



## Commercial Insurance Proposal

### Employees' Retirement Fund of the City of Dallas

Prepared By

**Harry Johnson, Senior Vice-President**

December 8<sup>th</sup>, 2021

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***THIS PROPOSAL CONTAINS ONLY A SUMMARY OF YOUR INSURANCE COVERAGE AND POLICY. IT IS YOUR RESPONSIBILITY TO CAREFULLY AND COMPLETELY REVIEW THE ENTIRE POLICY FOR ITS ACTUAL LIMITS, TERMS, CONDITIONS, EXCLUSIONS AND ENDORSEMENTS. IN THE EVENT OF ANY INCONSISTENCY BETWEEN THE TERMS OF THE POLICY AND THE PROVISIONS OF THIS PROPOSAL, THE TERMS OF THE POLICY WILL GOVERN AND CONTROL.***

# Service Team

Our ability to provide superior service starts with quality people. The key individuals assisting you with your account are:

Account Executive	
<b>Harry Johnson</b>	<a href="mailto:Harry.Johnson@hubinternational.com">Harry.Johnson@hubinternational.com</a>
p (817) 820-8103	
Producer	
<b>Daniel Rutter</b>	
p 214-979-6216	
<a href="mailto:Daniel.Rutter@hubinternational.com">Daniel.Rutter@hubinternational.com</a>	
Account Manager	
<b>Shane Ritchey</b>	
p 214-979-6260	
<a href="mailto:Shane.Ritchey@hubinternational.com">Shane.Ritchey@hubinternational.com</a>	
Claims Representative	
<b>Christine Pecha</b>	
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<a href="mailto:Christine.Pecha@hubinsternational.com">Christine.Pecha@hubinsternational.com</a>	

# Executive Summary

It is our pleasure to present to you the Fiduciary renewal terms for the Employees' Retirement Fund of the City of Dallas. Hub was successful in securing attractive renewal options from the incumbent carriers Chubb and Euclid.

## **Notable Renewal Highlights**

### **Chubb Primary \$10M Limit:**

Chubb's renewal premium is quoted at \$111,800, translating to 5% increase from expiring premium of \$106,488. The market continues to remain extremely hard coming out of events caused by COVID-19. Chubb did offer an option of a higher retention to \$100,000 which would bring the overall premium down to \$105,264.

Other than the premium, all coverage terms and conditions are identical to the expiring. All of previously negotiated enhancements will remain on the policy and there are no new restrictive exclusions being added this year.

### **Euclid \$10M Excess \$10M**

Euclid's renewal premium is quoted at \$54,170, translating to 8% increase from expiring premium of \$50,102. The main reasons behind this are due to Euclid's ROU being around 50% which is deemed low. Over the past two years, rates have increased on excess layers more than on primary layers. The primary reason for this is due to paid losses that bleed through primary layers on towers. The losses were exacerbated by the fact the excess rates were reduced more than primary rates during the last soft market cycle, prior to the losses occurring. If the \$100,000 retention option is taken for the primary layer, the premium for this layer will drop to \$51,000.

### **RLI \$10M Excess \$20M**

RLI's excess renewal premium is quoted at \$40,595, translating to a 7% increase from the expiring premium of \$38,000. If the \$100,000 retention option is taken for the primary layer, the premium for this layer will decrease to \$38,250.

Based on the renewal terms provide by the incumbent carries Chubb, Euclid, and RLI coverage should be renewed with them.

There are no subjectivities to bind the coverage with the incumbent carriers as presented.



# Fiduciary Liability

Client: Employees' Retirement Fund of the City of Dallas

Policy Term: 1/13/2022 to 1/13/2023

**Fiduciary Liability is coverage for the organization and the employees acting as fiduciaries of your welfare, defined contribution and defined benefit plans for a breach of duty, negligent act, error or omission, or any other matter claimed by reason of their service to the corporation as a Fiduciary.**

## Primary Fiduciary Liability

**Primary Carrier:** Federal Insurance Company (Chubb)

**Best Rating:** A++ XV

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<b>Form Type</b>	<b>Chubb Labor Management Trust Fiduciary Liability Policy Form Claims Made; Duty of Insurer to Defend</b>	
<b>Limits of Liability &amp; Retentions</b>	<b><u>Fiduciary Liability Limit</u></b>	<b>\$10,000,000</b>
	HIPAA fines / penalties sublimit	\$1,500,000
	ERISA 502c penalties sublimit	\$250,000
	PPACA civil penalties sublimit	\$250,000
	PPA penalties sublimit	\$250,000
	IRS Section 4975 penalties sublimit	\$250,000
	Voluntary Settlement Program fee coverage sublimit	\$250,000
	Benefit Overpayment Coverage sublimit	\$100,000
	Other Fines, Taxes or Penalties Coverage sublimit	\$250,000
	Section 203 of Bipartisan Budget Act Sublimit	\$250,000
	Retention Option 1– Per Fiduciary Claim	\$50,000
	Retention Option 2 – Per Fiduciary Claim	\$100,000
<b>Total Premium</b>	<b>\$111,800 - \$50,000 Retention Option \$105,264 - \$100,000 Retention Option (exp. \$106,488)</b>	
<b>Prior and Pending Litigation Dates</b>	01/13/09	

**Key Endorsements  
and/or  
Enhancements**

- Waiver of Retention for No Liability
- Severability of Cooperation
- Pollution Exclusion deleted
- Pre-Approved Panel Counsel Endorsement (Locke Lord, LLP)
- No deductible applies to the first \$25K of Defense Costs incurred for E-Discovery Specialist Service as a result of a Claim
- Notice of Claim is amended to 180 days after the policy expires, if it is renewed with Chubb; if coverage is not renewed with Chubb a claim must be reported no later than 60 days after policy expiration
- Definition of Administration is amended to include counseling or failing to provide proper or timely notice to participants
- Definition of Insured includes any Committee
- Umbrella Sublimit Endorsement - \$250K

**Excess - Euclid**

**Excess Insurer:** Hudson Insurance Company

**Best Rating:** A XV

**Policy Form:** Excess Fiduciary Liability Insurance Following Form Policy

<b>Excess Fiduciary Limits of Liability &amp; Premium</b>	\$10,000,000 excess \$10,000,000	<b>\$54,170</b> <b>\$51,000 - \$100K</b> <b>Retention</b> (expiring \$50,702)
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**Prior and Pending  
Litigation Date** 01/13/09 for \$10m xs \$10m

**Endorsements** Dropdown Coverage for Multiple Sublimits Endorsement –

- PPA Penalty \$250,000 sublimit
- PPACA \$250,000 sublimit
- Section 4975 \$250,000 sublimit
- HIPAA \$250,000 sublimit
- 502(C) \$250,000 sublimit
- Voluntary Settlement \$250,000 sublimit
- Other Fines Taxes or Penalties \$250,000 sublimit Enhanced Exhaustion of Underlying Insurance Endorsement

## Excess - RLI

**Excess Insurer:** RLI Insurance Company

**Best Rating:** A+ (Superior)

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**Policy Form:** Excess Follow Form Fiduciary Liability

**Excess Fiduciary  
Limits of Liability &  
Premium**

\$10,000,000 excess \$20,000,000

**\$40,595**  
**\$38,250 - \$100K**  
**Retention**  
(expiring \$38,000)

**Prior and Pending  
Litigation Date**

01/13/20 for \$10m xs \$20m

**Endorsements**

RIL 110A (01/08) - Supplemental Declarations  
UW 1042ML (05/20) - Texas Policyholder Notice  
XF 604 (10/10) - Prior Knowledge Exclusion  
RIL 200 (10/00) - Attention Policyholder  
UW 20342 (03/12) - Policyholder Notice - OFAC  
ILF 0001C (04/16) - Signature Page - Commercial Lines

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CC-1k11h (03/14)

# Cyber Liability

Client: Employees' Retirement Fund of the City of Dallas  
 Carrier: ACE American Insurance Company  
 A.M. Best Rating: A++ XV  
 Policy Term: 1/13/2022 to 1/13/2023

## Chubb Cyber Enterprise Risk Management Policy

Maximum Single Limit of Insurance	\$1,000,000
Maximum Policy Aggregate Limit of Insurance	\$1,000,000

First Party Insuring Agreements			
Insuring Agreement	Limit of Insurance Each Accident/Aggregate	Retention/Waiting Period Each Incident	Cyber Incident Response Coach Retention
Cyber Incident Response Fund	Included	Included	Included
Cyber Incident Response Team	\$1,000,000	\$50,000	\$0
Non-Panel Response Provider	\$1,000,000	\$50,000	\$50,000
Business Interruption Loss and Extra Expense	N/A	N/A	N/A
Contingent Business Interruption Loss & Extra Expense	N/A	N/A	N/A
Unscheduled Providers	N/A	N/A	N/A
Scheduled Providers	N/A	N/A	N/A
Digital Network Extortion	\$1,000,000	\$50,000	N/A
Network Extortion	\$1,000,000	\$50,000	N/A

Third Party Liability Insuring Agreements				
Insuring Agreement	Limits Each Accident/Aggregate	Retention/Waiting Period Each Incident	Retroactive Date	Pending or Prior Proceedings Date
Cyber Privacy, Network, & Security Liability	\$1,000,000	\$50,000	Full Prior Acts	12/17/2018
Payment Card Loss	\$100,000/\$100,000	\$50,000	Full Prior Acts	12/17/2018
Regulatory Proceedings	\$1,000,000	\$50,000	Full Prior Acts	12/17/2018
Electronic, Social & Printed Media Liability	\$1,000,000	\$50,000	Full Prior Acts	12/17/2018

**Premium Total: \$39,482**

Coverage options are currently being worked on to bring up to the same \$5,000,000 limits as expiring

# Commercial Package Summary

**First Named Insured:** Employees' Retirement Fund of the City of Dallas

**The First Named Insured will be the insured that is:**

- *Responsible for payment of premium*
- *Authorized to make changes in policy with approval of insurance company*
- *Authorized to cancel the policy*
- *Designated to receive notice of cancellation*

**Mailing Address:** 1920 McKinney Avenue, Suite 1000  
Dallas, TX 75201

**Effective Date:** **01-13-2022**

Coverage Becomes Effective 12:01 A.M. Standard Time at your mailing address.

**NOTE: Review Named Insured(s) and Property Owners**

**Please check to ensure all appropriate entities are named.** Any entity (including Partnerships, corporations, joint ventures, individuals, etc.) not listed above is not included as a Named Insured. Entities with limited interests in policies, such as those who are to be included as an Additional Insured, Loss Payee, Lessor, or Mortgagee, are listed in the relevant coverage sections of this proposal.

# Property Coverage

Client: Employees' Retirement Fund of the City of Dallas  
 Carrier: Federal Insurance Company  
 A.M. Best Rating: A++ XV  
 Policy Term: 1/13/2022 to 1/13/2023

The Commercial Property policy covers your buildings, contents or specified other property against perils defined by the form, subject to the terms of the policy. Coverage for off-premises property is limited.

## Coverage/Limits

Loc #	Bldg #	Address	Description		
1	1	1920 McKinney Ave, Suite 1000, Dallas, TX	Office		
Subject of Insurance		Limit	Cause of Loss	Deductible	Valuation
Tenants I&B (Improvements and Betterments)		\$2,393,697	Special (Including theft)	\$1,000	Replacement Cost
EDP Property on Premises		\$750,000	Special (Including theft)	\$1,000	Replacement Cost
Business Income with Extra Expense		\$1,124,864	Special (Including theft)	24 Hours	Replacement Cost

**Total Premium:** \$9,430 (exp \$9,289)

**Key Endorsements:**

- Covered Premises \$250K Blanket Limit of Insurance
  - Applies to Accounts Receivable, EDP Property, Fine Arts, Leasehold Interest, Non-Owned Detached Trailers, Outdoor Trees/Shrubs/Plants/Lawn, Personal Property of Employees, Property Damage Extortion, Public Safety Service Charges, Rental Income and Valuable Papers
- Any Other Location limit of \$100K
- In Transit limit of \$100K
- Newly Acquired Premises: Building limit of \$2.5M
- Newly Acquired Premises: Personal Property limit of \$1M
- Newly Acquired Premises: Personal Property at Existing Premises limit of \$100K
- Newly Acquired Premises: Electronic Data limit of \$50K
- Prohibition of Access sublimit of \$50K per occurrence and \$100K annual aggregate

## Forms and Endorsements



<i>Form Number</i>	<i>Edition Date</i>	<i>Form Name</i>	<i>Effective Date</i>	<i>Date Issued</i>
17-02-5205	1-18	PROPERTY DECLARATIONS	01/13/22	10/27/21
17-02-3063	6-05	BUSINESS INCOME W/ EXTRA EXPENSE	01/13/22	10/27/21
17-02-3065	7-03	PROPERTY DAMAGE EXTORTION	01/13/22	10/27/21
17-02-3066	6-05	RENTAL INCOME	01/13/22	10/27/21
17-02-3068	7-03	EXTRA EXPENSE	01/13/22	10/27/21
17-02-3069	6-05	BLDG & PERS PROPERTY	01/13/22	10/27/21
17-02-3107	7-03	EDP PROPERTY	01/13/22	10/27/21
17-02-5070	7-03	ACCT REC, FINE ARTS, VALUABLE PAPERS	01/13/22	10/27/21
17-02-5200	6-05	PROP/BI CONDITIONS AND DEFINITIONS	01/13/22	10/27/21
17-02-5210	1-15	PROPERTY SUPPLEMENTARY DECLARATIONS	01/13/22	10/27/21
17-02-5215	7-03	PROPERTY SUPPLEMENTARY DEC.-BUSINESS INCOME	01/13/22	10/27/21
17-02-7506	6-08	ORD OR LAW & EXISTING GREEN STANDARDS LPB	01/13/22	10/27/21
17-02-9324	3-20	MALICIOUS PROGRAMMING EXCLUSION ADDED	01/13/22	10/27/21
80-02-1303	10-06	ADD'L PERIL - EQ LIMIT/DED OR WAITING PERIOD	01/13/22	10/27/21
80-02-1428	10-06	ADD'L PERIL - FLOOD LIMIT/DED OR WAIT PERIOD	01/13/22	10/27/21
80-02-1658	1-15	CAP ON CERT. TERRORISM LOSSES (ALL PREMISES)	01/13/22	10/27/21
80-02-1731	12-10	TEXAS MANDATORY - AMENDED CONDITIONS	01/13/22	10/27/21
80-02-1763	12-96	TEXAS MANDATORY-NORMAL BUSINESS HOURS DEFINED	01/13/22	10/27/21
80-02-2209	7-20	VIRUS, BACTERIA OR MICROORGANISM EXCL ADDED	01/13/22	10/27/21
80-02-5310	1-14	MECH. OR ELECT. SYSTEM OR APPARATUS DEF AMEND	01/13/22	10/27/21
80-02-5355	1-15	SPECIAL WAITING PERIOD PROVISION ADDED	01/13/22	10/27/21
80-02-5357	1-15	ADDITIONAL COVG ADDED - PROHIBITION OF ACCESS	01/13/22	10/27/21
99-10-0996	4-18	IMPORTANT NOTICE-NY LOC INSPECTIONS	01/13/22	10/27/21



# Property Coverage Definitions

## BLANKET INSURANCE

This coverage allows for a single limit of insurance to apply to two or more property items at one location, or to two or more kinds of property at several locations, instead of a specific amount applying to a specific subject of insurance. It allows you to shift property values with no impairment of recovery, as long as the total amount of insurance carried complies with the coinsurance requirement stated in the policy.

## BUILDINGS

This coverage provides protection for permanent structures listed on the policy. Completed additions, permanently-installed fixtures, machinery and equipment, outdoor fixtures, owned personal property used to service, repair or maintain the building and additions under construction or repair are all included in this definition. Various additional endorsements and extensions can also be added to ensure that adequate protection is being provided for your particular situation.

## PERSONAL PROPERTY

This coverage protects personal property owned by your firm and used in your operations. Furniture and fixtures, equipment and machinery, raw stock, and finished goods all fall within this category. Various additional endorsements and extensions can also be added to ensure that adequate protection is being provided for your particular situation.

## BUSINESS INCOME AND EXTRA EXPENSE

When selected, this coverage insures you against loss of business income (including any continuing normal operating expenses) that you experience because of a suspension of your business when insured property has been damaged by a covered peril. It also covers those necessary extra expenses you incur to operate your business during that period of time your damaged property is being repair or replaced.

## COINSURANCE

A policy may contain a coinsurance provision requiring that the limits of insurance be a minimum percentage (usually 80%) of the insurable value of your property. If the limits of your policy are less than what is required by this provision, then any claim payment made to you may be reduced by the same percentage as the deficiency. For example, covered property worth \$100,000 may require a minimum of 80%, or \$80,000, of coverage for compliance with the policy's coinsurance requirement. If only \$60,000 of coverage is carried (25% less than the required \$80,000), then any loss payment would be reduced by 25%.

## DEDUCTIBLE

The deductible provision specifies the amount that will be deducted from any payment made to you because of a covered loss.

## VALUATION

- **ACTUAL CASH VALUE VALUATION** – This valuation method pays for the cost to repair or replace damaged property with like kind and quality, less reasonable deductions for wear and tear, deterioration, and economic obsolescence.
- **AGREED VALUE VALUATION** – This coverage is used to remove the coinsurance requirement from your property policy. With it your company agrees that the limits of insurance purchased by you are adequate, and any coinsurance requirements will be waived in the event of a covered loss.
- **REPLACEMENT COST VALUATION** – This loss valuation method pays for the cost to repair or replace damaged items with like kind and quality without deduction for depreciation. This is important since you could face a substantial loss if you must replace property at today's prices but receive only the depreciated value of the property that was destroyed.

## CAUSES OF LOSS – SPECIAL FORM

This coverage will protect covered property against direct physical loss arising from any cause not specifically excluded. The advantage of this form is that the insurance company must prove that a loss is specifically excluded in order to deny coverage under the policy. **Some examples of exclusions include:**

- Backup of sewers and drains
- Mysterious disappearance of property
- Wear and tear, latent defect inherent vice, insects and vermin
- Dampness or dryness of the atmosphere and changes in the temperature
- Artificially generated electrical currents
- Explosion of steam boilers
- Flood
- Earthquake
- Mold
- Terrorism

# General Liability

Client: Employees' Retirement Fund of the City of Dallas  
 Carrier: Federal Insurance Company  
 A.M. Best Rating: A++XV  
 Policy Term: 1/13/2022 to 1/13/2023

This type of policy protects your business from claims arising from your legal liability for injury or damages to other people or their property. Coverage payments can include judgments, attorney fees, court costs, or other related expenses as defined in the form.

## General Coverage Information

Coverage Description	Limits
General Aggregate	\$2,000,000
Aggregate Applies to	Policy
Personal and Advertising Injury	\$1,000,000
Each Occurrence	\$1,000,000
Damage to Premises Rented to You (any one premises)	\$1,000,000
Medical Expense/Medical Payments (any one person)	\$10,000

## Terms and Conditions

Coverage Description	
Policy Type	Occurrence
Audit Period	Not Applicable

## Commercial General Liability Schedule of Hazards

Loc #	Classification	Class Code	Basis	Exposure
1	Office-premises occupied by employees of the insured - other NFP	61224	Area	22,000

- |                                       |                                   |
|---------------------------------------|-----------------------------------|
| (S) Gross Sales – Per \$1,000/Sales   | (A) Area – Per 1,000/Square Feet  |
| (M) Admissions – Per 1,000/Admissions | (P) Payroll – Per \$1,000/Payroll |
| (C) Total Cost – Per 1,000 Cost       | (U) Unit – Per Unit               |
| (T) Other                             |                                   |

**Note:** This portion of the policy may be subject to audit at expiration of the policy term. It is important to obtain certificates of insurance for General Liability for all subcontractors. Please be reminded, you could be responsible for the premium on any uninsured subcontractors.

## Forms and Endorsements

<i>Form Number</i>	<i>Edition Date</i>	<i>Form Name</i>	<i>Effective Date</i>	<i>Date Issued</i>
17-02-3020	2-98	GENERAL LIABILITY DECLARATIONS	01/13/22	10/27/21
17-02-3080	4-01	GENERAL LIABILITY	01/13/22	10/27/21
17-02-3140	4-01	EXCLUSION - CONSTRUCTION LOAN	01/13/22	10/27/21
17-02-3141	2-98	SECURITIES AND TRADE PRACTICES EXCLUSION	01/13/22	10/27/21
17-02-3305	2-19	EXCL-FORECLOSURE & RELATED LIABILITY, TOTAL	01/13/22	10/27/21
17-02-3306	2-19	EXCLUSION - TRUST PROPERTY	01/13/22	10/27/21
17-02-3311	2-19	EXCLUSION - LEASED PROPERTY	01/13/22	10/27/21
17-02-7539	2-19	EXCLUSION - POLLUTION	01/13/22	10/27/21
80-02-6541	3-05	CONDITION - PREMIUM AUDIT	01/13/22	10/27/21
80-02-2367	5-07	ADDL INSURED-SCHEDULED PERSON OR ORGANIZATION	01/13/22	10/27/21
80-02-2668	8-01	EXCL. BIOLOGICAL AGENTS, TOTAL	01/13/22	10/27/21
80-02-2768	4-94	TEXAS MANDATORY-VOL.WORKER DEF/WHO IS INSURED	01/13/22	10/27/21
80-02-2786	7-96	TEXAS MANDATORY - NUCLEAR ENERGY	01/13/22	10/27/21
80-02-2787	7-96	TEXAS MANDATORY - WHO IS INSURED	01/13/22	10/27/21
80-02-2900	1-05	TX MAND. NOTICE OF SETTLEMENT OF LIAB. CLAIMS	01/13/22	10/27/21
80-02-6403	1-15	CAP ON CERTIFIED TERRORISM LOSSES	01/13/22	10/27/21
80-02-6528	1-13	EXCL-INFO LAWS INCL UNAUTH OR UNSOLICIT COMMUN	01/13/22	10/27/21
80-02-6543	3-05	EXCLUSION - ABUSE OR MOLESTATION, TOTAL	01/13/22	10/27/21
80-02-6545	3-05	EXCLUSION - INTERNET ACTIVITIES OR USE, TOTAL	01/13/22	10/27/21
80-02-6563	4-04	EXCLUSION-LEAD,TOTAL	01/13/22	10/27/21
80-02-8211	2-08	EXCL-CONST OR DEVELOPMNT EXCPT MAINT OR RENOV	01/13/22	10/27/21
80-02-8290	5-10	EXCL - INTELLECTUAL PROPERTY LAWS OR RIGHTS	01/13/22	10/27/21
80-02-8423	4-12	EXCLUSION - LOSS OF USE ELECTRONIC DATA	01/13/22	10/27/21
80-02-8425	1-14	EXCL-ALCOHOLIC BEVERAGE TYPE BUSINESSES	01/13/22	10/27/21
80-02-8559	3-17	EXCL-ACCESS/DISCLOSE CONFID. PERS INFO.-A/PI	01/13/22	10/27/21
80-02-8635	11-17	COV-PROD WITHDRWL EXP & CRISIS ASSISTANCE EXP	01/13/22	10/27/21
80-02-8636	11-17	WAR - EXCLUSION	01/13/22	10/27/21
80-10-9133	6-09	IMPORTANT NOTICE FOR TEXAS POLICYHOLDERS (GL)	01/13/22	10/27/21
99-10-0807	12-04	TEXAS - IMPORTANT NOTICE TO POLICYHOLDERS	01/13/22	10/27/21

## Premium Summary

Description Of Coverage	Current Premium	Proposed 2022/2023 Premium - \$50K Retention
Fiduciary Liability	\$ 106,488	\$ 111,800
Excess Fiduciary Liability - Euclid	\$ 50,702	\$ 54,170
Excess Fiduciary Liability - RLI	\$ 38,000	\$ 40,595
Commercial Package (Property & General Liability	\$ 9,289	\$ 9,430
Cyber Liability (\$1M)	\$ 30,907	\$ 39,482
<b>Total Estimated Annual Premium*</b>	<b>\$ 235,386</b>	<b>\$ 255,477</b>

Description Of Coverage	Current Premium	Proposed 2022/2023 Premium - \$100K Retention
Fiduciary Liability	\$ 106,488	\$ 105,264
Excess Fiduciary Liability – Euclid	\$ 50,702	\$ 51,000
Excess Fiduciary Liability – RLI	\$ 38,000	\$ 38,250
Commercial Package (Property & General Liability	\$ 9,289	\$ 9,430
Cyber Liability (\$1M)	\$ 30,907	\$ 39,482
<b>Total Estimated Annual Premium*</b>	<b>\$ 235,386</b>	<b>\$ 243,426</b>

*\*All quoted premiums are annual estimates and may change due to year end audits or mid-term policy changes.*



December 1, 2021

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

Mr. Henry Talavera  
Chair, Board of Trustees  
1920 McKinney Avenue, 10th Floor  
Dallas, Texas 75201

Dear Ms. Alston and Mr. Talavera:

You have requested that Weaver and Tidwell, L.L.P. ("Weaver", "our", "us", and "we") audit the fiduciary net position of Employees' Retirement Fund of the City of Dallas (the "Plan"), as of December 31, 2021, and for the year then ended and the related notes to the financial statements, which collectively comprise the Plan's basic financial statements as listed in the table of contents.

