



Numbers in Context

2nd Quarter, 2021

Wilshire



Market Commentary

U.S. Equity

The U.S. stock market, represented by the Wilshire 5000 Total Market IndexSM, was up 8.4% for the second quarter. Nearly all eleven sectors were in positive territory, with Energy (+12.8%) and Communication Services (+12.1%) representing the best performing sectors. From a size perspective, large-cap outperformed small-cap while style-based results were mixed as large-growth outperformed value while growth underperformed within the small-cap space.

Inflation continues to accelerate in 2021, and it is unclear as to whether this is the beginning of a persistent trend or one effect of a rapidly reopening economy. U.S. CPI is up 6.5% (annualized) YTD through May, largely due to a spike in energy prices, with oil up more than 50%. Fed Chair Jerome Powell believes that price increases will wane, saying that current pressure points “don’t speak to a broadly tight economy.”

Non-U.S. Equity

Economic conditions are rapidly improving in the U.K., led by the services sector as retail and hospitality businesses are benefitting from an economy that has almost totally reopened. Conditions in Germany, Europe’s largest economy, are also improving as pandemic-related restrictions are being lifted.

Fixed Income

The U.S. Treasury yield curve flattened during the quarter with yields beyond a 3-year maturity falling and shorter-term rates generally rising. The 10-year Treasury yield ended the quarter at 1.47%, down 27 basis points from March. The Federal Open Market Committee (FOMC) recently opened the conversation on possible tapering of bond purchases and their median forecast for the future overnight rate moved from no change to a 0.5% increase – albeit in 2023. However, Chair Jerome Powell indicated that the Fed would not raise rates “preemptively” on possible inflation fears.

June 2021 Asset Class Assumptions

	Equity						Fixed Income						Real Assets					
	U.S. STOCK	DEV EX-U.S. STOCK	EMG. MKT. STOCK	GLOBAL EX-U.S. STOCK	GLOBAL STOCK	PRIVATE EQUITY	CASH	CORE BOND	LT CORE BOND	U.S. TIPS	HIGH YIELD	NON-U.S. BOND (HDG)	U.S. REAL ESTATE SECS	GLOBAL REAL ESTATE SECS	PRIVATE REAL ESTATE	CMDTY	REAL ASSETS	U.S. CPI
Compound Return (%)	4.75	5.75	5.75	6.00	5.40	7.80	1.40	1.85	2.25	1.45	3.50	0.70	4.70	4.85	6.20	3.85	5.75	2.45
Arithmetic Return (%)	6.10	7.25	8.75	7.65	6.75	11.15	1.40	1.95	2.65	1.65	4.00	0.80	6.05	6.00	7.10	4.90	6.25	2.45
Expected Risk (%)	17.00	18.00	26.00	19.15	17.15	28.00	0.75	4.30	8.85	6.00	10.00	4.30	17.00	15.85	14.00	15.00	10.15	1.75
Cash Yield (%)	1.50	2.25	1.75	2.10	1.75	0.00	1.40	3.05	3.50	2.35	7.50	1.85	2.85	2.85	2.20	1.40	1.95	0.00
Growth Exposure	8.00	8.00	8.00	8.00	8.00	13.50	0.00	-0.80	-2.10	-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	1.55	-1.10	-3.80	0.00	-2.45	-6.55	2.50	-1.00	-3.00	1.00	1.95	1.00	12.00	4.90	1.00
Correlations																		
US Stock	1.00																	
Dev ex-US Stock (USD)	0.81	1.00																
Emerging Mkt Stock	0.74	0.74	1.00															
Global ex-US Stock	0.83	0.96	0.87	1.00														
Global Stock	0.95	0.92	0.83	0.94	1.00													
Private Equity	0.74	0.64	0.62	0.67	0.74	1.00												
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.07	0.00	1.00											
Core Bond	0.28	0.13	0.00	0.09	0.20	0.31	0.19	1.00										
LT Core Bond	0.31	0.16	0.01	0.12	0.23	0.32	0.11	0.92	1.00									
TIPS	-0.05	0.00	0.15	0.05	0.00	-0.03	0.20	0.59	0.47	1.00								
High Yield Bond	0.54	0.39	0.49	0.45	0.51	0.34	-0.10	0.25	0.32	0.05	1.00							
Dev ex-US Bond (Hdg)	0.16	0.25	-0.01	0.17	0.18	0.26	0.10	0.66	0.65	0.39	0.26	1.00						
US RE Securities	0.58	0.47	0.44	0.49	0.56	0.50	-0.05	0.17	0.23	0.10	0.56	0.05	1.00					
Global RE Securities	0.64	0.58	0.56	0.61	0.65	0.58	-0.05	0.17	0.22	0.11	0.61	0.03	0.96	1.00				
Private Real Estate	0.54	0.44	0.44	0.47	0.52	0.51	-0.05	0.19	0.25	0.09	0.57	0.05	0.77	0.75	1.00			
Commodities	0.25	0.34	0.39	0.38	0.32	0.27	0.00	-0.02	-0.02	0.25	0.29	-0.10	0.25	0.28	0.25	1.00		
Real Assets	0.48	0.51	0.58	0.57	0.54	0.47	-0.02	0.23	0.25	0.39	0.56	0.05	0.70	0.75	0.70	0.65	1.00	
Inflation (CPI)	-0.10	-0.15	-0.13	-0.15	-0.13	-0.10	0.10	-0.12	-0.12	0.15	-0.08	-0.08	0.05	0.03	0.05	0.44	0.26	1.00

Yield / Inflation Environment

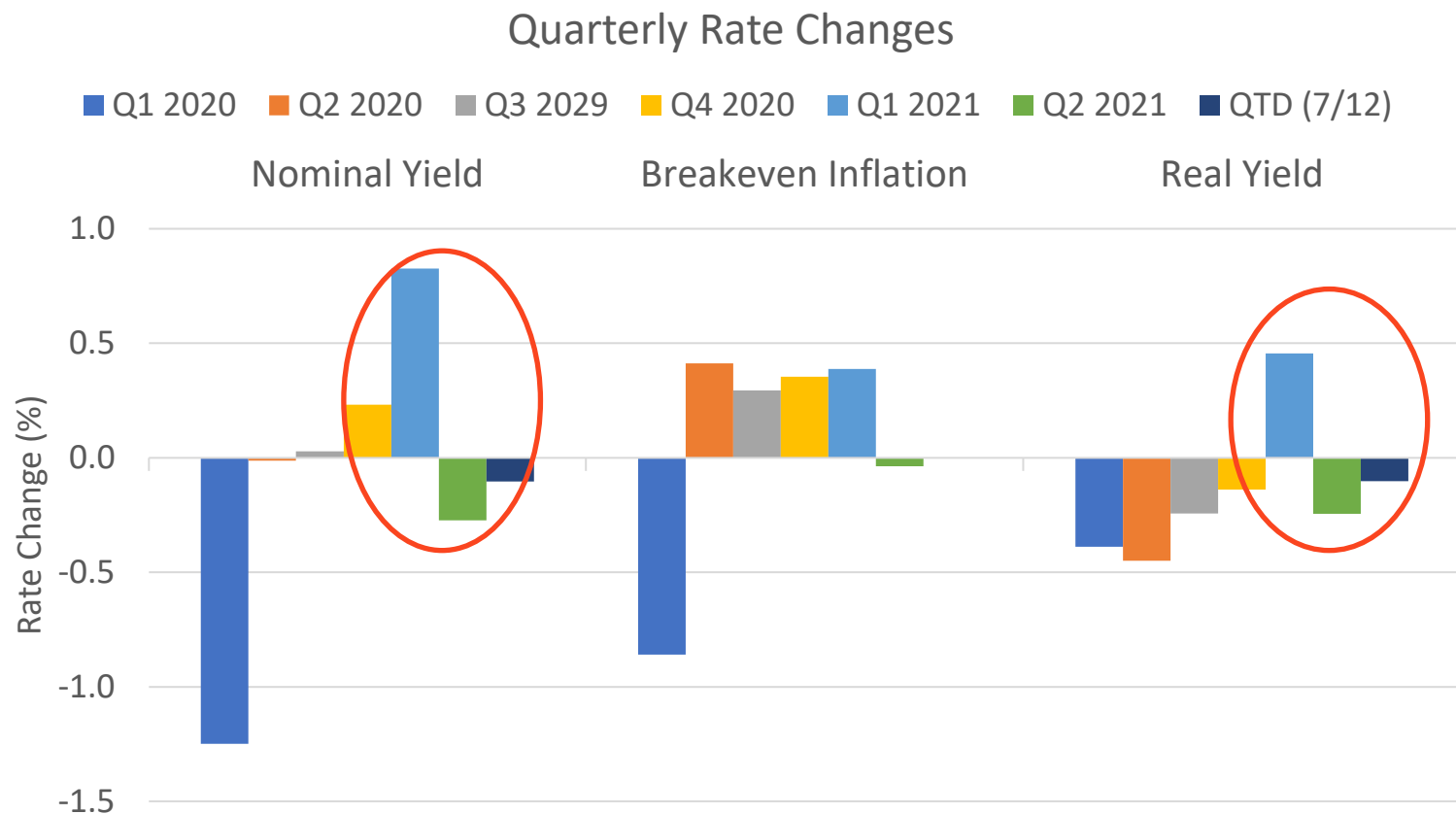


USGG10YR Index (US Generic Govt 10 Yr) 10yr Intraday Daily 31DEC2020-13JUL2021 Copyright© 2021 Bloomberg Finance L.P. 13-Jul-2021 05:40:01

Data Source: Bloomberg

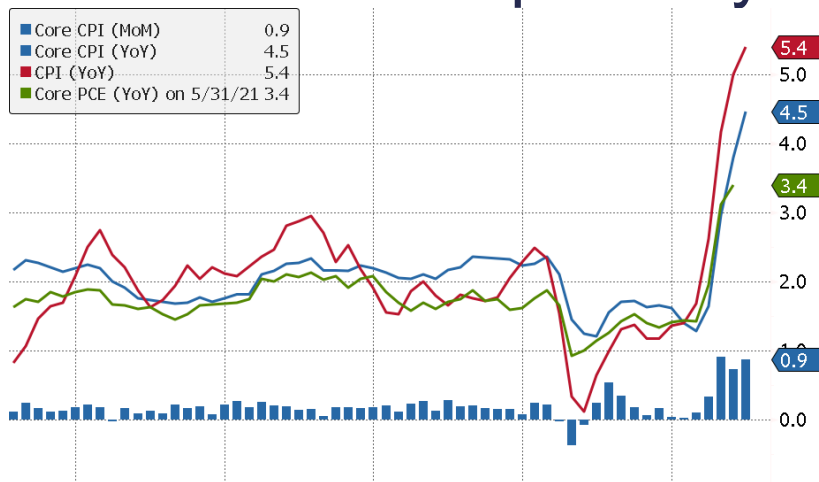
Rate Change Attribution

Reversal in Q1 rise in real yields, while BE inflation rate moderates...

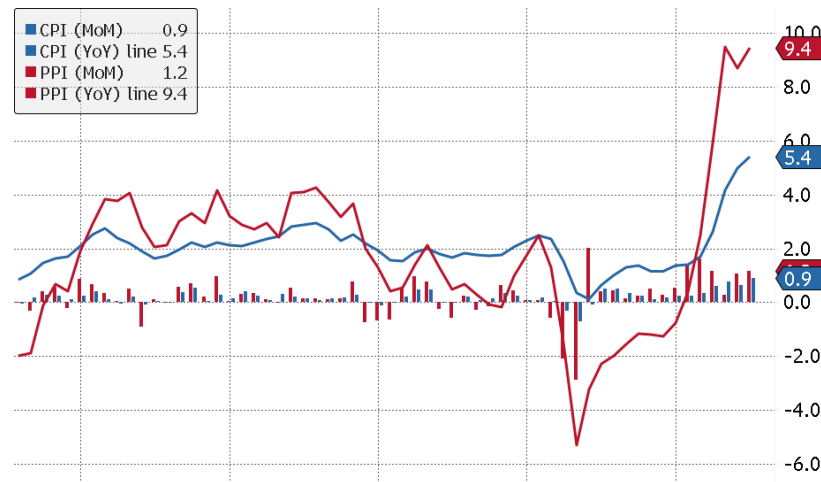


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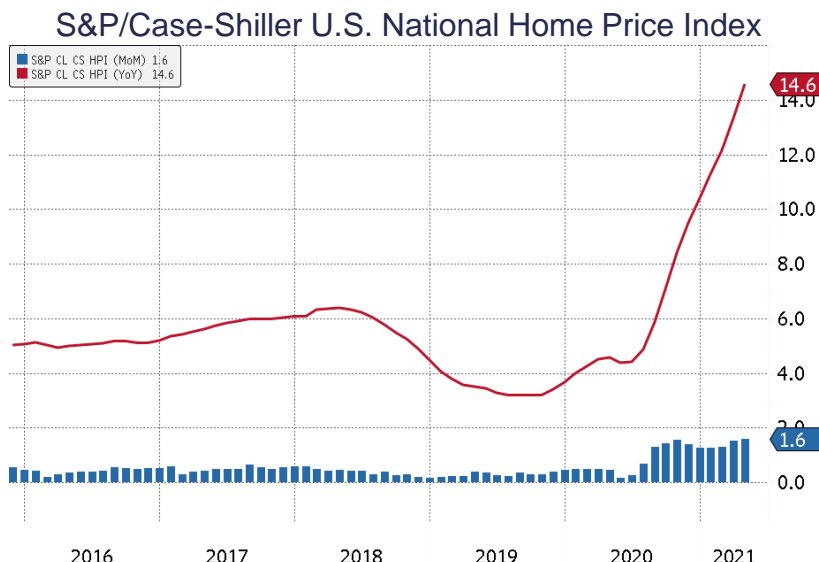
Inflation in most places you look...



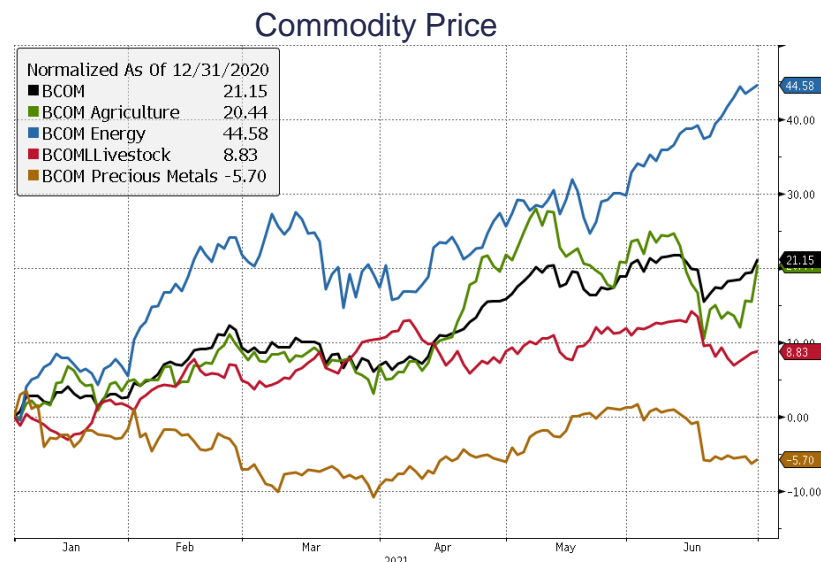
CPUPXCHG Index (US CPI Urban Consumers Less Food & Energy MoM SA) CPI & PCE Mon Copyright© 2021 Bloomberg Finance L.P. 13-Jul-2021 05:44:21



CPI CHNG Index (US CPI Urban Consumers MoM SA) CPI & PPI Monthly 14JUL2016-15JU Copyright© 2021 Bloomberg Finance L.P. 14-Jul-2021 16:02:46



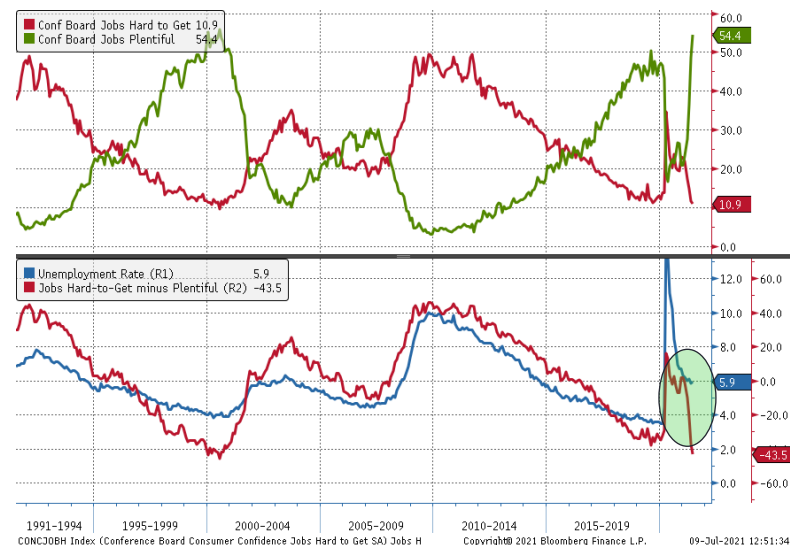
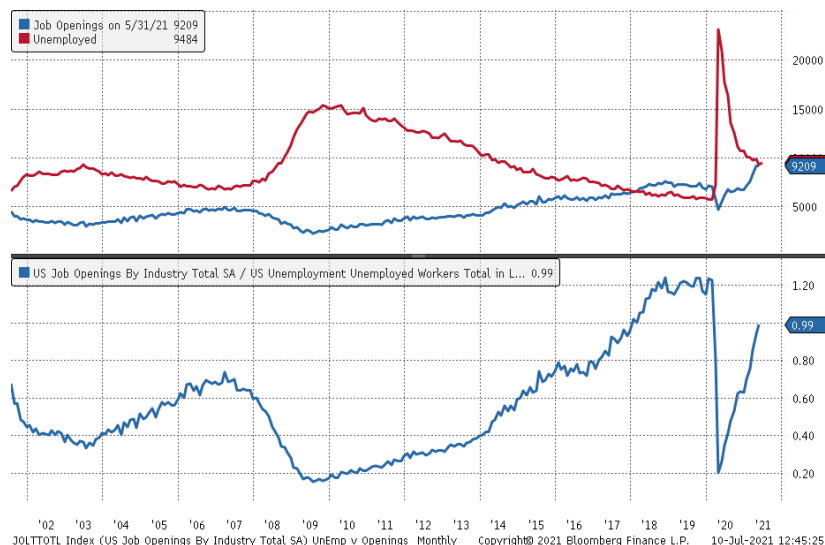
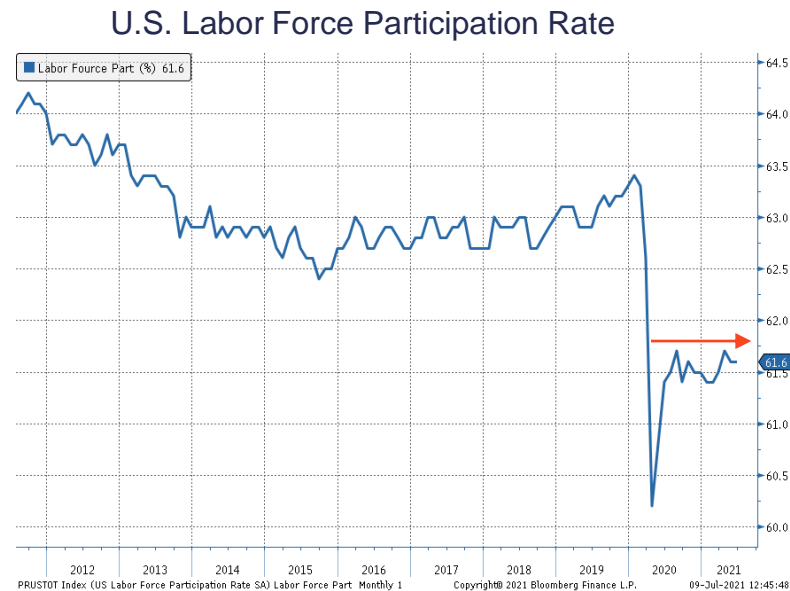
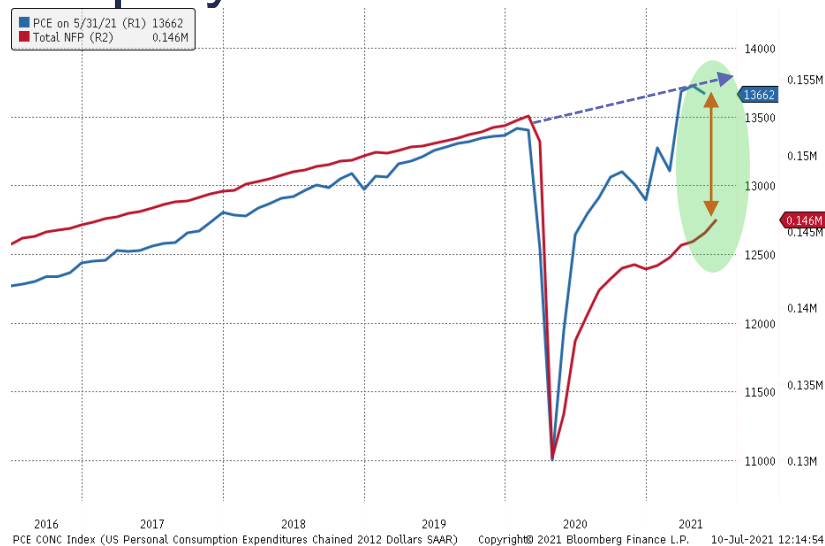
SPCS20SY Index (S&P CoreLogic Case-Shiller 20-City Composite Home Price SA Index Copyright© 2021 Bloomberg Finance L.P. 09-Jul-2021 11:32:25



BCOMTR Index (Bloomberg Commodity Index Total Return) BCOM Daily 31DEC2020-30JU Copyright© 2021 Bloomberg Finance L.P. 09-Jul-2021 12:03:51

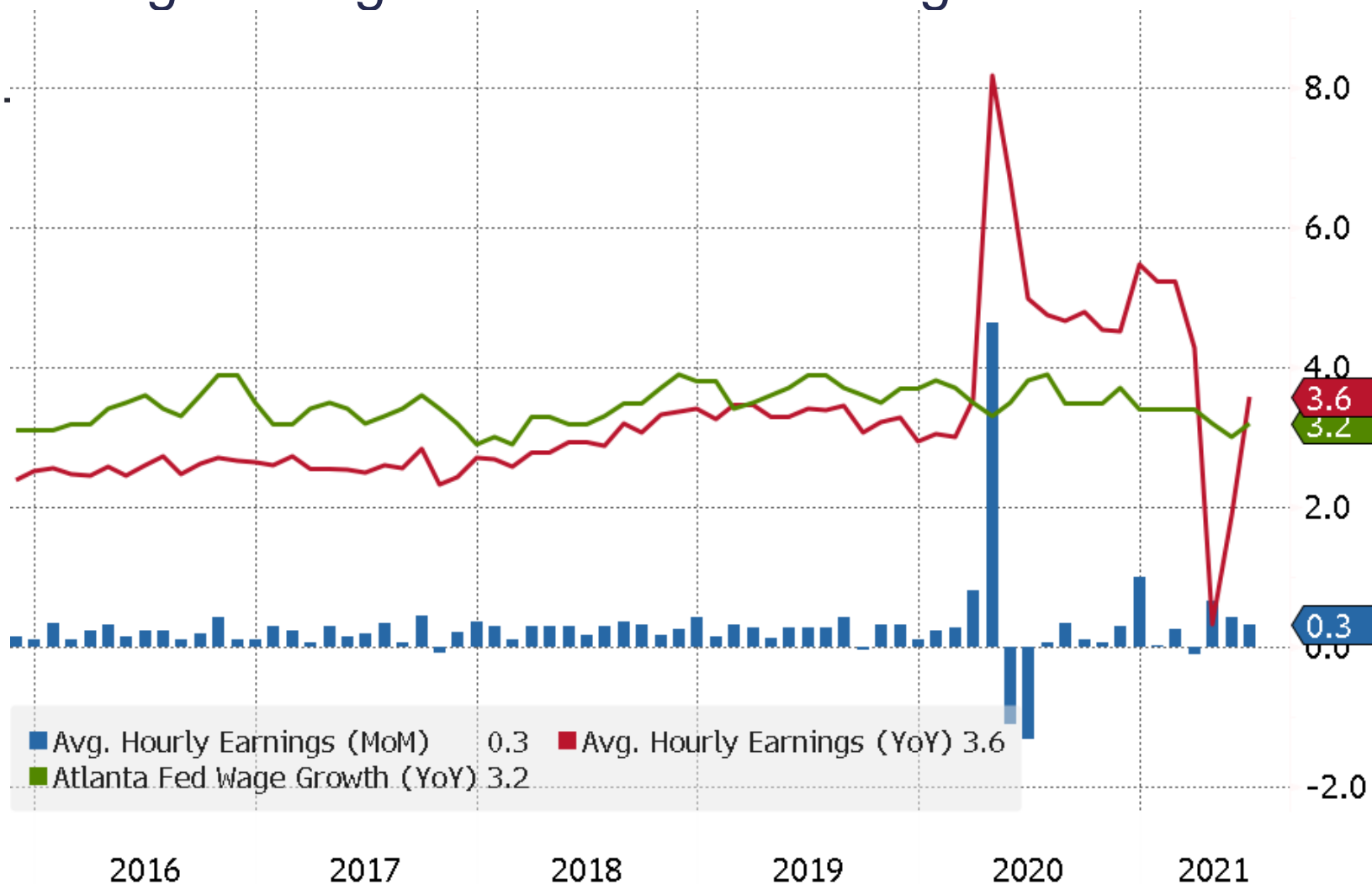
Data Source: Bloomberg

Employment Conditions



Data Source: Bloomberg

Will higher wages be needed to bridge the divide?



AHE MOM% Index (US Average Hourly Earnings All Employees Total Private Monthly P Copyright© 2021 Bloomberg Finance L.P. 13-Jul-2021 07:23:20

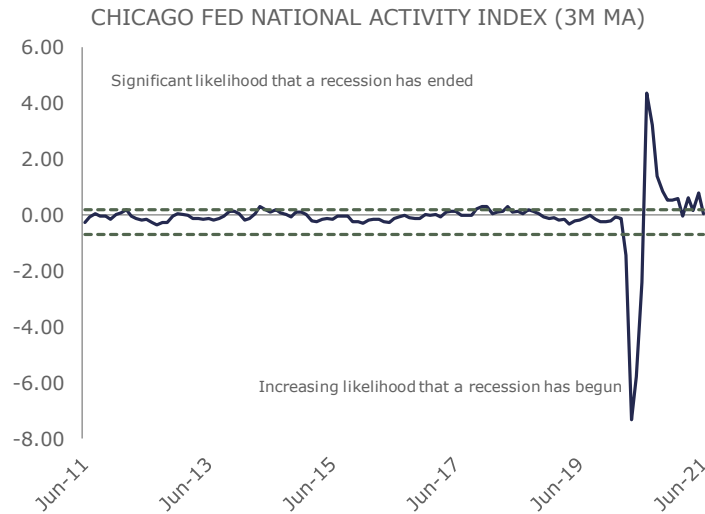
Data Source: Bloomberg



Economic/Market Activity

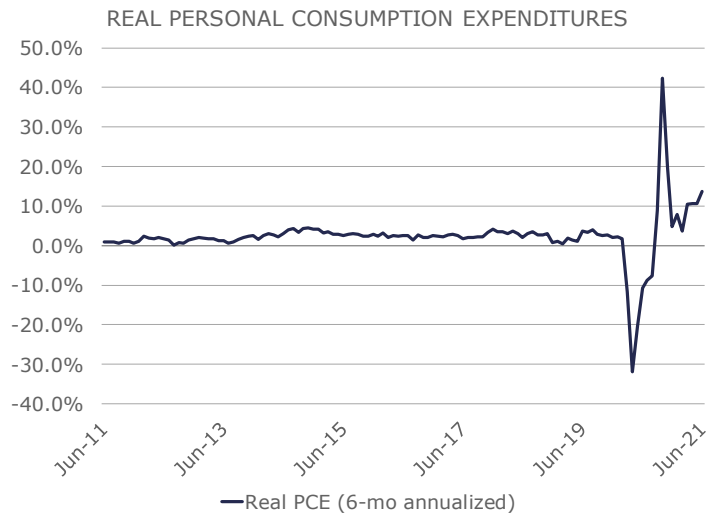
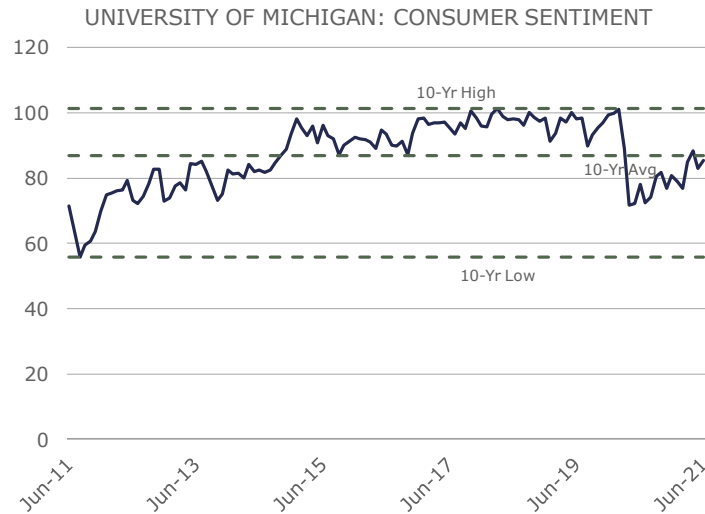
Wilshire

Economic Growth



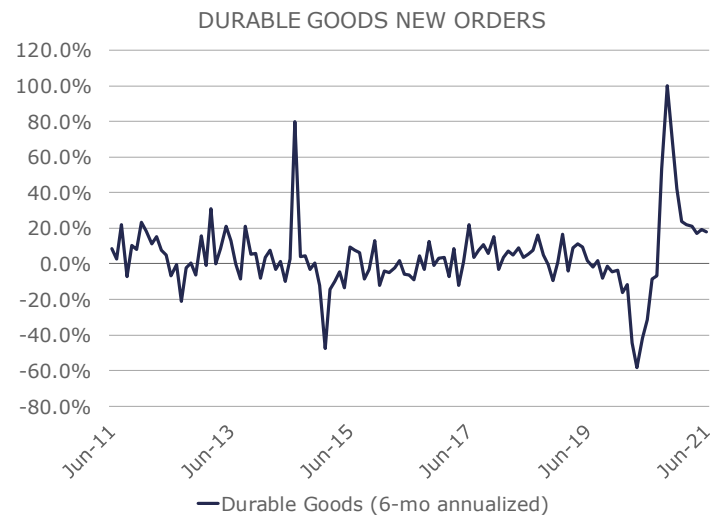
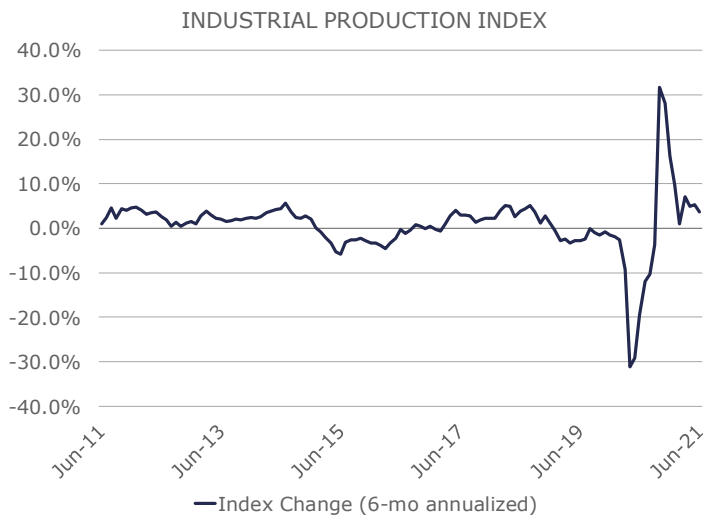
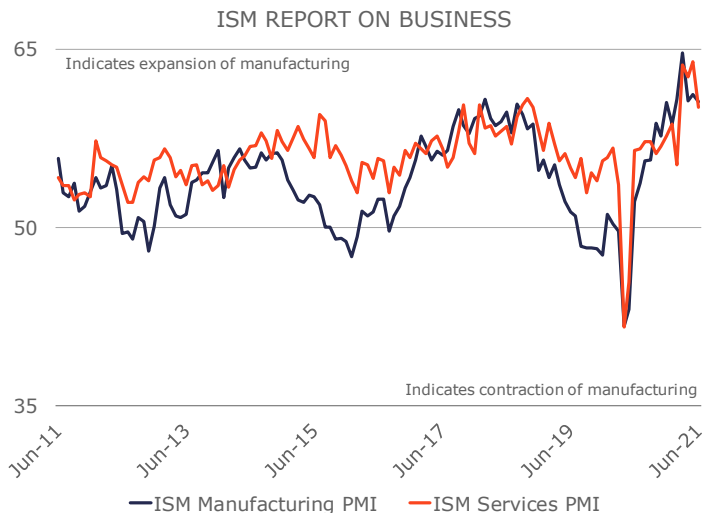
Data Sources: Bloomberg

Consumer Activity



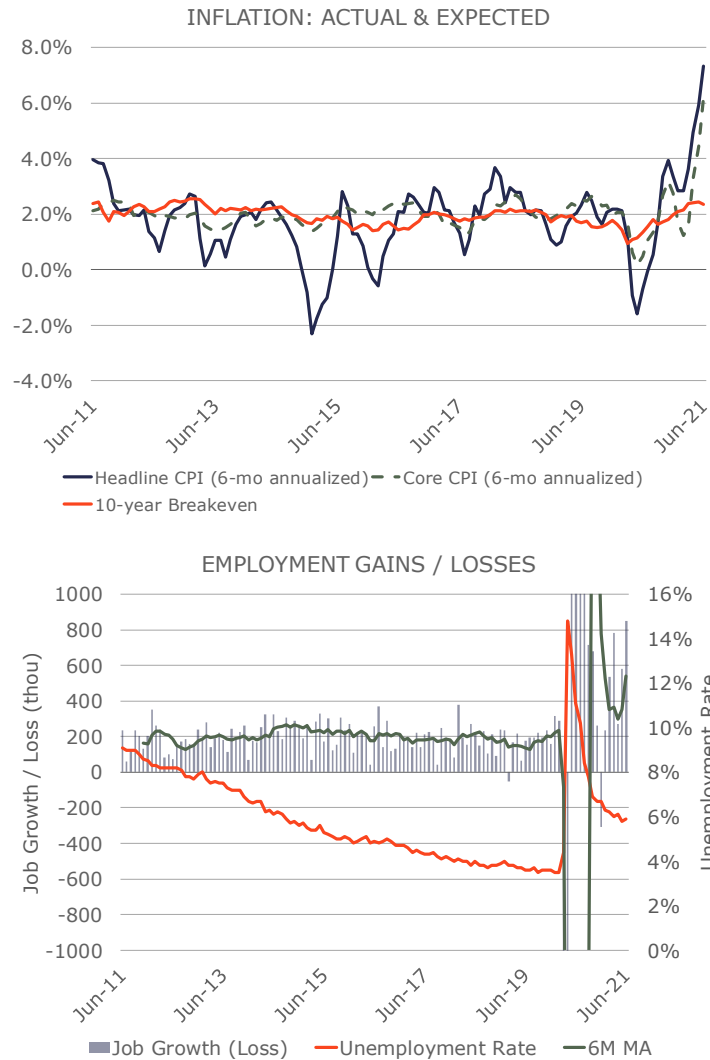
Data Sources: Bloomberg

Business Activity



Data Sources: Bloomberg

Inflation and Employment

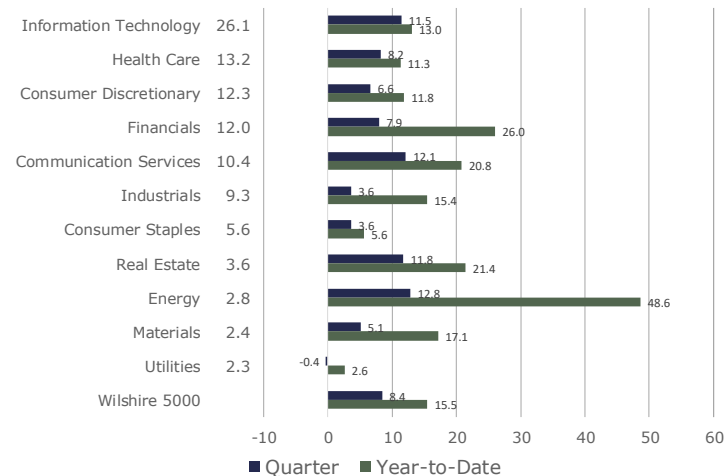


Data Sources: Bloomberg

U.S. Equity Market

AS OF 6/30/2021	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Wilshire 5000 Index	8.4	15.5	44.2	18.9	18.0	14.8
Wilshire U.S. Large Cap	8.8	15.1	42.7	19.5	18.2	15.0
Wilshire U.S. Small Cap	4.8	18.9	62.0	13.6	15.8	12.7
Wilshire U.S. Large Growth	11.9	14.1	46.3	23.9	23.3	17.3
Wilshire U.S. Large Value	5.1	15.4	37.7	14.5	13.0	12.5
Wilshire U.S. Small Growth	3.2	12.4	56.2	16.5	19.1	13.5
Wilshire U.S. Small Value	6.2	25.6	67.7	10.8	12.4	11.7
Wilshire REIT Index	12.8	22.8	37.5	10.1	6.4	9.4
MSCI USA Min. Vol. Index	6.8	9.3	23.6	13.9	12.1	13.4
FTSE RAFI U.S. 1000 Index	6.4	21.7	51.2	15.4	14.9	13.3

U.S. SECTOR WEIGHT AND RETURN (%)



LARGE CAP VS SMALL CAP



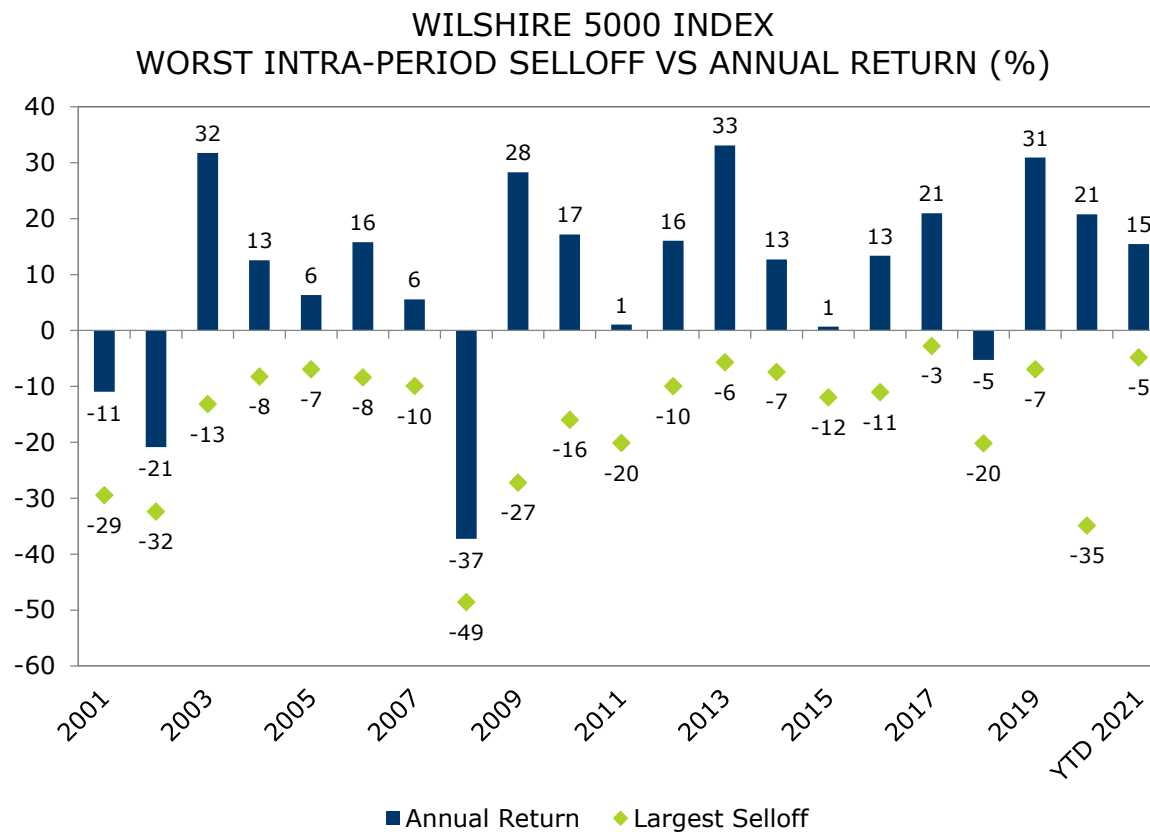
LARGE GROWTH VS LARGE VALUE



Data Sources: Bloomberg, Wilshire Atlas

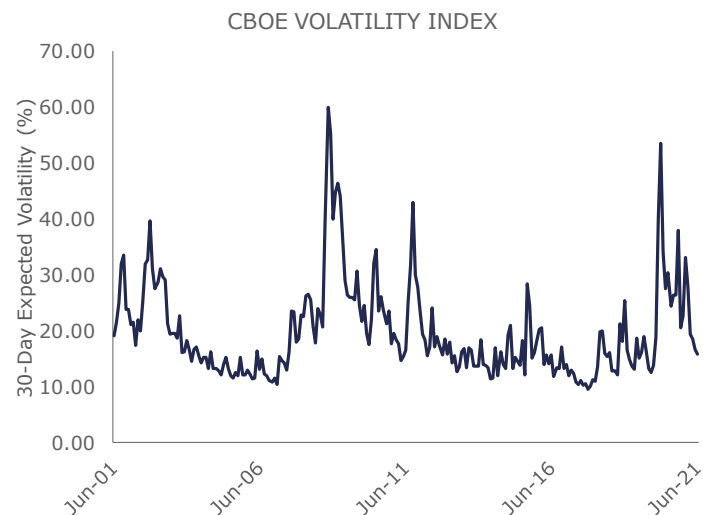
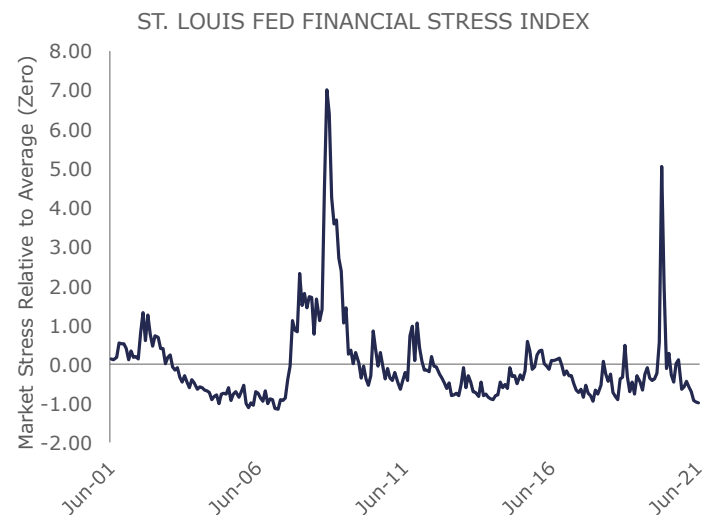
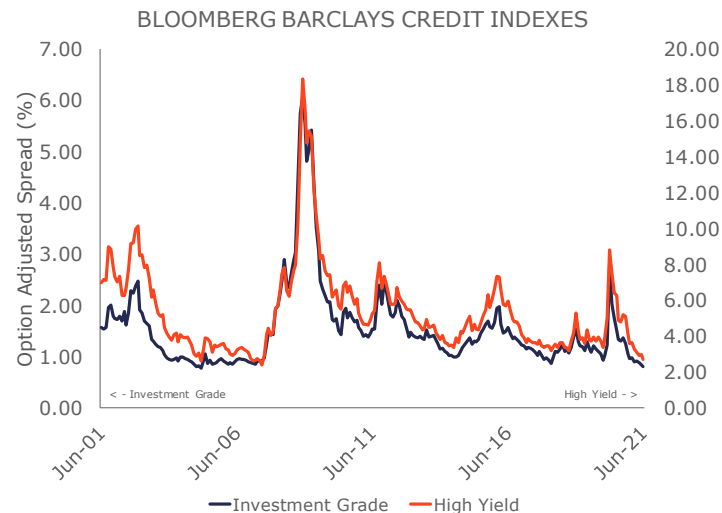
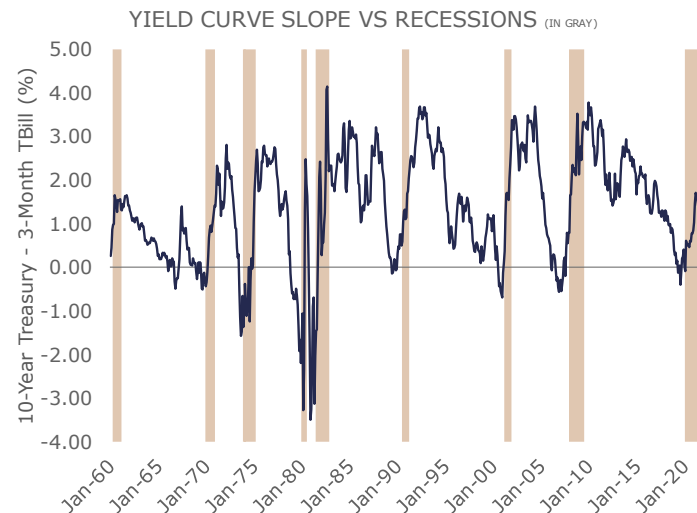
Annual Returns

U.S. Equity enjoyed a banner first half with a relatively minor sell-off



Data Sources: Wilshire, Bloomberg

Risk Monitor

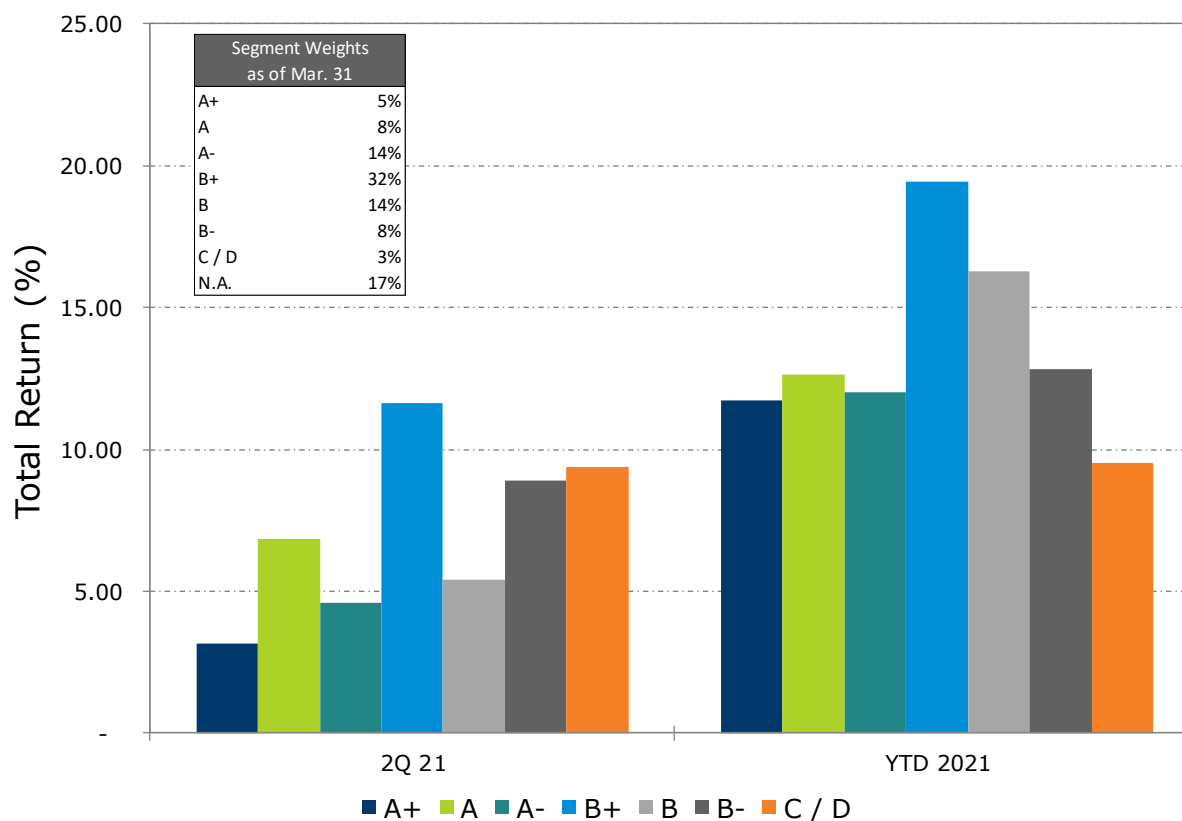


Data Sources: Bloomberg

Returns by Quality Segment

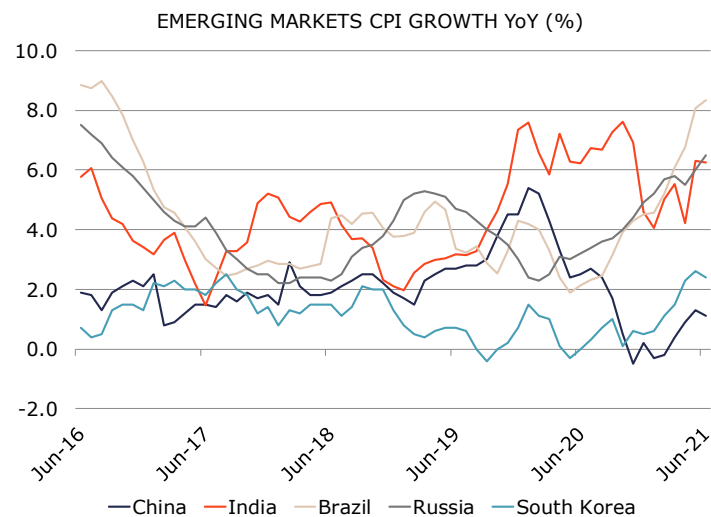
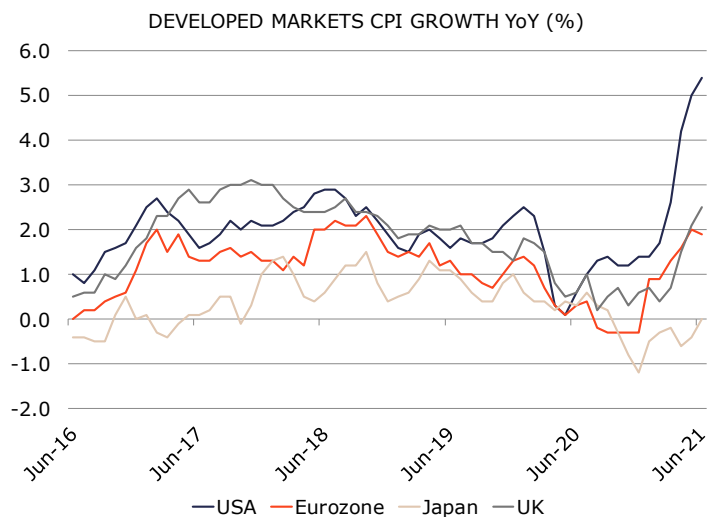
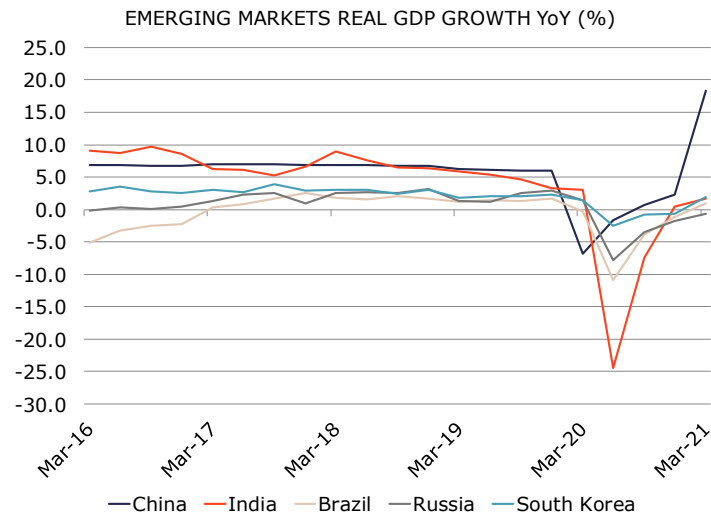
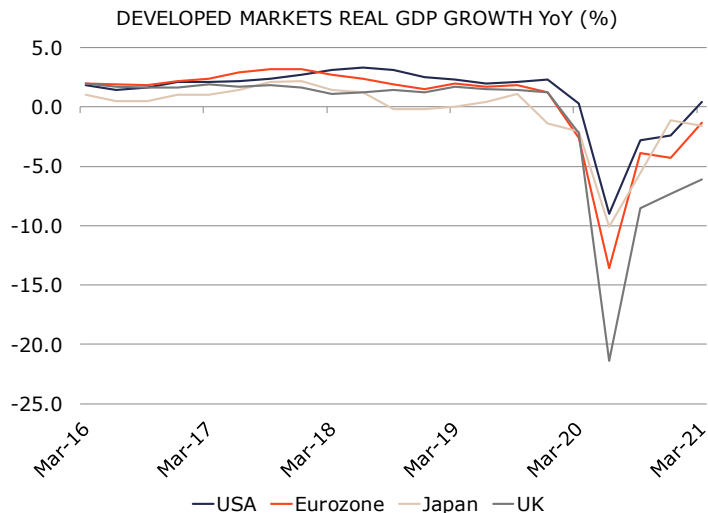
Mid-tier quality names are leading gains so far this year, which also represents the largest portion of the U.S. Equity market

