1.25%	7.51	6.21	7.35	
Value Added	-0.64	-1.07	-1.36	
<b>Redwood Investments *</b>	<b>3.83</b>	<b>5.16</b>	<b>6.02</b>	<b>10/1/2016</b>
Russell 2000 Growth + 1.50%	2.94	6.38	8.15	
Value Added	0.89	-1.22	-2.13	
<b>Smith Graham *</b>	<b>11.20</b>		<b>6.46</b>	<b>1/1/2018</b>
Russell Mid Cap + 2%	8.74		8.80	
Value Added	2.46		-2.34	

# Asset Allocation & Performance

## INTERNATIONAL EQUITY

Periods Ended June 30, 2022

	Performance (%) net of fees			
	3 Years	5 Years	Since Inception	Inception Date
<b>INTERNATIONAL EQUITY</b>				
<b>Acadian International</b>	<b>4.98</b>	<b>4.20</b>	<b>8.03</b>	<b>4/1/1989</b>
Custom Benchmark + 2%	5.02	4.62	7.64	
Value Added	-0.04	-0.42	0.39	
<b>AQR Capital Management</b>	<b>0.84</b>	<b>1.03</b>	<b>2.67</b>	<b>4/1/2006</b>
Custom Benchmark +1.5%	2.87	4.03	4.08	
Value Added	-2.03	-3.00	-1.41	
<b>Ativo International *</b>	<b>-0.64</b>		<b>-0.26</b>	<b>1/1/2018</b>
MSCI EAFE Index (N) + 2%	3.11		2.36	
Value Added	-3.75		-2.62	
<b>Baillie Gifford</b>	<b>-0.92</b>		<b>0.89</b>	<b>4/1/2019</b>
MSCI ACWI ex US + 2.00%	3.40		4.23	
Value Added	-4.32		-3.34	
<b>Earnest Partners</b>	<b>4.87</b>		<b>5.31</b>	<b>4/1/2019</b>
MSCI ACWI ex US + 2.00%	3.40		4.23	
Value Added	1.47		1.08	

# Asset Allocation & Performance

## GLOBAL EQUITY

Periods Ended June 30, 2022

	Performance (%) net of fees			
	3 Years	5 Years	Since Inception	Inception Date
<b>GLOBAL EQUITY</b>				
<b>Wellington</b>	<b>4.18</b>	<b>5.27</b>	<b>9.35</b>	<b>9/1/2012</b>
MSCI ACWI (N) + 2%	8.35	9.15	10.70	
Value Added	-4.17	-3.88	-1.35	
<b>Ariel Global *</b>	<b>7.18</b>		<b>5.87</b>	<b>1/1/2018</b>
MSCI ACWI (N) + 1.5%	7.81		6.88	
Value Added	-0.63		-1.01	
<b>Acadian Global Low Vol.</b>	<b>2.98</b>	<b>4.91</b>	<b>6.36</b>	<b>7/1/2015</b>
MSCI ACWI (N) + 2%	8.35	9.15	9.13	
Value Added	-5.37	-4.24	-2.77	

# Asset Allocation & Performance

## REAL ESTATE

Periods Ended June 30, 2022

	Performance (%) net of fees			
	3 Years	5 Years	Since Inception	Inception Date
<b>REAL ESTATE</b>				
<b>Adelante Capital Management</b>	<b>5.55</b>	<b>6.63</b>	<b>9.42</b>	<b>10/1/2001</b>
Wilshire Real Est. Secs + 1%	5.03	6.31	10.56	
Value Added	0.52	0.32	-1.14	
<b>CenterSquare</b>	<b>5.92</b>		<b>8.30</b>	<b>6/1/2018</b>
Wilshire Real Est. Secs + 1%	5.03		7.65	
Value Added	0.89		0.65	

# Asset Allocation & Performance

## FIXED INCOME

Periods Ended June 30, 2022

	Performance (%) net of fees			
	3 Years	5 Years	Since Inception	Inception Date
FIXED INCOME				
Garcia Hamilton *	-0.35	1.09	2.14	11/1/2013
Bloomberg Aggregate + 0.5%	-0.44	1.38	2.21	
Value Added	0.09	-0.29	-0.07	
HIGH YIELD				
Oaktree Capital Management	0.40	1.60	5.90	4/1/1988
FTSE HY Cash Pay + 1%	1.04	3.00		
Value Added	-0.64	-1.40		
BlackRock	0.60	2.29	5.29	10/1/2006
FTSE HY Cash Pay + 1%	1.04	2.99	6.70	
Value Added	-0.44	-0.70	-1.41	
CREDIT OPPORTUNITIES				
Neuberger Berman	-1.11	1.43	3.51	2/1/2016
Custom Benchmark + 1%	-0.06	2.27	4.71	
Value Added	-1.05	-0.84	-1.20	

# Asset Allocation & Performance

## MLP

*Periods Ended June 30, 2022*

	Performance (%) net of fees			
	3 Years	5 Years	Since Inception	Inception Date
<b>MLP's</b>				
Harvest Fund Advisors MLP	5.72	4.35	5.40	1/1/2012
Alerian MLP Index + 1.5%	-1.61	-0.70	1.26	
Value Added	7.33	5.05	4.14	
<b>Atlantic Trust CIBC</b>	3.26	2.43	5.27	1/1/2012
Alerian MLP Index + 1.5%	-1.61	-0.70	1.26	
Value Added	4.87	3.13	4.01	



# 2021 ANNUAL COMPREHENSIVE FINANCIAL REPORT

FISCAL YEARS ENDED  
DECEMBER 31, 2021 & 2020



**EMPLOYEES'**  
**RETIREMENT FUND**  
OF THE CITY OF DALLAS

DALLAS, TX

## 2021 AT – A – GLANCE

(unaudited)

(\$ in thousands)

Active Members	7,175
Benefit Recipients	7,655
Inactive Members	1,981
Fund Net Position	\$4,093,215
Benefits Paid	\$296,587
Refunds	\$10,452
Member Contributions	\$59,256
City Contributions	\$63,584
Investment Rate of Return	16.4%

The Employees' Retirement Fund provides retirement, disability and death benefits to permanent civilian employees of the City of Dallas.

---

# ANNUAL COMPREHENSIVE FINANCIAL REPORT | 2021

FISCAL YEARS ENDED  
DECEMBER 31, 2021 AND 2020



Prepared by the Staff of The Employees' Retirement Fund

**CHERYL D. ALSTON**  
EXECUTIVE DIRECTOR

## EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

1920 McKinney Ave, 10th Floor | Dallas, TX | 75201

Phone 214.580.7700 | Fax 214.580.3515

[www.dallaserf.org](http://www.dallaserf.org)



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# INTRODUCTORY SECTION





## LETTER OF TRANSMITTAL

July 27, 2022

Board of Trustees  
Employees' Retirement Fund of the City of Dallas  
1920 McKinney Avenue - 10th Floor  
Dallas, Texas 75201

Dear Board Members:

The Annual Comprehensive Financial Report ("Annual Report" or "ACFR") of the Employees' Retirement Fund of the City of Dallas ("ERF" or "Plan") for the fiscal years ended December 31, 2021 and 2020 is submitted herewith. Our mission is to provide retirement benefits and superior service to advance the financial security of our members. The management of ERF assumes full responsibility for both the accuracy of the data and the completeness and fairness of the presentation based upon a comprehensive framework of internal control that it has established for this purpose. Because the cost of internal control should not exceed anticipated benefits, the objective is to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements.

Weaver and Tidwell, L.L.P. have issued an unmodified ("clean") opinion on the financial statements for the year ended December 31, 2021. The independent auditor's report is located at the front of the financial section of this report.

Management's discussion and analysis (MD&A) immediately follows the independent auditor's report and provides a narrative introduction, overview, and analysis of the basic financial statements. MD&A complements this letter of transmittal and should be read in conjunction with it.

### Plan Overview

ERF was established by ordinance in November 1943 and became effective in January 1944 after ratification by the voters of the City of Dallas. ERF is a single-employer defined benefit pension plan sponsored by the City of Dallas, Texas (the "City"), and it provides retirement, disability, and death benefits to its members. All employees of the City are members except police officers, firefighters, elected officers, non-salaried appointee members of administrative boards or commissions, temporary employees, individuals working under contract, and individuals whose salaries are paid in part by another government agency. Members are entitled to retirement benefits at the date of eligibility for retirement or disability or to survivor benefits after two years of service.

### Investments

The Board of Trustees oversees ERF's portfolio, managers, and performance, as well as reviews and approves potential investment opportunities, with input from the investment consultant and staff. The Board follows the "prudent person rule" which states that fiduciaries shall discharge their duties solely in the interest of ERF and its participants and beneficiaries with the degree of diligence, care and skill which prudent men and women would ordinarily exercise under similar circumstances in such a position.

An integral part of the overall investment policy is the strategic asset allocation policy. This policy is designed to provide an optimal diversification to reduce risk and maximize the total rate of return relative to risk. This emphasizes



a maximum diversification of the portfolio that protects ERF from declines that a particular asset class may experience in a given period. The Plan had a return of 16.4% for 2021, 5.8% for 2020, and 17.6% for 2019. The Fund expects and assumes an investment rate of 7.25% over the long term, which encompasses many years in the future.

#### Additions to Plan Net Position

The collection of employer and member contributions, as well as income from investments, is intended to provide the reserves needed to finance retirement benefits. Contribution and net investment income, including unrealized gains and losses, for 2021 total \$700.9 million.

City and member contributions for the fiscal year were slightly less than \$122.9 million, an increase of \$2.9 million from the prior year. This is primarily attributed to merit pay increase for civilian employees. The City's net contribution rate toward the pension plan was 13.76% in 2021. The City's total contribution rate was 22.68%, of which 8.92% was for debt service payments on pension obligation bonds. The members' contribution rate remained unchanged in 2021. The City's contributions received in 2021 were \$63.6 million and members' contributions were \$59.3 million

#### Deductions to Plan Net Position

The principal purpose for which ERF was established is to provide retirement benefits, survivor benefits, and total and permanent disability benefits to qualified members and their beneficiaries. The cost of such programs includes recurring benefit payments, refund of contributions to terminated employees, and the cost of administering ERF.

Deductions for fiscal year 2021 totaled \$314.4 million, an increase of 4.65% over 2020. This increase was due to the increased average number of retirees/beneficiaries, and the cost of living adjustment of 1.35%, and higher average benefit payment for new retirees vs retirees who passed. Administrative expenses, which are controlled by a budget approved by the Board of Trustees, increased from the prior year by \$848 thousand.

#### Accounting System and Internal Controls

This ACFR was prepared to conform with Generally Accepted Accounting Principles ("GAAP") generally accepted in the United States of America that apply to government accounting for fiduciary funds. The accompanying financial statements are prepared using the accrual basis of accounting. Member and employer contributions are recognized in the period in which employee services are performed. Expenses are recorded when the corresponding liabilities are incurred, regardless of when payment is made.

The statistical section presents detailed information, typically in ten-year trends, that assists users in utilizing the basic financial statements, notes to basic financial statements, and required supplementary information to assess the economic condition of a government. The statistical section is a required part of an ACFR.

In developing and evaluating ERF's accounting system, it was determined that internal controls adequately safeguard assets and provide reasonable assurance of proper recording of financial transactions.



### Funding

A pension fund is well funded when it is receiving enough money to meet all expected future obligations to its participants. ERF's funding objective is to meet long-term benefit payments through contributions that remain approximately level as a percent of member payroll. The actuarial accrued liability and actuarial value of assets of ERF as of December 31, 2021 amounted to \$5.09 billion and \$3.87 billion, respectively. A detailed discussion of funding is provided in the Actuarial Section of this report.

### Professional Services

Consultants are appointed by the Board of Trustees to perform professional services that are essential to the effective and efficient operation of ERF. An opinion from the certified public accounting firm of Weaver and Tidwell, L.L.P., the actuarial report from Gabriel, Roeder, Smith & Company, and the investment consultant letter from Wilshire Associates Inc. are included in this report. The consultants appointed by the Board of Trustees are listed in the Introductory Section.

### Awards and Acknowledgments

The Government Finance Officers Association of the United States and Canada ("GFOA") awarded a Certificate of Achievement for Excellence in Financial Reporting to the Employees' Retirement Fund of the City of Dallas for its Annual Report for the fiscal year ended December 31, 2020. The Certificate of Achievement is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government financial reports. This was the fifth consecutive year that ERF had achieved this prestigious award. To be awarded a Certificate of Achievement, the ERF had to publish an easily readable and efficiently organized Annual Report that satisfied both GAAP and applicable program requirements.

A Certificate of Achievement is valid for a period of one year. We believe our current report continues to conform to the Certificate of Achievement Program requirements, and we are submitting it to the GFOA to determine its eligibility for another certificate.

The compilation of this report reflects the combined effort of the staff under the leadership of the Board of Trustees. It is intended to provide complete and reliable information as a basis for making management decisions, as a means of determining compliance with legal provisions, and as a means of determining responsible stewardship of the funds of ERF. The report is available to all members of ERF.

We would like to express our gratitude to the staff, the advisors, and others who have worked so diligently to assure the successful operation of ERF.

Respectfully submitted,

Cheryl D. Alston  
Executive Director

Edward R. Scott  
Chief Financial Officer



Government Finance Officers Association

Certificate of  
Achievement  
for Excellence  
in Financial  
Reporting

Presented to

**Employees' Retirement Fund of the City of Dallas  
Texas**

For its Annual Comprehensive  
Financial Report  
For the Fiscal Year Ended

December 31, 2020

*Christopher P. Morill*

Executive Director/CEO

## BOARD OF TRUSTEES

*As of December 31, 2021*

Henry Talavera – Chair  
Council Appointed Member

Dr. John W. Peavy III – Vice Chair  
Council Appointed Member

Carla B. Brewer  
Employee Elected Member

Sunil King  
Employee Elected Member

Tina B. Richardson  
Employee Elected Member

Mark S. Swann  
City Auditor

T. Dupree Scovell  
Council Appointed Member

## ADMINISTRATIVE STAFF

*As of December 31, 2021*

Cheryl D. Alston  
Executive Director/Chief Investment Officer

David K. Etheridge  
Deputy Executive Director

Edward Scott, CPA, CGMA  
Chief Financial Officer

Natalie Jenkins Sorrell  
Deputy Chief Investment Officer

Duc Lam  
Chief Technology Officer

Melissa Harris  
Chief of Communications

C. Kay Watson  
Chief Compliance Officer

Juan Carlos Ayala  
Senior Pension Specialist

Andrew Barker, CPA  
Controller

Joshua Berman  
Investment Officer

Ruby Castelano  
Senior Office Assistant

Anita Gage  
Senior Pension Specialist

Micaela Galicia  
Pension System Specialist

Yvonne Garcia  
Administrative Specialist II

Todd Green  
Pension Officer

Andrea Houston  
Pension Officer

Patricia Jack  
Pension Officer

Jessie Jayakumar  
System Analyst

Kaleb Jones  
Pension Officer

Naveed Khan  
Senior Accounting Specialist

Margaret Lara  
Senior Pension Specialist

Susan Oakey  
Compliance Officer

Aditi Patel  
Communications Specialist

Al Perez  
Pension Officer

Phong Pham  
Cyber Security Administrator

Diann Salone  
Pension Payroll Manager

Kate Shaw  
Brand Manager

Jaladhi Shukla  
Investment Analyst

Nicole Spencer-Berry  
Senior Pension Specialist

Jody Thigpen  
Senior Web Developer

Jason Thompson  
System Administrator

Trevor Thompson  
Desktop Support Engineer

Mubina Tukulic  
Communications Specialist

Saki Vimal  
Financial Planning & Analysis Manager

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## **PROFESSIONAL SERVICE PROVIDERS**

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*As of December 31, 2021*

### **MASTER CUSTODIAN**

The Northern Trust Company

### **CONSULTING ACTUARY**

Gabriel, Roeder, Smith & Company

### **INVESTMENT CONSULTANT**

Wilshire Advisors LLC

Bloomberg Inc

### **INVESTMENT ACCOUNTING FIRM**

STP Investment Services

### **AUDITOR**

Weaver and Tidwell, L.L.P.

### **LEGAL ADVISORS**

Foster Garvey PC

Locke Lord LLP

The Schedule of Investment Management Fees can be found on page 80.



PLAN SUMMARY

Summary of Key Provisions

Employees’ Retirement Fund of the City of Dallas  
As of December 31, 2021

**Membership** An employee becomes a member upon permanent employment and contributes to the Plan. Tier A members were hired prior to January 1, 2017. An amendment to the governing document passed by voters on November 8, 2016 created a new tier of benefits, Tier B, for members hired on or after January 1, 2017.

**Contributions** **Member:** 37% of the current adjusted total obligation rate. New rates effective October 1 after the valuation date.

**City:** 63% of the current adjusted total obligation rate. New rates effective October 1 after the valuation date.

Definitions  
Final Average Salary

**Tier A**  
Average monthly salary over the member’s highest three years of service.

**Tier B**  
Average monthly salary over the member’s highest five years of service.

**Credited Service:**  
Length of time as an employee of the City of Dallas and while making contributions to the Plan.

Retirement  
Pension Eligibility

**Tier A**

- a. Attainment of age 60; or
- b. Attainment of age 55 (if credited service began before May 9, 1972); or
- c. At any age after completion of 30 years of credited service with a reduced benefit before age 50; or
- d. Attainment of age 50, if the sum of an active member’s age and credited service is at least equal to 78.

**Tier B**

- a. Attainment of age 65 and 5 years of service; or
- b. At any age after completion of 40 years of credited service; or
- c. At any age if the sum of an active member’s age and credited service is at least equal to 80. Under this eligibility rule, the member’s pension will be actuarially reduced for each year prior to the age of 65 that the member retires.
- d. Restricted prior service credit only applies to eligibility.

**Retirement Benefits****Tier A**

The retirement benefit equals 2-3/4% multiplied by average monthly salary multiplied by credited service limited to a maximum of 36.36 years plus a monthly \$125 health supplement (prorated for service less than 5 years).

**Tier B**

The retirement benefit equals 2-1/2% multiplied by average monthly salary multiplied by credited service limited to a maximum of 40 years (no monthly health supplement).

**Form of Payment****Tier A**

An unreduced pension benefit under a joint and one-half survivor option with 10 years guaranteed or a ten-year certain and life option. An actuarially equivalent joint and full survivor option is also available after 15 years of service.

**Tier B**

An unreduced pension payable for life with 10 years guaranteed. Actuarially equivalent joint and survivor options (50% and 100%) are also available.

**Deferred Retirement****Eligibility:**

Deferred retirement pension benefit commencing at age 60 for Tier A members or at age 65 for Tier B members with at least five (5) years of credited service if accumulated contributions are left on deposit with the Fund.

**Monthly Benefit:**

The deferred retirement benefit is equal to the retirement pension based on earnings and credited service at the time of termination.

**Disability Retirement Pension****Non-Service Disability:****Eligibility:**

Five (5) years of service if active or ten (10) years of service if deferred vested and totally and permanently incapacitated for duty.

**Monthly Benefit:**

Computed based on average monthly earnings and credited service at time of disability but not less than 10 times the percentage multiplied by the average monthly earning.

**Service Disability:****Eligibility:**

Totally and permanently incapacitated from the further performance of duty as a result of injury while in the course of employment for the City.

**Monthly Benefit:**

Calculated as a non-service disability pension but not less than \$1,000 per month.

**Death Benefits**

**Form:**

Benefit paid in accordance with the option on file; or the eligible option; or, if no eligible beneficiary, a lump sum equivalent of 10 years of benefit payments to the member's or designee's estate.

**Monthly Benefit:**

Based on average monthly earnings and credited service at death but not less than 10 times the percentage multiplier multiplied by the average monthly earnings.

**Minimum Service Death Benefit:**

Not less than \$1,000 per month if death resulted from a service-related injury.

**Return of Accumulated  
Contributions**

A member at the time of termination is entitled to be paid accumulated member contributions without interest.

**Cost-of-Living  
Adjustment**

An annual cost-of-living adjustment to the base pension benefit shall be made based on the greater of:

- a. The percentage of change in the price index for October of the current year over October of the previous year, up to 5% for Tier A and 3% for Tier B or
- b. The percentage of annual average change in the price index for the 12-month period ending with the effective date of the adjustment, up to 5% for Tier A and 3% for Tier B.

# FINANCIAL SECTION



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EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

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FINANCIAL STATEMENTS

As of December 31, 2021 and 2020  
With Independent Certified Public Accountant's Report Thereon

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## Independent Auditor's Report

To the Board of Trustees of the  
Employees' Retirement Fund of the City of Dallas

### Report on the Audit of the Financial Statements

#### **Opinion**

We have audited the accompanying financial statements of the Employees' Retirement Fund of the City of Dallas (the Plan), which comprise the statements of fiduciary net position as of December 31, 2021 and 2020, and the related statements of changes in fiduciary net position for the years then ended and the related notes to the financial statements, which collectively comprise the Plan's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Plan as of December 31, 2021 and 2020, and the changes in its financial position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

#### **Basis for Opinion**

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Plan and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### **Responsibilities of Management for the Financial Statements**

The Plan's management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Plan's ability to continue as a going concern for one year after the date that the financial statements are issued.

Weaver and Tidwell, L.L.P.  
2821 West 7th Street, Suite 700 | Fort Worth, Texas 76107  
Main: 817.332.7905  
**CPAs AND ADVISORS | [WEAVER.COM](http://WEAVER.COM)**

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The Board of Trustees of the  
Employees' Retirement Fund of the City of Dallas

### ***Auditor's Responsibilities for the Audit of the Financial Statements***

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Plan's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

### ***Required Supplementary Information***

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis, Schedule of Changes in Net Pension Liability and Related Ratios, Schedule of Money-Weighted Rates of Return, and Schedule of Contributions on pages 21-24 and 55-57 be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

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The Board of Trustees of the  
Employees' Retirement Fund of the City of Dallas

**Supplementary Information**

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Plan's basic financial statements. The Introductory section, Schedule of administrative expenses, Schedule of investment expenses, Schedule of payments for professional services, Investment section, Actuarial section, and Statistical section are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The Schedule of administrative expenses, Schedule of investment expenses, and Schedule of payments for professional services, are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Schedule of administrative expenses, Schedule of investment expenses, and Schedule of payments for professional services are fairly stated, in all material respects, in relation to the basic financial statements as a whole. The Introductory section, Investment section, Actuarial section, and Statistical section have not been subjected to the auditing procedures applied in the audit of the basic financial statements and accordingly, we do not express an opinion or provide any assurance on them.

*Weaver and Tidwell, L.L.P.*

WEAVER AND TIDWELL, L.L.P.

Dallas, Texas  
July 27, 2022

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# MANAGEMENT'S DISCUSSION AND ANALYSIS

Required Supplementary Information

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## MANAGEMENT’S DISCUSSION AND ANALYSIS (unaudited)

The Management’s Discussion and Analysis of the Employees’ Retirement Fund of the City of Dallas (“ERF” or “the Plan”) financial performance provides an overview of the financial activities and funding conditions for the fiscal years ended December 31, 2021, 2020, and 2019. The intent of this discussion and analysis is to give a narrative overview and analysis of the Plan’s financial performance as a whole. For more detailed information regarding performance, readers should also review the Financial Statements, Notes to the Financial Statements, and Required Supplementary Information in order to enhance their understanding of the Plan’s financial performance.

### FINANCIAL STATEMENTS

The Plan is a defined benefit plan that provides retirement, disability, and death benefits to permanent full-time and part-time civilian employees of the City of Dallas (“the City”). The Plan has two basic Financial Statements:

- A Statement of Fiduciary Net Position that provides information about the fair value and composition of plan assets, plan liabilities, and fiduciary net position; and
- A Statement of Changes in Fiduciary Net Position that provides information about the year-to-year Changes in Fiduciary Net Position.

There are also notes to the Financial Statements that include a brief Plan description, a summary of significant accounting policies, and information about contributions, legally required reserves, investment concentrations, and the net pension liability. The report also contains required supplementary information in addition to the basic financial statements. Collectively, this information presents the Net Position Restricted for Pension Benefits and summarizes the changes in net position for those benefits.

### FINANCIAL HIGHLIGHTS

Fiscal year 2021 experienced an increase in investments. The Plan’s Financial Highlights for fiscal year ended December 31, 2021, are as follows:

- The Plan had a return of 16.4% for the year, a 5-year return of 9.4% and a 10-year return of 9.1%.
- The Net Position Restricted for Pension Benefits was \$4.1 billion as of December 31, 2021. This amount reflects an increase of \$386 million from last year. This growth is primarily the result of net increases in investments.
- Total contributions for fiscal year 2021 were \$122.8 million, an increase of approximately \$2.9 million from last fiscal year. This is primarily attributed to a merit pay increase for civilian employees.
- Pension benefits paid to retirees and beneficiaries increased \$9.1 million in 2021 compared to 2020, bringing the total benefit payments to \$297 million. Refunds of contributions paid to former members after termination of employment were \$10 million for 2021 and \$7 million for 2020.
- Net Investment Income (net appreciation/(depreciation) in the fair value of investments, plus interest and dividend income, less investment expenses) increased \$349 million compared to last fiscal year.
- Administrative Expenses of \$6.5 million in 2021 were higher than 2020 by \$848 thousand due to an increase in data processing expenses.

**CONDENSED FINANCIAL INFORMATION**

(\$ in thousands)

	<b>As of and for the FY Ended December 31,</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
<b>Fiduciary Net Position</b>				
Assets		\$4,745,318	\$4,376,675	\$4,325,968
Liabilities		652,103	669,922	667,880
Fiduciary Net Position Restricted for Pension Benefits		<u>\$4,093,215</u>	<u>\$3,706,753</u>	<u>\$3,658,088</u>
<b>Changes in Fiduciary Net Position</b>				
<b>Additions:</b>				
Employer contributions		\$63,584	\$61,615	\$62,177
Employee contributions		59,256	58,358	58,314
Investment & other income/(loss), net		578,010	229,105	551,243
<b>Deductions:</b>				
Benefit payments		\$296,587	\$287,465	\$278,007
Refund of contributions		10,452	6,857	10,436
Administrative expenses		6,547	5,699	7,513
Depreciation expense		802	392	3
Change in Fiduciary Net Position Restricted for Pension Benefits		<u>\$386,462</u>	<u>\$48,665</u>	<u>\$375,775</u>
<b>Net Position Restricted for Pension Benefits:</b>				
Beginning of Year		<u>3,706,753</u>	<u>3,658,088</u>	<u>3,282,313</u>
End of Year		<u>\$4,093,215</u>	<u>\$3,706,753</u>	<u>\$3,658,088</u>

**FINANCIAL POSITION AND RESULTS OF OPERATIONS**

The Plan's total investment return for fiscal year 2021 was 16.4% as compared to 5.8% in 2020 and 17.6% in 2019. The one-year return was above the policy benchmark of 15.4%. The Plan has performed well over longer time periods. The Plan's 5-year return is 9.4% which is slightly below the policy benchmark of 9.5%. The 10-year return is 9.1%, which is above the policy benchmark of 9%.

ERF has a global, diversified investment program. The best performing asset class in 2021 was Private Equity. ERF's Private Equity portfolio earned 39.7%. US Equities generated a return of 29.6% during the current fiscal year, exceeding a custom benchmark of 26.7%. Global listed infrastructure earned 32.2% for the year, underperforming its benchmark of 33.8%.

The Fund's real estate investments consist of real estate investment trust, core and value-add real estate funds. Real Estate earned 29.3% for the fiscal year ended December 31, 2021.

Changes to the Plan's Fiduciary Net Position consist of employer and employee contributions and investment income. The Plan's Fiduciary Net Position increased from \$3.707 billion in fiscal year 2020 to \$4.093 billion in 2021, an increase of approximately \$386 million. This growth is primarily due to higher investment



income and which resulted in increases to almost all asset classes. City and employee contributions for fiscal year 2021 were \$64 million and \$59 million, respectively. Total contributions for 2021 were \$122.80 million compared to \$119.90 million in 2020 and \$120.40 million in 2019.

Net investment income/(loss) is presented net of investment expenses and is comprised of interest, dividend income, gains/(losses) from the sale of investments, net unrealized appreciation/(depreciation) in the fair value of investments, and net income from securities lending activities. For fiscal year 2021, the Plan had a net investment income of \$578 million, (excluding non-investment other income of \$81 thousand) compared to a net investment income of \$229 million in fiscal year 2020 and a net investment income of \$551 million in 2019.

Fiscal year 2021 liabilities of \$652 million showed a decrease of 3% from fiscal year 2020 liabilities of \$670 million. Liabilities for 2020 increased by \$218 million or .3% over 2019. The decrease in 2021 was primarily due to a decrease in the use of currency contracts by the managers to hedge against changes in foreign currency rates in accordance with the managers' investment strategies and goals. Year-end balances for securities purchased were \$2 million in 2021, \$11 million in 2020 and \$15 million in 2019. Foreign currency contracts at year-end were \$287 million in 2021, \$406 million in 2020 and \$433 million in 2019. The changes were due to investment managers' portfolio management.

Deductions from fiduciary net position are largely from benefit payments. During fiscal year 2021, the increase in deductions is attributable to new retirements, as was the increase between 2019 and 2020.

New retirements were 320, 309 and 376, respectively, for fiscal years 2021, 2020 and 2019. Cost of Living Adjustments ("COLA") were 1.4% in 2021, 1.6% in 2020 and 2.7% in 2019. A COLA is granted effective January 1 of each year if there is an increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers ("CPI-W") based on the greater of either a) the change from October of the prior year to October of the current year; b) the monthly average change; or c) zero. During fiscal year 2021, refunds of contributions amounted to \$10 million (641 refunds), compared to 2020 refunds of \$6.9 million (456 refunds) and 2019 refunds of \$10.4 million (726 refunds). The fiscal year 2021 refund amount reflects an increase in the number of members requesting refunds as compared to fiscal year 2020. Administrative expenses of approximately \$6.5 million represent approximately 2.1% of total deductions for the year.

## **CAPITAL ASSETS**

The Plan's investment in capital assets as of December 31, 2021, amounts to approximately \$7 million (net of accumulated depreciation). This investment in capital assets includes \$39 thousand in furniture and fixtures, and \$7 million in intangible assets. The total net decrease in capital assets for the current fiscal year was -6% compared to last year due to depreciation expense.

Additional information on the Plan's capital assets can be found in Note 9 of this report.

## **CURRENT ENVIRONMENT**

Plan membership for active members decreased during fiscal year 2021 from 7,244 to 7,175 members, a decrease of 1%. For 2021, the number of new retirements was 320 compared to 309 in 2020. The trend of benefit payments continues to increase. Similar to most mature plans, benefit payments exceed the level of contribution revenue received, and cash generated from investments is needed in order to meet benefit payments.

An actuarial valuation of the Plan's assets and benefit obligations is performed annually by an independent firm, Gabriel, Roeder, Smith & Company ("GRS"). Based on the actuarial value of assets, the funded ratio of the Plan increased from 75.96% in 2020 to 76.14% in 2021 primarily due to investment returns. The Unfunded Actuarial Accrued Liability ("UAAL") increased from \$1,186 million as of December 31, 2020, to \$1,222 million as of December 31, 2021. Based on Generally Accepted Accounting Principles ("GAAP") generally accepted in the United States of America, the Plan Fiduciary Net Position as a percentage of the Total Pension Liability was 80.35% in 2020 as compared to 59.69% in 2020 and 64.65% in 2019. This is due to a blended discount rate of 7.25% in 2021. See Note 10 (c) for more information.

## **CONTACTING THE PLAN'S FINANCIAL MANAGEMENT**

This financial report is designed to provide a general overview of the Plan's finances. Questions and requests for additional information should be addressed to the Employees' Retirement Fund of the City of Dallas, 1920 McKinney Avenue, 10<sup>th</sup> Floor, Dallas, 75201.

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EMPLOYEES' RETIREMENT FUND OF  
THE CITY OF DALLAS

Statements of Fiduciary Net Position  
December 31, 2021 and 2020  
(\$ in thousands)

	2021	2020
<b>ASSETS:</b>		
Cash and short-term investments	\$ 117,258	\$ 89,190
Collateral on loaned securities	349,348	239,533
	<u>466,606</u>	<u>328,723</u>
Capital Asset:		
Construction In Progress	6,971	7,403
Furniture and Fixtures, net	39	11
Total capital assets (net)	<u>7,010</u>	<u>7,414</u>
Receivables:		
Currency contracts	287,389	406,360
Accrued dividends	4,872	5,006
Accrued interest	7,238	8,761
Accrued real estate income	1,185	1,158
Accrued securities lending	63	46
Securities sold	1,784	6,142
Employer contributions	2,445	466
Employee contributions	702	439
Total receivables	<u>305,678</u>	<u>428,378</u>
Investments, at fair value:		
Commingled index funds	239,274	208,318
Domestic equities	1,570,109	1,419,539
United States and foreign government fixed income securities	139,741	204,816
Domestic corporate fixed-income securities	851,306	772,004
International equities	489,039	468,520
Investments, at estimated fair value:		
Private equities	384,761	316,237
Real estate	291,794	222,726
Total investments	<u>3,966,024</u>	<u>3,612,160</u>
Total assets	<u>4,745,318</u>	<u>4,376,675</u>
<b>LIABILITIES:</b>		
Accounts payable	9,006	8,482
Payable for securities purchased	2,177	11,421
Investment fees payable	3,573	3,515
Currency contracts	287,389	406,360
Currency contract losses	610	611
Securities lending collateral	349,348	239,533
Total liabilities	<u>652,103</u>	<u>669,922</u>
<b>NET POSITION</b>		
Net Investment in capital assets	7,010	7,414
Unrestricted	<u>4,086,205</u>	<u>3,699,339</u>
Net position RESTRICTED for PENSION benefits	<u>\$ 4,093,215</u>	<u>\$3,706,753</u>

(A Schedule of Changes in Net Pension Liability is presented in the Required Supplementary Information.)

The accompanying Notes are an integral part of these financial statements.

EMPLOYEES' RETIREMENT FUND OF  
THE CITY OF DALLAS

Statements of Changes in Fiduciary Net Position  
For the Fiscal Years Ended December 31, 2021 and 2020  
(\$ in thousands)

	2021	2020
Additions:		
Contributions:		
Employer	\$ 63,584	\$ 61,615
Employee	59,256	58,358
Total contributions	<u>122,840</u>	<u>119,973</u>
Net investment income:		
Dividends	47,202	45,461
Interest	35,184	41,006
Real estate dividend income	5,633	5,316
Net appreciation/(depreciation) in fair value of investments	510,013	153,972
Securities lending rebates paid by borrowers	194	(480)
Securities lending income	777	1,661
Total investment income/(loss)	<u>599,003</u>	<u>246,936</u>
Less investment expenses:		
Investment management fees	(20,260)	(16,971)
Custody fees	(125)	(125)
Consultant fees	(495)	(583)
Securities lending management fees	(194)	(236)
Total investment expenses	<u>(21,074)</u>	<u>(17,915)</u>
Net investment income/(loss)	<u>577,929</u>	<u>229,021</u>
Other income	<u>81</u>	<u>84</u>
Total additions	<u>700,850</u>	<u>349,078</u>
Deductions:		
Benefit payments	296,587	287,465
Refund of contributions	10,452	6,857
Administrative expenses	6,547	5,699
Depreciation expense	802	392
Total deductions	<u>314,388</u>	<u>300,413</u>
Net increase/(decrease) in net position restricted for pension benefits	<u>386,462</u>	<u>48,665</u>
Net position RESTRICTED FOR PENSION benefits		
Beginning of year	<u>3,706,753</u>	<u>3,658,088</u>
End of year	<u>\$4,093,215</u>	<u>\$3,706,753</u>

The accompanying Notes are an integral part of these financial statements.