Accounting principles generally accepted in the United States of America ("U.S. GAAP"), as promulgated by the Governmental Accounting Standards Board ("GASB") require that management's discussion and analysis, among other items, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by GASB, which considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. As part of our engagement, we will apply certain limited procedures to the required supplementary information ("RSI") in accordance with auditing standards generally accepted in the United States of America ("U.S. GAAS"). These limited procedures will consist primarily of inquiries of management regarding their methods of measurement and presentation, and comparing the information for consistency with management's responses to our inquiries. We will not express an opinion or provide any form of assurance on the RSI. The following RSI is required by U.S. GAAP. This RSI will be subjected to certain limited procedures but will not be audited:

1. Management's Discussion and Analysis
2. Schedule of Changes in Net Pension Liability and Related Ratios
3. Schedule of Money-Weighted Rates of Return
4. Schedule of the Net Pension Liability
5. Schedule of Contributions

Supplementary information other than RSI will accompany the Plan's basic financial statements. We will subject the following supplementary information to the auditing procedures applied in our audit of the basic financial statements and perform certain additional procedures, including comparing and reconciling the supplementary information to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and additional procedures in accordance with U.S. GAAS. We intend to provide an opinion on the following supplementary information in relation to the financial statements as a whole:

1. Schedule of Administrative Expenses
2. Schedule of Investment Expenses
3. Schedule of Payments for Professional Services

Ms. Cheryl Alston and Mr. Henry Talavera  
Employees' Retirement Fund of the City of Dallas  
December 1, 2021

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Also, the document we submit to you will include the following other additional information that will not be subjected to the auditing procedures applied in our audit of the basic financial statements:

1. Introductory Section
2. Investment Section
3. Actuarial Section
4. Statistical Section

We are pleased to confirm our acceptance and our understanding of this audit engagement by means of this letter.

### **Audit Objectives**

The objectives of our audit is the expression of opinions as to whether your basic financial statements are fairly presented, in all material aspects, in conformity with U.S. GAAP and to report on the fairness of the supplementary information referred to above when considered in relation to the basic financial statements as a whole.

### **Auditor Responsibilities**

We will conduct our audit in accordance with U.S. GAAS. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the basic financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the basic financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the basic financial statements, whether due to error, fraudulent financial reporting, misappropriation of assets, or violations of laws, governmental regulations, grant agreements, or contractual agreements. 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. If appropriate, our procedures will therefore include tests of documentary evidence that support the transactions recorded in the accounts, tests of the physical existence of assets, and direct confirmation of cash, investments, and certain other assets and liabilities by correspondence with creditors and financial institutions. As part of our audit process, we may request written representations from your attorneys, and they may bill you for responding. At the conclusion of our audit, we will also request certain written representations from you about the basic financial statements and related matters.

Because of the inherent limitations of an audit, together with the inherent limitations of internal control, an unavoidable risk that some material misstatements (whether caused by errors, fraudulent financial reporting, misappropriation of assets, or violations of laws or governmental regulations) may not be detected exists, even though the audit is properly planned and performed in accordance with U.S. GAAS.

In addition, an audit is not designed to detect immaterial misstatements or violations of laws or governmental regulations that do not have a direct and material effect on the financial statements. However, we will inform the appropriate level of management of any material errors, fraudulent financial reporting, or misappropriation of assets that comes to our attention. We will also inform the appropriate level of management of any violations of laws or governmental regulations that come to our attention,

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unless clearly inconsequential. Our responsibility as auditors is limited to the period covered by our audit and does not extend to any later periods for which we are not engaged as auditors.

In making our risk assessments, we consider internal control relevant to the Plan's preparation and fair presentation of the basic 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 Plan's internal control. However, we will communicate to you in writing concerning any significant deficiencies or material weaknesses in internal control relevant to the audit of the basic financial statements that we have identified during the audit.

During the course of the audit we may observe opportunities for economy in, or improved controls over, your operations. We will bring such matters to the attention of the appropriate level of management, either orally or in writing.

Ms. Aracely Rios is the engagement partner for the audit services specified in this letter, and is responsible for supervising our services performed as part of this engagement and signing or authorizing another qualified firm representative to sign the audit report.

We may from time to time, and depending on the circumstances, use third-party service providers in performing this engagement. We may share confidential information about you with these service providers, but remain committed to maintaining the confidentiality and security of your information. Accordingly, we maintain internal policies, procedures, and safeguards to protect the confidentiality of your personal information. In addition, we will secure confidentiality agreements with all service providers to maintain the confidentiality of your information and we will take reasonable precautions to determine that they have appropriate procedures in place to prevent the unauthorized release of your confidential information to others. In the event that we are unable to secure an appropriate confidentiality agreement, you will be asked to provide your consent prior to the sharing of your confidential information with the third-party service provider. Furthermore, we will remain responsible for the work provided by any such third-party service provider.

We expect to begin our audit procedures in April 2022, and issue our report in June 2022. We will issue a written report upon completion of our audit of the Plan's basic financial statements. Our report will be addressed to the Governing Body of the Plan. We cannot provide assurance that unmodified opinions will be expressed. Circumstances may arise in which it is necessary for us to modify our opinions, add an emphasis-of-matter or other-matter paragraph(s), or withdraw from the engagement. If our opinions on the financial statements or compliance are other than unmodified, we will discuss the reasons with you in advance. If, for any reason, we are unable to complete the audit or are unable to form or have not formed opinions, we may decline to express opinions or withdraw from this engagement.

As part of obtaining reasonable assurance about whether the basic financial statements are free of material misstatement, we will perform tests of the Plan's compliance with the provisions of applicable laws, regulations, contracts, and agreements. However, the objective of our audit will not be to provide an opinion on overall compliance and we will not express such an opinion.

### **Management Responsibilities**

Our audit will be conducted on the basis that management and, when appropriate, those charged with governance, acknowledge and understand that they have responsibility:

- a. for the preparation and fair presentation of the basic financial statements in accordance with the framework described in Audit Objective above;



- b. for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of basic financial statements that are free from material misstatement, whether due to error, fraudulent financial reporting, misappropriation of assets, or violations of laws, governmental regulations, grant agreements, or contractual agreements;
- c. to provide us with:
  - i. access to all information of which management is aware that is relevant to the preparation and fair presentation of the financial statements such as records, documentation, and other matters;
  - ii. additional information that we may request from management for the purpose of the audit; and
  - iii. unrestricted access to persons within the Plan from whom we determine it necessary to obtain audit evidence;
- d. for including the auditor's report, and our report on any supplementary information if described above, in any document containing the basic financial statements that indicates that such financial statements have been audited by the Plan's auditor;
- e. for identifying and ensuring that the Plan complies with the laws and regulations applicable to its activities;
- f. for adjusting the basic financial statements to correct material misstatements and confirming to us in the management representation letter that the effects of any uncorrected misstatements aggregated by us during the current engagement and pertaining to the current year under audit are immaterial, both individually and in the aggregate, to the basic financial statements as a whole;
- g. for maintaining adequate records, selecting and applying accounting principles, and safeguarding assets;
- h. with regard to the supplementary information referred to above: (a) for the preparation of the supplementary information in accordance with the applicable criteria; (b) to provide us with the appropriate written representations regarding supplementary information; (c) to include our report on the supplementary information in any document that contains the supplementary information and that indicates that we have reported on such supplementary information; and (d) to present the supplementary information with the audited basic financial statements, or if the supplementary information will not be presented with the audited basic financial statements, to make the audited basic financial statements readily available to the intended users of the supplementary information no later than the date of issuance by you of the supplementary information and our report thereon; and
- i. for informing us of facts that may affect the basic financial statements of which you may become aware during the period from the date of the auditor's report to the date the basic financial statements are issued.

We understand that your employees will prepare all confirmations we request and will locate any documents or support for any other transactions we select for testing.

If we agree herein or otherwise to perform any non-attest services (such as tax services or any other non-attest services), you agree to assume all management responsibilities for those services; oversee the services by designating an individual, preferably from senior management, with suitable skill, knowledge, or experience; evaluate the adequacy and results of the services; and accept responsibility for them.

During the course of our engagement, we will request information and explanations from management regarding the Plan's operations, internal controls, future plans, specific transactions and accounting systems and procedures. At the conclusion of our engagement, we will require, as a precondition to the issuance of our report, that management provide certain representations in a written representation letter. The Plan agrees that as a condition of our engagement to perform an audit that management will, to the best of its knowledge and belief, be truthful, accurate and complete in all representations made to us during the course of the audit and in the written representation letter. The procedures we perform in our engagement and the conclusions we reach as a basis for our report will be heavily influenced by the written and oral representations that we receive from management. False or misleading representations could cause us to expend unnecessary efforts in the audit; or, worse, could cause a material error or a fraud to go undetected by our procedures.

### **Fees and Invoicing**

We estimate that the fee for this engagement will be \$46,500. The fee estimate is based on anticipated cooperation from all involved and the assumption that unexpected circumstances will not be encountered during the engagement. This is only an estimate and the fee for these services will be determined by the complexity of the work performed and the tasks required. If significant additional time is necessary, we will discuss the reasons with you and arrive at a new fee estimate before we incur the additional costs. It is understood that neither our fees nor the payment thereof will be contingent upon the results of this engagement.

In addition to the fee for our services, reasonable and necessary out-of-pocket expenses we incur (such as parking, reproduction and printing, postage and delivery, and out-of-market travel, meals, and accommodations) will be billed at cost upon prior approval from the Executive Director. At this time, we do not anticipate incurring substantial expenses.

Our engagement fees do not include consulting on the adoption of new accounting standards and any future increased duties because of any regulatory body, auditing standard or an unknown or unplanned significant transaction. We will consult with you in the event any of these take place that may affect our fees.

Our engagement fees also do not include time and expenses we may incur related to testimony or production of documents in response to any subpoena related to our engagement in a matter in which we are not a party. Charges for time and expenses we incur responding to such requests (including our out-of-pocket expenses such as attorney's fees) will be billed separately and may be the subject of a new engagement letter.

Our invoices for this engagement will be rendered each month as work progresses. Payment is due in compliance with Texas Local Government Code.

### **Ethical Conflict Resolution**

In the unlikely event that circumstances occur which we in our sole discretion believe could create a conflict with either the ethical standards of our firm or the ethical standards of our profession in continuing our engagement, we may suspend our services until a satisfactory resolution can be achieved or we may resign from the engagement. We will notify you of such conflict as soon as practicable, and will discuss with you any possible means of resolving them prior to suspending our services.

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Employees' Retirement Fund of the City of Dallas  
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The hiring of or potential employment discussions with any of our personnel could impair our independence. Accordingly, you agree to inform the engagement partner prior to any such potential employment discussions taking place.

### **Audit Documentation and Confidentiality**

The audit documentation we prepare pertaining to and in support of this engagement, along with any resulting work product, is our property and constitutes confidential information. If we are requested to make the documentation available to regulators, government agencies, peer reviewers, or other outside parties, we will notify you before producing any documents in response to the request (unless prohibited by law or direction of law enforcement). Those outside parties may intend, or decide, to distribute the copies or information contained therein to others, including other governmental agencies. Access will be provided if required or authorized by law or regulation, or we will otherwise comply with any requirement for your notification and consent prior to disclosure. Our firm, as well as other accounting firms, participates in a peer review program covering our audit and accounting practices. This program requires that once every three years, we subject our system of quality control to an examination by another accounting firm. As part of this process, the firm conducting our peer review will review a sample of our work. It is possible that the work we perform for you may be selected for such a review. If it is, our peer review firm is bound by professional standards to keep all information confidential and we are required to provide the required information.

We will retain our audit documentation for a period of at least seven years from the date of our report. You agree that following such period, we may destroy the audit documentation without notice to you.

To maintain independence, we will not act as the host of your financial or non-financial information or as your information back-up service provider. Instead, it is your responsibility to maintain a complete set of your financial and non-financial data and records. If some portion of your data and records is contained only within our files, you agree to inform us before the issuance of our report and we will provide that to you.

The parties do not intend this engagement letter to be for the benefit of any third-party. You may inform us of third-parties who will receive a copy of our audit report. Unless you inform us of such third-parties, we are not aware of who you intend to supply our audit report to and we do not anticipate other third parties' reliance upon our professional services unless expressly stated herein.

During the course of the engagement, we may communicate via fax, email, or other electronic mechanism. Please be aware that communication in those mediums contains a risk of misdirected or intercepted communications.

### **Dispute Resolution Procedure including Jury Waiver**

Any dispute between the parties arising from or relating to this engagement or engagement letter shall, if negotiations and other discussions fail, be first submitted to mediation before resorting to litigation. The parties agree to conduct any mediation in good faith and make reasonable efforts to resolve any dispute by mediation. If the parties are unable to agree upon a mediator, either party may invoke the mediation service of the American Arbitration Association (AAA) in accordance with the provisions of the Commercial Mediation Procedures then in effect. The parties agree to conduct the mediation in Dallas, Texas or another mutually agreed upon location, and each party shall bear its own expenses, including attorney's fees and costs, except for the fees of the mediator which shall be borne equally by the parties.

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Each party hereby irrevocably waives any right it may have to trial by jury in any proceeding arising out of or relating to this engagement or this engagement letter.

Whenever possible, this engagement letter shall be interpreted in such a manner as to be effective and valid under applicable laws, regulations, or published interpretation, but if any term of this engagement letter is declared illegal, unenforceable, or unconscionable, that term shall be severed or modified and the remaining terms of the engagement letter shall remain in force. The parties agree that the court should modify any term declared to be illegal, unenforceable, or unconscionable in a manner that will retain the intended term as closely as possible.

If because of a change in status or due to any other reason, any provision in this engagement letter would be prohibited by, or would impair our independence under laws, regulations or published interpretations by governmental bodies, professional organizations or other regulatory agencies, such provision shall, to that extent, be of no further force and effect and this agreement shall consist of the remaining portions.

### **Miscellaneous**

In accordance with the requirements of *Government Auditing Standards*, we have attached a copy of the latest external peer review report of our firm for your consideration and files.

We may at times provide you with documents marked as drafts. You understand that those documents are for your review purposes only. You should not or rely upon those documents in any way.

Although the engagement partner responsible for this engagement is a licensed certified public accountant, we inform you that we have nonlicensees who may provide services pertaining to this engagement.

If you intend to publish or otherwise reproduce the financial statements in any document and make reference to our firm or include our report or any portion of it, and that document is assembled differently from any paper or electronic version that we may have assembled and provided to you, you agree to provide us with printers' proofs or masters for our review and approval before printing. You also agree to provide us with a copy of the final reproduced material for our written approval before it is distributed. If, in our professional judgment, the circumstances require, we may withhold our approval.

This requirement does not pertain to distributing our report or the financial statements when you do not modify their assembly or in situations where you disseminate the audited financial statements as a standalone document, such as on your website.

Unless we provide you with written consent in advance of such use, the audited financial statements and our report are not intended to and should not be provided or otherwise made available for use in connection with the sale of debt or other securities. If, in our professional judgment, the circumstances require, we may withhold our consent.

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This engagement letter sets forth all of the agreed upon terms and conditions of our engagement with respect to the matters covered herein, and supersedes any that may have come before. This engagement letter may not be amended or modified except by further writing signed by all the parties.

We appreciate the opportunity to assist you and look forward to working with you and your team.

Sincerely,

**WEAVER AND TIDWELL, L.L.P.**

Dallas, Texas

Please sign and return a copy of this letter to indicate your acknowledgment of, and agreement with, the arrangements for our engagement as described herein, including each party's respective responsibilities. By signing below, the signatory also represents that they have been authorized to execute this agreement.

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

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**Wilshire**

# Numbers in Context

September 30, 2021

## Market Commentary

### U.S. Equity

The U.S. stock market, represented by the FT Wilshire 5000 Index<sup>SM</sup>, was up 0.1% for the third quarter. A slim majority of the eleven sectors were in positive territory, with Financials (+2.6%) and Utilities (+1.2%) representing the best performing sectors. The worst performing sector this quarter was Materials (-4.6%). From a size perspective, large-cap outperformed small-cap. In fact, large-cap growth was the only U.S. segment in positive territory this quarter.

Consumer sentiment dropped dramatically during the third quarter, with the University of Michigan's Consumer Sentiment Index falling to its lowest point in almost a decade. The drop occurred with the August results and followed a six-month period when headline inflation surged 7.8% (annualized), the largest six-month increase in 30 years. Additionally, July brought a surge in Coronavirus infections as the highly contagious delta variant infected even vaccinated individuals. Finally, the August survey period coincided with the Taliban seizing control of Kabul, the capital city of Afghanistan, in less than a week's time.

### Non-U.S. Equity

Economic conditions in the U.K. appear to be rapidly deteriorating. The Office for National Statistics said that the economy grew by just 0.1% in July, hampered by supply-chain issues and Covid-19 infections. At the same time, inflation has spiked, with consumer prices in the U.K. rising 3.2% in August. Emerging Markets experienced a meaningful drop this quarter, down -8.0%. The main sources of weakness were South Korea (-13.2%) and China (-18.1%).

### Fixed Income

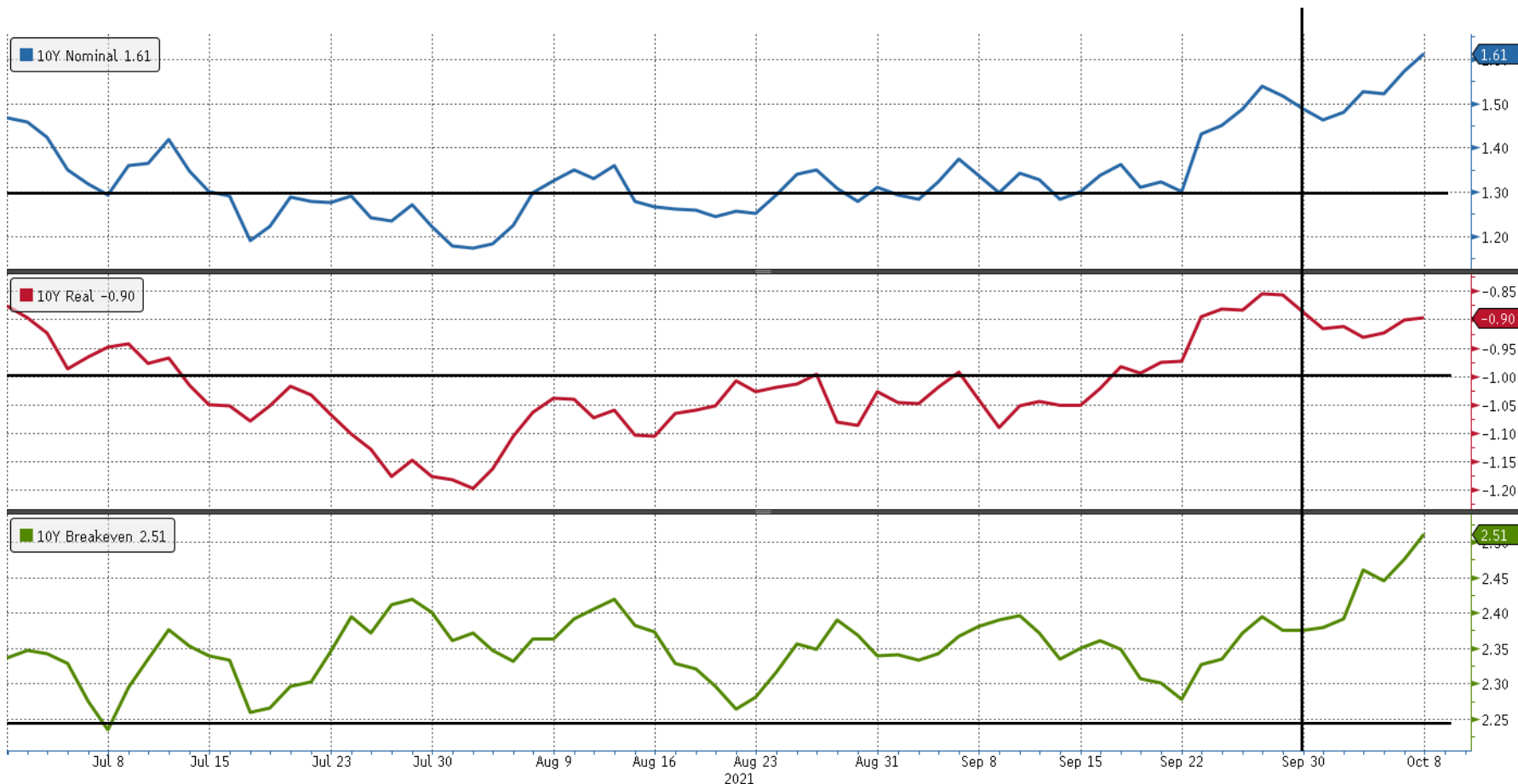
The U.S. Treasury yield curve was up, generally, during the quarter, with yields in the 3- to 10-year maturity range rising the most. The 10-year Treasury yield ended the quarter at 1.49%, up two basis points from June. The FOMC met twice, as scheduled, with no change to their overnight rate. Through the Fed's "dot plot," they are messaging that the current intent is for a 25 basis point increase in the overnight rate before the end of 2022. Their median forecast for year-end 2023 is for a Fed funds rate of 1.0%.