RETURN BY S&P QUALITY RATING



Data Sources: Wilshire Atlas

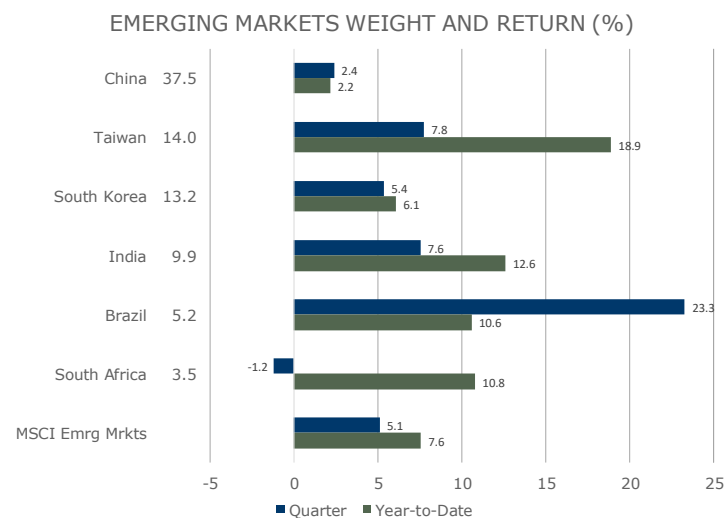
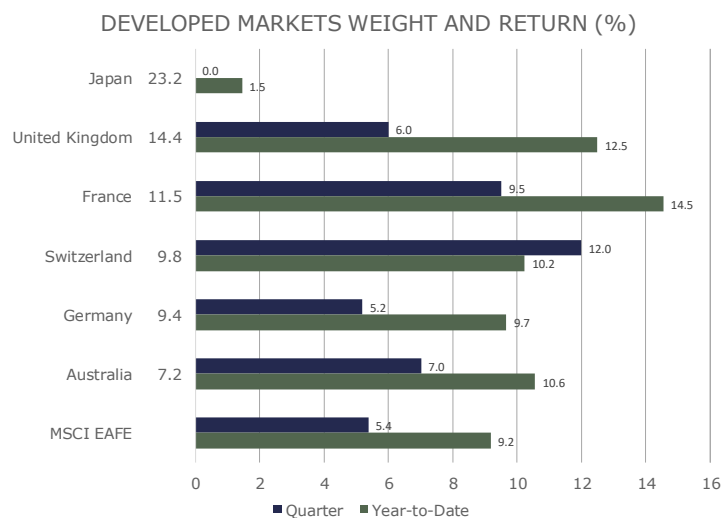
Non-U.S. Growth and Inflation



Data Sources: Bloomberg

Non-U.S. Equity Market

AS OF 6/30/2021	QTR	YTD	1 YR	3 YR	5 YR	10 YR
MSCI ACWI ex-US (\$G)	5.6	9.4	36.3	9.9	11.6	5.9
MSCI EAFE (\$G)	5.4	9.2	32.9	8.8	10.8	6.4
MSCI Emerging Markets (\$G)	5.1	7.6	41.4	11.7	13.4	4.7
MSCI Frontier Markets (\$G)	7.3	0.8	23.7	2.1	3.5	2.6
MSCI ACWI ex-US Growth (\$G)	6.7	6.7	34.1	13.6	13.8	7.6
MSCI ACWI ex-US Value (\$G)	4.7	12.4	39.8	6.1	9.4	4.4
MSCI ACWI ex-US Small (\$G)	6.5	12.5	47.6	10.2	12.4	7.4
MSCI ACWI Minimum Volatility	5.4	7.4	20.0	10.2	9.1	9.9
MSCI EAFE Minimum Volatility	5.2	4.7	17.0	5.4	6.5	7.0
FTSE RAFI Developed ex-US	4.8	13.8	42.3	7.0	10.4	5.0
MSCI EAFE LC (G)	5.0	13.1	27.6	8.0	10.5	8.6
MSCI Emerging Markets LC (G)	3.9	8.1	36.5	12.4	14.0	8.0

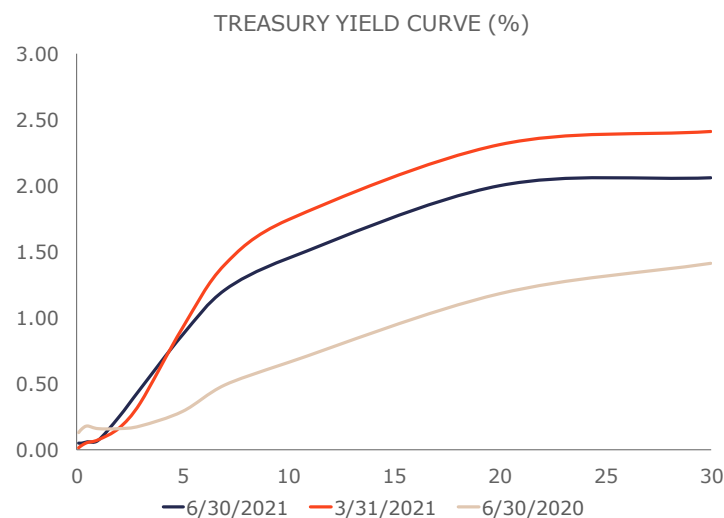
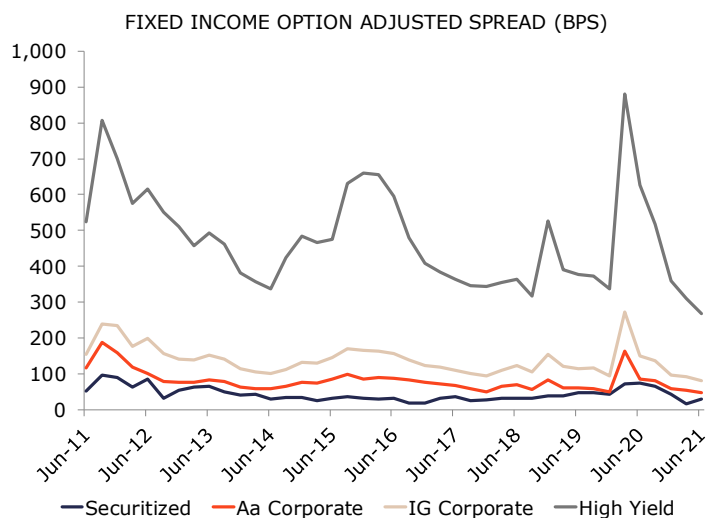


Data Sources: Bloomberg

U.S. Fixed Income

AS OF 6/30/2021	YTW	DUR.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Barclays Aggregate	1.5	6.6	1.8	-1.6	-0.3	5.3	3.0	3.4
Bloomberg Barclays Treasury	0.9	7.0	1.7	-2.6	-3.2	4.7	2.2	2.8
Bloomberg Barclays Gov't-Rel.	1.4	6.2	1.7	-1.2	0.8	5.1	3.0	3.2
Bloomberg Barclays Securitized	1.7	4.2	0.4	-0.7	-0.2	3.9	2.4	2.7
Bloomberg Barclays Corporate	2.0	8.7	3.5	-1.3	3.3	7.8	4.9	5.2
Bloomberg Barclays LT Gov't/Credit	2.7	16.6	6.4	-4.6	-1.9	9.9	5.4	7.3
Bloomberg Barclays LT Treasury	2.0	18.8	6.5	-7.9	-10.6	8.0	3.1	6.7
Bloomberg Barclays LT Gov't-Rel.	3.1	13.8	5.0	-2.8	2.1	8.3	5.0	6.7
Bloomberg Barclays LT Corporate	3.1	15.4	6.6	-2.4	4.5	11.1	6.9	7.7
Bloomberg Barclays U.S. TIPS *	1.4	8.1	3.2	1.7	6.5	6.5	4.2	3.4
Bloomberg Barclays High Yield	3.7	3.8	2.7	3.6	15.4	7.4	7.5	6.7
Treasury Bills	0.0	0.3	0.0	0.0	0.1	1.4	1.2	0.7

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



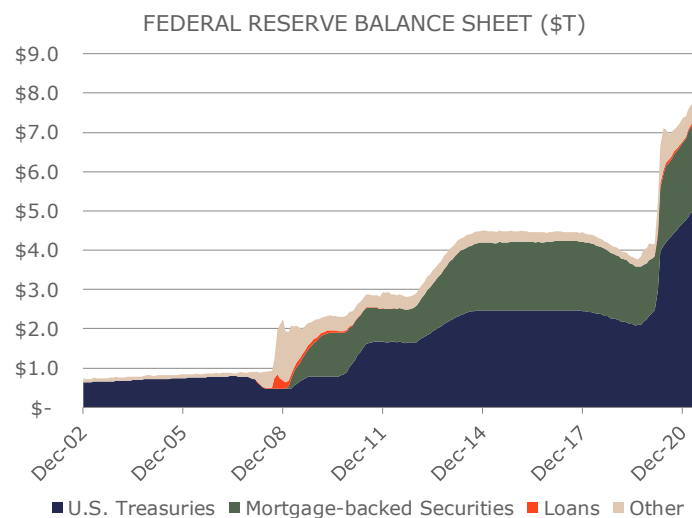
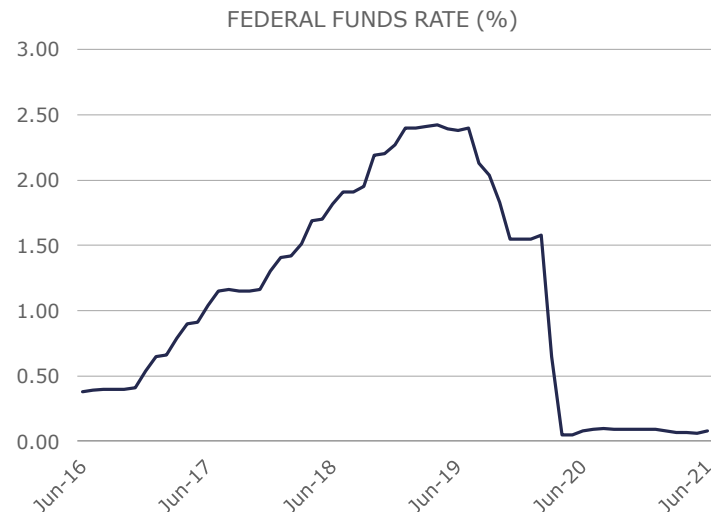
Data Sources: Bloomberg

Federal Reserve

- **Current FOMC expectation for the Fed-funds rate is to remain near zero through 2022**
- **Federal Reserve has added nearly \$4 trillion in assets to their balance sheet during the past year**
- **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		\$3,943

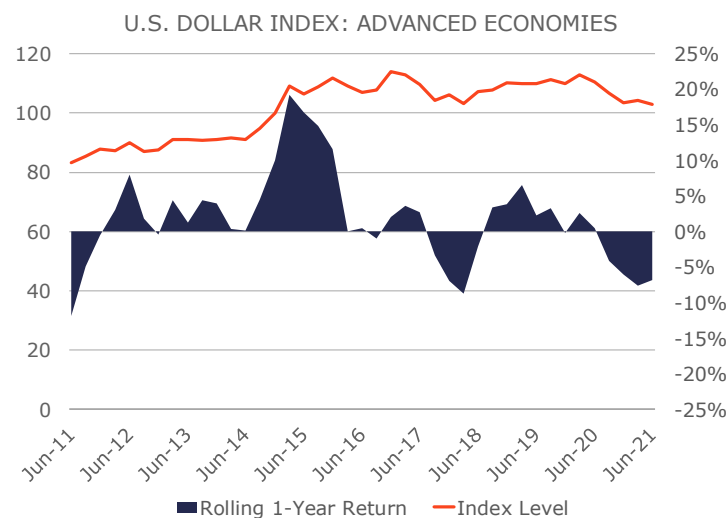
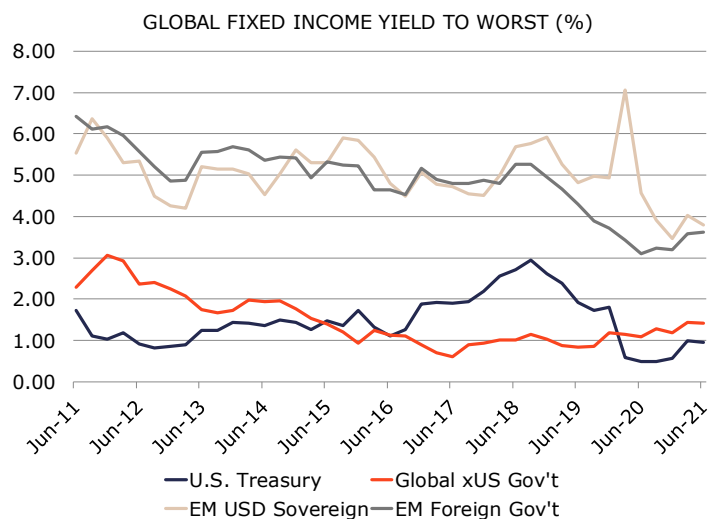
Data Sources: Bloomberg



Non-U.S. Fixed Income

AS OF 6/30/2021	QTR	YTD	1 YR	3 YR	5 YR	10 YR
DEVELOPED MARKETS						
Blmbrg Brclys Global Aggregate xUS	0.9	-4.4	4.6	3.1	1.6	1.0
Blmbrg Brclys Global Aggregate xUS *	0.3	-1.6	0.0	3.8	2.8	4.1
Blmbrg Brclys Global Inflation Linked xUS	2.7	-2.1	8.9	5.0	4.3	3.2
Blmbrg Brclys Global Inflation Linked xUS *	2.4	-1.0	0.6	5.3	4.8	5.7
EMERGING MARKETS (HARD CURRENCY)						
Blmbrg Brclys EM USD Aggregate	3.0	-0.6	6.3	6.7	4.9	5.4
EMERGING MARKETS (FOREIGN CURRENCY)						
Blmbrg Brclys EM Local Currency Gov't	2.9	-1.0	8.0	5.3	3.8	1.9
Blmbrg Brclys EM Local Currency Gov't *	0.7	-1.3	-1.0	4.5	2.9	3.2
Euro vs. Dollar	1.1	-2.9	5.6	0.5	1.3	-2.0
Yen vs. Dollar	-0.4	-7.1	-2.9	-0.1	-1.5	-3.2
Pound vs. Dollar	0.3	1.2	11.5	1.6	0.8	-1.5

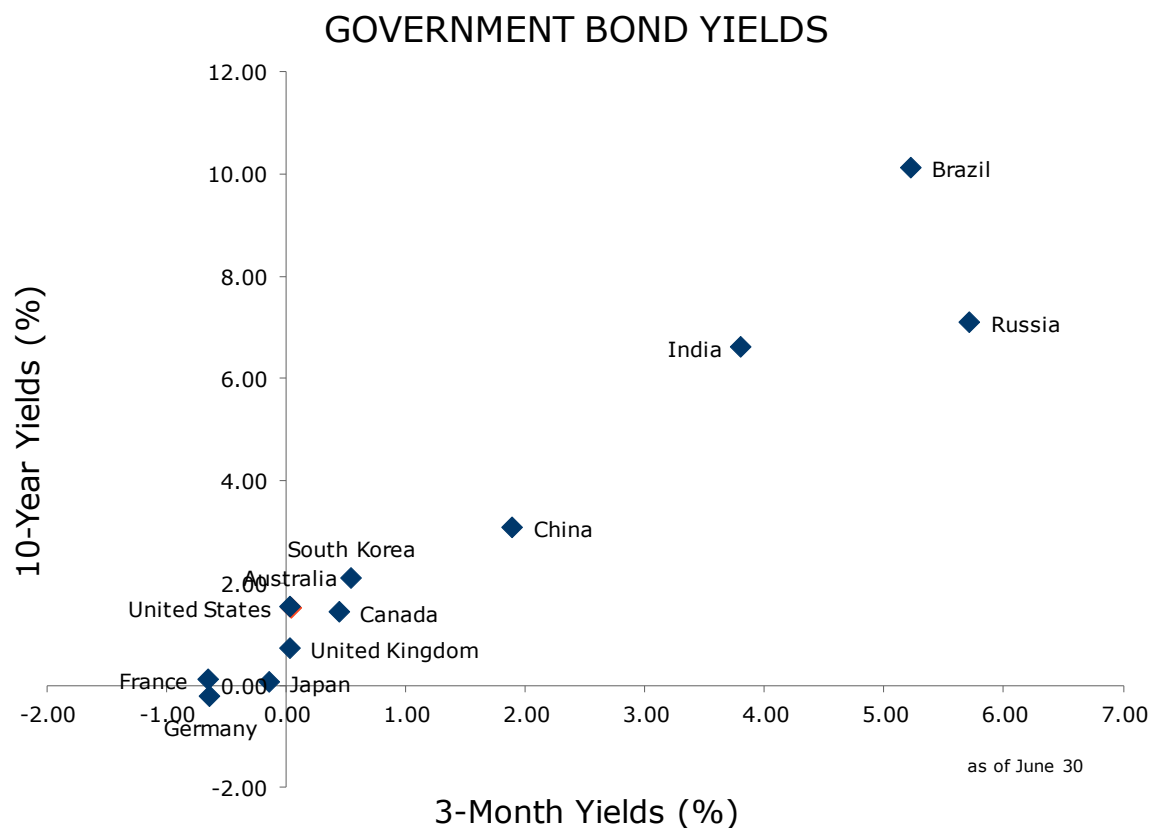
* Returns are reported in terms of local market investors, which removes currency effects.



Data Sources: Bloomberg

Global Interest Rates

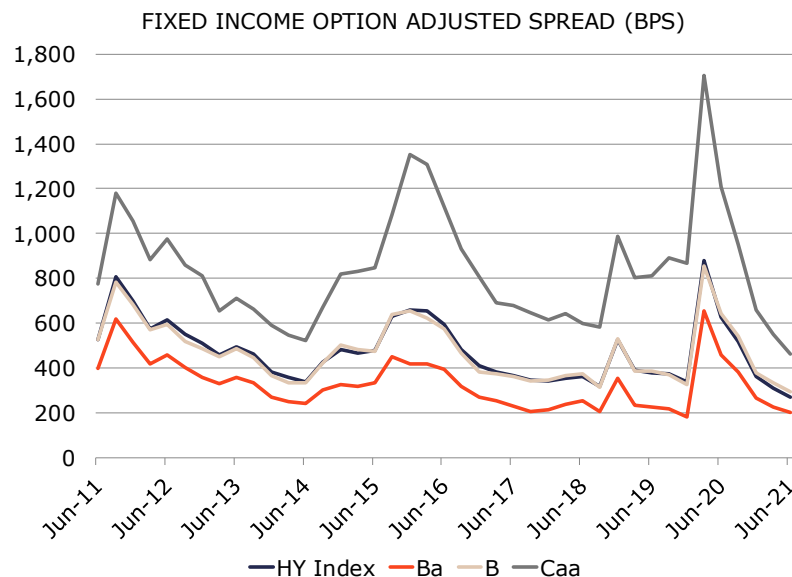
Negative rates found in Germany and France; low but positive rates, and at similar levels, in the U.S. and Australia while the U.K. approaches zero



Data Sources: Bloomberg

High Yield Bond Market

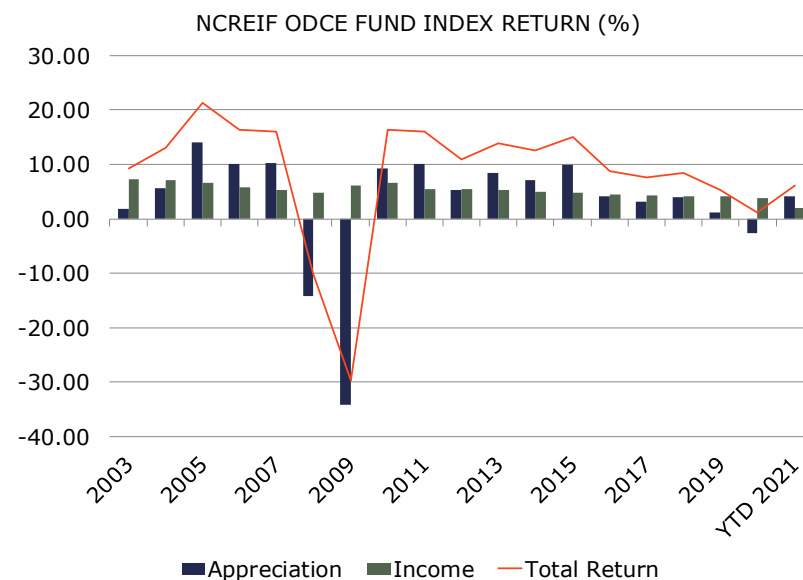
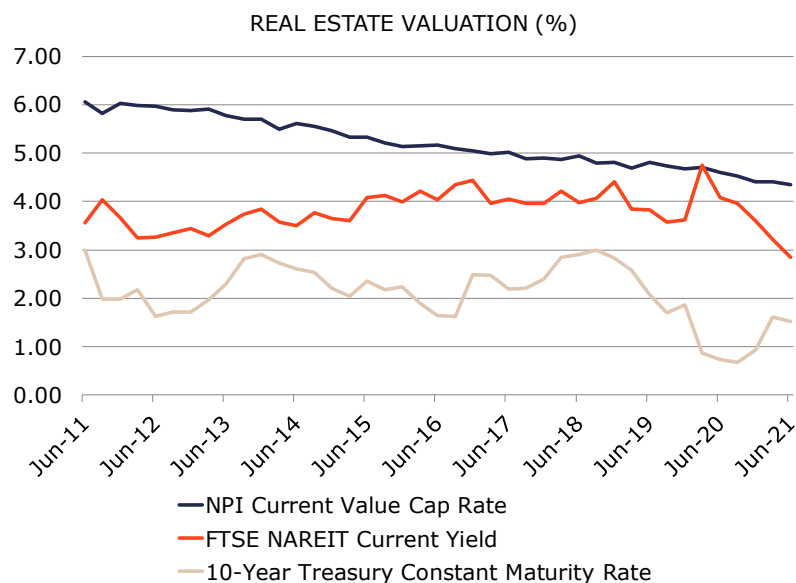
AS OF 6/30/2021		YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Barclays High Yield		3.7	2.7	3.6	15.4	7.4	7.5	6.7
S&P LSTA Leveraged Loan		3.7	1.1	2.2	9.4	4.3	4.7	4.1
HIGH YIELD QUALITY DISTRIBUTION		WEIGHT						
Ba U.S. High Yield	54.3%	3.0	2.9	2.7	12.9	9.1	7.5	7.0
B U.S. High Yield	33.0%	4.1	2.2	3.3	14.3	6.7	7.1	6.2
Caa U.S. High Yield	12.4%	5.6	3.5	7.2	26.5	3.8	7.6	6.5
Ca to D U.S. High Yield	0.4%	16.0	12.5	28.9	84.4	2.3	14.2	-2.0
Non-Rated U.S. High Yield	0.0%	0.0	0.0	0.0	0.0	-0.3	1.8	2.8



Data Sources: Bloomberg

Real Assets

AS OF 6/30/2021	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Barclays U.S. TIPS	3.2	1.7	6.5	6.5	4.2	3.4
Bloomberg Commodity Index	13.3	21.1	45.6	3.9	2.4	-4.4
Bloomberg Gold Index	3.2	-7.0	-3.9	10.6	4.8	0.8
Wilshire Global RESI Index	10.7	18.1	35.6	8.1	6.1	8.0
NCREIF ODCE Fund Index	3.9	6.1	8.0	5.5	6.6	9.6
NCREIF Timberland Index	1.7	2.5	3.1	2.1	2.7	4.7
Alerian Midstream Energy	16.4	40.7	53.2	4.9	4.3	n.a.



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

Asset Class Performance

ASSET CLASS RETURNS - BEST TO WORST						ANNUALIZED 5-YEAR AS OF 6/21
2016	2017	2018	2019	2020	2021 YTD	
MLPs 18.3%	Emrg Mkts 37.7%	T-Bills 1.9%	U.S. Equity 31.0%	U.S. Equity 20.8%	Midstream 40.7%	U.S. Equity 18.0%
High Yield 17.1%	Developed 25.6%	Core Bond 0.0%	REITs 25.8%	Emrg Mkts 18.7%	REITs 22.8%	Emrg Mkts 13.4%
U.S. Equity 13.4%	U.S. Equity 21.0%	U.S. TIPS -1.3%	Developed 22.7%	U.S. TIPS 11.0%	Commodities 21.1%	Developed 10.8%
Commodities 11.8%	High Yield 7.5%	High Yield -2.1%	Emrg Mkts 18.9%	Developed 8.3%	U.S. Equity 15.5%	High Yield 7.5%
Emrg Mkts 11.6%	REITs 4.2%	REITs -4.8%	High Yield 14.3%	Core Bond 7.5%	Developed 9.2%	REITs 6.4%
REITs 7.2%	Core Bond 3.6%	U.S. Equity -5.3%	Core Bond 8.7%	High Yield 7.1%	Emrg Mkts 7.6%	Midstream 4.3%
U.S. TIPS 4.7%	U.S. TIPS 3.0%	Commodities -11.2%	U.S. TIPS 8.4%	T-Bills 0.7%	High Yield 3.6%	U.S. TIPS 4.2%
Core Bond 2.6%	Commodities 1.7%	MLPs -12.4%	Commodities 7.7%	Commodities -3.1%	U.S. TIPS 1.7%	Core Bond 3.0%
Developed 1.5%	T-Bills 0.8%	Developed -13.4%	MLPs 6.6%	REITs -7.9%	T-Bills 0.0%	Commodities 2.4%
T-Bills 0.3%	MLPs -6.5%	Emrg Mkts -14.2%	T-Bills 2.3%	Midstream -23.4%	Core Bond -1.6%	T-Bills 1.2%

Data Sources: Bloomberg

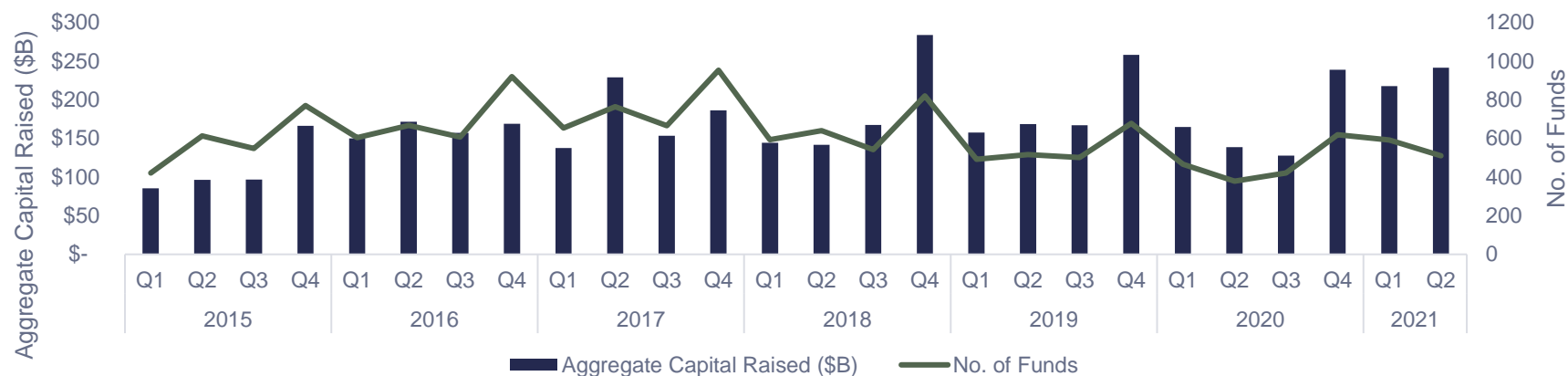
Note: Developed asset class is developed equity markets ex-U.S., ex-Canada

Appendix: Private Market Trends

Wilshire

Private Equity – Fundraising & Investment Activity

Global Quarterly Private Equity Fundraising (Q1 2015 – Q2 2021)



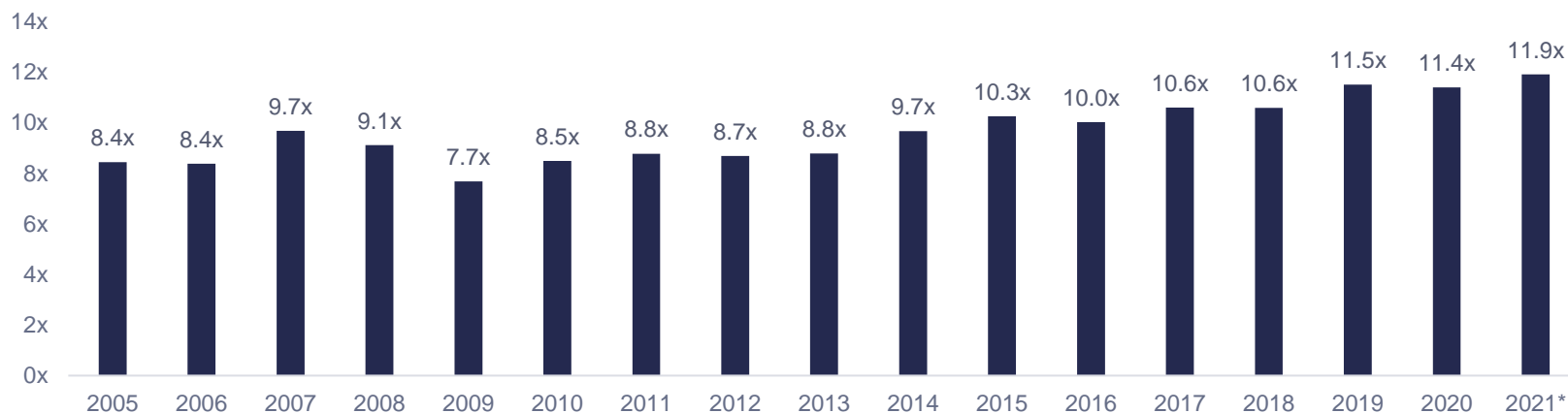
Global Quarterly Private Equity-Backed Deals (Q1 2015 – Q2 2021)



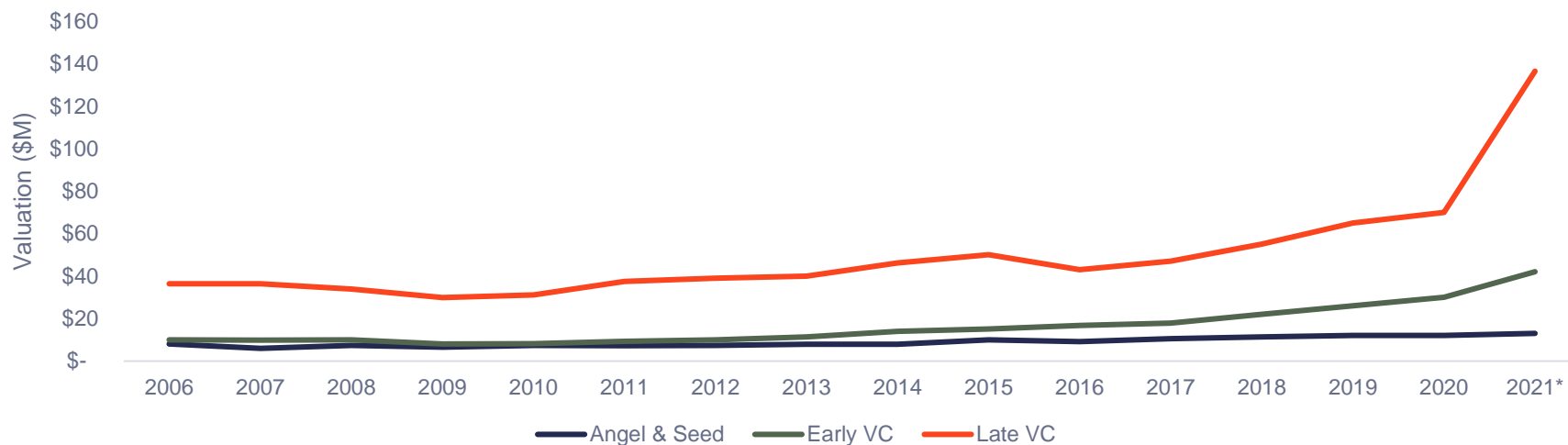
Source: Preqin, as of June 30, 2021.

Private Equity – Pricing & Valuations

LBO Purchase Price Multiples (2005 – Q2 2021)

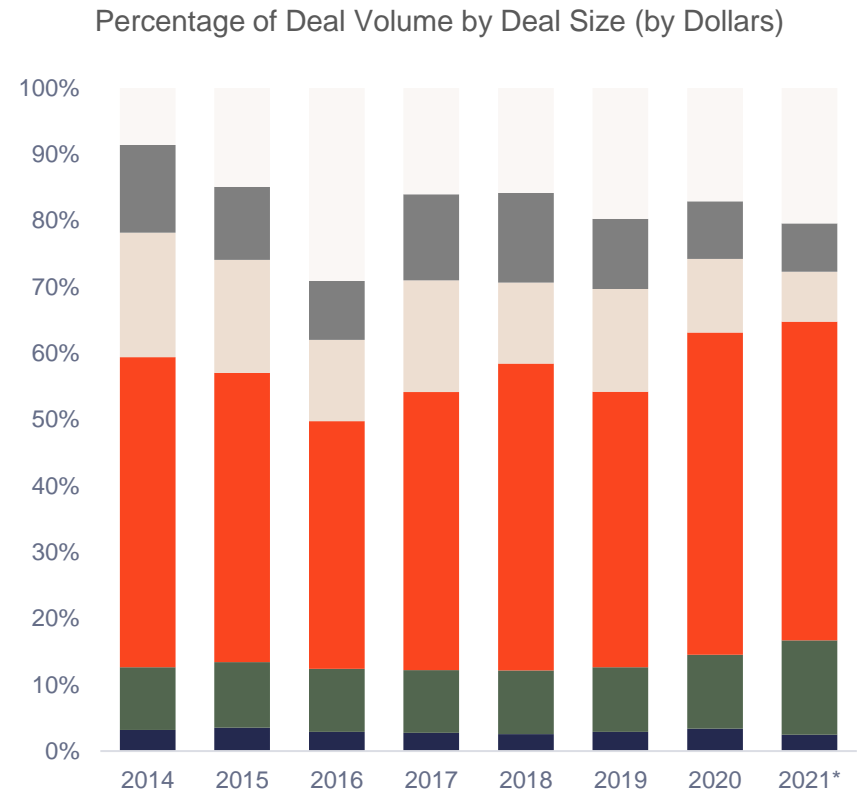
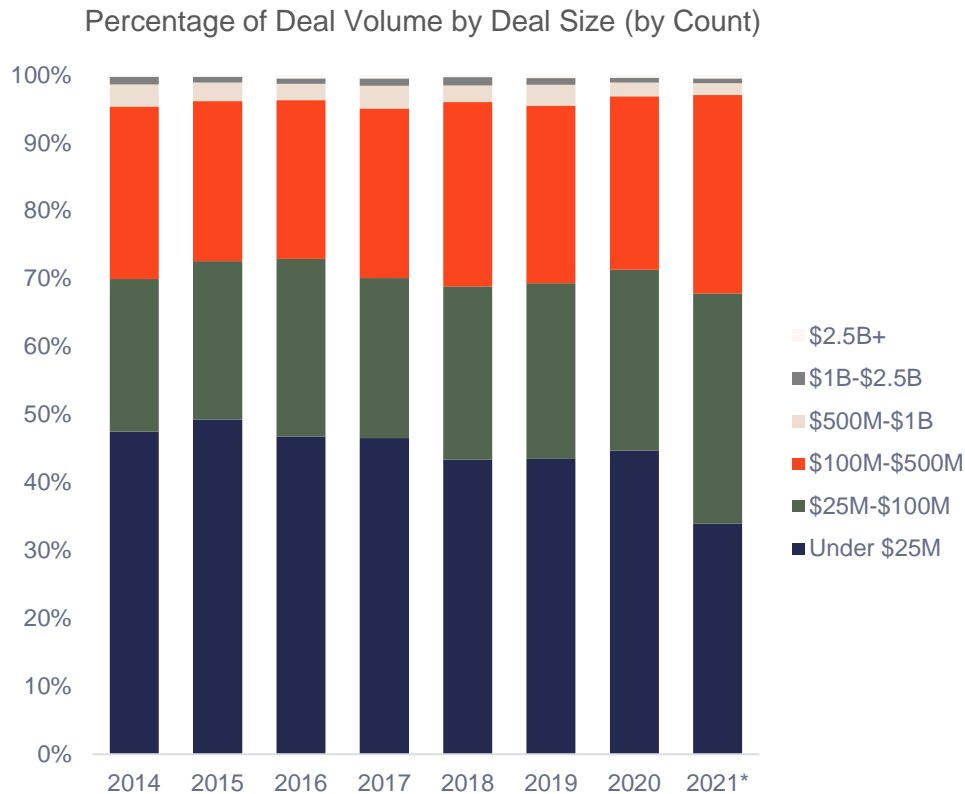


U.S. Median Pre-Value by Stage (2006-Q2 2021)



Source: S&P LBO; Pitchbook, *as of June 30, 2021.

U.S. Investment Activity by Deal Size

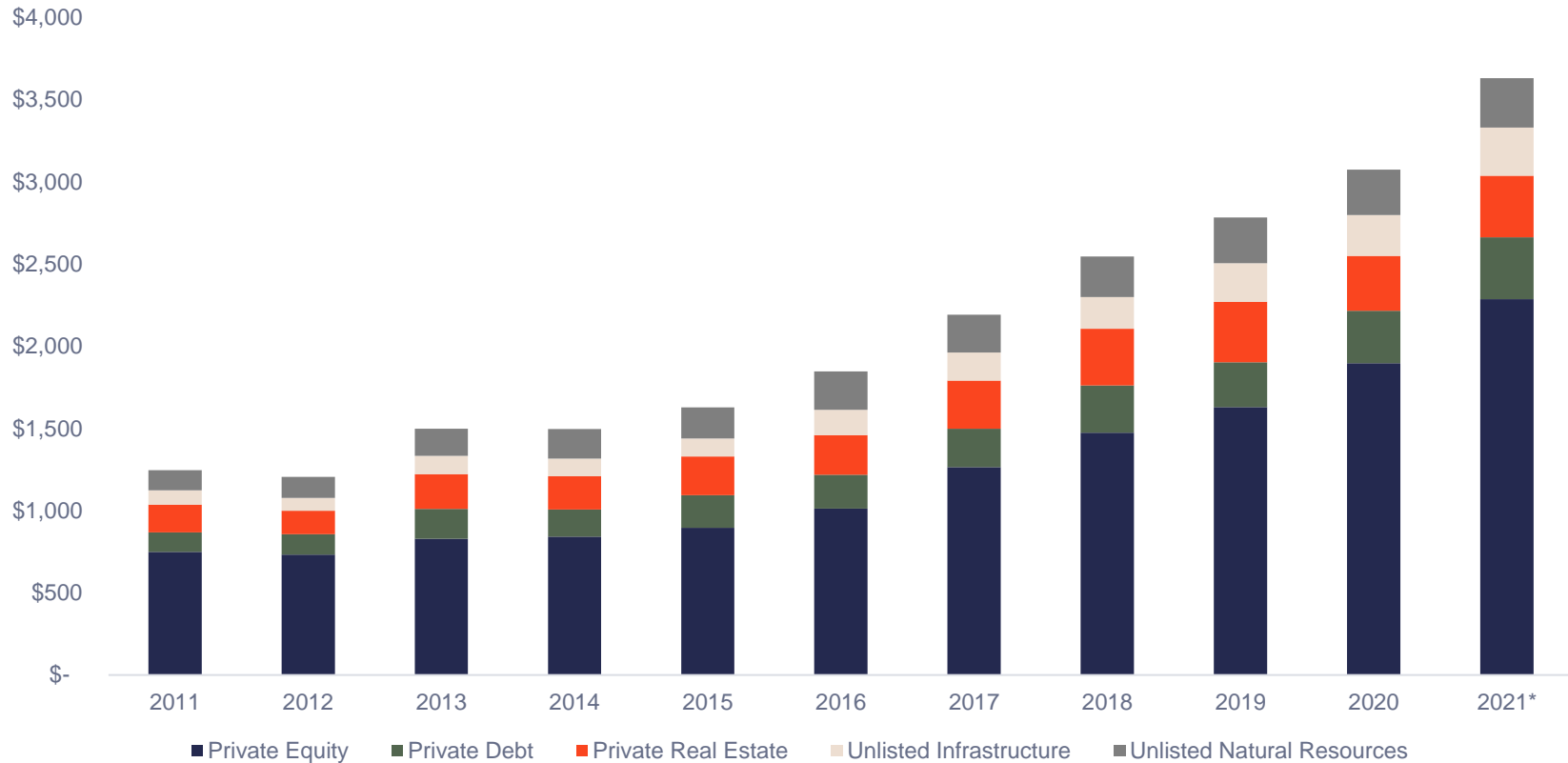


- Deal volume continues to be dominated by lower middle market deals with investment sizes below \$100 million through the second quarter of 2021
- However, deals with below \$100 million check sizes comprised only 16.7% of all deal volume by amount of capital invested in the second quarter of 2021

Source: Pitchbook, *as of June 30, 2021.

Private Capital Dry Powder

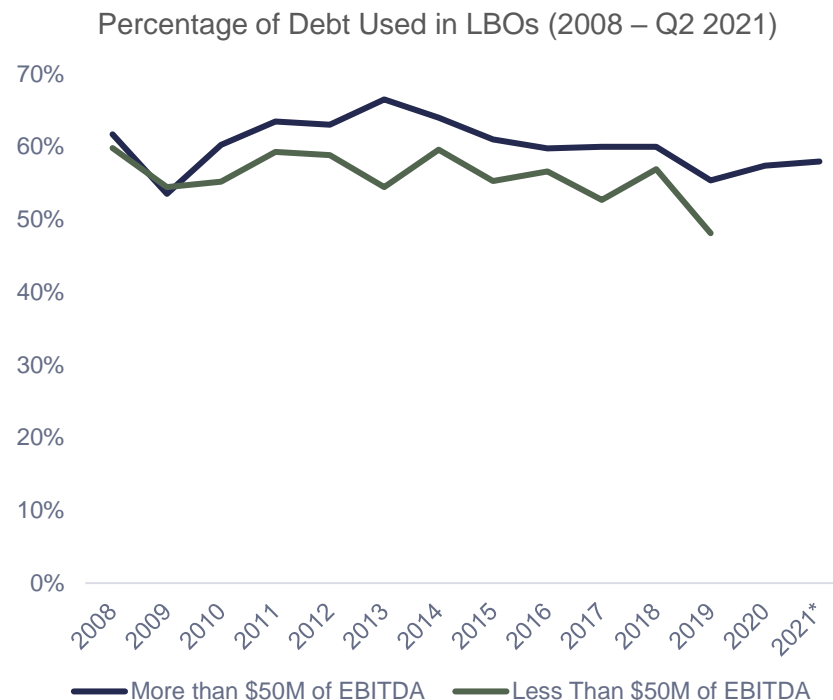
Private Capital Dry Powder by Fund Type (2011 – July 2021)



- Global private capital dry power continues to increase, topping \$3.6 trillion across all fund types
- Private equity comprises just over 62% of total dry powder in the market as of July 2021

Source: Preqin, *as of July 22, 2021.

Private Equity – U.S. Debt Markets

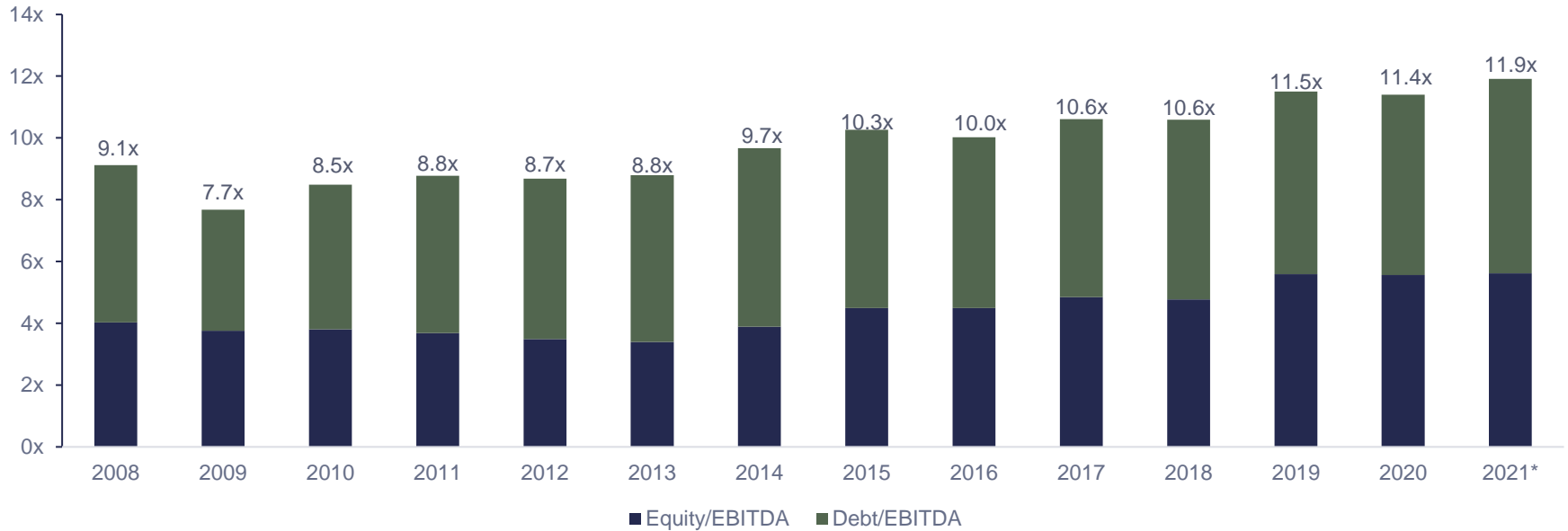


- 2021 has generated approximately \$94 billion in loan volume so far, has surpassed the loan volume from 2020 and is on pace to see a slight increase in loan volume from 2019
- As debt multiples have increased, the percentage of debt used to finance leveraged buyouts through Q2 2021 has slightly increased from 2020 marks

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

Private Equity – U.S. LBO Purchase Price Multiples

Purchase Price Multiples of U.S. LBO Transactions (2008 – Q2 2021)



- Purchase price multiples for U.S. LBOs have slightly increased through Q2 2021, relative to 2020 levels.

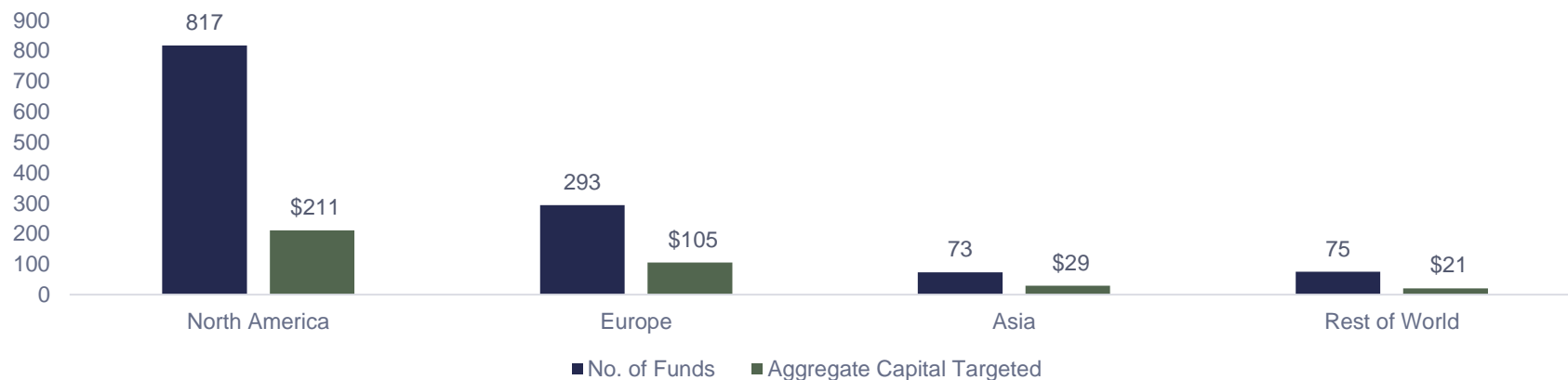
Source: S&P LBO, *as of June 30, 2021.