**EMPLOYEES' RETIREMENT FUND OF  
THE CITY OF DALLAS**

Notes to the Financial Statements  
December 31, 2021 and 2020

1) Description of the Plan

General

- a) The Employees' Retirement Fund of the City of Dallas ("ERF" or the "Plan") is a single-employer defined benefit pension plan that provides retirement, disability, and death benefits to its members, and is sponsored by the City of Dallas, Texas (the "City"). All employees of the City are members in the Plan, except police officers, firefighters, elected officers, non-salaried appointee members of administrative boards or commissions, part-time employees working less than one-half time, temporary employees, individuals working under contract, and individuals whose salaries are paid in part by another government agency. Members are entitled to retirement benefits after five years of service and to survivor benefits after two years of service or at the date of eligibility for retirement. The Plan was established and derives its authority to continue in operation from Chapter 40A of the Dallas City Code ("Chapter 40A"). The description of the Plan provisions in this report is for financial disclosure only. It is not intended to create or reduce legal rights. The rights and responsibilities of the Board of Trustees, the Plan, the members and the retirees are governed by the Plan as set forth in Chapter 40A. As of December 31, 2021 and 2020, the Plan's membership consisted of:

	<u>2021</u>	<u>2020</u>
Retirees and beneficiaries currently receiving benefits and inactive members entitled to benefits but not yet receiving them	9,636	9,262
Current members:		
Vested	4,312	4,340
Non-vested	2,863	2,904
Total current members	<u>7,175</u>	<u>7,244</u>
Total membership	<u><u>16,811</u></u>	<u><u>16,506</u></u>

Plan Administration

- b) The Plan is governed by seven Board members, consisting of three members appointed by the City Council who may be Council members, three employee members of the Plan (elected by the membership) and the City Auditor (serving ex officio). The Board has general powers and duties to administer the Plan, including appointing an administrator to carry out the business of the Board, investing the assets of the Plan, making expenditures from the Plan, and determining members' eligibility for benefits.

Based on a Plan amendment passed by the voters of the City of Dallas in November 2004, the Board annually increases or decreases contribution rates in a ratio where the City pays 63% and the employee pays 37% of the contribution rate as determined by the actuarial valuation. The Plan requires notice to the City of the contribution rates and provides procedures by which the City may review and challenge those rates; codifying the Board's policies and procedures relating to the Plan's actuarial process and the City's participation in the selection of an actuarial firm to perform a peer review/audit; increasing the Board from five members to seven by adding another employee-elected representative and another council-appointed representative effective March 1, 2005; increasing

**EMPLOYEES' RETIREMENT FUND OF  
THE CITY OF DALLAS**

Notes to the Financial Statements  
December 31, 2021 and 2020

from three to four the number of Board members required to constitute a quorum; increasing the terms of the employee-elected representatives from two to three years; requiring Council approval before the Board may grant temporary or permanent discretionary adjustments to retirement benefits over and above the regular cost-of-living increases; correcting section references to the term "qualified recipient"; and authorizing either the Council or the Board to propose amendments to Chapter 40A, subject to approval by the Board, the Council, and the voters of the City.

Based on a Plan amendment passed by the voters of the City of Dallas in November 2016, a new tier of benefits was added to the Plan (Tier B), effective January 1, 2017. Benefits provided to each tier of membership are outlined below.

The Plan may be terminated only by ordinance recommended by the Board, adopted by the City Council, and approved by a majority of the voters of the City voting in a general or special election. The Plan does not address allocation of the net position in the event of termination.

**c) Pension Benefits**

**Tier A**

Members of the Plan hired before January 1, 2017, are entitled to pension benefits equal to 2.75% of the average monthly earnings for each year of credited service. Average monthly earnings are based on the most beneficial to the member and are determined based on the member's earnings for the highest three calendar years, last 6,240 hours of credited services, or the length of credited service if less than three years. Normal retirement age is 55 if credited service began before May 9, 1972 or age 60.

Tier A members are also eligible to retire at age 50 if the sum of the member's age and credited service is equal to or greater than 78. Members who have completed 30 years of credited service may alternatively elect retirement before age 50; however, the pension benefits will be actuarially reduced based on the member's age at retirement.

**Tier B**

Members of the Plan hired on or after January 1, 2017, are entitled to pension benefits equal to 2.5% of the average monthly earnings of the member for each year of credited service. Average monthly earnings are based on the most beneficial to the member and are determined based on the member's earnings for the five highest calendar years, last 10,400 hours of credited service, or the length of credited service if less than five years. Normal retirement age is 65 with five years of credited service.

Tier B members who have completed 40 years of credited service may elect retirement at any age and are entitled to full pension benefits. Members who elect retirement before age 65 are entitled to an actuarially reduced pension benefits depending upon the age of the member. Active members may also elect to retire with actuarially reduced benefit once a combination of their age and years of credited service equal at least 80.

**d) Cost of Living Adjustments**

Cost of living adjustments for retirees are made each year on the first of January by adjusting the pension base by the percentage change of the Consumer Price Index ("CPI"), not to exceed 5% for Tier A and 3% for Tier B members. The cost of living adjustment effective January 2021 was 1.35% and 1.64% effective January 2020.

**EMPLOYEES' RETIREMENT FUND OF  
THE CITY OF DALLAS**

Notes to the Financial Statements  
December 31, 2021 and 2020

**e) Disability and Death Benefits**

Members who become totally and permanently disabled may qualify for a service-connected disability with no minimum service requirement, or a non-service connected disability with five or more years of credited service. Non-service connected benefits are based on actual credited service or a minimum of 10 years. Service-connected benefits are equal to normal retirement benefits or a minimum of \$1,000.

Upon the death of an active married member with less than 15 years of service, the joint and one-half survivor option is the automatic death benefit.

If an active married member has at least 15 years of service and is eligible to retire or has reached normal retirement age, the member may elect the joint and full survivor option. Under this option, the member receives a reduced base pension payment which is actuarially computed based on the member's age, average monthly earnings, years of credited service at retirement, and the relative age of the spouse. Upon the death of the member, this option pays the full amount of the member's pension payment to the surviving spouse for life.

Upon the death of a member before retirement, death benefits equal to the normal retirement benefit will be paid to a qualified recipient: surviving spouse, minor child under age 18, a disabled child who became disabled before age 18, a dependent parent, or a parent over age 65. Death benefits vary depending on the beneficiary. The surviving spouse, the disabled child, or the dependent parent will receive a lifetime benefit unless the ten-year option is taken. The minor child under age 18 will receive the normal retirement benefit for ten years or until reaching age 18. If the member has less than two years of credited service, the member's contributions will be refunded.

Upon the death of a retired member, a death benefit is paid in accordance with the option selected by the member at retirement. If there are no qualified recipients at the time of death and benefits have not been paid for ten years, death benefits are paid to the designee (an estate, a person or an entity) named by the member. The designee will receive a lump-sum payment based on ten years of benefit payments when the member's death occurs before retirement. If death occurs after retirement, the designee will receive a commuted lump-sum payment representing the balance of a guaranteed ten-year period starting from the date of retirement.

If a member does not have an eligible beneficiary, death benefits will be paid to the designee or member's estate in one commuted value payment. Benefit payments will vary depending on whether death occurred before or after retirement. Upon the death of a member before retirement, the designee or member's estate will receive a lump-sum payment based on ten years of benefit payments. Upon the death of a retired member, the designee or estate will receive a commuted value lump-sum payment representing the balance of a guaranteed ten-year period starting from the date of retirement.

**f) Contributions**

If employment ends before attaining five years of service and before attaining eligibility for retirement, the member's contributions will be refunded upon written request to the Plan.

If a member's employment is terminated after five years of service, the member may elect a refund of contributions upon a written request, or the member may elect to receive pension benefits at normal retirement age equal to the amount accrued to the date of termination.



**EMPLOYEES' RETIREMENT FUND OF  
THE CITY OF DALLAS**

Notes to the Financial Statements  
December 31, 2021 and 2020

Based on the authorization in the Plan, the annual actuarial valuation will establish any new contribution rates for employees and the City. The new rates, which became effective October 1, 2021, are 13.32% for employees and a combined rate of 22.68% of pay for the City. The City's 22.68% is divided into 13.76% to the Plan and 8.92% for debt service payments on the pension obligation bonds. The former rates, effective October 1, 2020, were 13.32% of pay for employees and a combined rate of 22.68% of pay for the City.

The percent contributed may vary from the legally required rate as the annual required contribution is based upon covered payroll as of the actuarial valuation date, December 31, whereas contributions are calculated and paid based upon actual payrolls throughout the year. Certain factors, such as changes in benefit provisions, the size or composition of the population covered by the Plan or the actuarial assumptions used, may significantly affect the identification of trends in the amounts reported in the Schedule of Net Pension Liability and Schedule of Changes in Net Pension Liability located in the Required Supplementary Information section.

**2) Summary of Significant Accounting Policies**

**a) Basis of Accounting**

The accompanying financial statements are prepared on the economic resources measurement focus and accrual basis of accounting. Accordingly, interest earned but not received and dividends declared but not received as of the Plan's fiscal year-end are recorded as accrued interest and dividends receivable, respectively. Contributions owed but not received as of the Plan's fiscal year end are recorded as contributions receivable. Benefits and refunds are recorded when paid. In addition, unsettled investment purchases and sales are accrued.

**b) Administrative Expenses**

Administrative expenses are paid from the Plan's contributions. The contribution rates calculated by the actuary take into consideration the expected administrative expenses.

**c) Use of Estimates**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of financial statements and the reported amount of revenues and expenses during the reporting period. Actual results could differ from those estimates.

**d) Investments and Investment Income**

The Plan's investment policy requires that investments comply at all times with applicable local, state and federal regulations. The Plan's investment policy is based upon an asset allocation study that considers the current and expected condition of the Plan, the expected long-term capital market outlook and the Plan's risk tolerance. Unless specifically permitted in the investment manager guidelines or other governing document, the investment policy prohibits the purchase of non-negotiable securities, short sales, selling on margin, puts, calls, straddles, options, or "letter" (restricted) stock. Also, unless specifically authorized in a manager's individual guidelines, the investment policy prohibits the use of derivatives (See derivatives disclosure in footnote 3).

Marketable Securities are valued at fair value based on quoted market prices, where available.



**EMPLOYEES' RETIREMENT FUND OF  
THE CITY OF DALLAS**

Notes to the Financial Statements  
December 31, 2021 and 2020

Purchases and sales of securities and any resulting gain or loss are recorded on a trade-date basis. Net appreciation/(depreciation) include the Plan's gains and losses on investments bought and sold as well as held during the year. In November 2019, the Plan modified the asset allocation. At December 31, 2021, the Plan was continuing to adjust its portfolio to align with the new asset allocation. The Plan's asset allocation is shown in the following table.

<b>Asset Class</b>	<b>Allocation Percentage</b>
<b>US Equity</b>	
Domestic Equity	12.5
Real Assets	12.5
REITs	2.5
Private Equity	7.5
Marketable Alternatives	2.5
<b>Total US Equity</b>	<b>37.5</b>
<b>Non-US Equity</b>	
International	12.5
Global	7.5
Global Low Volatility	12.5
<b>Total Non-US Equity</b>	<b>32.5</b>
<b>Total Equity</b>	<b>70.0</b>
<b>Fixed Income</b>	
Credit Opportunities	5.0
Global Investment Grade	15.0
High Yield	10.0
<b>Total Fixed Income</b>	<b>30.0</b>
<b>Total Fund Allocation</b>	<b><u>100.0</u></b>

e) Private Equity

To enhance the potential for earning higher rates of return relative to its other asset classes and to provide for broader portfolio diversification, the Plan allocates 7.5% of its total Plan portfolio to Private Equity. Recognizing that Private Equity investments have higher risk levels, this target of 7.5% is to be allocated within an acceptable range of 5.0% to 10.0% of private equity-oriented investments. Funding of committed capital in the Private Equity portfolio can occur over an extended time period and may take several years before the total allocation is fully invested. In order to reach the allocation target, a "committed" allocation up to 1.5 times the allocation is authorized. The Plan had three Private Equity managers at December 31, 2021.

**EMPLOYEES' RETIREMENT FUND OF  
THE CITY OF DALLAS**

Notes to the Financial Statements  
December 31, 2021 and 2020

Investments in these funds as a limited partner are carried at net asset value. Net asset values of investments in private limited partnerships are determined by the fund managers or general partner based on the latest investee information available, including audited financial statements and other similar data necessary to the valuation process. The Private Equity value at December 31, 2021 and December 31, 2020 was \$385 million and \$316 million, respectively.

**f) Real Assets**

The Plan is authorized to allocate 12.5% of its portfolio to Real Assets. The Plan has five managers that manage Real Assets for a total value of \$292 million at December 31, 2021 and \$223 million at December 31, 2020. The Plan invests in Heitman's core real estate fund, Invesco's core fund, Invesco II which manages 1900 McKinney, LLC, AEW Partners Real Estate Fund IX, L.P., and Virtus Real Estate Capital III, L.P.

Net asset values of investments are determined by the fund managers based on their best estimates using fair value estimation techniques substantiated, in part, by their audited financial statements and supported by the due diligence of the Plan investment staff.

**g) Real Estate Investment Trust (REIT)**

The Plan is authorized to allocate 2.5% of its portfolio to REITs. The plan has two managers within this category: Adelante and Center square. Investments are listed at net asset value.

**h) Foreign Currency Transactions**

The Plan may enter into forward foreign currency exchange contracts for the purchase or sale of a specific foreign currency at a fixed price on a future date as a hedge against specific transactions or to position the portfolio to protect the Plan against adverse currency movements. Entering into these arrangements involves the risk of dealing with counterparties and their ability to meet the terms of the contracts. These contracts are valued at fair value at the financial statement date, and any realized and unrealized gains and losses are recorded when they are incurred.

Investments denominated in foreign currencies at December 31, 2021 and 2020 were converted to U.S. dollars at the foreign exchange rates quoted at December 31, 2021 and 2020. These foreign exchange gains and losses are included in net appreciation/(depreciation) in fair value of investments in the accompanying Statements of Changes in Fiduciary Net Position.

**i) Securities Lending**

The Board has authorized the Plan to enter into an agreement with The Northern Trust Company ("Northern Trust") for the lending of certain of the Plan's securities (the "Securities Lending Program" or "Program") including, but not limited to, stocks and bonds to counterparty brokers and banks ("borrowers") for a predetermined period of time and fee.

In 2009, the Board capped the securities lending exposure at \$538.2 million.

**j) Rate of Return**

For the year ended December 31, 2021, the annual money-weighted rate of return on pension plan investment, net of investment fees, was 16.25%. The money-weighted rate of return expresses investment performance, net of investment expenses, adjusted for the changing amounts actually invested.

**EMPLOYEES' RETIREMENT FUND OF  
THE CITY OF DALLAS**

Notes to the Financial Statements  
December 31, 2021 and 2020

**Schedule of Money-Weighted Investment Returns**

<b>For Year Ended December 31</b>	<b>Annual Investment Returns*</b>
2014	6.52%
2015	-1.92%
2016	8.88%
2017	13.08%
2018	-4.99%
2019	17.33%
2020	5.75%
2021	16.25%

\* This schedule is intended to include information for ten years. Additional years will be included as they become available.

**k) Capital Assets**

Capital Assets, which include furniture, fixture, and software, are reported in the Plan's Financial Statements. Capital Assets are defined by the Plan as assets with an initial, individual cost of more than \$5,000 and an estimated useful life in excess of two years. As the Plan constructs or develops additional Capital Assets each period, they are capitalized and reported at historical cost. The reported value excludes normal maintenance and repairs which are essentially amounts spent in relation to capital assets that do not increase the capacity or efficiency of the item or increase its estimated useful life.

Furniture and fixtures are depreciated using the straight line method over an estimated useful life of 5-20 years. Intangible Assets are depreciated using the straight-line method over an estimated useful life of 5-15 years. Construction in progress is not depreciated.

**3) Derivatives**

Derivatives are generally defined as contracts whose values depend on, or are derived from, the value of an underlying asset, reference rate, or index. The Plan has classified the following as derivatives:

**a) Currency Forward Contracts**

A Currency Forward is a contractual agreement between two parties to pay or receive specific amounts of foreign currency at a future date in exchange for another currency at an agreed upon exchange rate. Forward commitments are not standardized and carry credit risk due to the possible nonperformance by one of the counterparties. The maximum potential loss is the aggregate face value in U.S. dollars at the time the contract was opened; however, the likelihood of such loss is remote. No such losses occurred during fiscal years 2021 and 2020. Currency Forwards are usually traded over-the-counter. These transactions are entered into in order to hedge risks from exposure to foreign currency rate fluctuation and to facilitate trade settlement of foreign security transactions. Currency Forwards carry market risk resulting from adverse fluctuations in foreign exchange rates. Recognition of realized gain or loss depends on whether the currency exchange rate

**EMPLOYEES' RETIREMENT FUND OF  
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Notes to the Financial Statements  
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has moved favorably or unfavorably to the contract holder upon termination of the contract. Prior to termination of the contract, the Plan records the unrealized currency translation gain or loss based on the applicable exchange rates.

The Plan recognized a net realized loss on Currency Forward Contracts of \$1.7 million as of December 31, 2021 and a net realized loss of \$737 thousand as of December 31, 2020. As of December 31, 2021, the Plan had a net unrealized loss on Currency Forward contracts of \$550 thousand and a net unrealized loss of \$591 thousand at December 31, 2020. These gains and losses are included in net appreciation/(depreciation) in fair value of investments in the accompanying Statements of Changes in Fiduciary Net Position.

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**EMPLOYEES' RETIREMENT FUND OF  
THE CITY OF DALLAS**

Notes to the Financial Statements  
December 31, 2021 and 2020

Currency Forward Contracts outstanding at December 31, 2021 and 2020 were approximately \$287 million and \$401 million, respectively, with a fair value of \$287 million and \$406 million, respectively (\$ in thousands):

Currency	<u>2021</u> Currency Forward Contracts Outstanding	<u>2020</u> Currency Forward Contracts Outstanding
Australian Dollar	\$14,920	\$19,445
Brazilian Real	3,414	5,196
Canadian Dollar	16,436	17,950
Chile Peso	2,305	3,003
Columbian Peso	1,089	1,414
Czech Koruna	646	641
Denmark Krone	302	257
Euro	13,984	15,200
Hong Kong Dollars	3,156	5,298
Hungary Forint	667	1,437
Indonesia-Rupiahs	158	105
Indian Rupee	2,356	8,126
Israel Shekel	159	1,185
Japanese Yen	16,218	34,756
Mexican Peso	5,349	7,361
New Zealand Dollar	4,573	16,439
Norwegian Krone	6,359	9,517
Peruvian Nuevo Sol	-	8
Philippine Peso	380	72
Poland Zloty	2,386	2,033
Russia Ruble	5,308	5,125
Saudi Riyal	1,431	1,045
Singapore Dollar	1,210	560
South Africa Rand	2,302	3,498
South Korea Won	1,859	5,731
Swedish Krona	10,089	6,666
Switzerland Franc	15,167	8,849
Thailand Baht	343	226
Turkey Lira	-	1,659
Taiwan New Dollar	3	2,454
UK Pound	8,028	10,534
U.S. Dollar	146,792	205,551
Totals	\$287,389	\$401,341

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**b) Other Forward Contracts**

Forward Contracts other than Currency Forward Contracts include rights and warrants and various other contractual agreements between two parties to buy or sell an asset at a specified price on a certain future date. Forward Contracts carry credit risk due to the possible nonperformance by one of the counterparties. The maximum potential loss is the aggregate face value in U.S. dollars at the time the contract was opened; however, the likelihood of such loss is remote. No such losses occurred during fiscal years 2021 and 2020. Forward Contracts are usually traded over the counter. These transactions are entered into in order to hedge risks from exposure to fluctuations in prices in securities, commodities, or other financial instruments. Forward Contracts carry market risk resulting from adverse fluctuations in price. Recognition of realized gain or loss depends on whether the price of the asset has moved favorably or unfavorably to the contract holder upon termination of the contract. Prior to termination of the contract, the Plan records the unrealized gain or loss based on the applicable rates.

The Plan recognized a net realized gain on Other Forward Contracts of \$2 million as of December 31, 2021. As of December 31, 2021, the Plan had a net unrealized loss on Forward Contracts of \$92 thousand. The gains and losses are included in net appreciation/(depreciation) in fair value of investments in the accompanying Statements of Changes in Fiduciary Net Position.

**c) Swaps**

A Swap is an agreement between two or more parties to exchange a sequence of cash flows over a period of time in the future. No principal is exchanged at the beginning of the Swap. The cash flows that the counterparties exchange is tied to a "notional" amount. The agreements provide, at predetermined future dates that the Plan pays interest based upon a notional principal amount and receives a return based upon the underlying instrument. Notional amounts represent the volume of outstanding transactions and do not represent the potential gain or loss associated with market risk or credit risk of such instruments. Risk associated with Swaps includes adverse movements in the underlying instrument.

The Plan recognized a net realized gain on Swaps of \$144 thousand. As of December 31, 2021, the Plan did not recognize unrealized gain or loss on Swaps. The gains and losses are included in net appreciation/(depreciation) in fair value of investments in the accompanying Statements of Changes in Fiduciary Net Position.

**d) Futures**

Financial Futures are agreements to purchase or sell a specific amount of an asset at a specified delivery or maturity date for an agreed upon price. These derivative securities are used to improve yield, adjust the duration of the Fixed Income portfolio, circumvent changes in interest rates, or to replicate an index. Futures Contracts are standardized and traded on organized exchanges, thereby minimizing the Plan's risk. There were no outstanding Futures Contracts at December 31, 2021 and December 31, 2020.

The Plan recognized a net realized gain of \$280 thousand on futures. The gain is included in net appreciation/(depreciation) in fair value of investments in the accompanying Statements of Changes in Fiduciary Net Position.

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As of December 31, 2021, and 2020 open derivatives contracts values were as follows (\$ in thousands):

	<b>12/31/2021</b>		<b>12/31/2020</b>	
<b>Derivative Type</b>	<b>Total Notional Value</b>	<b>Total Fair Value</b>	<b>Total Notional Value</b>	<b>Total Fair Value</b>
Forward Contracts	\$287,389	(\$550)	\$401,341	(\$582)
Other Forwards	22,211	(92)	51,038	(223)
Swap Agreements	-	(4)	-	163
<b>Totals</b>	<b>\$309,600</b>	<b>(\$646)</b>	<b>\$452,379</b>	<b>(\$642)</b>

#### 4) Deposit and Investment Risk Disclosures

Deposits and investments of state and local governments are exposed to risks that have the potential to result in losses. The common deposit and investment risks include custodial credit risk, credit risk, concentration of credit risk, foreign currency risk and interest rate risk. The required disclosures related to these risks and the Plan's exposures to these risks are disclosed in the following sections.

##### a) Custodial Credit Risk

In the event of a failure of the counterparty, custodial credit risk is the risk that the Plan will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. The Plan's custodial credit risk policy is set forth in Chapter 40A of the Dallas City Code and in the master custody agreement which includes the Securities Lending Program. All investments are registered in the name of Employees' Retirement Fund of the City of Dallas or in the name of the Plan's custodian established through a master trust custodial agreement. The securities are held by the custodian in the name of the Plan.

As of December 31, 2021, the Plan had \$2.3 million or 0.1% of its approximate \$4 billion total investments (excluding short-term investments) exposed to custodial credit risk. The custodial credit risk exposure at December 31, 2020 was \$3.6 million or 0.1% of total investments (excluding short-term investments) of approximately \$3.6 billion. These exposures were uninsured and uncollateralized deposits held by custodian banks outside of the United States. The Plan has experienced no losses on these deposits during the year.

##### b) Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of an investment in a single issuer. A concentration of investments in any one single issuer of debt securities presents a greater risk for loss in the event that the issuer fails on its obligations.

The Board has contracted with third party investment managers to manage the investment portfolio of the Plan, subject to the policies and guidelines established by the Board. The Plan's Concentration of Credit Risk Policy is communicated to individual managers in their guidelines through limitations or restrictions to securities, sectors, debt ratings, and other factors that may be applicable to a particular manager. As the Plan's custodian bank, Northern Trust has responsibility for the safekeeping of certain investments, handling of transactions based on the instructions of investment managers, and recordkeeping for the investment transactions.

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The Plan had no investments that individually represent 5% or more of the net position available for Plan benefits at December 31, 2021.

**c) Credit Risk**

Credit Risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. Credit quality ratings for the Plan's investments in Fixed Income securities as of December 31, 2021 and 2020 are included in the following schedule. Securities are rated using Standard and Poor's quality ratings as presented following in the rating scale.

The Plan's strategic Fixed Income Investment Policy allocates 30% of the total assets to Fixed Income. The Plan's Investment Policy provides for investment of up to 15% of the Fixed Income allocation in Investment Grade assets, up to 10% of the Fixed Income allocation in High Yield (below Investment Grade) assets, and up to 5% for Opportunistic Credit. The Investment Grade allocation also allows selected managers to invest in non-U.S. dollar issues on an opportunistic basis up to 20% of their portfolio assets.

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Long term bond ratings as of December 31, 2021 and 2020 are as follows (\$ in thousands):

Quality Rating	<u>2021</u>		<u>2020</u>	
	Fair Value	Percentage of Bond Portfolio	Fair Value	Percentage of Bond Portfolio
AAA	\$28,998	2.93%	\$42,907	4.39%
AA+	63,850	6.44%	41,513	4.25%
AA	858	0.09%	875	0.09%
AA-	815	0.08%	948	0.10%
A+	4,810	0.49%	4,894	0.50%
A	1,089	0.11%	7,087	0.73%
A-	15,640	1.58%	18,178	1.86%
BBB+	12,753	1.29%	18,999	1.93%
BBB	9,667	0.98%	13,434	1.38%
BBB-	5,769	0.58%	5,902	0.60%
BB+	21,518	2.17%	24,763	2.54%
BB	32,534	3.28%	37,445	3.83%
BB-	43,847	4.42%	51,547	5.28%
B+	58,461	5.90%	50,102	5.13%
B	46,896	4.73%	37,104	3.80%
B-	39,116	3.95%	35,989	3.68%
CCC+	23,838	2.41%	22,082	2.26%
CCC	3,328	0.34%	7,517	0.77%
CCC-	-	-	947	0.10%
D	1,034	0.10%	1,333	0.14%
Not rated (NR)*	516,211	52.08%	436,667	44.70%
U.S. Government fixed income securities (NR)**	60,015	6.05%	116,587	11.93%
Total	\$991,047	100%	\$976,820	100%

\* NR-Investments that are not rated.

\*\* NR-U.S. Treasury Bonds and Notes are obligations of the U.S. government or explicitly guaranteed by the U.S. government and therefore are not considered to have a credit risk.

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**d) Foreign Currency Risk**

Foreign Currency Risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or deposit. The Plan's Foreign Currency Risk policy is communicated to those managers who are authorized to hedge currencies in their guidelines and sets specific parameters for each manager individually.

The Plan's investment policies limit the aggregate amount that can be invested in each class of investments. The Plan's General Investment Policy sets an allocation of 12.5% of assets to International Equity, 7.5% of assets to Global Equity and 12.5% to Global Low Volatility Equity.

The Plan's positions in International Equity securities, directly and through commingled funds, were 12.33% and 12.97% of invested assets at December 31, 2021 and 2020, respectively. The Plan's position in Global Equity securities was 7.26% and 7.32% of invested assets at December 31, 2021 and 2020, respectively. The Plan's position in Global Low Volatility Equity was 12.84% at December 31, 2021 and 12.18% at 2020. The Plan's positions in Global Fixed Income assets were 24.99% and 27.04% of invested assets at December 31, 2021 and 2020, respectively.

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Non-U.S. Dollar denominated investments at December 31, 2021 and 2020 were as follows (\$ in thousands):

Currency	2021			2020		
	U.S. Dollars Balance of Investments			U.S. Dollars Balance of Investments		
	Equities	Fixed	Currency Forward Contracts	Equities	Fixed	Currency Forward Contracts
Australian Dollar	\$19,087	-	\$14,920	\$27,747	\$455	\$19,445
Brazil Real	13,024	-	3,414	10,951	-	5,196
British Pound Sterling	62,739	967	8,028	56,181	856	10,534
Canadian Dollar	51,357	-	16,436	37,476	10,277	17,950
Chile Peso	351	-	2,305	-	-	3,003
Columbia Peso	-	-	1,089	-	-	1,414
Czech Republic-Koruna	540	-	646	514	-	641
Denmark Krone	14,172	-	302	9,596	-	257
Euro	151,041	5,683	13,984	144,990	6,191	15,200
Hong Kong Dollars	56,215	-	3,156	59,299	-	5,298
Hungary-Forint	848	-	667	1,008	-	1,437
Indian Rupee	9,238	-	2,356	9,485	-	8,126
Indonesia-Rupiahs	2,827	-	158	1,919	-	105
Israel Shekel	3,289	-	159	2,981	-	1,185
Japanese Yen	101,129	-	16,218	108,376	-	34,756
Malaysia Ringgit	1,883	-	-	1,208	-	-
Mexican Peso	7,673	-	5,349	6,084	-	7,361
New Zealand Dollar	2,357	-	4,573	4,147	2,201	16,439
Norwegian Krone	9,694	-	6,359	6,603	-	9,517
Offshore-Chinese-Renminbi	12,720	-	-	12,516	-	-
Peruvian Nuevo Sol	-	-	-	-	-	8
Philippines-Pesos	1,260	-	380	737	-	72
Poland-Zloty	3,976	-	2,386	1,032	-	2,033
Qatar-Riyal	2,111	-	-	154	-	-
Russian Ruble	-	-	5,308	-	-	5,125
Saudi Riyal	-	-	1,431	-	-	1,045
Singapore Dollar	4,898	-	1,210	5,075	-	560
South Africa Rand	3,530	-	2,302	3,847	-	3,498
South Korea-Won	27,718	-	1,859	28,153	-	5,731
Swedish Krona	18,007	-	10,089	13,749	-	6,666
Swiss Franc	47,775	-	15,167	37,530	-	8,849
Taiwan New Dollar	7,824	-	3	6,313	-	2,454
Thailand Baht	6,629	-	343	3,686	-	226
Turkish Lira	514	-	-	3,771	-	1,659
United Arab-Dirham	250	-	-	116	-	-
<b>Total</b>	<b>\$644,676</b>	<b>\$6,650</b>	<b>\$140,597</b>	<b>\$605,244</b>	<b>\$19,980</b>	<b>\$195,790</b>

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**e) Interest Rate Risk**

Interest rate risk is the risk that future changes in prevailing market rates of interest will have an adverse effect on the fair value of debt investments. The fair value of securities with long terms to maturity may be highly sensitive to interest rate changes.

As of December 31, 2021 and 2020 the weighted-average maturity of the bonds by bond type are as follows (\$ in thousands):

Bond Category	2021		2020	
	Fair Value 12/31/2021	Weighted Average Maturity (years)	Fair Value 12/31/2020	Weighted Average Maturity (years)
Asset Backed				
Securities	\$26,852	14.70	\$48,999	11.72
Bank Loans	27,837	4.72	22,427	4.55
Commercial				
Mortgage-Backed	16,198	20.73	35,580	25.27
Corporate Bonds	469,268	8.24	555,303	8.80
Government Agencies	298,796	18.27	99,636	29.96
Government Bonds	117,490	10.73	103,743	10.55
Government				
Mortgage-Backed				
Securities	14,577	18.27	52,652	17.51
Index Linked				
Government Bonds	-	-	875	29.15
Municipal/ Provincial				
Bonds	6,907	25.59	24,504	19.36
Non-Government				
Backed CMOs	<u>13,122</u>	23.33	<u>33,101</u>	23.14
Total	<u>\$991,047</u>		<u>\$976,820</u>	
Portfolio weighted average maturity		8.51		12.09

Government Mortgage-Backed Securities are sensitive to changes in interest rates as their prepayments can vary significantly with interest rate changes. This change in prepayments will generally cause the duration, or Interest Rate Risk, of these securities to increase when interest rates rise and decrease when interest rates fall. These securities represent 1.5% and 5.4% of the total Fixed Income portfolio for 2021 and 2020 at year end. Their fair values at years ended 2021 and 2020 were \$14,577 million and \$52,652 million respectively. The Plan's Interest Rate Risk policy is communicated to the Fixed Income managers through the Fixed Income Asset Policy and each manager's guidelines.

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5) Appreciation or (Depreciation) of Investments

In 2021 and 2020, the Plan's investments, including investments bought, sold, and held during the year, appreciated (depreciated) in value as follows (\$ in thousands):

	2021	2020
Investments, at fair value:		
Commingled index funds	\$41,555	\$22,646
Domestic equities	328,112	23,452
United States and foreign government fixed income securities	6,266	15,411
Domestic corporate fixed income securities	(22,193)	14,914
International equities	40,259	41,441
Short-term investments	(178)	(15,591)
Currency contracts	(1,651)	2,800
	<u>\$392,170</u>	<u>\$105,073</u>
Investments, at estimated fair value		
Real Assets	43,928	(3,708)
Private Equity	73,915	52,607
	<u>\$510,013</u>	<u>\$153,972</u>

6) Fair Value Measurement

The Plan's investments are measured and categorized according to fair value hierarchy guidelines established by GAAP.

The definition of fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

These guidelines recognize a three-tiered fair value hierarchy, as follows:

- *Level 1:* Quoted prices for identical investments in active markets.
- *Level 2:* Observable inputs other than quoted market prices in active market; and,
- *Level 3:* Significant unobservable inputs.