# September 2021 Asset Class Assumptions

	Equity						Fixed Income						Real Assets						
	U.S. Stock	Dev ex-U.S. Stock	Emg Mrkt 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	U.S. Real Estate Secs	Global RE Secs	Private Real Estate	Cmdty	Real Assets	U.S. CPI	
<b>Compound Return (%)</b>	5.00	6.00	6.00	6.25	5.65	8.40	1.55	1.85	2.35	1.55	3.60	0.75	4.75	4.90	6.35	4.05	5.85	2.50	
<b>Arithmetic Return (%)</b>	6.35	7.50	9.00	7.90	7.00	11.75	1.55	1.95	2.75	1.75	4.10	0.85	6.10	6.05	7.25	5.10	6.35	2.50	
<b>Expected Risk (%)</b>	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	
<b>Cash Yield (%)</b>	1.30	2.50	2.00	2.35	1.75	0.00	1.55	3.00	3.40	2.30	7.50	1.80	2.85	2.85	2.30	1.55	1.95	0.00	
<b>Growth Expoure</b>	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	
<b>Inflation Expoure</b>	-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	
<b>Correlations</b>																			
<b>US Stock</b>	1.00																		
<b>Dev ex-US Stock (USD)</b>	0.81	1.00																	
<b>Emerging Mkt Stock</b>	0.74	0.74	1.00																
<b>Global ex-US Stock</b>	0.83	0.96	0.87	1.00															
<b>Global Stock</b>	0.95	0.92	0.83	0.94	1.00														
<b>Private Equity</b>	0.74	0.64	0.62	0.67	0.74	1.00													
<b>Cash Equivalents</b>	-0.05	-0.09	-0.05	-0.08	-0.07	0.00	1.00												
<b>Core Bond</b>	0.28	0.13	0.00	0.09	0.20	0.31	0.19	1.00											
<b>LT Core Bond</b>	0.31	0.16	0.01	0.12	0.23	0.32	0.11	0.92	1.00										
<b>TIPS</b>	-0.05	0.00	0.15	0.05	0.00	-0.03	0.20	0.59	0.47	1.00									
<b>High Yield Bond</b>	0.54	0.39	0.49	0.45	0.51	0.34	-0.10	0.25	0.32	0.05	1.00								
<b>Dev ex-US Bond (Hdg)</b>	0.16	0.25	-0.01	0.17	0.18	0.26	0.10	0.66	0.65	0.39	0.26	1.00							
<b>US RE Securities</b>	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						
<b>Global RE Securities</b>	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					
<b>Private Real Estate</b>	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				
<b>Commodities</b>	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			
<b>Real Assets</b>	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		
<b>Inflation (CPI)</b>	-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	

# Rate Splits: Yield / Inflation Environment



USGG10YR Index (US Generic Govt 10 Yr) 10yr Splits Daily 30JUN2021-11OCT2021

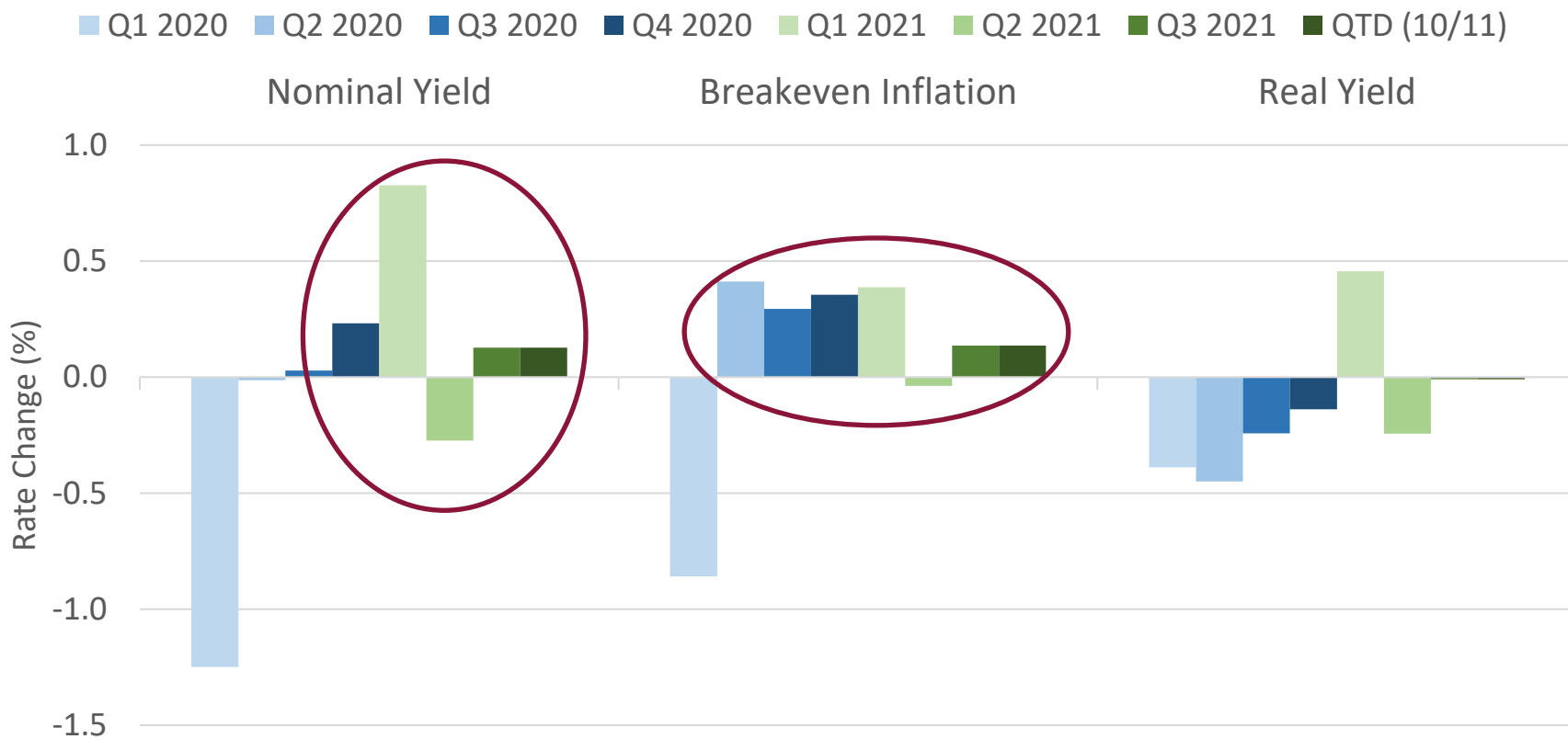
Copyright© 2021 Bloomberg Finance L.P.

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Data Source: Bloomberg

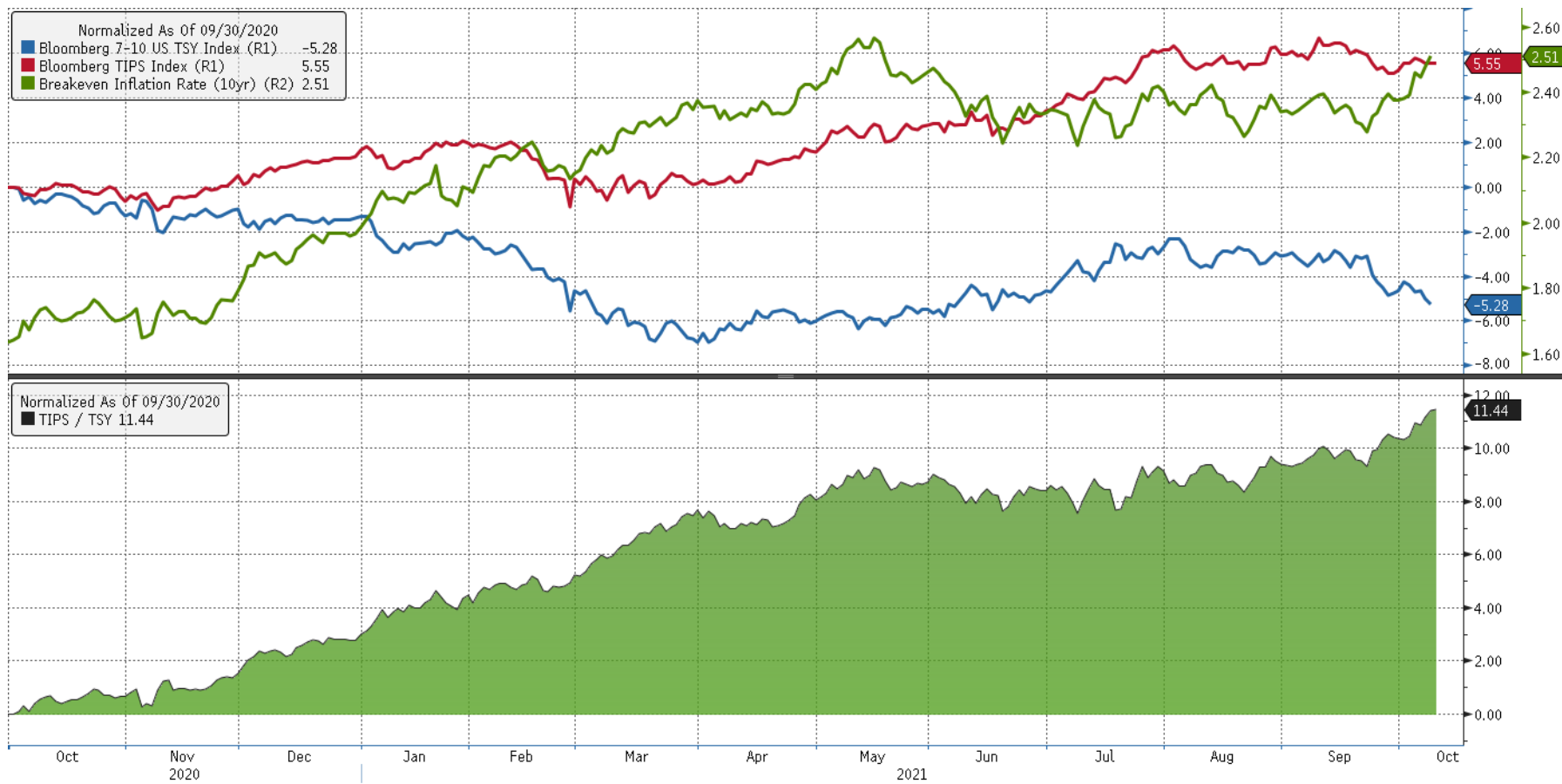
# Rate Change Attribution

## Quarterly Rate Changes



Data Source: Bloomberg

# U.S. Treasury vs. TIPS Returns



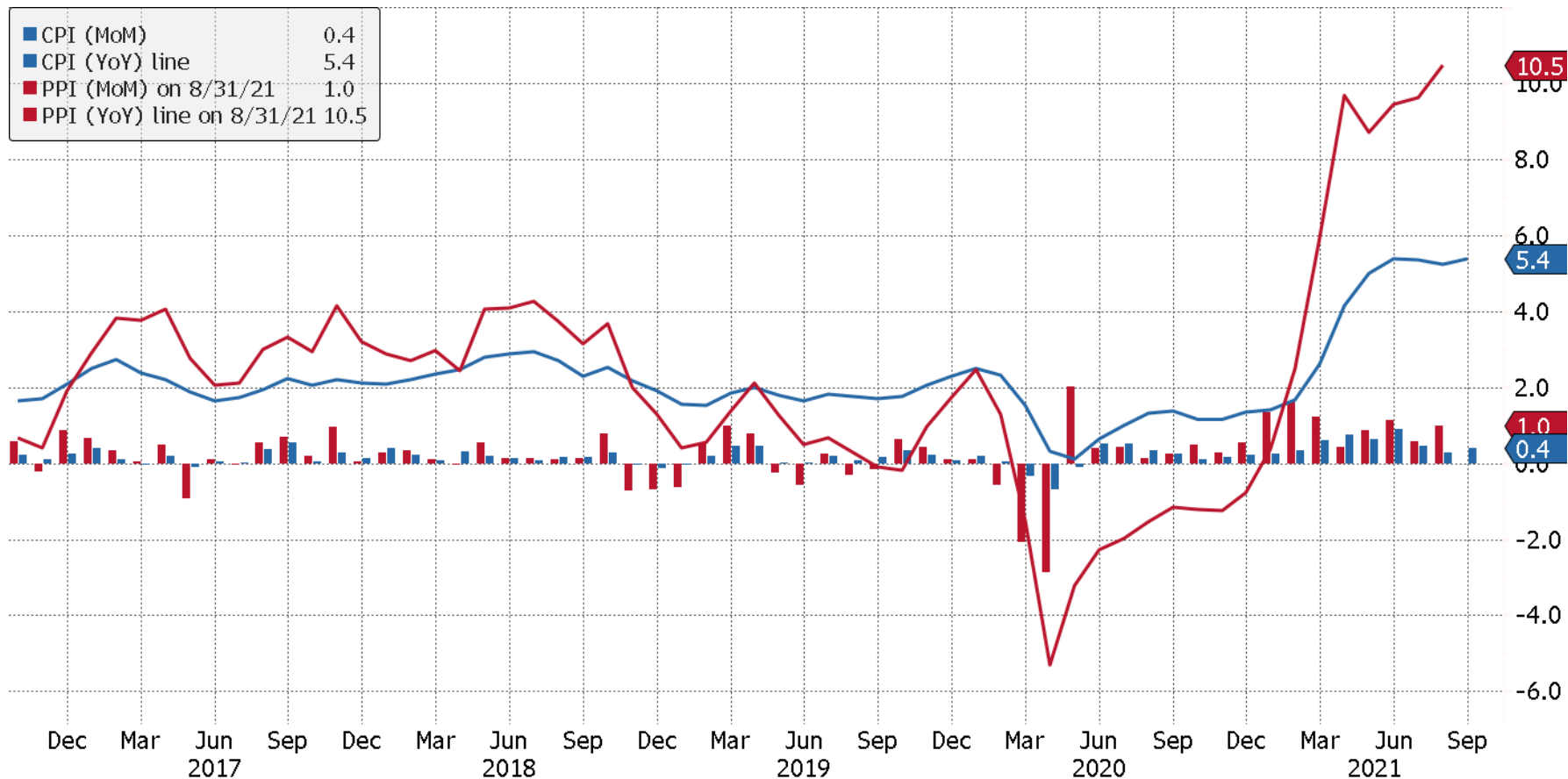
LT09TRUU Index (Bloomberg U.S. Treasury: 7-10 Year TR Index Value Unhedged U) TI

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Data Source: Bloomberg

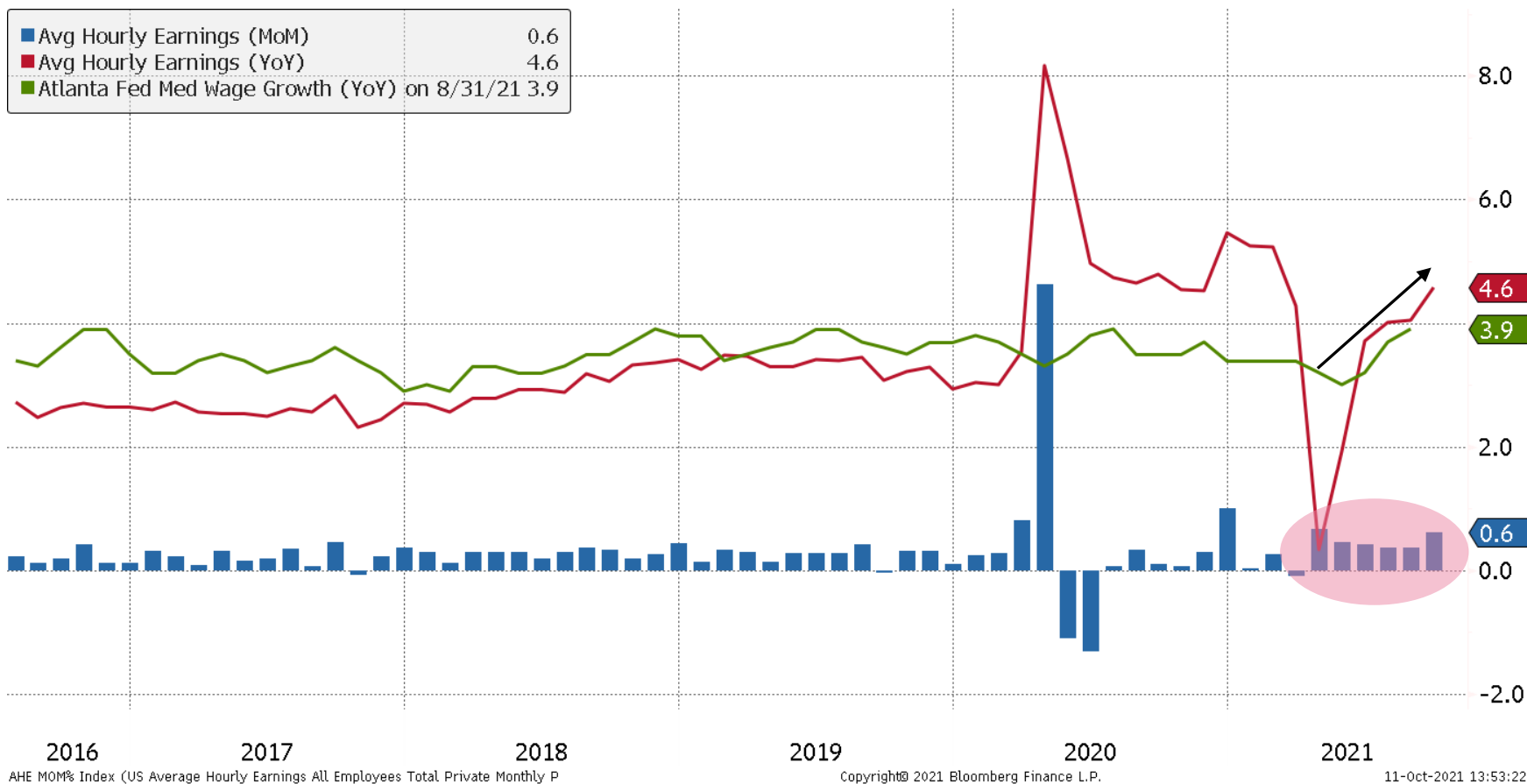
# Inflation Persists



Data Source: Bloomberg

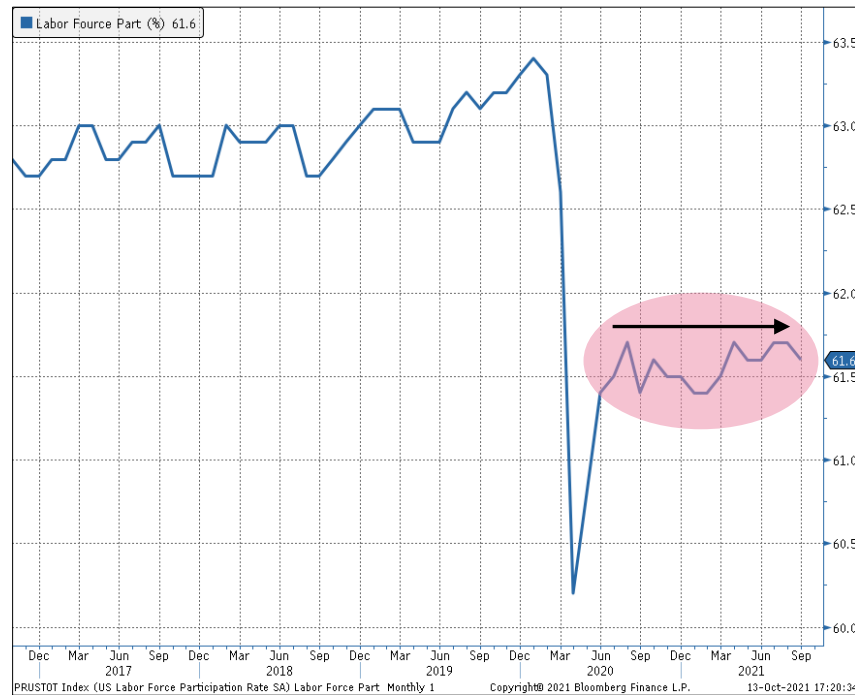
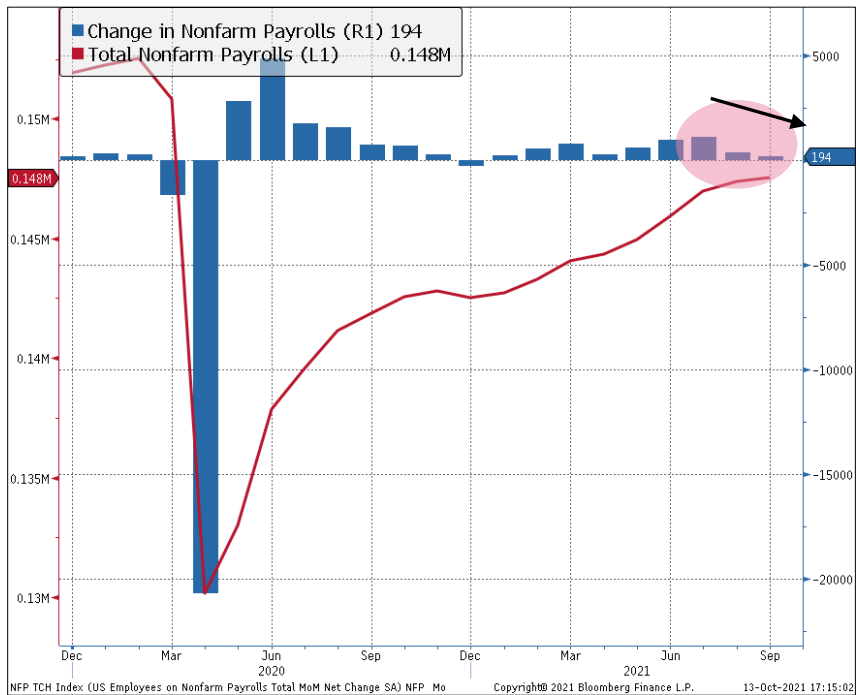
# Wages Rising