Private Real Estate – Fundraising Activity

Global Quarterly Closed-End Private Real Estate Fundraising (Q1 2015 – Q2 2021)



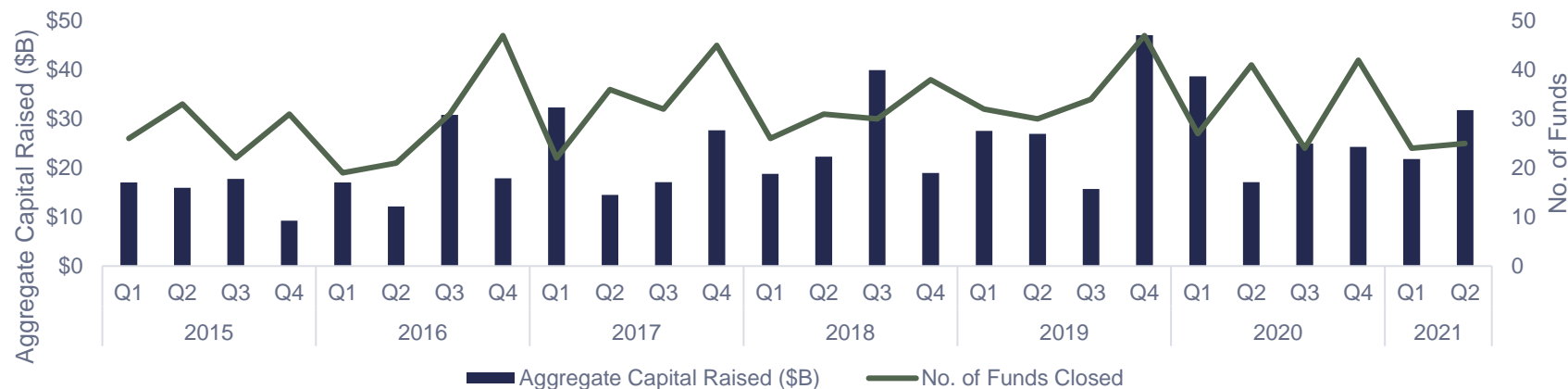
Closed-End Private Real Estate Funds Actively in Market in Q2 2021 by Primary Geographic Focus



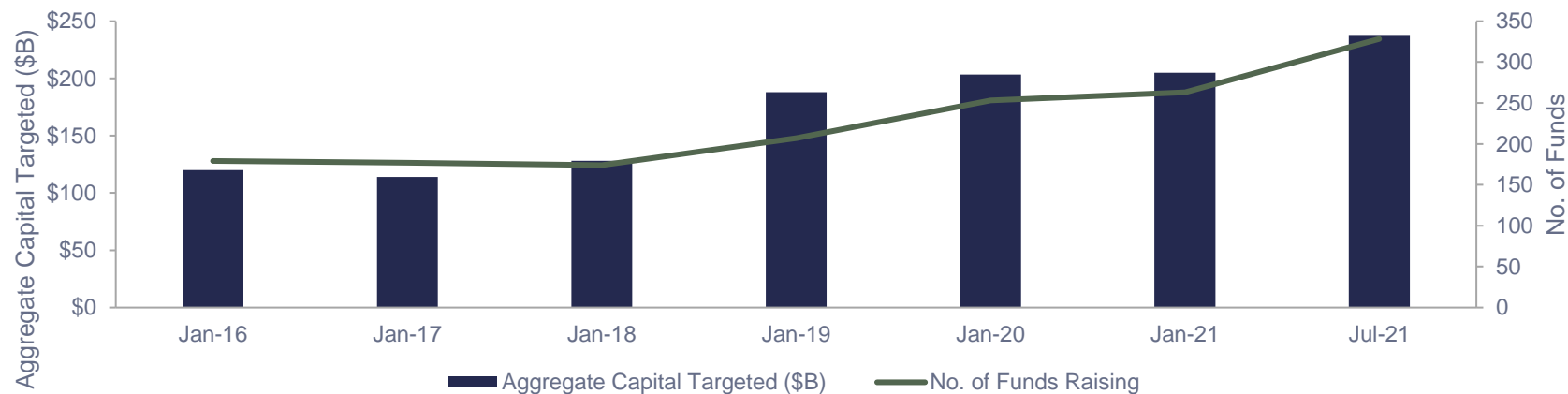
Source: Preqin, as of June 30, 2021.

Unlisted Infrastructure – Fundraising & Investment Activity

Global Quarterly Unlisted Infrastructure Fundraising (Q1 2015 - Q2 2021)



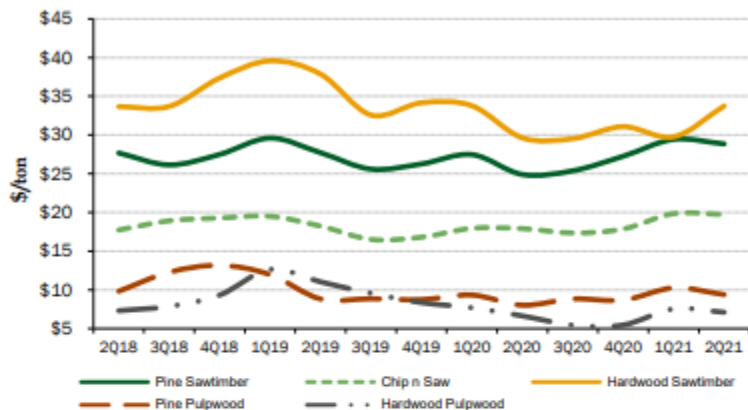
Unlisted Infrastructure Funds in Marker over Time (January 2016 - July 2021)



Source: Preqin, as of June 30, 2021.

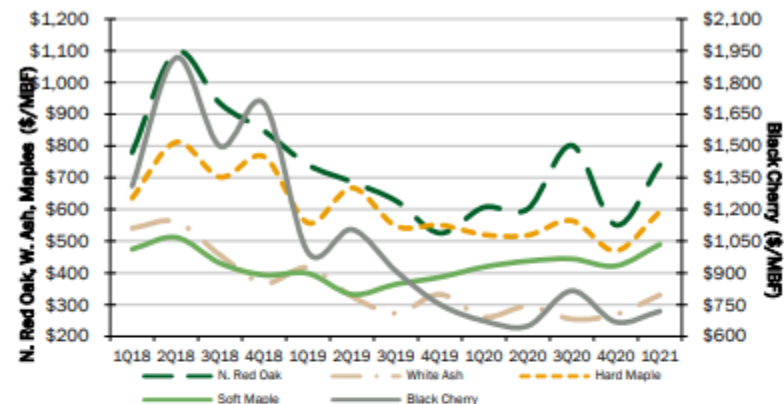
Timber Investments

Southeastern Timber Prices



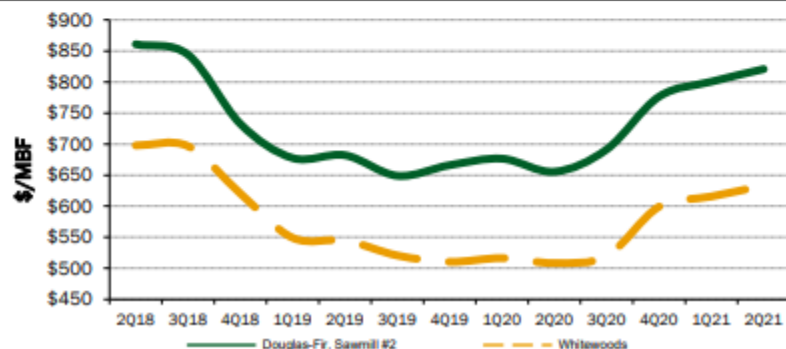
Source: Forest2Market®

Northeastern Hardwood Timber Prices



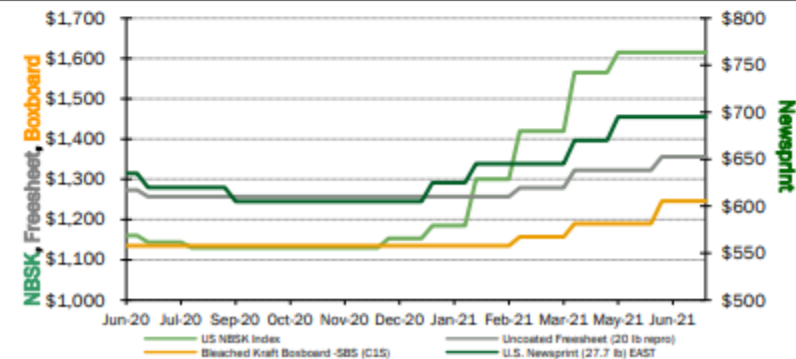
Source: Pennsylvania Woodlands Timber Market Report - Northwest Region

Pacific Northwest Timber Prices



Source: Fastmarkets RISI - Log Lines®

Pulp and Paper

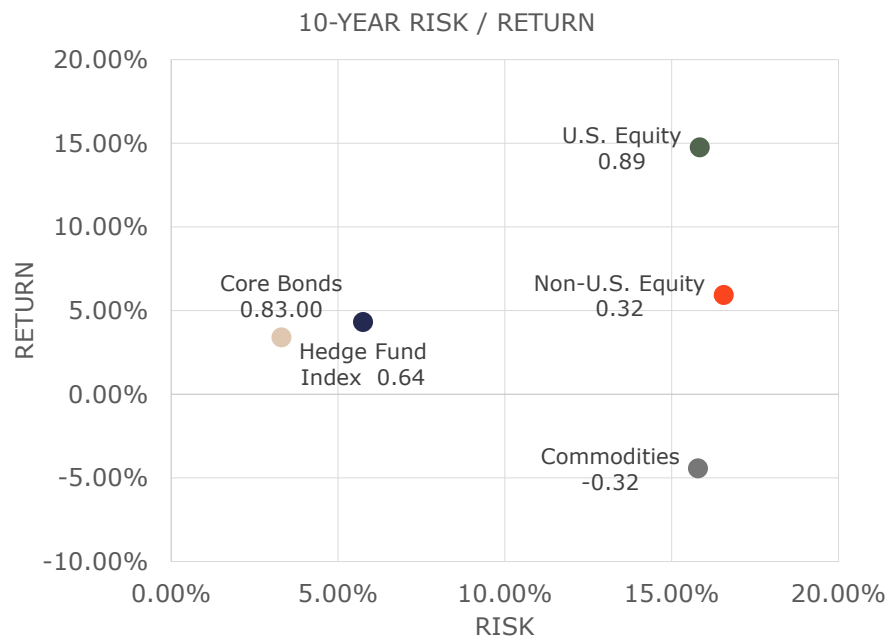


Source: Fastmarkets RISI

Data Sources: Forest Investment Associates

Hedge Fund Performance

AS OF 6/30/2021	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Credit Suisse Hedge Fund Index	3.7	3.7	17.4	6.1	5.8	4.3
Event Driven	3.0	3.0	26.7	6.3	6.4	3.8
Global Macro	6.3	6.3	21.0	8.0	6.6	4.9
Long/Short Equity	3.5	3.5	17.2	6.7	7.1	5.5
Multi-Strategy	3.2	3.2	14.5	5.1	5.5	5.8
Wilshire 5000 Index	8.4	8.4	44.2	18.9	18.0	14.8
MSCI ACWI ex-US (\$G)	5.6	5.6	36.3	9.9	11.6	5.9
Bloomberg Barclays Aggregate	1.8	1.8	-0.3	5.3	3.0	3.4
Bloomberg Commodity Index	13.3	13.3	45.6	3.9	2.4	-4.4



Data Sources: Bloomberg

EXECUTIVE SUMMARY OF PERFORMANCE

Employees' Retirement Fund of the City of Dallas



Second Quarter 2021



Quarterly Market Commentary

Multi-Asset

Diversified portfolios were up during the second quarter as all major asset classes were in positive territory. The Wilshire Risk Parity (12% Volatility) Index led traditional portfolios during the quarter due, in part, to rising commodity prices and the use of leverage within portfolio construction.

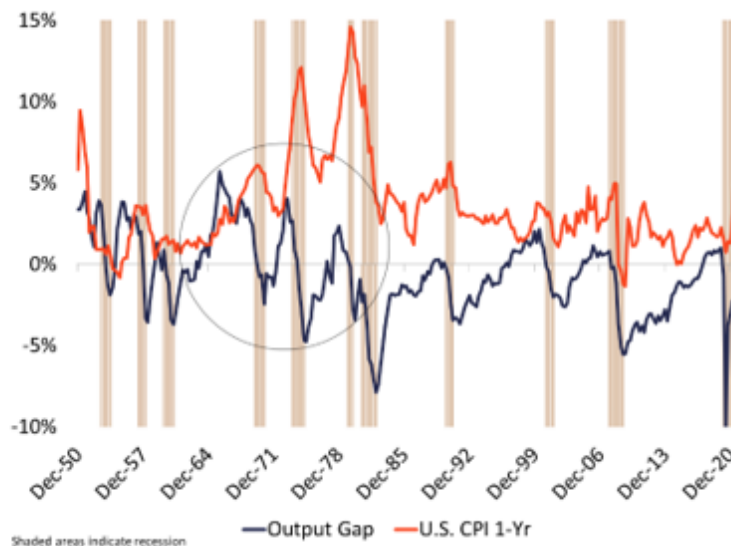
MULTI-ASSET	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Global 60/40 (ACWI/U.S. Core Bonds)	1.07	5.15	6.57	22.19
Wilshire Risk Parity Index SM - 12% Volatility	0.76	9.31	8.16	26.13

Source: Bloomberg. Indexes are total return.

Quarterly Insight

Inflation continues to accelerate in 2021, and it is unclear as to whether this is the beginning of a persistent trend or one effect of a rapidly reopening economy. U.S. CPI is up 6.5% (annualized) YTD through May, largely due to a spike in energy prices, with oil up more than 50%. Fed Chair Jerome Powell believes that price increases will wane, saying that current pressure points "don't speak to a broadly tight economy." Though not typically large contributors to overall inflation, used car and truck prices, which were up 10% in April and another 7% in May, provide some evidence of potentially transitory spikes. The current Output Gap, or the difference between actual and potential economic growth, can provide a much broader read on inflationary pressures. From the mid-1960's through the 1970's, the U.S. was typically operating well above potential (except during recessionary periods), which spurred massive inflation. Since then, each time the Output Gap approached zero, inflation crept higher. Currently, however, the lingering impact of the COVID-19 economic shutdowns has the U.S. still running well below potential, which may assist in supporting the Fed's current patience in the face of rising inflation risks.

ECONOMIC OUTPUT VS. INFLATION



ECONOMIC HIGHLIGHTS

GDP: Real GDP grew by an annualized 6.4% during the first quarter of 2021 and is now just 0.9% below its pre-COVID high. The largest contributor to growth was personal consumption, up 11.4% for the quarter, which added 7.4% to the increase in real GDP. Strong household and business spending actually detracted from growth in other facets of GDP. Businesses had to draw down inventories and increasing demand for imports acted as detractors to growth. The Atlanta Fed's GDPNow forecast for the second quarter currently stands at 8.3%.

Source: Bureau of Economic Analysis

Interest Rates: The Treasury curve fell during the quarter at maturities beyond three years, while the shorter end rose slightly. The 10-year Treasury closed at 1.47%, which was down 27 basis points since March. The 10-year real yield (i.e. net of inflation) was also down, finishing the quarter at -0.88% and accounting for most of the drop in nominal yields. The Federal Open Market Committee met twice during the quarter with no changes to the Fed Funds rate. The June meeting did bring one change, when the median forecast went from no changes through 2023 to a 0.5% increase during that year.

Source: U.S. Treasury

Inflation: Consumer price changes have accelerated rapidly this year as the Consumer Price Index jumped 2.1% for the three months ending May. For the one-year period, CPI is up 4.9%. The 10-year breakeven inflation rate decreased slightly to 2.34% in June versus 2.37% in March.

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

Employment: Despite falling short of estimates, jobs growth has been quite strong this year, with an average of 541k jobs/month added during the past three months ending in May. However, the U.S. economy is still short approximately 7.5 million jobs versus the pre-COVID high. The unemployment rate continues to fall and equaled 5.8% in May. Reported job openings have been rising and are now almost equal to the number of unemployed.

Source: Dept. of Labor (BLS)

Housing: Low borrowing rates and a shortage of properties have driven home prices to record highs. The S&P Case-Shiller 20-city Home Price Index was up 4.6% and 14.9%, respectively, for the three- and twelve-months ending April.

Source: Standard & Poor's



U.S. Economy and Markets

The U.S. stock market, represented by the Wilshire 5000 Total Market Index™, was up 8.42% for the second quarter of 2021. Nearly all eleven sectors were in positive territory, with Energy (+12.8%) and Communication Services (+12.1%) representing the best performing sectors. The only sector with negative performance this quarter was Utilities (-0.4%), which represents a relatively small segment of the U.S. market, with a weight of 2.3%. From a size perspective, large-cap outperformed small-cap during the quarter. Style-based results were mixed as large-growth outperformed large-value while growth underperformed within the small-cap space.

U.S. EQUITY	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Wilshire 5000 Total Market Index™	2.51	8.42	15.45	44.24
Standard & Poor's 500	2.33	8.55	15.25	40.79
Wilshire 4500 Completion Index™	2.68	6.83	16.11	63.07
MSCI USA Minimum Volatility	1.83	6.84	9.31	23.63

Source: Bloomberg. Indexes are total return.

U.S. EQUITY BY SIZE/STYLE	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Wilshire U.S. Large Cap Index™	2.64	8.79	15.10	42.73
Wilshire U.S. Large Cap Growth Index™	5.35	11.87	14.06	46.35
Wilshire U.S. Large Cap Value Index™	(0.59)	5.12	15.43	37.68
Wilshire U.S. Small Cap Index™	1.09	4.75	18.92	62.03
Wilshire U.S. Small Cap Growth Index™	1.92	3.16	12.44	56.18
Wilshire U.S. Small Cap Value Index™	0.32	6.23	25.57	67.73
Wilshire U.S. Micro Cap Index™	2.26	4.62	33.09	81.91

Source: Bloomberg. Indexes are total return.

GICS SECTOR RETURNS	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Communication Services	3.35	12.13	20.79	51.15
Consumer Discretionary	3.41	6.61	11.84	51.21
Consumer Staples	(0.39)	3.62	5.64	24.67
Energy	5.10	12.81	48.58	55.57
Financials	(2.69)	7.94	26.00	63.11
Health Care	3.38	8.20	11.29	30.23
Industrials	(1.97)	3.59	15.42	52.55
Information Technology	7.29	11.45	13.02	43.56
Materials	(5.40)	5.09	17.13	55.04
Real Estate	2.69	11.75	21.40	34.31
Utilities	(1.81)	(0.36)	2.60	16.20

Source: Wilshire Atlas. Indexes are total return.

Growth outperformed value within large-cap, but trailed in the small-cap space



International Economy and Markets

Equity markets outside of the U.S. also enjoyed a strong quarter, with developed markets leading emerging markets. Economic conditions are rapidly improving in the U.K., led by the services sector as retail and hospitality businesses are benefitting from an economy that has almost totally reopened. Unfortunately, after a surge in the delta variant of COVID19 that was originally discovered in India, Prime Minister Boris Johnson delayed lifting the final restrictions, originally due to expire on June 21. Conditions in Germany, Europe's largest economy, are also improving as pandemic-related restrictions are being lifted. Both the U.K. and Germany are facing accelerating inflation but, like in the U.S., central bankers are remaining patient with accommodative short-term policy rates. China, the world's second largest economy, continues to achieve accelerating growth. However, the country's exporting business, a major economic driver, should face increased global competition as economies continue to reopen.

Europe's economies continue to reopen, improving economic growth prospects

NON-U.S. EQUITY (USD)	MTD (%)	QTD (%)	YTD (%)	1Y (%)
MSCI AC World ex U.S.	(0.65)	5.48	9.16	35.72
MSCI AC World ex U.S. Minimum Volatility	0.33	5.30	5.90	18.55
MSCI EAFE	(1.13)	5.17	8.83	32.35
MSCI Emerging Markets	0.17	5.05	7.45	40.90
MSCI AC World ex U.S. Small Cap	(0.62)	6.35	12.24	47.04

Source: Bloomberg. Indexes are total return.

NON-U.S. EQUITY (LOCAL CURRENCY)	MTD (%)	QTD (%)	YTD (%)	1Y (%)
MSCI AC World ex U.S.	1.29	4.75	11.54	29.99
MSCI AC World ex U.S. Minimum Volatility	2.09	4.75	8.35	15.06
MSCI EAFE	1.38	4.79	12.75	27.08
MSCI Emerging Markets	0.83	3.83	7.95	36.07
MSCI AC World ex U.S. Small Cap	1.44	5.71	14.97	40.08

Source: Bloomberg. All foreign equity indexes are net return.

Fixed Income Markets

The U.S. Treasury yield curve flattened during the quarter with yields beyond a 3-year maturity falling and shorter-term rates generally rising. The 10-year Treasury yield ended the quarter at 1.47%, down 27 basis points from March. Credit spreads tightened, with the spread on the broad high yield market closing the quarter at 2.68%. The Federal Open Market Committee (FOMC) met twice during the quarter, as scheduled, with no change to their overnight rate. Messaging has long been an important tool that the Committee wields in delivering on their dual mandate of price stability and maximum employment. Economists are split, however, on interpreting the Fed's current intentions. The FOMC recently opened the conversation on possible tapering of bond purchases and their median forecast for the future overnight rate moved from no change to a 0.5% increase – albeit in 2023. However, a week after the last meeting, Chair Jerome Powell indicated that the Fed would not raise rates "preemptively" on possible inflation fears.



U.S. FIXED INCOME	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Bloomberg Barclays U.S. Aggregate	0.70	1.83	(1.60)	(0.33)
Bloomberg Barclays Long Term Treasury	3.57	6.46	(7.92)	(10.58)
Bloomberg Barclays Long Term Corporate	3.70	6.64	(2.44)	4.54
Bloomberg Barclays U.S. TIPS	0.61	3.25	1.73	6.51
Bloomberg Barclays U.S. Credit	1.50	3.32	(1.28)	2.99
Bloomberg Barclays U.S. High Yield	1.34	2.74	3.62	15.37
S&P/LSTA Leveraged Loan	0.37	1.47	3.28	11.65

Source: Bloomberg. Indexes are total return.

GLOBAL FIXED INCOME	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Bloomberg Barclays Global Aggregate	(0.88)	1.31	(3.21)	2.63
Bloomberg Barclays Global Aggregate (Hdg)	0.49	0.98	(1.52)	0.08
Bloomberg Barclays EM LC Gov't Unvrsl	(1.38)	2.23	(1.18)	7.42
Bloomberg Barclays EM LC Gov't Unvrsl (Hdg)	(0.12)	0.48	(1.62)	(0.99)

Source: Bloomberg. Indexes are total return.

Oil prices are back above pre-COVID levels, up +21% since December 2019 and equaling \$74 per barrel

Real Asset Markets

Real estate securities were up during the second quarter in both the U.S. and abroad. Gains by sector were generally broad based, with Retail REITs (+16%) and Residential REITs (+14%) leading the market. Commodity results were positive for the quarter as crude oil was up 24.2% to \$73.47 per barrel. Oil prices are now back above pre-COVID levels, up +20% (cumulative) since year-end 2019. Natural gas prices were up 40.0% during the second quarter, ending at \$3.65 per million BTUs, the highest level since January 2019. Midstream energy surged for the third consecutive quarter while the broader infrastructure segment was also positive. Finally, gold prices rebounded 3.4% and finished at approximately \$1,772 per troy ounce.

REAL ASSETS	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Wilshire U.S. Real Estate Securities Index™	3.05	12.75	22.70	37.55
Wilshire Global Real Estate Securities Index™	2.02	10.74	18.07	35.62
Bloomberg Commodity Index	1.85	13.30	21.15	45.61
S&P Global Infrastructure Index	(1.72)	2.33	5.40	23.15
Alerian Midstream Energy Index	3.42	16.39	40.69	53.15

Source: Bloomberg. Indexes are total return.



Alternatives

Liquid alternative managers posted another positive quarter, with equity hedge and multi-strategy funds leading the Wilshire Liquid Alternative Index higher. Equity hedge managers saw much of their returns earlier in the quarter, with growth managers outperforming value-focused counterparts. Prolonged trends across asset classes, notably equities and commodities, also provided a supportive backdrop for global macro and systematic managers. Merger arbitrage and event-driven strategies benefitted as deal volume remained elevated, and many credit-focused managers saw gains on the back of tightening spreads across both corporate and structured credit markets.

Liquid alternative managers were broadly positive during the second quarter

ALTERNATIVES	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Wilshire Liquid Alternative Index™	(0.13)	2.22	4.44	11.56
Wilshire Liquid Alternative Equity Hedge Index™	0.00	3.85	9.37	19.23
Wilshire Liquid Alternative Event Driven Index™	(0.14)	1.28	3.09	9.44
Wilshire Liquid Alternative Global Macro Index™	(0.62)	2.28	4.17	9.32
Wilshire Liquid Alternative Multi-Strategy Index™	(0.09)	2.93	5.48	13.26
Wilshire Liquid Alternative Relative Value Index™	(0.12)	0.99	1.21	7.16

Source: Bloomberg. Indexes are total return.



Total Fund Overview

Asset Class Performance

	Assets		Performance (%)					
	(\$Mil)	(%)	QTR	YTD	1-year	3-year	5-year	10-year
U.S. Equity	570.0	14.6	6.34	18.65	51.77	16.41	16.91	13.90
International Equity	517.4	13.2	6.29	12.31	43.92	11.25	12.89	7.15
Global Equity	287.5	7.4	7.21	11.03	32.70	12.39	13.78	
Global Low Volatility	478.0	12.2	5.33	8.05	20.47	8.70	8.27	
Real Estate	418.7	10.7	7.26	11.42	17.70	7.60	6.02	8.74
Global Fixed Income	511.6	13.1	2.00	-0.90	2.05	5.82	3.73	4.04
High Yield	371.6	9.5	2.48	3.16	14.81	6.81	6.61	6.20
Credit Opportunities	184.2	4.7	2.79	2.49	13.21	6.04	6.10	
Global Listed Infra.	222.4	5.7	13.78	28.91	35.40	-2.92	-1.07	
Private Equity	284.6	7.3	1.82	8.62	12.86	10.41	11.68	11.32
Cash Equivalents	61.5	1.6	0.00	0.02	0.09	1.34	1.17	0.63
Total Fund	3,907.5	100.0	5.25	9.69	24.21	8.97	8.99	7.98
Asset Allocation Policy			5.99	9.88	25.81	10.04	9.17	7.99
<i>Value Added vs Policy</i>			-0.74	-0.19	-1.60	-1.07	-0.18	-0.01
Actuarial Rate			1.77	3.56	7.25	7.33	7.52	7.85
Wilshire 5000 Index			8.42	15.45	44.24	18.89	17.96	14.76
S&P 500 Index			8.55	15.25	40.79	18.67	17.65	14.84
MSCI ACWI x-U.S. IMI Index			5.60	9.58	37.18	9.42	11.20	5.65
MSCI EAFE Index			5.17	8.83	32.35	8.27	10.28	5.89
Bloomberg Aggregate Bond Index			1.83	-1.61	-0.34	5.34	3.03	3.39
Citigroup High Yield Cash Pay			2.64	3.54	15.52	6.97	7.13	6.32
Wilshire RE Securities Index			12.75	22.70	37.55	10.01	6.46	9.49
91-Day Treasury Bill			0.00	0.02	0.09	1.34	1.16	0.61

Total Fund Asset Growth

	Beg. Mkt (\$Millions)	Net Contrib.	Net Distrib.	Investment Fees	Investment Gain/Loss	End Mkt Value	Total Return
1Q17	3,337.8	36.2	74.6	2.6	140.0	3,436.7	4.15%
2Q17	3,436.7	24.9	68.7	3.2	86.6	3,476.4	2.46%
3Q17	3,476.4	47.8	84.0	3.5	110.0	3,546.6	3.10%
4Q17	3,546.6	31.1	74.1	3.3	107.5	3,607.8	3.02%
1Q18	3,607.8	31.9	74.7	3.1	(37.9)	3,524.0	-1.09%
2Q18	3,524.0	27.2	71.0	3.6	68.0	3,544.4	1.83%
3Q18	3,544.4	31.6	75.1	3.3	101.0	3,598.8	2.74%
4Q18	3,598.8	27.5	73.9	3.5	(274.6)	3,274.3	-7.66%
1Q19	3,274.3	32.4	71.8	3.2	292.5	3,524.2	8.90%
2Q19	3,524.2	27.7	76.6	3.4	108.0	3,579.9	3.04%
3Q19	3,579.9	32.8	76.2	3.2	20.4	3,553.7	0.49%
4Q19	3,553.7	27.7	79.8	3.6	154.3	3,653.6	4.31%
1Q20	3,653.6	32.7	75.8	3.8	(570.4)	3,036.3	-15.91%
2Q20	3,036.3	28.3	76.4	3.2	337.8	3,322.8	11.03%
3Q20	3,322.8	31.5	77.0	3.1	115.4	3,389.6	3.46%
4Q20	3,389.6	33.0	76.5	3.4	321.1	3,663.7	9.46%
1Q21	3,663.7	27.3	81.3	3.7	156.8	3,762.9	4.21%
2Q21	3,762.9	27.8	79.8	4.3	200.9	3,907.5	5.25%

- At the end of the second quarter of 2021, the Fund's market value was \$3,907.5 million, which represented an increase of \$144.6 million in total net asset value over the previous quarter. The change in the Fund's value was driven by \$27.8 million in net contributions, \$200.9 million investment gain, \$79.8 million in net distributions and \$4.3 million in investment management fees.

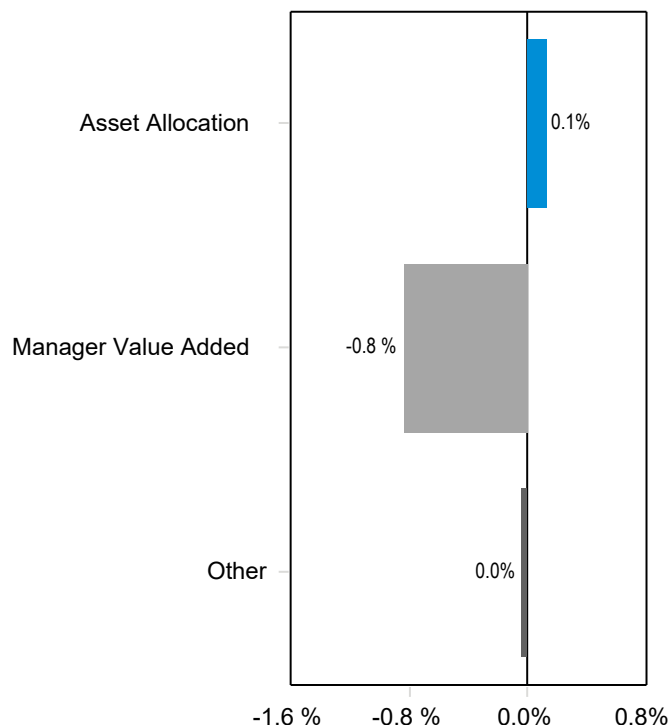
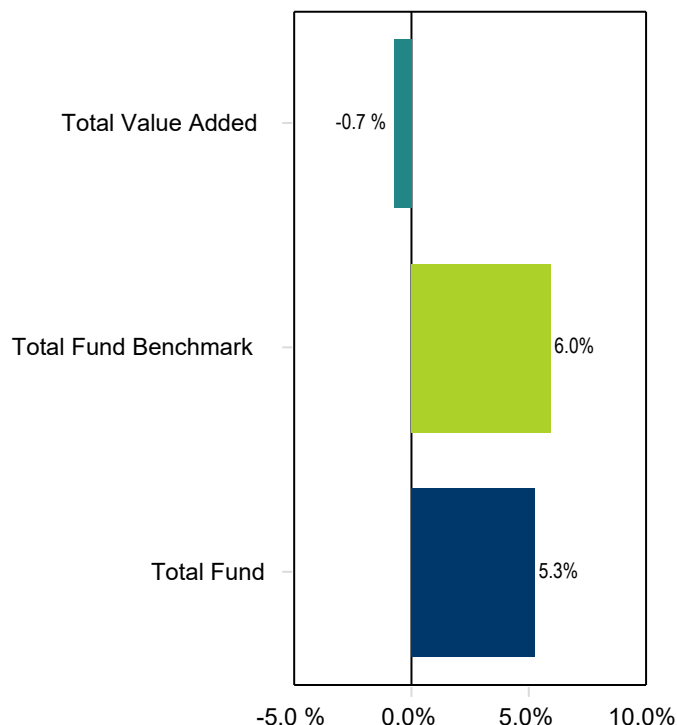
Total Fund Attribution

Dallas Total Fund

Periods Ended 1 Quarter Ending June 30, 2021

Total Fund Performance

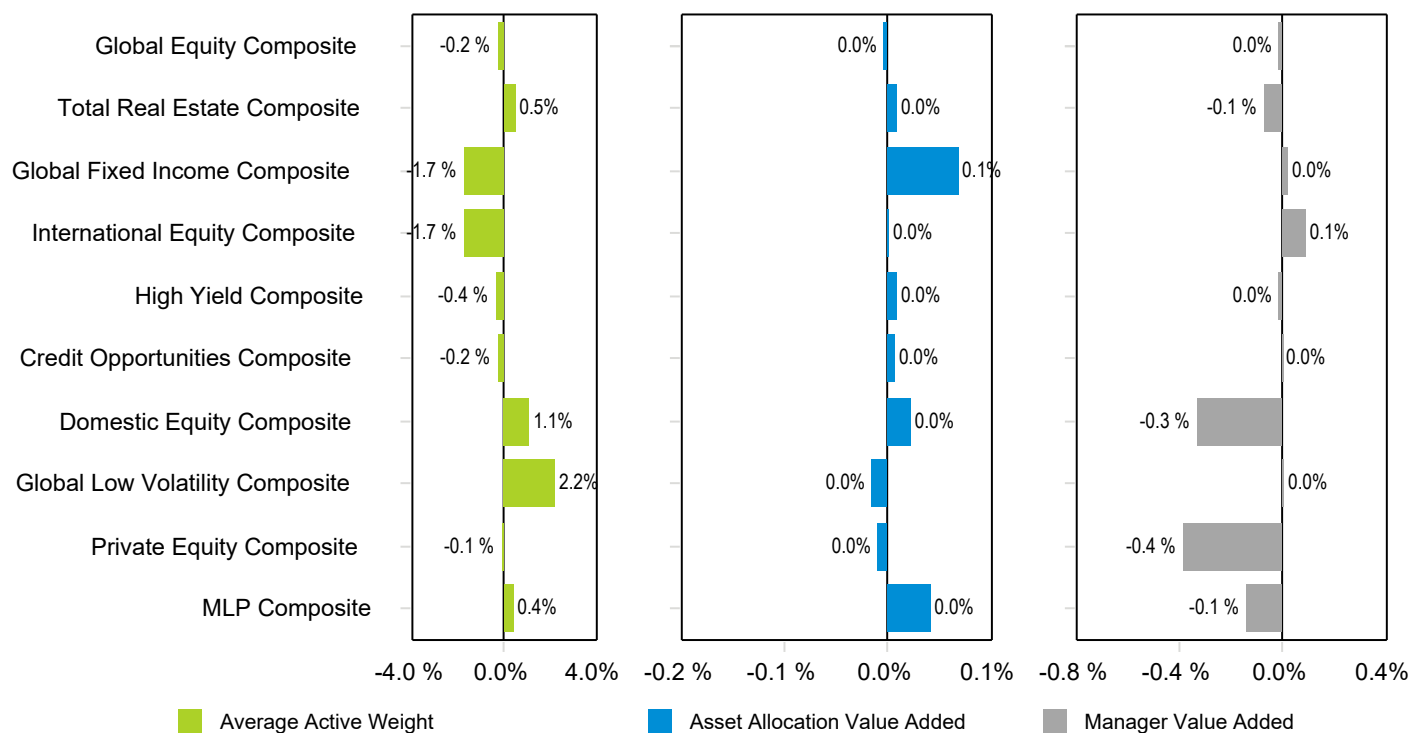
Total Value Added:-0.7 %



Total Asset Allocation:0.1%

Asset Allocation Value: :0.1%

Total Manager Value:-0.8 %



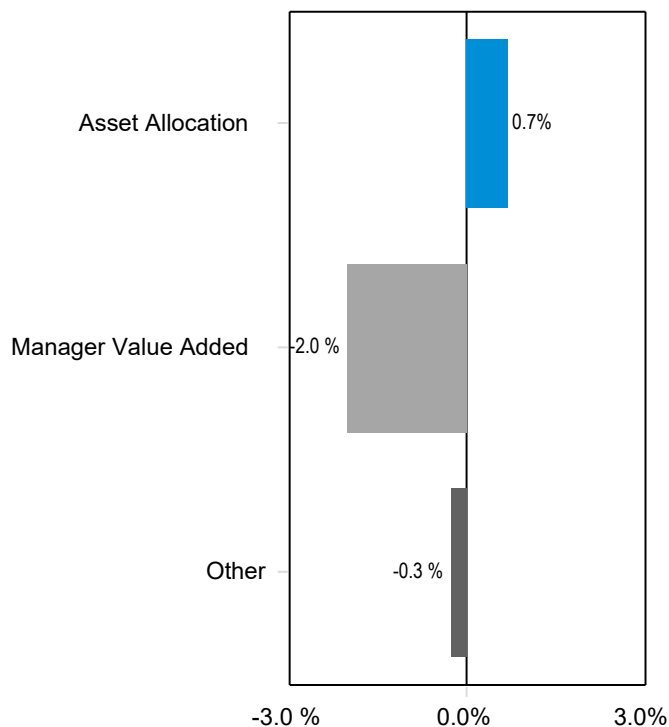
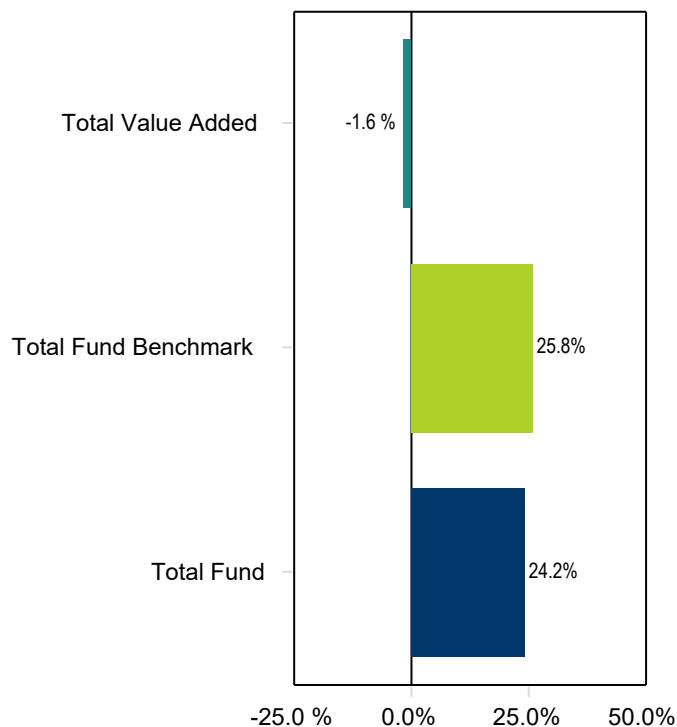
Total Fund Attribution

Dallas Total Fund

Periods Ended 1 Year Ending June 30, 2021

Total Fund Performance

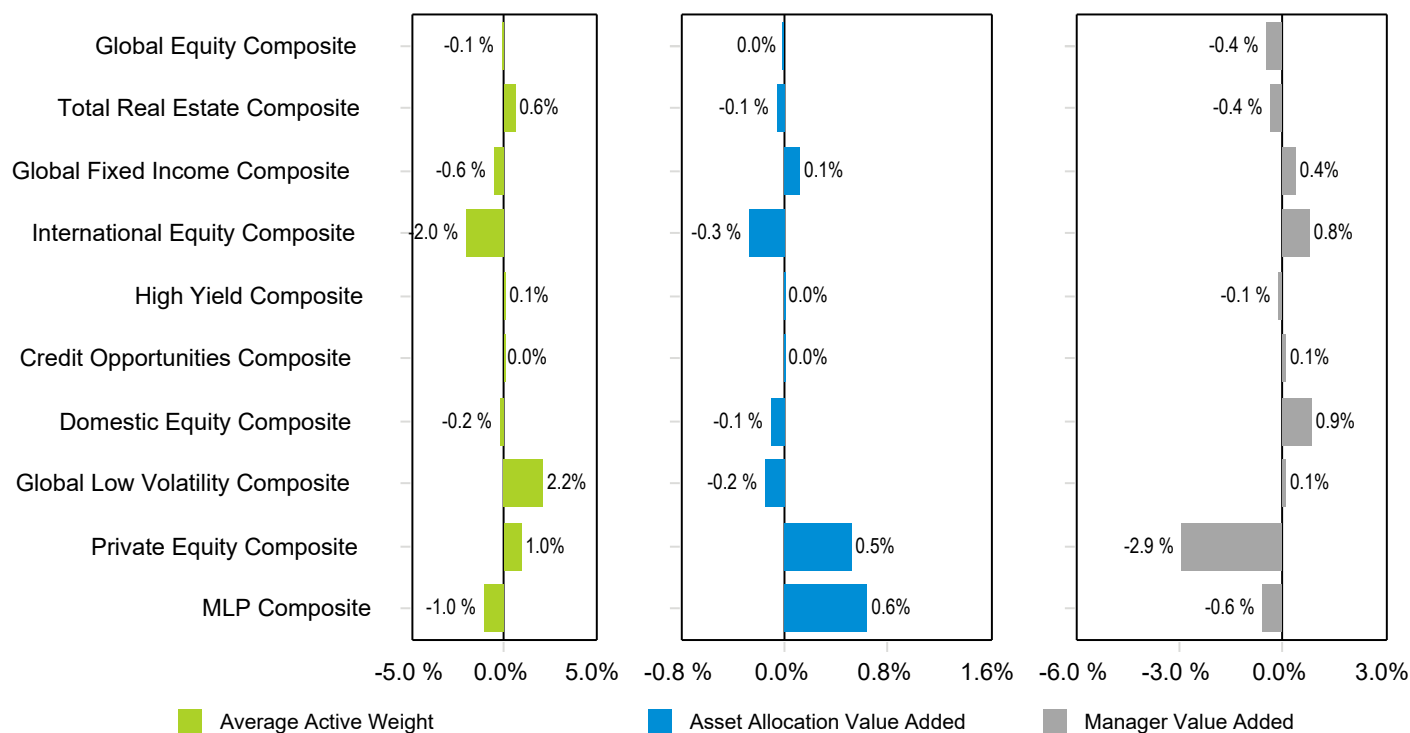
Total Value Added:-1.6 %



Total Asset Allocation: 0.7%

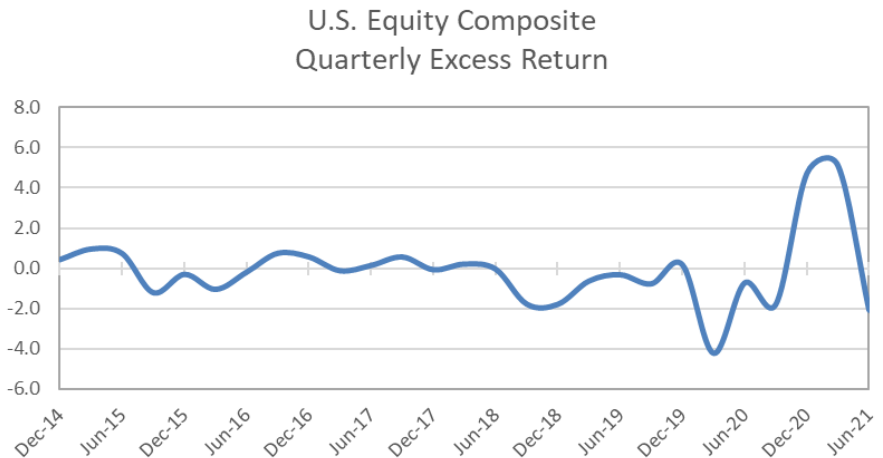
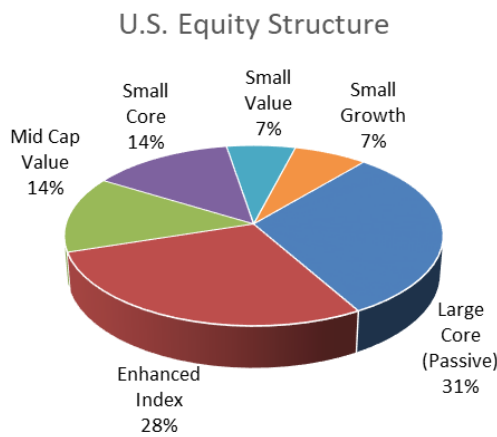
Asset Allocation Value: 0.7%

Total Manager Value: -2.0 %





U.S. Equity Overview



Composite

	Assets (Millions)	QTR	YTD	Performance 1-year	3-year	5-year	10-year
Total U.S. Equity (Gross)	\$ 570.0	6.44	18.88	52.37	16.89	17.36	14.31
Total U.S. Equity (Net)		6.34	18.65	51.77	16.41	16.91	13.90
Custom Benchmark ¹		8.42	15.45	44.24	18.89	17.96	14.76
Net of Fee Value Added vs Benchmark		-2.08	3.19	7.52	-2.48	-1.05	-0.86
Small Cap Composite	\$ 156.0	3.72	20.40	60.99	12.23	15.40	12.06
Wilshire 5000 Index		8.42	15.45	44.24	18.89	17.96	14.76
S&P 500 Index		8.55	15.25	40.79	18.67	17.65	14.84
Russell 2000 Index		4.29	17.54	62.03	13.52	16.47	12.34

U.S. Equity Managers

	Assets (Millions)	QTR	YTD	Performance (%) 1-year	3-year	5-year	Since Inception	Inception Date
Large Core - Passive								
Northern Trust S&P 500 (Gross)	\$ 174.8	8.55	15.25	40.57	18.64	17.62	10.97	Dec-94
Northern Trust S&P 500 (Net)		8.55	15.25	40.57	18.64	17.62	10.94	Dec-94
S&P 500 Index		8.55	15.25	40.79	18.67	17.65	10.91	Dec-94
Net of Fee Value Added vs Benchmark		0.00	0.00	-0.22	-0.03	-0.03	0.04	
Enhanced Index								
T. Rowe Price (Gross)	\$ 161.0	8.78	14.91	42.69	19.48	18.88	11.34	Mar-06
T. Rowe Price (Net)		8.70	14.75	42.27	19.13	18.52	11.02	Mar-06
S&P 500 Index		8.55	15.25	40.79	18.67	17.65	10.44	Mar-06
Net of Fee Value Added vs Benchmark		0.15	-0.50	1.48	0.46	0.88	0.58	
Information Ratio				0.74	0.35	0.65		
Sharpe Ratio				2.68	0.92	1.12		

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



U.S. Equity Overview (Continued)

U.S. Equity Managers

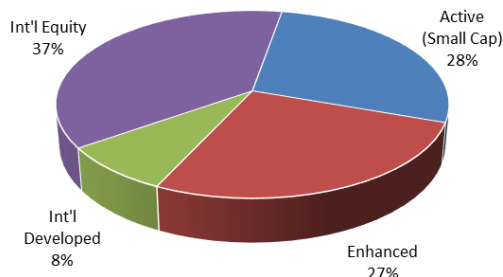
	Assets (Millions)	QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Small Core - Active								
Systematic Financial (Gross)	\$ 77.9	3.39	24.77	64.09	10.79	16.01	12.41	Jun-03
Systematic Financial (Net)		3.20	24.31	62.81	9.87	15.04	11.57	Jun-03
Russell 2000 Index		4.29	17.54	62.03	13.52	16.47	10.67	Jun-03
Net of Fee Value Added vs Benchmark		-1.09	6.77	0.78	-3.65	-1.43	0.90	
Information Ratio				0.05	-0.50	-0.22		
Sharpe Ratio				3.65	0.34	0.68		
Small Value - Active								
Channing Capital Management (Gross) *	\$ 37.8	1.89	17.33	64.97	11.88	13.86	10.11	Oct-13
Channing Capital Management (Net) *		1.68	16.85	63.53	10.83	12.79	9.09	Oct-13
Russell 2000 Value Index		4.56	26.69	73.28	10.27	13.62	9.38	Oct-13
Net of Fee Value Added vs Benchmark		-2.88	-9.85	-9.75	0.56	-0.83	-0.28	
Information Ratio				-0.59	0.07	-0.12		
Sharpe Ratio				2.68	0.33	0.49		
Small Growth - Active								
Redwood Investments (Gross) *	\$ 40.4	7.09	17.23	55.43	18.48		16.77	Sep-16
Redwood Investments (Net) *		6.91	16.86	54.42	17.66		16.05	Sep-16
Russell 2000 Growth Index		3.92	8.98	51.36	15.94		17.64	
Net of Fee Value Added vs Benchmark		2.99	7.87	3.06	1.72		-1.59	
Information Ratio				0.36	0.21	--		
Sharpe Ratio				3.86	0.79	--		
Mid Cap Value - Active								
Smith Graham Mid Cap Value (Gross) *	\$ 78.1	3.69	30.43	79.46	13.46		12.31	Dec-17
Smith Graham Mid Cap Value (Net) *		3.52	30.00	78.23	12.62		11.52	Dec-17
Russell Midcap Index		7.50	16.25	49.80	16.45		14.70	
Net of Fee Value Added vs Benchmark		-3.98	13.75	28.43	-3.83		-3.18	
Information Ratio				1.65	-0.28	--		
Sharpe Ratio				4.18	0.38	--		

- ◆ The Fund's domestic equity composite generated a return of 6.34% (net of fees) during the second quarter of 2021, lagging the Wilshire 5000 Total Market Index, which returned 8.42%. Relative performance was positive during the quarter for Redwood Investments and T. Rowe Price, while negative for Channing Capital, Smith Graham and Systematic Financial. Following this quarter's results, the domestic equity composite is trailing its benchmark over the three-, five- and ten- year periods but is outperforming over the YTD and one-year periods.