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At December 31, 2021, the Plan had the following recurring fair value measurements (\$ in thousands):

	<b>Total</b>	<b>Fair Value Measurements Using</b>		
	<b>12/31/2021</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
<b>Investments by Fair Value Level</b>				
Cash and Short Term Investment:				
Short-Term Investment Fund	\$ 116,254	\$ 116,254	\$ -	\$ -
Total Cash and Short Term Investment	116,254	116,254	-	-
Fixed Income:				
Domestic Asset and Mortgage Backed Securities	110,763	-	110,763	-
Government and US Agency Obligations	138,141	34	138,107	-
Corporate and Taxable Municipal Bonds	520,695	-	520,695	-
Index Commingled	9,206	9,206	-	-
Total Fixed Income	778,805	9,240	769,565	-
Equity:				
Domestic Common and Preferred Stock	1,285,235	1,282,969	383	1,883
International Common and Preferred Stock	477,261	477,084	177	-
Total Equity	1,762,496	1,760,053	560	1,883
<b>Total Investments by Fair Value Level</b>	<b>\$ 2,657,555</b>	<b>\$ 1,885,547</b>	<b>\$ 770,125</b>	<b>\$ 1,883</b>
<b>Investments Measured at Net Asset Value</b>				
Commingled Funds:				
Corporate bonds	\$ 256,348			
Domestic Equity and Collective Trust	480,043			
International Equity	11,777			
Total Commingled Funds	748,168			
Alternative Investments:				
Private Equity	384,761			
Real Estate	291,794			
Total Alternative Investments	676,555			
<b>Total Investments Measured at Net Asset Value</b>	<b>\$ 1,424,723</b>			

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At December 31, 2020, the Plan had the following recurring fair value measurements (\$ in thousands):

	<b>Total</b>	<b>Fair Value Measurements Using</b>		
	<b>12/31/2020</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
<b>Investments by Fair Value Level</b>				
Cash and Short Term Investment:				
Short-Term Investment Fund	\$ 89,190	\$ 89,190	\$ -	\$ -
Total Cash and Short Term Investment	89,190	89,190	-	-
Fixed Income:				
Domestic Asset and Mortgage Backed Securities	96,737	-	96,737	-
Government and US Agency Obligations	193,654	-	193,654	-
Corporate and Taxable Municipal Bonds	655,395	6,590	648,805	-
Index Fixed Income Funds	37,500	37,500	-	-
Total Fixed Income	983,286	44,090	939,196	-
Equity:				
Domestic Common and Preferred Stock	1,171,032	1,169,303	-	1,729
International Common and Preferred Stock	456,129	455,946	175	8
Total Equity	1,627,161	1,625,249	175	1,737
<b>Total Investments by Fair Value Level</b>	<b>\$ 2,699,637</b>	<b>\$ 1,758,529</b>	<b>\$ 939,371</b>	<b>\$ 1,737</b>
<b>Investments Measured at Net Asset Value</b>				
Private Placement Debt	\$ 250			
Commingled Funds:				
Fixed Income	49,949			
Domestic Equity and Collective Trust	411,961			
International Equity	590			
Total Commingled Funds Measured at Net Asset Value	462,750			
Alternative Investments:				
Private Equity	316,237			
Real Estate	222,726			
Total Alternative Investments	538,963			
<b>Total Investments Measured at Net Asset Value</b>	<b>\$ 1,001,713</b>			

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**Private Placement Debt**

Private Placement Debt was issued close to the financial statement date of December 31, 2020 and is therefore valued at Net Asset Value (NAV) for the financial statements then ended as determined by the principal amount of the debt.

**Commingled Funds**

Commingled funds are fund-structure investments reported by the fund managers at NAV per share. Neuberger Berman, Northern Trust Asset Management S&P 500 Index, Northern Trust ACWI Index, Northern Trust Aggregate Bond Index and BlackRock do not have a redemption period notice requirement. They may be redeemed at any time by the Plan. Earnest Partners has a redemption period notice requirement of 5 days.

**Real Estate**

Real Estate investments are held either in separate accounts, as a limited partner, or in a joint venture. These investments are illiquid and resold at varying rates, with distributions received over the life of the investments. They are typically not redeemed, nor do they have set redemption schedules. Estimated fair values of investments are determined by the fund managers based on their best estimates using fair value estimation techniques substantiated, in part, by their audited financial statements and supported by the due diligence of the Plan.

The Plan invests in:

- AEW Partners
- Heitman's core real estate fund
- Invesco's core fund
- Invesco II
- Virtus Real Estate Cap

The redemption schedule for each Real Estate investment is as follows:

AEW Partners redemption is at the sole discretion of AEW's general partner; no limited partner of AEW has the right to cause a redemption.

Heitman's core real estate fund does not have a redemption period notice requirement. Heitman may be redeemed quarterly at any time by the Plan.

Invesco's core fund has a 45-day redemption period.

Invesco II manages 1900 McKinney, LLC. There is no redemption period.

Virtus Real Estate Cap's redemption is at the sole discretion of Virtus' general partner; no limited partner of Virtus has the right to cause a redemption.

Unfunded commitments at December 31, 2021 for real estate are as follows:

- AEW Partners \$39.4 million
- Virtus Real Estate Cap \$28.1 million



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**Private Equity**

Private equity holdings include fund-structure investments with general partners. By their nature, these investments are illiquid and typically not resold or redeemed.

Private equity managers' expectations that the underlying assets of the funds will be liquidated in the future as follows:

Fairview Lone Star Fund: 12 years from subscription date with 3 one-year extensions;  
GCM Grosvenor: 15th anniversary of subscription date with 3 one-year extensions; and  
Hamilton Lane: 10 -14 years after subscription date with 2 one-year extensions.

Upon initial investment with a general partner or in certain fund-structures, the Plan commits to a certain funding level for the duration of the contract. At will, the partners or fund managers may request that the Plan fund a portion of this amount. Such amounts remaining as of December 31, 2021, and 2020 for investments measured at NAV are disclosed as unfunded commitments.

Unfunded commitments at December 31, 2021 for Private Equity are as follows:

Fairview Lone Star Fund \$39.8 million;  
GCM Grosvenor \$52.1 million; and  
Hamilton Lane \$85.3 million.

**7) Securities Lending**

During the year, Northern Trust lent, on behalf of the Plan, securities held by Northern Trust as Plan custodian and received cash, United States government securities, agency securities, and irrevocable bank letters of credit as collateral. Northern Trust did not have the ability to pledge or sell collateral securities absent a borrower default. Northern Trust's Core USA Collateral Section establishes requirements for participation, collateralization levels, cash and non-cash collateral guidelines, and investment guidelines for the collateral received from borrowers. Borrowers were required to put up collateral for each loan equal to: (i) in the case of loaned securities, the collateral for which is all denominated in the same currency as the loaned securities, 102% of the fair value of the loaned securities plus any accrued but unpaid distributions thereon, and (ii) in the case of loaned securities denominated in a different currency from the loaned securities, 105% of the fair value of the loaned securities plus any accrued but unpaid distributions thereon. Additionally, the guidelines set maturity/liquidity requirements for the collateral received from borrowers. The following table shows for open loans at December 31, 2021 and 2020, the type of collateral held, the fair value of the securities on loan, and the fair value of the collateral held (\$ in thousands).

Type	12/31/2021			12/31/2020		
	Fair Value	Collateral Fair Value	Collateral Percentage	Fair Value	Collateral Fair Value	Collateral Percentage
Cash	\$339,682	\$349,348	103%	\$233,499	\$239,533	103%

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The following represents the balances relating to the Securities Lending transactions as of December 31, 2021, and 2020 (\$ in thousands):

Securities Lent	12/31/2021			12/31/2020		
	Underlying Securities	Securities Collateral Value	Cash Collateral Investment Value	Underlying Securities	Securities Collateral Value	Cash Collateral Investment Value
Lent for cash collateral:						
Domestic equities	\$149,060	-	\$153,300	\$121,912	-	\$125,079
Domestic corporate fixed income	107,982	-	111,109	61,705	-	63,233
Global corporate fixed income	1,769	-	1,889	1,400	-	1,509
Global government fixed income	4,818	-	5,096	1,875	-	2,028
International equities	6,797	-	7,200	1,419	-	1,523
Global Agencies	-	-	-	-	-	-
U.S. Agencies	-	-	-	5,793	-	5,904
U.S. government fixed	69,256	-	70,754	39,395	-	40,257
Subtotal	\$339,682	-	\$349,348	\$233,499	-	\$239,533

Disclosure of Securities Lending income is shown gross with the associated reductions for investment expenses on the Statements of Changes in Fiduciary Net Position, and the cash collateral and associated securities lending payable is shown on the Statements of Fiduciary Net Position for December 31, 2021, and 2020. The net income from Securities Lending in 2021 was \$777 thousand compared to \$946 thousand in 2020.

#### 8) Federal Income Tax Status

The Internal Revenue Service issued a determination letter dated August 15, 2016, stating that the Plan was designed in accordance with applicable Internal Revenue Code requirements as of that date. The Plan is currently designed and being operated in compliance with the applicable requirements of the Internal Revenue Code. Therefore, the Plan was qualified, and the related trust was tax exempt as of the financial statement dates.

**EMPLOYEES' RETIREMENT FUND OF  
THE CITY OF DALLAS**

Notes to the Financial Statements  
December 31, 2021 and 2020

**9) Capital Assets**

Capital Assets activity for the years ended December 31, 2021 and 2020, was as follows (\$ in thousands):

	Balance 12/31/2019	Increase	Decrease	Balance 12/31/2020	Increase	Decrease	Balance 12/31/2021
Capital asset not being depreciated/amortized							
Construction in Progress	\$ 5,431	\$ 2,361	\$ (7,792)	\$ -	\$ 366	\$ (366)	\$ -
Capital assets being depreciated/amortized							
intangible assets		7,792		7,792	366		8,158
Furniture, Fixture and Equipment	18			18	32		50
Less							
Accumulated amortization intangible Assets		(389)		(389)	(798)		(1,187)
Accumulated depreciation FF&E	\$ (4)	\$ (3)		\$ (7)	\$ (4)		\$ (11)
Total capital asset being depreciated/amortized							
net of accumulated Depreciation/Amortization	\$ 14	\$ 7,400	\$ -	\$ 7,414	\$ (404)	\$ -	\$ 7,010
Total Capital Assets, net of							
Accumulated depreciation amortization	\$ 5,445	\$ 9,761	\$ (7,792)	\$ 7,414	\$ (38)	\$ (366)	\$ 7,010

**10) Schedule of Net Pension Liability**

- a) The components of the Net Pension Liability of the City at December 31, 2021 and 2020, respectively were as follows (\$ in thousands).

<u>Description</u>	<u>2021</u>	<u>2020</u>
Total Pension Liability	\$5,094,362	\$6,209,855
Plan Fiduciary Net Position	4,093,215	3,706,753
Net Pension Liability	1,001,147	2,503,102
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	80.35%	59.69%

**EMPLOYEES' RETIREMENT FUND OF  
THE CITY OF DALLAS**

Notes to the Financial Statements  
December 31, 2021 and 2020

b) Actuarial Methods and Assumptions:

Valuation date	December 31, 2020 for most recent Actuarially Determined Employer Contribution ("ADEC") shown on Schedule of Contributions December 31, 2021 for Net Pension Liability
Actuarial cost method	Entry Age Normal
Asset valuation method	5-year smoothed fair value
Amortization method	The actuarially determined (ADEC) is initially based on a 30-year open amortization period. As specified in City Ordinance No. 25695, the rate may not change from year to year if the calculated rate is less than 300 basis points different from the current rate.
Remaining Amortization Period	Not determined, see description of amortization method
Investment rate of return	7.25%
Salary increases	3.00% to 8.25%, including inflation
Inflation	2.50% per year
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the December 31, 2019 valuation pursuant to an experience study of the 5-year period December 31, 2019.
Mortality	<p>For Actives: The PubG-2010 Employee Mortality Table is used for males and females. The rates are projected from 2010 on a fully generational basis using Scale UMP.</p> <p>For Healthy Retirees: The gender-distinct 2019 Texas Municipal Retirees Mortality Tables are used for males and females respectively. The rates are projected from 2019 on a fully generational basis using Scale UMP.</p> <p>For Disabled Lives: The gender-distinct 2019 Texas Municipal Retirees Mortality Tables are used for males and females respectively, set forward 4 years for males and 3 years for females. The rates are projected from 2019 on a fully generational basis using Scale UMP.</p>

**EMPLOYEES' RETIREMENT FUND OF  
THE CITY OF DALLAS**

Notes to the Financial Statements  
December 31, 2021 and 2020

**Other Information**

Notes: There were no benefit changes during the year.

The assumptions described above were for the most recent ADEC shown in the Schedule of Contributions. The assumptions used in determining the Net Pension Liability as of December 31, 2021 were those used in the actuarial valuation as of December 31, 2021. There were No changes to the Assumptions for December 31, 2020 and December 31, 2021.

The long-term rate of return on pension plan investments was estimated using a building block methodology in which best-estimate ranges of expected future real rates of return are developed for each major asset class. These ranges are combined to produce the long term expected rate of return by weighting the expected future real return rates by the target asset allocation percentage and by adding expected inflation. The following table shows the best estimates of arithmetic real rates of return for each of the Plan's asset classes.

Asset Class	Long-Term Expected Real Rate of Return
Domestic Equity	5.25%
International Equity	6.25
Global Equity	5.85
Low Volatility Global Equity	5.90
Private Equity	9.10
Core Fixed Income	3.05
High Yield Fixed Income	4.65
Credit Opportunities	7.00
REITs	5.00
Private Real Estate - Core	5.75
Private Real Estate – Value Add	7.10
MLPs	7.45
Global Public Infrastructure	5.35
Cash	1.95

- c) Discount rate: In Fiscal Year 2021, a single discount rate of 7.25% was used to measure the total pension liability. In Fiscal Year 2020, the discount rate was 5.27%. This single discount rate was based on the expected rate of return on pension plan investments of 7.25% and the municipal bond rate of 1.84%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions and employer contributions will be made at the projected future contribution rates assuming that the ERF annually earns 7.25% on its market value of assets and that the number of active members remains constant in the future. Based on these assumptions and the plan's funding policy, the resulting single discount rate is 7.25%.

**EMPLOYEES' RETIREMENT FUND OF  
THE CITY OF DALLAS**

Notes to the Financial Statements  
December 31, 2021 and 2020

- d) Sensitivity of the Net Pension Liability to changes in the discount rate. Below is a table providing the sensitivity of the Net Pension Liability to changes in the discount rate. In particular, the table presents the plan's Net Pension Liability, if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher than the single discount rate:

Sensitivity of the Net Pension Liability  
To the Single Discount Rate Assumption  
(\$ in thousands)

<u>1% Decrease</u>	<u>Current Single Discount Rate</u>	<u>1% Increase</u>
<u>6.25%</u>	<u>7.25%</u>	<u>8.25%</u>
\$1,599,681	\$1,001,147	\$500,887

11) Subsequent Events

The Plan has evaluated its December 31, 2021 financial statements for subsequent events through July 30, 2022, the date the financial statements were available to be issued. The Plan is not aware of any subsequent events which would require recognition or disclosure in the financial statements.

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# REQUIRED SUPPLEMENTARY INFORMATION

(unaudited)

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## SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

(\$ in thousands)

FY ended December 31,	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
<b>Total Pension Liability</b>								
Service Cost	\$141,653	\$118,452	\$124,289	\$84,843	\$81,178	\$133,457	\$78,020	\$62,065
Interest on the Total Pension Liability	322,901	330,348	325,767	332,011	325,620	305,826	313,847	290,948
Difference between Expected and Actual Experience	30,791	(82,641)	(7,819)	4,793	(59,066)	(38,327)	(26,829)	(21,967)
Assumption Changes	(1,303,800)	479,292	(43,032)	1,020,969	-	(1,227,079)	1,238,431	292,137
Benefit Payments	(296,586)	(287,465)	(278,007)	(263,981)	(253,534)	(243,775)	(235,106)	(225,614)
Refunds	(10,452)	(6,857)	(10,436)	(8,515)	(8,156)	(5,864)	(4,854)	(4,629)
<b>Net Change in Total Pension Liability</b>	<b>(1,115,493)</b>	<b>551,129</b>	<b>110,762</b>	<b>1,170,121</b>	<b>86,042</b>	<b>(1,075,762)</b>	<b>1,363,509</b>	<b>392,940</b>
Total Pension Liability Beginning	6,209,855	5,658,726	5,547,964	4,377,844	4,291,802	5,367,564	4,004,055	3,611,115
<b>Total Pension Liability Ending (a)</b>	<b>\$5,094,362</b>	<b>\$6,209,855</b>	<b>\$5,658,726</b>	<b>\$5,547,964</b>	<b>\$4,377,844</b>	<b>\$4,291,802</b>	<b>\$5,367,564</b>	<b>\$4,004,055</b>
<b>Plan Fiduciary Net Position</b>								
Employer Contributions	\$63,584	\$61,615	\$62,177	\$60,924	\$58,966	\$56,130	\$50,721	\$45,833
Employee Contributions	59,256	58,358	58,314	56,772	55,175	53,436	50,742	46,536
Pension Plan Net Investment Income	578,010	229,105	550,942	(167,783)	413,510	294,918	(53,344)	207,992
Benefit Payments	(296,587)	(287,465)	(278,007)	(263,981)	(253,534)	(243,775)	(235,106)	(225,614)
Refunds	(10,452)	(6,857)	(10,436)	(8,515)	(8,156)	(5,864)	(4,854)	(4,629)
Pension Plan Administrative Expense	(7,349)	(5,699)	(7,513)	(7,485)	(5,951)	(5,343)	(4,598)	(4,150)
Other	-	(392)	298	121	207	333	162	157
<b>Net Change in Plan Fiduciary Position</b>	<b>386,462</b>	<b>48,665</b>	<b>375,775</b>	<b>(329,947)</b>	<b>260,217</b>	<b>149,835</b>	<b>(196,277)</b>	<b>66,125</b>
Plan Fiduciary Net Position - Beginning	3,706,753	3,658,088	3,282,313	3,612,260	3,352,043	3,202,208	3,398,485	3,332,360
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>4,093,215</b>	<b>3,706,753</b>	<b>3,658,088</b>	<b>3,282,313</b>	<b>3,612,260</b>	<b>3,352,043</b>	<b>3,202,208</b>	<b>3,398,485</b>
<b>Net Pension Liability Ending (a)-(b)</b>	<b>\$1,001,147</b>	<b>\$2,503,102</b>	<b>\$2,000,638</b>	<b>\$2,265,651</b>	<b>\$765,584</b>	<b>\$939,759</b>	<b>\$2,165,356</b>	<b>\$605,570</b>
Plan Fiduciary Net Position as Percentage of Total Pension Liability	80.35%	56.69%	64.65%	59.16%	82.51%	78.10%	59.66%	84.68%
Covered Payroll	\$442,863	\$428,824	\$433,890	\$423,083	\$410,913	\$402,077	\$383,669	\$363,109
Net Pension Liability as a Percentage of Covered Payroll	226.06%	583.71%	461.09%	535.51%	186.31%	233.73%	564.38%	168.95%

### Notes to Schedule:

This schedule is intended to show information for ten years. Additional years' information will be displayed as it comes available.

The covered payroll is the sum of the active members’ pay for valuation purposes as of the measurement date. An active member’s valuation pay is the greater of their actual pay for the just completed calendar year or their current annual rate of pay.

SCHEDULE OF MONEY-WEIGHTED RATES OF RETURN

	2021	2020	2019	2018	2017	2016	2015	2014
Rate of Return	16.25%	5.75%	17.33%	-4.99%	13.08%	8.88%	-1.92%	6.52%

**Note to Schedule:**  
This schedule is intended to show information for ten years. Additional years’ information will be displayed as it comes available.

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## SCHEDULE OF CONTRIBUTIONS

Last 10 Fiscal Years  
(\$ in thousands)

FY Ending December 31,	Actuarially Determined Contribution <sup>1</sup>	Actual Contributions <sup>2</sup>	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2012	\$41,570	\$30,363	\$11,207	\$319,274	9.51%
2013	56,394	37,823	18,571	340,748	11.10%
2014	61,747	45,833	15,914	353,650	12.96%
2015	64,648	50,721	13,927	383,669	13.22%
2016	84,316	56,130	28,186	402,077	13.96%
2017	86,785	58,966	27,819	410,913	14.35%
2018	90,328	60,924	29,404	423,083	14.40%
2019	87,455	62,177	25,278	433,591	14.34%
2020	93,226	61,615	31,611	434,214	14.19%
2021	99,279	63,584	35,695	452,709	14.05%

### Notes to Schedule:

1. The employer contribution ADEC shown is based on employer contribution rates using a 30-year open amortization period and actual payroll.
2. The actual City contribution rate is set by City Ordinance No. 25695. The actual rate does not change from year to year unless the actuarially determined rate is at least 300 basis points higher or lower than the current contribution rate. If the actuarially determined rate is more than 300 basis points different, then the contribution rate is adjusted to halfway between the current rate and the actuarially determined rate, but the rate does not increase or decrease by more than 10% in any year. Since the City's fiscal year is October 1 to September 30 and the Fund's fiscal year is the calendar year, the contribution amounts shown above are a blend of the City's two fiscal year rates that occur during the calendar year.
3. For this exhibit, the covered payroll is the estimated payroll for the calendar year on which contributions were made.

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# OTHER SUPPLEMENTARY INFORMATION

(unaudited)

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## SCHEDULE OF ADMINISTRATIVE EXPENSES

As of December 31, 2021  
(\$ in thousands)

### Personnel Services:

Salaries	\$3,124
Retirement	470
Insurance	<u>235</u>
<b>Total Personnel Services</b>	<b>\$3,829</b>

### Professional Services:

Actuary Service	\$79
Accounting & Audit Fees	98
Legal Fees	<u>438</u>
<b>Total Professional Services</b>	<b>\$615</b>

### Operating Services:

Data Processing	\$768
Parking	7
Printing	2
Rent	529
Supplies and Services	26
Telephone	5
Travel and Training	58
Membership Dues	6
Board Expenses	1
Indirect and Other Costs	<u>420</u>
<b>Total Operating Services</b>	<b>\$1,822</b>

### Furniture & Fixtures:

Furniture	\$45
Other	<u>236</u>
<b>Total Furniture &amp; Fixtures</b>	<b>\$281</b>

<b>Total Administrative Expenses</b>	<b>\$6,547</b>
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## SCHEDULE OF INVESTMENT EXPENSES

As of December 31, 2021  
(\$ in thousands)

Manager Fees	\$20,260
Custodian Fees	125
Securities Lending Fees*	194
Investment Consultant Fees	<u>495</u>
<b>Total Investment Expenses</b>	<b><u>\$21,074</u></b>

\*Securities lending fees include broker rebates and the lending agent's fees.

## SCHEDULE OF PAYMENTS FOR PROFESSIONAL SERVICES

As of December 31, 2021  
(\$ in thousands)

### Accounting and Audit:

Weaver and Tidwell, L.L.P	\$42
STP Investment Services	56

### Actuarial:

Gabriel, Roeder, Smith & Company	79
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### Legal:

Foster Garvey PC	303
Locke Lord, LLP	135
	<u>438</u>

<b>Total Professional Services Payments</b>	<b><u>\$615</u></b>
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# INVESTMENT SECTION

# Wilshire

1299 Ocean Ave, Ste 700  
Santa Monica, CA 90401 USA

+1 310 451 3051

Ms. Cheryl Alston  
Executive Director  
Employees' Retirement Fund of the City of Dallas  
1920 McKinney Ave. 10<sup>th</sup> Floor  
Dallas, TX 75201

Re: 2021 Performance Results

Dear Cheryl:

The purpose of this letter is to review the 2021 investment performance results of the Employees' Retirement Fund of the City of Dallas (hereby referred to as "ERF or "the Fund").

During 2021, the U.S. economy continued to rebound from the Coronavirus pandemic particularly during the first half of the year. Growth in hourly earnings was strong and unemployment fell while retail sales surged during the fourth quarter. Interestingly, consumer sentiment declined all year – likely due, in part, to new COVID variants and mounting inflation. Sharply rising inflation will be remembered as the economic story of 2021 as increases in the Consumer Price Index (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. The year started off with a bang as real GDP grew 6.5% (annualized) during the first six months, finishing strong at an annual growth rate of 5.7% for the four quarters ending December 2021 versus a loss of -2.3% in 2020. Inflation pushed higher throughout the year as the CPI advanced 7.1% during 2021 compared to 1.3% the previous year. The 10-year break-even inflation rate also rose steadily last year and closed in December at 2.61% (up 62 bps for the year). The Treasury curve spiked higher to start the year with the 10-year Treasury going from 0.93% to 1.74%. The curve then fell in the longer end with the short end rising, for a fairly flat curve starting at the seven-year mark. By year's end, the 10-year yield was 1.52%, up 59 bps from a year earlier.

For investors, 2021 was a successful year with strong returns from most asset classes. Although the COVID-19 pandemic continued to dominate the global outlook and markets faced challenges on several fronts, U.S. and Developed International equities posted strong returns for the year, with U.S. REIT's leading all asset classes. U.S. TIPS posted another strong year with rising inflationary concerns and U.S. core bonds posted their worse year since the taper tantrum roiled fixed income markets in 2013. The Fund finished 2021 up 16.14% which was higher than its actuarial rate return and its asset allocation benchmark return of 15.38%. The Fund performed well compared to other funds in the Investment Metrics All Public Plans Universe, where it ranked in the second quartile over calendar year 2021. This is due in part to the Fund's allocation in domestic equities, real estate and private equity.

When looking at segment level performance, most of the Fund's composites ended the year with positive returns, with Global Fixed Income being the only negative performer. The private equity composite had the best performance in the portfolio with a 39.74% return for 2021 due to a record level of valuation increases.

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Real estate and global listed infrastructure were both very strong performers as well, returning 29.27% and 32.24%, respectively. Real estate was led by Adelante Capital Management's 47.58% return, capping a great year for U.S. REIT's, - while global listed infrastructure was led by Harvest Advisors MLP's 40.76% return. Domestic equity had another strong year, returning 29.60%, led by Smith Graham's midcap strategy. Among the Fund's major segments, private equity is the highest returning component with an annualized return of 14.49% since inception in 2009. Domestic equity also remains one of the higher returning components with an annualized return of 10.95% since inception in 1990. Global equity continues to be a strong performer with an annualized return of 9.14% since inception a few years ago, and also provides downside protection in turbulent equity markets.

The approved allocations as of the end of 2021 were:

<b><u>Asset Class</u></b>	<b><u>Allocation</u></b>
Domestic Equity	12.5%
International Equity	12.5%
Global Equity	7.5%
Global Low Volatility Equity	12.5%
Investment Grade Fixed Income	15.0%
High Yield	10.0%
Credit Opportunities	5.0%
Global Public Infrastructure	5.0%
REIT	2.5%
Private Real Estate – Core	5.0%
Private Real Estate – Value Add	2.5%
Private Equity	7.5%
Marketable Alternatives	2.5%

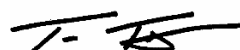
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Wilshire annually publishes a research paper detailing our long-term nominal return forecast for the next ten years. Our geometric return forecasts are shown below for the major asset classes. Changes in equity valuations, inflation expectations, and rising bond yields were drivers of year over year changes in our forward looking assumptions:

	Total Return			Risk		
	December 2020	December 2021	Change	December 2020	December 2021	Change
<b>Investment Categories</b>						
U.S. Stock	5.00 %	4.50 %	-0.50 %	17.00 %	17.00 %	0.00 %
Dev Ex-U.S. Stock (USD)	5.75	5.50	-0.25	18.00	18.00	0.00
Emerging Market Stock	5.75	5.50	-0.25	26.00	26.00	0.00
Global Stock	5.55	5.10	-0.45	17.15	17.10	-0.05
Private Equity	6.95	8.10	1.15	28.00	28.00	0.00
Cash Equivalents	0.70	1.70	1.00	0.75	0.75	0.00
Core Bond	1.30	2.00	0.70	4.30	4.25	-0.05
LT Core Bond	1.75	2.30	0.55	8.85	8.90	0.05
U.S. TIPS	0.80	1.45	0.65	6.00	6.00	0.00
High Yield Bond	3.10	3.60	0.50	10.00	10.00	0.00
Non-U.S. Bond (HDG)	0.35	0.85	0.50	4.30	4.25	-0.05
U.S. RE Securities	5.20	4.55	-0.65	17.00	17.50	0.50
Private Real Estate	6.20	5.90	-0.30	14.00	14.00	0.00
Commodities	2.85	4.30	1.45	15.00	16.00	1.00
Real Asset Basket	5.65	5.60	-0.05	10.15	10.35	0.20
<b>Inflation</b>	2.15	2.60	0.45	1.75	1.75	0.00
<b>Total Returns Minus Inflation</b>						
U.S. Stocks	2.85	1.90	-0.95			
U.S. Bonds	-0.85	-0.60	0.25			
Cash Equivalents	-1.45	-0.90	0.55			
Stocks Minus Bonds	3.70	2.50	-1.20			
Bonds Minus Cash	0.60	0.30	-0.30			

As always, we thank you for the opportunity to be of service to ERF.

Sincerely,



Thomas Toth, CFA  
Managing Director  
Wilshire Associates

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## INVESTMENT POLICIES SUMMARY

### STATEMENT OF GOALS

The general investment goals are broad in nature to encompass the purpose of the Employees' Retirement Fund of the City of Dallas ("ERF" or the "Fund") and its investments. The goals articulate the philosophy by which the ERF Board of Trustees ("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 Plan document, Dallas City Code Chapter 40A, to its participants and their beneficiaries through a carefully planned and executed investment program.
2. The Fund seeks to produce the highest return on investments which 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 necessary.
3. The Fund investment program shall at all times comply with existing and applicable local, state and federal regulations.

### INVESTMENT PHILOSOPHY

The Fund is long term in nature, and the selection of investments is regulated by: the investment time horizon; the limits of acceptable risk; and the objective of optimizing the total rate of return. Each investment manager is authorized to execute investment transactions on behalf of the Board.

Investment decisions are made under the framework of the goal established for the rate of return, limits of acceptable risk, and Fund objectives. The goal is to optimize the return of the portfolio, as opposed to maximizing the rate of return.

The optimal portfolio mix is one that carefully equates expected rate of return with expected risk of all investment categories utilized in the portfolio. In setting the optimal mix of assets for the portfolio, the Board has developed a strategic asset allocation policy which incorporates a diversified asset mix. The strategic asset allocation is designed to provide an optimal diversification to reduce risk and maximize total rate of return relative to risk and the existing and projected liability structure.

The Board bases its investment strategy and goals on advice obtained from the investment consultant, the staff, and the external investment managers. The Board uses the annual external audit and annual actuarial valuation in its evaluation of the Fund's performance each year.

Article XVI, Section 67 of the Texas Constitution and Chapter 40A of the Dallas City Code give complete responsibility for the management and investment actions of the Employees' Retirement Fund to the Board of Trustees. The Board is held to the standard of conduct of fiduciaries in discharging their responsibilities. According to Chapter 40A, the Trustees, as fiduciaries, must carry out their functions solely in the interest of the members and beneficiaries.

### CORPORATE GOVERNANCE

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. markets, investment managers may, balancing the costs and benefits, not exercise proxy voting.



## INVESTMENT RESULTS

The investment managers and the returns by investment category are shown in the following tables.  
Time-weighted rate of return, based on fair value.

Investment Category	2021 Rate of Return
Cash Equivalents	0.05%
Credit Opportunities	2.69%
Domestic Equities	29.60%
Global Equities	14.22%
Global Fixed Income	-0.93%
Global Low Volatility	15.69%
High Yield Bonds	4.92%
International Equities	10.36%
Private Equity	39.74%
Global Listed Infrastructure	32.24%
Real Estate	29.27%
<b>Total Portfolio</b>	<b>16.38%</b>

## INVESTMENT MANAGERS

### Domestic Equities, REITs, Master Limited Partnerships, & Commingled Index Funds

Adelante Capital Management, LLC	Northern Trust Asset Management
Atlantic Trust	Redwood Investments, LLC
CenterSquare	Smith Graham & Co. Investment Advisors
Channing Capital Management, LLC	Systematic Financial Management, LLP
Cohen & Steers	T. Rowe Price Associates, Inc.
Harvest Fund Advisors	

### International Equities

Acadian Asset Management, LLC	Baillie Gifford
AQR Capital Management, LLC	Earnest Partners
Ativo Capital Management, LLC	

### Global Equity

Acadian Global Low Volatility	Northern Trust Asset Management
Ariel Investments	Wellington Management Company, LLP
BlackRock, Inc.	

### Fixed Income

Aberdeen Asset Management, Inc.	Neuberger Berman
BlackRock, Inc.	NT Collective Aggregate Bond Index Fund
Garcia Hamilton & Associates, L.P.	Oaktree Capital Management, LLC

### Cash Equivalents

The Northern Trust Company
----------------------------

### Private Equity

Fairview Capital Partners	Hamilton Lane
Grosvenor Capital Management	

### Real Estate

AEW Partners	Invesco Real Estate
Heitman Real Estate Investment Management	Virtus Real Estate Cap

## TOTAL PLAN RESULTS

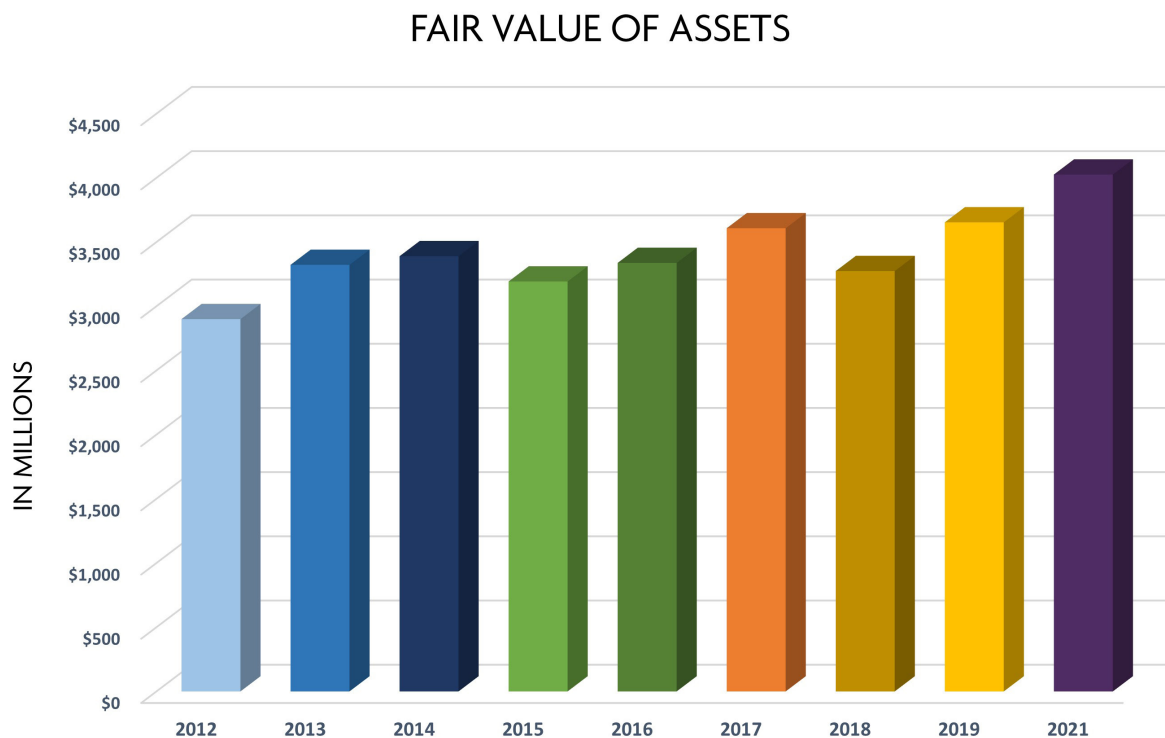
The Employees' Retirement Fund of the City of Dallas ("ERF", the "Fund") investment portfolio generated a 16.38% return net of fees for calendar year 2021. ERF has a 5-year return of 9.41% which exceeds its actuarial rate of return of 7.60%.