Since 2Q: AHE rose 3.7% to 4.6%; Atlanta Fed wage Growth: 3.2% to 3.9%



Data Source: Bloomberg

# Employment Gains Slowing...

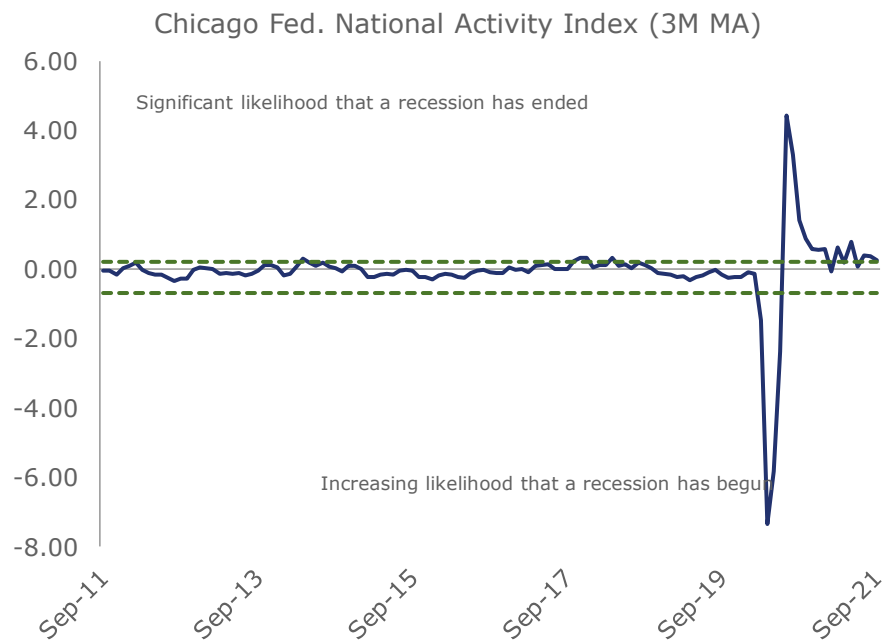


Data Source: Bloomberg



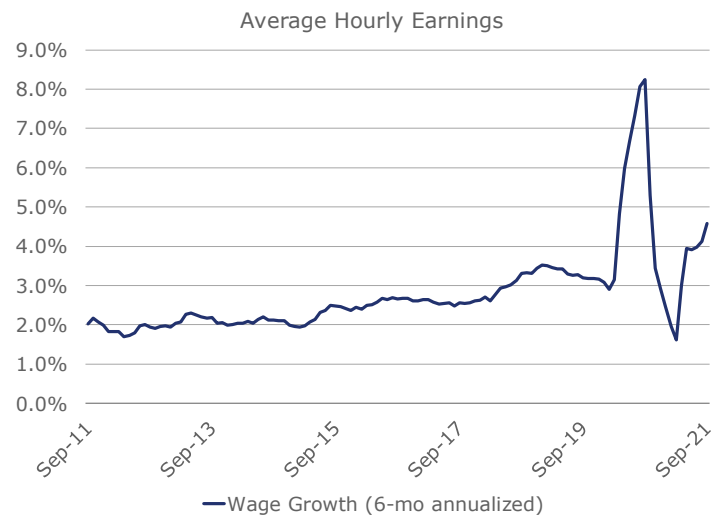
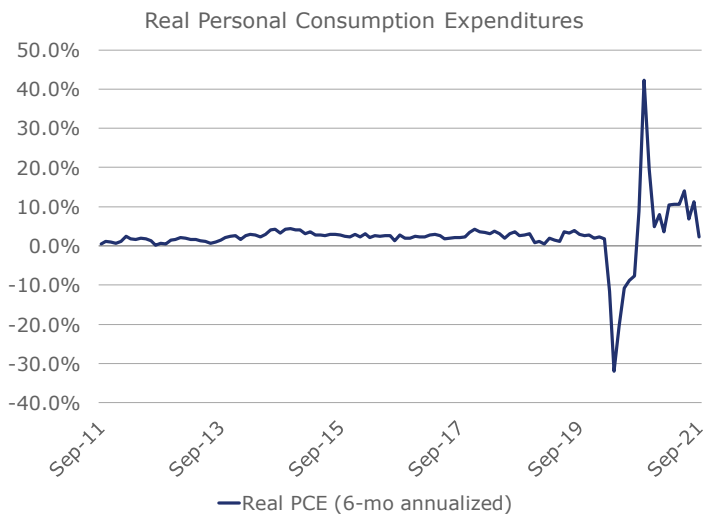
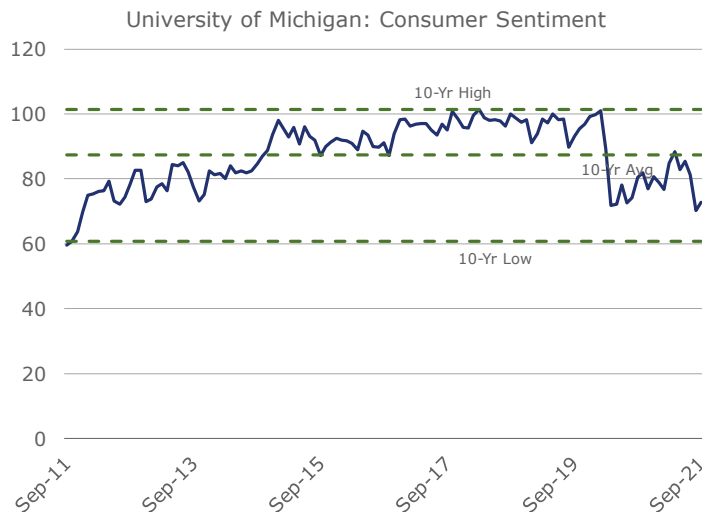
# Economic/Market Activity

# Economic Growth



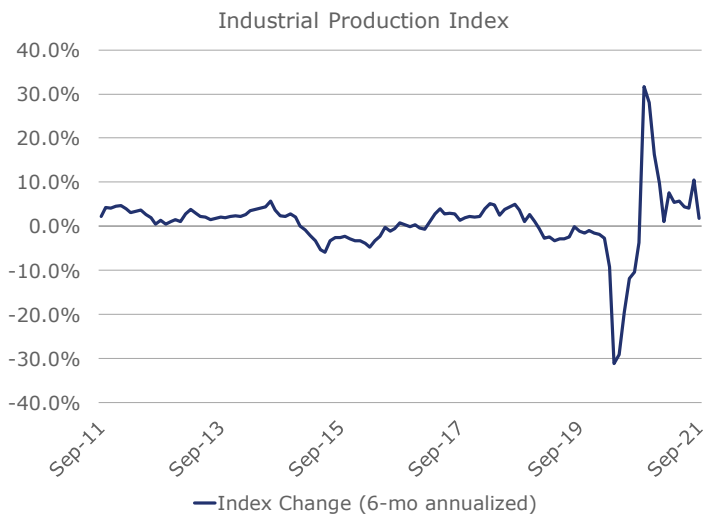
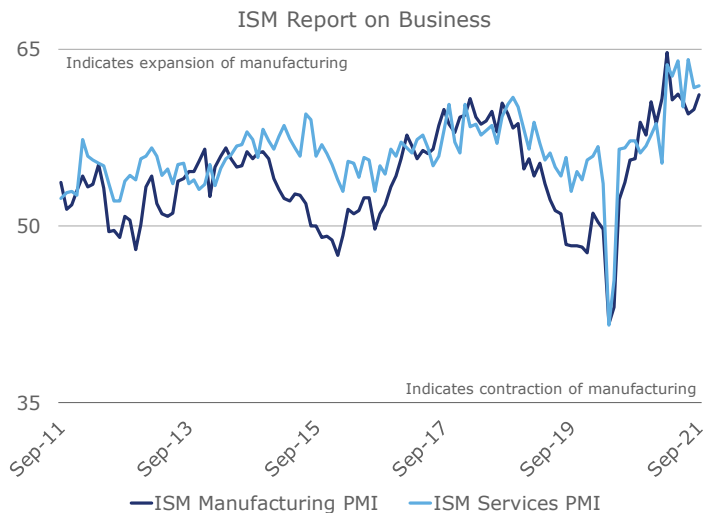
Data Sources: Bloomberg

# Consumer Activity



Data Sources: Bloomberg

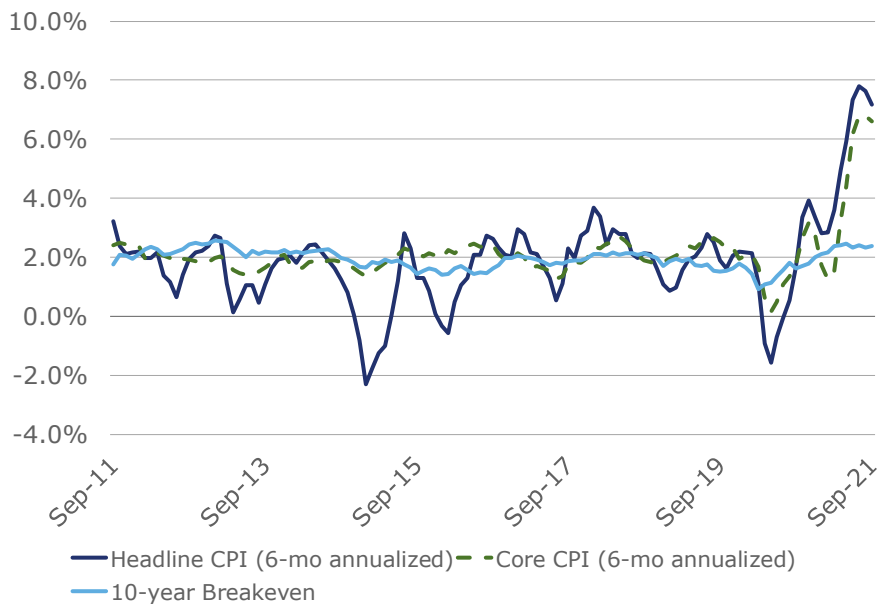
# Business Activity



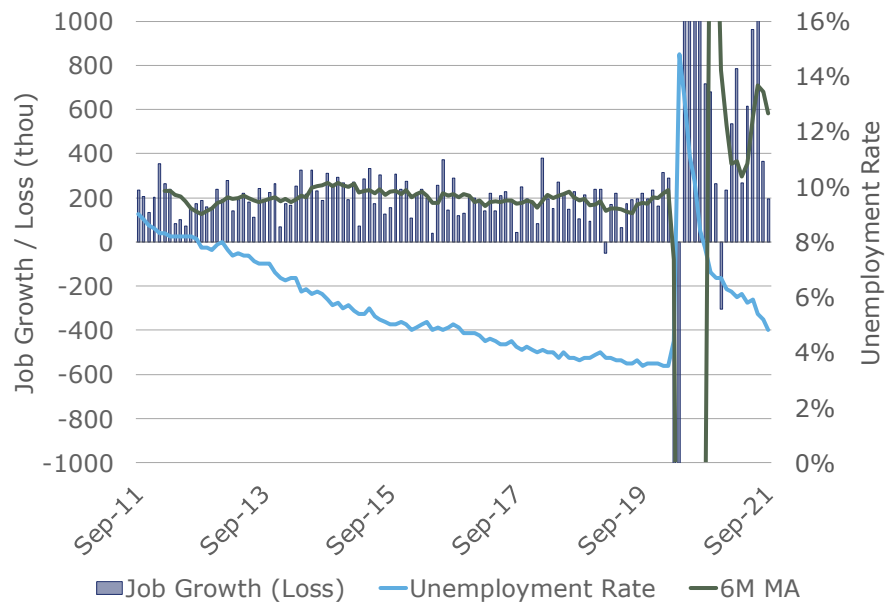
Data Sources: Bloomberg

# Inflation and Employment

Inflation: Actual & Expected



Employment Gains / Losses

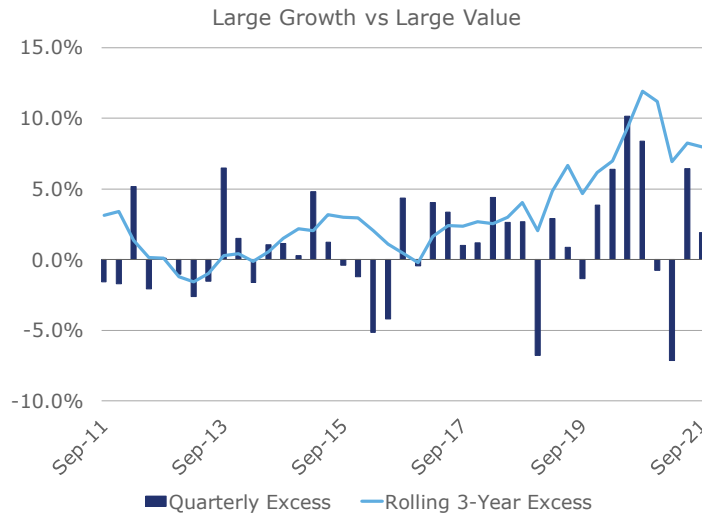
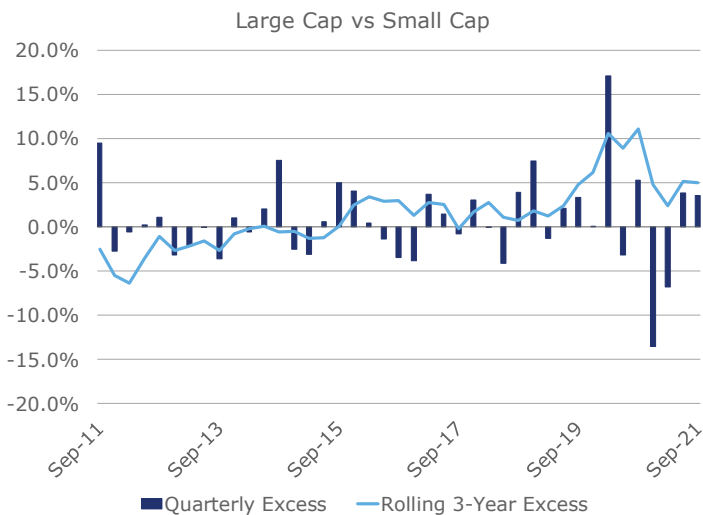
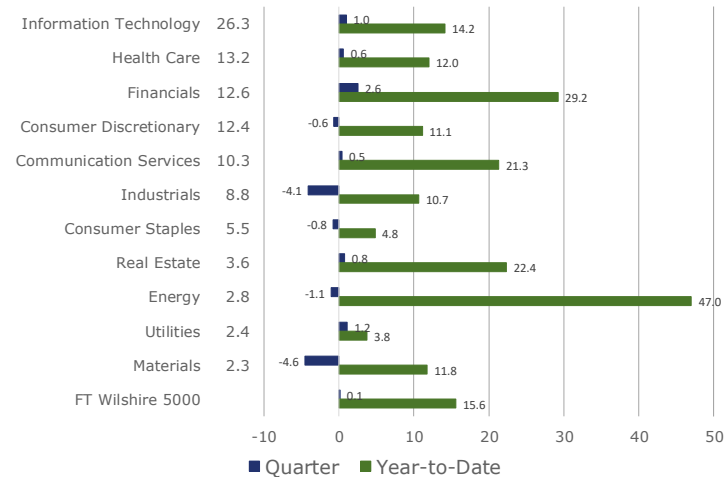


Data Sources: Bloomberg

# U.S. Equity Market

As of 9/30/2021	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
FT Wilshire 5000	0.1	15.6	32.4	16.2	17.0	16.7
Wilshire U.S. Large Cap	0.4	15.6	30.9	16.7	17.4	16.8
Wilshire U.S. Small Cap	-3.0	15.4	51.1	11.2	13.4	15.1
Wilshire U.S. Large Growth	1.3	15.5	30.3	20.9	22.1	19.4
Wilshire U.S. Large Value	-0.6	14.7	30.3	12.0	12.4	14.1
Wilshire U.S. Small Growth	-3.8	8.2	40.4	13.0	16.1	15.7
Wilshire U.S. Small Value	-1.8	23.3	63.0	9.4	10.7	14.4
Wilshire REIT Index	1.6	24.8	38.0	10.4	7.0	11.3
MSCI USA Min. Vol. Index	0.3	9.6	17.2	11.1	12.4	14.2
FTSE RAFI U.S. 1000 Index	-0.8	20.8	41.9	12.9	13.8	15.2

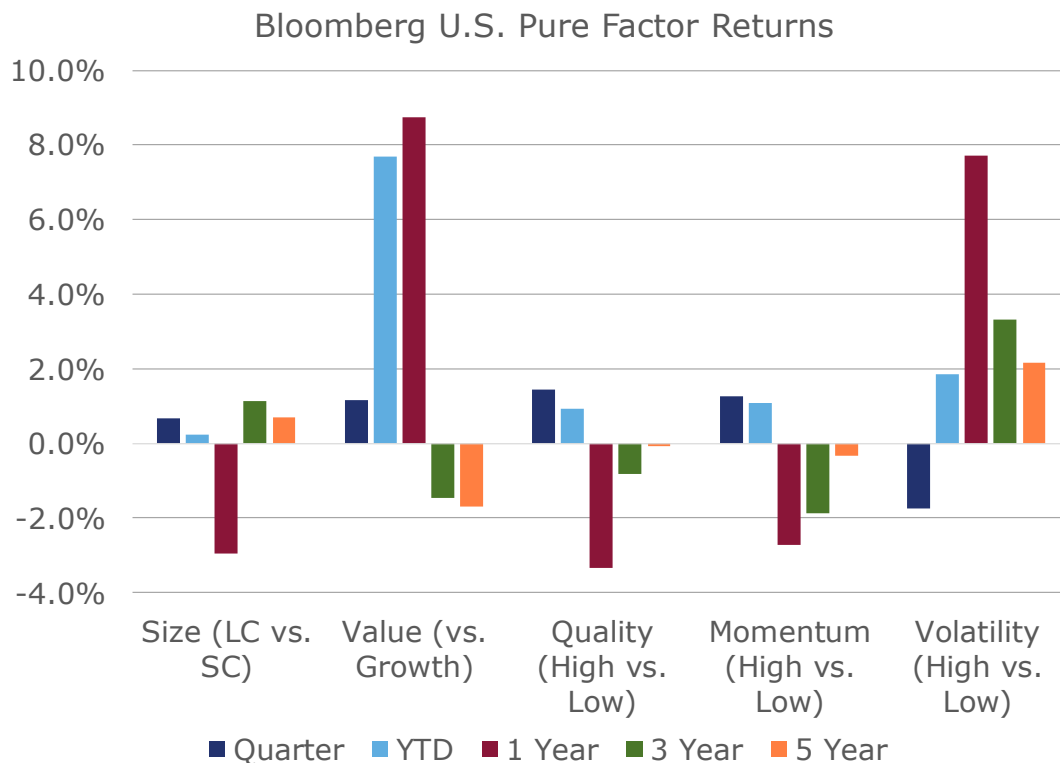
U.S. Sector Weight and Return (%)



Data Sources: Bloomberg, Wilshire Atlas

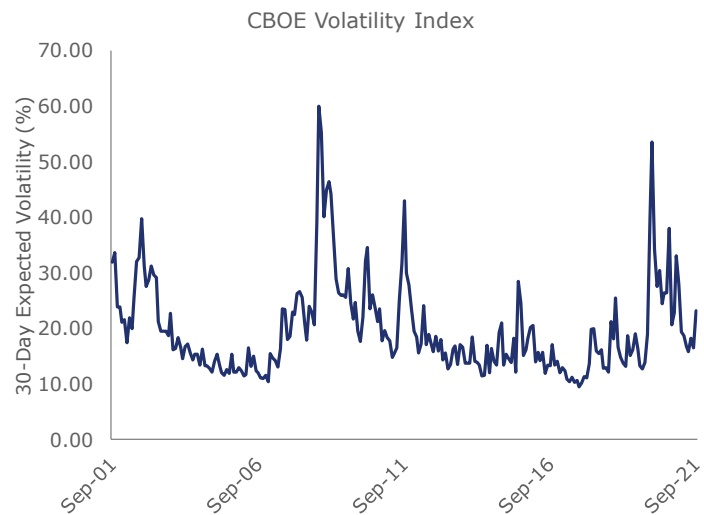
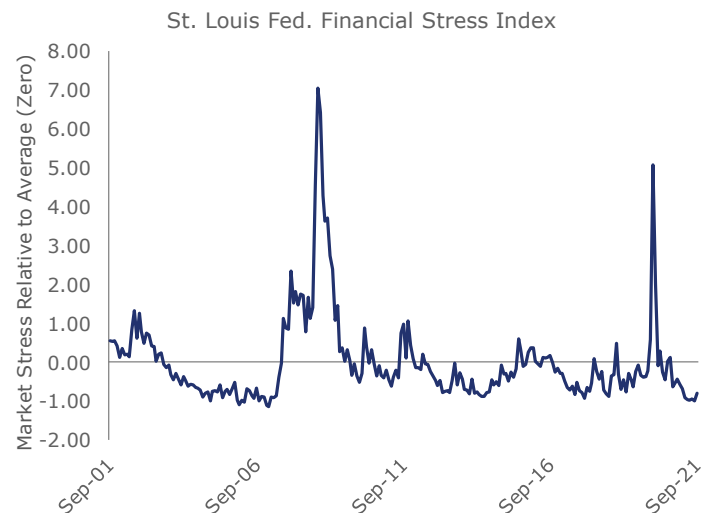
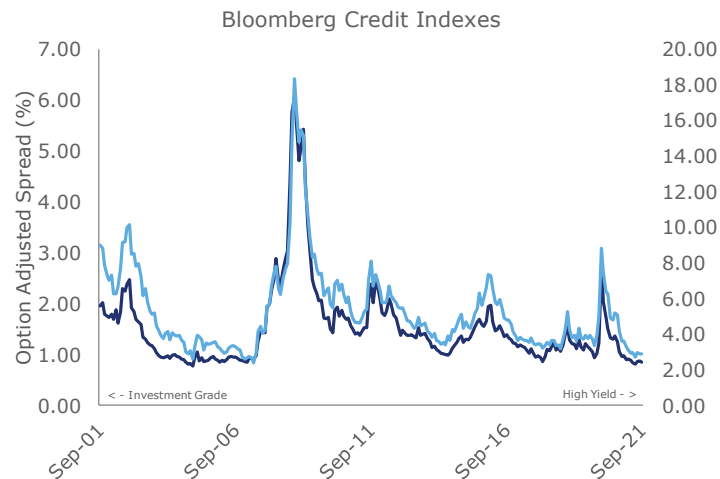
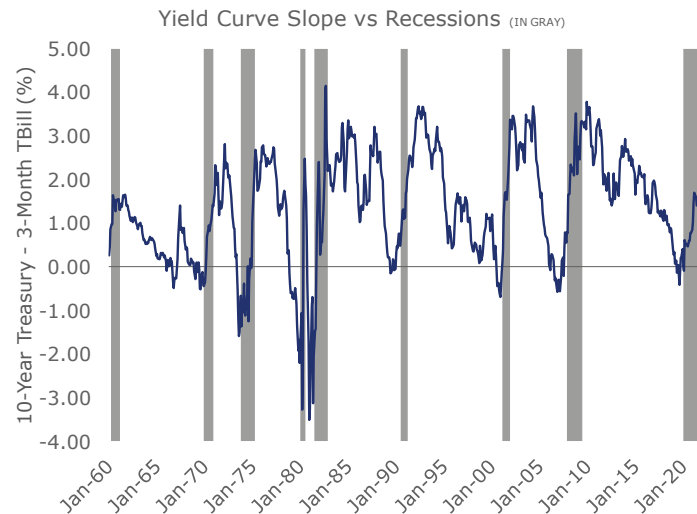
## U.S. Factor Returns