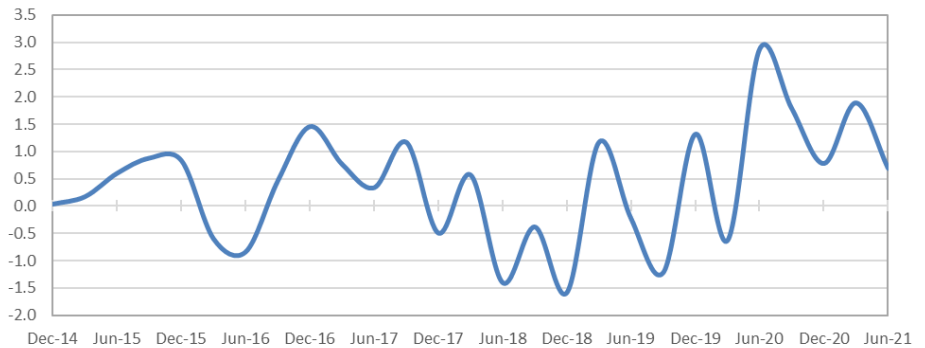


International Equity Overview

International Equity Structure



International Equity Composite
Quarterly Excess Return



International Equity Composite

	Assets (Millions)	Performance					
		QTR	YTD	1-year	3-year	5-year	10-year
Total International Equity (Gross)	\$ 517.4	6.44	12.61	44.71	11.82	13.44	7.63
Total International Equity (Net)		6.29	12.31	43.92	11.25	12.89	7.15
Custom Benchmark ¹		5.60	9.58	37.18	9.42	11.20	5.65
Net of Fee Value Added vs Benchmark		0.69	2.73	6.74	1.83	1.69	1.49
MSCI ACWI x-US IMI (Net)		5.60	9.58	37.18	9.42	11.20	5.65
MSCI ACWI x-US (Net)		5.48	9.16	35.72	9.38	11.08	5.45
MSCI EAFE (Net)		5.17	8.83	32.35	8.27	10.28	5.89
MSCI Emerging Markets		5.05	7.45	40.90	11.27	13.03	4.29

International Equity Managers

	Assets (Millions)	Performance (%)					Since Inception	Inception Date
		QTR	YTD	1-year	3-year	5-year		
Int'l Small Cap - Active								
Acadian International (Gross)	\$ 142.6	9.70	19.58	55.64	11.71	15.08	9.47	Mar-89
Acadian International (Net)		9.56	19.27	54.82	11.04	14.45	9.01	Mar-89
Custom Benchmark		6.35	12.24	47.04	9.78	11.97		Mar-89
Net of Fee Value Added vs Benchmark		3.21	7.04	7.78	1.27	2.48		
Information Ratio				1.15	0.27	0.53		
Sharpe Ratio				4.01	0.46	0.76		

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

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



International Equity Overview (Continued)

International Equity Managers

	Assets (Millions)	Performance (%)					Since Inception	Inception Date
		QTR	YTD	1-year	3-year	5-year		
Int'l Enhanced Index								
AQR Capital Management (Gross)	\$ 138.0	3.96	11.30	38.51	9.85	11.98	5.25	Mar-06
AQR Capital Management (Net)		3.81	10.98	37.72	9.23	11.35	4.71	Mar-06
Custom Benchmark		5.48	9.16	35.72	9.38	11.08	4.17	Mar-06
Net of Fee Value Added vs Benchmark		-1.66	1.82	2.00	-0.15	0.27	0.54	
Information Ratio				0.52	-0.05	0.09		
Sharpe Ratio				2.79	0.43	0.66		
Int'l Developed								
Ativo International Developed (Gross) *	\$ 42.9	5.88	10.98	31.50	7.45		6.17	Dec-17
Ativo International Developed (Net) *		5.73	10.66	30.78	6.81		5.56	Dec-17
MSCI EAFE Index		5.17	8.83	32.35	8.27		6.20	
Net of Fee Value Added vs Benchmark		0.56	1.83	-1.57	-1.45		-0.64	
Information Ratio				-0.21	-0.27	--		
Sharpe Ratio				2.11	0.30	--		
Int'l Equity (Active)								
Baillie Gifford (Gross)	\$ 93.8	4.22	6.24	36.03			22.80	Mar-19
Baillie Gifford (Net)		4.08	5.97	35.32			22.28	Mar-19
MSCI ACWI x-US (Net)		5.48	9.16	35.72			13.53	
Net of Fee Value Added vs Benchmark		-1.39	-3.20	-0.40			8.75	
Information Ratio				-0.07	--	--		
Sharpe Ratio				2.52	--	--		
Int'l Equity (Active)								
Earnest Partners (Gross) *	\$ 100.2	7.97	12.38	53.96			16.62	Mar-19
Earnest Partners (Net) *		7.82	12.07	53.09			15.99	Mar-19
MSCI ACWI x-US (Net)		5.48	9.16	35.72			13.53	
Net of Fee Value Added vs Benchmark		2.34	2.91	17.37			2.45	
Information Ratio				2.07	--	--		
Sharpe Ratio				2.61	--	--		

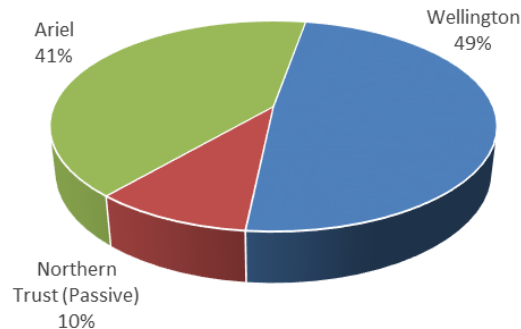
- ◆ The Fund's international equity composite returned 6.29% (net of fees) during the second quarter of 2021, outperforming the MSCI ACWI x-US Investable Market Index (IMI) which returned 5.60%. Active management was inconsistent for the Fund's international equity program with three of the managers outperforming their respective benchmarks and two underperforming. The program's long-standing small cap international equity mandate managed by Acadian outperformed its benchmark by a robust margin. The program's positive performance was buoyed by Acadian and lead to composite outperformance for the quarter. The recently funded Earnest Partners portfolio is outperforming its benchmark over all time periods back through inception. The international equity composite is currently outperforming against its benchmark for all time periods.

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



Global Equity Overview

Global Equity Structure



Global Equity Composite

	Assets (Millions)	QTR	YTD	1-year	3-year	5-year	10-year
Total Global Equity (Gross)	\$ 287.5	7.35	11.32	33.42	13.00	14.32	
Total Global Equity (Net)		7.21	11.03	32.70	12.39	13.78	
MSCI ACWI (Net)		7.39	12.30	39.26	14.57	14.61	
Net of Fee Value Added vs Index		-0.18	-1.27	-6.57	-2.18	-0.84	
MSCI ACWI IMI (Net)		7.18	12.68	40.94	14.24	14.55	9.90
MSCI ACWI (Net)		7.39	12.30	39.26	14.57	14.61	9.90
MSCI World (Net)		7.74	13.05	39.04	14.99	14.83	10.65

Global Equity Managers

	Assets (Millions)	QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Global Equity - Active								
Wellington (Gross)	\$ 141.6	8.17	11.27	39.54	15.07	15.66	14.25	Aug-12
Wellington (Net)		8.02	10.96	38.72	14.41	14.98	13.61	Aug-12
MSCI ACWI (Net)		7.39	12.30	39.26	14.57	14.61	11.68	Aug-12
Net of Fee Value Added vs Benchmark		0.63	-1.34	-0.55	-0.16	0.37	1.93	
Information Ratio				-0.10	-0.04	0.10		
Sharpe Ratio				2.74	0.68	0.89		
Global Equity - Active								
Ariel (Gross) *	\$ 118.1	6.40	11.00	24.64	10.13		9.09	Dec-17
Ariel (Net) *		6.24	10.67	23.88	9.46		8.46	Dec-17
MSCI ACWI (Net)		7.39	12.30	39.26	14.57		12.22	
Net of Fee Value Added vs Benchmark		-1.15	-1.63	-15.38	-5.11		-3.77	
Information Ratio				-1.55	-0.64	--		
Sharpe Ratio				2.07	0.57	--		
Global Equity - Passive								
Northern Trust (Gross)	\$ 27.9	7.30	12.83	41.20	14.78	15.08	14.28	Oct-15
Northern Trust (Net)		7.30	12.83	41.20	14.76	15.04	14.24	Oct-15
MSCI ACWI IMI (Net)		7.18	12.68	40.94	14.24	14.55	13.74	Oct-15
Net of Fee Value Added vs Benchmark		0.12	0.15	0.27	0.52	0.49	0.50	



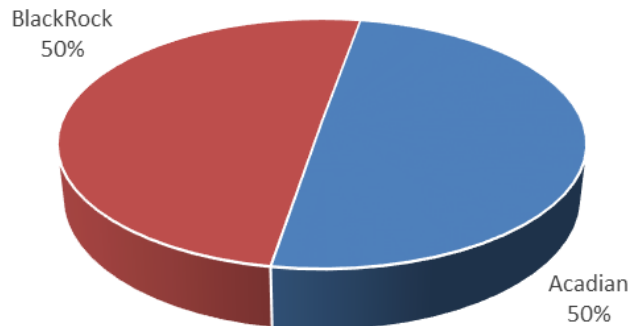
Global Equity Overview (Continued)

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



Global Low Volatility Equity Overview

Global Low Volatility Structure



Global Low Volatility Composite

	Assets (Millions)	Performance					
		<u>QTR</u>	<u>YTD</u>	<u>1-year</u>	<u>3-year</u>	<u>5-year</u>	<u>10-year</u>
Total Global Low Volatility (Gross)	\$ 478.0	5.38	8.15	20.69	8.90	8.47	
Total Global Low Volatility (Net)		5.33	8.05	20.47	8.70	8.27	
MSCI ACWI Minimum Volatility (Net)		5.30	7.11	19.35	9.55	8.40	
Net of Fee Value Added vs Index		0.03	0.94	1.12	-0.85	-0.13	
MSCI ACWI Minimum Volatility (Net)		5.30	7.11	19.35	9.55	8.40	9.17
MSCI World x-US Minimum Volatility (Net)		5.57	5.43	17.96	5.64	6.34	6.79
MSCI ACWI (Net)		7.39	12.30	39.26	14.57	14.61	9.90

Global Equity Managers

	Assets (Millions)	<u>QTR</u>	Performance (%)				Since <u>Inception</u>	<u>Inception</u> Date
			<u>YTD</u>	<u>1-year</u>	<u>3-year</u>	<u>5-year</u>		
Global Low Volatility - Active								
Acadian Global Low Vol (Gross)	\$ 238.0	5.38	9.04	21.60	8.19	8.28	8.53	Jun-15
Acadian Global Low Vol (Net)		5.30	8.87	21.20	7.84	7.92	8.18	Jun-15
MSCI ACWI (Net)		7.39	12.30	39.26	14.57	14.61	11.33	Jun-15
Net of Fee Value Added vs MSCI ACWI		-2.10	-3.44	-18.06	-6.72	-6.69	-3.15	
MSCI ACWI Min Vol (Net)		5.30	7.11	19.35	9.55	8.40	8.92	Jun-15
Net of Fee Value Added vs MSCI ACWI Min Vol		0.00	1.76	1.86	-1.71	-0.48	-0.74	
Information Ratio				-1.70	-0.90	-1.07		
Sharpe Ratio				1.86	0.43	0.54		
Global Low Volatility - Passive								
BlackRock Global Low Vol (Gross)	\$ 240.0	5.37	7.28	19.80	9.60	8.64	9.22	Jun-15
BlackRock Global Low Vol (Net)		5.36	7.25	19.75	9.56	8.61	9.20	Jun-15
MSCI ACWI Min Vol (Net)		5.30	7.11	19.35	9.55	8.40	8.92	Jun-15
Net of Fee Value Added vs Benchmark		0.07	0.14	0.40	0.01	0.21	0.28	

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

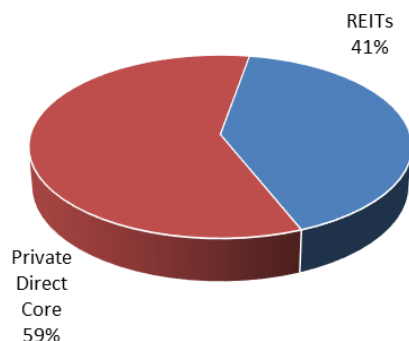


Global Low Volatility Equity Overview (Continued)

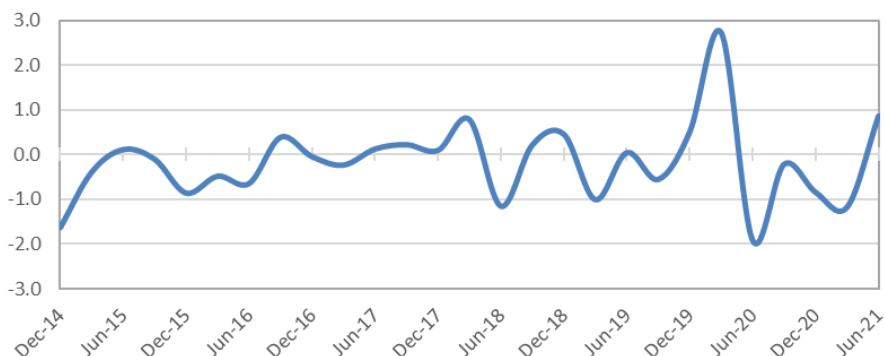
- ◆ In 2015, the Board elected to transfer assets from existing strategies elsewhere in the Fund into two new global low volatility equity portfolios. The first portfolio is actively-managed and run by Acadian. Its primary mandate is to provide the Fund with a better risk/return profile relative to the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

Real Estate Overview

Real Estate Structure



Total Real Estate Composite
Quarterly Excess Return



Real Estate Composite

	Assets (Millions)	Performance					
		QTR	YTD	1-year	3-year	5-year	10-year
Total Real Estate (Gross)	\$ 418.7	7.40	11.72	18.36	8.22	6.64	9.47
Total Real Estate (Net)		7.26	11.42	17.70	7.60	6.02	8.74
Custom Benchmark ¹		7.90	13.35	20.95	8.22	6.33	9.03
<i>Net of Fee Value Added vs Benchmark</i>		<i>-0.64</i>	<i>-1.93</i>	<i>-3.25</i>	<i>-0.62</i>	<i>-0.31</i>	<i>-0.29</i>
REIT Strategies	\$ 160.0	12.81	22.91	38.53	11.87	7.50	9.63
Private Core Real Estate	\$ 258.7	4.11	5.32	6.57	5.02	5.26	8.20
Wilshire Real Estate Securities Index		12.75	22.70	37.55	10.01	6.46	9.49
NCREIF Open Diversified Core Equity (Net)		3.68	5.64	7.09	4.60	5.62	8.60

Real Estate Managers

	Assets (Millions)	Performance (%)					Since Inception	Inception Date
		QTR	YTD	1-year	3-year	5-year		
Real Estate Securities - Public								
Adelante Capital Management (Gross)	\$ 79.9	13.45	24.13	39.53	12.75	8.46	10.85	Sep-01
Adelante Capital Management (Net)		13.30	23.79	38.75	12.10	7.83	10.26	Sep-01
Wilshire Real Estate Securities		12.75	22.70	37.55	10.01	6.46	10.36	Sep-01
<i>Net of Fee Value Added vs Index</i>		<i>0.55</i>	<i>1.08</i>	<i>1.20</i>	<i>2.09</i>	<i>1.37</i>	<i>-0.10</i>	
Information Ratio				0.64	1.01	0.73		
Sharpe Ratio				2.89	0.59	0.43		
CenterSquare (Gross)	\$ 80.1	12.46	22.34	38.97	12.16		13.45	May-18
CenterSquare (Net)		12.33	22.06	38.32	11.64		12.94	May-18
Wilshire Real Estate Securities		12.75	22.70	37.55	10.01		11.28	May-18
<i>Net of Fee Value Added vs Index</i>		<i>-0.42</i>	<i>-0.65</i>	<i>0.77</i>	<i>1.63</i>		<i>1.66</i>	
Information Ratio				0.34	0.93	--		
Sharpe Ratio				2.65	0.54	--		

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

Real Estate Overview (Continued)

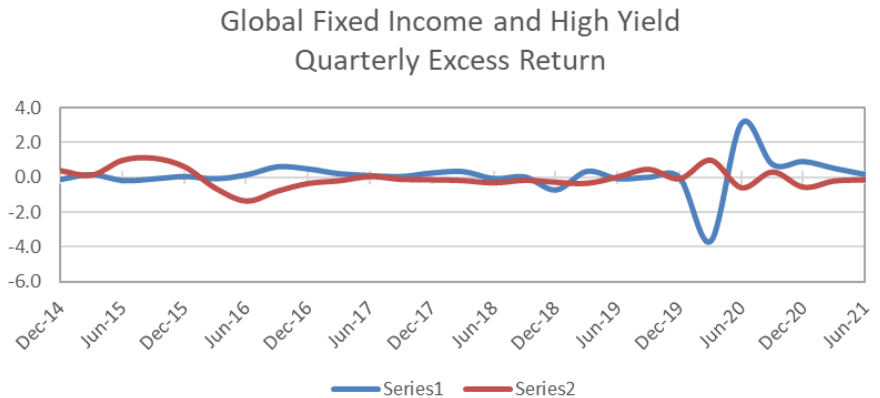
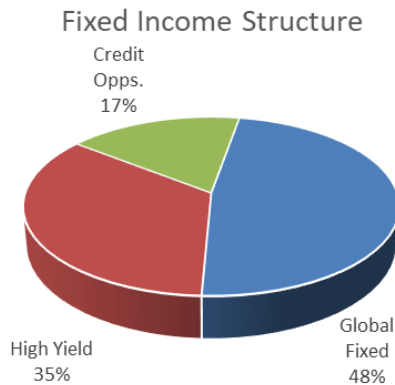
Real Estate Managers

	Assets (Millions)	QTR	Performance (%) YTD	1-year	3-year	5-year	Since Inception	Inception Date
Direct Core Real Estate - Private								
Heitman America Real Estate Trust (Gross)	\$ 86.5	4.15	6.93	10.17	3.69	5.48	10.23	Aug-10
Heitman America Real Estate Trust (Net)		3.91	6.45	9.18	2.77	4.54	9.21	Aug-10
NCREIF Open-End Diversified Core (Net)		3.68	5.64	7.09	4.60	5.62	9.40	Aug-10
Net of Fee Value Added vs Index		0.23	0.81	2.09	-1.83	-1.08	-0.19	
Invesco Core Real Estate USA (Gross)	\$ 72.5	5.04	6.87	8.78	6.29	7.51	10.86	Aug-10
Invesco Core Real Estate USA (Net)		4.82	6.41	7.86	5.39	6.60	9.90	Aug-10
NCREIF Open-End Diversified Core (Net)		3.68	5.64	7.09	4.60	5.62	9.40	Aug-10
Net of Fee Value Added vs Index		1.14	0.77	0.77	0.79	0.98	0.50	
AEW Partners Real Estate Fund IX (Gross)	\$ 2.3	-29.10					-29.10	Apr-21
AEW Partners Real Estate Fund IX (Net)		-29.10					-29.10	Apr-21
NCREIF Open-End Diversified Core (Net)		3.68					3.68	Apr-21
Net of Fee Value Added vs Index		-32.78					-32.78	
Virtus Real Estate Capital III (Gross)	\$ 27.4	17.34					17.34	Feb-21
Virtus Real Estate Capital III (Net)		17.34					17.34	Feb-21
NCREIF Open-End Diversified Core (Net)		3.68					5.64	Feb-21
Net of Fee Value Added vs Index		13.66					11.70	
Invesco II	\$ 70.0	1.05	0.46	1.09	7.56	4.21	2.70	Oct-13

- ◆ The Fund's total real estate composite is comprised of both public market real estate securities (REITs) and private investment in direct core real estate. The total segment returned 7.26% (net of fees) during the second quarter, outperforming its benchmark (split 50% Wilshire Real Estate Securities Index, 39% NCREIF Open-End Diversified Core Index and 11% Invesco II Custom Benchmark) which returned 6.40%. On the public side, one REIT outperformed and the other underperformed the Wilshire Real Estate Securities Index. On the private side, results were mixed with the two original managers outperforming and two new managers splitting performance, with one over- and the other underperforming the NCREIF ODCE Index. Currently, the Fund's total real estate composite is underperforming over all time periods.



Fixed Income Overview



Fixed Income Composites

	Assets (Millions)	QTR	YTD	1-year	3-year	5-year	10-year
Global Fixed Income (Gross)	\$ 511.6	2.06	-0.80	2.27	6.04	3.95	4.24
Global Fixed Income (Net)		2.00	-0.90	2.05	5.82	3.73	4.04
Bloomberg Aggregate Bond Index		1.83	-1.61	-0.34	5.34	3.03	3.39
Net of Fee Value Added vs Benchmark		0.17	0.70	2.39	0.47	0.70	0.65
High Yield (Gross)	\$ 371.6	2.60	3.40	15.30	7.33	7.12	6.71
High Yield (Net)		2.48	3.16	14.81	6.81	6.61	6.20
Custom Benchmark ¹		2.64	3.54	15.52	6.97	7.13	6.32
Net of Fee Value Added vs Benchmark		-0.16	-0.38	-0.71	-0.15	-0.51	-0.11
Bloomberg Aggregate		1.83	-1.61	-0.34	5.34	3.03	3.39
Citigroup High Yield Cash Pay		2.64	3.54	15.52	6.97	7.13	6.32
BofA ML High Yield Master II		2.77	3.70	15.62	7.15	7.30	6.50

Global Fixed Income Managers

	Assets (Millions)	QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Global Fixed Income								
Securian Asset Mgmt. (Gross)	\$ 223.3	2.32	-0.17	3.22	5.80	4.01	4.89	May-07
Securian Asset Mgmt. (Net)		2.28	-0.26	3.04	5.61	3.83	4.71	May-07
Bloomberg Aggregate		1.83	-1.61	-0.34	5.34	3.03	4.31	May-07
Net of Fee Value Added vs Benchmark		0.45	1.35	3.37	0.27	0.80	0.41	
Information Ratio				4.09	0.07	0.28		
Sharpe Ratio				0.83	0.80	0.60		
Aberdeen (Gross)	\$ 0.3	1.64	-1.47	1.73	6.57	4.08	5.10	Apr-07
Aberdeen (Net)		1.58	-1.59	1.50	6.32	3.84	4.87	Apr-07
Bloomberg Aggregate		1.83	-1.61	-0.34	5.34	3.03	4.18	Apr-07
Net of Fee Value Added vs Benchmark		-0.25	0.02	1.83	0.97	0.82	0.70	
Information Ratio				1.93	0.48	0.52		
Sharpe Ratio				0.39	1.13	0.69		

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



Fixed Income Overview (Continued)

Global Fixed Income Managers

	Assets (Millions)	QTR	Performance (%)				Since Inception	Inception Date
			YTD	1-year	3-year	5-year		
NT Collective Agg. Bond Index (Gross)	\$ 221.3							Jul-21
NT Collective Agg. Bond Index (Net)								Jul-21
Bloomberg Aggregate								Jul-21
Net of Fee Value Added vs Benchmark								
Information Ratio				-.-	-.-	-.-		
Sharpe Ratio				-.-	-.-	-.-		
Global Fixed Income								
Garcia Hamilton (Gross)	\$ 66.6	1.21	-1.93	-0.38	4.69	3.09	3.84	Oct-13
Garcia Hamilton (Net)		1.14	-2.06	-0.64	4.42	2.83	3.58	Oct-13
Bloomberg Aggregate		1.83	-1.61	-0.34	5.34	3.03	3.38	Oct-13
Net of Fee Value Added vs Benchmark		-0.69	-0.45	-0.31	-0.93	-0.20	0.20	
Information Ratio				-0.35	-0.66	-0.16		
Sharpe Ratio				-0.28	0.92	0.56		

- ◆ The Fund's global fixed income segment returned 2.00% (net of fees) during the second quarter of 2021, outperforming the Bloomberg Aggregate Bond Index, which returned 1.83%. The segment has historically been comprised of three actively managed strategies: (1) Securian Asset Management (previously Advantus Capital Management), (2) Aberdeen Asset Management, and (3) Garcia Hamilton. During this period, Aberdeen Asset Management was defunded while the passive Collective Aggregate Bond Index managed by Northern Trust was funded as its replacement. The remaining actively managed portfolios split performance, with one manager outperforming and the other trailing the Bloomberg Aggregate Index. Securian and Northern Trust manage roughly the same level of assets for the Fund while the Garcia Hamilton portfolio has a smaller mandate. Therefore, quarter to quarter performance will largely be driven by the results of the Securian and Northern Trust while the Garcia Hamilton account does not have the ability to move the needle as much, so to speak, on account of its smaller size. Following this period's results, the global fixed income composite continues to outperform the Bloomberg Aggregate over all time periods.



Fixed Income Overview (Continued)

High Yield/Credit Opportunities Managers

	Assets (Millions)	QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
High Yield								
Oaktree Capital Management (Gross)	\$ 187.2	2.57	3.47	15.94	6.96	6.83	7.24	Dec-96
Oaktree Capital Management (Net)		2.45	3.22	15.39	6.44	6.30	6.47	Dec-96
Citigroup High Yield Cash Pay		2.64	3.54	15.52	6.97	7.13	6.90	Dec-96
Net of Fee Value Added vs Benchmark		-0.20	-0.32	-0.13	-0.53	-0.82	-0.43	
Information Ratio				-0.18	-0.46	-0.82		
Sharpe Ratio				2.80	0.56	0.71		
BlackRock High Yield								
BlackRock High Yield (Gross)	\$ 184.4	2.63	3.32	14.61	7.69	7.41	7.01	Sep-06
BlackRock High Yield (Net)		2.52	3.09	14.19	7.18	6.91	6.53	Sep-06
Citigroup High Yield Cash Pay		2.64	3.54	15.52	6.97	7.13	6.99	Sep-06
Net of Fee Value Added vs Benchmark		-0.13	-0.45	-1.33	0.21	-0.21	-0.46	
Information Ratio				-0.23	0.06	-0.08		
Sharpe Ratio				1.54	0.61	0.76		
Credit Opportunities								
Neuberger Berman (Gross)	\$ 184.2	2.87	2.63	13.56	6.35	6.40	7.15	Jan-16
Neuberger Berman (Net)		2.79	2.49	13.21	6.04	6.10	6.86	Jan-16
Custom Benchmark		2.76	2.11	11.58	6.10	5.74	6.96	Jan-16
Net of Fee Value Added vs Benchmark		0.03	0.38	1.63	-0.07	0.36	-0.09	
Information Ratio				1.59	-0.04	0.22		
Sharpe Ratio				2.45	0.43	0.58		

- ◆ The high yield composite returned 2.48% (net of fees) during the second quarter, trailing the Citigroup High Yield Cash Pay Index, which returned 2.64%. The composite is currently split equally between the two actively-managed strategies. During the period, both strategies trailed the benchmark. The high yield composite is currently trailing its benchmark over all time periods.

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



Private Equity Overview

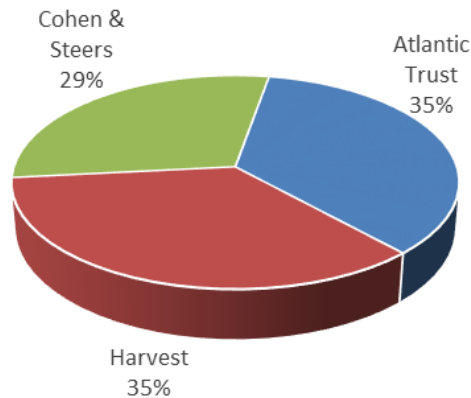
Private Equity Composite								
	Total Commitment	Commit. Year	Cumulative Capital Called		Cumulative Distributions	Capital Balance	Multiple	Calculated IRR
Hamilton Lane Fund VII LP (Series A)	30,000,000	2010	27,569,673	91.9%	32,613,901	12,195,040	1.63	10.8%
Hamilton Lane Fund VII LP (Series B)	20,000,000	2010	18,031,161	90.2%	14,960,416	6,295,581	1.18	3.2%
<i>Hamilton Lane Fund VII LP (Total)</i>	<i>50,000,000</i>		<i>45,600,834</i>	<i>91.2%</i>	<i>47,574,317</i>	<i>18,490,621</i>	<i>1.45</i>	<i>5.6%</i>
Hamilton Lane Secondary Fund II LP	25,000,000	2009	22,058,532	88.2%	31,007,605	529,889	1.43	13.6%
Hamilton Lane Secondary Fund III LP	30,000,000	2012	23,372,292	77.9%	24,909,107	5,484,260	1.30	9.8%
Hamilton Lane Secondary Fund IV LP	30,000,000	2017	25,907,343	86.4%	15,580,777	18,127,963	1.30	14.6%
Hamilton Lane Secondary Fund V LP	40,000,000	2020	20,550,973	51.4%	-	24,440,851	1.19	35.7%
Hamilton Lane Fund VIII LP (Global)	30,000,000	2012	22,162,244	73.9%	9,635,728	18,070,586	1.25	4.8%
GCM Grosvenor - Partnership, L.P.	75,000,000	2011	85,610,430	114.1%	105,346,691	33,210,251	1.62	14.2%
GCM Grosvenor - Partnership II, L.P. (2014)	60,000,000	2014	69,559,751	115.9%	42,836,147	53,306,693	1.38	14.4%
GCM Grosvenor - Partnership II, L.P. (2015)	30,000,000	2015	33,736,462	112.5%	8,281,954	39,313,902	1.41	16.4%
GCM Grosvenor - Partnership II, L.P. (2017)	30,000,000	2018	17,458,710	58.2%	1,285,521	16,937,324	1.04	8.9%
GCM Grosvenor - Advance Fund, L.P.	10,000,000	2021	1,359,265	13.6%		1,382,733	1.02	
Fairview Capital - Lone Star Fund I	40,000,000	2015	34,103,847	85.3%	7,848,350	41,143,839	1.44	12.9%
Fairview Capital - Lone Star Fund II	30,000,000	2018	10,817,595	36.1%	-	12,716,758	1.18	0.7%
Fairview Capital - Lone Star Fund III	25,000,000	2021	1,567,001	6.3%		1,491,584	0.95	-8.0%
Total Private Equity Program	505,000,000	2009	413,865,278	82.0%	294,306,197	284,647,254	1.40	12.1%

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



Global Listed Infrastructure Overview

Global Listed Infrastructure



Global Listed Infrastructure Composite

	Assets	Performance					
	(Millions)	QTR	YTD	1-year	3-year	5-year	10-year
Global Listed Infra (Gross)	\$ 222.4	13.95	29.29	36.33	-2.24	-0.40	
Global Listed Infra (Net)		13.78	28.91	35.40	-2.92	-1.07	
GLI Custom Benchmark		16.46	36.67	46.27	-4.05	-3.29	
Net of Fee Value Added vs Index		-2.68	-7.76	-10.87	1.14	2.22	
Alerian MLP Index		21.23	47.84	63.98	-0.33	-1.05	1.07
S&P MLP Index		19.31	40.44	46.59	-8.64	-7.74	-5.29
Bloomberg Commodities Index		13.30	21.15	45.61	3.90	2.40	-4.44
FTSE Global Core Infra 50/50 Idx Net		2.89	7.09				

Managers

	Assets	Performance (%)					Since	Inception
	(Millions)	QTR	YTD	1-year	3-year	5-year	Inception	Date
MLPs								
Harvest Fund Advisors (Gross)	\$ 78.2	18.15	40.47	58.34	3.09	2.96	5.34	
Harvest Fund Advisors (Net)		17.94	39.99	57.12	2.27	2.17	4.58	Dec-11
Alerian MLP Index		21.23	47.84	63.98	-0.33	-1.05	0.29	Dec-11
Net of Fee Value Added vs Benchmark		-3.28	-7.85	-6.86	2.60	3.22	4.29	
Information Ratio				-0.49	0.18	0.29		
Sharpe Ratio				2.59	0.03	0.03		
Atlantic Trust CIBC (Gross)	\$ 78.8	18.41	39.15	53.88	1.44	1.65	5.37	
Atlantic Trust CIBC (Net)		18.24	38.76	52.92	0.83	1.06	4.78	Dec-11
Alerian MLP Index		21.23	47.84	63.98	-0.33	-1.05	0.29	Dec-11
Net of Fee Value Added vs Benchmark		-2.99	-9.07	-11.06	1.16	2.11	4.49	
Information Ratio				-1.19	0.12	0.28		
Sharpe Ratio				2.14	-0.01	0.00		



Global Listed Infrastructure Overview (Continued)

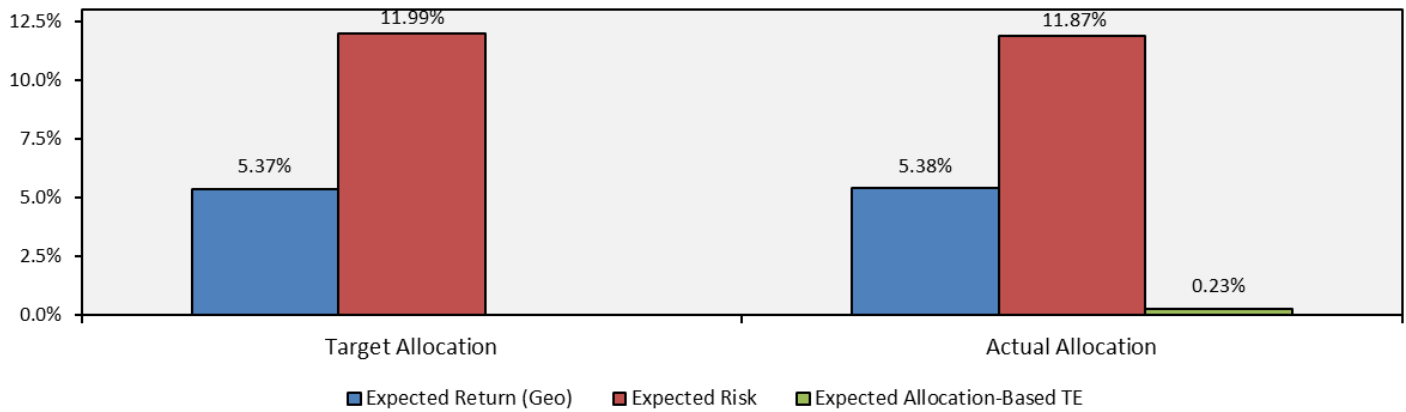
	Assets		Performance (%)			Since	Inception
	(Millions)	QTR	YTD	1-year	3-year	5-year	Inception Date
Global Listed Infrastructure							
Cohen & Steers GLI (Gross)	\$ 65.4	4.74	8.49				17.20
Cohen & Steers GLI (Net)		4.60	8.21				16.89 Nov-20
FTSE Global Core Infra 50/50 Index		2.89	7.09				16.97 Nov-20
		1.71	1.12				-0.08
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- ◆ The Fund's Master Limited Partnership (MLP) program, which is comprised of Harvest Fund Advisors and Atlantic Trust, was joined last year by a Global Listed Infrastructure strategy managed by Cohen & Steers. The three managers will now make up the Global Listed Infrastructure composite. Commodity results were positive for the quarter as crude oil was up 24.2% to \$73.47 per barrel. Oil prices are now back above pre-COVID levels, up +20% (cumulative) since year-end 2019. Natural gas prices were up 40.0%, ending the quarter at \$3.65 per million BTUs. Midstream energy surged for the third consecutive quarter while the broader infrastructure segment was also positive. The Global Listed Infrastructure composite is outperforming across the longer time periods, including the three- and five- year time periods, and since inception.

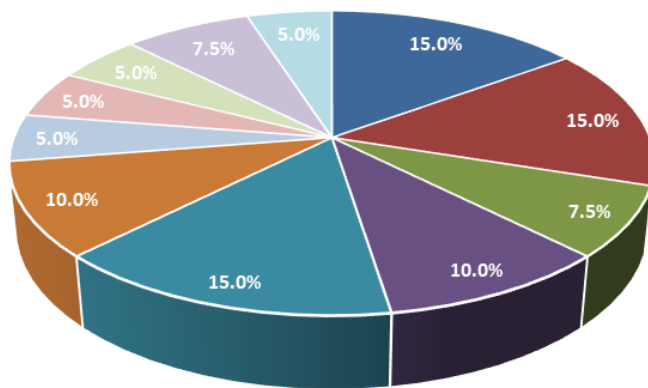
Appendix: Risk Analysis & Performance Objectives



Expected Return and Risk

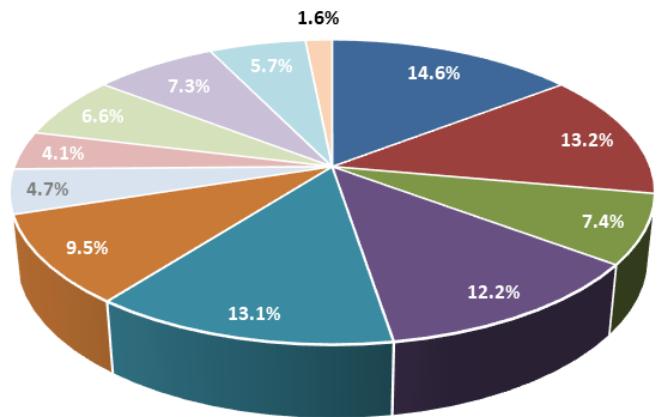


Target Asset Allocation



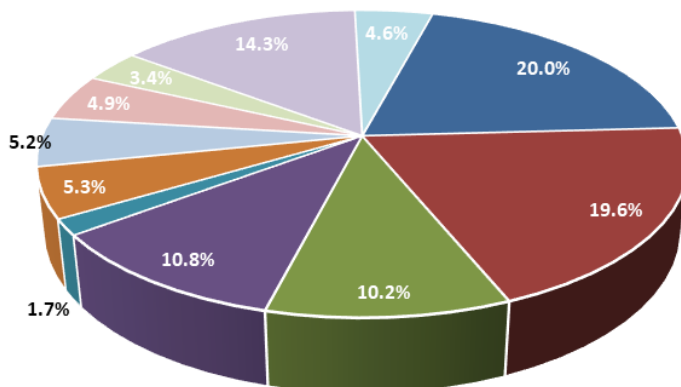
Domestic Equity Int'l Equity Global Equity
Opp Credit Public REITs Private Real Est.

Actual Asset Allocation



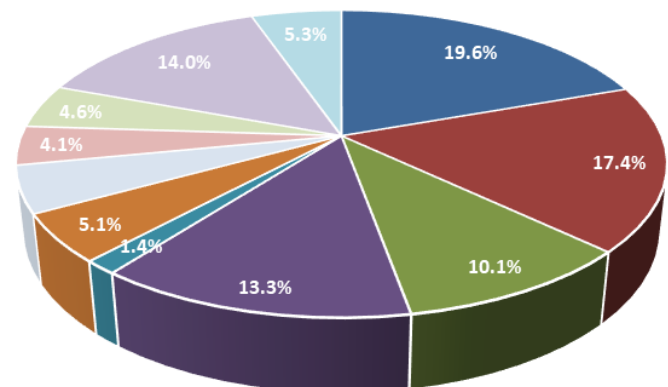
Global Low Vol Global Fixed Income High Yield
Private Equity Global Listed Infra Cash

Contribution to Total Risk - Target Allocation



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

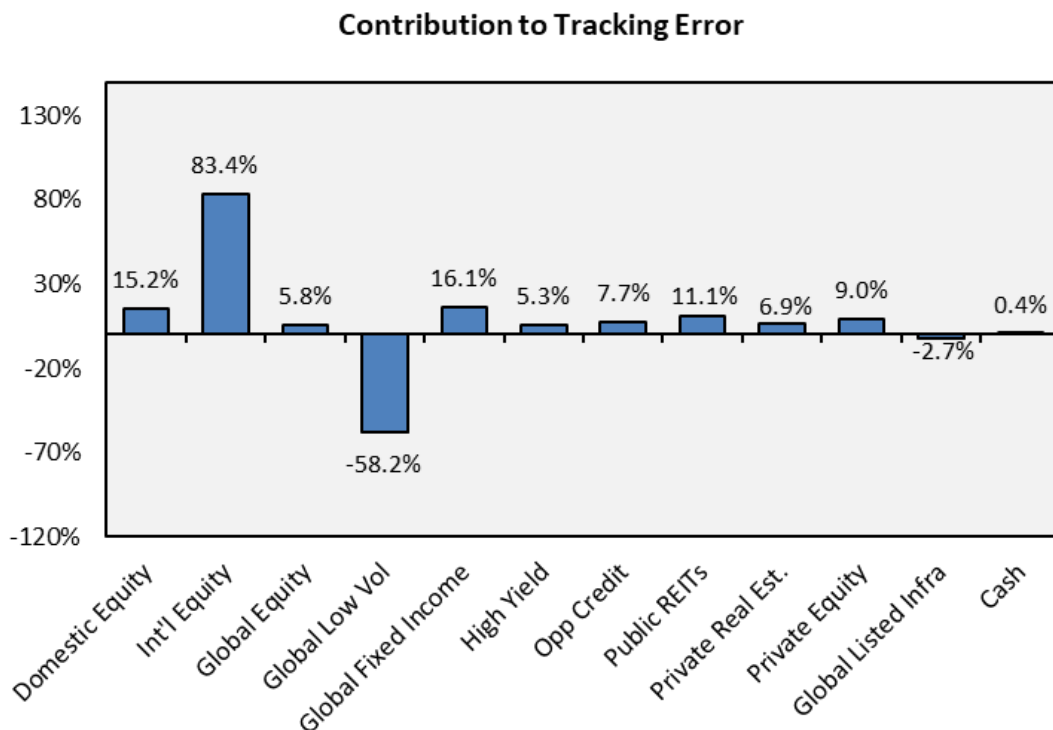
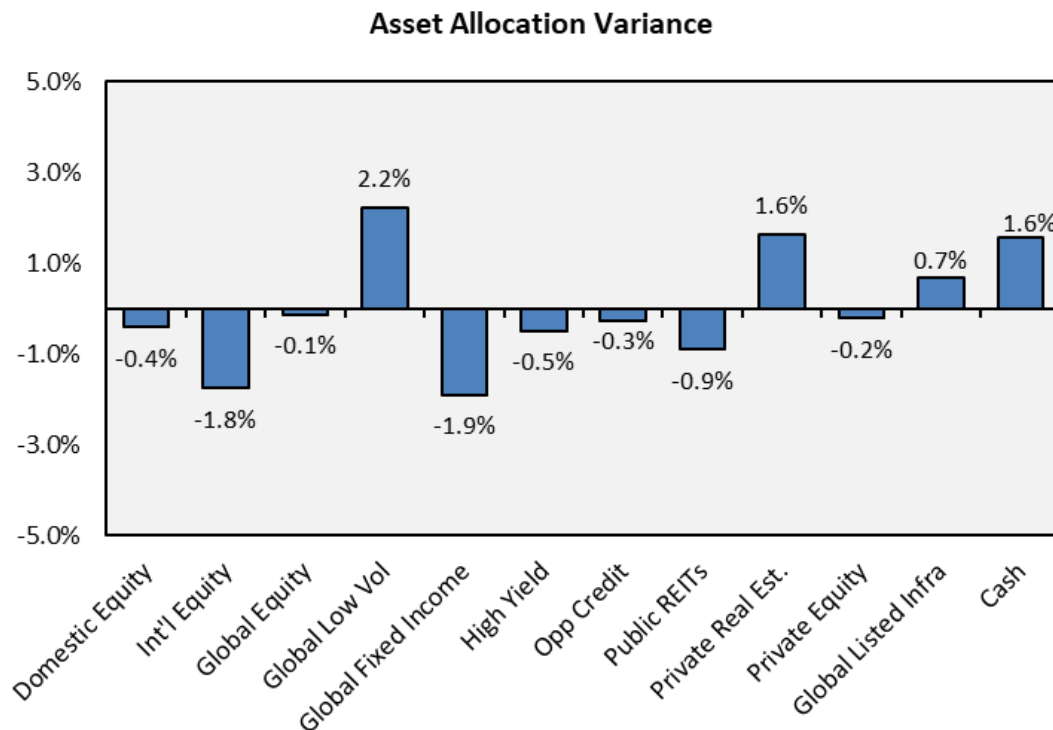
Contribution to Total Risk - Actual Allocation



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



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



- ◆ The variance between the Fund's actual asset allocation and the target allocation is a source of tracking error for the Fund. This "asset allocation tracking error" is currently forecasted to be 0.23% (for the one-year period) at quarter-end. International equity and Global Fixed Income provided the largest contributions to tracking error at the total fund level.



Manager Risk Statistics

U.S. Equity					Non-U.S. Equity				
T. Rowe Price (Enhanced Index)	1 Yr	3 Yr	5 Yr	10 Yr	Acadian (Int'l Small Cap)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	15.70	19.01	15.32	13.92	Standard Deviation	13.63	20.72	17.20	16.56
Standard Deviation (Index)	14.62	18.52	14.99	13.59	Standard Deviation (Index)	15.72	21.04	17.12	16.33
Sharpe Ratio	2.68	0.92	1.12	1.05	Sharpe Ratio	4.01	0.46	0.76	0.53
Sharpe Ratio (Index)	2.78	0.92	1.09	1.04	Sharpe Ratio (Index)	2.98	0.40	0.62	0.39
Excess Risk	1.41	1.09	1.13	1.08	Excess Risk	4.60	4.24	4.15	3.75
Information Ratio	0.74	0.35	0.65	0.39	Information Ratio	1.15	0.27	0.53	0.61
Systematic (Small Core)	1 Yr	3 Yr	5 Yr	10 Yr	AQR (Int'l Equity)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	17.18	24.53	20.25	18.39	Standard Deviation	13.48	18.28	15.22	15.66
Standard Deviation (Index)	18.92	25.56	21.00	18.88	Standard Deviation (Index)	14.73	17.61	14.59	15.08
Sharpe Ratio	3.65	0.34	0.68	0.66	Sharpe Ratio	2.79	0.43	0.66	0.37
Sharpe Ratio (Index)	3.27	0.47	0.72	0.62	Sharpe Ratio (Index)	2.42	0.45	0.67	0.32
Excess Risk	9.36	6.45	5.54	4.64	Excess Risk	2.83	2.83	2.63	2.58
Information Ratio	0.05	-0.50	-0.22	0.08	Information Ratio	0.52	-0.05	0.09	0.35
Channing Capital (Small Value)	1 Yr	3 Yr	5 Yr	10 Yr	Ativo (Int'l Developed)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	23.69	28.61	23.39	n/a	Standard Deviation	14.52	18.19	n/a	n/a
Standard Deviation (Index)	20.36	26.87	22.32	n/a	Standard Deviation (Index)	17.34	17.74	n/a	n/a
Sharpe Ratio	2.68	0.33	0.49	n/a	Sharpe Ratio	2.11	0.30	n/a	n/a
Sharpe Ratio (Index)	3.59	0.33	0.55	n/a	Sharpe Ratio (Index)	1.86	0.39	n/a	n/a
Excess Risk	9.52	7.4	6.25	n/a	Excess Risk	5.73	4.92	n/a	n/a
Information Ratio	-0.59	0.07	-0.12	n/a	Information Ratio	-0.21	-0.27	n/a	n/a
Redwood (Small Growth)	1 Yr	3 Yr	5 Yr	10 Yr	Global Equity				
Standard Deviation	15.09	21.69	n/a	n/a	Wellington (Global Equity)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation (Index)	20.04	25.56	n/a	n/a	Standard Deviation	14.10	18.90	15.33	n/a
Sharpe Ratio	3.86	0.79	n/a	n/a	Standard Deviation (Index)	14.47	17.95	14.52	n/a
Sharpe Ratio (Index)	2.56	0.56	n/a	n/a	Sharpe Ratio	2.74	0.68	0.89	n/a
Excess Risk	12.88	11.38	n/a	n/a	Sharpe Ratio (Index)	2.70	0.73	0.91	n/a
Information Ratio	0.36	0.21	n/a	n/a	Excess Risk	3.99	3.63	3.27	n/a
Smith Graham (Mid-Cap)	1 Yr	3 Yr	5 Yr	10 Yr	Information Ratio	-0.10	-0.04	0.10	n/a
Standard Deviation	18.69	29.46	n/a	n/a	Global Low Volatility				
Standard Deviation (Index)	14.19	22.10	n/a	n/a	Acadian (Global Low Volatility)	1 Yr	3 Yr	5 Yr	10 Yr
Sharpe Ratio	4.18	0.38	n/a	n/a	Standard Deviation	11.35	14.62	12.06	n/a
Sharpe Ratio (Index)	3.50	0.67	n/a	n/a	Standard Deviation (Index)	14.47	17.95	14.52	n/a
Excess Risk	11.49	11.76	n/a	n/a	Sharpe Ratio	1.86	0.43	0.54	n/a
Information Ratio	1.65	-0.28	n/a	n/a	Sharpe Ratio (Index)	1.96	0.65	0.68	n/a
Real Estate Investment Trusts					Excess Risk	7.61	6.68	5.53	n/a
Adelante (REIT)	1 Yr	3 Yr	5 Yr	10 Yr	Information Ratio	-1.70	-0.90	-1.07	n/a
Standard Deviation	13.36	18.04	15.48	15.51	Fixed Income (Core)				
Standard Deviation (Index)	13.64	19.02	16.29	16.33	Securian (Core Fixed Income)	1 Yr	3 Yr	5 Yr	10 Yr
Sharpe Ratio	2.89	0.59	0.43	0.60	Standard Deviation	3.54	5.28	4.38	3.65
Sharpe Ratio (Index)	2.74	0.45	0.32	0.54	Standard Deviation (Index)	3.21	3.49	3.25	3.01
Excess Risk	1.35	1.89	1.78	1.81	Sharpe Ratio	0.83	0.80	0.60	0.98
Information Ratio	0.64	1.01	0.73	0.26	Sharpe Ratio (Index)	-0.13	1.13	0.56	0.91
Real Estate Investment Trusts					Excess Risk	0.83	3.52	2.73	1.96
Centersquare (REIT)	1 Yr	3 Yr	5 Yr	10 Yr	Information Ratio	4.09	0.07	0.28	0.42
Standard Deviation	14.43	n/a	n/a	n/a					
Standard Deviation (Index)	13.64	n/a	n/a	n/a					
Sharpe Ratio	2.65	n/a	n/a	n/a					
Sharpe Ratio (Index)	2.74	n/a	n/a	n/a					
Excess Risk	1.63	n/a	n/a	n/a					
Information Ratio	0.34	n/a	n/a	n/a					



Manager Risk Statistics

High Yield Fixed Income					Fixed Income (Core)				
<u>BlackRock (High Yield)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<u>Aberdeen (Core Fixed Income)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation	9.16	9.49	7.49	6.74	Standard Deviation	3.57	4.33	3.80	3.4
Standard Deviation (Index)	5.85	9.44	7.51	7.09	Standard Deviation (Index)	3.21	3.49	3.25	3.01
Sharpe Ratio	1.54	0.61	0.76	0.83	Sharpe Ratio	0.39	1.13	0.69	0.95
Sharpe Ratio (Index)					Sharpe Ratio (Index)	-0.13	1.13	0.56	0.91
Excess Risk	4.94	3.08	2.40	2.08	Excess Risk	0.95	1.92	1.51	1.35
Information Ratio	-0.23	0.06	-0.08	-0.02	Information Ratio	1.93	0.48	0.52	0.35
<u>Oaktree (High Yield)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<u>Garcia Hamilton (Core Fixed Income)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation	5.45	8.91	7.12	6.74	Standard Deviation	2.64	3.32	2.94	n/a
Standard Deviation (Index)	5.85	9.44	7.51	7.09	Standard Deviation (Index)	3.21	3.49	3.25	n/a
Sharpe Ratio	2.80	0.56	0.71	0.78	Sharpe Ratio	-0.28	0.92	0.56	n/a
Sharpe Ratio (Index)	2.63	0.59	0.78	0.80	Sharpe Ratio (Index)	-0.13	1.13	0.56	n/a
Excess Risk	0.66	1.08	0.94	1.04	Excess Risk	0.89	1.33	1.19	n/a
Information Ratio	-0.18	-0.46	-0.82	-0.39	Information Ratio	-0.35	-0.66	-0.16	n/a
<u>Neuberger Berman (Credit Opps)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	Master Limited Partnerships				
Standard Deviation	5.35	10.68	8.46	n/a	<u>Harvest (MLP)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation (Index)	4.75	9.37	7.41	n/a	Standard Deviation	21.95	36.32	29.55	n/a
Sharpe Ratio	2.45	0.43	0.58	n/a	Standard Deviation (Index)	29.91	47.77	38.01	n/a
Sharpe Ratio (Index)	2.63	0.59	0.78	n/a	Sharpe Ratio	2.59	0.03	0.03	n/a
Excess Risk	0.92	1.77	1.55	n/a	Sharpe Ratio (Index)	2.13	-0.03	-0.06	n/a
Information Ratio	1.59	-0.04	0.22	n/a	Excess Risk	8.51	14.21	11.10	n/a
					Information Ratio	-0.49	0.18	0.29	n/a
					<u>Atlantic Trust CIBC (MLP)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
					Standard Deviation	24.62	40.22	32.45	27.21
					Standard Deviation (Index)	29.91	47.77	38.01	29.76
					Sharpe Ratio	2.14	-0.01	0.00	0.10
					Sharpe Ratio (Index)	2.13	-0.03	-0.06	0.01
					Excess Risk	5.66	9.44	7.56	7.69
					Information Ratio	-1.19	0.12	0.28	0.31