ERF has a globally diversified and conservative investment program. The best performing asset class in 2021 was Private Equity. In 2021, ERF's Private Equity portfolio earned 39.74%. The investments in Private Equity had a 3-year return of 17.15% and a 5-year return of 16.55%.

Global Equity had a return of and International Equity had a return of 14.22% and 10.36%, respectively for 2021. Global Low Volatility Equity had a return of 15.69% surpassing the MSCI ACWI Minimum Volatility Index of 13.94%. The Fund's Real Estate investments generated 29.27% for the year. The Real Estate investments consist of publicly traded Real Estate Investment Trusts (REITs) and private core and value-add real estate funds.

Fixed Income is 30% of the ERF investment portfolio. The Global Fixed Income investment had a difficult year with a -0.93% return but performed better than the Bloomberg U.S. Aggregate of -1.55% in 2021. The High Yield portfolio posted a return of 4.92% and the Opportunistic Credit portfolio posted a return of 2.69%.

At December 31, 2021, the Fund's total assets increased to \$4.038 billion from \$3.707 billion in 2020. This represents a \$331 million increase year-over-year. The "Market Value of Assets" graph below provides a pictorial history of the Fund's overall growth over the last 10 years.



## ASSET ALLOCATION

The Fund's long-term strategic asset allocation policy sets the following targets: 70% in equity and 30% in fixed income. Although no specific allocation to cash and equivalents is targeted, cash must be available for the payment of benefits and other expenses of the Plan. To accommodate constantly changing fair values, the Board has approved ranges for each of the asset classes.

**ASSET ALLOCATION, (Continued)**

As of December 31, 2021

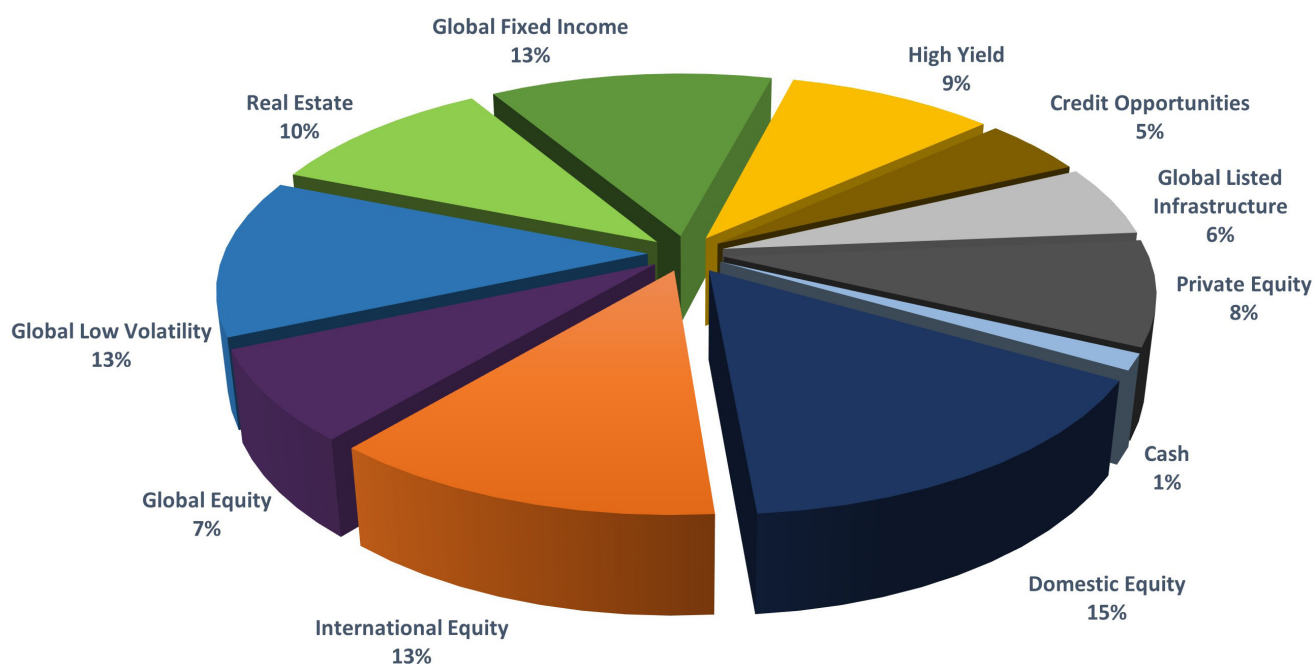
<b>Investment Category</b>	<b>% of Total Fund</b>
<b>U.S. Equity</b>	
Domestic Equity	12.5
Real Assets	12.5
REITs	2.5
Private Equity	7.5
Marketable Alternatives	2.5
<b>Total U.S. Equity</b>	<b>37.5</b>
<b>Non-U.S. Equity</b>	
International	12.5
Global	7.5
Global Low Volatility	12.5
<b>Total Non-U.S. Equity</b>	<b>32.5</b>
<b>Total Equity</b>	<b>70.0</b>
<b>Fixed Income</b>	
Credit Opportunities	5.0
Global Investment Grade	15.0
High Yield	10.0
<b>Total Fixed Income</b>	<b>30.0</b>
<b>TOTAL FUND ALLOCATION</b>	<b>100.0</b>

## DOMESTIC, INTERNATIONAL AND GLOBAL EQUITY

The Plan's asset allocation policy target for U.S. Equity is targeted at 37.5% of the Plan's total assets including 12.5% to Domestic Equity, 12.50% allocated to Real Assets, 7.5% to Private Equity, 2.5% to REITs, and 2.5% to Marketable Alternatives. Domestic Equity assets at year-end had both passively and actively managed index funds each with approximately 50% of the total investment. Total U.S. Equity had a return of 29.60% for the year while the benchmark Wilshire 5000 Index had a return of 26.70%

Non-U.S. Equity has a target allocation of 32.5%, and it is split between International Equity 12.5%, Global Equity 7.5%, and Global Low Volatility 12.5%. The Plan's International Equity composite return was 10.36% while the MSCI ACWI ex-U.S. The Custom Index reported a return of 8.53% for the year, and the MSCI EAFE Index reported 11.26%. The Global Equity allocation reported a return of 14.22% underperforming the MSCI ACWI which returned 18.54%.

## ACTUAL ASSET ALLOCATION



## **GLOBAL FIXED INCOME**

Global Fixed Income has a target of 15% of total assets allocated amongst three investment managers. For the year the Global Fixed Income had a return of -0.93% while the Bloomberg Aggregate Bond Index returned -1.55%.

## **HIGH YIELD FIXED INCOME**

High Yield Fixed Income has a target allocation of 10%. This allocation is evenly split between two investment managers. The High Yield Composite returned 4.92% compared to the FTSE Citigroup High Yield Cash Pay Index return of 5.32%.

## **PRIVATE EQUITY**

Private Equity has a target allocation of 7.5%. This allocation is split between three investment managers. At year end the fair value was approximately 8.39% of the Fund. The rate of return for the year was 39.74%.

## **REAL ESTATE**

Real Estate is comprised of Public Real Estate securities ("REITs"), and Private Core Real Estate and Value-add Real Estate with a target allocation of 10%. REITs, Core Real Estate, and Value-add Real Estate have a 2.5%, 5.0%, and 2.5% allocation, respectively. REITs returned 45.04% against the Wilshire U.S. Real Estate Securities Index of 46.11%, and Private Real Estate had a return of 20.64% against the NCREIF ODCE Fund Index had a return of 20.79%.

## **PUBLIC REAL ASSETS**

Public Real Assets (Global Listed Infrastructure) has a target allocation of 5.00%. The allocation is split between 3 investment managers. Public Real Assets returned 32.24% against the blended benchmark of the Alerian MLP and FTSE Global Core Infrastructure 50/50 Index at 33.84%.

## ANNUALIZED RATE OF RETURN

As of December 31, 2021

Time-weighted rate of return based on fair value

	1-Year	3-Year	5-Year
<b>Total Fund</b>	<b>16.38%</b>	<b>13.11%</b>	<b>9.41%</b>
<b>Domestic Equity</b>	<b>29.60</b>	<b>24.86</b>	<b>16.66</b>
S&P 500 Index	28.71	26.07	18.47
Wilshire 5000 Index	26.70	26.11	18.11
<b>International Equity</b>	<b>10.36</b>	<b>16.07</b>	<b>10.92</b>
MSCI ACWI x-US IMI (Net)	8.53	13.62	9.83
MSCI EAFE Index	11.26	13.54	9.55
<b>Global Equity</b>	<b>14.22</b>	<b>17.66</b>	<b>12.97</b>
MSCI ACWI	18.54	20.38	14.40
<b>Global Low Volatility</b>	<b>15.69</b>	<b>12.11</b>	<b>10.23</b>
MSCI ACWI Minimum Volatility	13.94	12.31	10.46
MSCI ACWI (Net)	18.54	20.38	14.40
<b>Global Fixed Income</b>	<b>-0.93</b>	<b>5.47</b>	<b>4.02</b>
Bloomberg Aggregate Bond Index	-1.55	4.79	3.57
<b>High Yield Fixed Income</b>	<b>4.92</b>	<b>8.48</b>	<b>5.68</b>
Citigroup High Yield Cash Pay	5.32	8.47	5.97
<b>Cash Equivalents</b>	<b>0.05</b>	<b>1.00</b>	<b>1.14</b>
T-Bills	0.05	0.99	1.14
<b>Real Estate</b>	<b>29.27</b>	<b>13.46</b>	<b>9.31</b>
Wilshire RE Securities Index	46.11	19.16	11.05
NCREIF ODCE INDEX	21.06	8.24	7.75
<b>Private Equity</b>	<b>39.74</b>	<b>17.15</b>	<b>16.55</b>
S&P 500 Index	28.71	26.07	18.47
<b>Public Real Assets</b>	<b>32.24</b>	<b>3.13</b>	<b>-1.18</b>
Wilshire RE Securities Index	46.11	19.16	11.05
<b>Credit Opportunities</b>	<b>2.69</b>	<b>6.54</b>	<b>5.37</b>
Wilshire Custom Benchmark	2.89	6.73	5.03

## INVESTMENT MANAGEMENT FEES

As of December 31, 2021  
(\$ in thousands)

Investment	Assets Under Management	Fees	Basis Points
Domestic Equity	\$ 617,777	\$ 2,475	40.1
International Equity	489,038	3,472	71.0
Global Equity	287,905	1,547	53.7
Global Low Volatility	509,427	759	14.9
Global Fixed Income	503,803	803	15.9
High Yield Fixed Income	364,383	1,744	22.0
Real Estate	291,794	2,955	101.3
Master Limited Partnerships	226,309	1,277	56.4
Private Equity	384,761	3,685	95.8
Cash Equivalents	116,255	183	15.7
Credit Opportunities	169,304	565	33.4
REITs	121,522	796	65.5
<b>Total</b>	<b>\$ 4,082,278</b>	<b>\$ 20,260</b>	<b>49.6</b>

## OTHER INVESTMENT SERVICES

As of December 31, 2021  
(\$ in thousands)

Investment Consultant	\$495
Investment Management Fees	20,260
Custodian Fees	125
Securities Lending Fees	194
<b>Total Investment Expenses</b>	<b>\$21,074</b>

## TEN LARGEST HOLDINGS - EQUITY

As of December 31, 2021  
(\$ in thousands)

Equity	Shares	Fair Value
CF BLACKROCK MSCI ACWI MINIMUM	11,823,755	\$255,551
MFB NTGI-QM COLTV DAILY S&P 500	11,113	195,169
CF HEITMAN AMERICA REAL ESTATE	70,765	99,056
CF INVESCO CORE RE FUND	379	81,303
1900 MCKINNEY HARWOOD LLC	57,718,884	70,010
FAIRVIEW LONE STAR FUND L.P	30,784,590	53,720
GCM GROSVENOR - DALLAS ERF PAR 1.353	38,779,569	47,064
GCM GROSVENOR - DALLAS ERF PAR 1.353	28,215,767	43,415
HAMILTON LANE SECONDARY FUND V	31,949,664	43,067
CREDIT SUISSE DALLAS ERF PARTN	39,756,746	36,321

A complete list of investments is available by contacting the Employees' Retirement Fund of the City of Dallas at 1920 McKinney Avenue, 10th Floor, Dallas, Texas 75201

## TEN LARGEST HOLDINGS - FIXED INCOME

As of December 31, 2021  
(\$ in thousands)

Fixed Income	Par Value	Fair Value
MFB NT COLLECTIVE AGG TIER H DUE 12/31/2099	\$358	\$221,439
MFO NEUBERGER BERMAN 12/31/2049	4,016	39,234
UNITED STATES OF AMERICA TREASURY DUE 9/30/2026	11,640	11,432
UNITED STATES OF AMERICA TREASURY DUE 10/15/2024	7,400	7,342
U.S.A TREASURY BOND 5/15/2046	5,745	6,373
UNITED STATES TREAS NTS 1.375% DUE 11/15/2031	5,360	5,299
UNITED STATES TREAS NTS 1.125% DUE 2/29/2031	5,250	5,178
U.S.A TREASURY BOND 2.250% 8/15/2046	4,315	4,580
BANK OF AMER CORP 3.974% DUE 02/07/2030	4,150	4,575
UNITED STATES TREAS NTS .5% DU 5/31/2027	4,705	4,509

A complete list of investments is available by contacting the Employees' Retirement Fund of the City of Dallas at 1920 McKinney Avenue, 10th Floor, Dallas, Texas 75201



## INVESTMENT HOLDINGS SUMMARY

As of December 31, 2021  
(\$ in thousands)

	Fair Value	Percentage of Fair Value
<b>Fixed Income</b>		
Government Bonds	\$139,740	3.42%
Corporate Bonds	851,307	20.85%
Total Fixed Income	991,047	24.28%
<b>Equity</b>		
Common Stock	2,059,147	50.44%
Index & Commingled	239,274	5.86%
Total Equity	2,298,421	56.30%
<b>Real Estate</b>		
Real Estate	291,794	7.15%
Total Real Estate	291,794	7.15%
<b>Alternative Investments</b>		
Private Equity	384,761	9.43%
Total Alternative Investments	384,761	9.43%
<b>Total Cash and Cash Equivalents</b>	116,255	2.85%
<b>Total Fund</b>	<b>\$4,082,278</b>	<b>100.00%</b>



# ACTUARIAL SECTION

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The Report of the  
December 31, 2021 Actuarial Valuation  
of the Employees' Retirement Fund  
of the City of Dallas

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June 7, 2022

Board of Trustees  
Employees' Retirement Fund of the City of Dallas  
1920 McKinney Avenue 10<sup>th</sup> Floor  
Dallas, Texas 75201

Dear Members of the Board:

We are pleased to present our report of the actuarial valuation of the Employees' Retirement Fund of the City of Dallas ("ERF" or the "Fund") as of December 31, 2021.

This valuation provides information on the financial health of ERF. It includes a determination of the actuarially calculated contribution rates for the 2022 calendar year. In addition, it also contains the information necessary to determine the current total obligation rate and the current adjusted total obligation rate for the fiscal year beginning October 1, 2022 per City Ordinance. The current adjusted total obligation rate is a function of the previous year's adjusted total obligation rate, this year's actuarially calculated contribution rate, and the rate necessary to make the debt service payment on the previously issued pension obligation bonds for fiscal year 2023.

In addition, the report provides various summaries of the data. A separate report is issued with regard to valuation results determined in accordance with Governmental Accounting Standards Board (GASB) Statements 67 and 68. Results of this report should not be used for any other purpose without consultation with the undersigned. Valuations are prepared annually as of December 31st, the last day of the ERF plan year. This report was prepared at the request of the Board and is intended for use by the ERF staff and those designated or approved by the Board. This report may be provided to parties other than ERF staff only in its entirety and only with the permission of the Board.

As authorized in Chapter 40A-4(a)(16) of the Dallas City Code, the actuarial methods and assumptions are set by the Board of Trustees, based upon recommendations made by the plan's actuary. An experience study was performed for the five-year period ending December 31, 2019. As a result of that study, revised assumptions were adopted by the Board effective with the valuation as of December 31, 2019. There were no changes in the actuarial assumptions or methods since the prior valuation.

We believe the assumptions are internally consistent, reasonable, and, where appropriate, based on the actual experience of the ERF. All of the methods and assumptions used for funding purposes meet the parameters set by the Actuarial Standards of Practice. All actuarial methods and assumptions are described under Section P of this report. The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions.

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Board of Trustees

June 7, 2022

Page 2

Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods. Due to the limited scope of this assignment, GRS did not perform an analysis of the potential range of such possible future differences. The actuarial calculations are intended to provide information for rational decision making. Other than the sensitivity analysis shown in Section L, this report does not include a more robust assessment of the future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

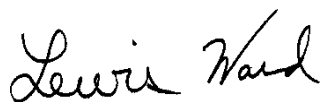
This valuation is based on the provisions of ERF in effect as of the valuation date, data on the ERF membership and information on the asset values of the Fund as of December 31, 2021. The member, annuitant and asset data used in the valuation were all prepared and furnished by ERF staff. While certain checks for reasonableness were performed, the data used was not audited.

To the best of our knowledge, this report is complete and accurate and was conducted in accordance with the Actuarial Standards of Practice as set forth by the Actuarial Standards Board and in compliance with the provisions of the Dallas City Code. The undersigned are independent actuaries and consultants. Mr. Falls is a Fellow of the Society of Actuaries, an Enrolled Actuary, and a Member of the American Academy of Actuaries and he meets the Qualification Standards of the American Academy of Actuaries. Both Mr. Falls and Mr. Ward have significant experience in performing valuations for large public retirement systems. The following schedules in the actuarial section of the ERF Annual Comprehensive Financial Report were prepared by GRS: Executive Summary, Report Highlights, Summary of Actuarial Values, Demonstration of Actuarially Required Contribution Rate, Information for City Ordinance 25695, Net Assets Available for Benefits, Change in Assets Available for Benefits, Development of Actuarial Assets, Historical Investment Performance, Analysis of Change in Unfunded Actuarial Accrued Liability, Investment Experience (Gain) or Loss, Analysis of Actuarial (Gains) or Losses, Schedule of Funding Status, Summary of Data Characteristics, Distribution of Active Members and Payroll by Age and Years of Service, Distribution of Benefit Recipients, Schedule of Active Member Valuation Data, Schedule of Retirees and Beneficiaries Added to and Removed from Rolls, Solvency Test, Analysis of Pay Experience (Valuation Pay), Analysis of Retirement Experience – Each Age, Analysis of Retirement Experience- Age Groups, Analysis of Turnover Experience, Analysis of Active Mortality Experience, Analysis of Disability Experience, Analysis of Retiree Mortality Experience.

We would like to thank the ERF staff for their assistance in providing all necessary information to complete this valuation. Their courteous help is very much appreciated. We look forward to discussing this actuarial valuation report with you at your convenience. Please do not hesitate to let us know if you have any questions or need additional information.

Respectfully submitted,

Gabriel, Roeder, Smith & Company



Lewis Ward  
Consultant



R. Ryan Falls, FSA, EA, MAAA  
Senior Consultant



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## EXECUTIVE SUMMARY

(\$ in 000s)

The key results from the actuarial valuation of the Employees' Retirement Fund of the City of Dallas as of December 31, 2021 may be summarized as follows:

		<u>December 31, 2020</u>	<u>December 31, 2021</u>
· Members			
- Actives		7,244	7,175
- Benefit recipients		7,552	7,655
- Deferred vested*		911	974
- Other terminated*		<u>799</u>	<u>1,007</u>
- Total		16,506	16,811
· Covered payroll (including overtime)	\$	428,824	\$ 442,863
· Normal cost	\$	84,929	\$ 85,892
as % of expected payroll		20.11%	19.71%
· Actuarial accrued liability	\$	4,932,886	\$ 5,094,362
· Actuarial value of assets	\$	3,747,078	\$ 3,872,601
· Market value of assets	\$	3,706,753	\$ 4,093,215
· Unfunded actuarial accrued liability (UAAL)	\$	1,185,808	\$ 1,221,761
· Estimated yield on assets (market value basis)		6.42%	16.01%
· Estimated yield on assets (actuarial value basis)		6.81%	8.68%
· Contribution Rates			
- Prior Adjusted Total Obligation Rate		36.00%	36.00%
- Current Total Obligation Rate		43.77%	43.17%
- Current Adjusted Total Obligation Rate		36.00%	36.00%
· Actuarial gains/(losses)			
- Assets	\$	(16,030)	\$ 52,230
- Actuarial liability experience	\$	69,812	\$ (29,375)
- Assumption and method changes	\$	0	\$ 0
· 30-year level % of pay funding cost	\$	153,181	\$ 157,107
as % of payroll (Employee + City)		34.85%	34.61%
· Funded ratio			
- Based on actuarial value of assets		76.0%	76.0%
- Based on market value of assets		75.1%	80.3%

\* *Deferred vested are members who have applied for a deferred pension. Other terminations are other members who have terminated and still have contribution balances in the Fund.*

## PURPOSES OF THE ACTUARIAL VALUATION

At your request, we have performed the actuarial valuation of the Employees' Retirement Fund of the City of Dallas ("ERF" or the "Fund") as of December 31, 2021.

The purposes of an actuarial valuation are as follows:

- To determine the funding status of ERF as of the valuation date;
- To develop the actuarially determined level of contributions for ERF for the 2022 calendar year; and
- To develop the current total obligation rate and the current adjusted total obligation rate for the fiscal year beginning October 1, 2022.

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## REPORT HIGHLIGHTS

(\$ in 000s)

The following is a set of key actuarial results from the prior year's valuation as compared to the current year:

	Valuation Date	
	December 31, 2020	December 31, 2021
<b>Contribution Rates (% of Payroll)</b>		
Normal Cost (including administrative expense)	21.44%	21.19%
Total Actuarial Contribution Rate	34.85%	34.61%
Total Projected Actuarial Contribution	\$153,181	\$157,107
<b>Funded Status (on AVA basis)</b>		
Actuarial Accrued Liability	\$4,932,886	\$5,094,362
Actuarial Value of Assets	3,747,078	3,872,601
Unfunded Actuarial Accrued Liability	\$1,185,808	\$1,221,761
Funded Ratio	75.96%	76.02%

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## FUNDING PROCESS

Based on the previous work of the Employees' Retirement Fund Study Committee, which was ratified by the ERF Board, the Dallas City Council and the voters of Dallas, a new funding process commenced October 1, 2005. From this date forward, a new "current adjusted total obligation rate" will be contributed jointly by the City (63%) and the Membership (37%). This current adjusted total obligation rate will cover both the debt service tied to the pension obligation bonds issued in 2005 and the contributions to the ERF. In subsequent years, the contribution rate changes only if the actuarial valuation develops a "current total obligation rate" which differs from the "prior adjusted total obligation rate" by more than 3.00% (plus or minus).

As shown in Section N – Table 3 and discussed later in this report, the "current total obligation rate" (Item 4 in Table 3) exceeds the "prior adjusted total obligation rate" (Item 1 in Table 3) as of December 31, 2021. This means that the "current adjusted total obligation rate" will remain at 36.00% of active member payroll for the fiscal year beginning October 1, 2022. It should be noted that under the contribution corridor methodology, the "current adjusted total obligation rate" would have been higher if not for the maximum rate of 36.00% allowed under Chapter 40A of the Dallas City Code.

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## ACTUARIAL CONTRIBUTIONS

As shown in Section N – Table 2, the Actuarially Required Contribution Rate developed in this actuarial valuation is 34.61% of active member payroll. This rate excludes the amount needed to make the City's debt service payment on the pension obligation bonds in fiscal year 2023. This rate is the total level rate of pay (member + City) that would need to be contributed each of the next 30 years to pay off the unfunded liability of the Fund over that 30-year period. Note that because the total rate is assumed to remain level and the average normal cost as a percentage of pay is expected to decline over that time period (due to Tier B), the payment towards the unfunded liability as a percentage of pay is expected to increase over the 30-year period.

As shown in Section N – Table 3 of this report, the debt service payment is determined to be 8.56% of projected payroll. The sum of these rates is 43.17% (the Current Total Obligation Rate), which is 7.17% more than the Prior Adjusted Total Obligation Rate of 36.00%. Because the total contribution rate cannot exceed 36.00%, the total contribution rate in fiscal year 2023 (the Current Adjusted Total Obligation Rate) to fund the ERF and make the debt service payment on the pension obligation bonds will be 36.00%, which is the maximum rate allowed under Chapter 40A of the Dallas City Code.

The members contribute 37% of the Current Adjusted Total Obligation Rate and the City contributes 63%. Hence, the members' portion of the 36.00% total contribution rate will be 13.32% and the City portion will be 22.68%. All of the member contribution rate will be contributed to the ERF. As noted above, 8.56% of the City's contribution rate will go towards the debt service on the pension obligation bonds and the remaining 14.12% will be contributed towards the ERF. This means a total contribution rate of 27.44% will be contributed to the ERF for the 2023 fiscal year, which compares to the actuarially calculated rate of 34.61%.

## ACTUARIAL ASSUMPTIONS

Section P of this report includes a summary of the actuarial methods and assumptions used in this valuation. In short, costs are determined using the Entry Age Normal actuarial cost method. The assumed annual investment return rate is 7.25% and includes an annual assumed rate of inflation of 2.50%.

There were no changes in the actuarial assumptions since the prior valuation report. Please see Section P of this report for a summary description of these methods and assumptions.

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## ERF BENEFITS

The City of Dallas voters approved a new tier of benefits for City of Dallas municipal employees hired after December 31, 2016.

There were no changes in the benefit provisions of ERF since the prior valuation. Please see Section Q for a summary description of the ERF benefits.

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## EXPERIENCE DURING PREVIOUS YEARS

An Actuarial (Gain)/Loss Analysis [(G)/L] reviews the effects of the actual experience on the expected Unfunded Actuarial Accrued Liability (UAAL). If any unexpected difference increases assets or reduces liabilities (i.e., reductions in the UAAL), we have an actuarial gain. Unexpected increases in the UAAL results in an actuarial loss.

On a market value return basis, the Fund returned approximately 16.01% (calculated on a dollar-weighted basis, net of investment expenses). Given this return, the actual investment income was greater than the expected investment income on the market value of assets; therefore, an investment gain occurred. Please see Section N – Table 6 for the determination of the actuarial value of assets (AVA) and page 48 for a description of the AVA methodology. As developed on Section N – Table 9a, there was a \$52.2 million gain on the actuarial value of assets as of December 31, 2021. The rate of return on the actuarial value of assets for 2021 was 8.68% (calculated on a dollar-weighted basis, net of investment expenses). This result was greater than the investment return assumption of 7.25%.

As developed on Section N – Table 8, ERF experienced an overall actuarial experience gain in calendar year 2021 in the amount of \$22.9 million. Since there was a \$52.2 million gain on the actuarial value of assets, this implies there was a liability actuarial loss of about \$29.4 million derived from demographic assumptions and non-investment economic assumptions (cost-of-living-adjustment). Please see Section N – Table 9b for an analysis of the experience loss by source.

The total (G)/L for the prior 5 years is broken down as follows (\$ in millions):

	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
1) Actuarial (Gain)/Loss on Assets	(\$19.85)	\$88.73	\$35.80	\$16.03	(\$52.23)
2) Actuarial (Gain)/Loss on Liabilities	(61.02)	11.35	(6.16)	(69.81)	29.37
3) Total Actuarial (Gain) or Loss (1+2)	(\$80.87)	\$100.08	\$29.64	(\$53.78)	(\$22.86)

The unfunded actuarial accrued liability (UAAL) also increased \$33.9 million due to the shortfall between the calculated contribution rate and the actual contributions during 2021.

## ASSET INFORMATION

The assets of the Fund (on a market value basis) increased from \$3,707 million as of December 31, 2020 to \$4,093 million as of December 31, 2021.

An asset smoothing method (adopted by the Board) is used to recognize asset gains and losses. The purpose of such a smoothing method is to allow the use of market values, and to dampen the effect of the typical year-to-year market fluctuations. Please see page 48 of this report for a description of the smoothing method (actuarial value of asset method). See Table 6 in Section N of this report for the determination of the actuarial value of assets as of December 31, 2021.

The actuarial value of assets has increased from \$3,747 million to \$3,873 million during 2021. The actuarial assets are greater than the expected actuarial assets, \$3,821 million, due to favorable investment experience in calendar year 2021. This resulted in an actuarial gain on the actuarial assets of \$52.2 million.

The rate of return on investments for 2021 on the actuarial value of assets was 8.68%, compared to 6.81% in 2020. The detailed determinations of asset values utilized in this valuation and the change in assets in the last year are exhibited in Tables 4 and 5 of Section N of this report.

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## FUNDED STATUS

The funded status of ERF is measured by the Funded Ratio and the Unfunded Actuarial Accrued Liability (UAAL). The Funded Ratio is the ratio of the actuarial value of assets available for benefits to the Actuarial Accrued Liability (AAL) of the Fund on the valuation date. Therefore, it reflects the portion of the AAL that is covered by ERF assets. The UAAL is the difference between these two amounts.

A Funded Ratio of 100% means that the funding of ERF is precisely on schedule as of the particular valuation date. In addition, an increasing funded ratio from year-to-year may also mean that the funding of ERF is on schedule. By monitoring changes in the Funded Ratio each year, we can determine whether or not funding progress is being made.

Based on the market value of assets, the Funded Ratio of ERF increased from 75.1% as of December 31, 2020 to 80.3% as of December 31, 2021. Based on the actuarial value of assets, the Funded Ratio of ERF remained relatively unchanged at approximately 76.0% as of December 31, 2020 and 76.0% as of December 31, 2021.

The UAAL increased from \$1,185.8 million as of December 31, 2020 to \$1,221.8 million as of December 31, 2021. Since the UAAL is positive, this implies the actuarial accrued liabilities exceed the actuarial assets of the Fund as of December 31, 2021.

The actual \$36.0 million increase in the UAAL was less than the expected increase of \$58.8 million (\$24.9 million due to negative amortization and \$33.9 million as a result of the actual contributions being less than the actuarially determined contribution rate), resulting in a net actuarial experience gain in total. The primary reasons the increase in the UAAL was less than expected were favorable investment experience and mortality experience.

The funded status is one of many metrics used to show trends and develop future expectations about the health of a retirement system. The funded status measure itself is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations or assessing the need for or the amount of future contributions since it does not reflect normal cost contributions, the timing of amortization payments, or future experience other than expected.

## GASB DISCLOSURE

Governmental Accounting Standards Board (GASB) Statement Numbers 67 and 68 detail the current accounting standards for ERF and the Fund's sponsor, the City of Dallas, Texas. These new standards were effective with the plan year ending December 31, 2014 for the Fund and the fiscal year ending September 30, 2015 for the City. The new standards created a clear distinction between the funding requirements of a pension plan and the accounting requirements. Because of these changes, the GASB disclosure information will no longer be included in the actuarial valuation report, but will instead be provided under separate cover.

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## ASSESSMENT AND DISCLOSURE OF RISK ASSOCIATED WITH MEASURING PENSION OBLIGATIONS AND DETERMINING PENSION PLAN CONTRIBUTIONS

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. Investment risk – actual investment returns may differ from the expected returns;
2. Asset/Liability mismatch – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. Contribution risk – actual contributions may differ from expected future contributions.  
For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
6. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

## **ASSESSMENT AND DISCLOSURE OF RISK ASSOCIATED WITH MEASURING PENSION OBLIGATIONS AND DETERMINING PENSION PLAN CONTRIBUTIONS (Continued)**

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The Current Adjusted Total Obligation Rate shown in the Executive Summary may be considered as a minimum contribution rate that complies with Chapter 40A of the Dallas City Code. However, due to the contribution rate cap, this is less than the actuarially calculated rate. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

### **PLAN MATURITY MEASURES**

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Several generally accepted plan maturity measures are described below and are followed by a table showing a 10-year history of the measurements for Dallas ERF.

### **RATIO OF MARKET VALUE OF ASSETS TO PAYROLL**

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

### **RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL**

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

## **ASSESSMENT AND DISCLOSURE OF RISK ASSOCIATED WITH MEASURING PENSION OBLIGATIONS AND DETERMINING PENSION PLAN CONTRIBUTIONS (Continued)**

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

### **RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES**

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees, resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives, resulting in a ratio below 1.0.

### **RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS**

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

### **DURATION OF PRESENT VALUE OF BENEFITS**

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

### **ADDITIONAL RISK ASSESSMENT**

Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability. While a robust measurement of additional risk assessment is outside the scope of the annual actuarial valuation, we have included a scenario test of a 1% increase or 1% decrease in the investment return assumption. The results of this test are shown at the end of this section.



## ASSESSMENT AND DISCLOSURE OF RISK ASSOCIATED WITH MEASURING PENSION OBLIGATIONS AND DETERMINING PENSION PLAN CONTRIBUTIONS (Continued)

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Ratio of the market value of assets to total payroll	9.24	8.64	8.43	7.71	8.55	8.13	8.12	9.34	9.72	9.01
Ratio of actuarial accrued liability to payroll	11.50	11.50	11.21	10.68	10.39	10.48	10.50	11.03	10.55	10.64
Ratio of actives to retirees and beneficiaries	0.94	0.96	1.00	1.05	1.11	1.10	1.11	1.09	1.08	1.09
Ratio of net cash flow to market value of assets	-4.7%	-4.9%	-4.8%	-5.1%	-4.3%	-4.4%	-4.5%	-4.2%	-4.4%	-5.1%
Duration of the actuarial present value of benefits*	12.54	12.69	12.37	NA	NA	NA	NA	NA	NA	NA

\*Duration measure not available prior to 2019

### Impact on Funding Metrics of Investment Return Assumption +/- 1%

Cost Item	Investment Return Assumption		
	6.25%	7.25%	8.25%
Normal Cost % (excluding admin expenses)	24.39%	19.71%	16.23%
UAAL (\$ in millions)	\$1,820.0	\$1,221.8	\$721.2
30-year funding rate (employee + City)	43.76%	34.61%	26.18%
Funded Ratio	68.0%	76.0%	84.3%
Funding Period	Infinite	50 years	28 years

## CLOSING COMMENTS

The unfunded actuarial accrued liability of the Fund has increased by less than expected due to favorable experience from investments and mortality. Offsetting these gains, there were losses from the 5.00% cost of living adjustment and from salary increases being greater than expected.