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



Data Sources: Bloomberg

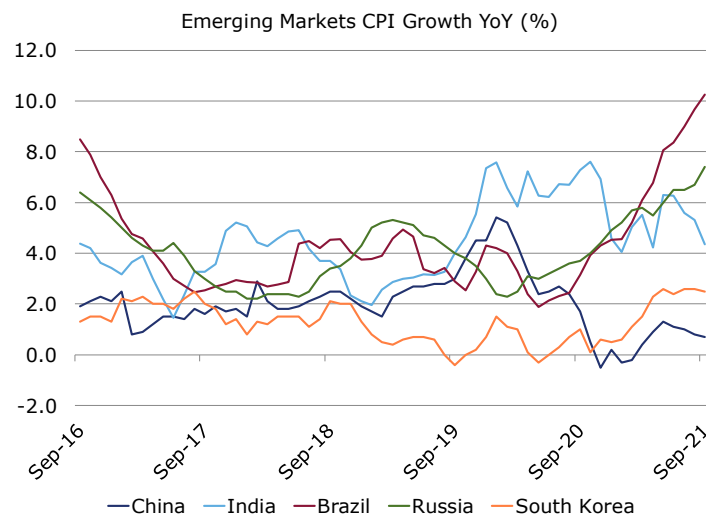
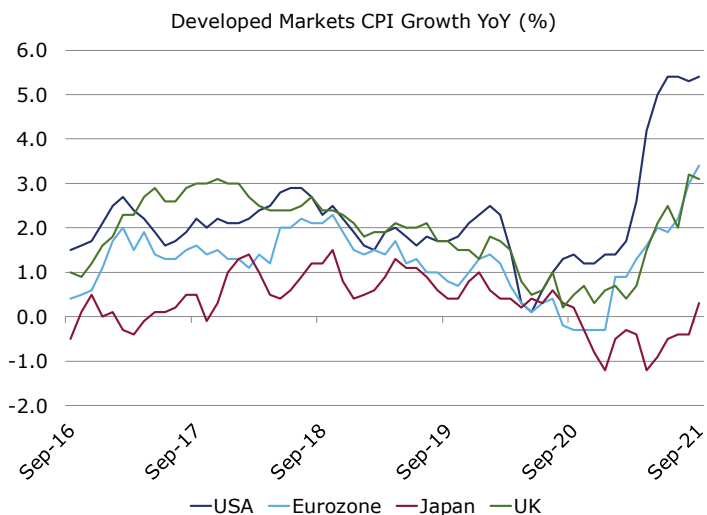
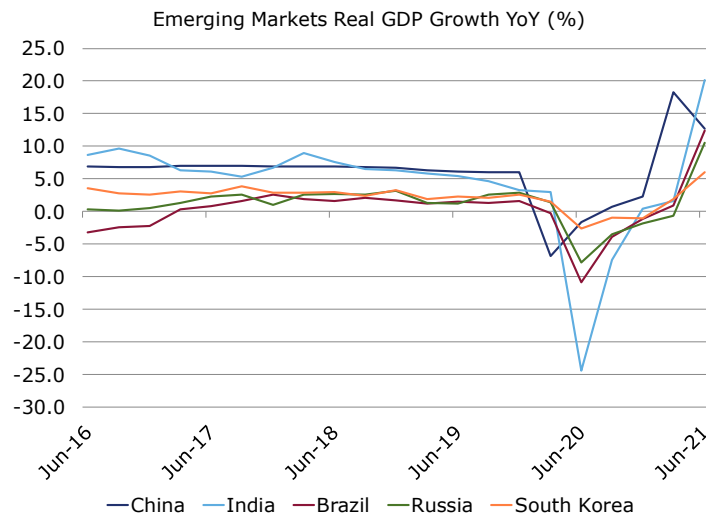
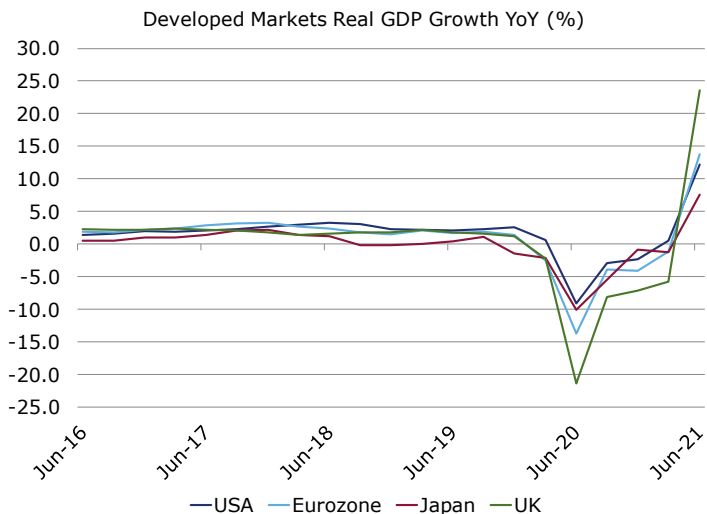
# Risk Monitor



Data Sources: Bloomberg



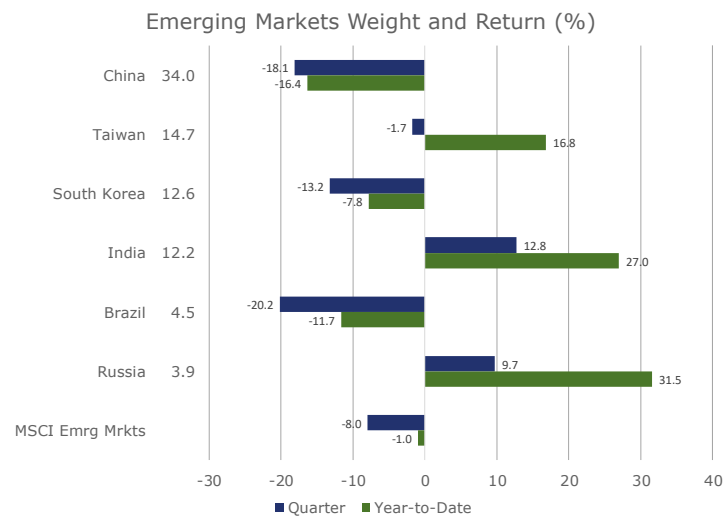
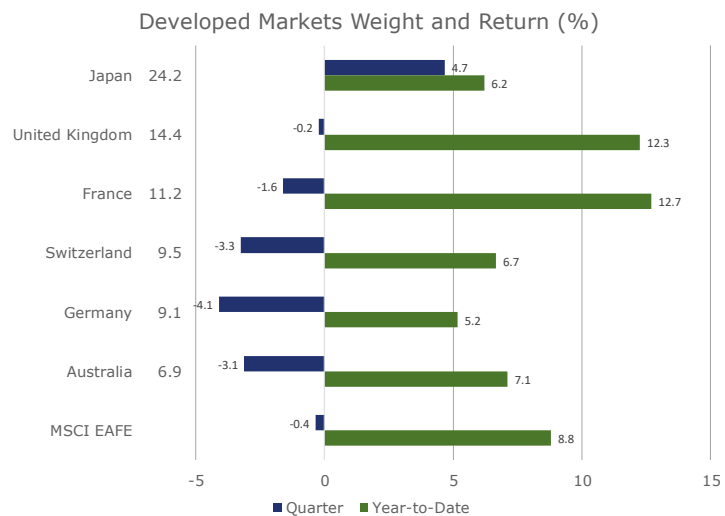
# Non-U.S. Growth and Inflation



Data Sources: Bloomberg

# Non-U.S. Equity Market

As of 9/30/2021	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
MSCI ACWI ex-US (\$G)	-2.9	6.3	24.4	8.5	9.4	8.0
MSCI EAFE (\$G)	-0.4	8.8	26.3	8.1	9.3	8.6
MSCI Emerging Markets (\$G)	-8.0	-1.0	18.6	9.0	9.6	6.5
MSCI Frontier Markets (\$G)	1.7	2.6	20.5	3.3	3.6	4.0
MSCI ACWI ex-US Growth (\$G)	-3.6	2.9	17.3	12.3	11.6	9.7
MSCI ACWI ex-US Value (\$G)	-1.9	10.3	33.0	4.9	7.3	6.5
MSCI ACWI ex-US Small (\$G)	0.1	12.6	33.5	10.8	10.7	9.8
MSCI ACWI Minimum Volatility	0.2	7.7	14.7	8.2	9.1	10.6
MSCI EAFE Minimum Volatility	0.3	4.9	13.4	4.7	6.1	7.9
FTSE RAFI Developed ex-US	-1.1	12.5	36.5	6.1	8.6	7.5
MSCI EAFE LC (G)	1.4	14.7	27.8	7.7	9.5	10.6
MSCI Emerging Markets LC (G)	-6.6	1.0	17.2	9.8	10.8	9.0

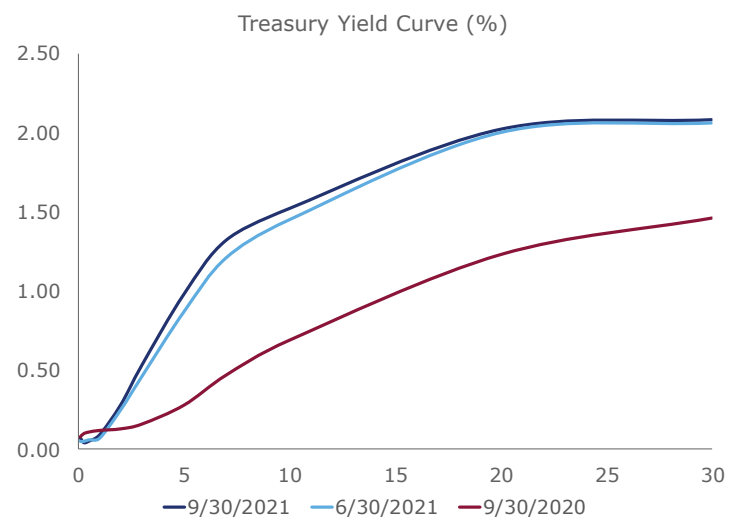
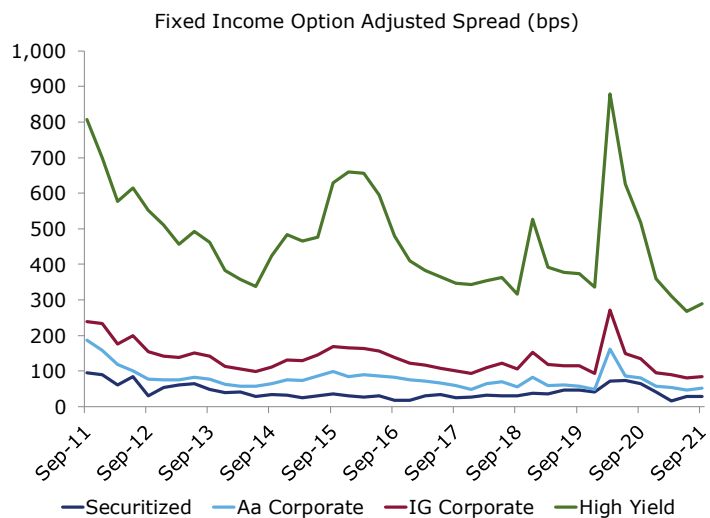


Data Sources: Bloomberg

# U.S. Fixed Income

As of 9/30/2021	YTW	DUR.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Aggregate	1.6	6.7	0.1	-1.6	-0.9	5.4	2.9	3.0
Bloomberg Treasury	1.0	7.1	0.1	-2.5	-3.3	4.9	2.2	2.2
Bloomberg Gov't-Rel.	1.4	6.1	-0.1	-1.3	-0.4	4.9	2.9	2.9
Bloomberg Securitized	1.8	4.6	0.1	-0.7	-0.3	4.0	2.2	2.5
Bloomberg Corporate	2.1	8.7	0.0	-1.3	1.7	7.4	4.6	4.9
Bloomberg LT Gov't/Credit	2.7	16.6	0.1	-4.6	-3.0	10.1	5.2	5.8
Bloomberg LT Treasury	2.0	18.7	0.5	-7.5	-10.3	9.2	3.3	4.4
Bloomberg LT Gov't-Rel.	3.0	13.7	-0.5	-3.4	-0.7	7.9	4.7	5.5
Bloomberg LT Corporate	3.1	15.3	-0.1	-2.6	2.5	10.5	6.3	6.7
Bloomberg U.S. TIPS *	1.4	8.2	1.8	3.5	5.2	7.4	4.3	3.1
Bloomberg High Yield	4.0	4.0	0.9	4.5	11.3	6.9	6.5	7.4
Treasury Bills	0.0	0.3	0.0	0.0	0.1	1.2	1.2	0.7

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

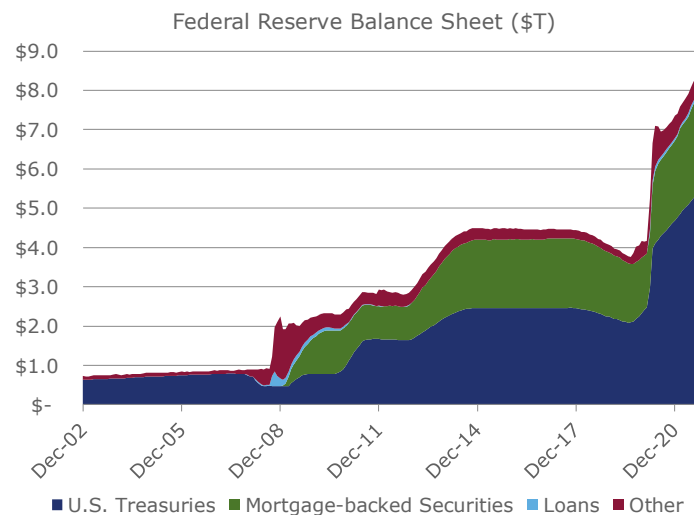
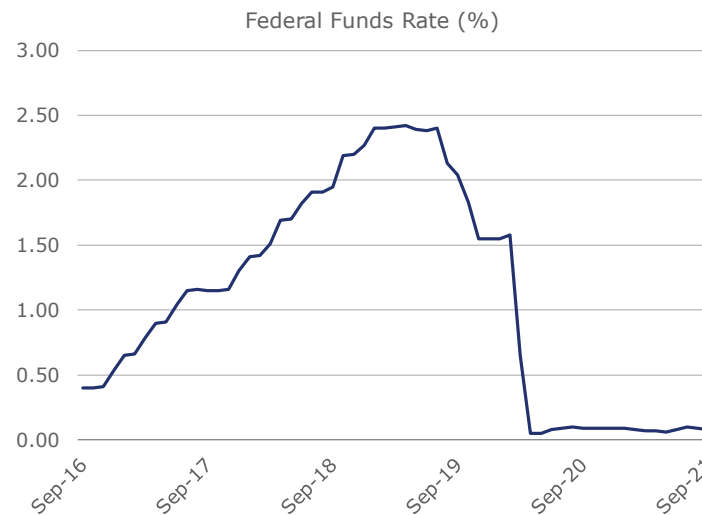


Data Sources: Bloomberg

## Federal Reserve

- Current FOMC expectation is for one 25 basis point increase in the Fed-funds rate during 2022
- Federal Reserve has added more than \$4 trillion in assets to their balance sheet during the past 18 months
- QE4 is now larger than the 3 phases of quantitative easing – combined – following the global financial crisis

	Announced	Closed	Amount (bil)
QE1	11/25/2008	3/31/2010	\$1,403
QE2	11/3/2010	6/29/2012	\$568
QE3	9/13/2012	10/29/2014	\$1,674
QE4	3/23/2020		\$4,174

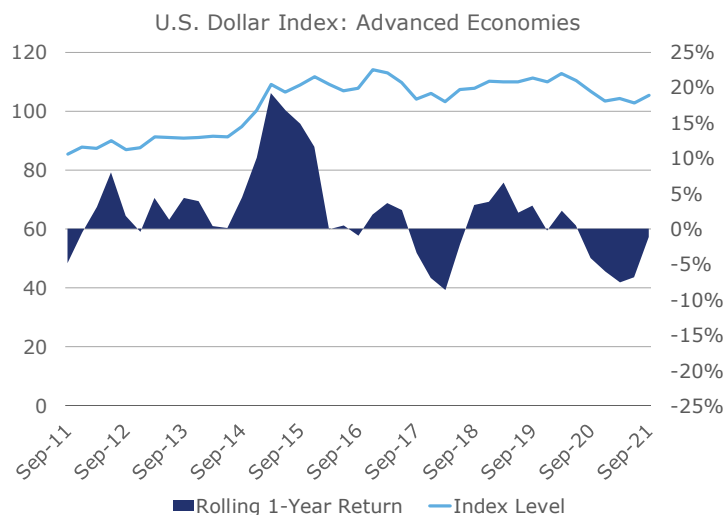
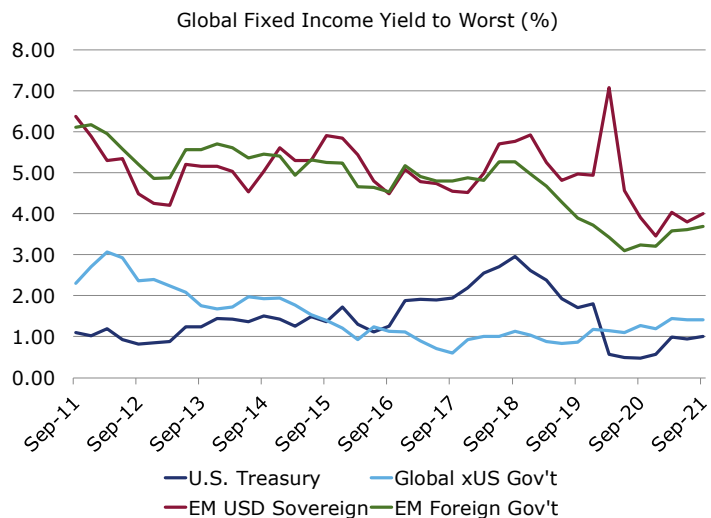


Data Sources: Bloomberg

# Non-U.S. Fixed Income

As of 9/30/2021	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
<b>Developed Markets</b>						
Bloomberg Global Aggregate xUS	-1.6	-5.9	-1.2	3.2	1.1	0.9
Bloomberg Global Aggregate xUS *	0.1	-1.5	-0.5	3.9	2.7	3.9
Bloomberg Global Inflation Linked xUS	-0.1	-2.1	4.7	5.8	3.3	3.5
Bloomberg Global Inflation Linked xUS *	2.4	1.4	3.3	6.4	4.1	5.8
<b>Emerging Markets (Hard Currency)</b>						
Bloomberg EM USD Aggregate	-0.5	-1.1	3.3	5.9	4.1	5.7
<b>Emerging Markets (Foreign Currency)</b>						
Bloomberg EM Local Currency Gov't	-1.0	-2.0	4.9	5.0	2.9	2.6
Bloomberg EM Local Currency Gov't *	0.3	-1.0	-0.1	4.4	2.8	3.0
Euro vs. Dollar	-2.3	-5.2	-1.2	-0.1	0.6	-1.4
Yen vs. Dollar	-0.2	-7.2	-5.2	0.7	-1.9	-3.6
Pound vs. Dollar	-2.6	-1.4	4.3	1.1	0.8	-1.4

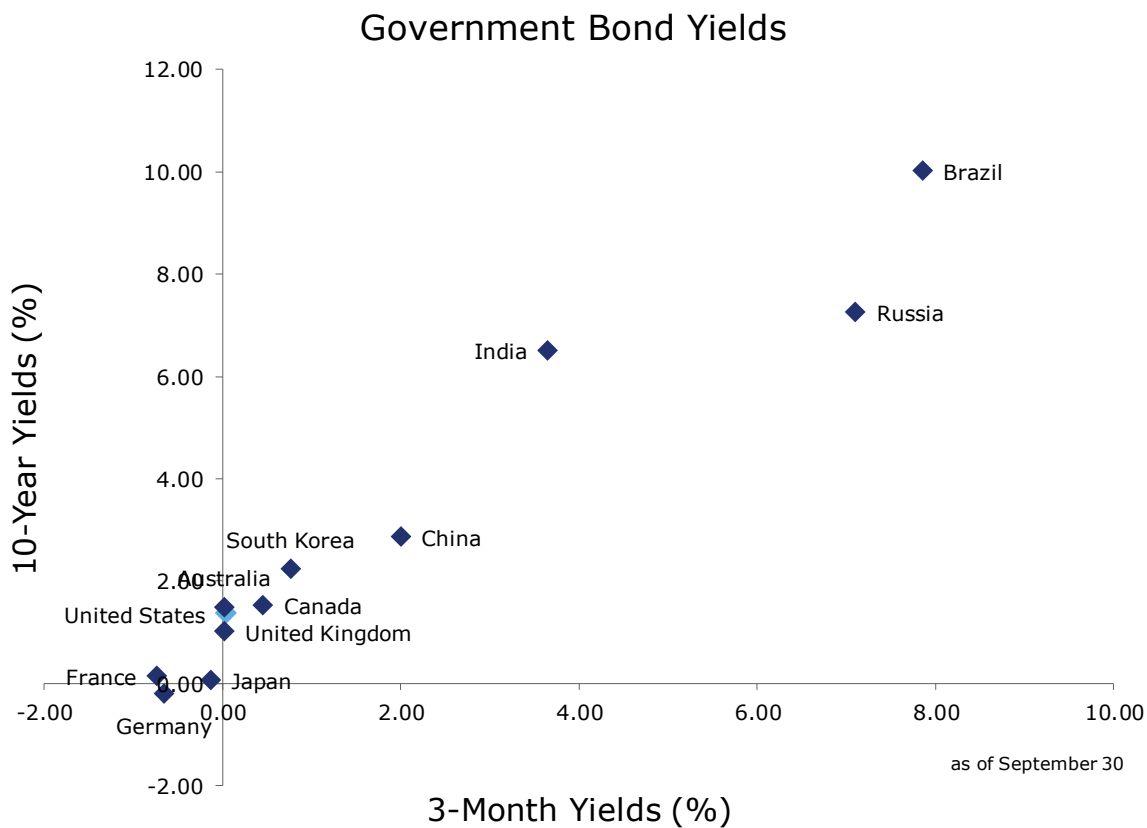
\* Returns are reported in terms of local market investors, which removes currency effects.