Manager Performance Objectives

Domestic Equity	3-year	5-year	Since Inception	Inception Date
<u>Enhanced Index</u>				
T. Rowe Price (Net)	19.13	18.52	11.02	Mar-06
S&P 500 Index + 1%	19.85	18.81	11.57	Mar-06
<i>Net of Fee Value Added vs Objective</i>	<i>-0.72</i>	<i>-0.29</i>	<i>-0.55</i>	
S&P 500 Index	18.67	17.65	10.44	Mar-06
<i>Net of Fee Value Added vs Benchmark</i>	<i>0.46</i>	<i>0.88</i>	<i>0.58</i>	
<u>Small Core - Active</u>				
Systematic Financial (Net)	9.87	15.04	11.57	Jun-03
Russell 2000 Index + 1.25%	14.93	17.91	12.05	Jun-03
<i>Net of Fee Value Added vs Objective</i>	<i>-5.06</i>	<i>-2.87</i>	<i>-0.48</i>	
Russell 2000 Index	13.52	16.47	10.67	Jun-03
<i>Net of Fee Value Added vs Benchmark</i>	<i>-3.65</i>	<i>-1.43</i>	<i>0.90</i>	
<u>Small Value - Active</u>				
Channing Capital Management (Net) *	10.83	12.79	9.09	Oct-13
Russell 2000 Value Index + 1.25%	11.65	15.03	10.75	Oct-13
<i>Net of Fee Value Added vs Objective</i>	<i>-0.82</i>	<i>-2.24</i>	<i>-1.66</i>	
Russell 2000 Value Index	10.27	13.62	9.38	Oct-13
<i>Net of Fee Value Added vs Benchmark</i>	<i>0.56</i>	<i>-0.83</i>	<i>-0.28</i>	
<u>Small Growth - Active</u>				
Redwood Investments (Net) *	17.66		16.05	Sep-16
Russell 2000 Growth Index + 1.50%	17.68		19.41	Sep-16
<i>Net of Fee Value Added vs Objective</i>	<i>-0.02</i>		<i>-3.36</i>	
Russell 2000 Growth Index	15.94		17.64	
<i>Net of Fee Value Added vs Benchmark</i>	<i>1.72</i>		<i>-1.59</i>	
<u>Mid Cap Value - Active</u>				
Smith Graham Mid Cap Value (Net) *	12.62		11.52	Dec-17
Russell Midcap Index + 2%	18.77		16.99	Dec-17
<i>Net of Fee Value Added vs Objective</i>	<i>-6.15</i>		<i>-5.47</i>	
Russell Midcap Index	16.45		14.70	
<i>Net of Fee Value Added vs Benchmark</i>	<i>-3.83</i>		<i>-3.18</i>	



Manager Performance Objectives

International Equity	3-year	5-year	Since Inception	
<u>Int'l Small Cap - Active</u>				
Acadian International (Net)	11.04	14.45	9.01	Mar-89
Custom Benchmark + 2%	11.98	14.21	8.67	Mar-89
<i>Net of Fee Value Added vs Objective</i>	<i>-0.94</i>	<i>0.24</i>	<i>0.34</i>	
Custom Benchmark	9.78	11.97		Mar-89
<i>Net of Fee Value Added vs Benchmark</i>	<i>1.27</i>	<i>2.48</i>		
<u>Int'l Enhanced Index</u>				
AQR Capital Management (Net)	9.23	11.35	4.71	Mar-06
Custom Benchmark + 1.5%	11.02	12.74	5.74	Mar-06
<i>Net of Fee Value Added vs Objective</i>	<i>-1.79</i>	<i>-1.39</i>	<i>-1.03</i>	
Custom Benchmark	9.38	11.08	4.17	Mar-06
<i>Net of Fee Value Added vs Benchmark</i>	<i>-0.15</i>	<i>0.27</i>	<i>0.54</i>	
<u>Int'l Developed</u>				
Ativo International Developed (Net) *	6.81		5.56	Dec-17
MSCI EAFE Index + 2%	10.44		8.66	
<i>Net of Fee Value Added vs Objective</i>	<i>-3.63</i>		<i>-3.10</i>	
MSCI EAFE Index	8.27		6.20	
<i>Net of Fee Value Added vs Benchmark</i>	<i>-1.45</i>		<i>-0.64</i>	
<u>Int'l Equity (Active)</u>				
Baillie Gifford (Net)	-.-	-.-	22.28	Mar-19
MSCI ACWI x-US (Net) + 2%	-.-	-.-	15.57	
<i>Net of Fee Value Added vs Objective</i>			<i>6.71</i>	
MSCI ACWI x-US (Net)	-.-	-.-	13.53	
<i>Net of Fee Value Added vs Benchmark</i>			<i>8.75</i>	
<u>Int'l Equity (Active)</u>				
Earnest Partners (Net) *	-.-	-.-	15.99	Mar-19
MSCI ACWI x-US (Net) + 2%	-.-	-.-	15.57	
<i>Net of Fee Value Added vs Objective</i>			<i>0.42</i>	
MSCI ACWI x-US (Net)	-.-	-.-	13.53	
<i>Net of Fee Value Added vs Benchmark</i>			<i>2.45</i>	



Manager Performance Objectives

Global Equity			Since	Inception
	<u>3-year</u>	<u>5-year</u>	<u>Inception</u>	<u>Date</u>
<u>Global Equity - Active</u>				
Wellington (Net)	14.41	14.98	13.61	Aug-12
MSCI ACWI (Net) + 2%	16.86	16.90	13.92	Aug-12
<i>Net of Fee Value Added vs Objective</i>	<i>-2.45</i>	<i>-1.92</i>	<i>-0.31</i>	
MSCI ACWI (Net)	14.57	14.61	11.68	Aug-12
<i>Net of Fee Value Added vs Benchmark</i>	<i>-0.16</i>	<i>0.37</i>	<i>1.93</i>	

Global Equity - Active

Ariel (Net) *	9.46	8.46	Dec-17
MSCI ACWI (Net) + 1.5%	16.28	13.90	
<i>Net of Fee Value Added vs Objective</i>	<i>-6.82</i>	<i>-5.44</i>	
MSCI ACWI (Net)	14.57	12.22	
<i>Net of Fee Value Added vs Benchmark</i>	<i>-5.11</i>	<i>-3.77</i>	

	<u>3-year</u>	<u>5-year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<u>Global Low Volatility - Active</u>				
Acadian Global Low Vol (Net)	7.84	7.92	8.18	Jun-15
MSCI ACWI (Net) + 2%	16.86	16.90	12.95	Jun-15
<i>Net of Fee Value Added vs Objective</i>	<i>-9.02</i>	<i>-8.98</i>	<i>-4.77</i>	
MSCI ACWI (Net)	14.57	14.61	11.33	Jun-15
<i>Net of Fee Value Added vs MSCI ACWI</i>	<i>-6.72</i>	<i>-6.69</i>	<i>-3.15</i>	
MSCI ACWI Min Vol (Net)	9.55	8.40	8.92	Jun-15
<i>Net of Fee Value Added vs MSCI ACWI Min Vol</i>	<i>-1.71</i>	<i>-0.48</i>	<i>-0.74</i>	



Manager Performance Objectives

Real Estate	3-year	5-year	Since Inception	Inception Date
Real Estate Securities - Public				
Adelante Capital Management (Net)	12.10	7.83	10.26	Sep-01
Wilshire Real Estate Securities + 1%	11.11	7.52	11.46	Sep-01
Net of Fee Value Added vs Objective	0.99	0.31	-1.20	
Wilshire Real Estate Securities	10.01	6.46	10.36	Sep-01
Net of Fee Value Added vs Index	2.09	1.37	-0.10	
CenterSquare (Net)				
CenterSquare (Net)	11.64	--	12.94	May-18
Wilshire Real Estate Securities + 1%	11.11	--	12.39	May-18
Net of Fee Value Added vs Objective	0.53		0.55	
Wilshire Real Estate Securities	10.01	--	11.28	May-18
Net of Fee Value Added vs Index	1.63		1.66	



Manager Performance Objectives

Fixed Income	3-year	5-year	Since Inception	Inception Date
Global Fixed Income				
Securian Asset Mgmt. (Net)	5.61	3.83	4.71	May-07
Bloomberg Aggregate + 0.5%	5.87	3.54	4.78	May-07
Net of Fee Value Added vs Objective	-0.26	0.29	-0.07	
Bloomberg Aggregate	5.34	3.03	4.31	May-07
Net of Fee Value Added vs Benchmark	0.27	0.80	0.41	
Aberdeen (Net)	6.32	3.84	4.87	Apr-07
Bloomberg Aggregate + 0.5%	5.87	3.54	4.70	Apr-07
Net of Fee Value Added vs Objective	0.45	0.30	0.17	
Bloomberg Aggregate	5.34	3.03	4.18	Apr-07
Net of Fee Value Added vs Benchmark	0.97	0.82	0.70	
Garcia Hamilton (Net)	4.42	2.83	3.58	Oct-13
Bloomberg Aggregate + 0.5%	5.87	3.54	3.90	Oct-13
Net of Fee Value Added vs Objective	-1.45	-0.71	-0.32	
Bloomberg Aggregate	5.34	3.03	3.38	Oct-13
Net of Fee Value Added vs Benchmark	-0.93	-0.20	0.20	
	3-year	5-year	Since Inception	Inception Date
High Yield				
Oaktree Capital Management (Net)	6.44	6.30	6.47	Dec-96
Performance Objective	8.04	8.20	8.10	Dec-96
Net of Fee Value Added vs Objective	-1.60	-1.90	-1.63	
Custom Benchmark	6.97	7.13	6.90	Dec-96
Net of Fee Value Added vs Benchmark	-0.53	-0.82	-0.43	
BlackRock High Yield (Net)	7.18	6.91	6.53	Sep-06
Citigroup High Yield Cash Pay + 1%	8.03	8.19	8.06	Sep-06
Net of Fee Value Added vs Objective	-0.85	-1.28	-1.53	
Citigroup High Yield Cash Pay	6.97	7.13	6.99	Sep-06
Net of Fee Value Added vs Benchmark	0.21	-0.21	-0.46	
Credit Opportunities				
Neuberger Berman (Net)	6.04	6.10	6.86	Jan-16
Custom Benchmark + 1%	7.17	6.79	8.03	Jan-16
Net of Fee Value Added vs Objective	-1.13	-0.69	-1.17	
Custom Benchmark	6.10	5.74	6.96	Jan-16
Net of Fee Value Added vs Benchmark	-0.07	0.36	-0.09	



Manager Performance Objectives

MLP's	3-year	5-year	Since Inception	Inception Date
<u>MLPs</u>				
Harvest Fund Advisors (Net)	2.27	2.17	4.58	Dec-11
Alerian MLP Index + 1.5%	1.19	0.46	2.40	Dec-11
<i>Net of Fee Value Added vs Objective</i>	<i>1.08</i>	<i>1.71</i>	<i>2.18</i>	
Alerian MLP Index	-0.33	-1.05	0.29	Dec-11
<i>Net of Fee Value Added vs Benchmark</i>	<i>2.60</i>	<i>3.22</i>	<i>4.29</i>	
Atlantic Trust CIBC (Net)	0.83	1.06	4.78	Dec-11
Alerian MLP Index + 1.5%	1.19	0.46	2.40	Dec-11
<i>Net of Fee Value Added vs Objective</i>	<i>-0.36</i>	<i>0.60</i>	<i>2.38</i>	
Alerian MLP Index	-0.33	-1.05	0.29	Dec-11
<i>Net of Fee Value Added vs Benchmark</i>	<i>1.16</i>	<i>2.11</i>	<i>4.49</i>	

DISCUSSION SHEET

Employees' Retirement Fund Board of Trustees Meeting

September 14, 2021

Issue: Smith Graham & Co. Investment Advisors, L.P.

Attachments: None

Discussion: Smith Graham investment returns had underperformed their benchmark (the Russell Midcap Index) for the 3-year period ending December 7, 2020. Our recommendation at that time was to place them on watch for six months and re-evaluate their performance at that time.

Since being placed on watch, Smith Graham's performance has improved, however still lags the benchmark since inception. Given this, we recommend they remain on the watch list for six months, through Q1 of 2022.

Recommendation: Suggested motion for approval is as follows: Motion to approve the extension of Smith Graham's watch list status through Q1 2022.

DISCUSSION SHEET

Employees' Retirement Fund Board of Trustees Meeting

Tuesday, September 14, 2021

Issue: AQR Capital IMA management fee schedule change

Attachments: Redlined AQR IMA Amendment

Discussion: AQR has offered a reduced management fee schedule.

Existing fee schedule:

0.60% on the first \$100 MM, 0.55% on remainder

New fee schedule:

0.55% on the first \$100 MM, 0.45% on the remainder

Recommendation: Suggested motion for the approval is as follows: Move to approve the offered IMA management fee schedule change as noted and authorize the Board Chair to sign.

EXHIBIT A

MANAGER FEE AGREEMENT

The Fund will pay Investment Manager a fee for its investment management services, based on the schedule stated below, on an annualized basis of the market value of all assets in the Portfolio. The fee shall be billed on a calendar quarter basis in arrears, calculated using the average of market values of all assets in the Portfolio at each of the three month-ends in the calendar quarter. Payment shall be due within 30 days of receipt of invoice. The market value of all assets in the Portfolio shall be determined by the Fund's custodian. To the extent that the Fund's account with Investment Manager is in existence less than a full calendar quarter, the fee shall be pro-rated for the days the account exists with Investment Manager. Furthermore, the market value of the cash and securities that the Fund uses to establish the account with Investment Manager shall be used in the aforementioned fee calculation for the first calendar quarter of the account's existence.

FEE SCHEDULE

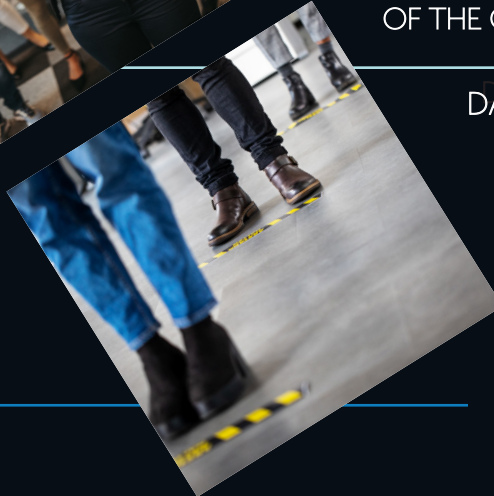
| ~~0.60~~0.55% on first \$100 million

| ~~0.55~~0.45% on assets above \$100 million

COMPREHENSIVE ANNUAL FINANCIAL REPORT

FISCAL YEARS ENDED DECEMBER 31, 2020 & 2019

2020



EMPLOYEES' RETIREMENT FUND
OF THE CITY OF DALLAS

DALLAS, TX

2020 AT – A – GLANCE

(unaudited)

(\$ in thousands)

Active Members	7,244
Benefit Recipients	7,552
Inactive Members	1,710
Fund Net Position	\$3,706,753
Benefits Paid	\$287,465
Refunds	\$6,857
Member Contributions	\$58,358
City Contributions	\$61,615
Investment Rate of Return	5.8%

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

COMPREHENSIVE ANNUAL FINANCIAL REPORT

2020

FISCAL YEARS ENDED DECEMBER 31, 2020 AND 2019



Prepared by the Staff of The Employees' Retirement Fund

CHERYL D. ALSTON
EXECUTIVE DIRECTOR

Employees' Retirement Fund of the City of Dallas

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

Phone 214.580.7700 | Fax 214.580.3515

www.dallaserf.org



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INTRODUCTORY SECTION





LETTER OF TRANSMITTAL

July 30, 2021

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

Dear Board Members:

The Comprehensive Annual Financial Report ("Annual Report") of the Employees' Retirement Fund of the City of Dallas ("ERF" or "Plan") for the fiscal years ended December 31, 2020 and 2019 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, 2020. 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 5.8% for 2020, 17.6% for 2019, and -4.4% for 2018. The Plan 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 2020 total \$349.1 million.

City and member contributions for the fiscal year were \$119.9 million, a decrease of \$518 thousand from the prior year. This decrease is primarily attributable to the City of Dallas ("the City") furlough due to the Covid-19 pandemic. The City did not rehire the furloughed employees. There were 472 furloughed employees. The City's net contribution rate toward the pension plan was 14.14% in 2020. The City's total contribution rate was 22.68%, of which 8.54% was for debt service payments on pension obligation bonds. The members' contribution rate remained unchanged in 2020. The City's contributions received in 2020 were \$61.6 million and members' contributions were \$58.4 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 2020 totaled \$300.4 million, an increase of 1.5% over 2019. This increase was due to the increased average number of retirees/beneficiaries, and the cost of living adjustment of 1.34%, 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, decreased from the prior year by \$1.8 million.

Accounting System and Internal Controls

This Annual Report 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 Annual Report.

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, 2020 amounted to \$4.933 billion and \$3.747 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, 2019. 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 fourth 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 Comprehensive Annual
Financial Report
For the Fiscal Year Ended

December 31, 2019

Christopher P. Morill

Executive Director/CEO

BOARD OF TRUSTEES

As of December 31, 2020

Henry Talavera - Chair
Council Appointed Member

Lee Kleinman – Vice Chair *
Council Appointed Member

Carla B. Brewer
Employee Elected Member

Sunil King
Employee Elected Member

Dr. John W. Peavy III *
Council Appointed Member

Tina B. Richardson
Employee Elected Member

Mark S. Swann
City Auditor

** On February 9, 2021, Dr. Peavy III was elected Vice Chair.*

ADMINISTRATIVE STAFF

As of December 31, 2020

Cheryl D. Alston
Executive Director/Chief Investment Officer

David K. Etheridge
Deputy Director

Edward Scott, CPA
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
Benefit Counselor

Andrew Barker, CPA
Controller

Joshua Berman
Investment Analyst

Ruby Castelano
Senior Office Assistant

Anita Gage
Senior Pension Specialist

Micaela Galicia
Pension System Specialist

Yvonne Garcia
Administrative Specialist II

Re'Gine Green
Pension Officer

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
Administrative Specialist II

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

As of December 31, 2020

MASTER CUSTODIAN

The Northern Trust Company

CONSULTING ACTUARY

Gabriel, Roeder, Smith & Company

INVESTMENT CONSULTANT

Wilshire Associates

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 78.

PLAN SUMMARY

Summary of Key Provisions

Employees' Retirement Fund of the City of Dallas

As of December 31, 2020

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 documents 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	<p>Member: 37% of the current adjusted total obligation rate. New rates effective October 1 after the valuation date.</p> <p>City: 63% of the current adjusted total obligation rate. New rates effective October 1 after the valuation date.</p>
Definitions	
Final Average Salary	<p>Tier A Average monthly salary over the member's highest three years of service.</p> <p>Tier B Average monthly salary over the member's highest five years of service.</p> <p>Credited Service: Length of time as an employee of the City of Dallas and while making contributions to the Plan.</p>
Retirement	
Pension Eligibility	<p>Tier A</p> <ol style="list-style-type: none"> Attainment of age 60; or Attainment of age 55 (if credited service began before May 9, 1972); or At any age after completion of 30 years of credited service with a reduced benefit before age 50; or Attainment of age 50, if the sum of an active member's age and credited service is at least equal to 78. <p>Tier B</p> <ol style="list-style-type: none"> Attainment of age 65 and 5 years of service; or At any age after completion of 40 years of credited service; or 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. 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 36.3636 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 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



EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

FINANCIAL STATEMENTS

As of December 31, 2020 and 2019
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 Financial Statements

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, 2020, and the related statements of changes in fiduciary net position for the year then ended and notes to the financial statements.

Management's Responsibility for the Financial Statements

The Plan's management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes 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.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements 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 entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

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

Weaver and Tidwell, L.L.P.
2300 North Field Street, Suite 1000 | Dallas, Texas 75201
Main: 972.490.1970

CPAs AND ADVISORS | WEAVER.COM

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

Other Matters

Prior Year Auditor

The financial statements of the Plan as of December 31, 2019 were audited by another auditor, who expressed an unmodified opinion on those statements on July 8, 2020.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis, the Schedules of Changes in Net Pension Liability and Related Ratios, the Schedule of Money-Weighted Rates of Return, the Schedule of the Net Pension Liability, and the Schedule of Contributions be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplemental 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 financial statements, and other knowledge we obtained during our audits of the 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.

Supplementary Information

Our audits were conducted for the purpose of forming an opinion on the financial statements as a whole. The Schedule of Administrative Expenses, Schedule of Investment Expenses, and Schedule of Payments for Professional Services are presented for purposes of additional analysis and are not a required part of the financial statements. Such supplementary information is the responsibility of the Plan's management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplementary information is fairly stated in all material respects in relation to the financial statements as a whole.

Other Information

Our audits were conducted for the purpose of forming an opinion on the financial statements as a whole. The introductory, investment, actuarial, and statistical sections are presented for purposes of additional analysis and are not a required part of the financial statements. Such information has not been subjected to the auditing procedures applied in the audits of the financial statements and, accordingly, we do not express an opinion or provide any assurance on it.

Weaver and Tidwell, L.L.P.

WEAVER AND TIDWELL, L.L.P.

Dallas, Texas
July 30, 2021

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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, 2020, 2019, and 2018. 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 2020 experienced an increase in investments. The Plan’s Financial Highlights for fiscal year ended December 31, 2020 are as follows:

- The Plan had a return of 5.8% for the year, a 5-year return of 8% and a 10-year return of 7.6%.
- The Net Position Restricted for Pension Benefits was \$3.7 billion as of December 31, 2020. This amount reflects an increase of \$49 million from last year. This growth is primarily the result of net increases in investments.
- Total contributions for fiscal year 2020 were \$119.9 million, a decrease of approximately \$518 thousand from last fiscal year. This is primarily attributed to furloughs and a decrease in number of employees hired due to the Covid-19 pandemic.
- Pension benefits paid to retirees and beneficiaries increased \$9.4 million in 2020 compared to 2019, bringing the total benefit payments to \$287 million. Refunds of contributions paid to former members after termination of employment were \$7 million for 2020 and \$10 million for 2019.
- Net Investment Income (net appreciation/(depreciation) in the fair value of investments, plus interest and dividend income, less investment expenses) decreased \$322 million compared to last fiscal year.
- Administrative Expenses of \$5.7 million in 2020 were lower than 2019 by \$1.8 million due primarily to a reduction in legal fees.

CONDENSED FINANCIAL INFORMATION

(\$ in thousands)

As of and for the FY Ended December 31,	2020	2019	2018
Fiduciary Net Position			
Assets	\$4,376,675	\$4,325,968	\$4,120,996
Liabilities	669,922	667,880	838,683
Fiduciary Net Position Restricted for Pension Benefits	<u>\$3,706,753</u>	<u>\$3,658,088</u>	<u>\$3,282,313</u>
Changes in Fiduciary Net Position			
Additions:			
Employer contributions	\$61,615	\$62,177	\$60,924
Employee contributions	58,358	58,314	56,772
Investment & other income/(loss), net	229,105	551,243	(167,662)
Deductions:			
Benefit payments	\$287,465	\$278,007	\$263,981
Refund of contributions	6,857	10,436	8,515
Administrative expenses	5,699	7,513	7,484
Depreciation expense	392	3	1
Change in Fiduciary Net Position Restricted for Pension Benefits	<u>\$48,665</u>	<u>\$375,775</u>	<u>(\$329,947)</u>
Net Position Restricted for Pension Benefits:			
Beginning of Year	3,658,088	3,282,313	3,612,260
End of Year	<u>\$3,706,753</u>	<u>\$3,658,088</u>	<u>\$3,282,313</u>

FINANCIAL POSITION AND RESULTS OF OPERATIONS

The Plan's total investment return for fiscal year 2020 was 5.8% as compared to 17.6% in 2019 and -4.4% in 2018. The one-year return was below the policy benchmark of 7.5%. The Plan has performed well over longer time periods. The Plan's 5-year return is 8% which is below the policy benchmark of 8.5%. The 10-year return is 7.6%, which is above the policy benchmark of 7.5%.

The best performing asset class in 2020 was Domestic Equity. Dallas ERF's Domestic Equity portfolio earned 16.4%. Both Global Equity and International Equity had a return of 16.1% and 15.6%, respectively in 2020. Global Low Volatility Equity had a return of -0.05%, lagging the benchmark MSCI ACWI Minimum Volatility Index of 2.7%.

The Plan's Fiduciary Net Position increased from \$3.658 billion in fiscal year 2019 to \$3.707 billion in 2020, an increase of approximately \$49 million. This growth is primarily due to an increase in the fair value of equity investments, specifically Domestic, International, and Global Equity. Changes to the Plan's Fiduciary Net Position consist of employer and employee contributions and investment income. For fiscal year 2020, changes to Fiduciary Net Position reflect a decrease of \$323 million, in comparison to 2019. City and employee contributions for fiscal year 2020 were \$62 million and \$58 million, respectively. Total

contributions for 2020 were \$120 million compared to \$120 million in 2019 and \$118 million in 2018.

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 2020, the Plan had a net investment income of \$229 million, (excluding non-investment other income of \$84 thousand) compared to a net investment income of \$551 million in fiscal year 2019 and a net investment loss of \$168 million in 2018.

Fiscal year 2020 liabilities of \$670 million showed an increase of .3% from fiscal year 2019 liabilities of \$668 million. Liabilities for 2019 decreased by \$218 million or 20.4% over 2018. The increase in 2020 was primarily due to an increase in securities lending collateral, and the increased 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 \$11 million in 2020, \$15 million in 2019 and \$9 million in 2018. Foreign currency contracts at year-end were \$406 million in 2020, \$433 million in 2019 and \$548 million in 2018. The changes were due to investment managers' portfolio management.

Deductions from fiduciary net position are largely from benefit payments. During fiscal year 2020, the increase in deductions is attributable to new retirements, as was the increase between 2018 and 2019.

New retirements were 309, 376 and 314, respectively, for fiscal years 2020, 2019 and 2018. Cost of Living Adjustments ("COLA") were 1.6% in 2020, 2.7% in 2019 and 2.1% in 2018. 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 2020, refunds of contributions amounted to \$6.9 million (456 refunds), compared to 2019 refunds of \$10.4 million (726 refunds) and 2018 refunds of \$8.5 million (626 refunds). The fiscal year 2020 refund amount reflects a decrease in the number of members requesting refunds as compared to fiscal year 2019. Administrative expenses of approximately \$5.7 million represent approximately 1.9% of total deductions for the year.

CAPITAL ASSETS

The Plan's investment in capital assets as of December 31, 2020, amounts to approximately \$7.4 million (net of accumulated depreciation). This investment in capital assets includes \$11 thousand in furniture and fixtures, and \$7.4 million in intangible assets. The total increase in capital assets for the current fiscal year was 36.1%, consisting of the implementation of new computer software.

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 2020 from 7,427 to 7,244 members, a decrease of 2.5%. For 2020, the number of new retirements was 309 compared to 376 in 2019. 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 75.7% in 2019 to 75.9% in 2020 primarily due to actuarial experience gain. The Unfunded Actuarial Accrued Liability ("UAAL") increased from \$1,180 million as of December 31, 2019 to \$1,188 million as of December 31, 2020. 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 59.69% in 2020 as compared to 64.65% in 2019 and 59.16% in 2018. This is due to a blended discount rate of 5.27% in 2020. See Note 10 (c) for more information regarding the discount rate.

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, 10th Floor, Dallas, 75201.

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

Statements of Fiduciary Net Position
December 31, 2020 and 2019
(\$ in thousands)

	2020	2019
ASSETS:		
Cash and short-term investments	\$ 89,190	\$ 111,496
Collateral on loaned securities	239,533	208,368
	<u>328,723</u>	<u>319,864</u>
Capital Assets:		
Construction in Progress	-	5,431
Intangible Assets, net	7,403	-
Furniture and Fixtures, net	11	14
Total capital assets (net)	<u>7,414</u>	<u>5,445</u>
Receivables:		
Currency contracts	406,360	433,426
Accrued dividends	5,006	4,586
Accrued interest	8,761	9,293
Accrued real estate income	1,158	588
Accrued securities lending	46	82
Securities sold	6,142	4,161
Employer contributions	466	2,307
Employee contributions	439	2,164
Total receivables	<u>428,378</u>	<u>456,607</u>
Investments, at fair value:		
Commingled index funds	208,318	176,734
Domestic equities	1,419,539	1,361,555
United States and foreign government fixed income securities	204,816	199,586
Domestic corporate fixed-income securities	772,004	797,531
International equities	468,520	511,041
Private equities	316,237	267,422
Real estate	222,726	230,183
Total investments	<u>3,612,160</u>	<u>3,544,052</u>
Total assets	<u>4,376,675</u>	<u>4,325,968</u>
LIABILITIES:		
Accounts payable	8,482	7,267
Payable for securities purchased	11,421	14,884
Investment fees payable	3,515	3,563
Currency contracts	406,360	433,426
Currency contract losses	611	372
Securities lending collateral	239,533	208,368
Total liabilities	<u>669,922</u>	<u>667,880</u>
NET POSITION		
Net Investment in capital assets	7,414	5,445
Unrestricted	<u>3,699,339</u>	<u>3,652,643</u>
Net position RESTRICTED for PENSION benefits	<u>\$ 3,706,753</u>	<u>\$ 3,658,088</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
December 31, 2020 and 2019
(\$ in thousands)

	2020	2019
Additions:		
Contributions:		
Employer	\$ 61,615	\$ 62,177
Employee	58,358	58,314
Total contributions	<u>119,973</u>	<u>120,491</u>
Net investment income:		
Dividends	45,461	59,827
Interest	41,006	47,373
Real estate dividend income	5,316	6,622
Net appreciation/(depreciation) in fair value of investments	153,972	453,838
Securities lending rebates paid by borrowers	(480)	(5,972)
Securities lending income	1,661	7,383
Total investment income/(loss)	<u>246,936</u>	<u>569,071</u>
Less investment expenses:		
Investment management fees	(16,971)	(17,270)
Custody fees	(125)	(125)
Consultant fees	(583)	(452)
Securities lending management fees	(236)	(282)
Total investment expenses	<u>(17,915)</u>	<u>(18,129)</u>
Net investment income/(loss)	<u>229,021</u>	<u>550,942</u>
Other income	<u>84</u>	<u>301</u>
Total additions	<u>349,078</u>	<u>671,734</u>
Deductions:		
Benefit payments	287,465	278,007
Refund of contributions	6,857	10,436
Administrative expenses	5,699	7,513
Depreciation expense	392	3
Total deductions	<u>300,413</u>	<u>295,959</u>
Net increase/(decrease) in net position restricted for pension benefits	<u>48,665</u>	<u>375,775</u>
Net position RESTRICTED FOR PENSION benefits		
Beginning of year	<u>3,658,088</u>	<u>3,282,313</u>
End of year	<u>\$ 3,706,753</u>	<u>\$ 3,658,088</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, 2020 and 2019

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, 2020 and 2019, the Plan's membership consisted of:

	<u>2020</u>	<u>2019</u>
Retirees and beneficiaries currently receiving benefits and inactive members entitled to benefits but not yet receiving them	9,262	9,071
Current members:		
Vested	4,340	4,302
Non-vested	2,904	3,125
Total current members	<u>7,244</u>	<u>7,427</u>
Total membership	<u><u>16,506</u></u>	<u><u>16,498</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

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

Notes to the Financial Statements
December 31, 2020 and 2019

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 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.

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
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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 2020 was 1.64% and 2.69% effective January 2019.

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.

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

Notes to the Financial Statements
December 31, 2020 and 2019

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.

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, 2020, 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 14.14% to the Plan and 8.54% for debt service payments on the pension obligation bonds. The former rates, effective October 1, 2019, 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.

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

Notes to the Financial Statements
December 31, 2020 and 2019

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. 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, 2020, the Plan was in the process of adjusting its portfolio to align with the new asset allocation. The Plan's asset allocation is shown in the following table.

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

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

Notes to the Financial Statements
December 31, 2020 and 2019

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, 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, 2020 and December 31, 2019 was \$316 million and \$267 million, respectively.

f) Real Assets

The Plan is authorized to allocate 12.5% of its portfolio to Real Assets. The Plan has two managers that manage Real Assets for a total value of \$223 million at December 31, 2020 and \$230 million at December 31, 2019. The Plan invests in Heitman's core real estate fund, Invesco's core fund, and in Invesco II which manages 1900 McKinney, LLC.

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 Centersquare. 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, 2020 and 2019 were converted to U.S. dollars at the foreign exchange rates quoted at December 31, 2020 and 2019. 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.

**EMPLOYEES' RETIREMENT FUND OF
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Notes to the Financial Statements
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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, 2020, the annual money-weighted rate of return on pension plan investment, net of investment fees, was 5.75%. The money-weighted rate of return expresses investment performance, net of investment expenses, adjusted for the changing amounts actually invested.

Schedule of Money-Weighted Investment Returns

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

* 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.

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Notes to the Financial Statements
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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 2020 and 2019. 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 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 \$737 thousand as of December 31, 2020 and a net realized gain of \$2.6 million as of December 31, 2019. As of December 31, 2020, the Plan had a net unrealized loss on Currency Forward contracts of \$591 thousand and a net unrealized gain of \$159 thousand at December 31, 2019. 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.

**EMPLOYEES' RETIREMENT FUND OF
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Currency Forward Contracts outstanding at December 31, 2020 and 2019 were approximately \$401 million and \$433 million, respectively, with a fair value of \$406 million and \$433 million, respectively (\$ in thousands).

Currency	<u>2020</u> Currency Forward Contracts Outstanding	<u>2019</u> Currency Forward Contracts Outstanding
Australian Dollar	\$19,445	\$26,396
Brazilian Real	5,196	5,318
Canadian Dollar	17,950	21,157
Chile Peso	3,003	2,619
Columbian Peso	1,414	4,814
Czech Koruna	641	1,494
Denmark Krone	257	97
Euro	15,200	21,973
Hong Kong Dollars	5,298	5,540
Hungary Forint	1,437	671
Indonesia-Rupiahs	105	899
Indian Rupee	8,126	10,483
Israel Shekel	1,185	5
Japanese Yen	34,756	22,748
Mexican Peso	7,361	17,233
New Zealand Dollar	16,439	6,200
Norwegian Krone	9,517	19,361
Peruvian Nuevo Sol	8	0
Philippine Peso	72	4,153
Poland Zloty	2,033	2,021
Russia Ruble	5,125	6,445
Saudi Riyal	1,045	1,546
Singapore Dollar	560	1,671
South Africa Rand	3,498	6,193
South Korea Won	5,731	3,300
Swedish Krona	6,666	7,303
Switzerland Franc	8,849	2,200
Thailand Baht	226	166
Turkey Lira	1,659	963
Taiwan New Dollar	2,454	1,038
UK Pound	10,534	15,635
U.S. Dollar	205,551	213,784
Totals	\$401,341	\$433,426

**EMPLOYEES' RETIREMENT FUND OF
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Notes to the Financial Statements
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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 2020 and 2019. 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, 2020. As of December 31, 2020, the Plan had a net unrealized loss on Forward Contracts of \$223 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 are tied to a "notional" amount. The agreements provide, at predetermined future dates, 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 loss on Swaps of \$103 thousand. As of December 31, 2020, the Plan had a net unrealized gain on Swaps of \$163 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.

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, 2020 and December 31, 2019.

The Plan recognized a net realized loss of \$149 thousand. The loss 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, 2020 and 2019 open derivatives contracts values were as follows (\$ in thousands):

	12/31/2020		12/31/2019	
Derivative Type	Total Notional Value	Total Fair Value	Total Notional Value	Total Fair Value
Forward Contracts	\$401,341	(\$582)	\$433,426	(\$159)
Other Forwards	51,038	(223)	56,523	306
Swap Agreements	-	163	-	27
Totals	\$452,379	(\$642)	\$489,949	\$174

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, 2020, the Plan had \$3.6 million or 0.1% of its approximate \$3.6 billion total investments (excluding short-term investments) exposed to custodial credit risk. The custodial credit risk exposure at December 31, 2019 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, 2020.

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, 2020 and 2019 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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December 31, 2020 and 2019

Long term bond ratings as of December 31, 2020 and 2019 are as follows (\$ in thousands)

Quality Rating	<u>2020</u>		<u>2019</u>	
	Fair Value	Percentage of Bond Portfolio	Fair Value	Percentage of Bond Portfolio
AAA	\$42,907	4.39%	\$36,777	3.69%
AA+	41,513	4.25%	158,783	15.92
AA	875	0.09%	3,490	0.35
AA-	948	0.10%	7,134	0.72
A+	4,894	0.50%	4,221	0.42
A	7,087	0.73%	11,090	1.11
A-	18,178	1.86%	27,103	2.72
BBB+	18,999	1.93%	23,644	2.37
BBB	13,434	1.38%	17,590	1.76
BBB-	5,902	0.60%	17,343	1.74
BB+	24,763	2.54%	21,242	2.13
BB	37,445	3.83%	51,300	5.15
BB-	51,547	5.28%	57,767	5.79
B+	50,102	5.13%	53,685	5.39
B	37,104	3.80%	33,181	3.33
B-	35,989	3.68%	32,453	3.26
CCC+	22,082	2.26%	10,898	1.09
CCC	7,517	0.77%	2,488	0.25
CCC-	947	0.10%	187	0.02
D	1,333	0.14%	482	0.05
Not rated (NR)*	436,667	44.70%	234,837	23.55
U.S. Government fixed income securities (NR)**	116,587	11.93%	191,422	19.20
Total	\$976,820	100.00%	\$997,117	100.00%

* 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.

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

Notes to the Financial Statements
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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 12.97% and 14.47% of invested assets at December 31, 2020 and 2019, respectively. The Plan's position in Global Equity securities was 7.32% and 7.03% of invested assets at December 31, 2020 and 2019, respectively. The Plan's position in Global Low Volatility Equity was 12.18% at December 31, 2020 and 10.58% at 2019. The Plan's positions in Global Fixed Income assets were 27.04% and 28.24% of invested assets at December 31, 2020 and 2019, respectively.

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**EMPLOYEES' RETIREMENT FUND OF
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Notes to the Financial Statements
December 31, 2020 and 2019

Non-U.S. Dollar denominated investments at December 31, 2020 and 2019 were as follows (\$ in thousands):

Currency	2020			2019		
	U.S. Dollars Balance of Investments			U.S. Dollars Balance of Investments		
	Equities	Fixed	Currency Forward Contracts	Equities	Fixed	Currency Forward Contracts
Australian Dollar	\$27,747	\$455	\$19,445	\$21,768	\$-	\$26,396
Brazil Real	10,951	-	5,196	12,848	-	5,318
British Pound Sterling	56,181	856	10,534	72,815	-	15,635
Canadian Dollar	37,476	10,277	17,950	37,723	6,510	21,157
Chile Peso	-	-	3,003	1,202	-	2,619
Columbia Peso	-	-	1,414	-	-	4,814
Czech Republic-Koruna	514	-	641	2,200	-	1,494
Denmark Krone	9,596	-	257	8,493	-	97
Euro	144,990	6,191	15,200	143,099	-	21,973
Hong Kong Dollars	59,299	-	5,298	51,616	-	5,540
Hungary-Forint	1,008	-	1,437	1,408	-	671
Indian Rupee	9,485	-	8,126	7,129	-	10,483
Indonesia-Rupiahs	1,919	-	105	2,442	-	899
Israel Shekel	2,981	-	1,185	5,108	-	5
Japanese Yen	108,376	-	34,756	124,027	-	22,748
Malaysia Ringgit	1,208	-	-	1,826	-	-
Mexican Peso	6,084	-	7,361	2,363	2,257	17,233
New Zealand Dollar	4,147	2,201	16,439	4,391	-	6,200
Norwegian Krone	6,603	-	9,517	6,671	-	19,361
Offshore-Chinese-						
Renminbi	12,516	-	-	6,192	--	--
Peruvian Nuevo Sol	-	-	8	-	-	-
Philippines-Pesos	737	-	72	1,015	-	4,153
Poland-Zloty	1,032	-	2,033	1,012	-	2,021
Qatar-Riyal	154	-	-	804	-	-
Russian Ruble	-	-	5,125	-	-	6,445
Saudi Riyal	-	-	1,045	-	-	1,546
Singapore Dollar	5,075	-	560	5,156	-	1,671
South Africa Rand	3,847	-	3,498	4,178	-	6,193
South Korea-Won	28,153	-	5,731	24,200	-	3,300
Swedish Krona	13,749	-	6,666	11,800	-	7,303
Swiss Franc	37,530	-	8,849	44,710	-	2,200
Taiwan New Dollar	6,313	-	2,454	8,626	-	1,038
Thailand Baht	3,686	-	226	7,587	-	166
Turkish Lira	3,771	-	1,659	2,682	-	963
United Arab-Dirham	116	-	-	163	-	-
Total	\$605,244	\$19,980	\$195,790	\$625,254	\$8,767	\$ 219,642

**EMPLOYEES' RETIREMENT FUND OF
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Notes to the Financial Statements
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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, 2020 and 2019 the weighted-average maturity of the bonds by bond type are as follows (\$ in thousands):

Bond Category	2020		2019	
	Fair Value 12/31/2020	Weighted Average Maturity (years)	Fair Value 12/31/2019	Weighted Average Maturity (years)
Asset Backed Securities	\$48,999	11.72	\$35,985	11.89
Bank Loans	22,427	4.55	22,159	4.88
Commercial Mortgage-Backed	35,580	25.27	32,264	28.21
Corporate Bonds	555,303	8.80	545,278	7.61
Government Agencies	99,636	29.96	99,371	37.01
Government Bonds	103,743	10.55	133,870	8.76
Government Mortgage-Backed Securities	52,652	17.51	72,918	21.40
Index Linked Government Bonds	875	29.15	1,062	29.15
Municipal/Provincial Bonds	24,504	19.36	22,071	19.71
Non-Government Backed CMOs	<u>33,101</u>	23.14	<u>32,139</u>	22.89
Total	<u>\$976,820</u>		<u>\$997,117</u>	
Portfolio weighted average maturity		12.09		11.74

Government Mortgage Backed Securities are most 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 5.4% and 7.3% of the total Fixed Income portfolio for 2020 and 2019 at year end. Their fair values at year end 2020 and 2019 were \$52,652 million and \$72,918 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.

**EMPLOYEES' RETIREMENT FUND OF
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Notes to the Financial Statements
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5) Appreciation or (Depreciation) of Investments

In 2020 and 2019, the Plan's investments, including investments bought, sold, and held during the year, appreciated (depreciated) in value as follows (\$ in thousands):

	2020	2019
Investments, at fair value:		
Commingled index funds	\$22,646	\$28,549
Domestic equities	23,452	194,224
United States and foreign government fixed income securities	15,411	10,777
Domestic corporate fixed income securities	14,914	52,599
International equities	41,441	125,399
Short-term investments	(15,591)	430
Currency contracts	2,800	(510)
Real Assets	(3,708)	\$8,091
Private Equity	52,607	34,279
	<u>\$153,972</u>	<u>\$453,838</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.

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

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
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	Total 12/31/2020	Fair Value Measurements Using		
		Level 1	Level 2	Level 3
Investments by Fair Value Level				
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
Total Investments by Fair Value Level	\$ 2,699,637	\$ 1,758,529	\$ 939,371	\$ 1,737
Investments Measured at Net Asset Value				
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			
Total Investments Measured at Net Asset Value	\$ 1,001,713			

At December 31, 2019, the Plan had the following recurring fair value measurements (\$ in thousands):

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

	Total	Fair Value Measurements Using		
	12/31/2019	Level 1	Level 2	Level 3
Investments by Fair Value Level				
Cash and Short Term Investment:				
Short-Term Investment Fund	\$ 111,496	\$ 111,496	\$ -	\$ -
Total Cash and Short Term Investment	111,496	111,496	-	-
Fixed Income:				
Domestic Asset and Mortgage Backed Securities	83,343	-	83,343	-
Government and US Agency Obligations	199,586	-	199,586	-
Corporate and Taxable Municipal Bonds	665,809		665,718	91
Index Fixed Income Funds	48,379	48,379	-	-
Total Fixed Income	997,117	48,379	948,647	91
Equity:				
Domestic Common and Preferred Stock	1,153,068	1,150,914	244	1,910
International Common and Preferred Stock	503,270	502,896	374	-
Total Equity	1,656,338	1,653,810	618	1,910
Total Investments by Fair Value Level	\$ 2,764,951	\$ 1,813,685	\$ 949,265	\$ 2,001
Investments Measured at Net Asset Value				
Commingled Funds:				
Fixed Income	\$ 39,014			
Domestic Equity and Collective Trust	346,207			
International Equity	7,771			
Total Commingled Funds Measured at Net Asset Value	392,992			
Alternative Investments:				
Private Equity	267,422			
Real Estate	230,183			
Total Alternative Investments	497,605			
Total Investments Measured at Net Asset Value	\$ 890,597			

Private Placement Debt

Private Placement Debt was issued close to the financial statement date and is therefore valued at Net Asset Value (NAV) as determined by the principal amount of the debt.

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

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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, 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:

Heitman's core real estate fund

Invesco's core fund

Invesco II

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

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

Invesco II manages 1900 McKinney, LLC.

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.

Hamilton Lane: 10 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, 2020 and 2019 for investments measured at NAV are disclosed as unfunded commitments.

Unfunded commitments at December 31, 2020 for private equity are as follows:

Fairview Lone Star Fund \$27.3 million

GCM Grosvenor \$39.3 million

Hamilton Lane \$99.7 million

**EMPLOYEES' RETIREMENT FUND OF
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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, 2020 and 2019, the type of collateral held, the fair value of the securities on loan, and the fair value of the collateral held (\$ in thousands).

Collateral Type	12/31/2020			12/31/2019		
	Fair Value	Collateral Fair Value	Collateral Percentage	Fair Value	Collateral Fair Value	Collateral Percentage
Cash	233,499	239,533	103%	\$202,972	\$208,368	103%

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**EMPLOYEES' RETIREMENT FUND OF
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The following represents the balances relating to the Securities Lending transactions as of December 31, 2020 and 2019 (\$ in thousands):

Securities Lent	12/31/2020			12/31/2019		
	Underlying Securities	Securities Collateral Value	Cash Collateral Investment Value	Underlying Securities	Securities Collateral Value	Cash Collateral Investment Value
Lent for cash collateral:						
Domestic equities	\$121,912	\$	\$125,079	\$103,943	\$	\$106,349
Domestic corporate fixed income	61,705	-	63,233	48,876	-	50,051
Global corporate fixed income	1,400	-	1,509	1,197	-	1,280
Global government fixed income	1,875	-	2,028	2,125	-	2,270
International equities	1,419	-	1,523	3,353	-	3,558
Global Agencies	-	-	-	205	-	215
U.S. Agencies	5,793	-	5,904	-	-	-
U.S. government fixed	39,395	-	40,257	43,273	-	44,645
Subtotal	\$233,499	\$	\$239,533	\$202,972	\$	\$208,368

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, 2020 and 2019. The net income from Securities Lending in 2020 was \$946 thousand compared to \$1.1 million in 2019.

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
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Notes to the Financial Statements
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9) Capital Assets

Capital Assets activity for the years ended December 31, 2019 and 2020, was as follows (\$ in thousands).

	Balance 12/31/2018			Balance 12/31/2019			Balance 12/31/2020		
		Increases	Decreases		Increases	Decreases			
Capital Assets not being depreciated/amortized									
Construction in Progress	\$ 3,186	\$ 2,245	\$ -	\$ 5,431	\$ 2,361	\$ (7,792)	\$ -		
Capital Asset being depreciated/amortized:									
Intangible Assets	-	-	-	-	7,792	-	7,792		
Furniture and Fixtures	18	-	-	18	-	-	18		
Less:									
Accumulated Amortization, Intangible Assets	-	-	-	-	(389)	-	(389)		
Accumulated Depreciation, Furniture and Fixtures	\$ (1)	\$ (3)		\$ (4)	\$ (3)		\$ (7)		
Total Capital Assets being depreciated/amortized net of Accumulated Depreciation/Amortization	17	(3)	-	14	7,400	-	7,414		
Total Capital Assets, net of Accumulated Depreciation/Amortization	\$ 3,203	\$ 2,242	\$ -	\$ 5,445	\$ 9,761	\$ (7,792)	\$ 7,414		

10) Schedule of Net Pension Liability

a) The components of the Net Pension Liability of the City at December 31, 2020 and 2019 respectively were as follows (\$ in thousands).

<u>Description</u>	<u>2020</u>	<u>2019</u>
Total Pension Liability	\$6,209,855	\$5,658,726
Plan Fiduciary Net Position	3,706,753	3,658,088
Net Pension Liability	2,503,102	2,000,638
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	59.69%	64.65%

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

Notes to the Financial Statements
December 31, 2020 and 2019

b) Actuarial Methods and Assumptions:

Valuation date	December 31, 2019 for most recent Actuarially Determined Employer Contribution ("ADEC") shown on Schedule of Contributions December 31, 2020 for Net Pension Liability
Actuarial cost method	Entry Age Normal
Asset valuation method	5-year smoothed market
Amortization method	The ADEC is initially based on a 30-year open amortization period. As specified in the Plan's governing documents, 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	Experienced-based table of rates that are specific to the type of eligibility condition. Last updated pursuant to an experience study of the 5-year period ended 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 on a fully generational basis using Scale UMP.</p> <p>For 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. The rates are projected from 2019 on a fully generational basis using Scale</p>

**EMPLOYEES' RETIREMENT FUND OF
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Notes to the Financial Statements
December 31, 2020 and 2019

UMP.

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 unless otherwise noted. The assumptions used in determining the NPL as of December 31, 2020 were those used in the actuarial valuation as of December 31, 2020 and are noted in the Schedule of Contributions.

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	6.00%
International Equity	6.75
Global Equity	6.45
Low Volatility Global Equity	6.41
Private Equity	8.05
Core Fixed Income	2.70
High Yield Fixed Income	4.20
Credit Opportunities	5.35
REITs	4.70
Private Real Estate - Core	5.40
Private Real Estate – Value Add	8.00
MLPs	7.60
Global Public Infrastructure	7.23
Marketable Alternative	4.42

- c) Discount rate: A single discount rate of 5.27% was used to measure the total pension liability as of December 31, 2020, which represents a decrease from the single discount rate of 5.93% as of De-

**EMPLOYEES' RETIREMENT FUND OF
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December 31, 2019. This single discount rate as of December 31, 2020 was based on the expected rate of return on pension plan investments of 7.25% and the municipal bond rate of 2.00%. 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 Plan annually earns 7.25% on its fair 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 last year in the single discount rate projection period for which projected benefit payments were fully funded was 2058, and the resulting single discount rate is 5.27%.