The calculated contribution rate necessary to pay the Fund's normal cost and amortize the UAAL over 30 years is 34.61% of pay. When the debt service payment on the Pension Obligation Bonds is considered, the total contribution rate is 43.17% of payroll. However, Chapter 40A of the Dallas City Code limits the contribution rate to 36.00% of payroll, therefore, the total rate to be contributed by the employees and the City for fiscal year 2023 will be 36.00% of pay.

Following adoption of the proposed changes by the ERF Board, the Dallas City Council, and approval by the City of Dallas voters, the new tier of benefits became effective for employees hired after December 31, 2016 and the outlook for the ERF improved. Based on our projections, reflecting the new tier of benefits and assuming the actuarial assumptions are exactly met (including a 7.25% return on the actuarial value of assets), ERF is expected to be fully funded in approximately 50 years.

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## ACTUARIAL TABLES

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**Summary of Actuarial Values**  
**As of December 31, 2020**  
(\$ in 000s)

**Entry Age Actuarial Values**

	<b>APV* of Projected Benefits</b>	<b>Actuarial Accrued Liability (AAL)</b>	<b>Normal Cost \$</b>	<b>Normal Cost % of Pay**</b>
<b>1 Active Members</b>				
a. Retirement	\$ 1,899,956	\$ 1,456,787	\$ 62,161	14.26%
b. Death	19,016	11,438	1,035	0.24%
c. Disability	12,339	4,747	1,044	0.24%
d. Termination	141,178	(5,505)	19,634	4.50%
e. Health Subsidy	42,759	31,622	2,018	0.47%
<b>Total</b>	<b>\$ 2,115,248</b>	<b>\$ 1,499,089</b>	<b>\$ 85,892</b>	<b>19.71%</b>
<b>2 Benefit Recipients</b>	3,456,659	3,456,659		
<b>3 Other Inactive</b>	138,614	138,614		
<b>4 Total Actuarial Value of Benefits</b>	<b>\$ 5,710,521</b>	<b>\$ 5,094,362</b>	<b>\$ 85,892</b>	<b>19.71%</b>
<b>5 Actuarial Value of Assets</b>		<b>\$ 3,872,601</b>		
<b>6 Unfunded Actuarial Accrued Liability (4 - 5)</b>		<b>\$ 1,221,761</b>		
<b>7 Funding Ratio</b>				<b>76.02%</b>
<b>8 Market Value Measurements</b>				
UAAL on market value				<b>\$ 1,001,147</b>
Funded Ratio on market value				<b>80.35%</b>

\* APV – Actuarial Present Value

\*\* Percentage of expected payroll for continuing active members.

## DEMONSTRATION OF ACTUARIALLY REQUIRED CONTRIBUTION RATE FOR FY 2023

Valuation as of December 31,	Actuarially Determined Total Contribution Rate	Projected Compensation for Plan Year (in \$M)	Total Contributionsto Fund for Plan Year (in \$M)	Actuarial Accrued Liability (AAL \$M)	Actuarial Value of Assets (AVA \$M)	Unfunded Actuarial Accrued Liability (UAAL \$M)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2021	34.61%	\$ 442.9	\$ 153.3	\$ 5,094.4	\$ 3,872.6	\$ 1,221.8
2022	34.61%	454.4	157.3	5,213.8	3,962.8	1,251.0
2023	34.61%	467.6	161.8	5,335.8	4,056.9	1,279.0
2024	34.61%	481.2	166.5	5,451.5	4,146.4	1,305.1
2025	34.61%	495.4	171.5	5,560.5	4,231.3	1,329.2
2026	34.61%	510.0	176.5	5,662.9	4,311.9	1,351.0
2027	34.61%	525.1	181.7	5,758.8	4,388.4	1,370.4
2028	34.61%	540.8	187.2	5,848.9	4,461.7	1,387.2
2029	34.61%	557.2	192.8	5,934.1	4,533.8	1,400.3
2030	34.61%	574.0	198.7	6,014.6	4,604.4	1,410.2
2031	34.61%	591.8	204.8	6,091.1	4,674.5	1,416.6
2032	34.61%	610.0	211.1	6,164.7	4,745.7	1,419.0
2033	34.61%	628.2	217.4	6,235.4	4,818.4	1,417.0
2034	34.61%	646.8	223.9	6,303.0	4,892.7	1,410.2
2035	34.61%	666.1	230.5	6,367.5	4,969.1	1,398.4
2036	34.61%	686.1	237.4	6,429.2	5,048.3	1,380.9
2037	34.61%	706.6	244.6	6,488.8	5,131.4	1,357.3
2038	34.61%	727.8	251.9	6,546.9	5,219.7	1,327.2
2039	34.61%	749.8	259.5	6,604.4	5,314.6	1,289.8
2040	34.61%	772.7	267.4	6,662.4	5,417.7	1,244.7
2041	34.61%	796.4	275.6	6,721.8	5,530.7	1,191.1
2042	34.61%	820.8	284.1	6,783.2	5,655.1	1,128.1
2043	34.61%	846.0	292.8	6,847.6	5,792.4	1,055.2
2044	34.61%	872.0	301.8	6,916.5	5,945.0	971.4
2045	34.61%	898.8	311.1	6,991.5	6,115.5	876.0
2046	34.61%	926.2	320.6	7,073.9	6,306.1	767.8
2047	34.61%	954.4	330.3	7,164.8	6,518.9	645.9
2048	34.61%	983.2	340.3	7,265.2	6,756.0	509.2
2049	34.61%	1,012.7	350.5	7,375.8	7,019.3	356.5
2050	34.61%	1,043.0	361.0	7,497.2	7,310.7	186.5
2051	34.61%	1,074.1	371.7	7,630.0	7,632.1	(2.2)

Table 2

**Information for City Ordinance 25695  
For the Fiscal Year Commencing October 1, 2021**

<b>1 Prior Adjusted Total Obligation Rate</b>	36.00%
<b>2 Actuarially Required Contribution Rate*</b>	34.61%
<b>3 Debt Service</b>	
a Scheduled Debt Service Payment for FY 2023	\$ 38,843,241
b Projected Payroll	\$ 453,934,344
c Pension Obligation Bond Credit Rate (a/b)	8.56%
<b>4 Current Total Obligation Rate (2 + 3c)</b>	43.17%
<b>5 Current Adjusted Total Obligation Rate</b>	36.00% **
<b>6 Allocation of Contribution Rates Commencing October 1, 2022</b>	
a Employee (5 x .37)	13.32%
b City (5 x .63)	22.68%

\* Actuarially determined level contribution rate as demonstrated on Table 2.

\*\* If the absolute value of the difference between the Prior Adjusted Total Obligation Rate (PATOR) and the Current Total Obligation Rate (CTOR) is less than or equal to 3.0% then:  
Current Adjusted Total Obligation Rate (CATOR) = PATOR

otherwise:

1) If  $PATOR - CTOR > 3.00\%$  then the CATOR is set equal to the greater of:

- a) the average of the Prior Adjusted Total Obligation Rate and the Current Total Obligation Rate; or
- b) 90% of the Prior Adjusted Total Obligation Rate

or

2) If  $PATOR - CTOR < -3.00\%$  then the CATOR is set equal to the lesser of:

- a) the average of the Prior Adjusted Total Obligation Rate and the Current Total Obligation Rate; or
- b) 110% of the Prior Adjusted Total Obligation Rate

Additionally, the CATOR cannot exceed 36.00%.

Table 3

## EXCERPTS FROM CITY ORDINANCE 25695

**ACTUARIALLY REQUIRED CONTRIBUTION RATE** – means, for any fiscal year, a rate of contribution to the fund, expressed as a percentage of members’ projected wages for such fiscal year, which is the sum of the following as determined in the actuarial valuation report for the preceding plan year:

- (A) the actuarial present value of the pension plan benefits and expenses that are allocated to a valuation period by the actuarial cost method; and
- (B) the contribution that will amortize the difference between the actuarial accrued liability of the fund and the actuarial value of the assets of the fund over the period of years required by generally accepted accounting principles.

**CITY CONTRIBUTIONS** – means, for each pay period ending during a transition year, the city shall contribute to the retirement fund an amount equal to:

- (A) 63% times the current total obligation rate for that fiscal year times the members’ wages for the pay period, minus
- (B) The pension obligation bond credit rate for that fiscal year times the members’ wages for the pay period;

and, for each pay period ending during each fiscal year, except for a transition year, the city shall contribute to the retirement fund an amount equal to:

- (C) 63% times the current adjusted total obligation rate for that fiscal year times the members’ wages for the pay period, minus
- (D) The pension obligation bond credit rate for that fiscal year times the members’ wages for the pay period.

**EMPLOYEE CONTRIBUTIONS** – means, for each pay period ending during a transition year, each member shall contribute to the retirement fund an amount equal to:

- (A) 37% times the current total obligation rate for that fiscal year times the member’s wages for the pay period;

and, for each pay period ending during each fiscal year, except for a transition year, the member shall contribute to the retirement fund an amount equal to:

- (B) 37% times the current adjusted total obligation rate for that fiscal year times the member’s wages for the pay period.

## EXCERPTS FROM CITY ORDINANCE 25695 (Continued)

**CURRENT ADJUSTED TOTAL OBLIGATION RATE** – means, for any fiscal year, the rate determined by the board as follows, using whichever formula is applicable:

- (A) If the current total obligation rate minus the prior adjusted total obligation rate is greater than three, then the current adjusted total obligation rate for such fiscal year is equal to the lesser of:
  - (i) the prior adjusted total obligation rate plus one-half times the difference of the current total obligation rate minus the prior adjusted total obligation rate; or
  - (ii) 110 percent times the prior adjusted total obligation rate; or
  - (iii) 36 percent.
- (B) If the difference between the current total obligation rate and the prior adjusted total obligation rate is less than three, then the current adjusted total obligation rate for such fiscal year is equal to the prior adjusted total obligation rate.
- (C) If the prior adjusted total obligation rate minus the current total obligation rate is greater than three, then the current adjusted total obligation rate for such fiscal year is equal to the greater of:
  - (i) the prior adjusted total obligation rate minus one-half times the difference of the prior adjusted total obligation rate minus the current total obligation rate; or
  - (ii) 90 percent times the prior adjusted total obligation rate.

**CURRENT TOTAL OBLIGATION RATE** – means, for any fiscal year, the rate adopted by the board that is equal to the sum of the pension obligation bond credit rate for such fiscal year plus the actuarially required contribution rate for such fiscal year.

**PENSION OBLIGATION BOND CREDIT RATE** – means, for any fiscal year, the rate adopted by the board that is a percentage calculated by dividing:

- (A) the debt service due during such fiscal year on any pension obligation bonds, the proceeds of which have been deposited in the fund, by:
- (B) the total members' projected wages for such fiscal year, as reported in the relevant actuarial valuation report.

**PRIOR ADJUSTED TOTAL OBLIGATION RATE** – means:

- (A) for the fiscal year commencing October 1, 2006, the current total obligation rate that was effective for the prior fiscal year; and
- (B) for each fiscal year commencing on or after October 1, 2007, the current adjusted total obligation rate that was effective for the prior fiscal year.



## EXCERPTS FROM CITY ORDINANCE 25695 (Continued)

**PROJECTED PAYROLL** – means the covered payroll for the valuation proceeding the fiscal year multiplied by the payroll growth assumption.

**TRANSITION YEAR** – means each of the following:

- (A) the first fiscal year in which debt service payments related to pension obligation bonds are due from the city;
- (B) the first fiscal year in which no debt service payments related to pension obligation bonds are due from the city; and
- (C) the fiscal year beginning October 1, 2005.

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**Net Assets Available for Benefits**  
(\$ in 000s)

	<u>December 31, 2020</u>	<u>December 31, 2021</u>
<b>1 Assets</b>		
a. Cash & Short-Term	\$ 336,137	\$ 473,616
<b>2 Receivables</b>		
a. Accrued Investment Income	\$ 14,925	\$ 13,295
b. Securities Sold	6,188	1,848
c. Employer Contribution	467	2,445
d. Employee Contribution	439	702
e. Pending Contracts	406,359	287,389
<b>3 Investments</b>	\$ 428,378	\$ 305,679
a. Index Funds	\$ 208,318	\$ 239,274
b. Fixed Income	976,820	991,047
c. Equities	1,888,059	2,059,147
d. Real Estate	222,726	291,794
e. Private Equity	316,237	384,761
	\$ 3,612,160	\$ 3,966,023
<b>4 Total Assets</b>	\$ 4,376,675	\$ 4,745,318
<b>5 Liabilities</b>		
a. Accounts Payable	\$ 8,482	\$ 9,005
b. Investment Transactions	661,440	643,098
	\$ 669,922	\$ 652,103
<b>6 Net Assets Available For Benefits</b>	<u>\$ 3,706,753</u>	<u>\$ 4,093,215</u>

Table 4

**Change in Assets Available for Benefits**  
**Fiscal Year Ending December 31, 2020**  
(\$ in 000s)

	<b>2020</b>	<b>2021</b>
<b>1 Assets Available at Beginning of Year</b>	\$ 3,265,402	\$ 3,706,753
Adjustment *	0	0
<b>2 Revenues</b>	\$ 3,658,088	\$ 3,706,753
a. Employer Contributions	\$ 61,615	\$ 63,583
b. Employee Contributions	58,358	59,256
c. Investment Income	91,867	88,100
d. Investment Expense	(17,915)	(21,074)
e. Realized and Unrealized Gains (Losses)	153,972	510,013
f. Other (Security Lending)	1,181	971
Total Revenues	\$ 349,078	\$ 700,849
<b>3 Expenses</b>		
a. Benefits	\$ 287,465	\$ 296,586
b. Refunds	6,857	10,452
c. Administrative Expenses	5,699	6,547
d. Depreciation Expense	392	802
Total Expense	\$ 300,413	\$ 314,387
<b>4 Assets Available at End of Year (1 + 2 + 3)</b>	\$ 3,706,753	\$ 4,093,215

\* Change due to difference between unaudited asset value used for prior valuation and audited asset value

**Development of Actuarial Assets**  
(\$ in 000s)

	<u>December 31, 2021</u>
1. Market value of assets at beginning of year	\$ 3,706,753
2. External cashflow	
a. Contributions	\$ 122,839
b. Benefits and refunds paid	(307,038)
c. Administrative and miscellaneous expenses	(7,349)
d. Subtotal	(191,548)
3. Assumed investment return rate for fiscal year	7.25%
4. Assumed investment income for fiscal year	\$ 261,917
5. Expected Market Value at end of year (1+ 2 + 4)	\$ 3,777,122
6. Market value of assets at end of year	\$ 4,093,215
7. Difference (6 - 5)	\$ 316,093
8. Development of amounts to be recognized as of December 31, 2021:	

Fiscal Year End	Remaining Deferral of Excess (Shortfall) of Investment Income	Offsetting of Gains/ (Losses)	Net Deferrals Remaining	Years Remaining	Recognized for this valuation	Remaining after this valuation
	(1)	(2)	(3) = (1) + (2)	(4)	(5) = (3) / (4)	(6) = (3) - (5)
2017	\$ 0	\$ 0	\$ 0	1	\$ 0	0
2018	(16,581)	16,581	0	2	0	0
2019	0	0	0	3	0	0
2020	(23,744)	23,744	0	4	0	0
2021	316,093	(40,325)	275,768	5	55,154	220,614
Total	\$ 275,768	\$ 0	\$ 275,768		\$ 55,154	\$ 220,614

9. Final actuarial value of plan net assets, end of year (Item 6 - Item 8, Column 6)	\$ 3,872,601
10. Ratio of actuarial value to market value	94.6%

Notes: Remaining deferrals in Column (1) for prior years are from last year's report Table 6, column 6. The number in the current year is Item 7, above. Column 2 is a direct offset of the current year's excess/(shortfall) return against prior years' excess/(shortfall) of the opposite type.

Table 6

**Historical Investment Performance**  
**Dollar Weighted Basis Net of Investment Expenses**

<b>Calendar Year</b>	<b>On Market Value</b>	<b>On Actuarial Value</b>
2002	-9.81%	-5.37%
2003	27.05%	2.03%
2004	15.22%	9.38%
2005	7.93%	13.71%
2006	16.90%	13.03%
2007	3.56%	9.58%
2008	-31.31%	-3.76%
2009	30.35%	6.79%
2010	15.77%	4.30%
2011	0.86%	1.15%
2012	14.29%	2.82%
2013	16.75%	10.65%
2014	6.14%	10.29%
2015	-1.83%	7.02%
2016	8.65%	8.51%
2017*	12.34%	8.99%
2018	-5.15%	5.23%
2019	17.30%	6.74%
2020	6.42%	6.81%
2021	16.01%	8.68%
5-year average ending in 2021	9.06%	7.28%
10-year average ending in 2021	8.83%	7.55%

\* The yield on the actuarial value of assets for 2017 includes the impact of the method change for the Actuarial Value of Assets.

**Analysis of Change in Unfunded Actuarial Accrued Liability**  
**For the Year Ending December 31, 2021**  
(\$ in 000s)

<b>1. UAAL as of December 31, 2020</b>		\$ 1,185,808
<b>2. Expected Change in UAAL during 2021</b>		
a. Expected Amortization Payment for CY 2021 based on the Actuarially Determined Contribution Rate	(58,949)	
b. Interest adjustments on 1 & 2a to Year End @ 7.25%	83,872	
c. Expected change in UAAL		24,923
<b>3. Increase/(Decrease) in UAAL Due to Difference Between the Actuarially Determined Contribution Rate and Actual Contribution Rate</b>		33,885
<b>4. Net Actuarial Experience (Gains) &amp; Losses</b>		(22,855)
<b>5. Assumption and Method Changes</b>		0
<b>6. UAAL as of December 31, 2021</b>		\$ 1,221,761

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**Investment Experience (Gain) or Loss**  
(\$ in 000s)

Item	Valuation as of December 31, 2021
<b>1. Actuarial assets, beginning of year</b>	\$ 3,747,078
<b>2. Contributions</b>	122,839
<b>3. Benefits and refunds paid with administrative expenses</b>	(314,387)
<b>4. Assumed net investment income at 7.25% on</b>	
a. Beginning of year assets	271,663
b. Contributions	4,375
c. Benefits and refunds paid with administrative expenses	(11,197)
d. Total	\$ 264,841
<b>5. Expected actuarial assets, end of year (Sum of Items 1 through 4)</b>	3,820,371
<b>6. Actual actuarial assets, end of year</b>	3,872,601
<b>7. Asset experience (gain)/loss for year</b>	(52,230)

**Analysis of Actuarial (Gains) and/or Losses for 2021**  
(\$ in 000s)

	<b>2020</b>
<b>Investment Return</b>	\$ (52,230)
<b>Salary Increase</b>	19,231
<b>Age and Service Retirement</b>	(2,809)
<b>General Employment Termination</b>	(3,695)
<b>Disability Incidence</b>	(259)
<b>Active Mortality</b>	550
<b>Benefit Recipient Mortality</b>	(25,294)
<b>Actual vs. Expected Cost of Living Adjustment (COLA)*</b>	55,708
<b>Other</b>	(14,057)
<b>Total Actuarial (Gain)/ Loss</b>	\$ (22,855)

\* Actual COLA of 5.00% for Tier A and 3.00% for Tier B versus expected COLAs of 2.50% for Tier A and 2.20% for Tier B.



**Schedule of Funding Status**

(\$ in 000s)

<b>End of Year</b>	<b>Actuarial Assets (a)</b>	<b>AAL (b)</b>	<b>UAAL (b-a)</b>	<b>Funding Ratio (a/b)</b>	<b>Payroll* (c)</b>	<b>UAAL as % of Payroll ((b-a)/c)</b>
<b>1998</b>	\$1,617,468	\$1,750,430	\$132,962	92.40%	\$275,547	48.30%
<b>1999</b>	1,862,644	1,873,998	11,353	99.39%	282,127	4.00%
<b>2000</b>	1,997,828	2,038,078	40,250	98.03%	298,355	13.50%
<b>2001</b>	2,017,041	2,276,488	259,447	88.60%	332,842	77.90%
<b>2002</b>	1,863,701	2,399,569	535,868	77.67%	324,615	165.08%
<b>2003</b>	1,843,099	2,489,071	645,972	74.05%	318,492	202.82%
<b>2004</b>	2,482,082	2,488,270	6,188	99.75%	331,201	1.87%
<b>2005</b>	2,739,269	2,606,173	(133,096)	105.11%	332,446	-40.04%
<b>2006</b>	2,998,099	2,761,404	(236,695)	108.57%	344,997	-68.61%
<b>2007</b>	3,183,260	2,915,164	(268,096)	109.20%	370,150	-72.43%
<b>2008</b>	2,957,506	3,075,385	117,879	96.17%	389,362	30.27%
<b>2009</b>	3,031,652	3,192,120	160,468	94.97%	375,164	42.77%
<b>2010</b>	3,027,439	3,282,126	254,687	92.24%	332,045	76.70%
<b>2011</b>	2,916,746	3,391,652	474,906	86.00%	318,972	148.89%
<b>2012</b>	2,846,124	3,518,356	672,232	80.89%	340,452	197.45%
<b>2013</b>	3,074,284	3,610,845	362,477	85.14%	352,486	102.83%
<b>2014</b>	3,241,053	4,004,055	763,002	80.94%	374,002	204.01%
<b>2015</b>	3,320,387	4,129,133	808,746	80.41%	404,981	199.70%
<b>2016</b>	3,451,463	4,291,802	840,339	80.42%	420,693	199.75%
<b>2017</b>	3,601,612	4,377,844	776,232	82.27%	432,854	179.33%
<b>2018</b>	3,620,319	4,526,996	906,677	79.97%	435,375	208.25%
<b>2019</b>	3,682,959	4,863,325	1,180,366	75.73%	444,737	265.41%
<b>2020</b>	3,747,078	4,932,886	1,185,808	75.96%	439,544	269.78%
<b>2021</b>	3,872,601	5,094,362	1,221,761	76.02%	453,934	269.15%

\* Projected to following year.

## Summary of Data Characteristics

As of December 31,	2019	2020	2021
<b>Active Members</b>			
Number	7,427	7,244	7,175
Total Annualized Earnings of Members as of 12/31 (000s)	\$ 433,890	\$ 428,824	\$ 442,863
Average Earnings	58,421	59,197	61,723
<b>Benefit Recipients</b>			
Number	7,405	7,552	7,655
Total Annual Retirement Income (000s)	\$ 269,263	\$ 277,429	\$ 294,130
Total Annual Health Supplement (000s)	10,984	10,929	11,077
Average Total Annual Benefit	37,871	38,228	39,870
<b>Inactive Members*</b>			
Deferred Vested	877	911	974
Deferred Nonvested	789	799	1,007
Total	1,666	1,710	1,981

\* The number of inactives on 12/31/2020 includes 911 members who have applied for a deferred pension and 799 other members who have terminated and still have contribution balances in the Fund.

# Distribution of Active Members and Payroll by Age and Years of Service

Age	Years of Service								Totals
	Under 1	1-4	5-9	10-14	15-19	20-24	25-29	30 & Over	
Under 20	4 \$139,901								4 \$139,901
20-24	94 \$3,712,985	73 \$3,198,406							167 \$6,911,391
25-29	157 \$7,078,931	284 \$13,543,283	76 \$3,947,658						517 \$24,569,872
30-34	158 \$7,289,985	335 \$18,123,730	239 \$13,255,721	36 \$2,272,625					768 \$40,942,061
35-39	138 \$7,055,806	241 \$13,941,127	236 \$14,617,183	127 \$8,615,764	48 \$3,285,603				790 \$47,515,483
40-44	118 \$6,449,088	230 \$13,725,063	254 \$16,051,559	130 \$8,769,853	105 \$7,289,613	38 \$2,631,995	2 \$204,280		877 \$55,121,451
45-49	95 \$4,759,687	227 \$13,820,588	202 \$13,524,587	139 \$9,567,088	128 \$9,299,243	134 \$9,165,367	49 \$3,366,898		974 \$63,503,458
50-54	78 \$4,084,437	199 \$12,832,619	238 \$14,384,731	118 \$7,904,679	136 \$9,894,757	180 \$12,964,257	100 \$7,568,958	16 \$1,209,975	1,065 \$70,844,413
55-59	60 \$3,217,809	172 \$11,088,368	189 \$11,385,504	174 \$11,087,222	172 \$11,935,226	139 \$9,361,155	62 \$4,960,914	28 \$2,295,013	996 \$65,331,211
60-64	44 \$2,396,590	106 \$6,258,428	133 \$8,009,182	113 \$7,513,462	100 \$7,049,388	84 \$5,657,925	39 \$3,439,728	34 \$3,076,687	653 \$43,401,390
65&Over	8 \$430,764	42 \$2,427,936	68 \$4,206,940	66 \$4,593,530	55 \$3,691,035	56 \$3,775,847	35 \$2,474,018	34 \$2,982,074	364 \$24,582,144
Totals	954 \$46,615,983	1,909 \$108,959,548	1,635 \$99,383,065	903 \$60,324,223	744 \$52,444,865	631 \$43,556,546	287 \$22,014,796	112 \$9,563,749	7,175 \$442,862,775

Table 12

**Distribution of Benefit Recipients**

As of December 31, 2021

<b>Age</b>	<b>Number</b>	<b>Annual Benefit*</b>	<b>Annual Average Benefit*</b>
<b>Under 50</b>	41	\$ 747,093	\$ 18,222
<b>50-54</b>	165	7,428,114	45,019
<b>55-59</b>	594	28,515,392	48,006
<b>60-64</b>	1,332	54,462,678	40,888
<b>65-69</b>	1,652	64,658,632	39,140
<b>70-74</b>	1,710	69,652,124	40,732
<b>75-79</b>	1,024	36,012,040	35,168
<b>80-84</b>	612	18,683,666	30,529
<b>85-89</b>	317	8,942,051	28,208
<b>90 &amp; Over</b>	208	5,028,479	24,175
<b>Total</b>	7,655	\$ 294,130,270	\$ 38,423

\* Does not include Health Benefit Supplement.

## Schedule of Active Member Valuation Data

Year Ending December 31,	Active Participants	Percent Change	Covered Payroll	Percent Change	Average Salary	Percent Change
2007	8,117	-	\$ 359,369,000	-	\$ 44,274	-
2008	8,371	3.1%	378,021,000	5.2%	45,158	2.0%
2009	7,654	-8.6%	364,237,000	-3.6%	47,588	5.4%
2010	7,034	-8.1%	322,374,000	-11.5%	45,831	-3.7%
2011	6,745	-4.1%	309,682,000	-3.9%	45,913	0.2%
2012	6,864	1.8%	330,536,000	6.7%	48,155	4.9%
2013	6,993	1.9%	342,219,000	3.5%	48,937	1.6%
2014	7,180	2.7%	363,109,000	6.1%	50,572	3.3%
2015	7,477	4.1%	393,186,000	8.3%	52,586	4.0%
2016	7,619	1.9%	409,433,000	4.1%	53,738	2.2%
2017	7,838	2.9%	421,269,000	2.9%	53,747	0.0%
2018	7,584	-3.2%	423,723,000	0.6%	55,871	4.0%
2019	7,427	-2.1%	433,890,000	2.4%	58,421	4.6%
2020	7,244	-2.5%	428,824,000	-1.2%	59,197	1.3%
2021	7,175	-1.0%	442,863,000	3.3%	61,723	4.3%

Table 14a

## Schedule of Retirees and Beneficiaries Added to and Removed from Rolls

Ending December 31,	Added to Rolls		Removed from Rolls		Rolls-End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
2007	239	\$ 7,250,468	205	\$ 4,551,742	5,304	\$142,267,609	-	\$ 26,823
2008	383	8,905,680	211	4,684,964	5,476	154,692,846	8.7%	28,249
2009	446	9,268,740	216	4,795,982	5,706	165,826,328	7.2%	29,062
2010	508	12,798,268	221	4,907,000	5,993	179,730,384	8.4%	29,990
2011	404	10,012,165	198	4,396,317	6,199	193,851,170	7.9%	31,271
2012	325	9,795,464	204	4,529,539	6,320	202,120,582	4.3%	31,981
2013	324	11,246,955	197	4,327,990	6,447	210,027,512	3.9%	32,578
2014	370	12,415,771	219	4,821,713	6,598	219,150,070	4.3%	33,215
2015	476	13,777,204	318	6,847,464	6,756	226,019,290	3.1%	33,455
2016	384	12,746,549	237	5,562,549	6,903	237,992,528	5.3%	34,477
2017	383	9,893,931	244	6,375,641	7,042	244,768,143	2.8%	34,758
2018	402	14,905,595	220	5,976,286	7,224	258,085,328	5.4%	35,726
2019	478	17,715,050	297	8,368,302	7,405	269,263,106	4.3%	36,362
2020	455	28,634,730	308	11,614,128	7,552	277,428,698	3.0%	36,736
2021	424	16,109,924	321	8,655,976	7,655	294,130,270	6.0%	38,423

Table 14b

# Solvency Test

(\$ in 000s)

## Aggregated Accrued Liabilities for

## Portions of Accrued Liabilities Covered by Reported Assets

Valuation Date	Active and Inactive Members Contributions	Retirees and Beneficiaries	Active and Inactive Members (Employer Financial Portion)	Reported Assets	(5)/(2)	[(5)-(2)]/(3)	[(5)-(2)-(3)]/(4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
December 31, 2007	\$ 206,090	\$ 1,591,731	\$ 1,117,343	\$ 3,183,260	100.0%	100.0%	100.0%
December 31, 2008	221,667	1,707,599	1,146,119	2,957,506	100.0%	100.0%	89.7%
December 31, 2009	228,666	1,834,491	1,128,963	3,031,652	100.0%	100.0%	85.8%
December 31, 2010	232,727	2,041,322	1,008,077	3,027,439	100.0%	100.0%	74.7%
December 31, 2011	240,821	2,181,731	969,100	2,916,746	100.0%	100.0%	51.0%
December 31, 2012	257,716	2,250,533	1,010,107	2,846,124	100.0%	100.0%	33.4%
December 31, 2013	278,892	2,319,424	1,012,529	3,074,284	100.0%	100.0%	47.0%
December 31, 2014	301,567	2,578,071	1,124,417	3,241,053	100.0%	100.0%	32.1%
December 31, 2015	325,607	2,650,638	1,152,888	3,320,387	100.0%	100.0%	29.9%
December 31, 2016	350,646	2,770,533	1,170,623	3,451,463	100.0%	100.0%	28.2%
December 31, 2017	373,193	2,854,818	1,149,833	3,601,612	100.0%	100.0%	32.5%
December 31, 2018	392,004	2,989,597	1,145,395	3,620,319	100.0%	100.0%	20.8%
December 31, 2019	408,984	3,228,576	1,225,766	3,682,959	100.0%	100.0%	3.7%
December 31, 2020	430,411	3,312,228	1,190,247	3,747,078	100.0%	100.0%	0.4%
December 31, 2021	448,149	3,456,659	1,189,554	3,872,601	100.0%	99.1%	0.0%

Table 14c

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## EXPERIENCE TABLES

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**Pay Experience for Employees who are Active at  
Beginning and End of Year  
Valuation Pay Analysis  
Analyzed by Years of Service**

Service Beginning of Year	Experience for 2021			
	Number	Expected Pay	Actual Pay	Ratio A/E
Under 5	1,692	\$ 92,635,691	\$ 95,295,899	103%
5-9	1,741	104,248,481	105,549,050	101%
10-14	860	57,025,663	57,538,476	101%
15-19	861	59,239,616	59,806,475	101%
20-24	605	41,191,540	41,875,331	102%
25-29	324	24,465,541	24,752,364	101%
30 & Over	126	10,458,937	10,571,211	101%
Total	6,209	\$ 389,265,469	\$ 395,388,806	102%
Over 10 Years	2,776	\$ 192,381,297	\$ 194,543,857	101%

Service Beginning of Year	Experience for 2020-2021			
	Number	Expected Pay	Actual Pay	Ratio A/E
Under 5	3,703	\$ 200,233,852	\$ 201,356,794	101%
5-9	3,429	203,066,757	202,653,206	100%
10-14	1,847	121,426,823	120,584,751	99%
15-19	1,578	108,641,220	108,249,387	100%
20-24	1,323	90,606,951	89,714,232	99%
25-29	623	46,821,916	46,429,775	99%
30 & Over	267	22,067,074	21,935,261	99%
Total	12,770	\$ 792,864,593	\$ 790,923,406	100%
Over 10 Years	5,638	\$ 389,563,984	\$ 386,913,406	99%

Table 15

**Analysis of Retirement Experience  
Each Age**

Age	2021 Retirement			2020-2021 Retirement		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
46	-	-	N/A	-	-	N/A
47	-	-	N/A	-	-	N/A
48	-	-	N/A	-	-	N/A
49	1	0.20	500%	1	0.60	167%
50	7	6.65	105%	9	10.55	85%
51	5	7.80	64%	9	17.30	52%
52	7	8.60	81%	16	18.20	88%
53	12	13.70	88%	21	25.50	82%
54	9	9.75	92%	17	20.30	84%
55	9	9.35	96%	24	21.10	114%
56	12	14.35	84%	25	25.65	97%
57	14	12.65	111%	31	26.75	116%
58	12	11.65	103%	27	26.80	101%
59	13	15.25	85%	24	28.30	85%
60	26	18.59	140%	55	40.07	137%
61	24	17.17	140%	40	34.82	115%
62	20	16.14	124%	35	34.34	102%
63	14	15.49	90%	28	30.89	91%
64	6	14.27	42%	17	30.76	55%
65	14	17.65	79%	32	35.18	91%
66	14	16.06	87%	28	29.28	96%
67	9	10.45	86%	19	20.48	93%
68	5	6.98	72%	14	15.33	91%
69	7	6.24	112%	12	10.91	110%
70 & Over	11	79.00	14%	39	17.00	23%
Total	251	327.99	77%	523	674.11	78%
Total Under 70	240	248.99	96%	484	503.11	96%

Table 16a

Analysis of Retirement Experience  
Age Groups

Age Group	2021 Retirements			2020-2021 Retirements		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
Under 55	41	46.70	88%	73	92.45	79%
55-59	60	63.25	95%	131	128.60	102%
60-64	90	81.66	110%	175	170.88	102%
65-69	49	57.38	85%	105	111.18	94%
70 & Over	11	79.00	14%	39	171.00	23%
Total	251	327.99	77%	523	674.11	78%
Total Under 70	240	248.99	96%	484	503.11	96%

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Table 16b

### Analysis of Turnover Experience

Years of Service	2021 Quits			2020-2021 Quits		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
<b>0-4</b>	501	348.83	144%	890	736.60	121%
<b>5-9</b>	190	131.45	145%	316	255.13	124%
<b>10-14</b>	47	26.14	180%	76	54.59	139%
<b>15-19</b>	17	13.42	127%	34	24.58	138%
<b>20-24</b>	6	4.81	125%	16	11.19	143%
<b>25-29</b>	1-	0.46	216%	1	0.94	106%
<b>Total</b>	762	525.19	145%	1,333	1,083.04	123%

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Table 17

Analysis of Active Mortality Experience

Age Group	2021 Deaths			2020-2021 Deaths		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
20-24	0	0.02	0%	0	0.05	0%
25-29	1	0.10	962%	2	0.21	935%
30-34	1	0.21	486%	1	0.41	241%
35-39	3	0.30	984%	5	0.61	814%
40-44	1	0.49	203%	2	1.01	197%
45-49	2	0.84	237%	3	1.73	174%
50-54	3	1.45	207%	7	2.93	239%
55-59	2	2.03	98%	5	4.12	121%
60 & Over	77	3.29	213%	15	6.54	229%
Total	20	8.74	229%	20	17.62	227%

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### Analysis of Disability Experience

Age	2021 Disabilities			2020-2021 Disabilities		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
<b>20-24</b>	0	0.00	0%	0	0.00	0%
<b>25-29</b>	0	0.02	0%	0	0.05	0%
<b>30-34</b>	0	0.12	0%	0	0.24	0%
<b>35-39</b>	0	0.28	0%	0	0.56	0%
<b>40-44</b>	0	0.53	0%	0	1.09	0%
<b>45-49</b>	0	0.93	0%	0	1.89	0%
<b>50-54</b>	0	1.33	0%	0	2.66	0%
<b>55-59</b>	0	1.46	0%	0	2.93	0%
<b>60 &amp; Over</b>	0	0.91	0%	0	1.71	0%
<b>Total</b>	0	5.58	0%	0	11.15	0%

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**Analysis of Retiree Mortality Experience\***

<b>Age</b>	<b>2021 Experience</b>			<b>2020-2021 Experience</b>		
	<b>Actual</b>	<b>Expected</b>	<b>Ratio A/E</b>	<b>Actual</b>	<b>Expected</b>	<b>Ratio A/E</b>
<b>Under 60</b>	3	2.44	123%	9	4.93	183%
<b>60-64</b>	19	8.07	235%	27	16.09	168%
<b>65-69</b>	26	17.49	149%	53	35.49	149%
<b>70-74</b>	51	29.98	170%	83	57.43	145%
<b>75-79</b>	31	26.89	115%	71	52.61	135%
<b>80-84</b>	29	25.46	114%	57	49.92	114%
<b>85-89</b>	25	20.35	123%	53	40.69	130%
<b>90 &amp; Over</b>	31	25.36	122%	53	49.40	107%
<b>Total</b>	215	156.04	138%	406	306.56	132%

*\*This analysis does not include beneficiary, QDRO, or disabled deaths.*

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## **ACTUARIAL METHODS AND ASSUMPTIONS**

The most recent experience study was completed in conjunction with the December 31, 2019 actuarial valuation. Please see our experience study, dated June 2020, to see more detail of the rationale for the current assumptions. As authorized under Sec. 40A-9 of Chapter 40A, the actuarial methods and assumptions are established set by the Board of Trustees based upon recommendations from the Fund's actuary.