Data Sources: Bloomberg

# Global Interest Rates

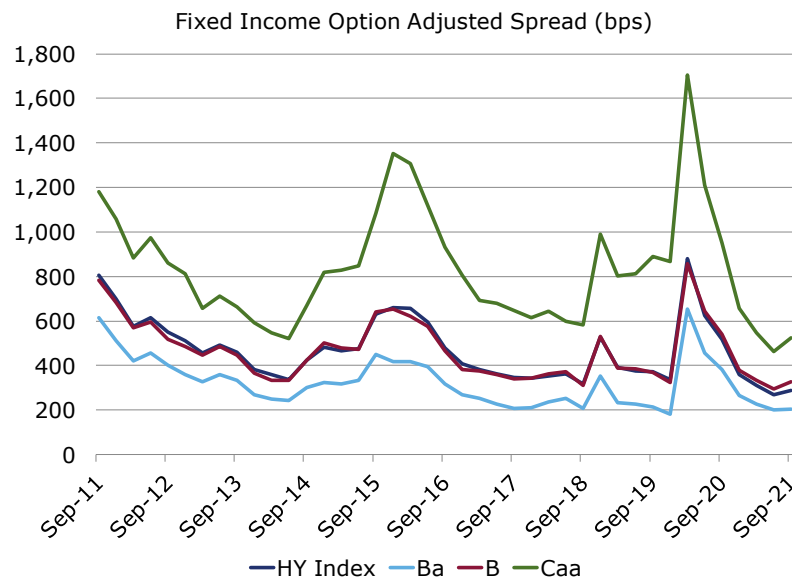
Negative rates found in Germany and France; low but positive rates, and at similar levels, in the U.S., Australia and in the U.K.



Data Sources: Bloomberg

# High Yield Bond Market

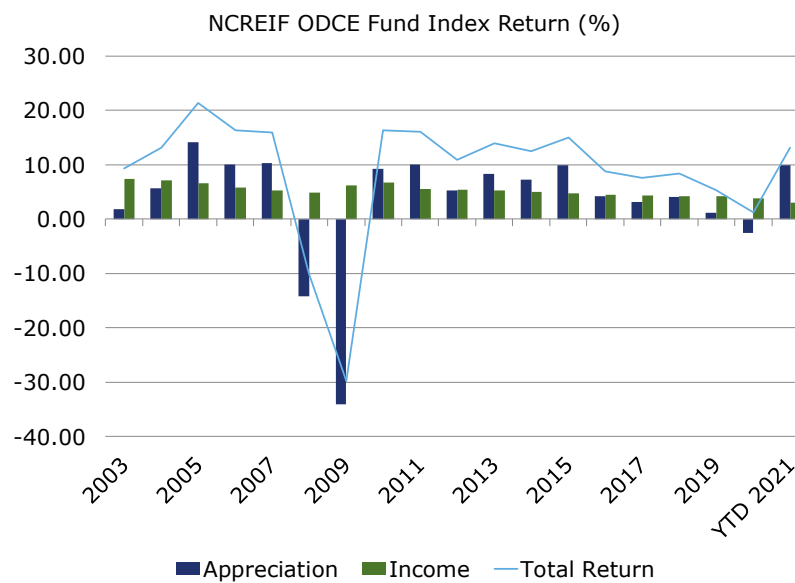
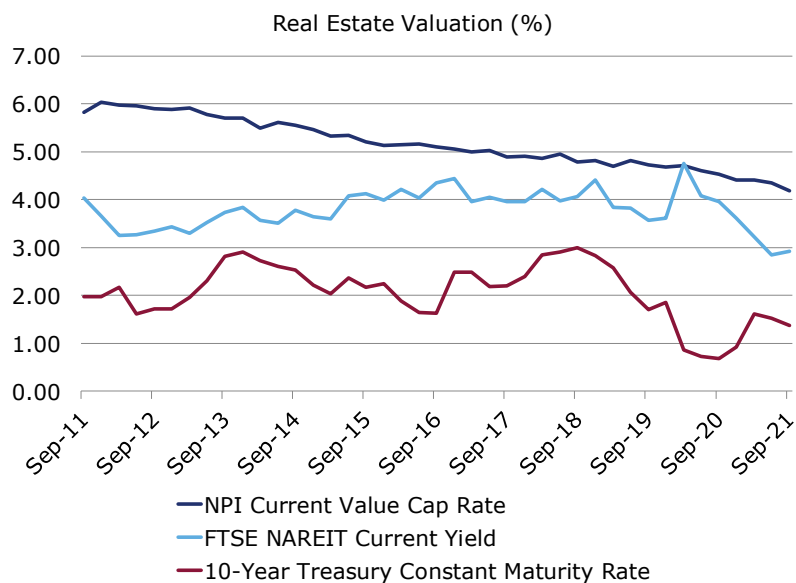
As of 9/30/2021		YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg High Yield		4.0	0.9	4.5	11.3	6.9	6.5	7.4
S&P LSTA Leveraged Loan		3.7	1.0	3.2	6.7	3.9	4.3	4.7
<b>High Yield Quality Distribution</b>	<b>Weight</b>							
Ba U.S. High Yield	53.8%	3.2	1.1	3.8	9.7	8.7	6.8	7.5
B U.S. High Yield	34.1%	4.5	0.6	4.0	10.0	6.1	6.0	6.8
Caa U.S. High Yield	11.7%	6.3	0.8	8.0	18.7	3.1	6.1	7.9
Ca to D U.S. High Yield	0.4%	19.0	0.2	29.2	73.3	0.1	10.7	0.9
Non-Rated U.S. High Yield	0.0%	0.0	0.0	0.0	0.0	-0.8	2.2	3.4



Data Sources: Bloomberg

# Real Assets

As of 9/30/2021	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg U.S. TIPS	1.8	3.5	5.2	7.4	4.3	3.1
Bloomberg Commodity Index	6.6	29.1	42.3	6.9	4.5	-2.7
Bloomberg Gold Index	-1.0	-7.9	-8.2	12.1	4.7	-0.1
Wilshire Global RESI Index	0.4	18.5	34.4	8.2	6.2	9.9
NCREIF ODCE Fund Index	6.6	13.1	14.6	7.1	7.5	9.9
NCREIF Timberland Index	1.9	4.4	5.0	2.4	2.9	4.9
FTSE Global Core Infrastructure 50/50	-0.1	7.4	16.7	8.5	7.9	10.0
Alerian Midstream Energy	-1.3	38.9	66.9	3.9	2.4	n.a.
Bitcoin	25.6	49.8	305.7	87.8	135.0	147.0



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



# Asset Class Performance

Asset Class Returns - Best to Worst

2016	2017	2018	2019	2020	2021 YTD	Annualized 5-Year as of 9/21
High Yield 17.1%	Emrg Mrkts 37.7%	T-Bills 1.9%	U.S. Equity 31.0%	U.S. Equity 20.8%	Commodities 29.1%	U.S. Equity 17.0%
U.S. Equity 13.4%	Developed 25.6%	Core Bond 0.0%	REITs 25.8%	Emrg Mrkts 18.7%	REITs 24.8%	Emrg Mrkts 9.6%
Commodities 11.8%	U.S. Equity 21.0%	U.S. TIPS -1.3%	Developed 22.7%	U.S. TIPS 11.0%	U.S. Equity 15.6%	Developed 9.3%
Emrg Mrkts 11.6%	High Yield 7.5%	High Yield -2.1%	Emrg Mrkts 18.9%	Developed 8.3%	Developed 8.8%	REITs 7.0%
REITs 7.2%	REITs 4.2%	REITs -4.8%	High Yield 14.3%	Core Bond 7.5%	High Yield 4.5%	High Yield 6.5%
U.S. TIPS 4.7%	Core Bond 3.6%	U.S. Equity -5.3%	Core Bond 8.7%	High Yield 7.1%	U.S. TIPS 3.5%	Commodities 4.5%
Core Bond 2.6%	U.S. TIPS 3.0%	Commodities -11.2%	U.S. TIPS 8.4%	T-Bills 0.7%	T-Bills 0.0%	U.S. TIPS 4.3%
Developed 1.5%	Commodities 1.7%	Developed -13.4%	Commodities 7.7%	Commodities -3.1%	Emrg Mrkts -1.0%	Core Bond 2.9%
T-Bills 0.3%	T-Bills 0.8%	Emrg Mrkts -14.2%	T-Bills 2.3%	REITs -7.9%	Core Bond -1.6%	T-Bills 1.2%

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

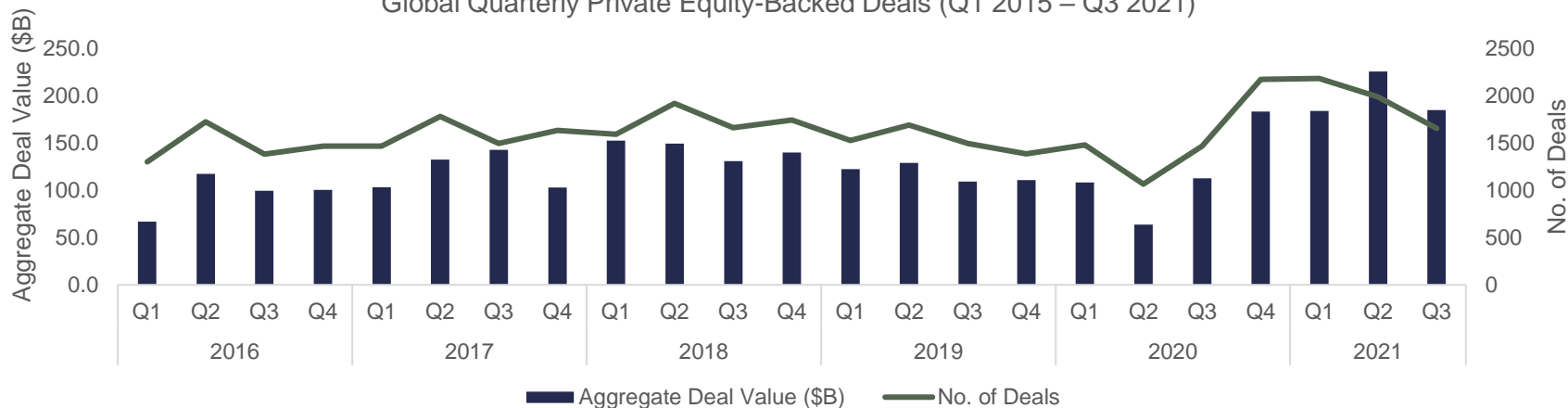
# Appendix: Private Market Trends

# Private Equity – Fundraising & Investment Activity

Global Quarterly Private Equity Fundraising (Q1 2015 – Q3 2021)



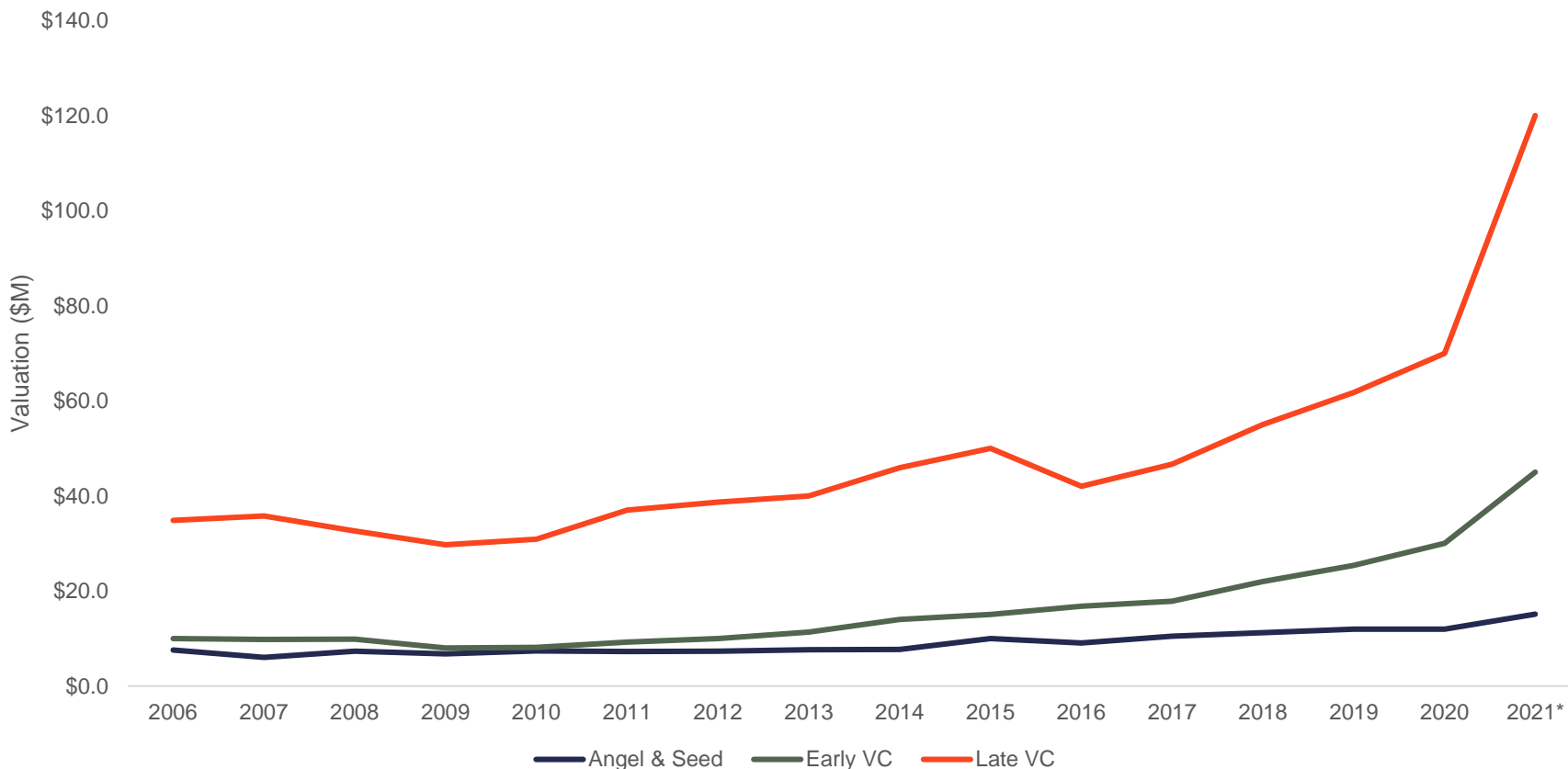
Global Quarterly Private Equity-Backed Deals (Q1 2015 – Q3 2021)



Source: Preqin, as of September 30, 2021.

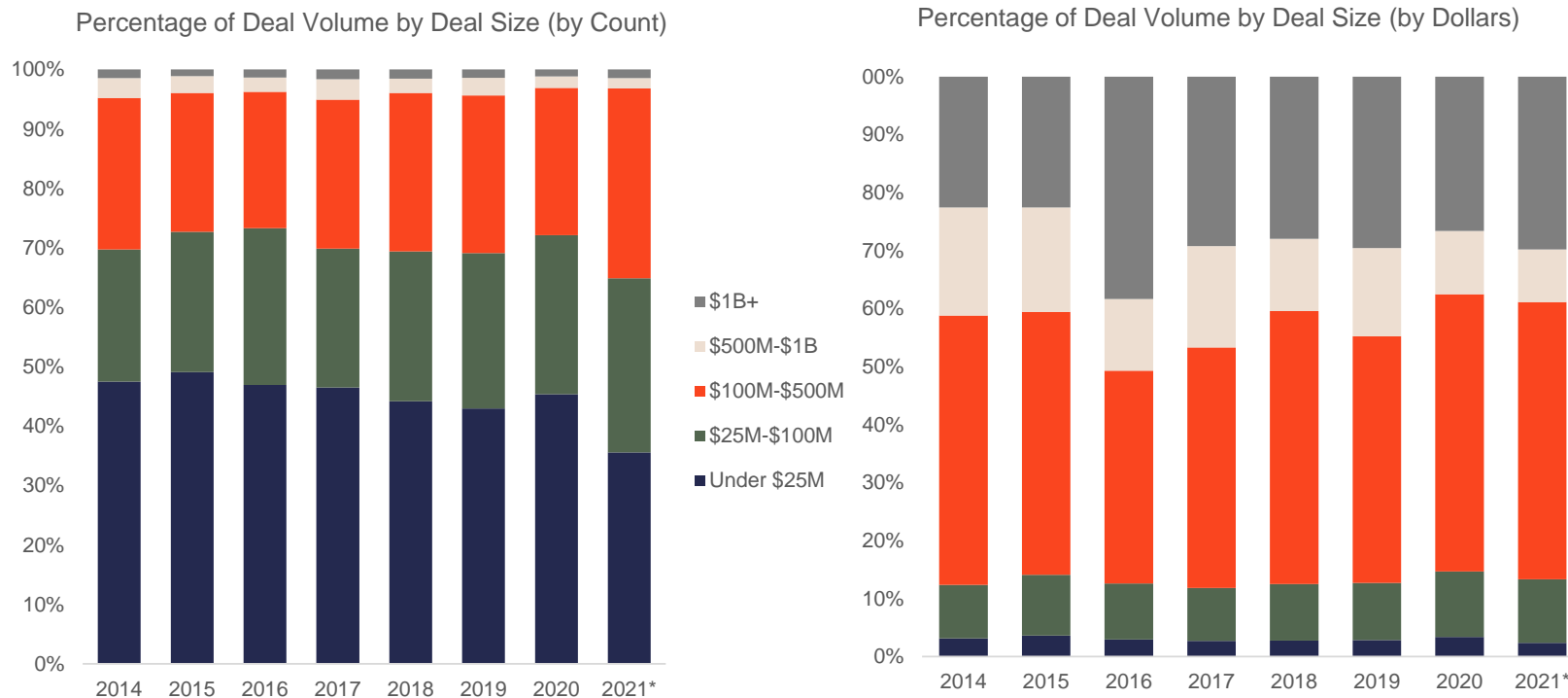
# Private Equity – Pricing & Valuations

U.S. Median Pre-Value by Stage (2006-Q3 2021)



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

## U.S. Investment Activity by Deal Size

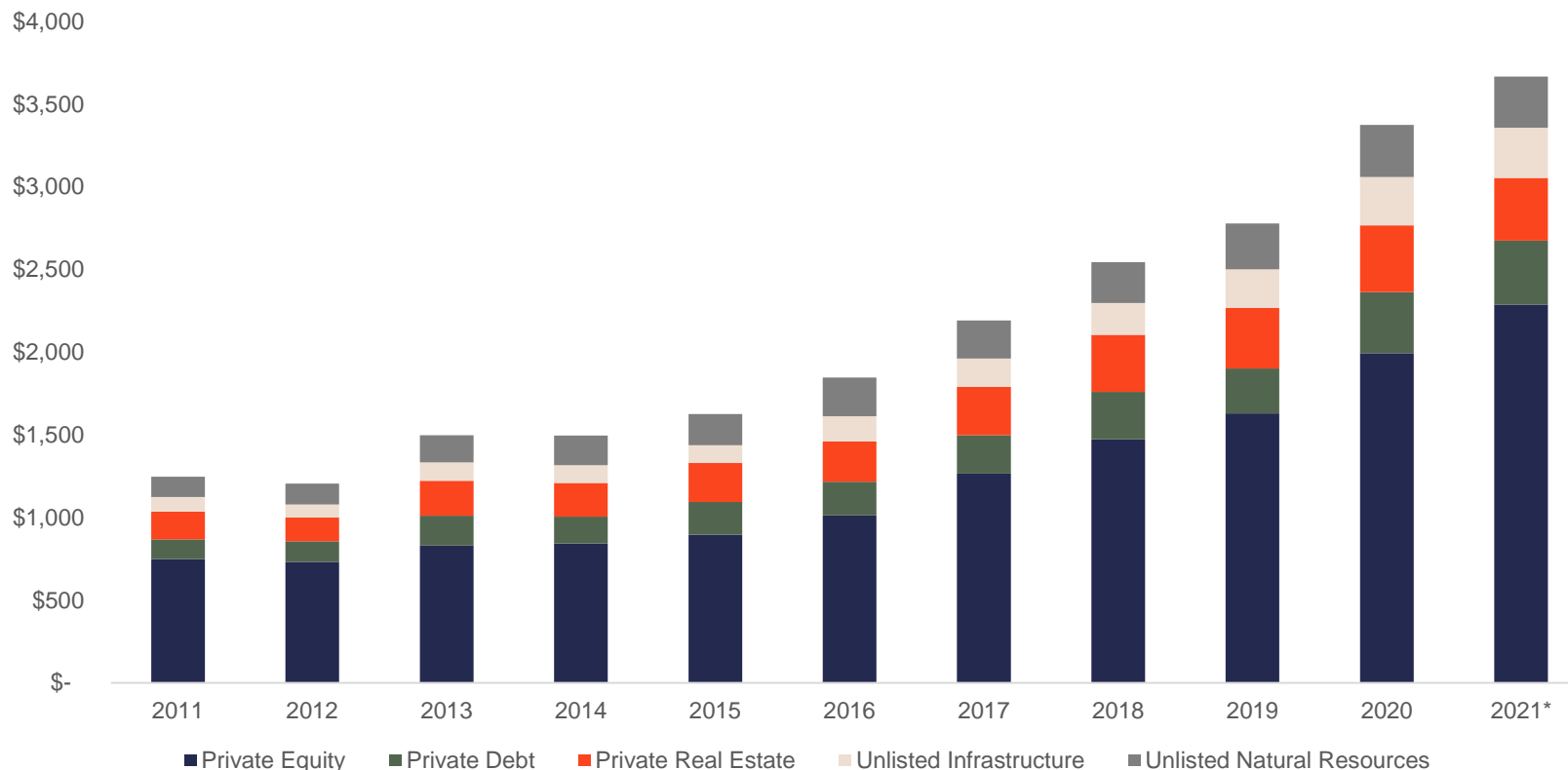


- Deal volume continues to be dominated by lower middle market deals with investment sizes below \$100 million through the third quarter of 2021
- However, deals with below \$100 million check sizes comprised only 13.3% of all deal volume by amount of capital invested in the third quarter of 2021

Source: Pitchbook, \*as of September 30, 2021.