- 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-percent-age-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>
4.27%	5.27%	6.27%
\$3,357,782	\$2,503,102	\$1,799,357

11) Subsequent Events

The Plan has evaluated its December 31, 2020 financial statements for subsequent events through July 30, 2021, 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.

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

	2020	2019	2018	2017	2016	2015	2014
Rate of Return	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 ¹	Actual Contributions ²	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2011	\$ 33,612	\$ 27,302	\$ 6,310	\$ 312,380	8.74%
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%

Notes to Schedule:

- The Actuarially Determined Employer Contribution ("ADEC") shown is the employer contribution based on a 30-year open amortization period and actual payroll. In 2020, the following assumptions were changed based on the results of an experience study:

Investment rate of return: Lowered from 7.75% to 7.25%.

Salary increases: Changed from a range of 3.25% - 6.25%, to a range of 3.00% - 8.25%.

Inflation: Adjusted from 2.75% to 2.50%.

Mortality:

The mortality tables prior to 2020 were as follows:

For actives: Males – RP-2000 Employee Mortality Table for male employees, set forward 4 years; for females, RP-2000 Employee Mortality Table for female employees, set back 5 years.

For healthy retirees: RP-2000 combined with blue collar adjustment for annuitants, with a fully generational mortality using improvement scale BB and a 109% multiplier for males, and a 103% multiplier for females.

For disabled lives: RP-2000 Disabled Mortality Table for male annuitants, set forward one year.

The mortality tables beginning in 2020 are as follows:

For actives: PubG-2010 Mortality Table for General Employees projected on a fully generational basis using scale UMP.

For healthy retirees: The gender-distinct Texas Municipal Retirees Mortality Tables. Rates are projected on a fully generational basis by scale UMP to account for future mortality improvements.

For disabled lives: The gender distinct 2019 Texas Municipal Retirees Mortality Table, set forward 4 years for males and 3 years for females. The rates are projected on a fully generational basis by scale UMP to account for future mortality improvements.

- Since the City's fiscal year is October 1 to September 30 and the Plan'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.

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OTHER SUPPLEMENTARY INFORMATION

(unaudited)

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SCHEDULE OF ADMINISTRATIVE EXPENSES

As of December 31, 2020
(\$ in thousands)

Personal Services:

Salaries	2,064
Retirement	342
Insurance	<u>182</u>
Total Personal Services	\$2,589

Professional Services:

Actuary Service	\$105
Accounting & Audit Fees	104
Legal Fees	<u>830</u>
Total Professional Services	\$1,039

Operating Services:

Data Processing	172
Parking	42
Printing	42
Rent	460
Supplies and Services	59
Telephone	4
Travel and Training	99
Membership Dues	15
Board Expenses	16
Indirect and Other Costs	<u>812</u>
Total Operating Services	\$1,720

Furniture & Fixtures:

Furniture	18
Other	<u>334</u>
Total Furniture & Fixtures	\$352

Total Administrative Expenses	\$5,699
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SCHEDULE OF INVESTMENT EXPENSES

As of December 31, 2020
(\$ in thousands)

Manager Fees	\$16,971
Custodian Fees	125
Securities Lending Fees*	236
Investment Consultant Fees	<u>583</u>
Total Investment Expenses	<u>\$17,915</u>

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

SCHEDULE OF PAYMENTS FOR PROFESSIONAL SERVICES

As of December 31, 2020
(\$ in thousands)

Accounting and Audit:

Grant Thornton, LLP	\$48
STP Investment Services	56

Actuarial:

Gabriel, Roeder, Smith & Company	105
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Legal:

Foster Garvey PC	419
Locke Lord, LLP	<u>411</u>

Total Professional Services Payments	<u>\$1,039</u>
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COVID

INVESTMENT SECTION



Thomas Toth, CFA
Managing Director, Wilshire Associates

April 26th, 2021

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

Re: 2020 Performance Results

Dear Cheryl:

The purpose of this letter is to review the 2020 investment performance results of the Employees' Retirement Fund of the City of Dallas ("ERF", "the Fund").

2020 will be defined by the coronavirus and its impact on severe economic restrictions and unprecedented government responses. As the virus spread to the U.S., the market sold off quickly by returning -35% from Feb. 19 to Mar. 23. In turn, the Fed slashed its overnight rate from 1.5% to zero and the U.S. federal government passed a \$2.2 trillion stimulus bill. The 2020 bear market was historically brief, however, bouncing off the lows on Mar. 23 and rallied to a new high by Aug. 12. In evidence of its speed, the market's recovery coincided with the BEA reporting a -31% real GDP decline during Q2. While equities dipped below their previous high as confirmed cases reaccelerated, the Wilshire 5000 Index ended the year at another all-time high (up +20.8% for the year). Real GDP was up 33.4% during the third quarter but the economy contracted -3.4% from last year. Inflation modestly increased throughout the year, though accelerating during the fourth quarter with the ten-year break even rate ending near 2.0% at year-end. Commodities were negative for the year, reversing the previous years' trend. Crude Oil dropped below \$0 in the Spring during the height of the pandemic but remained flat for the year. Although the coronavirus pandemic and its consequences will likely continue through much of 2021, images of vaccines being administered globally provided reason for hope.

Overall, 2020 was a historic year with economic events that will take several years to fully play out. Thanks to a well-diversified investment structure, the Fund's total return participated nicely in the market rally during the second half of the year and returned 5.8% for the year, following the previous year with another positive return. The Fund maintains positive absolute results going back to inception and fairs well against its peers over longer-term periods. The majority of the Fund's segments experienced positive returns in 2020, with Real Estate and Global Listed Infrastructure being the only negative performers. Domestic, International, and Global equity segments posted double-digit year-to-date results ranging from 16.4% in U.S. equities to 15.6% for International equities. The Fund's fixed income exposures also managed to post solid gains for the year with Global Fixed Income, Opportunistic Credit and High Yield ending the year at 8.6%, 5.2% and 6.6%, respectively. Looking over a longer horizon, the Fund's track record remains in good shape as it continues to track closely with the policy benchmark while outperforming over the ten-year time period.

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The approved allocations as of the end of 2020 were:

Asset Class	Allocation
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.

	Total Return						Risk					
	DEC.		DEC.		CHANGE		DEC.		DEC.		CHANGE	
	2019		2020				2019		2020			
Investment Categories												
U.S. Stock	5.75	%	5.00	%	-0.75	%	17.00	%	17.00	%	0.00	%
Dev Ex-U.S. Stock (USD)	6.25		5.75		-0.50		18.00		18.00		0.00	
Emerging Market Stock	6.25		5.75		-0.50		26.00		26.00		0.00	
Global Stock	6.20		5.55		-0.65		17.10		17.15		0.05	
Private Equity	7.95		6.95		-1.00		28.00		28.00		0.00	
Cash Equivalents	1.85		0.70		-1.15		1.25		0.75		-0.50	
Core Bond	2.85		1.30		-1.55		5.15		4.30		-0.85	
LT Core Bond	3.25		1.75		-1.50		9.85		8.85		-1.00	
U.S. TIPS	2.15		0.80		-1.35		6.00		6.00		0.00	
High Yield Bond	4.30		3.10		-1.20		10.00		10.00		0.00	
Non-U.S. Bond (HDG)	1.05		0.35		-0.70		3.50		4.30		0.80	
U.S. RE Securities	5.00		5.20		0.20		17.00		17.00		0.00	
Private Real Estate	6.60		6.20		-0.40		14.00		14.00		0.00	
Commodities	3.60		2.85		-0.75		15.00		15.00		0.00	
Real Asset Basket	5.90		5.65		-0.25		8.75		10.15		1.40	
Inflation	1.75		2.15		0.40		1.75		1.75		0.00	
Total Returns Minus Inflation												
U.S. Stocks	4.00		2.85		-1.15							
U.S. Bonds	1.10		-0.85		-1.95							
Cash Equivalents	0.10		-1.45		-1.55							
Stocks Minus Bonds	2.90		3.70		0.80							
Bonds Minus Cash	1.00		0.60		-0.40							

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	2020 Rate of Return
Cash Equivalents	0.67%
Credit Opportunities	5.17%
Domestic Equities	16.39%
Global Equities	16.11%
Global Fixed Income	8.62%
Global Low Volatility	-0.05%
High Yield Bonds	6.60%
International Equities	15.57%
Private Equity	2.99%
Global Listed Infrastructure	-25.83%
Real Estate	-1.73%
Total Portfolio	5.76%

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.	Oaktree Capital Management, LLC
Garcia Hamilton & Associates, L.P.	Securian Asset Management

Cash Equivalents

The Northern Trust Company

Private Equity

Fairview Capital Partners	Hamilton Lane
Grosvenor Capital Management	

Real Estate

Heitman Real Estate Investment Management	Invesco Real Estate
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TOTAL PLAN RESULTS

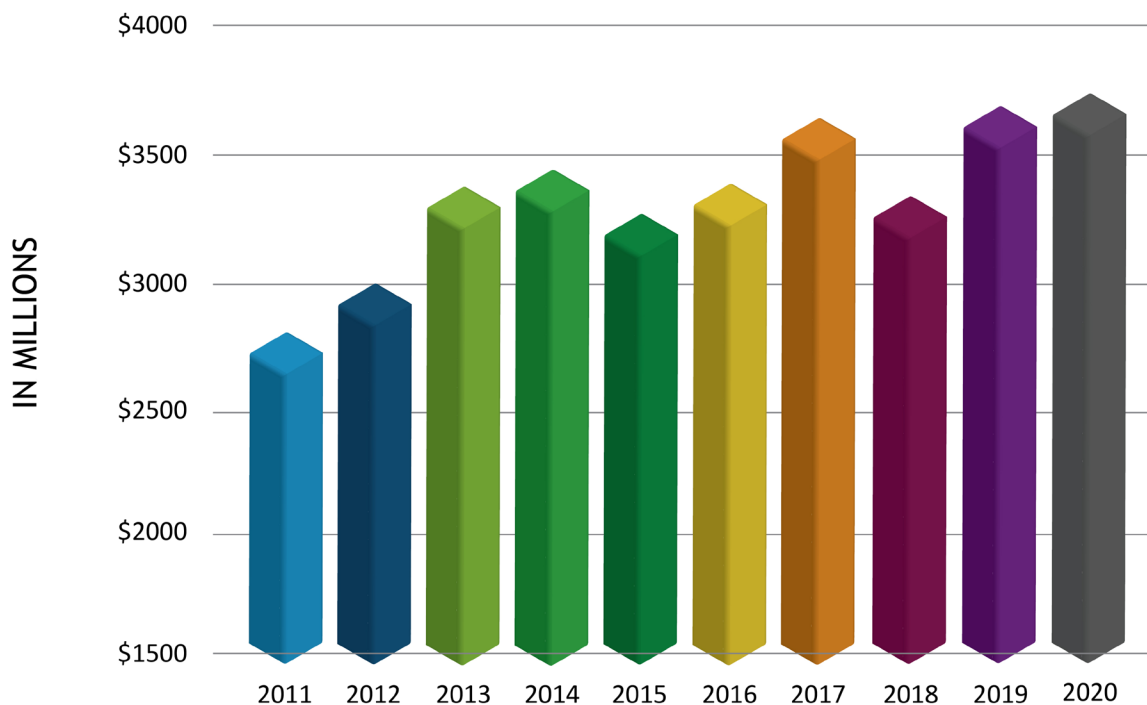
The Employees' Retirement Fund of the City of Dallas (ERF) investment portfolio generated a 5.8% (net of fees) for calendar year 2020. Dallas ERF has a 5-year return of 8.03% which exceeds its actuarial rate of return of 7.60%.

Dallas ERF has a global, diversified conservative investment program. The best performing asset class in 2020 was Domestic Equity. Dallas ERF's Domestic Equity portfolio earned 16.4%. Both Global Equity had a return of 16.1% and International Equity had a return of 15.6%, respectively for 2020. Global Low Volatility Equity had a return of (-0.1%) lagging the benchmark MSCI ACWI Minimum Volatility Index of 2.7%. The Fund's Real Estate investments generated (-1.7%) for the year. The Real Estate investments consist of publicly traded real estate called Real Estate Investment Trusts (REITs) and national private core real estate funds. Global Listed Infrastructure had a difficult year with a (-25.8%) but was better than the benchmark of (-31.2%). The investments in Private Equity had a 1-year return of 3.0% and a 5-year return of 9.9%.

Fixed Income is 30% of the ERF investment portfolio. Our investment in Global Fixed Income returned 8.6% and exceeded the Bloomberg Aggregate benchmark of 7.5% in 2020. Our High Yield investments posted a return of 6.6% and the Opportunistic Credit posted a return of 5.2%.

At December 31, 2020, the total assets increased to \$3.707 billion from \$3.658 billion in 2019. This represents a \$49 million increase over last year. The Market Value of Assets graph below for the Plan provides a pictorial history of the Plan's overall growth over the past 10 years.

MARKET VALUE OF ASSETS



ASSET ALLOCATION

The Plan'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, 2020

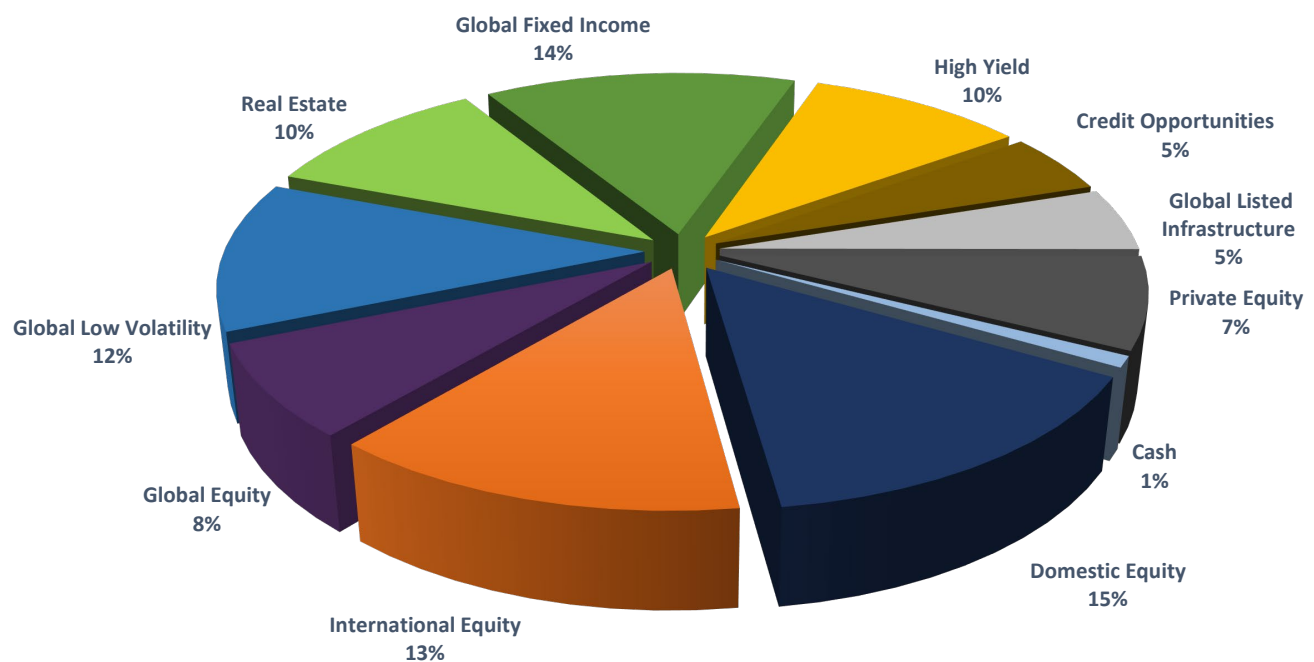
Investment Category	% of Total Fund
U.S. Equity	
Domestic Equity	12.5
Real Assets	12.5
REITs	2.5
Private Equity	7.5
Marketable Alternatives	2.5
Total U.S. Equity	37.5
Non-U.S. Equity	
International	12.5
Global	7.5
Global Low Volatility	12.5
Total Non-U.S. Equity	32.5
Total Equity	70.0
Fixed Income	
Credit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

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 Asset, 7.5% to Private Equity, 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 16.39% for the year while the benchmark Wilshire 5000 Index had a return of 20.82%

Non-U.S. Equity has a target allocation of 32.5%, and it is split between International Equity 12.5%, Global Equity 7.5%, 12.5% Global Low Volatility. The Plan's International Equity composite return was 15.57% while the MSCI All World ex-U.S. Index reported a return of 10.65% for the year, and the MSCI EAFE Index reported 7.82%. The Global Equity allocation reported a return of 16.11% underperforming the MSCI ACWI which returned 16.25%.

ACTUAL ASSET ALLOCATION



**Source: Wilshire Associates, Inc.*

CREDIT OPPORTUNITIES

Credit Opportunities has a target of 5.0% allocated to one investment manager. During the year Credit Opportunities had a return of -2.2% relative to its' custom benchmark (33% ML High Yield Master II, 33% S&P LSTA Leveraged Loan Index, 33% JPM EMBI Global Diversified Index) which returned -3.11%.

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 8.62% while the Bloomberg Aggregate Bond Index returned 7.51%

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 return was 6.60% and the Citigroup High Yield Cash Pay Index returned 6.23%.

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 7.4% of the Fund. The rate of return for the year was 2.99%.

REAL ESTATE

Real Estate is comprised of Real Estate securities ("REITs"), and Private Core Real Estate. REITs and Core Real Estate have a 2.5% and 7.5% allocation of total U.S. Equity of 32.5%. REITs had a return of -4.76 % against the Wilshire Real Estate Securities Index of -7.95%, and the Private Real Estate had a return of 0.34% against the NCREIF Property Index had a return of 0.34%.

PUBLIC REAL ASSETS

Public Real Assets (Global Listed Infrastructure) have a target allocation of 2.5%. The allocation is split between 3 investment managers. Public Real Assets returned -31.19% against the Alerian MLP index of -28.69%.

ANNUALIZED RATE OF RETURN

As of December 31, 2020

Time-weighted rate of return based on fair value

	1-Year	3-Year	5-Year
Total Fund	5.76%	5.93%	8.03%
Domestic Equity	16.39	11.12	13.58
S&P 500 Index	18.40	14.18	15.22
Wilshire 5000 Index	20.82	14.46	15.52
International Equity	15.57	5.41	9.77
MSCI ACWI x-US IMI (Net)	11.12	4.83	8.98
MSCI EAFE Index	7.82	4.28	7.45
Global Equity	16.11	8.97	11.19
MSCI ACWI	16.25	12.06	12.26
Global Low Volatility	-0.05	5.48	8.73
MSCI ACWI Minimum Volatility	2.69	6.96	9.17
MSCI ACWI	16.25	12.06	12.26
Global Fixed Income	8.62	5.66	5.02
Bloomberg Aggregate Bond Index	7.51	5.34	4.44
High Yield Fixed Income	6.60	5.64	7.47
Citigroup High Yield Cash Pay	6.23	5.83	8.32
Cash Equivalents	0.67	1.61	1.19
T-Bills	0.67	1.61	1.18
Real Estate	-1.73	4.63	5.09
Wilshire RE Securities Index	-7.95	3.30	4.46
NCREIF ODCE INDEX	0.34	3.99	5.27
Private Equity	2.99	9.81	9.92
S&P 500 Index	18.40	14.18	15.22
Public Real Assets	-25.83	-9.63	-3.21
Changed to: Wilshire RE Securities Index	-7.95	3.30	4.46
Credit Opportunities	5.17	4.85	
Wilshire Custom Benchmark	4.85	5.01	

Source: Wilshire 2020 presentation pages 4, 11, 10, 15, 19

INVESTMENT MANAGEMENT FEES

As of December 31, 2020

(\$ in thousands)

Investment	Assets Under Management	Fees	Basis Points
Domestic Equity	\$ 530,765	\$ 1,932	36.4
International Equity	585,900	2,892	49.3
Global Equity	272,748	1,406	51.5
Global Low Volatility	342,275	716	20.9
Global Fixed Income	513,754	1,104	21.5
High Yield Fixed Income	356,142	1,870	31.0
Real Estate	222,726	1,360	61.1
Master Limited Partnerships	187,435	1,039	55.5
Private Equity	307,594	3,217	104.6
Cash Equivalents	34,051	226	66.3
Credit Opportunities	177,863	443	24.9
REITs	155,563	766	49.2
Total	\$ 3,686,816	\$ 16,971	46.0

OTHER INVESTMENT SERVICES

As of December 31, 2020

(\$ in thousands)

Investment Consultant	\$583
Investment Management Fees	16,971
Custodian Fees	125
Securities Lending Fees	236
Total Investment Expenses	\$17,915

TEN LARGEST HOLDINGS - EQUITY

As of December 31, 2020
(\$ in thousands)

Equity	Shares	Fair Value
BLACKROCK MSCI ACWI MINIMUM	11,823,755	\$223,696
MFB NTGI-QM COLTV DAILY S&P 500	11,113	151,653
HEITMAN AMERICA REAL ESTATE	70,765	82,461
1900 MCKINNEY HARWOOD LLC	60,558,462	71,551
INVESCO CORE RE FUND	379	69,262
GCM GROSVENOR - DALLAS ERF PAR 1.180	47,453,556	55,974
NEUBERGER HIGH INCOME FUND	914,587	49,950
FAIRVIEW CAPITAL III	32,747,846	40,856
CREDIT SUISSE DALLAS ERF PARTN	42,424,561	37,386
GCM GROSVENOR - DALLAS ERF PAR 1.353	26,014,834	35,192

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

Source: STP Largest Equity Holdings report 05 12 21

TEN LARGEST HOLDINGS - FIXED INCOME

As of December 31, 2020
(\$ in thousands)

Fixed Income	Par Value	Fair Value
MFO NEUBERGER BERMAN 0.040% due 12/31/2049	\$3,870	\$37,500
UNITED STATES TREAS NTS .25% due 05/31/2025	11,851	11,828
UNITED STS TREAS NTS 0.125% due 09/30/2022	10,830	10,830
UNITED STATES TREAS BDS 1.375% due 08/15/2050	10,323	9,668
UNITED STS TREAS NTS UNITED ST 0.125 % due 10/15/2023	7,117	7,112
CANADA HOUSING TST 2.35% GTD 1 due 09/15/2023	8,305	6,865
U.S. TREASURY N/B 1.5% due 02/15/2030	6,330	6,697
U.S.A. TREASURY NOTES 2.375% due 05/15/2027	5,160	5,756
UNITED STATES OF AMER TREAS NO 0.250% due 09/30/2025	5,498	5,478
BANK AMER CORP 3.974% due 02/07/2030	4,150	4,888

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

Source: STP Largest Fixed Income Holdings report 05 12 21

INVESTMENT HOLDINGS SUMMARY

As of December 31, 2020
(\$ in thousands)

	Fair Value	Percentage of Fair Value
Fixed Income		
Government Bonds	\$243,603	6.58%
Corporate Bonds	789,882	21.34%
Total Fixed Income	1,033,485	27.92%
Equity		
Common Stock	1,583,583	42.78%
Index & Commingled	456,129	12.32%
Total Equity	2,039,712	55.11%
Real Estate		
Real Estate	222,726	6.02%
Total Real Estate	222,726	6.02%
Alternative Investments		
Private Equity	316,237	8.54%
Total Alternative Investments	316,237	8.54%
Total Cash and Cash Equivalents	89,190	2.41%
Total Fund	\$3,701,350	100.00%

Source: PBC report

ACTUARIAL SECTION

The Report of the
December 31, 2020 Actuarial Valuation
of the Employees' Retirement Fund
of the City of Dallas

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June 1, 2021

Board of Trustees
Employees' Retirement Fund of the City of Dallas
1920 McKinney Avenue
10th 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, 2020.

This valuation provides information on the financial health of ERF. It includes a determination of the actuarially calculated contribution rates for the 2021 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, 2021 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 2022.

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 in this valuation were selected in compliance with 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 1, 2021

Page 2

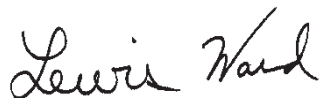
Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods. Due to the limited scope of this assignment, GRS did not perform an analysis of the potential range of such possible future differences. The actuarial calculations 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, 2020. 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.

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,



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, 2020 may be summarized as follows:

	<u>December 31, 2019</u>	<u>December 31, 2020</u>
· Members		
- Actives	7,427	7,244
- Benefit recipients	7,405	7,552
- Deferred vested*	877	911
- Other terminated*	<u>789</u>	<u>799</u>
- Total	16,498	16,506
· Covered payroll (including overtime)	\$ 433,890	\$ 428,824
	\$ 87,509	\$ 84,929
· Normal cost		
as % of expected payroll	20.50%	20.11%
· Actuarial accrued liability	\$ 4,863,325	\$ 4,932,886
· Actuarial value of assets	\$ 3,682,959	\$ 3,747,078
· Market value of assets	\$ 3,658,088	\$ 3,706,753
· Unfunded actuarial accrued liability (UAAL)	\$ 1,180,366	\$ 1,185,808
	17.30%	6.42%
· Estimated yield on assets (market value basis)		
· Estimated yield on assets (actuarial value basis)	6.74%	6.81%
· Contribution Rates	36.00%	36.00%
- Prior Adjusted Total Obligation Rate		
- Current Total Obligation Rate	43.92%	43.77%
- Current Adjusted Total Obligation Rate	36.00%	36.00%
· Actuarial gains/(losses)	\$ (35,798)	\$ (16,030)
- Assets		
- Actuarial liability experience	\$ 6,156	\$ 69,812
- Assumption and method changes	\$ (205,391)	\$ -
	\$ 157,348	\$ 153,181
· 30-year level % of pay funding cost		
as % of payroll (Employee + City)	35.38%	34.85%
· Funded ratio	75.7%	76.0%
- Based on actuarial value of assets		
- Based on market value of assets	75.2%	75.1%

* *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, 2020.

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 2021 calendar year; and
- To develop the current total obligation rate and the current adjusted total obligation rate for the fiscal year beginning October 1, 2021.

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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, 2019	December 31, 2020
Contribution Rates (% of Payroll)		
Normal Cost (including administrative expense)	22.23%	21.44%
Total Actuarial Contribution Rate	35.38%	34.85%
Total Projected Actuarial Contribution	\$157,348	\$153,181
Funded Status (on AVA basis)		
Actuarial Accrued Liability	\$4,863,325	\$4,932,886
Actuarial Value of Assets	3,682,959	3,747,078
Unfunded Actuarial Accrued Liability	\$1,180,366	\$1,185,808
Funded Ratio	75.73%	75.96%

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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, 2020. 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, 2021. 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 34.85% 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 2022. 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 the new 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 8.92% of projected payroll. The sum of these rates is 43.77% (the Current Total Obligation Rate), which is 7.77% 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 2022 (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, 8.92% of the City's contribution rate will go towards the debt service on the pension obligation bonds and the remaining 13.76% will be contributed towards the ERF. This means a total contribution rate of 27.08% will be contributed to the ERF, which compares to the actuarially calculated rate of 34.85%.

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 6.42% (calculated on a dollar-weighted basis, net of investment expenses). Given this return, the actual investment income was lower than the expected investment income on the market value of assets; therefore, an investment loss 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 \$16.0 million loss on the actuarial value of assets as of December 31, 2020. The rate of return on the actuarial value of assets for 2020 was 6.81% (calculated on a dollar-weighted basis, net of investment expenses). This result was less 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 2020 in the amount of \$53.8 million. Since there was a \$16.0 million loss on the actuarial value of assets, this implies there was a liability actuarial gain of about \$69.8 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):

	2016	2017	2018	2019	2020
1) Actuarial (Gain)/Loss on Assets	(\$16.41)	(\$19.85)	\$88.73	\$35.80	\$16.03
2) Actuarial (Gain)/Loss on Liabilities	(32.35)	(61.02)	11.35	(6.16)	(69.81)
3) Total Actuarial (Gain) or Loss (1+2)	(\$48.76)	(\$80.87)	\$100.08	\$29.64	(\$53.78)

The unfunded actuarial accrued liability (UAAL) also increased \$34.2 million due to the shortfall between the calculated contribution rate and the actual contributions during 2020.

ASSET INFORMATION

The assets of the Fund (on a market value basis) increased from \$3,658 million as of December 31, 2019 to \$3,707 million as of December 31, 2020.

The assets recognized for actuarial valuation purposes (known as “the actuarial value of assets”) were set equal to the market value of assets in the December 31, 2017 valuation. Beginning with the December 31, 2018 valuation, a new smoothing method was adopted by the Board to recognize future 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, 2020.

The actuarial value of assets has increased from \$3,683 million to \$3,747 million during 2020. The actuarial assets are less than the expected actuarial assets, \$3,763 million, due to recognition of the prior year’s deferred investment losses. This resulted in an actuarial loss on the actuarial assets of \$16.0 million.

The rate of return on investments for 2020 on the actuarial value of assets was 6.81%, compared to 6.74% in 2019. 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 Funding 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 decreased from 75.2% as of December 31, 2019 to 75.1% as of December 31, 2020. Based on the actuarial value of assets, the Funded Ratio of ERF increased from 75.7% as of December 31, 2019 to 76.0% as of December 31, 2020.

The UAAL increased from \$1,180.4 million as of December 31, 2019 to \$1,185.8 million as of December 31, 2020. Since the UAAL is positive, this implies the actuarial accrued liabilities exceed the actuarial assets of the Fund as of December 31, 2020.

The actual \$5.4 million increase in the UAAL was less than the expected increase of \$59.2 million (\$25.0 million due to negative amortization and \$34.2 million as a result of the actual contributions being less than the actuarially determined contribution rate), resulting in a net actuarial gain in total. The primary reasons the increase in the UAAL was less than expected were the gain from the 1.35% cost of living adjustment and the gain related to salary increases being less than expected.

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)

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Ratio of the market value of assets to total payroll	8.64	8.43	7.71	8.55	8.13	8.12	9.34	9.72	9.01	8.87
Ratio of actuarial accrued liability to payroll	11.50	11.21	10.68	10.39	10.48	10.50	11.03	10.55	10.64	10.95
Ratio of actives to retirees and beneficiaries	0.96	1.00	1.05	1.11	1.10	1.11	1.09	1.08	1.09	1.09
Ratio of net cash flow to market value of assets	-4.9%	-4.8%	-5.1%	-4.3%	-4.4%	-4.5%	-4.2%	-4.4%	-5.1%	-5.3%
Duration of the actuarial present value of benefits*	12.69	12.37	NA	NA	NA	NA	NA	NA	NA	NA

*Duration measure not available prior to 2018

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)	24.91%	20.11%	16.56%
UAAL (\$ in millions)	\$1,771.9	\$1,187.5	\$696.4
30-year funding rate (employee + City)	49.54%	34.85%	29.03%
Funded Ratio	67.9%	76.0%	84.3%
Funding Period	Infinite	60 years	29 years

CLOSING COMMENTS

The unfunded actuarial accrued liability of the Fund has increased less than expected due to the gain from the 1.35% cost of living adjustment and the gain related to salary increases being less than expected.

The calculated contribution rate necessary to pay the Fund's normal cost and amortize the UAAL over 30 years is 34.85% of pay. When the debt service payment on the Pension Obligation Bonds is considered, the total contribution rate is 43.77% 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 2022 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 51 years.

While the expected date of achieving full funding is nearer than it was last year, it is still farther away than is desired. It also exceeds the maximum funding period in the Texas Pension Review Board's actuarial soundness guidelines. Also, because the members and the City are currently contributing the maximum allowed under the City Charter, the Fund is subject to asymmetric risk if there is future adverse experience.

ACTUARIAL TABLES

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

	Entry Age Actuarial Values			
	APV* of Projected Benefits	Actuarial Accrued Liability (AAL)	Normal Cost \$	Normal Cost % of Pay**
1 Active Members				
a. Retirement	\$ 1,883,186	\$ 1,441,853	\$ 61,555	14.57%
b. Death	18,752	11,370	1,013	0.24%
c. Disability	12,114	4,717	1,016	0.24%
d. Termination	138,952	(4,325)	19,136	4.54%
e. Health Subsidy	45,787	33,232	2,209	0.52%
Total	\$ 2,098,791	\$ 1,486,847	\$ 84,929	20.11%
2 Benefit Recipients	3,312,228	3,312,228		
3 Other Inactive	133,811	133,811		
4 Total Actuarial Value of Benefits	\$ 5,544,830	\$ 4,932,886	\$ 84,929	20.11%
5 Actuarial Value of Assets		\$ 3,747,078		
6 Unfunded Actuarial Accrued Liability (4 - 5)		\$ 1,185,808		
7 Funding Ratio				75.96%
8 Market Value Measurements				
UAAL on market value				\$ 1,226,133
Funded Ratio on market value				75.14%

* APV – Actuarial Present Value

** Percentage of expected payroll for continuing active members.

Table 1

DEMONSTRATION OF ACTUARIALLY REQUIRED CONTRIBUTION RATE FOR FY 2022

Valuation as of December 31,	Actuarially Determined Total Contribution Rate	Projected Compensation for Plan Year (in Millions)	Total Contributions to Fund for Plan Year (in Millions)	Actuarial Accrued Liability (AAL \$M)	Actuarial Value of Assets (AVA \$M)	Unfunded Actuarial Accrued Liability (UAAL \$M)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2020	34.85%	\$ 428.8	\$ 149.4	\$ 4,932.9	\$ 3,747.1	\$ 1,185.8
2021	34.85%	439.0	153.0	5,059.2	3,845.3	1,214.0
2022	34.85%	450.8	157.1	5,186.2	3,945.5	1,240.6
2023	34.85%	463.1	161.4	5,306.6	4,041.0	1,265.6
2024	34.85%	476.0	165.9	5,420.4	4,131.8	1,288.6
2025	34.85%	489.5	170.6	5,527.3	4,217.8	1,309.5
2026	34.85%	503.4	175.4	5,627.5	4,299.6	1,327.9
2027	34.85%	517.8	180.5	5,721.2	4,377.5	1,343.7
2028	34.85%	533.0	185.7	5,809.2	4,452.6	1,356.6
2029	34.85%	548.8	191.2	5,892.6	4,526.2	1,366.5
2030	34.85%	564.9	196.9	5,971.6	4,598.8	1,372.8
2031	34.85%	582.0	202.8	6,047.0	4,671.6	1,375.5
2032	34.85%	599.5	208.9	6,119.6	4,745.7	1,373.9
2033	34.85%	617.1	215.1	6,188.8	4,821.1	1,367.7
2034	34.85%	635.2	221.4	6,254.6	4,898.1	1,356.4
2035	34.85%	653.8	227.9	6,317.2	4,977.4	1,339.8
2036	34.85%	673.3	234.6	6,377.0	5,059.8	1,317.2
2037	34.85%	693.3	241.6	6,434.6	5,146.5	1,288.1
2038	34.85%	714.0	248.8	6,490.7	5,238.6	1,252.1
2039	34.85%	735.6	256.4	6,546.2	5,337.6	1,208.5
2040	34.85%	757.9	264.1	6,601.9	5,445.3	1,156.6
2041	34.85%	781.1	272.2	6,659.0	5,563.2	1,095.8
2042	34.85%	804.9	280.5	6,717.9	5,692.8	1,025.1
2043	34.85%	829.7	289.1	6,779.8	5,835.9	943.9
2044	34.85%	855.2	298.0	6,846.0	5,994.8	851.2
2045	34.85%	881.6	307.2	6,918.3	6,172.2	746.1
2046	34.85%	908.5	316.6	6,998.1	6,370.4	627.7
2047	34.85%	936.1	326.2	7,086.3	6,591.6	494.7
2048	34.85%	964.3	336.1	7,184.1	6,837.8	346.2
2049	34.85%	993.2	346.1	7,292.0	7,111.2	180.8
2050	34.85%	1,022.8	356.4	7,410.8	7,413.5	(2.7)

Table 2

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

1 Prior Adjusted Total Obligation Rate	36.00%
2 Actuarially Required Contribution Rate*	34.85%
3 Debt Service	
a Scheduled Debt Service Payment for FY 2022	\$ 39,200,283
b Projected Payroll	\$ 439,544,160
c Pension Obligation Bond Credit Rate (a/b)	8.92%
4 Current Total Obligation Rate (2 + 3c)	43.77%
5 Current Adjusted Total Obligation Rate	36.00% **
6 Allocation of Contribution Rates Commencing October 1, 2021	
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%.

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, 2019</u>	<u>December 31, 2020</u>
1 Assets		
a. Cash & Short-Term	\$ 325,309	\$ 336,137
2 Receivables		
a. Accrued Investment Income	\$ 14,467	\$ 14,925
b. Securities Sold	4,243	6,188
c. Employer Contribution	2,307	467
d. Employee Contribution	2,164	439
e. Pending Contracts	438,841	406,359
3 Investments	\$ 462,022	\$ 428,378
a. Index Funds	\$ 176,734	\$ 208,318
b. Fixed Income	997,117	976,820
c. Equities	1,872,596	1,888,059
d. Real Estate	230,183	222,726
e. Private Equity	267,422	316,237
	\$ 3,544,052	\$ 3,612,160
4 Total Assets	\$ 4,331,383	\$ 4,376,675
5 Liabilities		
a. Accounts Payable	\$ 7,267	\$ 8,482
b. Investment Transactions	666,028	661,440
	\$ 673,295	\$ 669,922
6 Net Assets Available For Benefits	<u>\$ 3,658,088</u>	<u>\$ 3,706,753</u>

Table 4

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

	2019	2020
1 Assets Available at Beginning of Year	\$ 3,265,402	\$ 3,265,402
Adjustment *	16,911	0
2 Revenues	\$ 3,282,313	\$ 3,658,088
a. Employer Contributions	\$ 62,177	\$ 61,615
b. Employee Contributions	58,314	58,358
c. Investment Income	114,123	91,867
d. Investment Expense	(18,129)	(17,915)
e. Realized and Unrealized Gains (Losses)	453,838	153,972
f. Other (Security Lending)	1,411	1,181
Total Revenues	\$ 671,734	\$ 349,078
3 Expenses		
a. Benefits	\$ 278,007	\$ 287,465
b. Refunds	10,436	6,857
c. Operating Expense	7,516	6,091
Total Expense	\$ 295,959	\$ 300,413
4 Assets Available at End of Year (1 + 2 + 3)	\$ 3,658,088	\$ 3,706,753

* Change due to difference between unaudited asset value used for prior valuation and audited asset value reported the following year.

Development of Actuarial Assets
(\$ in 000s)

						December 31, 2020
1.	Market value of assets at beginning of year					\$ 3,658,088
2.	External cashflow					
a.	Contributions					\$ 119,973
b.	Benefits and refunds paid					(294,322)
c.	Administrative and miscellaneous expenses					(6,091)
d.	Subtotal					(180,440)
3.	Assumed investment return rate for fiscal year					7.25%
4.	Assumed investment income for fiscal year					\$ 258,785
5.	Expected Market Value at end of year (1+ 2 + 4)					\$ 3,736,433
6.	Market value of assets at end of year					\$ 3,706,753
7.	Difference (6 - 5)					\$ (29,680)
8.	Development of amounts to be recognized as of December 31, 2020:					
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)
2016	\$ 0	\$ 0	\$ 0	1	\$ 0	\$ 0
2017	0	0	0	2	0	0
2018	(24,871)	0	(24,871)	3	(8,290)	(16,581)
2019	0	0	0	4	0	0
2020	29,680	0	9,680	5	(5,936)	(23,744)
Total	\$ 54,551	\$ 0	\$ (54,551)		\$ (14,226)	\$ (40,325)
9.	Final actuarial value of plan net assets, end of year (Item 6 - Item 8, Column 6)					\$ 3,747,078
10.	Ratio of actuarial value to market value					101.1%

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

Calendar Year	On Market Value	On Actuarial Value
2001	-5.46%	2.76%
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%
5-year average ending in 2020	7.64%	7.25%
10-year average ending in 2020	7.32%	6.78%

* 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, 2020
(\$ in 000s)

1. UAAL as of December 31, 2019		\$ 1,180,366
2. Expected Change in UAAL during 2020		
a. Expected Amortization Payment for CY 2020	(58,476)	
b. Interest adjustments on 1 & 2a to Year End @ 7.25%	83,494	
c. Expected change in UAAL	<u>25,018</u>	25,018
3. Increase/(Decrease) in UAAL Due to Difference Between Calculated Contribution Rate and Actual Contribution		34,206
4. Net Actuarial Experience (Gains) & Losses		(53,782)
5. Assumption and Method Changes		<u>0</u>
6. UAAL as of December 31, 2020		\$ 1,185,808

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

Item	Valuation as of December 31, 2020
1. Actuarial assets, beginning of year	\$ 3,682,959
2. Contributions	119,973
3. Benefits and refunds paid with administrative expenses	(300,413)
4. Assumed net investment income at 7.25% on	
a. Beginning of year assets	267,015
b. Contributions	4,273
c. Benefits and refunds paid with administrative expenses	(10,699)
d. Total	\$ 260,589
5. Expected actuarial assets, end of year (Sum of Items 1 through 4)	3,763,108
6. Actual actuarial assets, end of year	3,747,078
7. Asset experience (gain)/loss for year	16,030

Analysis of Actuarial (Gains) and/or Losses for 2020
(\$ in 000s)

	2020
Investment Return	\$ 16,030
Salary Increase	(26,580)
Age and Service Retirement	(2,052)
General Employment Termination	2,301
Disability Incidence	(236)
Active Mortality	1,150
Benefit Recipient Mortality	(8,015)
Actual vs. Expected Cost of Living Adjustment (COLA)*	(24,956)
Other	(11,424)
Total Actuarial (Gain)/ Loss	\$ (53,782)

* Actual COLA of 1.35% versus expected COLAs of 2.50% for Tier A and 2.20% for Tier B.

Schedule of Funding Status
(\$ in 000s)

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

* Projected to following year.

Summary of Data Characteristics

As of December 31,	2018	2019	2020
Active Members			
Number	7,584	7,427	7,244
Total Annualized Earnings of Members as of 12/31 (000s)	\$ 423,723	\$ 433,890	\$ 428,824
Average Earnings	55,871	58,421	59,197
Benefit Recipients			
Number	7,224	7,405	7,552
Total Annual Retirement Income (000s)	\$ 258,085	\$ 269,263	\$ 277,429
Total Annual Health Supplement (000s)	10,523	10,984	10,929
Average Total Annual Benefit	37,200	37,871	38,228
Inactive Members*			
Deferred Vested	819	877	911
Deferred Nonvested	673	789	799
Total	1,492	1,666	1,710

* 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									0
20-24	61	75	1						137
	\$2,223,449	\$2,881,273	\$36,410						\$5,141,132
25-29	121	346	85	0					552
	\$5,167,927	\$15,304,158	\$4,227,546	\$0					\$24,699,631
30-34	118	397	223	48					786
	\$5,611,769	\$19,815,181	\$11,987,081	\$2,941,744					\$40,355,775
35-39	81	303	244	140	33	3			804
	\$3,880,585	\$16,404,669	\$14,704,173	\$9,295,793	\$2,220,168	\$198,574			\$46,703,962
40-44	69	285	239	136	102	51	0		882
	\$3,335,181	\$17,047,343	\$14,074,826	\$8,863,349	\$7,165,892	\$3,412,203	\$0		\$53,898,794
45-49	73	245	201	147	118	168	46	1	999
	\$3,537,292	\$13,776,561	\$12,966,095	\$9,603,015	\$7,858,980	\$11,075,175	\$3,043,383	\$62,704	\$61,923,205
50-54	71	233	205	147	139	175	99	20	1,089
	\$3,992,421	\$13,295,866	\$11,485,053	\$9,866,289	\$9,478,072	\$12,333,415	\$7,404,503	\$1,556,943	\$69,412,562
55-59	48	191	172	202	157	159	48	34	1,011
	\$2,839,641	\$10,607,652	\$10,140,848	\$12,362,651	\$10,568,268	\$10,613,425	\$3,340,115	\$2,565,277	\$63,037,877
60-64	22	113	142	119	89	84	37	45	651
	\$1,188,366	\$6,254,759	\$8,653,710	\$7,263,177	\$6,103,557	\$5,682,412	\$2,865,022	\$3,951,531	\$41,962,534
65&Over	5	47	47	69	47	58	26	34	333
	\$300,582	\$2,590,212	\$2,756,979	\$4,485,605	\$3,035,993	\$3,791,601	\$1,975,445	\$2,751,682	\$21,688,099
Totals	669	2,235	1,559	1,008	685	698	256	134	7,244
	\$32,077,213	\$117,977,674	\$91,032,721	\$64,681,623	\$46,430,930	\$47,106,805	\$18,628,468	\$10,888,137	\$428,823,571

Table 12

Distribution of Benefit Recipients
As of December 31, 2020

Age	Number	Annual Benefit*	Annual Average Benefit*
Under 50	45	\$ 782,346	\$ 17,385
50-54	182	7,643,536	41,997
55-59	616	28,433,500	46,158
60-64	1,326	52,591,164	39,662
65-69	1,694	63,820,302	37,674
70-74	1,639	63,575,777	38,789
75-79	954	30,725,992	32,208
80-84	564	16,875,181	29,921
85-89	309	7,964,781	25,776
90 & Over	223	5,016,120	22,494
Total	7,552	\$ 277,428,698	\$ 36,736

* 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
2008	8,117	-	\$ 359,369,000	-	\$ 44,274	-
2009	8,371	3.1%	378,021,000	5.2%	45,158	2.0%
2010	7,654	-8.6%	364,237,000	-3.6%	47,588	5.4%
2011	7,034	-8.1%	322,374,000	-11.5%	45,831	-3.7%
2012	6,745	-4.1%	309,682,000	-3.9%	45,913	0.2%
2013	6,864	1.8%	330,536,000	6.7%	48,155	4.9%
2014	6,993	1.9%	342,219,000	3.5%	48,937	1.6%
2015	7,180	2.7%	363,109,000	6.1%	50,572	3.3%
2016	7,477	4.1%	393,186,000	8.3%	52,586	4.0%
2017	7,619	1.9%	409,433,000	4.1%	53,738	2.2%
2018	7,838	2.9%	421,269,000	2.9%	53,747	0.0%
2019	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%

Table 14a

Schedule of Retirees and Beneficiaries Added to and Removed from Rolls

Year 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	10.0%	36,362
2020	455	28,634,730	308	11,614,128	7,552	277,428,698	13.3%	36,736

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%

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 2020			
	Number	Expected Pay	Actual Pay	Ratio A/E
Under 5	2,011	\$ 107, 598, 161	\$ 106,060,895	99%
5-9	1,688	98,818,276	97,104,156	98%
10-14	987	64,401,160	63,046,275	98%
15-19	717	49,401,604	48,442,912	98%
20-24	718	49,415,411	47,838,901	97%
25-29	299	22,356,375	21,677,411	97%
30 & Over	141	11,608,137	11,364,050	98%
Total	6,561	\$ 403,599,124	\$ 395,534,600	98%
Over 10 Years	2,862	\$ 197,182,687	\$ 192,369,549	98%

Service Beginning of Year	Experience for 2020-2020			
	Number	Expected Pay	Actual Pay	Ratio A/E
Under 5	2,011	\$ 107, 598, 161	\$ 106,060,895	99%
5-9	1,688	98,818,276	97,104,156	98%
10-14	987	64,401,160	63,046,275	98%
15-19	717	49,401,604	48,442,912	98%
20-24	718	49,415,411	47,838,901	97%
25-29	299	22,356,375	21,677,411	97%
30 & Over	141	11,608,137	11,364,050	98%
Total	6,561	\$ 403,599,124	\$ 395,534,600	98%
Over 10 Years	2,862	\$ 197,182,687	\$ 192,369,549	98%

**Analysis of Retirement Experience
Each Age**

Age	2020 Retirement			2020-2020 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	-	0.40	0%	-	0.40	0%
50	2	3.90	51%	2	3.90	51%
51	4	9.50	42%	4	9.50	42%
52	9	9.60	94%	9	9.60	94%
53	9	11.80	76%	9	11.80	76%
54	8	10.55	76%	8	10.55	76%
55	15	11.75	128%	15	11.75	128%
56	13	11.30	115%	13	11.30	115%
57	17	14.10	121%	17	14.10	121%
58	15	15.15	99%	15	15.15	99%
59	11	13.05	84%	11	13.05	84%
60	29	21.48	135%	29	21.48	135%
61	16	17.65	91%	16	17.65	91%
62	15	18.20	82%	15	18.20	82%
63	14	15.40	91%	14	15.40	91%
64	11	16.49	67%	11	16.49	67%
65	18	17.53	103%	18	17.53	103%
66	14	13.22	106%	14	13.22	106%
67	10	10.03	100%	10	10.03	100%
68	9	8.35	108%	9	8.35	108%
69	5	4.67	107%	5	4.67	107%
70 & Over	28	92.00	30%	28	92.00	30%
Total	272	346.12	79%	272	346.12	79%
Total Under 70	244	254.12	96%	244	254.12	96%

Table 16a

**Analysis of Retirement Experience
Age Groups**

Age Group	2020 Retirements			2020-2020 Retirements		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
Under 55	32	45.75	70%	32	45.75	70%
55-59	71	65.35	109%	71	65.35	109%
60-64	85	89.22	95%	85	89.22	95%
65-69	56	53.80	104%	56	53.80	104%
70 & Over	28	92.00	30%	28	92.00	30%
Total	272	346.12	79%	272	346.12	79%
Total Under 70	244	254.12	96%	244	254.12	96%

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Analysis of Turnover Experience

Years of Service	2020 Quits			2020-2020 Quits		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
0-4	389	387.77	100%	389	387.77	100%
5-9	126	123.69	102%	126	123.69	102%
10-14	29	28.45	102%	29	28.45	102%
15-19	17	11.17	152%	17	11.17	152%
20-24	10	6.36	157%	10	6.39	157%
25-29	-	0.48	0%	-	0.48	0%
Total	571	577.94	102%	571	557.94	102%

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Analysis of Active Mortality Experience

Age Group	2020 Deaths			2020-2020 Deaths		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
20-24	0	0.03	0%	0	0.03	0%
25-29	1	0.11	908%	1	0.11	908%
30-34	0	0.21	0%	0	0.21	0%
35-39	2	0.31	647%	2	0.31	647%
40-44	1	0.52	191%	1	0.52	191%
45-49	1	0.88	113%	1	0.88	113%
50-54	4	1.48	270%	4	1.48	270%
55-59	3	2.08	144%	3	2.08	144%
60 & Over	7	3.25	215%	7	3.25	215%
Total	20	8.88	225%	20	8.88	225%

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Table 18

Analysis of Disability Experience

Age	2020 Disabilities			2020-2020 Disabilities		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
20-24	0	0.00	0%	0	0.00	0%
25-29	0	0.03	0%	0	0.03	0%
30-34	0	0.12	0%	0	0.12	0%
35-39	0	0.28	0%	0	0.28	0%
40-44	0	0.56	0%	0	0.56	0%
45-49	0	0.96	0%	0	0.96	0%
50-54	0	1.34	0%	0	1.34	0%
55-59	0	1.48	0%	0	1.48	0%
60 & Over	0	0.80	0%	0	0.80	0%
Total	0	5.57	0%	0	5.57	0%

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Analysis of Retiree Mortality Experience*

Age	2020 Experience			2020-2020 Experience		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
Under 60	6	2.49	241%	6	2.49	241%
60-64	8	8.02	100%	8	8.02	100%
65-69	27	18.00	150%	27	18.00	150%
70-74	32	27.45	117%	32	27.45	117%
75-79	40	25.73	155%	40	25.73	155%
80-84	28	24.46	114%	28	24.46	114%
85-89	28	20.33	138%	28	20.33	138%
90 & Over	22	24.03	92%	22	24.03	92%
Total	191	150.52	127%	191	150.52	127%

**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 2020 is assumed to be hired at a salary that is 3.00% greater than a new employee hired in 2019). 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

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

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 58.5% 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.