### ***Entry Age Normal Method***

The Entry Age Normal actuarial cost method is the actuarial valuation method used for all purposes under ERF. The concept of this method is that funding of benefits for each member should be affected as a, theoretically, level contribution (as a level percentage of pay) from entry into ERF to termination of active status.

The Normal Cost (NC) for a fiscal year under this method is determined as described in the prior paragraph for each individual member. The ERF NC for the year is the total of individual normal costs determined for each active member. The Actuarial Accrued Liability (AAL) under this method is the theoretical asset balance of the normal costs that would have accumulated to date based upon current actuarial assumptions. To the extent that the current assets of the fund are insufficient to cover the AAL, an Unfunded Actuarial Accrued Liability (UAAL) develops.

### ***Actuarially Determined Contribution***

The actuarially determined contribution rate is developed using an open group projection. The total contribution rate (member plus City) is the level percentage of pay needed to fund the Normal Cost for each year and pay off the UAAL over 30 years.

In the open group projection, the demographic assumptions are applied to the current active employees and any employees that are assumed to leave employment are replaced one for one with a new employee. Over time this results in the change of the employee group from mostly Tier A members to Tier B members. The projection is built to assume no gains or losses on the actuarial accrued liability or the actuarial value of assets.

In the projection, new members' pay is assumed to increase at 3.00% year over year (i.e. a new employee in 2022 is assumed to be hired at a salary that is 3.00% greater than a new employee hired in 2021). The 3.00% growth rate is equal to our wage inflation assumption of 3.00% (ultimate salary increase assumption). Note that this is not an assumption that payroll will grow at 3.00% per year. Payroll could grow more slowly in the near-term due to membership demographics.

### ***New Entrant Profile***

For the purposes of determining the funding period, an open group projection is used which replaces on a one-to-one basis each active member who leaves employment with an average new hire. The average new hire is determined based on a new entrant profile, which is created from the valuation data by determining

the entry age and entry pay for anyone with between one and six years of service as of the valuation date, with salaries normalized to the valuation date. A summary of the new entrant profile is shown in the table below, with 60% of the population being male. The salaries below would be applicable for the year preceding the valuation date. Future cohorts of new hires have starting salaries that are assumed to grow at the General Wage Inflation of 3.00% over the salaries of the previous year.

<b>New Entrant Profile</b>		
<b>Entry Age</b>	<b># of Employees</b>	<b>Average Salary</b>
15-19	2	\$ 50,325
20-24	168	42,076
25-29	321	46,684
30-34	314	50,677
35-39	228	52,539
40-44	230	56,535
45-49	205	56,856
50-54	185	59,947
55-59	146	54,524
60-64	65	61,295
65-69	8	51,568
<b>Total</b>	<b>1,872</b>	<b>\$52,432</b>

#### ***Actuarial Value of Asset Method***

The method for determining the actuarial value of assets in future years is equal to the market value of assets less a five-year phase in of the excess (shortfall) between expected investment return and actual income. The actual calculation is based on the difference between actual market value and the expected market value of assets each year, and recognizes the cumulative excess return (or shortfall) at a minimum rate of 20% per year. Each year, a base is set up to reflect this difference. If the current year's base is of opposite sign to the deferred bases, then it is offset dollar for dollar against the deferred bases. Any remaining bases are then recognized over the remaining period for the base.

***Annual Rate of Investment Return:*** For all purposes under the Fund, the rate of investment return is assumed to be 7.25% per annum, net of investment expenses. This rate includes an annual assumed rate of inflation of 2.50%. In addition, annual cost-of-living adjustments are assumed to occur on average at the rate of 2.50% per annum for Tier A members and 2.20% for Tier B members (due to the lower maximum on cost-of-living-adjustments).

## ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

**Annual Compensation Increases:** Each member's compensation is assumed to increase in accordance with a table based on actual ERF experience. Sample rates follow:

Years of Service	Merit, Promotion, Longevity		General		Total	
0	5.25	%	3.00	%	8.25	%
1	4.25		3.00		7.25	
2	3.25		3.00		6.25	
3	2.50		3.00		5.50	
4	2.00		3.00		5.00	
5	1.75		3.00		4.75	
6	1.75		3.00		4.75	
7	1.25		3.00		4.25	
8	1.25		3.00		4.25	
9	1.00		3.00		4.00	
10	1.00		3.00		4.00	
11	1.00		3.00		4.00	
12	0.75		3.00		3.75	
13	0.75		3.00		3.75	
14	0.75		3.00		3.75	
15	0.75		3.00		3.75	
16	0.75		3.00		3.75	
17	0.75		3.00		3.75	
18	0.50		3.00		3.50	
19 & Over	0.00		3.00		3.00	

**Mortality:**

Disabled Lives: The gender-distinct 2019 Texas Municipal Retirees Mortality Table for males and females respectively, set forward 4 years for males and 3 years for females. Generational mortality improvements in accordance with the ultimate rates from the scales published through 2019 by Retirement Plans Experience Committee of the Society of Actuaries ("Ultimate MP") and projected from the year 2019. ("Ultimate MP") and projected from the year 2019.

Sample rates as of 2021 Sample rates as of 2020 follow (rate per 1,000), with projected mortality applied:

Age	Disability Mortality Rate	
	Male	Female
20	35	30
30	35	30
40	35	30
50	35	30
60	35	30
70	35	30
80	82	50
90	236	161

Other Benefit Recipients: The gender-distinct 2019 Texas Municipal Retirees Mortality Tables are used for males and females respectively. Generational mortality improvements in accordance with the ultimate rates from the scales published through 2019 by Retirement Plans Experience Committee of the Society of Actuaries ("Ultimate MP") and projected from the year 2019.

Sample rates as of 2021 follow (rate per 1,000), with projected mortality applied:

Age	Mortality Rate	
	Male	Female
30	0.4	0.1
40	0.8	0.3
50	2.7	1.1
60	7.4	3.5
70	19.8	11.0
80	54.8	35.1
90	154.3	112.1

## ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

### ***Mortality, Continued:***

Active Members: The PubG-2010 Employee Mortality Table for General Employees tables are used for males and females respectively. Generational mortality improvements in accordance with the ultimate rates from the scales published through 2019 by Retirement Plans Experience Committee of the Society of Actuaries (“Ultimate MP”) and projected from the year 2010.

Sample rates as of 2021 follow (rate per 1,000), with projected mortality applied:

Age	Mortality Rate	
	Male	Female
30	0.3	0.1
40	0.6	0.3
50	1.3	0.7
60	2.9	1.7
70	6.3	4.4
80	15.5	11.9
90	132.4	103.7

10% of active deaths are assumed to be service related.

***Disability:*** A client-specific table of disability incidence with sample rates follows (rate per 1,000):

Age	Disability Rate
30	0.1
40	0.5
50	1.2
60	2.2

20% of disabilities are assumed to be service related. There is a 0% assumption of disability for members who have over 10 years of service and are eligible for retirement.

## ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

**Retirement:** Upon eligibility, active members are assumed to retire as follows (rate per 1,000):

### Tier A:

Age	Male		Female	
	First Year Eligible	Thereafter	First Year Eligible	Thereafter
<b>48-49</b>	100	100	100	100
<b>50</b>	550	550	450	350
<b>51</b>	500	450	400	350
<b>52</b>	500	300	400	300
<b>53</b>	400	300	350	300
<b>54</b>	350	250	350	250
<b>55</b>	300	250	350	250
<b>56</b>	300	250	350	250
<b>57</b>	300	250	350	250
<b>58-59</b>	300	250	250	200
	Service < 18 yrs.	Service 18 yrs. +	Service < 18 yrs.	Service 18 yrs. +
<b>60</b>	80	230	90	200
<b>61</b>	90	230	90	180
<b>62</b>	100	230	90	200
<b>63</b>	100	230	150	150
<b>64</b>	150	230	120	130
<b>65</b>	150	230	120	300
<b>66</b>	200	230	150	300
<b>67</b>	200	230	250	300
<b>68</b>	200	230	150	300
<b>69</b>	200	230	150	300
<b>70</b>	1,000	1,000	1,000	300

## ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

**Retirement, Continued:** Upon eligibility, active members are assumed to retire as follows (rate per 1,000):

### Tier B:

Age	Male		Female	
	Service < 40 yrs.	Service 40 yrs. +	Service < 40 yrs.	Service 40 yrs. +
<55	10	350	10	350
55-56	20	350	20	350
57-58	30	350	30	350
59-60	40	350	40	350
61-62	50	350	50	350
63-64	60	350	60	350
65	180	600	200	450
66	200	250	250	250
67	200	250	250	250
68	200	250	150	250
69	200	250	150	250
70	1,000	1,000	1,000	1,000

\*For service < 40 yrs, rates shown are for those who met the rule of 80.

### **Retirement of Deferred Vested Members:**

All deferred vested members are assumed to commence payment at their normal retirement age, which is age 60 for Tier A members and age 65 for Tier B members.

## ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

**General Turnover:** A table of termination rates based on ERF experience as shown below.

Years of Service	Terminations (per 1,000)	
	Male	Female
0	228	200
1	180	165
2	144	150
3	110	120
4	90	95
5	75	90
6	67	80
7	60	65
8	51	48
9	43	48
10	33	45
11	33	32
12	30	30
13	30	30
14	22	20
15	22	14
16	19	14
17	19	14
18	19	14
19	19	14
20	12	14
21	12	14
22	12	6
23	12	6
24	12	6
25	12	6
26 & Over	5	6

There is 0% assumption of termination for members eligible for retirement.

**Refunds of Contributions:** Members are assumed to choose the most valuable termination benefit.



## ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

**Operational Expenses:** The amount of estimated administrative expenses expected in the next year is assumed to be equal to the prior year's expenses and is incorporated in the Normal Cost.

**Marital Status:** 75% of active male members and 50% of active female employees are assumed to be married.

**Vacation Leave Conversions:** Members with 20 or more years of service are assumed to convert unused vacation leave to 1.5 months of service. Other members are assumed to convert unused vacation leave to 1 month of service. No vacation leave conversion is assumed for disability retirement.

**Spouse Age:** The female spouse is assumed to be 3 years younger than the male spouse.

**Payroll Growth Rate:** Used to estimate projected payroll for the following fiscal year only. Assumed to be equal to the inflation rate of 2.50%. This assumption is not used as part of the open group projection used to calculate the Actuarially Determined Contribution Rate.

**Member's Pay:** In determining the member's valuation salary, the greater of the prior calendar year's gross pay and the member's rate of compensation is used.

**Form of Payment:** For Tier A it is assumed that 60% of married active male members and 84% of married active female employees will elect a Joint & 50% Survivor form of payment. Taking into consideration the marriage assumption and the inherent subsidy in the ERF's Joint & 100% Survivor factors, the male employees are valued with Joint and 28.0% Survivor annuities and the female employees are valued with Joint and 19.5% Survivor annuities. It is also assumed that 100% of Tier B employees will elect the normal form of payment under Tier B.

**Data Adjustments:** Certain records are missing spousal information. For these records we use the marital status assumption and spousal age difference assumption to value these records. No other adjustments are made to the data.

**Actuarial Equivalence Assumptions:** for form of payment conversion and Tier B early retirement factor sare based on the following assumptions:

- a. Interest Rate of 8.00%.
- b. Mortality: Unisex blend (60% male and 40% female) of the following assumptions for males and females. 109% of the RP-2000 Combined Healthy Table for males with Blue Collar adjustment projected to 2026 using improvement scale BB for males. 103% of the RP-2000 Combined Healthy Table for females with Blue Collar adjustment projected to 2026 using improvement scale BB for females.
- c. Cost-of-living-adjustments (COLA): a 3.00% COLA assumption for Tier A members and a 2.50% COLA assumption for Tier B members.

## ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

**Actuarial Model:** This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

**Changes in Methods and Assumptions Since Prior Valuation:** None.

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**Summary of Benefit Provisions**  
**Employees' Retirement Fund of the City of Dallas**  
**As of December 31, 2021**

**Membership**

An employee becomes a member upon permanent employment and contributes to the Fund.

**Tier A**

A person who was employed by the City prior to January 1, 2017, or who was re-employed by the City on or after January 1, 2017 and whose pre January 1, 2017 credited service was not canceled by withdrawal or forfeiture or was reinstated.

**Tier B**

A person who was employed by the City on or after January 1, 2017, or who was re-employed by the City on or after January 1, 2017 and whose pre January 1, 2017 credited service has been canceled by withdrawal or forfeiture.

**Contributions**

Member: 37% of the current adjusted total obligation rate. New rates effective October 1 after the valuation date.

City: 63% of the current adjusted total obligation rate. New rates effective October 1 after the valuation date.

**Definitions**

Final Average Salary:

**Tier A**

Average monthly salary over the member's highest three years (or 36 months) of service.

**Tier B**

Average monthly salary over the member's highest five years (or 60 months) of service.

Credited Service: Length of time as an employee of the City of Dallas and while making contributions to the Fund.

**Summary of Benefit Provisions (Continued)****Retirement Pension****Eligibility:****Tier A**

- a. Attainment of age 60; or
- b. Attainment of age 55 (if credited service began before May 9, 1972); or
- c. At any age after completion of 30 years of credited service with a reduced benefit before age 50; or
- d. Attainment of age 50, if the sum of an active member's age and credited service is at least equal to 78.

**Tier B**

- a. Attainment of age 65 and 5 years of service; or
- b. At any age after completion of 40 years of credited service; or
- c. At any age if the sum of an active member's age and credited service is at least equal to 80 (under this eligibility the member's pension will be actuarially reduced for each year prior to the age of 65 that the member retires).
- d. Restricted Prior Service Credit included for eligibility (if approved).

**Retirement Benefits:****Tier A**

The retirement benefit equals 2-3/4% multiplied by average monthly earnings multiplied by credited service limited to a maximum of 36.3636 years plus a monthly \$125 health supplement (prorated for service less than 5 years).

**Tier B**

The retirement benefit equals 2-1/2% multiplied by average monthly earnings multiplied by credited service limited to a maximum of 40 years (no monthly health supplement).

**Form of Payment:****Tier A**

An unreduced pension benefit under a joint and one-half survivor option with 10 years guaranteed or a ten-year certain and life option. An actuarially equivalent joint and full survivor option is also available.

**Tier B**

An unreduced pension payable for life with 10 years guaranteed. Actuarially equivalent joint and survivor options (50% and 100%) are also available.

## Summary of Benefit Provisions (Continued)

Early Retirement Factors:

### Tier A

For members retiring prior to age 50 with 30 or more years of service, the pension shall be multiplied by the following percentage:

Age	Percentage
49	93.3
48	87.2
47	81.5
46	76.3
45	71.5
44	67.0

### Tier B

For members retiring prior to age 65 with 40 or more years of service, the pension shall be multiplied by the following percentage:

Age	Percentage	Age	Percentage
64	89.72	56	40.03
63	80.66	55	36.41
62	72.64	54	33.15
61	65.53	53	30.22
60	59.21	52	27.57
59	53.58	51	25.18
58	48.56	50	23.01
57	44.06	49	21.05

## Deferred Retirement

**Eligibility:** Deferred retirement pension benefit commencing at age 60 for Tier A members or at age 65 for Tier B members, with at least five (5) years of credited service, and accumulated contributions are left on deposit with the Fund.

**Monthly Benefit:** The deferred retirement benefit is equal to the retirement pension based on earnings and credited service at the time of termination.

## Summary of Benefit Provisions (Continued)

### Disability Retirement Pension

#### Non-Service Disability:

1. Eligibility: Five (5) years of service and totally and permanently incapacitated for duty.
2. Monthly Benefit: Computed based on average monthly earnings and credited service at time of disability but not less than 10 times the percentage multiplier multiplied by the average monthly earnings.

#### Service Disability:

1. Eligibility: Totally and permanently incapacitated from the further performance of duty as a result of injury while in the course of employment for the City.
2. Monthly Benefit: Calculated as a non-service disability pension but not less than \$1,000 per month.

### Death Benefits

Eligibility: active or inactive members who die prior to retirement

Benefit: For members with less than 2 years of service or inactive member with less than 5 years of service: refund of the members contributions.

Benefit: For members with more than 2 years of service but less than 15 years of service: an unreduced pension to designated beneficiary for 120 months or a one-half survivor option for life with 120 payments guaranteed.

Benefit: For members eligible for retirement or members and inactive members with more than 15 years of service: an unreduced pension to designated beneficiary for 120 months or a Full Survivor option for life with 120 payments guaranteed.

Form: Benefit paid in accordance with the option on file, or the eligible option, or if no eligible beneficiary, a lump sum equivalent of 10 years of benefit payments to the member's estate.

Minimum Benefit for Service Death: For job-related death a minimum of 10 years of service used in calculation of benefit. Benefit will not be less than \$1,000 per month.

## Summary of Benefit Provisions (Continued)

### Return of Accumulated Contributions

A member at the time of termination is entitled to be paid accumulated contributions without interest.

### Cost-of-Living Adjustments

An annual cost-of-living adjustment to the base pension benefit shall be made based on the greater of:

#### Tier A

- a. The percentage of change in the price index for October of the current year over October of the previous year, up to 5%, or
- b. The percentage of annual average change in the price index for the 12-month period ending with the effective date of the adjustment, up to 5%.

#### Tier B

- c. The percentage of change in the price index for October of the current year over October of the previous year, up to 3%, or
- d. The percentage of annual average change in the price index for the 12-month period ending with the effective date of the adjustment, up to 3%.

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# STATISTICAL SECTION

The Statistical Section provides additional historical perspective, context and detail to assist the reader using the information in the financial statements, notes to the financial statements and required supplementary information to understand the economic condition of the Plan. The schedules presented contain information on financial trends, operations, and additional analytical information on employees' membership and retirement benefits. The information in this section is obtained from Annual Comprehensive Financial Reports for relevant years, actuarial reports, and various internal sources.

**Schedule of Additions by Source:** Presents contributions, investment revenue and contributions as a percent of covered payroll for ten years.

**Schedule of Deductions by Type:** Presents benefit payments, administrative expenses and refunds for ten years.

**Schedule of Changes in Net Position:** Presents the increase or decrease in net position for ten years.

**Schedule of Benefit Expenses by Type:** Presents retiree, beneficiary, disability and supplemental benefit expenses for ten years.

**Average Benefit Payment:** Presents the average monthly benefit payment, average final salary, and number of retired members based on years of credited service for nine years. An additional year will be displayed as it becomes available.

**Retired Members by Type of Benefit:** Presents the number of retirees receiving various ranges of monthly benefit amounts. The information is further broken out by type of retirement and retirement option selected.

**Average Age and Monthly Pension at Retirement:** Presents the average age, average monthly pension, and average age at retirement based on status (members only, members and survivors, and survivors only).

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## SCHEDULE OF ADDITIONS BY SOURCE

(\$ in thousands)

Year Ending	Member Contributions	Employer Contributions	% of Annual Covered P/R	Investment Income	Investment Professional Expenses	Other Income	Total Increases
2012	\$ 35,644	\$ 30,371	9.6	\$ 401,532	(\$ 15,854)	\$ 429	\$ 452,122
2013	41,730	37,823	11.0	509,784	(16,286)	626	573,677
2014	46,536	45,833	12.6	226,670	(18,678)	157	300,518
2015	50,742	50,721	13.2	(35,158)	(18,185)	162	48,282
2016	53,436	56,130	13.9	310,730	(15,812)	333	404,817
2017	55,175	58,966	14.4	430,396	(16,886)	207	527,858
2018	56,772	60,924	14.4	(150,098)	(17,685)	121	(49,966)
2019	58,314	62,177	14.3	569,071	(18,129)	301	671,734
2020	58,358	61,615	14.2	246,936	(17,915)	84	349,078
2021	59,256	63,584	14.1	599,003	(21,074)	81	700,850

## SCHEDULE OF DEDUCTIONS BY TYPE

(\$ in thousands)

Year Ending	Benefit Payments	Administrative and Depreciation Expenses	Refunds	Total Deductions
2012	\$ 209,097	\$ 3,446	\$ 4,369	\$ 216,912
2013	216,988	3,595	4,405	224,988
2014	225,614	4,150	4,629	234,393
2015	235,106	4,594	4,854	244,554
2016	243,775	5,343	5,864	254,982
2017	253,534	5,951	8,156	267,641
2018	263,981	7,485	8,515	279,981
2019	278,007	7,516	10,436	295,959
2020	287,465	6,091	6,857	300,413
2021	296,587	7,349	10,452	314,388

## SCHEDULE OF CHANGES IN NET POSITION

(\$ in thousands)

<b>Year Ending</b>	<b>Change in Net Position</b>
2012	\$ 235,210
2013	348,689
2014	66,125
2015	(196,277)
2016	149,835
2017	259,392
2018	(329,947)
2019	375,775
2020	48,665
2021	386,462

## SCHEDULE OF BENEFIT PAYMENTS BY TYPE

(\$ in thousands)

<b>Year Ending</b>	<b>Retiree</b>	<b>Beneficiary</b>	<b>Disability</b>	<b>Supplement</b>	<b>Total</b>
2012	\$ 187,712	\$ 7,561	\$ 4,677	\$ 9,147	\$ 209,097
2013	196,525	6,470	4,656	9,337	216,988
2014	205,172	6,147	4,743	9,552	225,614
2015	214,343	6,101	4,908	9,754	235,106
2016	220,979	7,926	4,884	9,986	243,775
2017	229,843	8,317	5,194	10,180	253,534
2018	240,186	8,276	5,109	10,410	263,981
2019	253,636	8,640	5,046	10,686	278,008
2020	263,182	8,436	4,947	10,900	287,465
2021	271,983	8,682	4,823	11,099	296,587

## AVERAGE BENEFIT PAYMENT

As of December 31, 2021

Retirement Effective Dates	Years of Credited Service						
	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30+
<b>Period 01/01/2021 to 12/31/2021</b>							
Average monthly benefit	\$512.73	\$883.59	\$1,662.03	\$2,390.70	\$3,315.48	\$4,346.92	\$5,826.24
Average final average salary	\$7,266.21	\$4,589.03	\$5,013.79	\$5,013.79	\$5,478.37	\$5,986.19	\$6,592.88
Number of retired members	2	48	48	41	86	61	36
<b>Period 01/01/2020 to 12/31/2020</b>							
Average monthly benefit	\$412.15	\$1,088.17	\$1,544.86	\$2,473.03	\$3,156.40	\$4,068.53	\$6,084.19
Average final average salary	\$3,980.24	\$4,261.10	\$4,162.30	\$4,874.51	\$5,077.47	\$5,615.31	\$6,554.32
Number of retired members	13	39	37	43	93	39	44
<b>Period 01/01/2019 to 12/31/2019</b>							
Average monthly benefit	\$411.49	\$868.60	\$1,559.50	\$2,554.02	\$3,007.07	\$4,360.05	\$5,478.80
Average final average salary	\$4,573.78	\$3,200.67	\$3,625.18	\$4,812.60	\$4,531.23	\$5,776.53	\$6,132.39
Number of retired members	13	50	51	56	106	68	39
<b>Period 01/01/2018 to 12/31/2018</b>							
Average monthly benefit	\$452.84	\$901.30	\$1,727.75	\$2,169.69	\$3,120.36	\$4,181.67	\$5,731.43
Average final average salary	\$2,312.10	\$2,700.97	\$4,721.44	\$3,588.84	\$5,033.05	\$5,807.68	\$6,395.12
Number of retired members	18	28	43	47	65	62	55
<b>Period 01/01/2017 to 12/31/2017</b>							
Average monthly benefit	\$395.27	\$840.28	\$1,456.48	\$2,422.33	\$3,365.92	\$4,441.36	\$5,039.49
Average final average salary	\$4,260.11	\$1,821.11	\$3,470.15	\$4,985.34	\$5,366.59	\$6,123.49	\$5,798.23
Number of retired members	12	41	51	44	53	56	37
<b>Period 01/01/2016 to 12/31/2016</b>							
Average monthly benefit	\$325.38	\$762.64	\$1,487.94	\$2,427.06	\$2,488.97	\$4,170.49	\$4,974.11
Average final average salary	\$4,289.71	\$3,561.23	\$4,840.13	\$5,273.92	\$4,942.79	\$5,650.83	\$5,719.72
Number of retired members	20	37	40	65	45	50	65
<b>Period 01/01/2015 to 12/31/2015</b>							
Average monthly benefit	\$144.71	\$882.40	\$1,36.61	\$2,125.58	\$3,025.21	\$4,105.72	\$4,922.06
Average final average salary	\$3,346.57	\$4,697.46	\$4,059.07	\$4,581.92	\$4,947.81	\$5,592.10	\$5,691.11
Number of retired members	4	33	24	50	46	62	57
<b>Period 01/01/2014 to 12/31/2014</b>							
Average monthly benefit	\$327.07	\$643.96	\$1,451.21	\$1,933.56	\$2,948.51	\$4,012.32	\$5,568.28
Average final average salary	\$3,844.96	\$3,210.89	\$4,108.76	\$4,164.61	\$4,888.48	\$5,444.86	\$6,371.13
Number of retired members	7	42	36	56	45	71	38
<b>Period 01/01/2013 to 12/31/2013</b>							
Average monthly benefit	\$302.03	\$577.63	\$1,688.96	\$2,012.42	\$2,909.37	\$3,823.04	\$4,639.47
Average final average salary	\$3,891.55	\$3,100.14	\$4,953.89	\$4,223.11	\$4,763.82	\$5,259.98	\$5,389.69
Number of retired members	8	29	33	33	49	62	44
<b>Period 01/01/2012 to 12/31/2012</b>							
Average monthly benefit	\$325.10	\$845.25	\$1,590.56	\$2,009.64	\$2,829.45	\$3,963.86	\$4,516.58
Average final average salary	\$2,932.66	\$4,442.19	\$4,632.86	\$4,117.88	\$4,570.14	\$5,396.80	\$5,268.80
Number of retired members	12	39	32	26	39	61	32

\* Data includes disability retirements

## RETIRED MEMBERS BY TYPE OF BENEFIT

As of December 31, 2021

Amount of Monthly Benefits		Type of Retirement							Option Selected			
		1	2	3	4	5	6	7	#1	#2	#3	#4
\$1	\$250	67		27					23	37	26	5
\$251	\$500	199	1	96			2	15	35	174	83	29
\$501	\$750	240	4	101	8		9	16	55	211	88	26
\$751	\$1,000	262	9	74	13		15	13	60	195	104	23
\$1,001	\$1,250	213	7	86	3	7	13	7	58	166	82	18
\$1,251	\$1,500	273	7	74	1	9	10	4	95	142	108	25
\$1,501	\$1,750	232	9	89		11	12	3	85	135	122	12
\$1,751	\$2,000	262	16	72		3	6	4	91	168	99	8
over	\$2,000	4,462	109	415		7	37	21	1,363	2,163	1,518	23
Total		6,210	162	1,034	25	37	104	83	1,865	3,391	2,230	169

### a) Type of Retirement

- 1) Normal retirement
- 2) Early retirement
- 3) Beneficiary payment, normal or early retirement
- 4) Beneficiary payment, service connected death
- 5) Service connected disability retirement
- 6) Non-Service connected disability retirement
- 7) Beneficiary payment, disability retirement

### b) Option Selected

- 1) Joint & 100%-beneficiary receives 100% of member's benefit
- 2) Joint & 50%-beneficiary receives 50% of member's benefit
- 3) 10 Year Certain-beneficiary receives member's unused benefits
- 4) QDRO retirement

## AVERAGE AGE AND MONTHLY PENSION AT RETIREMENT

As of December 31, 2021

Status	Average Age	Average Pension	Average Age at Retirement
Members Only	70	\$3,347	58
Members and Survivors	71	\$2,312	N/A
Survivors Only	73	\$1,278	N/A

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## EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

1920 MCKINNEY AVE, 10TH FLOOR | DALLAS, TX | 75201  
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# DISCUSSION SHEET

## Employees' Retirement Fund Board of Trustees Meeting

September 13, 2022

**Issue:** Fiscal Year 2021-22 Budget Amendments

**Attachment:** FY 2021-22 Expenditure Budget Report

**Discussion:** The current fiscal year budget is from 10/1/21 to 9/30/22.

Overall, the proposed budget amendment will reallocate costs and have no net impact to the budget. At the end of the fiscal year ending 9/30/22, it is projected that ERF will be approximately \$1.3 million under budget due to savings in computer and the pension accounting system and lower investment fees due to a reduction in AUM from market volatility.

Within Administrative, the total proposed budget amendments are \$487,000 higher than the original budget. Pension costs related to salaries is expected to be \$2,000 higher due to a greater allocation of pension obligation bond annual debt service payments to the ERF; Temporary Help Services is \$10,000 higher due to vacancies; Liability Insurance is \$55,000 higher due to increased excess fiduciary liability coverage approved by the Board on December 14, 2021; and Legal costs are estimated to be \$420,000 higher than originally budgeted due to investment, custodial and legal contract services. The additional legal fees are due to onboarding six new investment managers and the custodian.

Within Investments Management, budgeted Manager Fees are proposed to decrease \$513,000, while Investment Consultant & Services will increase \$26,000 due to consultant services regarding marketable alternative assets.

Please refer to the attachment for additional details related to the proposed budget amendment.

**Recommendation:** Approve the proposed budget amendments for FY 2021-22. Suggested motion for the approval is as follows: Move approval of the proposed FY 2021-22 budget amendments reallocating the line item budget as attached to this discussion sheet and authorize the Executive Director to administer the budget.