# Private Capital Dry Powder

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

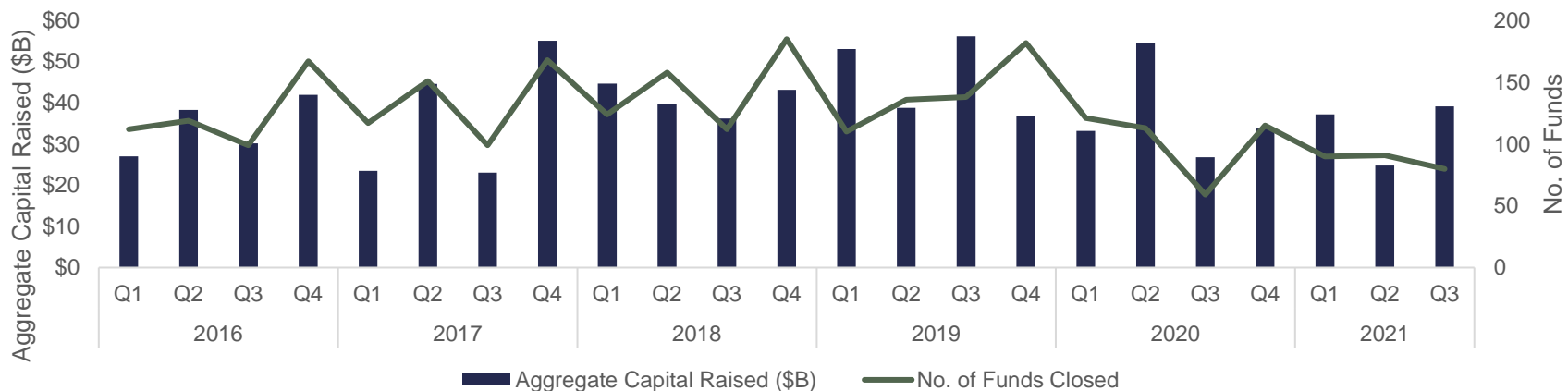


- Global private capital dry power continues to increase, topping \$3.6 trillion across all fund types
- Private equity comprises just over 62% of total dry powder in the market as of October 2021

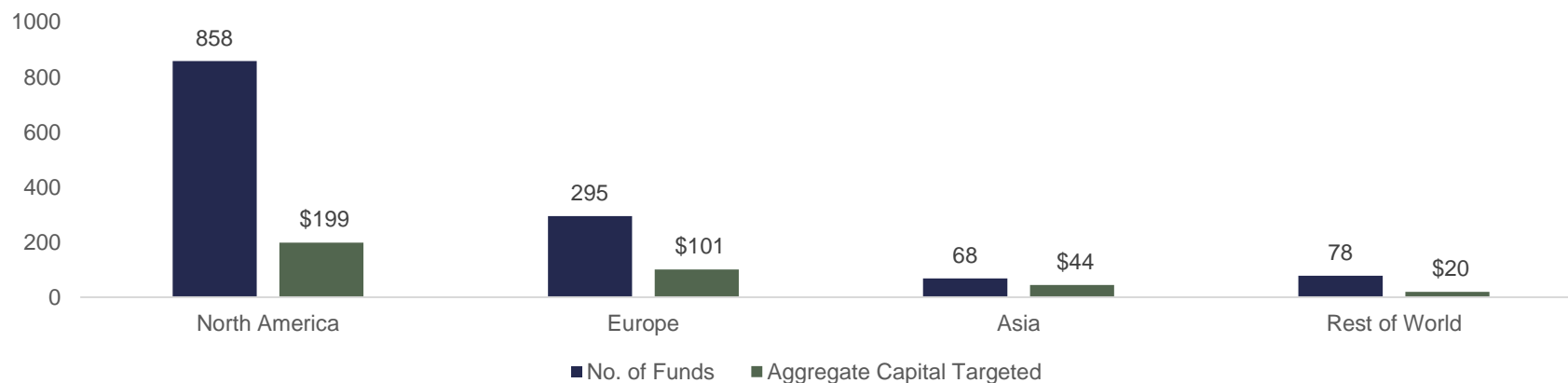
Source: Preqin, \*as of October 24, 2021.

# Private Real Estate – Fundraising Activity

Global Quarterly Closed-End Private Real Estate Fundraising (Q1 2015 – Q3 2021)



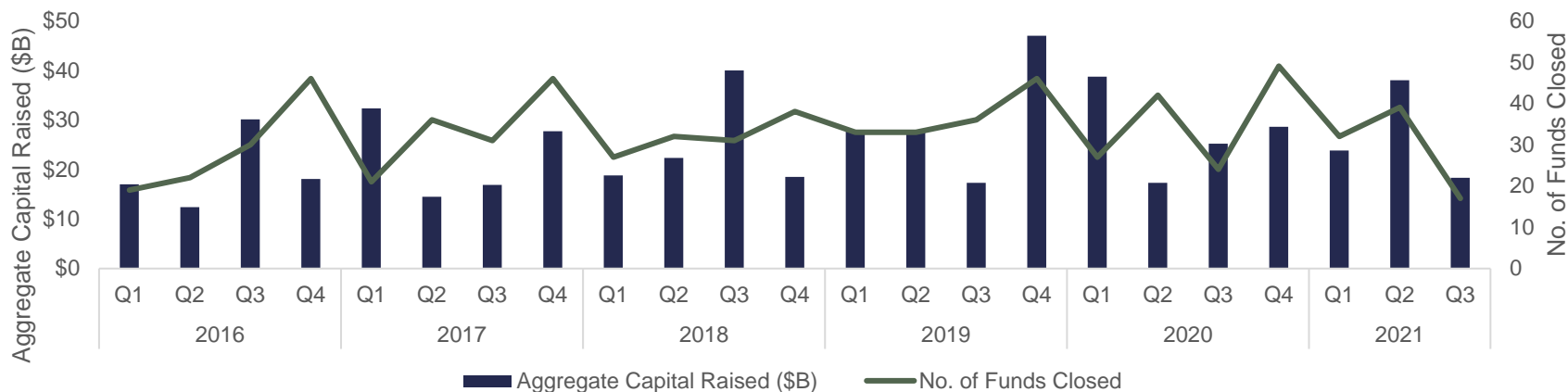
Closed-End Private Real Estate Funds Actively in Market in Q3 2021 by Primary Geographic Focus



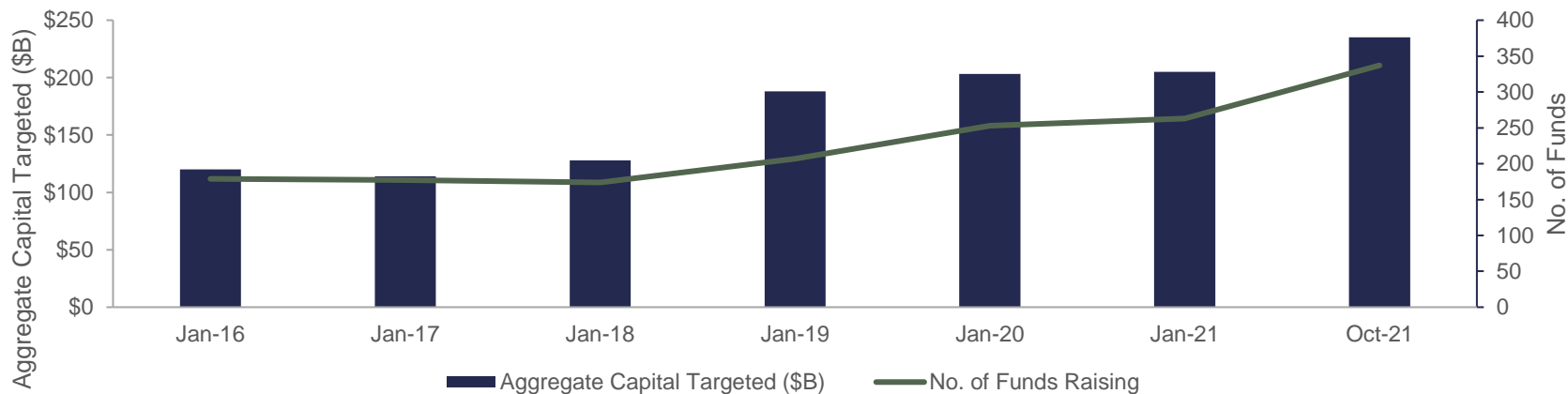
Source: Preqin, as of September 30, 2021.

# Unlisted Infrastructure – Fundraising & Investment Activity

Global Quarterly Closed-End Private Real Estate Fundraising (Q1 2015 – Q3 2021)



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

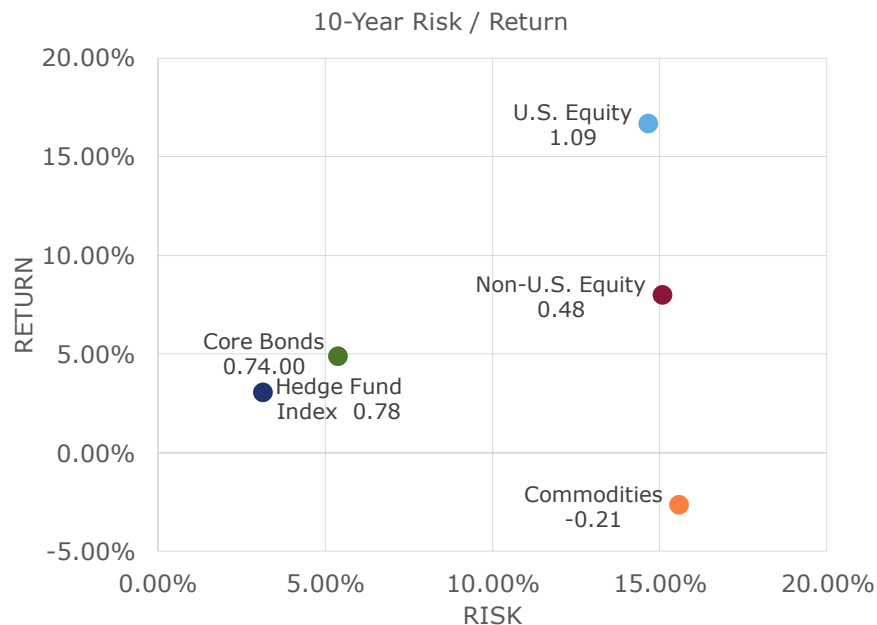


Source: Preqin, as of September 30, 2021.



# Hedge Fund Performance

As of 9/30/2021	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Credit Suisse Hedge Fund Index	1.2	7.2	14.1	6.1	5.5	4.9
Event Driven	1.8	12.1	23.8	6.8	6.3	5.2
Global Macro	1.0	7.2	13.6	7.4	6.1	4.2
Long/Short Equity	2.3	7.8	16.0	6.8	7.1	6.8
Multi-Strategy	1.4	5.9	11.2	4.9	5.1	6.2
FT Wilshire 5000	0.1	15.6	32.4	16.2	17.0	16.7
MSCI ACWI ex-US (\$G)	-2.9	6.3	24.4	8.5	9.4	8.0
Bloomberg Aggregate	0.1	-1.6	-0.9	5.4	2.9	3.0
Bloomberg Commodity Index	6.6	29.1	42.3	6.9	4.5	-2.7



Note: Sharpe Ratio is included for each market segment

Data Source: Bloomberg

EXECUTIVE SUMMARY OF PERFORMANCE

## Employees' Retirement Fund of the City of Dallas



Third Quarter 2021



# THIRD QUARTER 2021 Quarterly Market Commentary

## Multi-Asset

Diversified portfolios were down, generally, during the third quarter, with non-U.S. equity markets lagging. The Wilshire Risk Parity (12% Volatility) Index led traditional portfolios during the quarter, benefitting from inflation-protected securities and from its use of portfolio leverage.

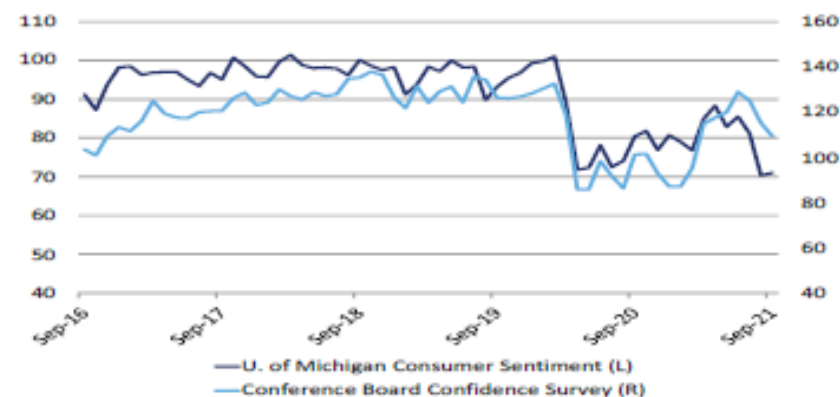
Multi-Asset	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Global 60/40 (ACWI/U.S. Core Bonds)	(2.82)	(0.59)	5.94	15.52
Wilshire Risk Parity Index™ – 12% Volatility	(3.46)	1.12	9.37	21.35

Source: Bloomberg. Indexes are total return.

## Quarterly Insight

Consumer sentiment dropped dramatically during the third quarter, with the University of Michigan's Consumer Sentiment Index falling to its lowest point in almost a decade. The Conference Board, a non-partisan think tank, publishes a Consumer Confidence Survey that did not reach such lows but may still indicate weakness in consumer attitudes. The drop occurred with the August results and followed a six-month period when headline inflation surged 7.8% (annualized), the largest six-month increase in 30 years. Additionally, July brought a surge in Coronavirus infections as the highly contagious delta variant infected even vaccinated individuals. Finally, the August survey period coincided with the Taliban seizing control of Kabul, the capital city of Afghanistan, in less than a week's time. The disorderly withdrawal of American troops from the country began in July after nearly two decades of conflict. The Michigan survey enjoyed a small rebound in September but fell short of economists' expectations. The fear for the economy is that a fall in sentiment could lead to a fall in consumer spending, which accounts for 75% of U.S. GDP.

### Consumer Confidence



Source: Bloomberg

## Economic highlights

**GDP:** Real GDP grew by an annualized 6.7% during the second quarter of 2021, and is now above its pre-COVID high. The largest (and only positive) contributor to growth was personal consumption, up 12.0% for the quarter. Although business spending was up, a major inventory drawdown and a drop in residential spending led to an overall negative contribution from private investment. Rising imports during the quarter also acted as a drag on economic growth. The Atlanta Fed's GDPNow forecast for the third quarter currently stands at 3.2%.

Source: Bureau of Economic Analysis

**Interest Rates:** The Treasury curve rose somewhat during the quarter, with short rates increasing more than long rates. The 10-year Treasury closed at 1.49%, up two basis points since June. The 10-year real yield (i.e. net of inflation) barely changed, finishing at -0.89%. The Federal Open Market Committee met twice during the quarter with no changes to the Fed Funds rate. At the September meeting, the committee indicated that a 25 basis point increase in the overnight rate in 2022 was possible, while stating that bond purchases may be reduced "soon" should economic progress continue.

Source: U.S. Treasury

**Inflation:** Consumer price changes have accelerated rapidly this year as the Consumer Price Index jumped 1.7% for the three months ending August. For the one-year period, CPI is up 5.2%. The 10-year breakeven inflation rate increased slightly to 2.38% in September versus 2.34% in June.

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

**Employment:** While jobs growth has been quite strong this year, with an average of 586k jobs added per month, the August number of 235k jobs added fell significantly short of expectations. The unemployment rate fell to 5.2% in August. Job Openings continue to rise and now exceed the number of those reported as unemployed. Despite these improving conditions, the Labor Force Participation Rate remains well below pre-COVID levels.

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 5.3% and 20.0%, respectively, for the three- and twelve-months ending July.

Source: Standard & Poor's



## U.S. Economy and Markets

The U.S. stock market, represented by the FT Wilshire 5000 Index™, was up 0.14% for the third quarter of 2021. A slim majority of the eleven sectors were in positive territory, with Financials (+2.6%) and Utilities (+1.2%) representing the best performing sectors. The worst performing sector this quarter was Materials (-4.6%), 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. While growth stocks outperformed value within the large-cap segment of the market, growth trailed value within small-cap.

U.S. Equity	MTD (%)	QTD (%)	YTD (%)	1Y (%)
FT Wilshire 5000 Index™	(4.43)	0.14	15.62	32.35
Standard & Poor's 500	(4.65)	0.58	15.92	30.01
Wilshire 4500 Completion Index™	(3.49)	(1.77)	14.05	46.33
MSCI USA Minimum Volatility	(4.97)	0.26	9.60	17.19

Source: Bloomberg. Indexes are total return.

U.S. Equity by Size/Style	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Wilshire US Large-Cap Index™	(4.60)	0.45	15.61	30.86
Wilshire US Large-Cap Growth Index™	(5.26)	1.27	15.51	30.26
Wilshire US Large-Cap Value Index™	(3.73)	(0.62)	14.72	30.35
Wilshire US Small-Cap Index™	(2.71)	(2.97)	15.39	51.11
Wilshire US Small-Cap Growth Index™	(3.33)	(3.77)	8.20	40.37
Wilshire US Small-Cap Value Index™	(1.72)	(1.81)	23.30	63.01
Wilshire US Micro-Cap Index™	(3.18)	(6.12)	24.94	64.85

Source: Bloomberg. Indexes are total return.

GICS sector returns	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Communication Services	(6.49)	0.45	21.33	39.68
Consumer Discretionary	(2.85)	(0.64)	11.13	26.37
Consumer Staples	(4.00)	(0.78)	4.82	12.18
Energy	9.94	(1.06)	47.00	89.73
Financials	(1.84)	2.55	29.22	61.39
Health Care	(5.38)	0.64	12.00	23.53
Industrials	(5.21)	(4.11)	10.68	30.69
Information Technology	(5.68)	1.02	14.17	29.67
Materials	(7.03)	(4.55)	11.79	32.06
Real Estate	(5.57)	0.79	22.35	33.47
Utilities	(6.17)	1.15	3.78	11.90

Source: Wilshire Atlas. Indexes are total return.

Large-cap growth was the only U.S. segment in positive territory this quarter



## International Economy and Markets

Performance results within international equity markets were mixed during the third quarter, with developed markets generally positive (in local currency terms) against a meaningful drop within emerging markets. The main sources of weakness were South Korea (-13.2%) and China (-18.1%), the latter of which comprises one-third of the emerging market index. Economic conditions in the U.K. appear to be rapidly deteriorating. The Office for National Statistics said that the economy grew by just 0.1% in July, hampered by supply-chain issues and Covid-19 infections. At the same time, inflation has spiked, with consumer prices in the U.K. rising 3.2% in August. Germany, Europe's largest economy, is also facing a slowdown while the country's Ifo Index, which measures the business climate, fell for the third month in a row in September. Angela Merkel is set to step down as chancellor after 16 years following an election held just before quarter-end. Problems in China include an over-indebted real estate market where a slowdown could result in a drop in personal consumption and property investment.

Supply-chain conditions and COVID infections are slowing growth in Europe

Non-U.S. Equity	MTD (%)	QTD (%)	YTD (%)	1Y (%)
MSCI ACWI ex USA	(3.20)	(2.99)	5.90	23.91
MSCI ACWI ex USA Minimum Volatility	(2.62)	0.68	6.62	15.27
MSCI EAFE	(2.90)	(0.45)	8.35	25.73
MSCI Emerging Markets	(3.97)	(8.09)	(1.25)	18.20
MSCI ACWI ex USA Small Cap	(3.04)	(0.00)	12.23	33.06

Source: Bloomberg. Indexes are total return.

Non-U.S. Equity (local currency)	MTD (%)	QTD (%)	YTD (%)	1Y (%)
MSCI ACWI ex USA	(1.83)	(1.30)	10.09	23.94
MSCI ACWI ex USA Minimum Volatility	(1.48)	1.69	10.18	15.57
MSCI EAFE	(1.30)	1.32	14.23	27.20
MSCI Emerging Markets	(2.82)	(6.69)	0.73	16.86
MSCI ACWI ex USA Small Cap	(1.55)	1.84	17.08	32.75

Source: Bloomberg. Indexes are total return.

## Fixed Income Markets

The U.S. Treasury yield curve was up, generally, during the quarter, with yields in the 3- to 10-year maturity range rising the most. The 10-year Treasury yield ended the quarter at 1.49%, up two basis points from June. Credit spreads widened, with the spread on the broad high yield market closing the quarter at 2.89%. The Federal Open Market Committee (FOMC) met twice during the quarter, as scheduled, with no change to their overnight rate. Through the Fed's "dot plot," they are messaging that the current intent is for a 25 basis point increase in the overnight rate before the end of 2022. Their median forecast for year-end 2023 is for a Fed funds rate of 1.0%. The greatest point of interest for the Fed during the fourth quarter will be their decisions on possible tapering of bond purchases, known as quantitative easing. Fed chair Jerome Powell says that he believes the U.S. has made substantial progress





towards moderate inflation and maximum employment and that the Fed could “easily” announce a tapering strategy at its next meeting in November.

U.S. Fixed Income	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Bloomberg U.S. Aggregate	(0.87)	0.05	(1.55)	(0.90)
Bloomberg Long Term Treasury	(2.86)	0.47	(7.49)	(10.27)
Bloomberg Long Term Corporate	(1.90)	(0.12)	(2.56)	2.45
Bloomberg U.S. TIPS	(0.71)	1.75	3.51	5.19
Bloomberg U.S. Credit	(1.07)	(0.03)	(1.30)	1.45
Bloomberg U.S. Corporate High Yield	(0.01)	0.89	4.53	11.28
S&P/LSTA Leveraged Loan	0.64	1.11	4.42	8.40

Source: Bloomberg. Indexes are total return.

Global Fixed Income	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Bloomberg Global Aggregate	(1.78)	(0.88)	(4.06)	(0.91)
Bloomberg Global Aggregate (Hdg)	(0.94)	0.09	(1.43)	(0.56)
Bloomberg EM LC Gov't Universal	(1.71)	(0.33)	(1.50)	4.84
Bloomberg EM LC Gov't Universal (Hdg)	(0.64)	0.52	(1.11)	0.03

Source: Bloomberg. Indexes are total return.