New Entrant Profile		
Entry Age	# of Employees	Average Salary
15-19	3	\$ 44,036
20-24	172	37,849
25-29	311	43,421
30-34	291	48,168
35-39	217	51,087
40-44	225	54,531
45-49	176	55,142
50-54	161	53,515
55-59	122	50,631
60-64	57	57,685
65-69	6	48,734
Total	1,741	\$49,165

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	

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

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.

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	83	50
90	238	162

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 2020 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	7.5	3.5
70	20.0	11.2
80	55.3	35.5
90	155.7	113.2

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

Mortality:

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 2020 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	0.8
60	2.9	1.7
70	6.4	4.4
80	15.6	12.0
90	133.6	104.6

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
48-49	100	100	100	100
50	550	550	450	350
51	500	450	400	350
52	500	300	400	300
53	400	300	350	300
54	350	250	350	250
55	300	250	350	250
56	300	250	350	250
57	300	250	350	250
58-59	300	250	250	200
	Service < 18 yrs.	Service 18 yrs. +	Service < 18 yrs.	Service 18 yrs. +
60	80	230	90	200
61	90	230	90	180
62	100	230	90	200
63	100	230	150	150
64	150	230	120	130
65	150	230	120	300
66	200	230	150	300
67	200	230	250	300
68	200	230	150	300
69	200	230	150	300
70	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. Assumed to be equal to the inflation rate of 2.50%.

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 System'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 are 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 3.0% 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, 2020

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).

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 Comprehensive Annual 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
2011	\$ 31,748	\$ 27,302	8.6	\$ 38,580	(\$ 14,026)	\$ 405	\$ 84,009
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

SCHEDULE OF DEDUCTIONS BY TYPE

(\$ in thousands)

Year Ending	Benefit Payments	Administrative and Depreciation Expenses	Refunds	Total Deductions
2011	\$ 195,270	\$ 3,492	\$ 4,982	\$ 203,744
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

SCHEDULE OF CHANGES IN NET POSITION

(\$ in thousands)

Year Ending	Change in Net Position
2011	\$ (119,735)
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

SCHEDULE OF BENEFIT PAYMENTS BY TYPE

(\$ in thousands)

Year Ending	Retiree	Beneficiary	Disability	Supplement	Total
2011	\$ 176,028	\$ 5,767	\$ 4,536	\$ 8,939	\$ 195,270
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	278,007
2020	263,182	8,436	4,947	10,900	287,465

AVERAGE BENEFIT PAYMENT

As of December 31, 2020

Retirement Effective Dates	Years of Credited Service						
	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30+
Period 01/01/2020 to 12/31/2020							
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
Period 01/01/2019 to 12/31/2019							
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
Period 01/01/2018 to 12/31/2018							
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
Period 01/01/2017 to 12/31/2017							
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
Period 01/01/2016 to 12/31/2016							
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
Period 01/01/2015 to 12/31/2015							
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
Period 01/01/2014 to 12/31/2014							
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
Period 01/01/2013 to 12/31/2013							
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
Period 01/01/2012 to 12/31/2012							
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
Period 01/01/2011 to 12/31/2011							
Average monthly benefit	\$323.02	\$787.06	\$1,259.41	\$2,027.33	\$3,098.78	\$3,753.60	\$4,262.55
Average final average salary	\$3,797.67	\$3,757.08	\$3,701.60	\$4,260.84	\$5,052.09	\$5,105.35	\$4,990.11
Number of retired members	15	33	41	48	58	105	61

* Data includes disability retirements

RETIRED MEMBERS BY TYPE OF BENEFIT

As of December 31, 2020

Amount of Monthly Benefits		Type of Retirement							Option Selected			
		1	2	3	4	5	6	7	#1	#2	#3	#4
\$1	\$250	69		29					24	37	31	5
\$251	\$500	207	2	99			4	17	35	177	93	29
\$501	\$750	235	7	107	8		9	15	32	211	92	26
\$751	\$1,000	257	9	77	11		15	12	83	194	104	22
\$1,001	\$1,250	216	7	77	2	7	14	8	55	169	92	20
\$1,251	\$1,500	258	11	78	3	9	14	4	87	146	122	23
\$1,501	\$1,750	240	10	82	1	13	13	4	81	143	128	12
\$1,751	\$2,000	264	15	73	2	3	5	3	89	160	110	7
over	\$2,000	4,303	127	411	2	7	39	20	1,266	2,107	1,499	23
Total		6,049	188	1,033	29	39	113	83	1,752	3,344	2,271	167

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, 2020

Status	Average Age	Average Pension	Average Age at Retirement
Members Only	70	\$3,284	58
Members and Survivors	72	\$2,570	N/A
Survivors Only	74	\$1,855	N/A

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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

DISCUSSION SHEET

Employees' Retirement Fund Board of Trustees Meeting

September 14, 2021

Issue: Fiscal Year 2020-21 Budget Amendments

Attachment: FY 2020-21 Expenditure Budget Report

Discussion: The current fiscal year budget is from 10/1/20 to 9/30/21.

Overall, the proposed budget amendment will have no net effect to the budget. The budget amendment will only reallocate costs. Within Administrative, the total proposed budget amendments are \$63,000 lower than the original budget. Legal costs are estimated to be \$110,000 higher than originally budgeted due to investment services provided by Foster Garvey. The investment services increased due to legal review to hire new managers for two new asset classes – Value Add and Infrastructure. The budgets for Liability Insurance, Rent and Other are proposed to increase a total of \$27,000 over the amount originally budgeted due to higher than anticipated costs. The increases are offset by a reduction in Salaries of \$57,000 due to vacancies, \$35,000 in Elections due to the lack of a possible runoff, and reductions in Supplies, Food Supplies, Printing, Travel and Public Transportation totaling \$108,00 due to staff working remotely during the pandemic. In Benefits Management, costs related to Disabilities, Continuations, etc. are estimated to be \$20,000 lower than originally budgeted due to a lower number of disability retirements. Investments management fees are increasing a total \$98,000 due to higher assets under management. Furniture, Fixtures and Equipment is projected to be \$15,000 under the amount originally budgeted due to savings in major equipment purchases.

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

Recommendation: Approve the proposed budget amendments for FY 2020-21. Suggested motion for the approval is as follows: Move approval of the proposed FY 2020-21 budget amendments reallocating the line item budgets as attached to this discussion sheet and authorize the Executive Director to administer the budget.

EMPLOYEES' RETIREMENT FUND

EXPENDITURE BUDGET

Fiscal Year 2020-21 Budget

	Expenditures Thru 6/30/21	Approved Budget	Proposed Budget Amendments	Amended FY 2020-21 Budget
ADMINISTRATIVE				
Salaries	\$ 2,765,545	\$ 3,805,000	\$ (57,000)	\$ 3,748,000
Incentive Pay	79,511	90,000		90,000
Service Incentive Pay	3,024	3,000		3,000
Lump Sum Pay	42,300	208,300		208,300
Pensions	383,171	800,500		800,500
Flexible Benefits	169,970	270,400		270,400
FICA/Medicare	36,546	55,200		55,200
Workers' Compensation	-	30,000		30,000
Temporary Help Services	170,612	200,000		200,000
Supplies	1,261	12,000	(10,000)	2,000
Food Supplies	1,166	10,000	(8,000)	2,000
Meter Postage	15,778	25,000		25,000
Printing / Printed Communications	5,834	60,000	(50,000)	10,000
Property Insurance	8,800	8,800		8,800
Liability Insurance	226,586	218,000	9,000	227,000
Membership Dues	10,594	25,000		25,000
Subscriptions	1,284	3,000		3,000
Professional Development/Travel	58,203	100,000	(35,000)	65,000
Reimbursement for Vehicle Use	-	300		300
Data and Telecommunications Services	242,609	335,000		335,000
Rent	386,783	505,000	15,000	520,000
Parking and Public Transportation	2,880	8,000	(5,000)	3,000
Legal	623,087	600,000	110,000	710,000
Accounting	42,000	56,000		56,000
Audit	22,600	60,000		60,000
Actuary	22,451	79,000		79,000
Election	24,198	60,000	(35,000)	25,000
Other	31,887	40,000	3,000	43,000
Total Administrative	5,378,680	7,667,500	(63,000)	7,604,500
BENEFITS MANAGEMENT				
Disabilities/Continuations/Etc	-	28,000	(20,000)	8,000
Pension Benefit Information	9,403	10,000		10,000
Total Benefits Management	9,403	38,000	(20,000)	18,000
INVESTMENTS MANAGEMENT				
Manager Fees	9,185,513	12,500,000	45,000	12,545,000
Investment Consultant & Services	293,750	370,000	17,000	387,000
Custodial Fees	225,605	265,000	36,000	301,000
Total Investments Management	9,704,868	13,135,000	98,000	13,233,000
CAPITAL				
Furniture, Fixtures, Equipment	1,454	50,000	(15,000)	35,000
Computer Equipment	81,655	82,000		82,000
Total Capital	83,110	132,000	(15,000)	117,000
TOTAL RECURRING	\$ 15,176,061	\$ 20,972,500	\$ -	\$ 20,972,500
NON-RECURRING				
Special Projects	803,104	1,300,000		1,300,000
TOTAL BUDGET	\$ 15,979,166	\$ 22,272,500	\$ -	\$ 22,272,500

DISCUSSION SHEET

Employees' Retirement Fund Board of Trustees Meeting

September 14, 2021

Issue: Fiscal Year 2021-22 Budget

Attachment: Proposed ERF FY 2021-22 Budget

Discussion: The fiscal year budget is from 10/1/21 to 9/30/22. The proposed FY 2021-22 budget is \$22,901,600, which includes recurring expenditures and special projects. This represents an increase of \$629,100 compared to the FY 2020-21 budget. The recurring expenditures are the operating costs and investment fees of the Fund. The recurring costs for FY 2020-21 are \$22,401,600, which is an increase of \$1,429,100 over the prior year. This increase is primarily due to investment management fees of \$1,055,000 resulting from an increase in assets under management.

The special projects category includes technology upgrades which are one-time costs. The proposed budget for Special Projects for FY 2021-22 is \$500,000.

Highlights include:

- Investment management fees increased due to higher assets under management.
- Personnel costs are budgeted to increase in accordance with the City of Dallas proposed merit increase of 1-5%, and a full-year funding of vacant positions.
- Supplies, Food Supplies, Printing/Printed Communications, Professional Development/Travel, and Parking and Public Transportation are projected to increase upon staff returning to work from the pandemic.
- Data and Telecommunications Services is increasing due to the annual maintenance agreement for the Vitech pension system.
- Legal fees are projected to be \$480,000 lower due to a decrease in fees related to investment services from the addition of two new asset classes included in the amended FY 2020-21.
- The budget for Disabilities is increasing \$20,000 to provide sufficient funds for possible disability retirements.
- Overall expenses related to Investments Management are expected to increase due to projected increases in assets under management.

- Non-recurring Special Projects costs are budgeted at \$500,000 to provide for additional reports and technical functionality to provide future staffing efficiencies.

In summary, the net increase to the FY 2021-22 budget is \$629,100, or 2.8%, higher than the amended FY 2020-21 budget.

Recommendation: Approve the proposed budget for FY 2021-22. Suggested motion for the approval is as follows: Move approval of the proposed FY 2021-22 budget totaling \$22,901,600 which is attached to this discussion sheet and authorize the Executive Director to administer the budget as noted below.

The Executive Director is authorized to expend, as required, up to 110% of each line item or \$50,000 whichever is less of the funds appropriated herein, but in no instance, is the authorization given to exceed the total budgeted for each category (Administrative, Benefits Management, Investments Management, Capital, or Special Projects) without Board approval.

The Executive Director is authorized to negotiate and sign contracts which are required in the conduct of Fund business and funds have been approved in this budget. This authorization is limited to \$50,000 per contract.

The Executive Director is authorized to pay budgeted expenses, and to further pay pensions and member refunds which are authorized by law but are not specifically included in this budget.

EMPLOYEES' RETIREMENT FUND
EXPENDITURE BUDGET
Proposed Fiscal Year 2021-22 Budget

	Expenditures Thru 6/30/21	Amended FY 2020-21 Budget	Proposed FY 2021-22 Budget	Variance to Prior Year's Budget	Percent Increase (Decrease)
ADMINISTRATIVE					
Salaries	\$ 2,765,545	\$ 3,748,000	\$ 4,121,100	\$ 373,100	10.0%
Incentive Pay	79,511	90,000	54,000	(36,000)	-40.0%
Service Incentive Pay	3,024	3,000	3,200	200	6.7%
Lump Sum Pay	42,300	208,300	208,300	-	0.0%
Pensions	383,171	800,500	891,500	91,000	11.4%
Flexible Benefits	169,970	270,400	276,100	5,700	2.1%
FICA/Medicare	36,546	55,200	59,800	4,600	8.3%
Workers' Compensation	-	30,000	30,000	-	0.0%
Temporary Help Services	170,612	200,000	150,000	(50,000)	-25.0%
Supplies	1,261	2,000	12,000	10,000	500.0%
Food Supplies	1,166	2,000	10,000	8,000	400.0%
Meter Postage	15,778	25,000	26,000	1,000	4.0%
Printing / Printed Communications	5,834	10,000	25,000	15,000	150.0%
Property Insurance	8,800	8,800	9,300	500	5.7%
Liability Insurance	226,586	227,000	238,000	11,000	4.8%
Membership Dues	10,594	25,000	26,000	1,000	4.0%
Subscriptions	1,284	3,000	3,000	-	0.0%
Professional Development/Travel	58,203	65,000	80,000	15,000	23.1%
Reimbursement for Vehicle Use	-	300	300	-	0.0%
Data and Telecommunications Services	242,609	335,000	630,000	295,000	88.1%
Rent	386,783	520,000	545,000	25,000	4.8%
Parking and Public Transportation	2,880	3,000	8,000	5,000	166.7%
Legal	623,087	710,000	230,000	(480,000)	-67.6%
Accounting	42,000	56,000	56,000	-	0.0%
Audit	22,600	60,000	60,000	-	0.0%
Actuary	22,451	79,000	80,000	1,000	1.3%
Election	24,198	25,000	50,000	25,000	100.0%
Other	31,887	43,000	45,000	2,000	4.7%
Total Administrative	5,378,680	7,604,500	7,927,600	323,100	4.2%
BENEFITS MANAGEMENT					
Disabilities/Continuations/Etc	-	8,000	28,000	20,000	250.0%
Pension Benefit Information	9,403	10,000	10,000	-	0.0%
Total Benefits Management	9,403	18,000	38,000	20,000	111.1%
INVESTMENTS MANAGEMENT					
Manager Fees	9,185,513	12,545,000	13,600,000	1,055,000	8.4%
Investment Consultant & Services	293,750	387,000	376,000	(11,000)	-2.8%
Custodial Fees	225,605	301,000	320,000	19,000	6.3%
Total Investments Management	9,704,868	13,233,000	14,296,000	1,063,000	8.0%
CAPITAL					
Furniture, Fixtures, Equipment	1,454	35,000	50,000	15,000	42.9%
Computer Equipment	81,655	82,000	90,000	8,000	9.8%
Total Capital	83,110	117,000	140,000	23,000	19.7%
TOTAL RECURRING	\$ 15,176,061	\$ 20,972,500	22,401,600	1,429,100	6.8%
NON-RECURRING					
Special Projects	803,104	1,300,000	500,000	(800,000)	-61.5%
TOTAL BUDGET	\$ 15,979,166	\$ 22,272,500	\$ 22,901,600	\$ 629,100	2.8%

CULTURE

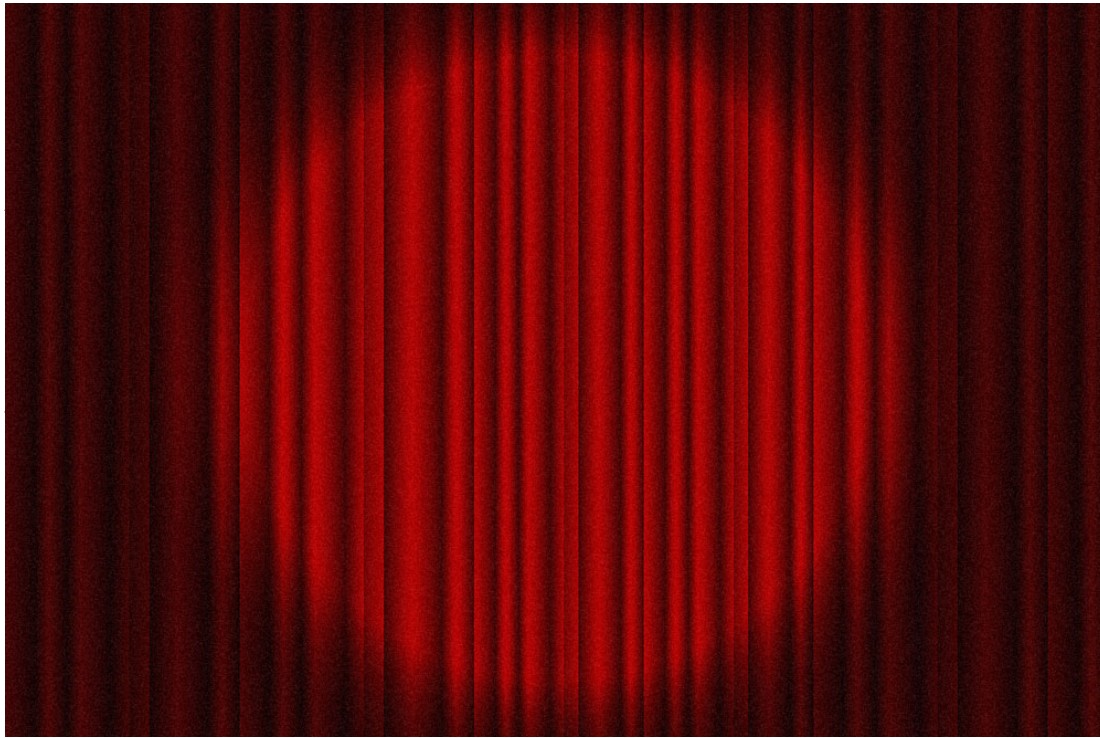


Alicia
McElhane

These Are the Finalists for the 2021 Allocators' Choice Awards

Asset-owner peers will choose the winners, to be crowned on September 22 in New York City.

July 20, 2021



(Bigstock photo)

In-house investment staff members of pension funds, endowments, foundations, sovereign wealth funds, and family offices worldwide can [vote online](#) for their peers. To submit a ballot, please use [this link](#). Voting closes on September 1.

[Click here](#) to see the categories and past winners.

Allocators, [request an invitation now](#) to the dinner.

Advocate of the Year

Cheryl Alston, Executive Director & CIO, Employees' Retirement Fund of the City of Dallas, for being a patron of diverse and emerging managers and an active member of the Dallas investment community.

Elizabeth Burton, CIO, Employees' Retirement System of the State of Hawaii, because she “always promotes her team at every opportunity... always puts them first.”

William Coaker, CIO, San Francisco Employees' Retirement System, for calling on businesses to reorganize their manufacturing, distribution, resources, and service capabilities to fight against Covid-19.

Jose Gonzalez, Investment Officer, Diverse & Emerging Managers, Teachers' Retirement System of the State of Illinois, for leading the fund's dedicated emerging managers program that makes up 27 percent of its portfolio, “a stat not matched by many other plans within the U.S.”

Carlos Rangel, Vice President & CIO, W.K. Kellogg Foundation, for diversity and inclusion initiatives including Racial Equity 2030, a \$90 million program to fund programs that reduce inequity.

Kirk Sims, Director of Emerging Manager Program, Teacher Retirement System of Texas, for leading his fund's investments in 190 emerging managers through 316 investments worth \$5.9 billion.

Ashbel Williams, Executive Director & CIO, Florida State Board of Administration, for his continued advocacy on behalf of asset owners, including his work as chairman of the Council of Institutional Investors' board.

Investment Committee/Board of the Year

Indiana Public Retirement System Board of Trustees (Bret Swanson, Chair), for a "strong focus on governance and risk management" that has helped increase the retirement system's funded status significantly since 2012.

Smith College Investment Committee (Deborah DeCotis, Chair), for the "bold move" of switching from an outsourced chief investment

officer to in-house investing after 17 years. “And they did an even better job by recruiting a Yale alum.”

Teacher Retirement System of Texas (Jarvis Hollingsworth, Chair), for implementing the succession plan of promoting Jase Auby, who began his tenure as chief investment officer in early 2020, and continuing to support TRS’s international presence in London.

Partnership of the Year

California State Teachers’ Retirement System and Fairfield Residential Company, for a long-running partnership that culminated in CalSTRS acquiring a majority stake in the firm. Since then, the two have reportedly worked with other pension funds to set up joint ventures for property deals.

Global Peer Financing Association (California Public Employees’ Retirement System, Healthcare of Ontario Pension Plan, Ohio Public Employees Retirement System, and State of Wisconsin Investment Board), for bringing global asset owners together. “The collective power... allows beneficial owners to shape their environment rather than accept the status quo.”

Hartford HealthCare and Standard General, for co-investments in the public markets that have reaped big returns. The two are “sympatico” when it comes to investment styles: they’re “homework intensive” and due diligence oriented.

Massachusetts Pension Reserves Investment Trust and Fir Tree Partners, because they “kicked off a SPAC investment mandate before SPAC became a buzz.” The deal made MassPRIM money while “reinvigorating Fir Tree’s business.”

Team of the Year

Advocate Aurora Health (Leslie Lenzo, CIO), for not only managing investments through a hospital merger, but for growing the investment office’s assets to \$12 billion.

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**Vista Equity Partners:
How Diversity,
Equity, and Inclusion
Minimizes Risk
and Maximizes
Portfolio Value**

California State Teachers' Retirement System (Christopher Ailman, CIO), for continued work in moving investments in-house and ongoing leadership on environmental, social, and governance issues.

New York State Common Retirement System (Anastasia Titarchuk, CIO), for a significant focus on sustainable and climate solutions, “dedication to diversity,” and growth of the fund’s emerging manager program.

Orange County Employees Retirement System (Molly Murphy, CIO), which Murphy has built in numbers and diversity since 2017, and employs a collaborative approach to investing.

San Bernardino County Employees' Retirement Association (Donald Pierce, CIO), for a successful investment strategy through Covid-19. The team is on track to return more than 30 percent for fiscal year 2021, according to a nominator.

State of Wisconsin Investment Board (Edwin Denson, Executive Director & CIO), for creating “stability in an otherwise unstable year,” and onboarding more than 50 new staff during the pandemic.

Texas Permanent School Fund (Holland Timmins, Executive Administrator & CIO), for the team's ongoing work to support Texas schools during the Covid-19 pandemic.

Turnaround of the Year

Delta Air Lines (Jonathan Glidden, Managing Director, Pensions), for taking funded status from "dead last in the S&P 500" to 90 percent, and "now starting to plan a non-traditional de-risking glidepath."

Lockheed Martin Investment Management Co. (Paul Colonna, President & CIO), for simplifying the investment options available for participants while adding three new asset classes: global equity, defensive equity, and private real estate.

Wyoming State Treasurer's Office (Patrick Fleming, CIO), for rebuilding its now-successful private equity program "from the ground up" after "years of bad press."

Chief Investment Officer of the Year

Seth Alexander, MIT Investment Management Co., for facilitating a flat,

generalist structure that has resulted in low turnover and strong returns.

Michael Brakebill, Tennessee Consolidated Retirement System, for creating and building out private equity products, helping Tennessee become one of the “consistently... top performing funds.”

Elizabeth Burton, Employees' Retirement System of the State of Hawaii, for “creating a great culture with her team” and revamping the retirement system’s risk and portfolio construction.

Matt Clark, South Dakota Investment Council, for deploying cash held by the retirement system into index funds following the March 2020 market crash.

James Davis, OPSEU Pension Trust, for emphasizing a “systematic investing approach” to capital markets and adopting machine learning techniques, all while championing diversity on his team.

Robin Diamonte, Raytheon Technologies, for overseeing investments following the merger of two pension funds worth a total of \$100 billion amid a global pandemic.

Samuel Gallo, University System of Maryland Foundation, for turning the university's two portfolios into "consistent" out-performers and developing a strong team since joining in 2012.

Bryan Lewis, United States Steel Corp., for using his background as a public pension plan CIO to bolster the returns at U.S. Steel's \$6 billion defined benefit plan. In 2020, the fund posted returns of 17 percent, beating its target of between 6.5 percent and 6.9 percent.

Bob Maynard, Public Employee Retirement System of Idaho, for staying consistent with PERSI's conventional investment style, garnering the fund a position in the top quartile of public retirement system performance.

Stefan Strein, Cleveland Clinic Foundation, for operating a large, complex healthcare fund during a global pandemic. Strein has a "keen eye for talent," and though he is "quiet," the award would be "well-deserved," a nominator said.

Filed Under: [Culture](#)

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Allocators' Choice Awards: Finalists Announced

Staff August 21, 2017

CULTURE

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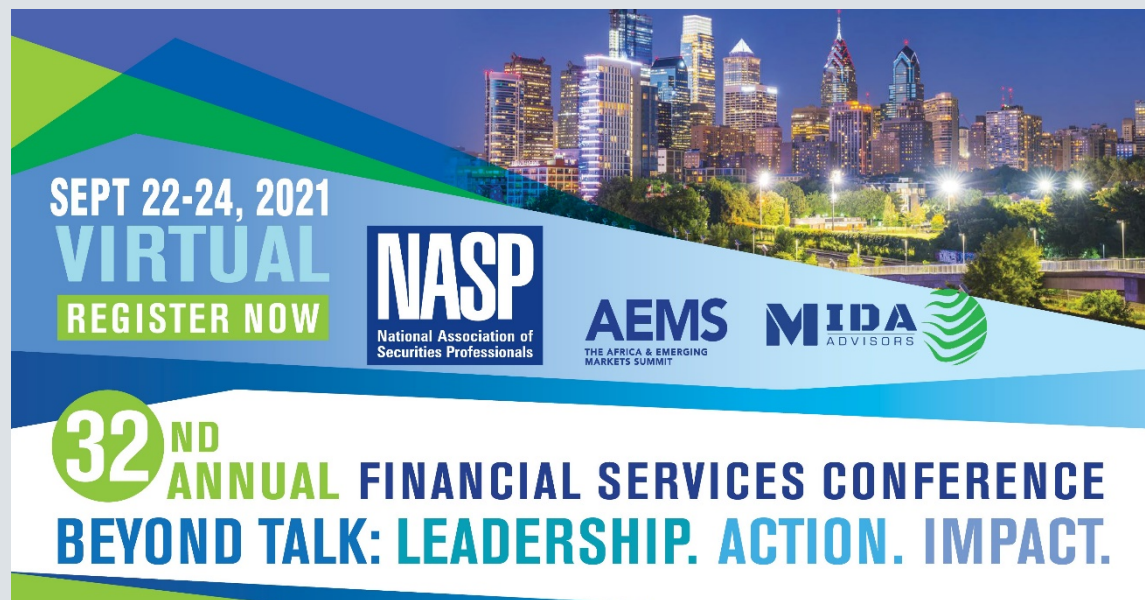
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This year's Conference will not only focus on the "Talk" but the LEADERSHIP / ACTIONS required to make IMPACT happen in the Global Financial Services Industry.

Early Bird Registration until August 16, 2021



Click [Yes](#) to register or [No](#) if you need more time to consider your attendance. We look forward to you joining us in September!

Sincerely,

Ronald C. Parker

National Association of Securities Professionals

naspconference@tbg-events.com

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key takeaways and watch short videos of presenters.

Last year's conference was held online and received a record number of registrants. Despite the new setting, the Conference stayed true to its mission to raise the visibility of small, emerging, and diverse investment managers while providing institutional investors access to these managers.

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(646) 442-1115



2020 Keynote
Speaker: Bryan
Stevenson

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organization in Montgomery, Alabama. He is a widely acclaimed public interest lawyer who has dedicated his career to helping the poor, the incarcerated, and the condemned. Under his leadership, EJI has won major legal challenges eliminating excessive and unfair sentencing, exonerating innocent death row prisoners, confronting abuse of the incarcerated and the mentally ill, and aiding children prosecuted as adults. Mr. Stevenson led the creation of two highly acclaimed cultural sites, which opened in 2018, The Legacy Museum and The National Memorial for Peace and Justice. Mr. Stevenson's work has won him numerous awards including over 40 honorary doctorates, the MacArthur Foundation "Genius" Prize, and the ABA Medal, the American Bar Association's highest honor. He is a

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bestseller, Just Mercy, which was recently adapted as a major motion picture.

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ASSET ALLOCATION COMPARISON

June 30, 2021

	Market Value	% of Total Fund	Allocation Policy	% Difference from Allocation	Prior Period Market Value	Prior Period % of Total Fund
EQUITY						
CHANNING CAPITAL	37,790,341.92	0.97			49,463,395.35	1.27
REDWOOD- SL	40,397,712.41	1.03			45,241,289.54	1.16
SYSTEMATIC	77,852,878.48	1.99			92,950,227.76	2.39
Total Small Cap	156,040,932.81	4.00			187,654,912.65	4.82
SMITH GRAHAM	78,124,818.56	2.00			98,800,619.69	2.54
T. ROWE PRICE	161,042,590.70	4.13			169,417,348.90	4.36
Total Domestic/Enhanced equity	239,167,409.26	6.13			268,217,968.59	6.90
NTGI S&P 500 EQUITY INDEX	174,776,829.46	4.48			170,791,876.52	4.39
Total Index	174,776,829.46	4.48			170,791,876.52	4.39
Total Domestic	569,985,171.53	14.60	12.50	2.10	626,664,757.76	16.11
ADELANTE CAPITAL	79,919,445.56	2.05			77,091,274.86	1.98
CENTERSQUARE-SL	80,096,356.05	2.05			77,871,190.31	2.00
Total REITS	160,015,801.61	4.11	2.50	1.61	154,962,465.17	3.99
AEW PARTNERS	2,300,185.00	0.06			1,185,450.00	0.03
HEITMAN	84,487,286.80	2.16			83,865,669.80	2.16
INVESCO	69,969,553.00	1.79			70,060,438.00	1.80
INVESCO - SL	70,308,483.87	1.80			69,749,921.87	1.79
VIRTUS REAL ESTATE CAP	27,612,062.00	0.71			26,551,007.00	0.68
Total Real Estate	254,677,570.67	6.52	7.50	-0.98	251,412,486.67	6.46
FAIRVIEW CAPITAL	55,352,181.00	1.42			54,144,078.00	1.39
GROSVENOR GCM - CFGI	144,150,903.00	3.69			141,777,724.00	3.65
HAMILTON LANE	85,144,170.00	2.18			84,144,885.00	2.16
Total Private Equity	284,647,254.00	7.29	7.50	-0.21	280,066,687.00	7.20
ACADIAN	142,641,506.06	3.65			142,463,851.11	3.66
AQR CAPITAL	137,953,319.22	3.53			139,501,154.20	3.59
ATIVO	42,874,133.12	1.10			43,539,478.19	1.12
BAILLIE GIFFORD	93,762,718.85	2.40			93,530,618.22	2.40
BLACKROCK ACW-EXUS-SL	0.62	0.00			0.62	0.00
EARNEST PARTNERS	100,187,685.36	2.57			100,833,056.45	2.59
Total International	517,419,363.23	13.25	12.50	0.75	519,868,158.79	13.36
ARIEL	118,058,036.89	3.02			115,616,018.27	2.97
NORTHERN TRUST INTL EQ ACWI INDEX	27,850,081.69	0.71			27,507,994.80	0.71
WELLINGTON MGMT	141,584,033.61	3.63			138,835,970.70	3.57
Total Global Equity	287,492,152.19	7.37	7.50	-0.13	281,959,983.77	7.26
ACADIAN-LVG	238,030,276.08	6.10			237,962,778.59	6.12
BLACKROCK	239,972,311.39	6.15			238,407,864.79	6.13
Total Global Low Volatility Equity	478,002,587.47	12.25	12.50	-0.25	476,370,643.38	12.25
ATLANTIC TRUST	78,804,063.74	2.02			76,170,505.85	1.96
HARVEST FUND	78,221,624.74	2.00			74,985,197.71	1.93
COHEN & STEERS	65,386,022.56	1.68			65,928,767.29	1.70
Total Global Listed Infrastructure	222,411,711.04	5.69	5.00	0.69	217,084,470.85	5.57
Total Marketable Alternatives	-	0.00	2.50	-2.50	-	0.00
TOTAL EQUITY	2,774,651,611.74	71.08	70.00	1.08	2,808,389,653.39	72.21
FIXED INCOME						
ABERDEEN ASSET MGMT	250,956.23	0.01			220,091,542.02	5.66
GARCIA HAMILTON	66,648,713.79	1.71			66,470,504.03	1.71
NT COLLECTIVE AGGREGATE BOND INDEX FUI	221,335,237.38	5.67				
SECURIAN ASSET MANAGEMENT	223,328,291.78	5.72			221,106,230.99	5.69
Total Investment Grade	511,563,199.18	13.11	15.00	-1.89	507,668,277.04	13.05
NEUBERGER BERMAN	184,202,329.29	4.72			182,768,894.79	4.70
Total Opportunistic Credit	184,202,329.29	4.72	5.00	-0.28	182,768,894.79	4.70
BLACKROCK-HY	184,387,066.00	4.72			182,165,949.50	4.68
OAKTREE	187,187,069.15	4.80			185,203,956.36	4.76
Total High Yield	371,574,135.15	9.52	10.00	-0.48	367,369,905.86	9.45
CASH ACCOUNT	61,543,600.62	1.58			23,050,625.72	0.59
Total Short Term	61,543,600.62	1.58	0.00	1.58	23,050,625.72	0.59
TOTAL FIXED INCOME	1,128,883,264.24	28.92	30.00	-1.08	1,080,857,703.41	27.79

TOTAL FUND	\$ 3,903,534,875.98
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\$ 3,889,247,356.80

Market Value YE 2020	\$ 3,662,162,799.23
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Market Value Variance

Change from YE 2020: \$ 241,372,076.75

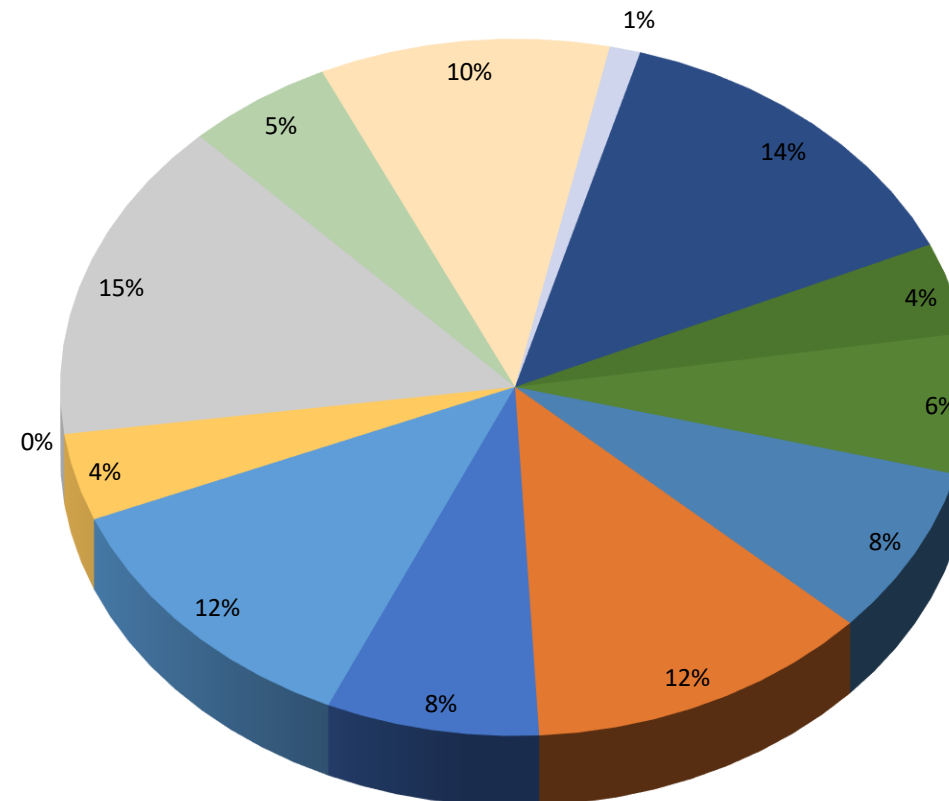
Change from prior month: \$ 14,287,519.18

Asset Allocation: Actual vs. Target

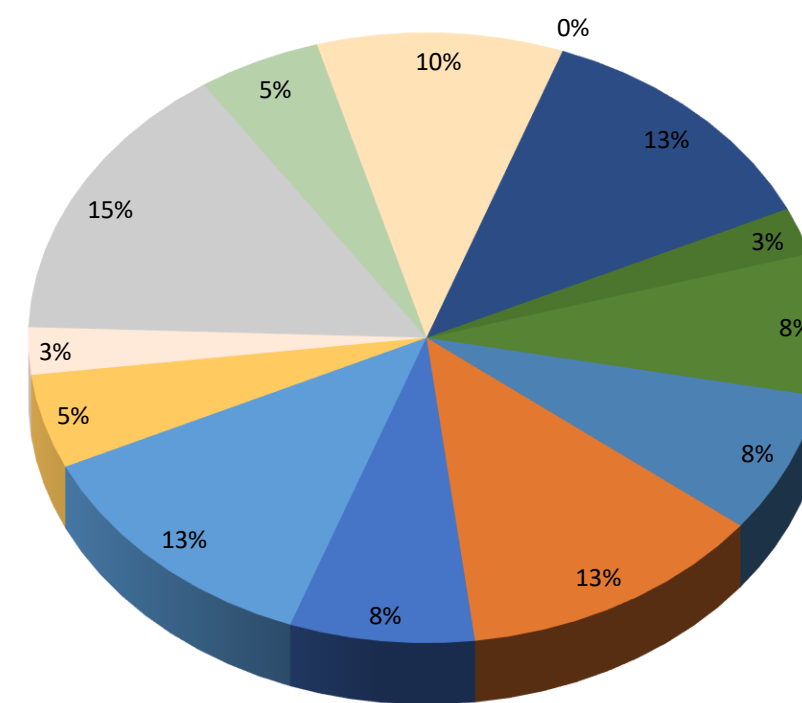
June 30, 2021

	Market Value	Gross Actual Allocation	Target Allocation	% Difference from Allocation
EQUITY				
CHANNING CAPITAL	37,790,341.92	0.97		
REDWOOD- SL	40,397,712.41	1.03		
SYSTEMATIC	77,852,878.48	1.99		
<i>Total Small Cap</i>	156,040,932.81	4.00		
SMITH GRAHAM	78,124,818.56	2.00		
T. ROWE PRICE	161,042,590.70	4.13		
<i>Total Domestic/Enhanced equity</i>	239,167,409.26	6.13		
NTGI S&P 500 EQUITY INDEX	174,776,829.46	4.48		
<i>Total Index</i>	174,776,829.46	4.48		
<i>Total Domestic</i>	569,985,171.53	14.60	12.50	2.10
ADELANTE CAPITAL	79,919,445.56	2.05		
CENTERSQUARE-SL	80,096,356.05	2.05		
<i>Total REITS</i>	160,015,801.61	4.11	2.50	1.61
AEW PARTNERS	2,300,185.00	0.06		
HEITMAN	84,487,286.80	2.16		
INVESCO	69,969,553.00	1.79		
INVESCO - SA	70,308,483.87	1.80		
VIRTUS REAL ESTATE CAP	27,612,062.00	0.71		
<i>Total Real Estate</i>	254,677,570.67	6.52	7.50	-0.98
FAIRVIEW CAPITAL	55,352,181.00	1.42		
GROSVENOR GCM - CFG	144,150,903.00	3.69		
HAMILTON LANE	85,144,170.00	2.18		
<i>Total Private Equity</i>	284,647,254.00	7.29	7.50	-0.21
ACADIAN	142,641,506.06	3.65		
AQR CAPITAL	137,953,319.22	3.53		
ATIVO	42,874,133.12	1.10		
BAILLIE GIFFORD	93,762,718.85	2.40		
BLACKROCK ACW-EXUS-SL	0.62	0.00		
EARNEST PARTNERS	100,187,685.36	2.57		
<i>Total International</i>	517,419,363.23	13.26	12.50	0.75
ARIEL	118,058,036.89	3.02		
NORTHERN TRUST INTL EQ ACWI INDEX	27,850,081.69	0.71		
WELLINGTON MGMT	141,584,033.61	3.63		
<i>Total Global Equity</i>	287,492,152.19	7.36	7.50	-0.13
ACADIAN-LVG	238,030,276.08	6.10		
BLACKROCK	239,972,311.39	6.15		
<i>Total Global Low Volatility Equity</i>	478,002,587.47	12.25	12.50	-0.25
ATLANTIC TRUST	78,804,063.74	2.02		
HARVEST FUND	78,221,624.74	2.00		
COHEN & STEERS	65,386,022.56	1.68		
<i>Total Global Listed Infrastructure</i>	222,411,711.04	5.69	5.00	0.69
<i>Total Marketable Alternatives</i>	-	0.00	2.50	-2.50
TOTAL EQUITY	2,774,651,611.74	71.08	70.00	1.08
FIXED INCOME				
ABERDEEN ASSET MGMT	250,956.23	0.01		
GARCIA HAMILTON	66,648,713.79	1.71		
NT COLLECTIVE AGGREGATE BOND INDEX FUND	221,335,237.38	5.67		
SECURIAN ASSET MANAGEMENT	223,328,291.78	5.72		
<i>Total Investment Grade</i>	511,563,199.18	13.11	15.00	-1.89
NEUBERGER BERMAN	184,202,329.29	4.72		
<i>Total Opportunistic Credit</i>	184,202,329.29	4.72	5.00	-0.28
BLACKROCK-HY	184,387,066.00	4.72		
OAKTREE	187,187,069.15	4.80		
<i>Total High Yield</i>	371,574,135.15	9.52	10.00	-0.48
CASH ACCOUNT	61,543,600.62	1.58		
<i>Total Short Term</i>	61,543,600.62	1.58	0.00	1.58
TOTAL FIXED INCOME	1,128,883,264.24	28.92	30.00	-1.08
TOTAL FUND	\$ 3,903,534,875.98			

Gross Actual Allocation



Target Allocation



ASSET ALLOCATION COMPARISON

July 31, 2021

	Market Value	% of Total Fund	Allocation Policy	% Difference from Allocation	Prior Period Market Value	Prior Period % of Total Fund
EQUITY						
CHANNING CAPITAL	37,715,391.47	0.96			37,790,341.92	0.97
REDWOOD- SL	40,676,618.04	1.03			40,397,712.41	1.03
SYSTEMATIC	76,422,820.56	1.94			77,852,878.48	1.99
Total Small Cap	154,814,830.07	3.93			156,040,932.81	4.00
SMITH GRAHAM	77,862,287.75	1.98			78,124,818.56	2.00
T. ROWE PRICE	164,866,787.17	4.19			161,042,590.70	4.13
Total Domestic/Enhanced equity	242,729,074.92	6.17			239,167,409.26	6.13
NTGI S&P 500 EQUITY INDEX	178,932,419.29	4.55			174,776,829.46	4.48
Total Index	178,932,419.29	4.55			174,776,829.46	4.48
Total Domestic	576,476,324.28	14.65	12.50	2.15	569,985,171.53	14.60
ADELANTE CAPITAL	84,036,973.63	2.14			79,919,445.56	2.05
CENTERSQUARE-SL	84,352,330.56	2.14			80,096,356.05	2.05
Total REITS	168,389,304.19	4.29	2.50	1.79	160,015,801.61	4.11
AEW PARTNERS	2,300,185.00	0.06			2,300,185.00	0.06
HEITMAN	86,304,121.06	2.19			84,487,286.80	2.16
INVESCO	69,873,939.00	1.78			69,969,553.00	1.79
INVESCO - SL	72,516,458.82	1.84			70,308,483.87	1.80
VIRTUS REAL ESTATE CAP	15,607,677.47	0.40			27,612,062.00	0.71
Total Real Estate	246,602,381.35	6.27	7.50	-1.23	254,677,570.67	6.52
FAIRVIEW CAPITAL	60,908,319.00	1.55			55,352,181.00	1.42
GROSVENOR GCM - CFGI	130,441,742.00	3.32			144,150,903.00	3.69
HAMILTON LANE	99,815,932.00	2.54			85,144,170.00	2.18
Total Private Equity	291,165,993.00	7.40	7.50	-0.10	284,647,254.00	7.29
ACADIAN	142,645,412.47	3.63			142,641,506.06	3.65
AQR CAPITAL	135,018,976.89	3.43			137,953,319.22	3.53
ATIVO	43,741,856.79	1.11			42,874,133.12	1.10
BAILLIE GIFFORD	92,186,334.27	2.34			93,762,718.85	2.40
BLACKROCK ACW-EXUS-SL	0.62	0.00			0.62	0.00
EARNEST PARTNERS	99,980,048.21	2.54			100,187,685.36	2.57
Total International	513,572,629.25	13.04	12.50	0.54	517,419,363.23	13.25
ARIEL	116,627,293.98	2.96			118,058,036.89	3.02
NORTHERN TRUST INTL EQ ACWI INDEX	28,000,737.31	0.71			27,850,081.69	0.71
WELLINGTON MGMT	142,396,557.78	3.62			141,584,033.61	3.63
Total Global Equity	287,024,589.07	7.30	7.50	-0.20	287,492,152.19	7.37
ACADIAN-LVG	242,764,782.72	6.17			238,030,276.08	6.10
BLACKROCK	243,777,219.53	6.20			239,972,311.39	6.15
Total Global Low Volatility Equity	486,542,002.25	12.37	12.50	-0.13	478,002,587.47	12.25
ATLANTIC TRUST	75,192,820.74	1.91			78,804,063.74	2.02
HARVEST FUND	74,868,417.31	1.90			78,221,624.74	2.00
COHEN & STEERS	66,550,121.35	1.69			65,386,022.56	1.68
Total Global Listed Infrastructure	216,611,359.40	5.50	5.00	0.50	222,411,711.04	5.69
Total Marketable Alternatives	-	0.00	2.50	-2.50	-	0.00
TOTAL EQUITY	2,786,384,582.79	70.82	70.00	0.82	2,774,651,611.74	71.08
FIXED INCOME						
ABERDEEN ASSET MGMT	251,080.50	0.01			250,956.23	0.01
GARCIA HAMILTON	67,244,030.91	1.71			66,648,713.79	1.71
NT COLLECTIVE AGGREGATE BOND INDEX FUND	223,808,316.78	5.69			221,335,237.38	5.67
SECURIAN ASSET MANAGEMENT	225,930,605.15	5.74			223,328,291.78	5.72
Total Investment Grade	517,234,033.34	13.15	15.00	-1.85	511,563,199.18	13.11
NEUBERGER BERMAN	184,446,315.84	4.69			184,202,329.29	4.72
Total Opportunistic Credit	184,446,315.84	4.69	5.00	-0.31	184,202,329.29	4.72
BLACKROCK-HY	184,977,046.48	4.70			184,387,066.00	4.72
OAKTREE	187,655,419.67	4.77			187,187,069.15	4.80
Total High Yield	372,632,466.15	9.47	10.00	-0.53	371,574,135.15	9.52
CASH ACCOUNT	73,849,496.37	1.88			61,543,600.62	1.58
Total Short Term	73,849,496.37	1.88	0.00	1.88	61,543,600.62	1.58
TOTAL FIXED INCOME	1,148,162,311.70	29.18	30.00	-0.82	1,128,883,264.24	28.92

TOTAL FUND	\$ 3,934,546,894.49
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\$ 3,903,534,875.98

Market Value YE 2020	\$ 3,662,162,799.23
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Market Value Variance

Change from YE 2020: \$ 272,384,095.26

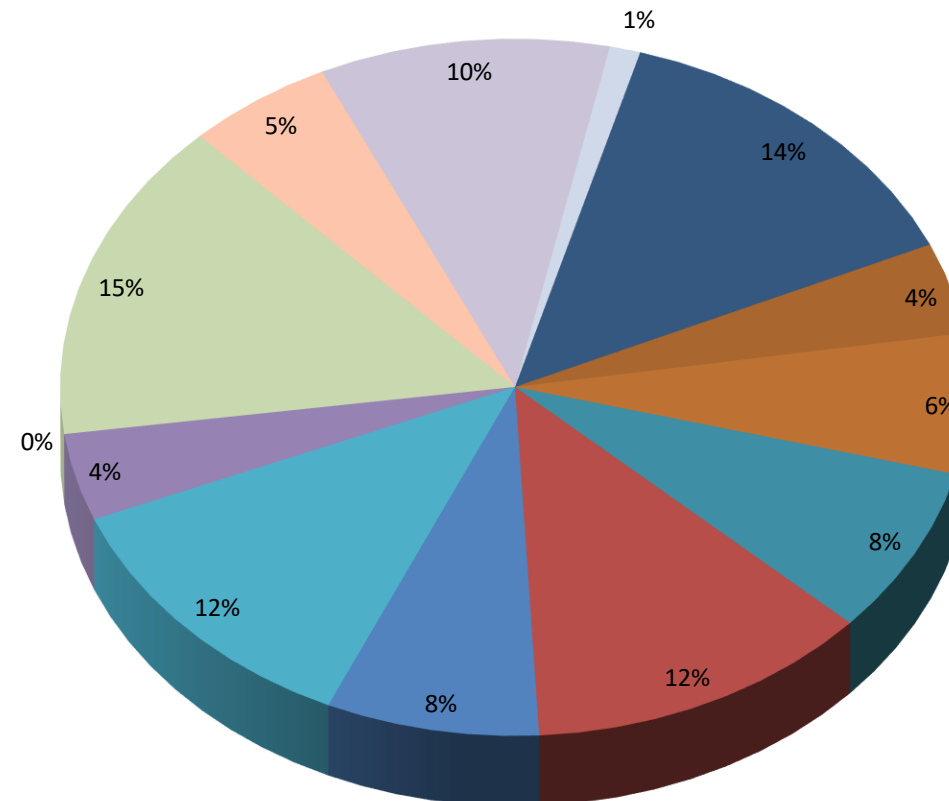
Change from prior month: \$ 31,012,018.51

Asset Allocation: Actual vs. Target

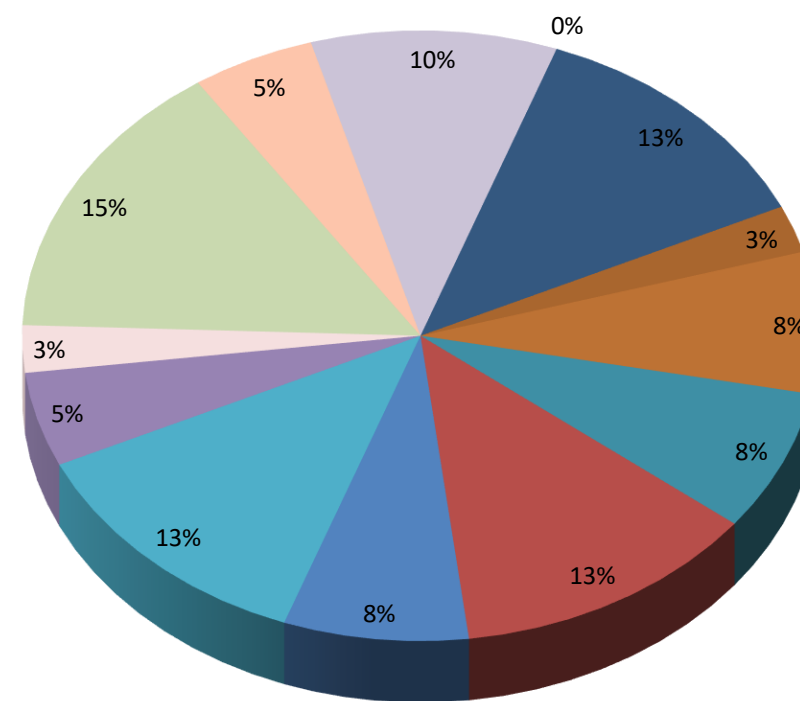
July 31, 2021

	Market Value	Gross Actual Allocation	Target Allocation	% Difference from Allocation
EQUITY				
CHANNING CAPITAL	37,715,391.47	0.96		
REDWOOD- SL	40,676,618.04	1.03		
SYSTEMATIC	76,422,820.56	1.94		
<i>Total Small Cap</i>	154,814,830.07	3.93		
SMITH GRAHAM	77,862,287.75	1.98		
T. ROWE PRICE	164,866,787.17	4.19		
<i>Total Domestic/Enhanced equity</i>	242,729,074.92	6.17		
NTGI S&P 500 EQUITY INDEX	178,932,419.29	4.55		
<i>Total Index</i>	178,932,419.29	4.55		
<i>Total Domestic</i>	576,476,324.28	14.65	12.50	2.15
ADELANTE CAPITAL	84,036,973.63	2.14		
CENTERSQUARE-SL	84,352,330.56	2.14		
<i>Total REITS</i>	168,389,304.19	4.29	2.50	1.79
AEW PARTNERS	2,300,185.00	0.06		
HEITMAN	86,304,121.06	2.19		
INVESCO	69,873,939.00	1.78		
INVESCO - SA	72,516,458.82	1.84		
VIRTUS REAL ESTATE CAP	15,607,677.47	0.40		
<i>Total Real Estate</i>	246,602,381.35	6.27	7.50	-1.23
FAIRVIEW CAPITAL	60,908,319.00	1.55		
GROSVENOR GCM - CFG	130,441,742.00	3.32		
HAMILTON LANE	99,815,932.00	2.54		
<i>Total Private Equity</i>	291,165,993.00	7.40	7.50	-0.10
ACADIAN	142,645,412.47	3.63		
AQR CAPITAL	135,018,976.89	3.43		
ATIVO	43,741,856.79	1.11		
BAILLIE GIFFORD	92,186,334.27	2.34		
BLACKROCK ACW-EXUS-SL	0.62	0.00		
EARNEST PARTNERS	99,980,048.21	2.54		
<i>Total International</i>	513,572,629.25	13.05	12.50	0.54
ARIEL	116,627,293.98	2.96		
NORTHERN TRUST INTL EQ ACWI INDEX	28,000,737.31	0.71		
WELLINGTON MGMT	142,396,557.78	3.62		
<i>Total Global Equity</i>	287,024,589.07	7.29	7.50	-0.20
ACADIAN-LVG	242,764,782.72	6.17		
BLACKROCK	243,777,219.53	6.20		
<i>Total Global Low Volatility Equity</i>	486,542,002.25	12.37	12.50	-0.13
ATLANTIC TRUST	75,192,820.74	1.91		
HARVEST FUND	74,868,417.31	1.90		
COHEN & STEERS	66,550,121.35	1.69		
<i>Total Global Listed Infrastructure</i>	216,611,359.40	5.50	5.00	0.50
<i>Total Marketable Alternatives</i>	-	0.00	2.50	-2.50
TOTAL EQUITY	2,786,384,582.79	70.82	70.00	0.82
FIXED INCOME				
ABERDEEN ASSET MGMT	251,080.50	0.01		
GARCIA HAMILTON	67,244,030.91	1.71		
NT COLLECTIVE AGGREGATE BOND INDEX FUND	223,808,316.78	5.69		
SECURIAN ASSET MANAGEMENT	225,930,605.15	5.74		
<i>Total Investment Grade</i>	517,234,033.34	13.15	15.00	-1.85
NEUBERGER BERMAN	184,446,315.84	4.69		
<i>Total Opportunistic Credit</i>	184,446,315.84	4.69	5.00	-0.31
BLACKROCK-HY	184,977,046.48	4.70		
OAKTREE	187,655,419.67	4.77		
<i>Total High Yield</i>	372,632,466.15	9.47	10.00	-0.53
CASH ACCOUNT	73,849,496.37	1.88		
<i>Total Short Term</i>	73,849,496.37	1.88	0.00	1.88
TOTAL FIXED INCOME	1,148,162,311.70	29.18	30.00	-0.82
TOTAL FUND	\$ 3,934,546,894.49			

Gross Actual Allocation



Target Allocation



DISCUSSION SHEET

Employees' Retirement Fund
Board of Trustees Meeting

September 14th, 2021

Issue: Third Quarter of 2021 Cash Rebalance

Attachment: None, informational purposes only

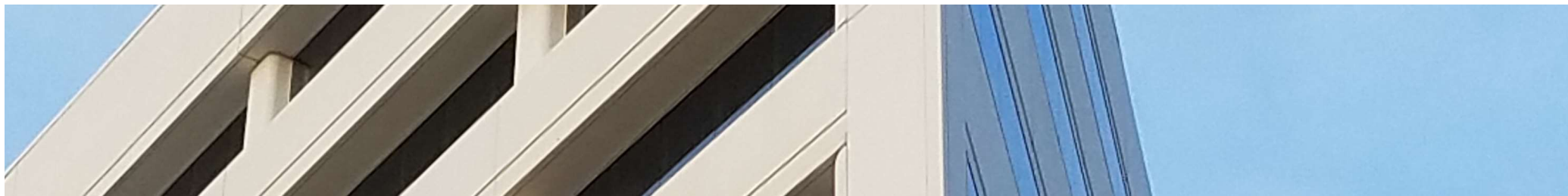
Discussion: During the month of June, ERF Staff rebalanced fund managers taking \$60 million in cash to pay benefits for the months of July, August, and September.