**EMPLOYEES' RETIREMENT FUND**
**EXPENDITURE BUDGET**

Fiscal Year 2021-22 Budget

	Expenditures Through 6/30/22	Approved Budget	Proposed Budget Amendments	Amended FY 2021-22 Budget
<b>ADMINISTRATIVE</b>				
Salaries	\$ 2,976,947	\$ 4,121,100		\$ 4,121,100
Incentive Pay	19,783	54,000		54,000
Service Incentive Pay	3,120	3,200		3,200
Lump Sum Pay	66,575	208,300		208,300
Pensions	421,488	891,500	2,000	893,500
Flexible Benefits	157,303	276,100		276,100
FICA/Medicare	41,703	59,800		59,800
Workers' Compensation	-	30,000		30,000
Temporary Help Services	111,426	150,000	10,000	160,000
Supplies	2,631	12,000		12,000
Food Supplies	1,394	10,000		10,000
Meter Postage	15,972	26,000		26,000
Printing / Printed Communications	18,745	25,000		25,000
Property Insurance	9,430	9,300		9,300
Liability Insurance	291,928	238,000	55,000	293,000
Membership Dues	15,420	26,000		26,000
Subscriptions	1,587	3,000		3,000
Professional Development/Travel	68,227	80,000		80,000
Reimbursement for Vehicle Use	-	300		300
Data and Telecommunications Services	314,121	630,000		630,000
Rent	388,910	545,000		545,000
Parking and Public Transportation	7,200	8,000		8,000
Legal	404,605	230,000	420,000	650,000
Accounting	42,000	56,000		56,000
Audit	47,250	60,000		60,000
Actuary	57,165	80,000		80,000
Election	-	50,000		50,000
Other	32,485	45,000		45,000
<b>Total Administrative</b>	<b>5,517,416</b>	<b>7,927,600</b>	<b>487,000</b>	<b>8,414,600</b>
<b>BENEFITS MANAGEMENT</b>				
Disabilities/Continuations/Etc	-	28,000		28,000
Pension Benefit Information	9,892	10,000		10,000
<b>Total Benefits Management</b>	<b>9,892</b>	<b>38,000</b>	<b>-</b>	<b>38,000</b>
<b>INVESTMENTS MANAGEMENT</b>				
Manager Fees	9,288,694	13,600,000	(513,000)	13,087,000
Investment Consultant & Services	307,500	376,000	26,000	402,000
Custodial Fees	304,915	320,000		320,000
<b>Total Investments Management</b>	<b>9,901,109</b>	<b>14,296,000</b>	<b>(487,000)</b>	<b>13,809,000</b>
<b>CAPITAL</b>				
Furniture, Fixtures, Equipment	6,052	50,000		50,000
Computer Equipment	16,033	90,000		90,000
<b>Total Capital</b>	<b>22,085</b>	<b>140,000</b>	<b>-</b>	<b>140,000</b>
<b>TOTAL RECURRING</b>	<b>\$ 15,450,503</b>	<b>\$ 22,401,600</b>	<b>\$ -</b>	<b>\$ 22,401,600</b>
<b>NON-RECURRING</b>				
Special Projects	166,826	500,000		500,000
<b>TOTAL BUDGET</b>	<b>\$ 15,617,329</b>	<b>\$ 22,901,600</b>	<b>\$ -</b>	<b>\$ 22,901,600</b>



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## SPEAKERS



**Christopher Ailman**  
Chief Investment Officer,  
California State Teachers'  
Retirement System



**Afsaneh Beschloss**  
Founder and CEO, RockCreek



**Mary Callahan Erdoes**  
CEO, J.P. Morgan Asset &  
Wealth Management



**Jonathan Gray**  
President & Chief Operating  
Officer, Blackstone

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## AGENDA

*\*Agenda subject to change*

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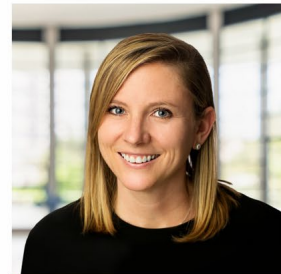
**Christopher Ailman**  
Chief Investment Officer,  
California State Teachers'  
Retirement System



**Afsaneh Beschloss**  
Founder and CEO, RockCreek



**Orlando Bravo**  
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## Overview

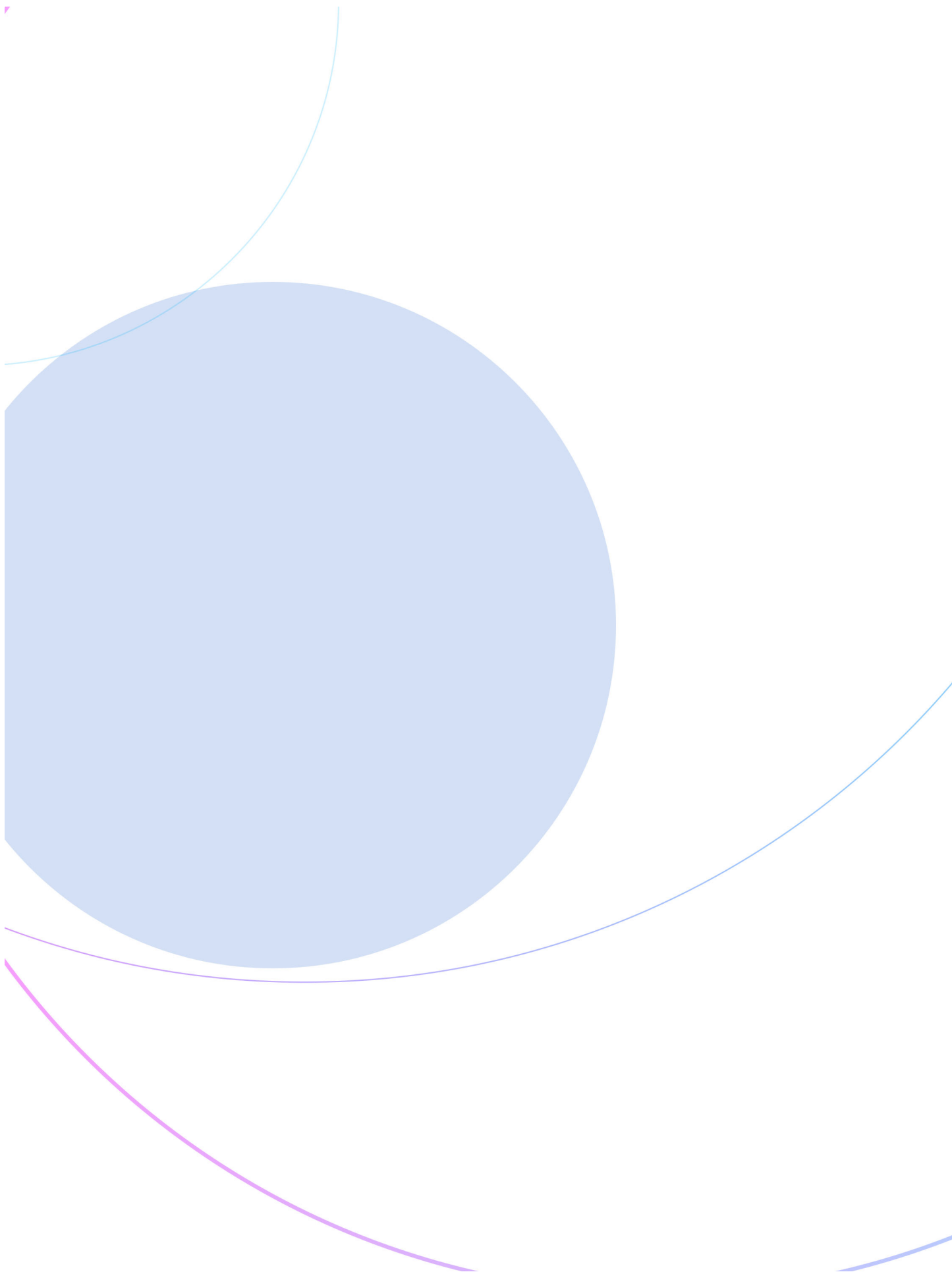
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## Computing & Digitization

The Computing sector 1 consists of projects that aim to decentralize the sharing, storing and transmission of data by removing intermediaries and ensuring privacy for all users. Digitization refers to the process by which real

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## Women's Private Capital Summit 2022

Convene, New York City  
November 17-18, 2022



## Join the Conversation!

---

Hi Cheryl,

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## June 30, 2022

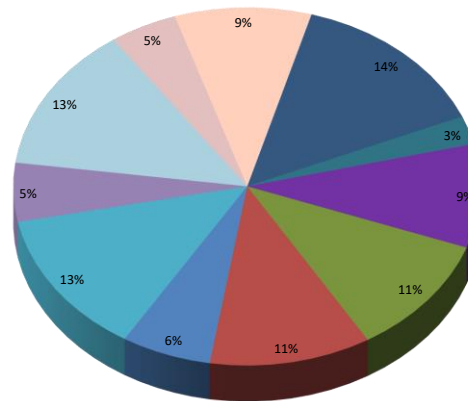
TOTAL FUND	\$ 3,554,400,266.85	\$ 3,771,580,239.98
Market Value YE 2021	\$ 4,082,277,584.28	Market Value Variance
	Change from YE 2021:	\$ (527,877,317.43)
	Change from prior month:	\$ (217,179,973.13)

# Asset Allocation: Actual vs. Target

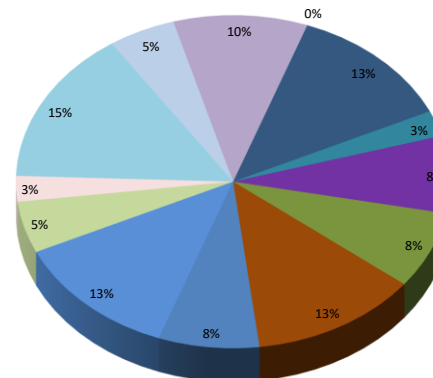
June 30, 2022

	Market Value	Gross Actual Allocation	Target Allocation	% Difference from Allocation
<b>EQUITY</b>				
CHANNING CAPITAL	32,184,262.50	0.91		
REDWOOD- SL	27,941,358.55	0.79		
SYSTEMATIC	68,155,414.72	1.92		
<i>Total Small Cap</i>	128,281,035.77	3.61		
SMITH GRAHAM	70,815,285.93	1.99		
T. ROWE PRICE	143,224,405.65	4.03		
<i>Total Domestic/Enhanced equity</i>	214,039,691.58	6.02		
NTGI S&P 500 EQUITY INDEX	151,310,625.20	4.26		
<i>Total Index</i>	151,310,625.20	4.26		
<i>Total Domestic</i>	493,631,352.55	13.89	12.50	1.39
ADELANTE CAPITAL	44,599,345.73	1.25		
CENTERSQUARE-SL	44,874,373.96	1.26		
<i>Total REITS</i>	89,473,719.69	2.52	2.50	0.02
AEW PARTNERS	29,817,906.00	0.84		
HEITMAN	107,423,966.03	3.02		
INVESCO	85,963,665.31	2.42		
INVESCO - SL	81,077,195.00	2.28		
VIRTUS REAL ESTATE CAP	22,332,916.00	0.63		
<i>Total Real Estate</i>	326,615,648.34	9.19	7.50	1.69
FAIRVIEW CAPITAL	88,308,497.00	2.48		
GROSVENOR GCM - CFGI	172,471,617.00	4.85		
HAMILTON LANE	116,023,049.00	3.26		
<i>Total Private Equity</i>	376,803,163.00	10.60	7.50	3.10
ACADIAN	97,653,274.83	2.75		
AQR CAPITAL	110,147,976.98	3.10		
AQR CAPITAL MGMT - Russia	516.33	0.00		
ATIVO	35,067,450.50	0.99		
BAILLIE GIFFORD	61,367,322.98	1.73		
EARNEST PARTNERS	84,890,985.49	2.39		
GLOBAL TRANSITION ACCOUNT	547,917.06	0.02		
<i>Total International</i>	389,675,444.17	10.96	12.50	-1.54
ARIEL	105,864,732.58	2.98		
NORTHERN TRUST INTL EQ ACWI INDEX	-	0.00		
WELLINGTON MGMT	110,466,865.25	3.11		
<i>Total Global Equity</i>	216,331,597.83	6.09	7.50	-1.41
ACADIAN-LVG	228,611,810.12	6.43		
BLACKROCK	225,235,608.87	6.34		
<i>Total Global Low Volatility Equity</i>	453,847,418.99	12.77	12.50	0.27
ATLANTIC TRUST	63,400,454.91	1.78		
HARVEST FUND	63,967,660.13	1.80		
COHEN & STEERS	57,781,728.19	1.63		
<i>Total Global Listed Infrastructure</i>	185,149,843.23	5.21	5.00	0.21
<i>Total Marketable Alternatives</i>	-	0.00	2.50	-2.50
<b>TOTAL EQUITY</b>	<b>2,531,528,187.80</b>	<b>71.22</b>	<b>70.00</b>	<b>1.22</b>
<b>FIXED INCOME</b>				
GARCIA HAMILTON	150,467,327.12	4.23		
WESTERN ASSET MANAGEMENT	154,803,820.48	4.36		
WELLINGTON-CORE BOND	154,036,082.27	4.33		
NT COLLECTIVE AGGREGATE BOND INDEX FUND	1,768.54	0.00		
SECURIAN ASSET MANAGEMENT	75,286.75	0.00		
<i>Total Investment Grade</i>	459,384,285.16	12.92	15.00	-2.08
NEUBERGER BERMAN	162,716,924.41	4.58		
<i>Total Opportunistic Credit</i>	162,716,924.41	4.58	5.00	-0.42
BLACKROCK-HY	163,702,662.08	4.61		
OAKTREE	165,972,574.32	4.67		
<i>Total High Yield</i>	329,675,236.40	9.28	10.00	-0.72
CASH ACCOUNT	71,095,633.08	2.00		
<i>Total Short Term</i>	71,095,633.08	2.00	0.00	2.00
<b>TOTAL FIXED INCOME</b>	<b>1,022,872,079.05</b>	<b>28.78</b>	<b>30.00</b>	<b>-1.22</b>
<b>TOTAL FUND</b>	<b>\$ 3,554,400,266.85</b>			

Gross Actual Allocation



Target Allocation



ASSET ALLOCATION COMPARISON

July 31, 2022

	Market Value	% of Total Fund	Allocation Policy	% Difference from Allocation	Prior Period Market Value	Prior Period % of Total Fund
<b>EQUITY</b>						
CHANNING CAPITAL	34,192,221.67	0.93			32,184,262.50	0.91
REDWOOD- SL	30,970,210.62	0.84			27,941,358.55	0.79
SYSTEMATIC	74,078,102.28	2.01			68,155,414.72	1.92
<b>Total Small Cap</b>	<b>139,240,534.57</b>	<b>3.77</b>			<b>128,281,035.77</b>	<b>3.61</b>
SMITH GRAHAM	77,600,710.82	2.10			70,815,285.93	1.99
T. ROWE PRICE	156,954,610.72	4.25			143,224,405.65	4.03
<b>Total Domestic/Enhanced equity</b>	<b>234,555,321.54</b>	<b>6.35</b>			<b>214,039,691.58</b>	<b>6.02</b>
NTGI S&P 500 EQUITY INDEX	165,261,524.62	4.47			151,310,625.20	4.26
<b>Total Index</b>	<b>165,261,524.62</b>	<b>4.47</b>			<b>151,310,625.20</b>	<b>4.26</b>
<b>Total Domestic</b>	<b>539,057,380.73</b>	<b>14.59</b>	<b>12.50</b>	<b>2.09</b>	<b>493,631,352.55</b>	<b>13.89</b>
ADELANTE CAPITAL	48,385,423.14	1.31			44,599,345.73	1.25
CENTERSQUARE-SL	48,967,711.42	1.33			44,874,373.96	1.26
<b>Total REITS</b>	<b>97,353,134.56</b>	<b>2.64</b>	<b>2.50</b>	<b>0.14</b>	<b>89,473,719.69</b>	<b>2.52</b>
AEW PARTNERS	29,817,906.00	0.81			29,817,906.00	0.84
BRASA CAPITAL MGMT	8,376,391.00	0.23			-	0.00
HEITMAN	111,267,357.99	3.01			107,423,966.03	3.02
INVESCO	80,628,019.00	2.42			81,077,195.00	2.42
INVESCO - SL	89,472,855.40	2.18			85,963,665.31	2.28
VIRTUS REAL ESTATE CAP	22,332,916.00	0.60			22,332,916.00	0.63
<b>Total Real Estate</b>	<b>341,895,445.39</b>	<b>9.25</b>	<b>7.50</b>	<b>1.75</b>	<b>326,615,648.34</b>	<b>9.19</b>
FAIRVIEW CAPITAL	90,068,242.00	2.44			88,308,497.00	2.48
GROSVENOR GCM - CFGI	174,831,745.00	4.73			172,471,617.00	4.85
HAMILTON LANE	117,694,340.00	3.19			116,023,049.00	3.26
<b>Total Private Equity</b>	<b>382,594,327.00</b>	<b>10.36</b>	<b>7.50</b>	<b>2.86</b>	<b>376,803,163.00</b>	<b>10.60</b>
ACADIAN	103,318,167.12	2.80			97,653,274.83	2.75
AQR CAPITAL	112,947,294.76	3.06			110,147,976.98	3.10
AQR CAPITAL MGMT - Russia	516.33	0.00			516.33	0.00
ATIVO	37,107,959.31	1.00			35,067,450.50	0.99
BAILLIE GIFFORD	65,521,360.38	1.77			61,367,322.98	1.73
EARNEST PARTNERS	88,265,336.14	2.39			84,890,985.49	2.39
GLOBAL TRANSITION ACCOUNT	612,391.69	0.02			547,917.06	0.02
<b>Total International</b>	<b>407,773,025.73</b>	<b>11.04</b>	<b>12.50</b>	<b>-1.46</b>	<b>389,675,444.17</b>	<b>10.96</b>
ARIEL	105,997,682.85	2.87			105,864,732.58	2.98
WELLINGTON MGMT	117,707,174.63	3.19			110,466,865.25	3.11
<b>Total Global Equity</b>	<b>223,704,857.48</b>	<b>6.06</b>	<b>7.50</b>	<b>-1.44</b>	<b>216,331,597.83</b>	<b>6.09</b>
ACADIAN-LVG	236,272,316.86	6.40			228,611,810.12	6.43
BLACKROCK	232,078,761.37	6.28			225,235,608.87	6.34
<b>Total Global Low Volatility Equity</b>	<b>468,351,078.23</b>	<b>12.68</b>	<b>12.50</b>	<b>0.18</b>	<b>453,847,418.99</b>	<b>12.77</b>
ATLANTIC TRUST	70,306,981.66	1.90			63,400,454.91	1.78
HARVEST FUND	71,609,544.52	1.94			63,967,660.13	1.80
COHEN & STEERS	60,655,465.27	1.64			57,781,728.19	1.63
<b>Total Global Listed Infrastructure</b>	<b>202,571,991.45</b>	<b>5.48</b>	<b>5.00</b>	<b>0.48</b>	<b>185,149,843.23</b>	<b>5.21</b>
<b>Total Marketable Alternatives</b>	<b>-</b>	<b>0.00</b>	<b>2.50</b>	<b>-2.50</b>	<b>-</b>	<b>0.00</b>
<b>TOTAL EQUITY</b>	<b>2,663,301,240.57</b>	<b>72.09</b>	<b>70.00</b>	<b>2.09</b>	<b>2,531,528,187.80</b>	<b>71.22</b>
<b>FIXED INCOME</b>						
GARCIA HAMILTON	154,326,459.45	4.18			150,467,327.12	4.23
WESTERN ASSET MANAGEMENT	158,878,294.86	4.30			154,803,820.48	4.36
WELLINGTON-CORE BOND	158,248,784.90	4.28			154,036,082.27	4.33
NT COLLECTIVE AGGREGATE BOND INDEX FUND	1,770.79	0.00			1,768.54	0.00
SECURIAN ASSET MANAGEMENT	8,096.73	0.00			75,286.75	0.00
<b>Total Investment Grade</b>	<b>471,463,406.73</b>	<b>12.76</b>	<b>15.00</b>	<b>-2.24</b>	<b>459,384,285.16</b>	<b>12.92</b>
NEUBERGER BERMAN	163,821,700.01	4.43			162,716,924.41	4.58
<b>Total Opportunistic Credit</b>	<b>163,821,700.01</b>	<b>4.43</b>	<b>5.00</b>	<b>-0.57</b>	<b>162,716,924.41</b>	<b>4.58</b>
BLACKROCK-HY	173,605,424.09	4.70			163,702,662.08	4.61
OAKTREE	176,294,715.04	4.77			165,972,574.32	4.67
<b>Total High Yield</b>	<b>349,900,139.13</b>	<b>9.47</b>	<b>10.00</b>	<b>-0.53</b>	<b>329,675,236.40</b>	<b>9.28</b>
CASH ACCOUNT	45,706,595.49	1.24			71,095,633.08	2.00
<b>Total Short Term</b>	<b>45,706,595.49</b>	<b>1.24</b>	<b>0.00</b>	<b>1.24</b>	<b>71,095,633.08</b>	<b>2.00</b>
<b>TOTAL FIXED INCOME</b>	<b>1,030,891,841.36</b>	<b>27.91</b>	<b>30.00</b>	<b>-2.09</b>	<b>1,022,872,079.05</b>	<b>28.78</b>

TOTAL FUND \$ 3,694,193,081.93

\$ 3,554,400,266.85

Market Value YE 2021 \$ 4,082,277,584.28

Market Value Variance

Change from YE 2021: \$ (388,084,502.35)

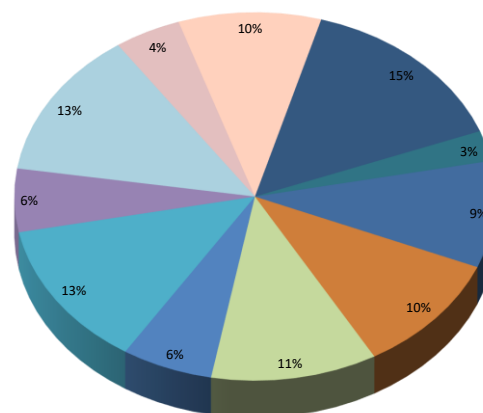
Change from prior month: \$ 139,792,815.08

# Asset Allocation: Actual vs. Target

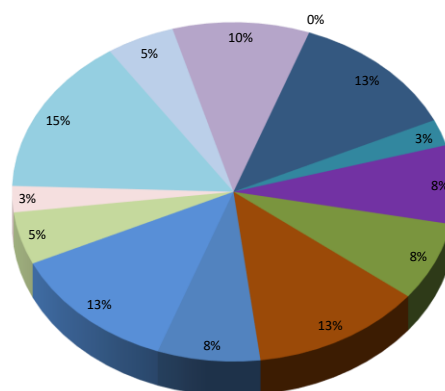
July 31, 2022

	Market Value	Gross Actual Allocation	Target Allocation	% Difference from Allocation
<b>EQUITY</b>				
CHANNING CAPITAL	34,192,221.67	0.93		
REDWOOD- SL	30,970,210.62	0.84		
SYSTEMATIC	74,078,102.28	2.01		
<i>Total Small Cap</i>	139,240,534.57	3.77		
SMITH GRAHAM	77,600,710.82	2.10		
T. ROWE PRICE	156,954,610.72	4.25		
<i>Total Domestic/Enhanced equity</i>	234,555,321.54	6.35		
NTGI S&P 500 EQUITY INDEX	165,261,524.62	4.47		
<i>Total Index</i>	165,261,524.62	4.47		
<i>Total Domestic</i>	539,057,380.73	14.59	12.50	2.09
ADELANTE CAPITAL	48,385,423.14	1.31		
CENTERSQUARE-SL	48,967,711.42	1.33		
<i>Total REITS</i>	97,353,134.56	2.64	2.50	0.14
AEW PARTNERS	29,817,906.00	0.81		
BRASA CAPITAL MGMT	8,376,391.00	0.23		
HEITMAN	111,267,357.99	3.01		
INVESCO	89,472,855.40	2.42		
INVESCO - SL	80,628,019.00	2.18		
VIRTUS REAL ESTATE CAP	22,332,916.00	0.60		
<i>Total Real Estate</i>	341,895,445.39	9.25	7.50	1.75
FAIRVIEW CAPITAL	90,068,242.00	2.44		
GROSVENOR GCM - CFG	174,831,745.00	4.73		
HAMILTON LANE	117,694,340.00	3.19		
<i>Total Private Equity</i>	382,594,327.00	10.36	7.50	2.86
ACADIAN	103,318,167.12	2.80		
AQR CAPITAL	112,947,294.76	3.06		
AQR CAPITAL MGMT - Russia	516.33	0.00		
ATIVO	37,107,959.31	1.00		
BAILLIE GIFFORD	65,521,360.38	1.77		
EARNEST PARTNERS	88,265,336.14	2.39		
GLOBAL TRANSITION ACCOUNT	612,391.69	0.02		
<i>Total International</i>	407,773,025.73	11.04	12.50	-1.46
ARIEL	105,997,682.85	2.87		
WELLINGTON MGMT	117,707,174.63	3.19		
<i>Total Global Equity</i>	223,704,857.48	6.06	7.50	-1.44
ACADIAN-LVG	236,272,316.86	6.40		
BLACKROCK	232,078,761.37	6.28		
<i>Total Global Low Volatility Equity</i>	468,351,078.23	12.68	12.50	0.18
ATLANTIC TRUST	70,306,981.66	1.90		
HARVEST FUND	71,609,544.52	1.94		
COHEN & STEERS	60,655,465.27	1.64		
<i>Total Global Listed Infrastructure</i>	202,571,991.45	5.48	5.00	0.48
<i>Total Marketable Alternatives</i>	-	0.00	2.50	-2.50
<b>TOTAL EQUITY</b>	<b>2,663,301,240.57</b>	<b>72.09</b>	<b>70.00</b>	<b>2.09</b>
<b>FIXED INCOME</b>				
GARCIA HAMILTON	154,326,459.45	4.18		
WESTERN ASSET MANAGEMENT	158,878,294.86	4.30		
WELLINGTON-CORE BOND	158,248,784.90	4.28		
NT COLLECTIVE AGGREGATE BOND INDEX FUND	1,770.79	0.00		
SECURIAN ASSET MANAGEMENT	8,096.73	0.00		
<i>Total Investment Grade</i>	471,463,406.73	12.76	15.00	-2.24
NEUBERGER BERMAN	163,821,700.01	4.43		
<i>Total Opportunistic Credit</i>	163,821,700.01	4.43	5.00	-0.57
BLACKROCK-HY	173,605,424.09	4.70		
OAKTREE	176,294,715.04	4.77		
<i>Total High Yield</i>	349,900,139.13	9.47	10.00	-0.53
CASH ACCOUNT	45,706,595.49	1.24		
<i>Total Short Term</i>	45,706,595.49	1.24	0.00	1.24
<b>TOTAL FIXED INCOME</b>	<b>1,030,891,841.36</b>	<b>27.91</b>	<b>30.00</b>	<b>-2.09</b>
<b>TOTAL FUND</b>	<b>\$ 3,694,193,081.93</b>			

Gross Actual Allocation



Target Allocation



**Wilshire**

# Dallas Employees' Retirement Fund

## Monthly Investment Summary

June 2022

# Monthly Index Performance

*Periods Ended June 30, 2022*

	Performance (%)				
	1 Month	QTD	1 Year	3 Years	5 Years
U.S. Equity					
FT Wilshire 5000 Total Market TR Index	-8.36	-16.77	-13.19	10.17	10.83
S&P 500	-8.25	-16.10	-10.62	10.60	11.31
FT Wilshire 4500 Completion Index	-9.56	-19.88	-25.94	6.75	7.66
MSCI USA Minimum Volatility Index	-4.09	-9.15	-3.21	6.34	9.64
U.S. Equity by Size/Style					
FT Wilshire U.S. Large-Cap Index	-8.30	-16.76	-12.27	10.66	11.52
FT Wilshire U.S. Large-Cap Growth Index	-8.39	-21.45	-18.32	12.25	12.70
FT Wilshire U.S. Large-Cap Value Index	-8.20	-11.16	-4.82	8.90	9.51
FT Wilshire U.S. Small-Cap Index	-9.19	-16.76	-21.68	5.41	6.06
FT Wilshire U.S. Small-Cap Growth Index	-8.55	-18.19	-28.17	3.91	5.92
FT Wilshire U.S. Small-Cap Value Index	-9.75	-15.47	-14.61	6.83	5.70
FT Wilshire U.S. Micro-Cap Index	-7.82	-20.30	-37.65	-0.12	1.20
Non-U.S. Equity (USD)					
MSCI AC World ex USA (Net)	-8.60	-13.73	-19.42	1.35	2.50
MSCI ACWI ex USA Minimum Volatility Index (Net)	-4.98	-10.79	-9.61	0.46	2.90
MSCI EAFE Index (Net)	-9.28	-14.51	-17.77	1.07	2.20
MSCI Emerging Markets (Net)	-6.65	-11.45	-25.28	0.57	2.18
MSCI AC World ex USA Small Cap (Net)	-11.04	-17.55	-22.45	2.94	2.55
U.S. Fixed Income					
Blmbg. U.S. Aggregate	-1.57	-4.69	-10.29	-0.94	0.88
Blmbg. U.S. Treasury: Long	-1.47	-11.93	-18.45	-2.94	0.51
Blmbg. U.S. Long Corporate Index	-4.32	-12.80	-21.71	-2.34	1.06
Blmbg. U.S. TIPS	-3.16	-6.08	-5.14	3.04	3.21
Blmbg. U.S. Credit Index	-2.61	-6.90	-13.64	-1.00	1.24
Blmbg. U.S. Corp: High Yield	-6.73	-9.83	-12.81	0.21	2.10
S&P LSTA Leverage Loan Index	-2.16	-4.45	-2.79	2.06	2.90

# Asset Allocation & Performance

Dallas Total Fund

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Global Equity Composite	-6.72	-11.78	-15.82	-13.40	5.87	6.52	8.05	9/1/2012	216,331,598	6.09
Global Low Volatility Composite	-4.53	-8.75	-11.33	-5.07	2.90	5.39	6.61	7/1/2015	453,847,419	12.77
Domestic Equity Composite	-8.68	-15.68	-19.93	-12.54	9.84	9.74	10.01	1/1/1990	493,631,353	13.89
International Equity Composite	-8.77	-13.65	-18.40	-19.94	3.64	3.42	5.28	1/1/1990	388,911,846	10.94
Global Fixed Income Composite	-1.20	-4.45	-9.88	-9.91	-0.22	1.36	4.46	10/1/1995	459,384,285	12.93
High Yield Composite	-6.44	-9.46	-12.88	-11.37	0.51	1.95	5.78	1/1/1997	329,675,236	9.28
Credit Opportunities Composite	-3.99	-7.93	-11.81	-11.64	-0.65	1.72	3.74	2/1/2016	162,716,924	4.58
Total Real Estate Composite	-1.77	-0.48	-1.19	14.42	9.69	8.48	6.93	1/1/1990	416,089,368	11.71
Global Listed Infrastructure Composite	-9.90	-8.25	6.70	9.46	-0.80	0.24	3.92	1/1/2012	185,149,843	5.21
Private Equity Composite	0.60	9.00	13.75	46.35	19.96	18.10	15.03	6/1/2009	376,803,163	10.60
Managed Short Term Composite	0.02	0.11	0.15	0.17	0.63	1.11	2.73	1/1/1990	71,095,633	2.00
Dallas Total Fund	-5.23	-7.79	-9.81	-4.33	4.97	5.61	8.74	1/1/1985	3,553,636,669	100.00
Policy Index	-5.79	-10.54	-13.11	-8.77	4.24	5.16	9.23			



# Asset Allocation & Performance

## Domestic Equity

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Systematic Financial</b>	-7.52	-11.77	-16.27	-12.45	7.14	6.81	10.15	8/1/2003	68,155,415	13.81
Russell 2000 Index	-8.22	-17.20	-23.43	-25.20	4.21	5.17	8.40			
<b>Redwood Investments *</b>	-7.29	-20.51	-34.74	-30.98	3.83	5.16	6.02	10/1/2016	27,941,359	5.66
Russell 2000 Growth Index	-6.19	-19.25	-29.45	-33.43	1.40	4.80	6.55			
<b>Channing Capital *</b>	-10.98	-15.62	-16.84	-14.83	6.87	5.14	5.99	12/1/2013	32,184,263	6.52
Russell 2000 Value Index	-9.88	-15.28	-17.31	-16.28	6.18	4.89	6.02			
<b>Domestic Equity Small Cap Composite</b>	-8.36	-14.79	-21.26	-17.83	6.56	6.20	8.96	6/1/2003	128,281,036	25.99
<b>Smith Graham *</b>	-11.71	-14.90	-16.71	-9.53	11.20		6.46	1/1/2018	70,815,286	14.35
Russell Midcap Index	-9.98	-16.85	-21.57	-17.30	6.59		6.66			
<b>T. Rowe Price</b>	-7.87	-16.42	-20.31	-11.06	10.80	11.65	9.51	4/1/2006	143,224,406	29.01
S&P 500	-8.25	-16.10	-19.96	-10.62	10.60	11.31	9.01			
<b>Northern Trust S&amp;P 500 (Lending)</b>	-8.25	-16.09	-19.89	-10.54	10.58	11.31	10.08	1/1/1995	151,310,625	30.65
S&P 500	-8.25	-16.10	-19.96	-10.62	10.60	11.31	10.04			
<b>Domestic Equity Composite</b>	-8.68	-15.68	-19.93	-12.54	9.84	9.74	10.01	1/1/1990	493,631,353	100.00
Custom Benchmark	-8.36	-16.77	-20.89	-13.19	10.17	10.83	10.10			

# Asset Allocation & Performance

Real Estate

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Adelante Capital Management</b>	-7.53	-17.99	-21.03	-5.85	5.55	6.63	9.42	10/1/2001	44,599,346	49.85
Wilshire U.S. Real Estate Securities Index	-7.92	-18.50	-21.63	-6.68	3.99	5.26	9.47			
<b>CenterSquare</b>	-6.77	-15.89	-18.51	-4.83	5.92		8.30	6/1/2018	44,874,374	50.15
Wilshire U.S. Real Estate Securities Index	-7.92	-18.50	-21.63	-6.68	3.99		6.58			
<b>REIT Composite</b>	-7.15	-16.95	-19.78	-5.34	5.73	6.68	9.53	10/1/2001	89,473,720	100.00
Wilshire U.S. Real Estate Securities Index	-7.92	-18.50	-21.63	-6.68	3.99	5.26	9.47			

# Private Real Estate Summary

Periods Ended as of June 30, 2022

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	TVPI Multiple
Invesco II	81,077,195	65,188,333	65,188,333	12,207,172	Jan-14	6.4%	1.4
<b>Total Direct Private Real Estate</b>	<b>81,077,195</b>	<b>65,188,333</b>	<b>65,188,333</b>	<b>12,207,172</b>	<b>Jan-14</b>	<b>6.4%</b>	<b>1.4</b>

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	TVPI Multiple
Heitman America Real Estate Trust	107,423,966	75,000,000	88,210,161	90,247,268	Dec-10	8.0%	2.2
Invesco Core Real Estate USA	85,963,665	75,000,000	75,000,000	91,218,086	Oct-10	11.6%	2.4
<b>Total Core Private Real Estate</b>	<b>193,387,631</b>	<b>150,000,000</b>	<b>163,210,161</b>	<b>181,465,354</b>	<b>Oct-10</b>	<b>10.4%</b>	<b>2.3</b>

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	TVPI Multiple
AEW Partners Real Estate Fund IX	21,444,567	45,000,000	21,481,481	16,806	Mar-21	-0.3%	1.0
AEW PIX MM Co-Invest	3,247,769	10,000,000	3,113,207	132,389	Nov-21	12.0%	1.1
AEW PIX Oakland Park Co-Invest	5,125,570	5,000,000	5,000,000	-	Feb-22	2.5%	1.0
Virtus Real Estate Capital III	22,332,916	43,281,585	20,159,406	1,959,068	Jan-21	11.7%	1.2
<b>Total Value-Add Private Real Estate</b>	<b>52,150,822</b>	<b>103,281,585</b>	<b>49,754,094</b>	<b>2,108,263</b>	<b>Jan-21</b>	<b>8.8%</b>	<b>1.1</b>

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

# Private Equity Summary

Periods Ended as of June 30, 2022

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple <sup>3</sup>
Hamilton Lane Secondary Fund II	161,948	25,000,000	22,058,532	31,222,789	Jul-09	13.5%	1.4
Hamilton Lane Secondary Fund III	4,459,672	30,000,000	23,372,292	27,402,929	Nov-12	10.5%	1.4
Hamilton Lane Secondary Fund IV	21,475,603	30,000,000	25,907,343	21,413,313	Mar-17	21.6%	1.7
Hamilton Lane Secondary Fund V	50,462,947	65,000,000	36,826,419	5,438,471	Mar-20	43.1%	1.5
Hamilton Lane Fund VII Composite	19,033,391	50,000,000	45,600,834	53,478,581	Jan-10	7.0%	1.6
Hamilton Lane Fund VIII (Global)	20,429,488	30,000,000	22,270,594	14,579,019	Nov-12	8.5%	1.6
GCM Grosvenor - Partnership, L.P.	35,350,773	75,000,000	86,833,339	118,043,237	Jun-11	14.9%	1.8
GCM Grosvenor - Partnership II, L.P. (2014)	54,350,484	60,000,000	70,633,751	62,989,796	Jul-14	18.8%	1.7
GCM Grosvenor - Partnership II, L.P. (2015)	51,834,156	30,000,000	39,221,186	10,684,124	Dec-15	16.6%	1.6
GCM Grosvenor - Partnership II, L.P. (2017)	27,771,716	30,000,000	26,253,710	5,920,137	Jan-18	18.5%	1.3
GCM Grosvenor - Advance Fund, L.P.	3,164,488	10,000,000	3,180,001	53,279	Jun-21	-	1.0
Fairview Capital - Lone Star Fund I	55,688,507	40,000,000	35,713,040	12,887,383	Aug-15	18.9%	1.9
Fairview Capital - Lone Star Fund II	23,491,250	30,000,000	16,930,689	138,948	Dec-18	15.8%	1.4
Fairview Capital - Lone Star Fund III	7,667,393	25,000,000	7,818,534	-	Apr-21	-8.4%	1.0
Fairview Capital - Private Markets Fund VI	1,461,347	10,000,000	1,469,595	-	Apr-22	-0.6%	1.0
<b>Total Private Equity Composite</b>	<b>376,803,163</b>	<b>560,000,000</b>	<b>464,089,858</b>	<b>364,252,008</b>	<b>Jul-09</b>	<b>15.0%</b>	<b>1.6</b>