Redemptions were as follows: \$17 million from Smith Graham, \$14 million from Systematic; \$12 million from T Rowe Price, \$10 million from Channing; and \$7 million from Redwood.



WILSHIRE

Wilshire Consulting



Employees' Retirement Fund of the City of Dallas

Monthly Investment Summary

June 30, 2021

Wilshire

MARKET COMMENTARY

Quarter Ended June 30, 2021

U.S. Economy and Markets

- The U.S. stock market, represented by the Wilshire 5000 Total Market IndexSM, was up 8.42% for the second quarter of 2021.
- Nearly all eleven sectors were in positive territory, with Energy (+12.8%) and Communication Services (+12.1%) representing the best performing sectors. The only sector with negative performance this quarter was Utilities (-0.4%), which represents a relatively small segment of the U.S. market, with a weight of 2.3%.
- From a size perspective, large-cap outperformed small-cap during the quarter. Style-based results were mixed as large-growth outperformed large-value while growth underperformed within the small-cap space.

International Economy and Markets

- Equity markets outside of the U.S. also enjoyed a strong quarter, with developed markets leading emerging markets.
- Economic conditions are rapidly improving in the U.K., led by the services sector as retail and hospitality businesses are benefitting from an economy that has almost totally reopened. Unfortunately, after a surge in the delta variant of COVID-19 that was originally discovered in India, Prime Minister Boris Johnson delayed lifting the final restrictions, originally due to expire on June 21.
- Conditions in Germany, Europe's largest economy, are also improving as pandemic-related restrictions are being lifted.
- Both the U.K. and Germany are facing accelerating inflation but, like in the U.S., central bankers are remaining patient with accommodative short-term policy rates.
- China, the world's second largest economy, continues to achieve accelerating growth. However, the country's exporting business, a major economic driver, should face increased global competition as economies continue to reopen.

Fixed Income & Real Assets

- The U.S. Treasury yield curve flattened during the quarter with yields beyond a 3-year maturity falling and shorter-term rates generally rising. The 10-year Treasury yield ended the quarter at 1.47%, down 27 basis points from March.
- Credit spreads tightened, with the spread on the broad high yield market closing the quarter at 2.68%.
- The FOMC recently opened the conversation on possible tapering of bond purchases and their median forecast for the future overnight rate moved from no change to a 0.5% increase – albeit in 2023. However, a week after the last meeting, Chair Jerome Powell indicated that the Fed would not raise rates “preemptively” on possible inflation fears.
- Real estate securities were up during the second quarter in both the U.S. and abroad. Gains by sector were generally broad based, with Retail REITs (+16%) and Residential REITs (+14%) leading the market.
- Commodity results were positive for the quarter as crude oil was up 24.2% to \$73.47 per barrel. Oil prices are now back above pre-COVID levels, up +20% (cumulative) since year-end 2019. Natural gas prices were up 40.0% during the second quarter, ending at \$3.65 per million BTUs, the highest level since January 2019.
- Midstream energy surged for the third consecutive quarter while the broader infrastructure segment was also positive.
- Gold prices rebounded 3.4% and finished at approximately \$1,772 per troy ounce.

Monthly Index Performance

Periods Ended June 30, 2021

	Performance (%)					
	1 Month	QTD	YTD	1 Year	3 Years	5 Years
U.S. Equity						
Wilshire 5000 Total Market TR Index	2.51	8.42	15.45	44.24	18.89	17.96
S&P 500	2.33	8.55	15.25	40.79	18.67	17.65
Wilshire 4500 Completion Index	2.68	6.83	16.11	63.07	18.81	18.99
MSCI USA Minimum Volatility Index	1.83	6.84	9.31	23.63	13.86	12.13
U.S. Equity by Size/Style						
Wilshire U.S. Large-Cap Index	2.64	8.79	15.10	42.73	19.31	18.39
Wilshire U.S. Large-Cap Growth Index	5.35	11.87	14.06	46.35	23.68	22.73
Wilshire U.S. Large-Cap Value Index	-0.59	5.12	15.43	37.68	14.39	13.14
Wilshire U.S. Small-Cap Index	1.09	4.75	18.92	62.03	13.71	15.74
Wilshire U.S. Small-Cap Growth Index	1.92	3.16	12.44	56.18	15.03	18.63
Wilshire U.S. Small-Cap Value Index	0.32	6.23	25.57	67.73	10.86	12.36
Wilshire U.S. Micro-Cap Index	2.26	4.62	33.09	81.91	13.82	16.92
Non-U.S. Equity (USD)						
MSCI AC World ex USA (Net)	-0.65	5.48	9.16	35.72	9.38	11.08
MSCI ACWI ex USA Minimum Volatility Index (Net)	0.24	5.30	5.90	18.55	6.10	6.60
MSCI EAFE Index (Net)	-1.13	5.17	8.83	32.35	8.27	10.28
MSCI Emerging Markets (Net)	0.17	5.05	7.45	40.90	11.27	13.03
MSCI AC World ex USA Small Cap (Net)	-0.62	6.35	12.24	47.04	9.78	11.97
U.S. Fixed Income						
Blmbg. Barc. U.S. Aggregate	0.70	1.83	-1.61	-0.34	5.34	3.03
Blmbg. Barc. U.S. Treasury: Long	3.57	6.46	-7.92	-10.58	7.99	3.13
Blmbg. Barc. U.S. Long Corporate Index	3.70	6.64	-2.43	4.54	11.07	6.88
Blmbg. Barc. U.S. TIPS	0.61	3.25	1.73	6.51	6.53	4.17
Blmbg. Barc. U.S. Credit Index	1.50	3.32	-1.28	2.99	7.42	4.63
Blmbg. Barc. U.S. Corp: High Yield	1.34	2.74	3.62	15.37	7.45	7.48
S&P LSTA Leverage Loan Index	0.37	1.44	3.22	11.59	4.38	4.98

Asset Allocation & Performance

Dallas Total Fund

Periods Ended June 30, 2021

	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	1.96	7.21	11.03	32.70	12.39	13.78	10.79	9/1/2012	287,492,152	7.36
Global Low Volatility Composite	0.34	5.33	8.05	20.47	8.70	8.27	8.69	7/1/2015	478,002,587	12.24
Domestic Equity Composite	0.54	6.34	18.65	51.77	16.41	16.91	10.82	1/1/1990	569,985,172	14.60
International Equity Composite	-0.56	6.29	12.31	43.92	11.25	12.89	6.20	1/1/1990	517,419,363	13.25
Global Fixed Income Composite	0.77	2.00	-0.90	2.05	5.82	3.73	5.06	10/1/1995	511,563,199	13.10
High Yield Composite	1.29	2.48	3.16	14.81	6.81	6.61	6.54	1/1/1997	371,574,135	9.52
Credit Opportunities Composite	0.69	2.79	2.49	13.21	6.04	6.10	6.86	2/1/2016	184,202,329	4.72
Total Real Estate Composite	2.33	6.43	10.55	16.79	7.32	5.85	6.67	1/1/1990	415,420,742	10.64
Global Listed Infrastructure Composite	2.45	13.78	28.91	35.40	-2.92	-1.07	3.35	1/1/2012	222,411,711	5.70
Private Equity Composite	-0.08	1.82	8.62	12.86	10.41	11.68	12.76	6/1/2009	284,647,254	7.29
Managed Short Term Composite	0.00	0.00	0.02	0.09	1.34	1.17	2.81	1/1/1990	61,543,601	1.58
Dallas Total Fund	0.82	5.16	9.57	24.08	8.93	8.97	9.14	1/1/1985	3,904,262,245	100.00
Policy Index	1.32	5.84	9.73	25.63	9.99	9.14	9.77			

Asset Allocation & Performance

Dallas Total Fund

Periods Ended June 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Systematic Financial Russell 2000 Index	-1.14 1.94	3.20 4.29	24.31 17.54	62.81 62.03	9.87 13.52	15.04 16.47	11.57 10.67	8/1/2003	77,852,878	13.66
Redwood Investments * Russell 2000 Growth Index	4.65 4.69	6.91 3.92	16.86 8.98	54.42 51.36	17.66 15.94		16.05 17.64	10/1/2016	40,397,712	7.09
Channing Capital * Russell 2000 Value Index	-3.26 -0.61	1.68 4.56	16.85 26.69	63.53 73.28	10.83 10.27	12.79 13.62	9.09 9.38	12/1/2013	37,790,342	6.63
Domestic Equity Small Cap Composite	-0.30	3.72	20.40	60.99	12.23	15.40	10.68	6/1/2003	156,040,933	27.38
Smith Graham * Russell Midcap Index	-3.72 1.47	3.52 7.50	30.00 16.25	78.23 49.80	12.62 16.45		11.52 14.70	1/1/2018	78,124,819	13.71
T. Rowe Price S&P 500	2.15 2.33	8.70 8.55	14.75 15.25	42.27 40.79	19.13 18.67	18.52 17.65	11.02 10.44	4/1/2006	161,042,591	28.25
Northern Trust S&P 500 (Lending) S&P 500	2.33 2.33	8.55 8.55	15.25 15.25	40.57 40.79	18.64 18.67	17.62 17.65	10.94 10.91	1/1/1995	174,776,829	30.66
Domestic Equity Composite Custom Benchmark	0.54 2.51	6.34 8.42	18.65 15.45	51.77 44.24	16.41 18.89	16.91 17.96	10.82 10.94	1/1/1990	569,985,172	100.00

Asset Allocation & Performance

Dallas Total Fund

Periods Ended June 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Adelante Capital Management	3.67	13.30	23.79	38.75	12.10	7.83	10.26	10/1/2001	79,919,446	19.24
Wilshire U.S. Real Estate Securities Index	3.05	12.75	22.70	37.55	10.01	6.46	10.36			
CenterSquare	2.86	12.33	22.06	38.32	11.64		12.94	6/1/2018	80,096,356	19.28
Wilshire U.S. Real Estate Securities Index	3.05	12.75	22.70	37.55	10.01		11.28			
REIT Composite	3.26	12.81	22.91	38.53	11.87	7.50	10.35	10/1/2001	160,015,802	38.52
Wilshire U.S. Real Estate Securities Index	3.05	12.75	22.70	37.55	10.01	6.46	10.36			
Heitman America Real Estate Trust, LP	0.00	0.00	2.45	5.07	1.46	3.74	8.81	12/1/2010	83,244,278	20.04
NCREIF ODCE NOF	0.00	0.00	1.89	3.28	3.34	4.86	9.03			
Invesco Core Real Estate USA, LLC	4.82	4.82	6.41	7.86	5.39	6.60	9.90	12/1/2010	72,514,613	17.46
NCREIF ODCE NOF	0.00	0.00	1.89	3.28	3.34	4.86	9.03			
Virtus Real Estate Capital III	4.01	17.34					17.34	2/1/2021	27,376,311	6.59
NCREIF ODCE NOF	0.00	0.00					1.89			
AEW Partners Real Estate Fund IX	0.00	-29.10					-29.10	4/1/2021	2,300,185	0.55
NCREIF ODCE NOF	0.00	0.00					0.00			
Private Core Real Estate Composite	1.76	2.80	3.99	5.22	4.58	4.99	8.84	10/1/2010	255,404,940	61.48
Custom Benchmark	0.00	0.23	1.58	2.81	4.35	4.81	8.21			
Total Real Estate Composite	2.33	6.43	10.55	16.79	7.32	5.85	6.67	1/1/1990	415,420,742	100.00
Custom Benchmark	1.52	6.40	11.77	19.27	7.71	6.03	8.60			

Employees' Retirement Fund of the City of Dallas
Private Equity & Direct Private Real Estate Monthly Performance and Market Value Summary
Periods Ended 06/30/21



	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple ³
Invesco II	69,969,553	65,188,333	65,188,333	8,479,975	Jan-14	3.9%	1.2
Total Direct Private Real Estate	69,969,553	65,188,333	65,188,333	8,479,975	Jan-14	3.9%	1.2

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple ³
Hamilton Lane Secondary Fund II	529,889	25,000,000	22,058,532	31,007,605	Jul-09	13.6%	1.4
Hamilton Lane Secondary Fund III	5,484,260	30,000,000	23,372,292	24,909,107	Nov-12	9.7%	1.3
Hamilton Lane Secondary Fund IV	18,127,963	30,000,000	25,907,343	15,580,777	Mar-17	14.6%	1.3
Hamilton Lane Secondary Fund V	24,440,851	40,000,000	20,550,973	-	Mar-20	35.7%	1.2
Hamilton Lane Fund VII Composite	18,490,621	50,000,000	45,600,834	47,574,317	Jan-10	5.6%	1.4
Hamilton Lane Fund VIII (Global)	18,070,586	30,000,000	22,162,244	9,635,728	Nov-12	4.8%	1.3
GCM Grosvenor - Partnership, L.P.	33,210,251	75,000,000	85,610,430	105,346,691	Jun-11	14.0%	1.6
GCM Grosvenor - Partnership II, L.P. (2014)	53,306,693	60,000,000	69,559,751	42,836,147	Jul-14	12.9%	1.4
GCM Grosvenor - Partnership II, L.P. (2015)	39,313,902	30,000,000	33,736,462	8,282,014	Dec-15	15.1%	1.4
GCM Grosvenor - Partnership II, L.P. (2017)	16,937,324	30,000,000	17,458,710	1,285,521	Jan-18	4.0%	1.0
GCM Grosvenor - Advance Fund, L.P.	1,382,733	10,000,000	1,359,265	-	Jun-21	-	1.0
Fairview Capital - Lone Star Fund I	41,143,839	40,000,000	34,103,847	7,848,350	Aug-15	12.9%	1.4
Fairview Capital - Lone Star Fund II	12,716,758	30,000,000	10,817,595	-	Dec-18	0.7%	1.2
Fairview Capital - Lone Star Fund III	1,491,584	25,000,000	1,567,001	-	Apr-21	-8.0%	1.0
Total Private Equity Composite	284,647,254	505,000,000	413,865,278	294,306,257	Jul-09	12.1%	1.4

Public Market Equivalent (PME) ² **486,769,396** **19.2%**

* Next Generation Manager

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

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

³ Private Equity cash account

Asset Allocation & Performance

Dallas Total Fund

Periods Ended June 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Acadian International Custom Benchmark	0.13 -0.62	9.56 6.35	19.27 12.24	54.82 47.04	11.04 9.78	14.45 11.97	9.01 6.53	4/1/1989	142,641,506	27.57
Ativo International * MSCI EAFE Index (Net)	-1.53 -1.13	5.73 5.17	10.66 8.83	30.78 32.35	6.81 8.27		5.56 6.20	1/1/2018	42,874,133	8.29
AQR Capital Management Custom Benchmark	-1.06 -0.65	3.81 5.48	10.98 9.16	37.72 35.72	9.23 9.38	11.35 11.08	4.71 4.17	4/1/2006	137,953,319	26.66
Baillie Gifford MSCI AC World ex USA (Net)	0.25 -0.65	4.08 5.48	5.97 9.16	35.32 35.72			22.28 13.53	4/1/2019	93,762,719	18.12
Earnest Partners MSCI AC World ex USA (Net)	-1.14 -0.65	7.82 5.48	12.07 9.16	53.09 35.72			15.99 13.53	4/1/2019	100,187,685	19.36
BlackRock ACWI Ex U.S.									1	0.00
International Equity Composite Custom Benchmark	-0.56 -0.64	6.29 5.60	12.31 9.58	43.92 37.18	11.25 9.42	12.89 11.20	6.20 5.11	1/1/1990	517,419,363	100.00

Asset Allocation & Performance

Dallas Total Fund

Periods Ended June 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Ariel Global * MSCI AC World Index (Net)	2.11 1.32	6.24 7.39	10.67 12.30	23.88 39.26	9.46 14.57		8.46 12.22	1/1/2018	118,058,037	41.06
Wellington MSCI AC World Index (Net)	1.98 1.32	8.02 7.39	10.96 12.30	38.72 39.26	14.41 14.57	14.98 14.61	13.61 11.68	9/1/2012	141,584,034	49.25
Northern Trust Global Equity MSCI AC World IMI (Net)	1.24 1.21	7.30 7.18	12.83 12.68	41.20 40.94	14.76 14.24	15.04 14.55	14.24 13.74	10/1/2015	27,850,082	9.69
Global Equity Composite MSCI AC World Index (Net)	1.96 1.32	7.21 7.39	11.03 12.30	32.70 39.26	12.39 14.57	13.78 14.61	10.79 11.68	9/1/2012	287,492,152	100.00

Asset Allocation & Performance

Dallas Total Fund

Periods Ended June 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Acadian Global Low Vol.	0.03	5.30	8.87	21.20	7.84	7.92	8.18	7/1/2015	238,030,276	49.80
MSCI AC World Index (Net)	1.32	7.39	12.30	39.26	14.57	14.61	11.33			
MSCI ACWI Minimum Volatility Index (Net)	0.65	5.30	7.11	19.35	9.55	8.40	8.92			
BlackRock Global Low Vol.	0.66	5.36	7.25	19.75	9.56	8.61	9.20	7/1/2015	239,972,311	50.20
MSCI ACWI Minimum Volatility Index (Net)	0.65	5.30	7.11	19.35	9.55	8.40	8.92			
Global Low Volatility Composite	0.34	5.33	8.05	20.47	8.70	8.27	8.69	7/1/2015	478,002,587	100.00
MSCI ACWI Minimum Volatility Index (Net)	0.65	5.30	7.11	19.35	9.55	8.40	8.92			

Asset Allocation & Performance

Dallas Total Fund

Periods Ended June 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Atlantic Trust CIBC Alerian MLP Index	3.46 5.18	18.24 21.23	38.76 47.84	52.92 63.98	0.83 -0.33	1.06 -1.05	4.78 0.29	1/1/2012	78,804,064	35.43
Harvest Fund Advisors MLP Alerian MLP Index	4.32 5.18	17.94 21.23	39.99 47.84	57.12 63.98	2.27 -0.33	2.17 -1.05	4.58 0.29	1/1/2012	78,221,625	35.17
C&S Global Listed Infrastructure FTSE Global Core Infrastructure 50/50 (Net)	-0.82 -1.07	4.60 2.89	8.21 7.09				16.89 16.97	11/1/2020	65,386,023	29.40
Global Listed Infrastructure Composite Global Listed Infrastructure Benchmark	2.45 3.61	13.78 16.46	28.91 36.67	35.40 46.27	-2.92 -4.05	-1.07 -3.29	3.35 -0.91	1/1/2012	222,411,711	100.00

Asset Allocation & Performance

Dallas Total Fund

Periods Ended June 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Securian Asset Management Blmbg. Barc. U.S. Aggregate	1.01 0.70	2.28 1.83	-0.26 -1.61	3.04 -0.34	5.61 5.34	3.83 3.03	4.71 4.31	7/1/2007	223,328,292	43.66
Garcia Hamilton * Blmbg. Barc. U.S. Aggregate	0.27 0.70	1.14 1.83	-2.06 -1.61	-0.64 -0.34	4.42 5.34	2.83 3.03	3.58 3.38	11/1/2013	66,648,714	13.03
NT Collective Aggregate Bond Index Blmbg. Barc. U.S. Aggregate								7/1/2021	221,335,237	43.27
Aberdeen Global Fixed Income									250,956	0.05
Global Fixed Income Composite Blmbg. Barc. U.S. Aggregate	0.77 0.70	2.00 1.83	-0.90 -1.61	2.05 -0.34	5.82 5.34	3.73 3.03	5.06 5.11	10/1/1995	511,563,199	100.00

Asset Allocation & Performance

Dallas Total Fund

Periods Ended June 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Neuberger Berman	0.69	2.79	2.49	13.21	6.04	6.10	6.86	2/1/2016	184,202,329	
Custom Benchmark	0.82	2.76	2.11	11.58	6.10	5.74	6.96			

Asset Allocation & Performance

Dallas Total Fund

Periods Ended June 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Oaktree Capital Management	1.23	2.45	3.22	15.39	6.44	6.30	6.73	2/1/1997	187,187,069	50.38
FTSE High Yield Cash Pay	1.32	2.64	3.54	15.52	6.97	7.13	6.89			
BlackRock	1.36	2.52	3.09	14.19	7.18	6.91	6.53	10/1/2006	184,387,066	49.62
FTSE High Yield Cash Pay	1.32	2.64	3.54	15.52	6.97	7.13	6.99			
High Yield Composite	1.29	2.48	3.16	14.81	6.81	6.61	6.54	1/1/1997	371,574,135	100.00
FTSE High Yield Cash Pay	1.32	2.64	3.54	15.52	6.97	7.13	6.90			

Asset Allocation & Performance

Dallas Total Fund

Periods Ended June 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Cash Account	0.00	0.00	0.02	0.09	1.34	1.17	3.16	1/1/1988	61,543,601	100.00
Managed Short Term Composite	0.00	0.00	0.02	0.09	1.34	1.17	2.81	1/1/1990	61,543,601	100.00



WILSHIRE

Wilshire Consulting



Employees' Retirement Fund of the City of Dallas

Monthly Investment Summary

July 31, 2021

Wilshire

MARKET COMMENTARY

Month Ended July 31, 2021

U.S. Economy and Markets

- Domestic equity markets were positive in July, as the Wilshire 5000 Total Market IndexSM and the S&P 500 Index returned 1.79% and 2.38%, respectively.
- The CBOE Volatility Index (VIX) ended July at 18.24, an increase from its June close of 15.83, and slightly elevated from the pre-COVID average levels.
- Performance across GICS sectors was mixed for the month, with the Real Estate and Utilities sectors leading the group, gaining 4.49% and 3.92%, respectively. The Energy and Financials sectors lagged, falling -8.61% and -0.56%, respectively.
- Small cap stocks underperformed their large cap counterparts in July, with the Wilshire U.S. Small Cap IndexSM and the Wilshire U.S. Large Cap IndexSM returning -2.58% and 2.23%, respectively.
- Value-oriented equities underperformed their growth-oriented counterparts in both the large and small capitalization segments, with large cap growth and value stocks in positive territory and small cap growth and value stocks down for the month.

International Economy and Markets

- Developed international equity markets, as measured by the MSCI EAFE Index, returned 0.75% this month.
- The MSCI Emerging Markets Index decreased -6.73% in July.

Fixed Income & Real Assets

- The 10-year U.S. Treasury yield ended the month at 1.22%, a decrease from its June close of 1.47%.
- The Bloomberg Barclays U.S. Aggregate Index posted a gain of 1.12% in July.
- Inflation-linked bonds were among the best performing segments within U.S. fixed income, with the Bloomberg Barclays U.S. TIPS Index returning 2.67%. Below investment-grade bonds were positive but underperformed other segments, with the Bloomberg Barclays U.S. High Yield Index returning 0.38%.
- Listed U.S. real estate posted positive returns in July, with the Wilshire U.S. Real Estate Securities IndexSM returning 5.09%. Listed global infrastructure was up as well, with the S&P Global Infrastructure Index gaining 0.98%.
- Commodities, as measured by the Bloomberg Commodity Index, advanced 1.84% in July.

Monthly Index Performance

Periods Ended July 31, 2021

	Performance (%)				
	1 Month	YTD	1 Year	3 Years	5 Years
U.S. Equity					
Wilshire 5000 Total Market TR Index	1.79	17.52	38.96	18.24	17.47
S&P 500	2.38	17.99	36.45	18.16	17.35
Wilshire 4500 Completion Index	-0.65	15.36	53.68	17.97	17.62
MSCI USA Minimum Volatility Index	3.49	13.13	22.43	13.91	12.57
U.S. Equity by Size/Style					
Wilshire U.S. Large-Cap Index	2.23	17.67	37.85	18.89	18.04
Wilshire U.S. Large-Cap Growth Index	3.00	17.48	39.82	23.81	22.29
Wilshire U.S. Large-Cap Value Index	1.25	16.87	34.68	13.49	12.82
Wilshire U.S. Small-Cap Index	-2.58	15.86	52.56	12.07	13.88
Wilshire U.S. Small-Cap Growth Index	-1.97	10.23	45.58	15.01	16.74
Wilshire U.S. Small-Cap Value Index	-3.16	21.60	59.76	9.11	10.54
Wilshire U.S. Micro-Cap Index	-6.68	24.20	66.34	10.48	14.23
Non-U.S. Equity (USD)					
MSCI AC World ex USA (Net)	-1.65	7.36	27.78	7.92	9.65
MSCI ACWI ex USA Minimum Volatility Index (Net)	0.78	6.72	16.28	5.51	6.18
MSCI EAFE Index (Net)	0.75	9.65	30.31	7.66	9.35
MSCI Emerging Markets (Net)	-6.73	0.22	20.64	7.93	10.37
MSCI AC World ex USA Small Cap (Net)	0.80	13.14	41.16	9.81	10.94
U.S. Fixed Income					
Blmbg. Barc. U.S. Aggregate	1.12	-0.51	-0.70	5.73	3.12
Blmbg. Barc. U.S. Treasury: Long	3.65	-4.56	-11.08	9.83	3.42
Blmbg. Barc. U.S. Long Corporate Index	2.30	-0.19	0.70	11.30	6.73
Blmbg. Barc. U.S. TIPS	2.67	4.44	6.90	7.65	4.54
Blmbg. Barc. U.S. Credit Index	1.30	0.01	1.21	7.63	4.63
Blmbg. Barc. U.S. Corp: High Yield	0.38	4.01	10.62	7.19	6.99
S&P LSTA Leverage Loan Index	-0.02	3.20	9.42	4.11	4.68

Asset Allocation & Performance

Dallas Total Fund

Periods Ended July 31, 2021

	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	-0.16	3.33	10.85	26.95	11.31	12.72	10.66	9/1/2012	287,024,589	7.33
Global Low Volatility Composite	1.79	4.96	9.98	18.05	8.18	8.20	8.88	7/1/2015	486,542,002	12.42
Domestic Equity Composite	1.14	2.71	20.00	45.68	15.69	16.15	10.83	1/1/1990	576,476,324	14.71
International Equity Composite	-0.72	1.71	11.50	35.42	10.27	11.63	6.16	1/1/1990	513,572,629	13.11
Global Fixed Income Composite	1.11	2.21	0.20	1.31	6.19	3.76	5.09	10/1/1995	517,234,033	13.20
High Yield Composite	0.29	1.86	3.45	9.75	6.56	6.21	6.53	1/1/1997	372,632,466	9.51
Credit Opportunities Composite	0.13	1.56	2.63	8.92	5.50	5.73	6.78	2/1/2016	184,446,316	4.71
Total Real Estate Composite	1.81	6.62	13.66	18.41	8.26	5.97	6.74	1/1/1990	414,068,981	10.57
Global Listed Infrastructure Composite	-2.61	4.95	25.55	33.62	-5.68	-1.76	3.04	1/1/2012	216,611,359	5.53
Private Equity Composite	1.50	1.40	10.25	15.59	10.72	11.59	12.80	6/1/2009	275,316,361	7.03
Managed Short Term Composite	0.01	0.00	0.03	0.08	1.29	1.17	2.81	1/1/1990	73,849,496	1.88
Dallas Total Fund	0.61	3.09	10.36	21.10	8.49	8.55	9.14	1/1/1985	3,917,774,558	100.00
Policy Index	1.25	4.22	11.27	22.87	9.71	8.89	9.79			

Asset Allocation & Performance

Dallas Total Fund

Periods Ended July 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Systematic Financial	-1.84	-1.32	22.03	54.99	8.57	13.37	11.40	8/1/2003	76,422,821	13.26
Russell 2000 Index	-3.61	-1.54	13.29	51.97	11.49	14.28	10.40			
Redwood Investments *	0.69	2.06	17.67	43.95	18.34		15.92	10/1/2016	40,676,618	7.06
Russell 2000 Growth Index	-3.64	-2.00	5.01	41.00	13.87		16.41			
Channing Capital *	-0.20	-2.02	16.62	56.28	9.56	11.56	8.96	12/1/2013	37,715,391	6.54
Russell 2000 Value Index	-3.58	-1.18	22.16	63.70	8.30	11.61	8.75			
Domestic Equity Small Cap Composite	-0.79	-0.66	19.45	52.29	11.41	13.90	10.58	6/1/2003	154,814,830	26.86
Smith Graham *	-0.34	-0.82	29.56	72.29	11.21		11.14	1/1/2018	77,862,288	13.51
Russell Midcap Index	0.77	3.07	17.14	42.58	15.79		14.58			
T. Rowe Price	2.37	5.24	17.47	36.91	18.68	18.13	11.12	4/1/2006	164,866,787	28.60
S&P 500	2.38	5.50	17.99	36.45	18.16	17.35	10.55			
Northern Trust S&P 500 (Lending)	2.38	5.50	17.99	36.23	18.12	17.32	11.00	1/1/1995	178,932,419	31.04
S&P 500	2.38	5.50	17.99	36.45	18.16	17.35	10.97			
Domestic Equity Composite	1.14	2.71	20.00	45.68	15.69	16.15	10.83	1/1/1990	576,476,324	100.00
Custom Benchmark	1.79	4.83	17.52	38.96	18.24	17.47	10.97			

Asset Allocation & Performance

Dallas Total Fund

Periods Ended July 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Adelante Capital Management	5.15	10.77	30.16	39.64	13.92	8.05	10.49	10/1/2001	84,036,974	20.30
Wilshire U.S. Real Estate Securities Index	5.09	9.72	28.95	38.54	11.63	6.67	10.59			
CenterSquare	5.31	9.60	28.54	40.11	13.38		14.43	6/1/2018	84,352,331	20.37
Wilshire U.S. Real Estate Securities Index	5.09	9.72	28.95	38.54	11.63		12.72			
REIT Composite	5.23	10.18	29.35	39.87	13.65	7.68	10.59	10/1/2001	168,389,304	40.67
Wilshire U.S. Real Estate Securities Index	5.09	9.72	28.95	38.54	11.63	6.67	10.59			
Heitman America Real Estate Trust, LP	0.00	3.91	6.45	9.18	2.77	4.37	9.13	12/1/2010	85,798,309	20.72
NCREIF ODCE NOF	0.00	3.68	5.64	7.09	4.60	5.62	9.32			
Invesco Core Real Estate USA, LLC	0.00	4.82	6.41	7.86	5.39	6.60	9.82	12/1/2010	72,099,567	17.41
NCREIF ODCE NOF	0.00	3.68	5.64	7.09	4.60	5.62	9.32			
Virtus Real Estate Capital III	0.00	17.35					17.35	2/1/2021	15,607,677	3.77
NCREIF ODCE NOF	0.00	3.68					5.64			
AEW Partners Real Estate Fund IX	0.00	-29.10					-29.10	4/1/2021	2,300,185	0.56
NCREIF ODCE NOF	0.00	3.68					3.68			
Private Core Real Estate Composite	-0.31	4.41	5.32	6.96	5.02	5.20	8.90	10/1/2010	245,679,677	59.33
Custom Benchmark	-0.25	3.11	4.49	5.76	5.34	5.42	8.43			
Total Real Estate Composite	1.81	6.62	13.66	18.41	8.26	5.97	6.74	1/1/1990	414,068,981	100.00
Custom Benchmark	2.42	6.40	16.24	21.40	9.02	6.44	8.71			

Employees' Retirement Fund of the City of Dallas
Private Equity & Direct Private Real Estate Monthly Performance and Market Value Summary



Periods Ended 07/31/21

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple ³
Invesco II	69,873,939	65,188,333	65,188,333	8,575,589	Jan-14	4.0%	1.2
Total Direct Private Real Estate	69,873,939	65,188,333	65,188,333	8,575,589	Jan-14	4.0%	1.2

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple ³
Hamilton Lane Secondary Fund II	498,599	25,000,000	22,058,532	31,007,605	Jul-09	13.5%	1.4
Hamilton Lane Secondary Fund III	6,451,290	30,000,000	23,372,292	24,909,107	Nov-12	10.5%	1.3
Hamilton Lane Secondary Fund IV	22,750,739	30,000,000	25,907,343	15,580,777	Mar-17	20.8%	1.5
Hamilton Lane Secondary Fund V	25,873,872	40,000,000	20,550,973	-	Mar-20	42.4%	1.3
Hamilton Lane Fund VII Composite	22,818,114	50,000,000	45,600,834	47,574,317	Jan-10	6.8%	1.5
Hamilton Lane Fund VIII (Global)	21,423,318	30,000,000	22,162,244	9,635,728	Nov-12	7.1%	1.4
GCM Grosvenor - Partnership, L.P.	31,910,345	75,000,000	85,868,430	106,904,598	Jun-11	14.2%	1.6
GCM Grosvenor - Partnership II, L.P. (2014)	43,446,257	60,000,000	69,559,751	52,696,583	Jul-14	14.4%	1.4
GCM Grosvenor - Partnership II, L.P. (2015)	37,852,774	30,000,000	33,763,462	9,770,143	Dec-15	16.4%	1.4
GCM Grosvenor - Partnership II, L.P. (2017)	1	30,000,000	18,461,710	3,376,212	Jan-18	8.9%	0.2
GCM Grosvenor - Advance Fund, L.P.	1,382,733	10,000,000	1,359,265	-	Jun-21	-	1.0
Fairview Capital - Lone Star Fund I	45,892,870	40,000,000	34,103,847	7,848,350	Aug-15	15.9%	1.6
Fairview Capital - Lone Star Fund II	13,380,301	30,000,000	10,817,595	-	Dec-18	5.5%	1.2
Fairview Capital - Lone Star Fund III	1,635,148	25,000,000	1,710,565	-	Apr-21	-6.4%	1.0
Total Private Equity Composite	275,316,361	505,000,000	415,296,842	309,303,419	Jul-09	11.4%	1.4

Public Market Equivalent (PME) ² **483,144,116** **18.8%**

* Next Generation Manager

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

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

³ Private Equity cash account

Asset Allocation & Performance

Dallas Total Fund

Periods Ended July 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Acadian International Custom Benchmark	0.00 0.80	2.70 2.50	19.28 13.14	46.36 41.16	10.72 9.81	13.10 10.94	8.98 6.54	4/1/1989	142,645,412	27.78
Ativo International * MSCI EAFE Index (Net)	2.03 0.75	4.63 2.87	12.90 9.65	26.77 30.31	6.75 7.66		6.02 6.27	1/1/2018	43,741,857	8.52
AQR Capital Management Custom Benchmark	-2.05 -1.65	-0.38 0.77	8.71 7.36	29.23 27.78	7.72 7.92	9.93 9.65	4.54 4.04	4/1/2006	135,018,977	26.29
Baillie Gifford MSCI AC World ex USA (Net)	-1.68 -1.65	-0.50 0.77	4.19 7.36	24.55 27.78			20.53 12.22	4/1/2019	92,186,334	17.95
Earnest Partners MSCI AC World ex USA (Net)	-0.20 -1.65	4.08 0.77	11.84 7.36	45.11 27.78			15.27 12.22	4/1/2019	99,980,048	19.47
BlackRock ACWI Ex U.S.									1	0.00
International Equity Composite Custom Benchmark	-0.72 -1.30	1.71 1.03	11.50 8.16	35.42 29.53	10.27 8.18	11.63 9.82	6.16 5.05	1/1/1990	513,572,629	100.00

Asset Allocation & Performance

Dallas Total Fund

Periods Ended July 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Ariel Global * MSCI AC World Index (Net)	-1.21 0.69	3.09 3.60	9.33 13.08	21.63 33.18	7.71 13.70		7.89 12.14	1/1/2018	116,627,294	40.63
Wellington MSCI AC World Index (Net)	0.58 0.69	3.54 3.60	11.60 13.08	29.98 33.18	13.87 13.70	14.06 13.81	13.55 11.65	9/1/2012	142,396,558	49.61
Northern Trust Global Equity MSCI AC World IMI (Net)	0.51 0.50	3.30 3.24	13.40 13.25	35.10 34.65	13.92 13.39	14.15 13.67	14.12 13.63	10/1/2015	28,000,737	9.76
Global Equity Composite MSCI AC World Index (Net)	-0.16 0.69	3.33 3.60	10.85 13.08	26.95 33.18	11.31 13.70	12.72 13.81	10.66 11.65	9/1/2012	287,024,589	100.00

Asset Allocation & Performance

Dallas Total Fund

Periods Ended July 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Acadian Global Low Vol.	1.99	5.79	11.03	19.01	7.36	7.88	8.41	7/1/2015	242,764,783	49.90
MSCI AC World Index (Net)	0.69	3.60	13.08	33.18	13.70	13.81	11.29			
MSCI ACWI Minimum Volatility Index (Net)	1.58	4.12	8.80	16.69	9.02	8.31	9.07			
BlackRock Global Low Vol.	1.59	4.14	8.96	17.12	9.01	8.52	9.35	7/1/2015	243,777,220	50.10
MSCI ACWI Minimum Volatility Index (Net)	1.58	4.12	8.80	16.69	9.02	8.31	9.07			
Global Low Volatility Composite	1.79	4.96	9.98	18.05	8.18	8.20	8.88	7/1/2015	486,542,002	100.00
MSCI ACWI Minimum Volatility Index (Net)	1.58	4.12	8.80	16.69	9.02	8.31	9.07			

Asset Allocation & Performance

Dallas Total Fund

Periods Ended July 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Atlantic Trust CIBC Alerian MLP Index	-4.58 5.18	6.11 19.00	32.41 55.49	49.08 78.82	-2.60 -0.77	-0.05 -0.16	4.23 0.82	1/1/2012	75,192,821	34.71
Harvest Fund Advisors MLP Alerian MLP Index	-4.29 5.18	6.56 19.00	33.99 55.49	51.15 78.82	-1.31 -0.77	1.11 -0.16	4.06 0.82	1/1/2012	74,868,417	34.56
C&S Global Listed Infrastructure FTSE Global Core Infrastructure 50/50 (Net)	1.78 1.31	1.96 0.77	10.14 8.49				18.98 18.50	11/1/2020	66,550,121	30.72
Global Listed Infrastructure Composite Global Listed Infrastructure Benchmark	-2.61 4.21	4.95 14.26	25.55 42.42	33.62 58.04	-5.68 -4.77	-1.76 -2.59	3.04 -0.47	1/1/2012	216,611,359	100.00

Asset Allocation & Performance

Dallas Total Fund

Periods Ended July 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Securian Asset Management	1.17	2.52	0.90	2.20	6.01	3.85	4.77	7/1/2007	225,930,605	43.68
Blmbg. Barc. U.S. Aggregate	1.12	2.16	-0.51	-0.70	5.73	3.12	4.36			
Garcia Hamilton *	0.89	1.61	-1.18	-0.93	4.80	2.90	3.66	11/1/2013	67,244,031	13.00
Blmbg. Barc. U.S. Aggregate	1.12	2.16	-0.51	-0.70	5.73	3.12	3.49			
NT Collective Aggregate Bond Index	1.12						1.12	7/1/2021	223,808,317	43.27
Blmbg. Barc. U.S. Aggregate	1.12						1.12			
Aberdeen Global Fixed Income									251,081	0.05
Global Fixed Income Composite	1.11	2.21	0.20	1.31	6.19	3.76	5.09	10/1/1995	517,234,033	100.00
Blmbg. Barc. U.S. Aggregate	1.12	2.16	-0.51	-0.70	5.73	3.12	5.13			

Asset Allocation & Performance

Dallas Total Fund

Periods Ended July 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Neuberger Berman	0.13	1.56	2.63	8.92	5.50	5.73	6.78	2/1/2016	184,446,316	
Custom Benchmark	0.25	1.73	2.36	8.11	5.68	5.39	6.90			

Asset Allocation & Performance

Dallas Total Fund

Periods Ended July 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Oaktree Capital Management FTSE High Yield Cash Pay	0.25 0.34	1.73 1.90	3.48 3.89	10.44 10.41	6.21 6.71	5.87 6.66	6.71 6.88	2/1/1997	187,655,420	50.36
BlackRock FTSE High Yield Cash Pay	0.32 0.34	1.98 1.90	3.42 3.89	9.04 10.41	6.90 6.71	6.55 6.66	6.52 6.98	10/1/2006	184,977,046	49.64
High Yield Composite FTSE High Yield Cash Pay	0.29 0.34	1.86 1.90	3.45 3.89	9.75 10.41	6.56 6.71	6.21 6.66	6.53 6.89	1/1/1997	372,632,466	100.00

Asset Allocation & Performance

Dallas Total Fund

Periods Ended July 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
Cash Account	0.01	0.00	0.03	0.08	1.29	1.17	3.15	1/1/1988	73,849,496	100.00
Managed Short Term Composite	0.01	0.00	0.03	0.08	1.29	1.17	2.81	1/1/1990	73,849,496	100.00

At A Glance

For period ended June 30, 2021

	2020		2021	
	This Month	YTD	This Month	YTD
Retirements				
Age	12	89	19	109
Service	0	15	0	13
Rule of 78	9	46	10	57
QDRO	0	2	0	0
Total	21	152	29	179
Disability Retirements				
Service	0	0	0	0
Non-service	0	3	0	3
Total	0	3	0	3
Benefits Paid	\$ 23,949,290.21	\$ 141,885,138.70	\$ 24,684,186.08	\$ 147,341,852.37
Refunds	\$ 505,483.25	\$ 3,498,393.66	\$ 1,164,497.84	\$ 4,827,711.78
Number of refunds	26	236	89	310
*Contributions	\$ 9,354,606.69	\$ 59,984,020.50	\$ 9,154,265.57	\$ 54,742,672.82

Members on record at month end					
	Retirees & beneficiaries	Disabilities	Actives	Tier A actives	Tier B Actives
Jan	7,534	151	7,280	4,762	2,518
Feb	7,584	151	7,268	4,706	2,562
Mar	7,547	148	7,258	4,655	2,603
April	7,562	145	7,263	4,622	2,641
May	7,588	144	7,277	4,576	2,701
June	7,597	143	7,266	4,530	2,706
July					
Aug					
Sep					
Oct					
Nov					
Dec					

At A Glance

For period ended July 31, 2021

	2020		2021	
	This Month	YTD	This Month	YTD
Retirements				
Age	14	103	19	128
Service	2	17	0	13
Rule of 78	6	52	10	67
QDRO	0	2	1	1
Total	22	174	30	209
Disability Retirements				
Service	0	0	0	0
Non-service	0	3	0	3
Total	0	3	0	3
Benefits Paid	\$ 24,172,259.14	\$ 166,057,397.84	\$ 24,681,469.84	\$ 172,023,322.21
Refunds	\$ 198,582.48	\$ 3,696,976.14	\$ 1,213,584.31	\$ 6,041,296.09
Number of refunds	14	250	72	382
*Contributions	\$ 13,419,767.95	\$ 73,403,788.45	\$ 13,758,138.27	\$ 68,500,811.09

Members on record at month end					
	Retirees & beneficiaries	Disabilities	Actives	Tier A actives	Tier B Actives
Jan	7,534	151	7,280	4,762	2,518
Feb	7,584	151	7,268	4,706	2,562
Mar	7,547	148	7,258	4,655	2,603
April	7,562	145	7,263	4,622	2,641
May	7,588	144	7,277	4,576	2,701
June	7,597	143	7,266	4,530	2,706
July	7,612	143	7,285	4,504	2,781
Aug					
Sep					
Oct					
Nov					
Dec					

At A Glance

For period ended August 31, 2021

	2020		2021	
	This Month	YTD	This Month	YTD
Retirements				
Age	23	126	13	141
Service	1	18	1	14
Rule of 78	16	68	8	75
QDRO	4	6	1	2
Total	44	218	23	232
Disability Retirements				
Service	0	0	0	0
Non-service	0	3	0	3
Total	0	3	0	3
Benefits Paid	\$ 24,479,542.64	\$ 190,536,940.48	\$ 24,716,355.84	\$ 196,739,678.05
Refunds	\$ 543,153.56	\$ 4,240,129.70	\$ 882,680.81	\$ 6,923,976.90
Number of refunds	42	292	61	443
*Contributions	\$ 9,060,654.35	\$ 82,464,442.80	\$ 9,180,953.84	\$ 77,681,764.93

Members on record at month end					
	Retirees & beneficiaries	Disabilities	Actives	Tier A actives	Tier B Actives
Jan	7,534	151	7,280	4,762	2,518
Feb	7,584	151	7,268	4,706	2,562
Mar	7,547	148	7,258	4,655	2,603
April	7,562	145	7,263	4,622	2,641
May	7,588	144	7,277	4,576	2,701
June	7,597	143	7,266	4,530	2,706
July	7,612	143	7,285	4,504	2,781
Aug	7,630	143	7,240	4,462	2,778
Sep					
Oct					
Nov					
Dec					