Public Market Equivalent (PME) <sup>2</sup>

406,351,324

15.9%

# Asset Allocation & Performance

## International Equity

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Acadian International</b> Custom Benchmark	-12.51 -11.04	-16.51 -17.55	-18.62 -22.92	-19.18 -22.45	4.98 2.94	4.20 2.55	8.03 5.52	4/1/1989	97,653,275	25.11
<b>Ativo International *</b> MSCI EAFE Index (Net)	-10.25 -9.28	-15.78 -14.51	-21.94 -19.57	-18.20 -17.77	-0.64 1.07		-0.26 0.33	1/1/2018	35,067,451	9.02
<b>AQR Capital Management</b> Custom Benchmark	-9.51 -8.60	-13.01 -13.73	-16.50 -18.42	-20.14 -19.42	0.84 1.35	1.03 2.50	2.67 2.54	4/1/2006	110,147,977	28.32
<b>Baillie Gifford</b> MSCI AC World ex USA (Net)	-9.08 -8.60	-18.27 -13.73	-30.48 -18.42	-34.54 -19.42	-0.92 1.35		0.89 2.17	4/1/2019	61,367,323	15.78
<b>Earnest Partners</b> MSCI AC World ex USA (Net)	-10.49 -8.60	-14.37 -13.73	-16.59 -18.42	-16.02 -19.42	4.55 1.35		5.02 2.17	4/1/2019	84,127,904	21.63
<b>International Equity Composite</b> Custom Benchmark	-8.77 -8.95	-13.65 -14.28	-18.40 -19.08	-19.94 -19.86	3.64 1.55	3.42 2.50	5.28 4.24	1/1/1990	388,911,846	100.00

# Asset Allocation & Performance

## Global Equity

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Ariel Global *</b>	<b>-4.37</b>	<b>-5.21</b>	<b>-4.68</b>	<b>-2.71</b>	<b>7.18</b>		<b>5.87</b>	<b>1/1/2018</b>	<b>105,864,733</b>	<b>48.94</b>
MSCI AC World Index (Net)	-8.43	-15.66	-20.18	-15.75	6.21		5.30			
<b>Wellington</b>	<b>-8.87</b>	<b>-17.19</b>	<b>-24.32</b>	<b>-21.97</b>	<b>4.18</b>	<b>5.27</b>	<b>9.35</b>	<b>9/1/2012</b>	<b>110,466,865</b>	<b>51.06</b>
MSCI AC World Index (Net)	-8.43	-15.66	-20.18	-15.75	6.21	7.00	8.53			
<b>Northern Trust Global Equity</b>	<b>-7.30</b>	<b>-14.22</b>	<b>-19.06</b>	<b>-15.00</b>	<b>6.98</b>	<b>7.47</b>	<b>9.35</b>	<b>10/1/2015</b>		<b>0.00</b>
MSCI AC World IMI (Net)	-8.63	-15.83	-20.44	-16.52	5.98	6.70	8.65			
<b>Global Equity Composite</b>	<b>-6.72</b>	<b>-11.78</b>	<b>-15.82</b>	<b>-13.40</b>	<b>5.87</b>	<b>6.52</b>	<b>8.05</b>	<b>9/1/2012</b>	<b>216,331,598</b>	<b>100.00</b>
MSCI AC World Index (Net)	-8.43	-15.66	-20.18	-15.75	6.21	7.00	8.53			

# Asset Allocation & Performance

## Global Low Volatility

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Acadian Global Low Vol.</b>	<b>-4.90</b>	<b>-8.29</b>	<b>-10.78</b>	<b>-3.94</b>	<b>2.98</b>	<b>4.91</b>	<b>6.36</b>	<b>7/1/2015</b>	<b>228,611,810</b>	<b>50.37</b>
MSCI AC World Index (Net)	-8.43	-15.66	-20.18	-15.75	6.21	7.00	6.98			
MSCI ACWI Minimum Volatility Index (Net)	-4.14	-9.27	-12.01	-6.40	2.89	5.72	6.58			
<b>BlackRock Global Low Vol.</b>	<b>-4.15</b>	<b>-9.22</b>	<b>-11.88</b>	<b>-6.18</b>	<b>2.83</b>	<b>5.87</b>	<b>6.85</b>	<b>7/1/2015</b>	<b>225,235,609</b>	<b>49.63</b>
MSCI ACWI Minimum Volatility Index (Net)	-4.14	-9.27	-12.01	-6.40	2.89	5.72	6.58			
<b>Global Low Volatility Composite</b>	<b>-4.53</b>	<b>-8.75</b>	<b>-11.33</b>	<b>-5.07</b>	<b>2.90</b>	<b>5.39</b>	<b>6.61</b>	<b>7/1/2015</b>	<b>453,847,419</b>	<b>100.00</b>
MSCI ACWI Minimum Volatility Index (Net)	-4.14	-9.27	-12.01	-6.40	2.89	5.72	6.58			

# Asset Allocation & Performance

## Global Listed Infrastructure

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Atlantic Trust CIBC</b>	-12.29	-9.16	9.85	10.04	3.26	2.43	5.27	1/1/2012	63,400,455	34.24
Alerian MLP Index	-13.95	-7.38	10.04	4.33	0.07	-0.29	0.67			
<b>Harvest Fund Advisors MLP</b>	-12.02	-8.52	12.86	13.49	5.72	4.35	5.40	1/1/2012	63,967,660	34.55
Alerian MLP Index	-13.95	-7.38	10.04	4.33	0.07	-0.29	0.67			
<b>C&amp;S Global Listed Infrastructure</b>	-5.30	-7.11	-4.09	3.50			12.11	11/1/2020	57,781,728	31.21
FTSE Global Core Infrastructure 50/50 (Net)	-6.16	-7.52	-4.08	2.90			11.76			
<b>Global Listed Infrastructure Composite</b>	-9.90	-8.25	6.70	9.46	-0.80	0.24	3.92	1/1/2012	185,149,843	100.00
Global Listed Infrastructure Benchmark	-12.01	-7.31	6.67	4.47	-3.63	-2.51	-0.41			



# Asset Allocation & Performance

## Global Fixed Income

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Garcia Hamilton *</b> Blmbg. U.S. Aggregate	-1.22 -1.57	-3.78 -4.69	-8.10 -10.35	-8.25 -10.29	-0.35 -0.94	1.09 0.88	2.14 1.70	11/1/2013	150,467,327	32.75
<b>Western Asset Management</b> Blmbg. U.S. Aggregate									154,803,820	33.70
<b>Wellington Core Bond</b> Blmbg. U.S. Aggregate									154,036,082	33.53
<b>Securian Asset Management</b>									75,287	0.02
<b>NT Collective Aggregate Bond Index</b>									1,769	0.00
<b>Global Fixed Income Composite</b> Blmbg. U.S. Aggregate	-1.20 -1.57	-4.45 -4.69	-9.88 -10.35	-9.91 -10.29	-0.22 -0.94	1.36 0.88	4.46 4.49	10/1/1995	459,384,285	100.00

# Asset Allocation & Performance

Opportunistic Credit

*Periods Ended June 30, 2022*

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Neuberger Berman	-3.99	-7.93	-11.81	-11.64	-0.65	1.72	3.74	2/1/2016	162,716,924	
Custom Benchmark	-5.06	-8.62	-13.11	-12.44	-1.06	1.25	3.67			

# Asset Allocation & Performance

## High Yield

Periods Ended June 30, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Oaktree Capital Management</b>	-6.75	-9.62	-12.91	-11.32	0.40	1.60	5.95	2/1/1997	165,972,574	50.34
FTSE High Yield Cash Pay	-6.73	-9.86	-13.80	-12.31	0.04	1.97	6.06			
<b>BlackRock</b>	-6.13	-9.30	-12.85	-11.42	0.60	2.29	5.29	10/1/2006	163,702,662	49.66
FTSE High Yield Cash Pay	-6.73	-9.86	-13.80	-12.31	0.04	1.97	5.65			
<b>High Yield Composite</b>	-6.44	-9.46	-12.88	-11.37	0.51	1.95	5.78	1/1/1997	329,675,236	100.00
FTSE High Yield Cash Pay	-6.73	-9.86	-13.80	-12.31	0.04	1.97	6.07			

# Asset Allocation & Performance

Cash

*Periods Ended June 30, 2022*

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Cash Account	0.02	0.11	0.15	0.17	0.63	1.11	3.07	1/1/1988	71,095,633	100.00
Managed Short Term Composite	0.02	0.11	0.15	0.17	0.63	1.11	2.73	1/1/1990	71,095,633	100.00

**Wilshire**

# Dallas Employees' Retirement Fund

## Monthly Investment Summary

July 31, 2022

# Monthly Index Performance

Periods Ended July 31, 2022

	Performance (%)				
	1 Month	YTD	1 Year	3 Years	5 Years
U.S. Equity					
FT Wilshire 5000 Total Market TR Index	9.55	-13.34	-6.58	13.01	12.45
S&P 500	9.22	-12.58	-4.64	13.36	12.83
FT Wilshire 4500 Completion Index	10.39	-18.18	-17.71	9.74	9.60
MSCI USA Minimum Volatility Index	5.11	-8.10	-1.69	7.54	10.29
U.S. Equity by Size/Style					
FT Wilshire U.S. Large-Cap Index	9.50	-13.25	-6.04	13.47	13.12
FT Wilshire U.S. Large-Cap Growth Index	12.82	-18.44	-10.54	15.95	14.86
FT Wilshire U.S. Large-Cap Value Index	5.97	-6.50	-0.38	10.72	10.50
FT Wilshire U.S. Small-Cap Index	10.14	-13.92	-11.46	8.50	7.90
FT Wilshire U.S. Small-Cap Growth Index	11.21	-18.43	-18.51	7.26	7.95
FT Wilshire U.S. Small-Cap Value Index	9.20	-9.40	-3.71	9.70	7.36
FT Wilshire U.S. Micro-Cap Index	8.64	-21.27	-27.42	3.49	2.98
Non-U.S. Equity (USD)					
MSCI AC World ex USA (Net)	3.42	-15.63	-15.26	2.91	2.45
MSCI ACWI ex USA Minimum Volatility Index (Net)	2.41	-10.52	-8.15	1.54	3.04
MSCI EAFE Index (Net)	4.98	-15.56	-14.32	3.16	2.61
MSCI Emerging Markets (Net)	-0.25	-17.83	-20.09	0.90	0.95
MSCI AC World ex USA Small Cap (Net)	5.78	-18.47	-18.62	5.12	2.99
U.S. Fixed Income					
Blmbg. U.S. Aggregate	2.44	-8.16	-9.12	-0.21	1.28
Blmbg. U.S. Treasury: Long	2.67	-19.15	-19.22	-2.13	1.16
Blmbg. U.S. Long Corporate Index	4.81	-19.03	-19.79	-1.20	1.86
Blmbg. U.S. TIPS	4.35	-4.96	-3.58	4.39	4.00
Blmbg. U.S. Credit Index	3.04	-11.19	-12.15	-0.18	1.70
Blmbg. U.S. Corp: High Yield	5.90	-9.12	-8.02	1.95	3.06
S&P LSTA Leverage Loan Index					

# Asset Allocation & Performance

Dallas Total Fund

Periods Ended July 31, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Global Equity Composite	3.41	-2.56	-12.95	-10.31	7.29	6.65	8.34	9/1/2012	223,704,857	6.05
Global Low Volatility Composite	3.19	-1.89	-8.50	-3.76	3.82	5.66	7.00	7/1/2015	468,351,078	12.67
Domestic Equity Composite	9.17	0.36	-12.59	-5.59	12.59	11.25	10.28	1/1/1990	539,057,381	14.58
International Equity Composite	4.64	-5.25	-16.15	-17.11	5.01	3.16	5.35	1/1/1990	407,772,509	11.03
Global Fixed Income Composite	2.62	1.59	-7.52	-8.56	0.54	1.80	4.55	10/1/1995	471,463,407	12.76
High Yield Composite	6.12	-0.61	-7.55	-6.22	2.34	2.95	6.00	1/1/1997	349,900,139	9.47
Credit Opportunities Composite	2.11	-4.35	-11.21	-11.16	-0.60	1.55	3.80	2/1/2016	163,821,700	4.43
Total Real Estate Composite	3.74	0.37	2.50	16.65	10.83	9.14	7.03	1/1/1990	439,248,580	11.88
Global Listed Infrastructure Composite	9.41	2.67	16.75	22.97	2.82	1.79	4.78	1/1/2012	202,571,991	5.48
Private Equity Composite	0.17	1.34	13.95	36.87	19.37	17.89	14.94	6/1/2009	384,447,764	10.40
Managed Short Term Composite	0.05	0.14	0.20	0.22	0.58	1.10	2.73	1/1/1990	45,706,595	1.24
Dallas Total Fund	4.34	-0.83	-5.94	-1.21	6.39	6.14	8.84	1/1/1985	3,696,046,003	100.00
Policy Index	4.89	-1.37	-8.86	-5.09	5.76	5.82	9.35			

# Asset Allocation & Performance

## Domestic Equity

Periods Ended July 31, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Systematic Financial</b> Russell 2000 Index	8.69 10.44	2.13 1.51	-9.00 -15.43	-3.06 -14.29	10.02 7.51	8.19 7.12	10.59 8.93	8/1/2003	74,078,102	13.74
<b>Redwood Investments *</b> Russell 2000 Growth Index	10.84 11.20	0.29 2.34	-27.67 -21.55	-24.02 -23.18	7.05 4.71	7.21 6.87	7.82 8.41	10/1/2016	30,970,211	5.75
<b>Channing Capital *</b> Russell 2000 Value Index	6.24 9.68	-2.24 0.74	-11.65 -9.30	-9.34 -4.77	8.74 9.44	6.23 6.71	6.68 7.10	12/1/2013	34,192,222	6.34
<b>Domestic Equity Small Cap Composite</b>	8.54	0.62	-14.53	-10.10	9.26	7.66	9.39	6/1/2003	139,240,535	25.83
<b>Smith Graham *</b> Russell Midcap Index	9.38 9.87	-1.30 -1.02	-8.90 -13.83	-0.71 -9.83	13.68 9.47		8.44 8.74	1/1/2018	77,600,711	14.40
<b>T. Rowe Price</b> S&P 500	9.59 9.22	0.92 0.39	-12.68 -12.58	-4.80 -4.64	13.69 13.36	13.20 12.83	10.08 9.55	4/1/2006	156,954,611	29.12
<b>Northern Trust S&amp;P 500 (Lending)</b> S&P 500	9.22 9.22	0.40 0.39	-12.50 -12.58	-4.56 -4.64	13.34 13.36	12.83 12.83	10.40 10.36	1/1/1995	165,261,525	30.66
<b>Domestic Equity Composite</b> Custom Benchmark	9.17 9.55	0.36 0.23	-12.59 -13.34	-5.59 -6.58	12.59 13.01	11.25 12.45	10.28 10.38	1/1/1990	539,057,381	100.00



# Asset Allocation & Performance

## Real Estate

Periods Ended July 31, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Adelante Capital Management</b>	<b>8.49</b>	<b>-6.91</b>	<b>-14.32</b>	<b>-2.86</b>	<b>7.91</b>	<b>8.10</b>	<b>9.81</b>	<b>10/1/2001</b>	<b>48,385,423</b>	<b>49.70</b>
Wilshire U.S. Real Estate Securities Index	8.74	-7.16	-14.78	-3.44	6.38	6.80	9.87			
<b>CenterSquare</b>	<b>9.12</b>	<b>-4.30</b>	<b>-11.07</b>	<b>-1.39</b>	<b>8.61</b>		<b>10.42</b>	<b>6/1/2018</b>	<b>48,967,711</b>	<b>50.30</b>
Wilshire U.S. Real Estate Securities Index	8.74	-7.16	-14.78	-3.44	6.38		8.61			
<b>REIT Composite</b>	<b>8.81</b>	<b>-5.61</b>	<b>-12.72</b>	<b>-2.13</b>	<b>8.26</b>	<b>8.19</b>	<b>9.94</b>	<b>10/1/2001</b>	<b>97,353,135</b>	<b>100.00</b>
Wilshire U.S. Real Estate Securities Index	8.74	-7.16	-14.78	-3.44	6.38	6.80	9.87			

# Private Real Estate Summary

Periods Ended as of July 31, 2022

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	TVPI Multiple
Invesco II	80,628,019	65,188,333	65,188,333	12,656,348	Jan-14	6.4%	1.4
<b>Total Direct Private Real Estate</b>	<b>80,628,019</b>	<b>65,188,333</b>	<b>65,188,333</b>	<b>12,656,348</b>	<b>Jan-14</b>	<b>6.4%</b>	<b>1.4</b>

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	TVPI Multiple
Heitman America Real Estate Trust	111,267,358	75,000,000	88,210,161	90,247,268	Dec-10	8.2%	2.3
Invesco Core Real Estate USA	89,472,855	75,000,000	75,000,000	91,699,195	Oct-10	11.8%	2.4
<b>Total Core Private Real Estate</b>	<b>200,740,213</b>	<b>150,000,000</b>	<b>163,210,161</b>	<b>181,946,463</b>	<b>Oct-10</b>	<b>10.5%</b>	<b>2.3</b>

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	TVPI Multiple
AEW Partners Real Estate Fund IX	21,444,567	45,000,000	21,481,481	16,806	Mar-21	-0.3%	1.0
AEW PIX MM Co-Invest	3,247,769	10,000,000	3,113,207	132,389	Nov-21	11.6%	1.1
AEW PIX Oakland Park Co-Invest	5,125,570	5,000,000	5,000,000	-	Feb-22	2.5%	1.0
Virtus Real Estate Capital III	22,332,916	43,281,585	20,159,406	1,959,068	Jan-21	11.0%	1.2
Brasa Real Estate Fund II	8,376,391	20,000,000	8,376,391		Jul-22	-	1.0
<b>Total Value-Add Private Real Estate</b>	<b>60,527,213</b>	<b>123,281,585</b>	<b>58,130,486</b>	<b>2,108,263</b>	<b>Jan-21</b>	<b>8.0%</b>	<b>1.1</b>

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

# Private Equity Summary

Periods Ended as of July 31, 2022

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple <sup>3</sup>
Hamilton Lane Secondary Fund II	161,948	25,000,000	22,058,532	31,222,789	Jul-09	13.5%	1.4
Hamilton Lane Secondary Fund III	4,459,672	30,000,000	23,372,292	27,402,929	Nov-12	10.5%	1.4
Hamilton Lane Secondary Fund IV	21,475,603	30,000,000	25,907,343	21,413,313	Mar-17	21.3%	1.7
Hamilton Lane Secondary Fund V	52,134,238	65,000,000	38,497,710	5,438,471	Mar-20	39.5%	1.5
Hamilton Lane Fund VII Composite	19,033,391	50,000,000	45,600,834	53,478,581	Jan-10	7.0%	1.6
Hamilton Lane Fund VIII (Global)	20,429,488	30,000,000	22,270,594	14,579,019	Nov-12	8.4%	1.6
GCM Grosvenor - Partnership, L.P.	35,350,773	75,000,000	86,833,339	118,043,237	Jun-11	14.9%	1.8
GCM Grosvenor - Partnership II, L.P. (2014)	54,350,484	60,000,000	70,633,751	64,625,462	Jul-14	19.1%	1.7
GCM Grosvenor - Partnership II, L.P. (2015)	51,834,156	30,000,000	39,448,356	10,911,295	Dec-15	15.8%	1.6
GCM Grosvenor - Partnership II, L.P. (2017)	30,571,716	30,000,000	29,053,710	6,313,994	Jan-18	20.5%	1.3
GCM Grosvenor - Advance Fund, L.P.	3,954,436	10,000,000	3,829,523	53,279	Jun-21	-	1.0
GCM Grosvenor - Partnership II, L.P. (2022)	623,617	20,000,000	623,617		May-22	-	1.0
Fairview Capital - Lone Star Fund I	55,542,559	40,000,000	35,713,040	13,813,908	Aug-15	18.9%	1.9
Fairview Capital - Lone Star Fund II	25,396,943	30,000,000	18,910,887	212,717	Dec-18	14.7%	1.4
Fairview Capital - Lone Star Fund III	7,667,393	25,000,000	7,818,534	-	Apr-21	-7.1%	1.0
Fairview Capital - Private Markets Fund VI	1,461,347	10,000,000	1,469,595	-	Apr-22	-0.6%	1.0
<b>Total Private Equity Composite</b>	<b>384,447,764</b>	<b>560,000,000</b>	<b>472,041,656</b>	<b>367,508,995</b>	<b>Jul-09</b>	<b>15.1%</b>	<b>1.6</b>

Public Market Equivalent (PME) <sup>2</sup>

452,882,240

16.9%

# Asset Allocation & Performance

## International Equity

Periods Ended July 31, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Acadian International</b>	<b>5.80</b>	<b>-6.86</b>	<b>-13.90</b>	<b>-14.49</b>	<b>7.39</b>	<b>4.51</b>	<b>8.19</b>	<b>4/1/1989</b>	<b>103,318,167</b>	<b>25.34</b>
Custom Benchmark	5.78	-6.77	-18.47	-18.62	5.12	2.99	5.68			
<b>Ativo International *</b>	<b>5.82</b>	<b>-4.73</b>	<b>-17.40</b>	<b>-15.16</b>	<b>1.40</b>		<b>0.98</b>	<b>1/1/2018</b>	<b>37,107,959</b>	<b>9.10</b>
MSCI EAFE Index (Net)	4.98	-4.04	-15.56	-14.32	3.16		1.39			
<b>AQR Capital Management</b>	<b>2.54</b>	<b>-5.52</b>	<b>-14.38</b>	<b>-16.33</b>	<b>2.26</b>	<b>0.66</b>	<b>2.82</b>	<b>4/1/2006</b>	<b>112,947,295</b>	<b>27.70</b>
Custom Benchmark	3.42	-4.80	-15.63	-15.26	2.91	2.45	2.74			
<b>Baillie Gifford</b>	<b>6.77</b>	<b>-4.52</b>	<b>-25.78</b>	<b>-28.92</b>	<b>1.37</b>		<b>2.87</b>	<b>4/1/2019</b>	<b>65,521,360</b>	<b>16.07</b>
MSCI AC World ex USA (Net)	3.42	-4.80	-15.63	-15.26	2.91		3.15			
<b>Earnest Partners</b>	<b>3.97</b>	<b>-3.20</b>	<b>-12.49</b>	<b>-11.71</b>	<b>6.75</b>		<b>6.41</b>	<b>4/1/2019</b>	<b>88,265,336</b>	<b>21.65</b>
MSCI AC World ex USA (Net)	3.42	-4.80	-15.63	-15.26	2.91		3.15			
<b>International Equity Composite</b>	<b>4.64</b>	<b>-5.25</b>	<b>-16.15</b>	<b>-17.11</b>	<b>5.01</b>	<b>3.16</b>	<b>5.35</b>	<b>1/1/1990</b>	<b>407,772,509</b>	<b>100.00</b>
Custom Benchmark	3.75	-5.08	-16.04	-15.76	3.20	2.52	4.34			

# Asset Allocation & Performance

## Global Equity

Periods Ended July 31, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Ariel Global *</b>	<b>0.13</b>	<b>-1.83</b>	<b>-4.56</b>	<b>-1.39</b>	<b>7.71</b>		<b>5.79</b>	<b>1/1/2018</b>	<b>105,997,683</b>	<b>47.38</b>
MSCI AC World Index (Net)	6.98	-1.92	-14.61	-10.48	8.52		6.76			
<b>Wellington</b>	<b>6.55</b>	<b>-3.23</b>	<b>-19.36</b>	<b>-17.33</b>	<b>6.47</b>	<b>6.04</b>	<b>9.97</b>	<b>9/1/2012</b>	<b>117,707,175</b>	<b>52.62</b>
MSCI AC World Index (Net)	6.98	-1.92	-14.61	-10.48	8.52	7.86	9.19			
<b>Global Equity Composite</b>	<b>3.41</b>	<b>-2.56</b>	<b>-12.95</b>	<b>-10.31</b>	<b>7.29</b>	<b>6.65</b>	<b>8.34</b>	<b>9/1/2012</b>	<b>223,704,857</b>	<b>100.00</b>
MSCI AC World Index (Net)	6.98	-1.92	-14.61	-10.48	8.52	7.86	9.19			

# Asset Allocation & Performance

## Global Low Volatility

Periods Ended July 31, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Acadian Global Low Vol.</b>	<b>3.35</b>	<b>-1.62</b>	<b>-7.79</b>	<b>-2.66</b>	<b>3.87</b>	<b>5.19</b>	<b>6.77</b>	<b>7/1/2015</b>	<b>236,272,317</b>	<b>50.45</b>
MSCI AC World Index (Net)	6.98	-1.92	-14.61	-10.48	8.52	7.86	7.92			
MSCI ACWI Minimum Volatility Index (Net)	3.01	-2.34	-9.36	-5.08	3.84	5.97	6.95			
<b>BlackRock Global Low Vol.</b>	<b>3.03</b>	<b>-2.17</b>	<b>-9.21</b>	<b>-4.85</b>	<b>3.77</b>	<b>6.12</b>	<b>7.22</b>	<b>7/1/2015</b>	<b>232,078,761</b>	<b>49.55</b>
MSCI ACWI Minimum Volatility Index (Net)	3.01	-2.34	-9.36	-5.08	3.84	5.97	6.95			
<b>Global Low Volatility Composite</b>	<b>3.19</b>	<b>-1.89</b>	<b>-8.50</b>	<b>-3.76</b>	<b>3.82</b>	<b>5.66</b>	<b>7.00</b>	<b>7/1/2015</b>	<b>468,351,078</b>	<b>100.00</b>
MSCI ACWI Minimum Volatility Index (Net)	3.01	-2.34	-9.36	-5.08	3.84	5.97	6.95			

# Asset Allocation & Performance

## Global Listed Infrastructure

Periods Ended July 31, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Atlantic Trust CIBC</b>	<b>10.89</b>	<b>1.85</b>	<b>21.82</b>	<b>27.89</b>	<b>7.60</b>	<b>4.30</b>	<b>6.26</b>	<b>1/1/2012</b>	<b>70,306,982</b>	<b>34.71</b>
Alerian MLP Index	12.49	4.27	23.78	25.26	4.14	1.83	1.79			
<b>Harvest Fund Advisors MLP</b>	<b>11.95</b>	<b>3.57</b>	<b>26.35</b>	<b>32.73</b>	<b>10.33</b>	<b>6.44</b>	<b>6.48</b>	<b>1/1/2012</b>	<b>71,609,545</b>	<b>35.35</b>
Alerian MLP Index	12.49	4.27	23.78	25.26	4.14	1.83	1.79			
<b>C&amp;S Global Listed Infrastructure</b>	<b>4.97</b>	<b>1.97</b>	<b>0.68</b>	<b>6.74</b>			<b>14.64</b>	<b>11/1/2020</b>	<b>60,655,465</b>	<b>29.94</b>
FTSE Global Core Infrastructure 50/50 (Net)	4.69	0.50	0.43	6.34			14.12			
<b>Global Listed Infrastructure Composite</b>	<b>9.41</b>	<b>2.67</b>	<b>16.75</b>	<b>22.97</b>	<b>2.82</b>	<b>1.79</b>	<b>4.78</b>	<b>1/1/2012</b>	<b>202,571,991</b>	<b>100.00</b>
Global Listed Infrastructure Benchmark	10.54	3.47	17.92	20.80	-0.29	-0.80	0.54			

# Asset Allocation & Performance

## Global Fixed Income

Periods Ended July 31, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Garcia Hamilton *</b>	2.56	2.05	-5.74	-6.73	0.42	1.62	2.42	11/1/2013	154,326,459	32.73
Blmbg. U.S. Aggregate	2.44	1.49	-8.16	-9.12	-0.21	1.28	1.97			
<b>Western Asset Management</b>	2.63						2.63	7/1/2022	158,878,295	33.70
Blmbg. U.S. Aggregate	2.44						2.44			
<b>Wellington Core Bond</b>	2.72						2.72	7/1/2022	158,248,785	33.57
Blmbg. U.S. Aggregate	2.44						2.44			
<b>Securian Asset Management</b>									8,097	0.00
<b>NT Collective Aggregate Bond Index</b>									1,771	0.00
<b>Global Fixed Income Composite</b>	2.62	1.59	-7.52	-8.56	0.54	1.80	4.55	10/1/1995	471,463,407	100.00
Blmbg. U.S. Aggregate	2.44	1.49	-8.16	-9.12	-0.21	1.28	4.57			



# Asset Allocation & Performance

Opportunistic Credit

*Periods Ended July 31, 2022*

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Neuberger Berman	2.11	-4.35	-11.21	-11.16	-0.60	1.55	3.80	2/1/2016	163,821,700	
Custom Benchmark	3.68	-2.32	-9.91	-9.45	-0.14	1.81	4.20			

# Asset Allocation & Performance

## High Yield

Periods Ended July 31, 2022

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Oaktree Capital Management</b>	6.18	-0.71	-7.52	-6.07	2.29	2.60	6.18	2/1/1997	176,294,715	50.38
FTSE High Yield Cash Pay	6.07	-0.96	-8.57	-7.31	1.88	2.95	6.28			
<b>BlackRock</b>	6.05	-0.50	-7.57	-6.36	2.37	3.29	5.66	10/1/2006	173,605,424	49.62
FTSE High Yield Cash Pay	6.07	-0.96	-8.57	-7.31	1.88	2.95	6.01			
<b>High Yield Composite</b>	6.12	-0.61	-7.55	-6.22	2.34	2.95	6.00	1/1/1997	349,900,139	100.00
FTSE High Yield Cash Pay	6.07	-0.96	-8.57	-7.31	1.88	2.95	6.29			

# Asset Allocation & Performance

Cash

*Periods Ended July 31, 2022*

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Cash Account	0.05	0.14	0.20	0.22	0.58	1.10	3.07	1/1/1988	45,706,595	100.00
Managed Short Term Composite	0.05	0.14	0.20	0.22	0.58	1.10	2.73	1/1/1990	45,706,595	100.00

# At A Glance

For period ended June 30,2022

	2021		2022	
	This Month	YTD	This Month	YTD
<b>Retirements</b>				
Age	19	109	14	104
Service	0	13	2	8
Rule of 78	10	57	7	48
QDRO	0	0	1	2
Total	29	179	24	162
<b>Disability Retirements</b>				
Service	0	0	0	0
Non-service	0	3	0	0
Total	0	3	0	0
<b>Benefits Paid</b>	\$24,684,186.08	\$147,341,852.37	\$ 27,139,535.96	\$ 158,965,309.78
<b>Refunds</b>	\$1,164,497.84	\$4,827,711.78	\$ 1,054,792.68	\$ 5,805,335.79
<b>Number of refunds</b>	89	310	79	378
<b>*Contributions</b>	\$9,154,265.57	\$54,742,672.82	\$ 9,822,059.53	\$ 62,874,849.93

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	7,671	138	7,328	4,232	3,096
Mar	7,680	138	7,361	4,192	3,169
April	7,690	135	7,346	4,148	3,198
May	7,706	135	7,385	4,118	3,267
June	7,723	135	7,403	4,064	3,339
July					
Aug					
Sep					
Oct					
Nov					
Dec					

# At A Glance

For period ended July 31,2022

	2021		2022	
	This Month	YTD	This Month	YTD
<b>Retirements</b>				
Age	19	128	22	126
Service	0	13	1	9
Rule of 78	10	67	9	57
QDRO	1	1	0	2
Total	30	209	32	194
<b>Disability Retirements</b>				
Service	0	0	0	0
Non-service	0	3	0	0
Total	0	3	0	0
<b>Benefits Paid</b>	\$ 24,681,469.84	\$ 172,023,322.21	\$ 27,259,323.91	\$ 186,224,633.69
<b>Refunds</b>	\$ 1,213,584.31	\$ 6,041,296.09	\$ 948,072.41	\$ 6,753,408.20
<b>Number of refunds</b>	72	382	62	440
<b>*Contributions</b>	\$ 13,758,138.27	\$ 68,500,811.09	\$ 9,899,988.63	\$ 72,812,611.42

Members on record at month end				
	Retirees & beneficiaries	Disabilities	Actives	Tier B Actives
Jan	7,658	139	7,313	4,279
Feb	7,671	138	7,328	4,232
Mar	7,680	138	7,361	4,192
April	7,690	135	7,346	4,148
May	7,706	135	7,385	4,118
June	7,723	135	7,403	4,064
July	7,740	135	7,468	4,044
Aug				
Sep				
Oct				
Nov				
Dec				

# At A Glance

For period ended August 31, 2022

	2021		2022	
	This Month	YTD	This Month	YTD
<b>Retirements</b>				
Age	13	141	16	142
Service	1	14	2	11
Rule of 78	8	75	4	61
QDRO	1	2	0	2
Total	23	232	22	216
<b>Disability Retirements</b>				
Service	0	0	0	0
Non-service	0	3	0	0
Total	0	3	0	0
<b>Benefits Paid</b>	\$24,716,355.84	\$196,739,678.05	\$ 26,285,378.35	\$ 212,510,012.04
<b>Refunds</b>	\$882,680.81	\$6,923,976.90	\$ 1,196,549.09	\$ 7,949,957.29
<b>Number of refunds</b>	61	443	90	530
<b>*Contributions</b>	\$9,180,953.84	\$77,681,764.93	\$ 9,843,594.99	\$ 82,656,206.41

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	7,671	138	7,328	4,232	3,096
Mar	7,680	138	7,361	4,192	3,169
April	7,690	135	7,346	4,148	3,198
May	7,706	135	7,385	4,118	3,267
June	7,723	135	7,403	4,064	3,339
July	7,740	135	7,468	4,044	3,424
Aug	7,741	135	7,465	4,008	3,457
Sep					
Oct					
Nov					
Dec					