Natural gas prices are up +125% during the past six months

## Real Asset Markets

Real estate securities were up during the third quarter in the U.S. but down abroad. Gains by sector were led by Apartments (+7.8%) and Residential (+6.7%). Laggards were generally found in the Factory Outlets (-12.7%), Hotels (-2.6%) and Health Care (-2.5%) sectors. Commodity results were positive for the quarter, as crude oil was up 2.1% to \$75.03 per barrel. There was some weakness elsewhere in commodity markets, however, particularly within metals and agriculture. Natural gas prices were up 60.7% during the third quarter, ending at \$5.87 per million BTUs. Natural gas prices are now up 125% during the past six months. Midstream energy fell after three strong quarters, while the broader infrastructure segment was positive. Finally, gold prices were down -0.9% and finished at approximately \$1,755 per troy ounce.

Real Assets	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Wilshire US Real Estate Securities Index™	(5.09)	1.64	24.72	38.09
Wilshire Global Real Estate Securities Index™	(5.02)	0.37	18.50	34.35
Bloomberg Commodity	4.98	6.59	29.13	42.29
S&P Global Infrastructure	(1.28)	1.49	6.97	23.04
Alerian Midstream Energy	4.14	(1.26)	38.91	66.90

Source: Bloomberg. Indexes are total return.



## Alternatives

Liquid alternative managers posted their first quarterly loss since Q1 2020, with multi-strategy and event driven funds serving as the largest detractors to the Wilshire Liquid Alternative Index. Equity hedge managers performed well early in the quarter but faced headwinds as upward moves in the 10-year induced a broad-based equity selloff in September. Macro managers experienced a difficult three-month stretch and ended up on the negative side of flat for the quarter, with numerous reversals in macro trends across asset classes providing a challenging trading environment. Merger arbitrage and event-driven strategies performed poorly despite record levels of M&A activity inflows to the space, with losses largely attributable to a notable deal break early in the quarter.

Alternatives	MTD (%)	QTD (%)	YTD (%)	1Y (%)
Wilshire Liquid Alternative Index™	(0.92)	(0.40)	4.06	8.62
Wilshire Liquid Alternative Equity Hedge Index™	(2.09)	(0.17)	9.19	15.53
Wilshire Liquid Alternative Event Driven Index™	0.23	(0.69)	2.39	6.23
Wilshire Liquid Alternative Global Macro Index™	0.18	(0.13)	4.05	8.63
Wilshire Liquid Alternative Multi-Strategy Index™	(1.61)	(1.12)	4.33	9.00
Wilshire Liquid Alternative Relative Value Index™	(0.32)	(0.21)	1.05	4.72

Source: Bloomberg. Indexes are total return.

Liquid alternative managers were broadly negative during the third quarter



## Total Fund Overview

### Asset Class Performance

	Assets		Performance (%)					
	(\$Mil)	(%)	QTR	YTD	1-year	3-year	5-year	10-year
U.S. Equity	569.2	14.5	-0.14	18.47	41.19	14.30	15.73	15.83
International Equity	499.2	12.8	-3.47	8.41	27.93	9.95	10.49	9.24
Global Equity	282.0	7.2	-1.89	8.93	22.10	10.19	12.09	
Global Low Volatility	479.0	12.2	0.21	8.28	16.07	6.79	8.26	
Real Estate	422.2	10.8	3.40	15.43	20.96	8.39	6.69	9.80
Global Fixed Income	511.9	13.1	0.07	-0.83	0.74	5.82	3.52	3.71
High Yield	375.4	9.6	1.10	4.29	10.37	6.43	5.88	6.74
Credit Opportunities	185.0	4.7	0.44	2.94	8.88	5.50	5.22	
Global Listed Infra.	220.8	5.6	-0.75	27.94	49.71	-5.00	-2.04	
Private Equity	340.4	8.7	21.53	32.01	40.40	17.14	15.63	12.78
Cash Equivalents	28.6	0.7	0.02	0.04	0.07	1.18	1.16	0.63
<b>Total Fund</b>	<b>3,913.8</b>	<b>100.0</b>	<b>1.39</b>	<b>11.22</b>	<b>21.74</b>	<b>8.50</b>	<b>8.55</b>	<b>9.40</b>
<b>Asset Allocation Policy</b>			<b>0.28</b>	<b>10.20</b>	<b>21.50</b>	<b>8.98</b>	<b>8.58</b>	<b>9.26</b>
<i>Value Added vs Policy</i>			<i>1.11</i>	<i>1.02</i>	<i>0.24</i>	<i>-0.48</i>	<i>-0.03</i>	<i>0.14</i>
Actuarial Rate			1.77	5.39	7.25	7.29	7.49	7.82
Wilshire 5000 Index			0.14	15.62	32.35	16.19	17.01	16.66
S&P 500 Index			0.58	15.92	30.00	15.99	16.90	16.63
MSCI ACWI x-U.S. IMI Index			-2.56	6.77	25.16	8.34	9.13	7.74
MSCI EAFE Index			-0.45	8.35	25.73	7.62	8.81	8.10
Bloomberg Aggregate Bond Index			0.05	-1.56	-0.90	5.35	2.94	3.01
Citigroup High Yield Cash Pay			0.95	4.52	11.22	6.47	6.20	7.01
Wilshire RE Securities Index			1.64	24.72	38.09	10.34	7.11	11.48
91-Day Treasury Bill			0.02	0.04	0.07	1.18	1.15	0.61

### Total Fund Asset Growth

	Beg. Mkt (\$Millions)	Net Value	Net Contrib.	Net Distrib.	Investment Fees	Investment Gain/Loss	End Mkt Value	Total Return
<b>1Q17</b>	3,337.8	36.2	74.6	2.6	140.0	3,436.7	4.15%	
<b>2Q17</b>	3,436.7	24.9	68.7	3.2	86.6	3,476.4	2.46%	
<b>3Q17</b>	3,476.4	47.8	84.0	3.5	110.0	3,546.6	3.10%	
<b>4Q17</b>	3,546.6	31.1	74.1	3.3	107.5	3,607.8	3.02%	
<b>1Q18</b>	3,607.8	31.9	74.7	3.1	(37.9)	3,524.0	-1.09%	
<b>2Q18</b>	3,524.0	27.2	71.0	3.6	68.0	3,544.4	1.83%	
<b>3Q18</b>	3,544.4	31.6	75.1	3.3	101.0	3,598.8	2.74%	
<b>4Q18</b>	3,598.8	27.5	73.9	3.5	(274.6)	3,274.3	-7.66%	
<b>1Q19</b>	3,274.3	32.4	71.8	3.2	292.5	3,524.2	8.90%	
<b>2Q19</b>	3,524.2	27.7	76.6	3.4	108.0	3,579.9	3.04%	
<b>3Q19</b>	3,579.9	32.8	76.2	3.2	20.4	3,553.7	0.49%	
<b>4Q19</b>	3,553.7	27.7	79.8	3.6	154.3	3,653.6	4.31%	
<b>1Q20</b>	3,653.6	32.7	75.8	3.8	(570.4)	3,036.3	-15.91%	
<b>2Q20</b>	3,036.3	28.3	76.4	3.2	337.8	3,322.8	11.03%	
<b>3Q20</b>	3,322.8	31.5	77.0	3.1	115.4	3,389.6	3.46%	
<b>4Q20</b>	3,389.6	33.0	76.5	3.4	321.1	3,663.7	9.46%	
<b>1Q21</b>	3,663.7	27.3	81.3	3.7	156.8	3,762.9	4.21%	
<b>2Q21</b>	3,762.9	27.8	79.6	4.3	201.7	3,908.6	5.26%	
<b>3Q21</b>	3,908.6	32.4	82.0	4.1	59.0	3,913.8	1.39%	

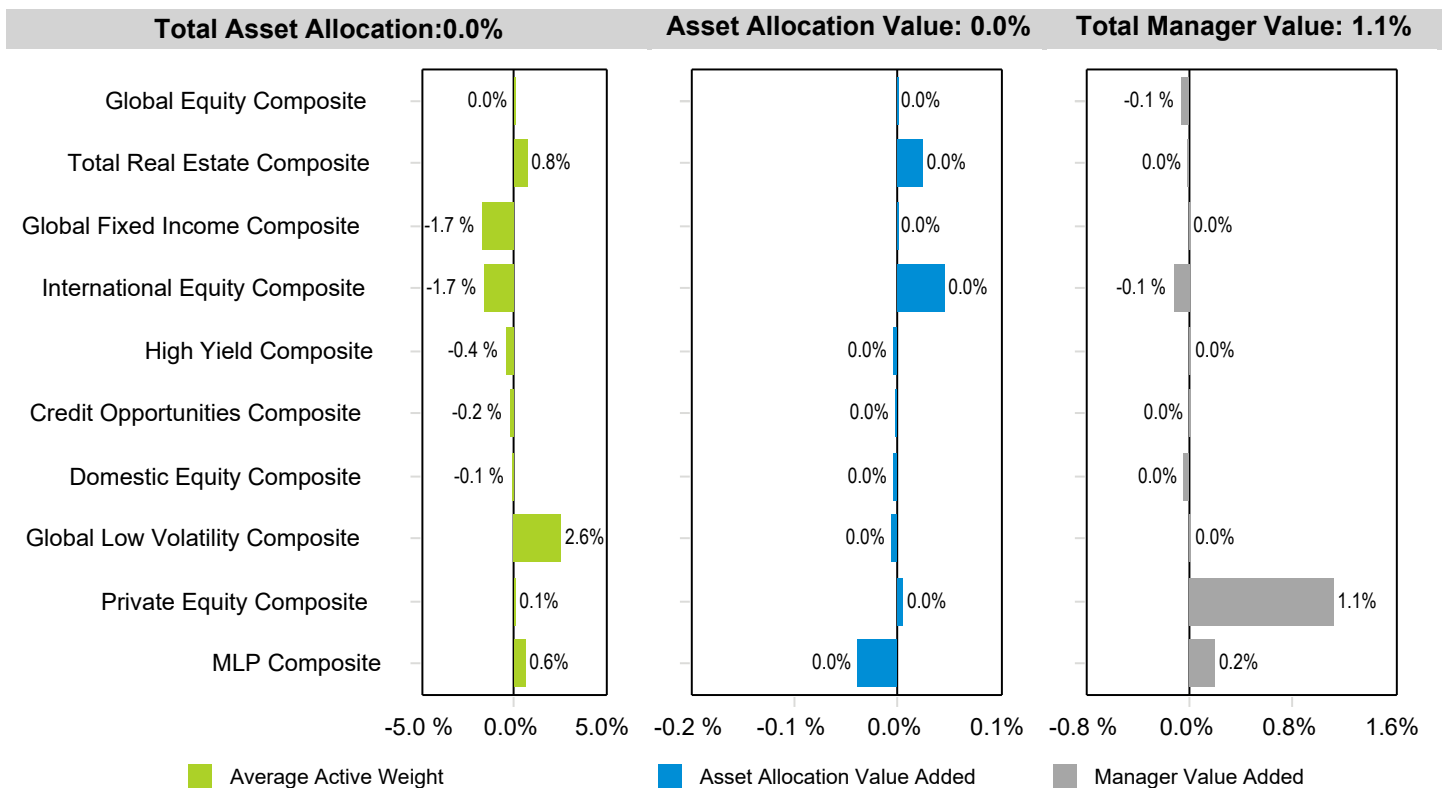
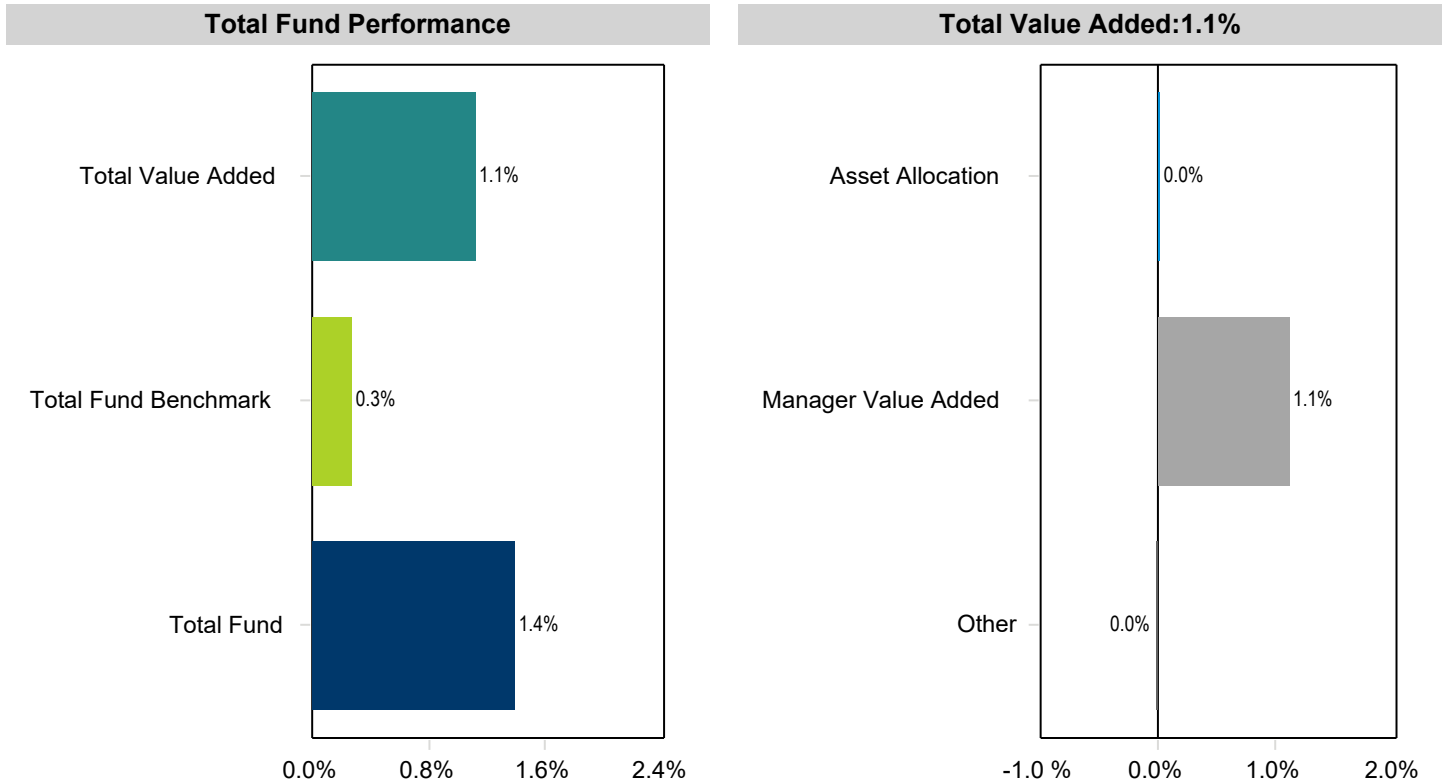
- At the end of the third quarter of 2021, the Fund's market value was \$3,913.8 million, which represented an increase of \$5.3 million in total net asset value over the previous quarter. The change in the Fund's value was driven by \$32.4 million in net contributions, \$59 million investment gain, \$82 million in net distributions and \$4.1 million in investment management fees.



# Total Fund Attribution

Dallas Total Fund

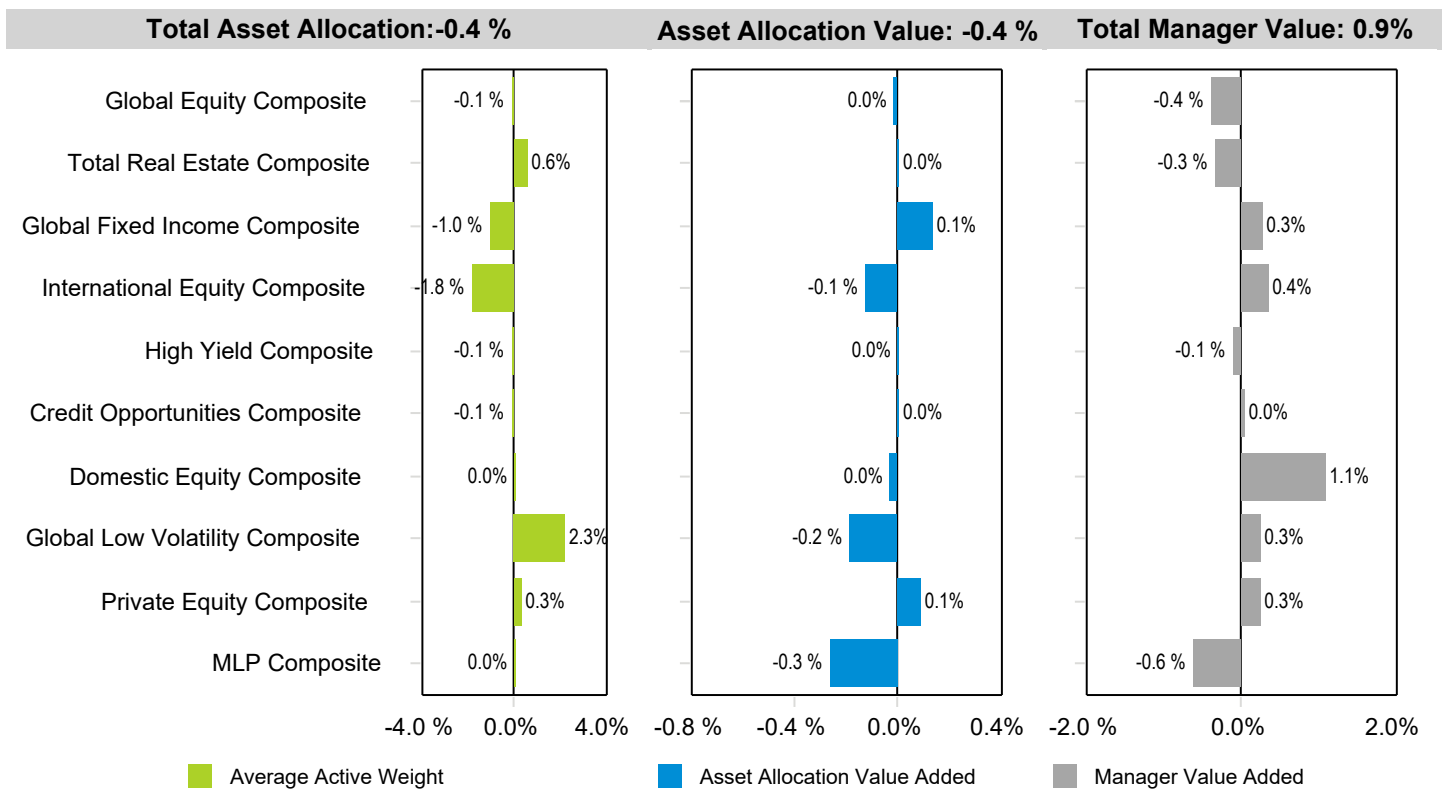
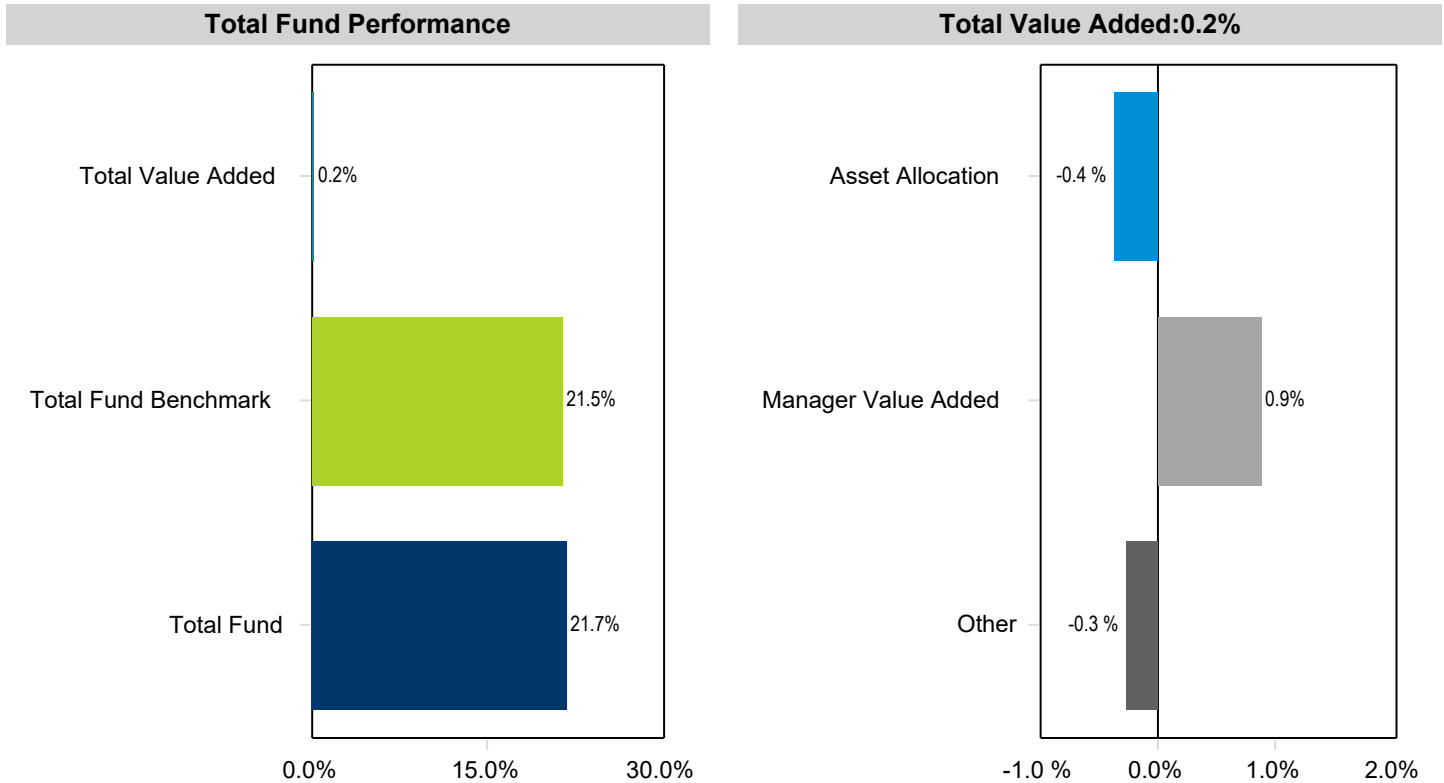
Periods Ended 1 Quarter Ending September 30, 2021



# Total Fund Attribution

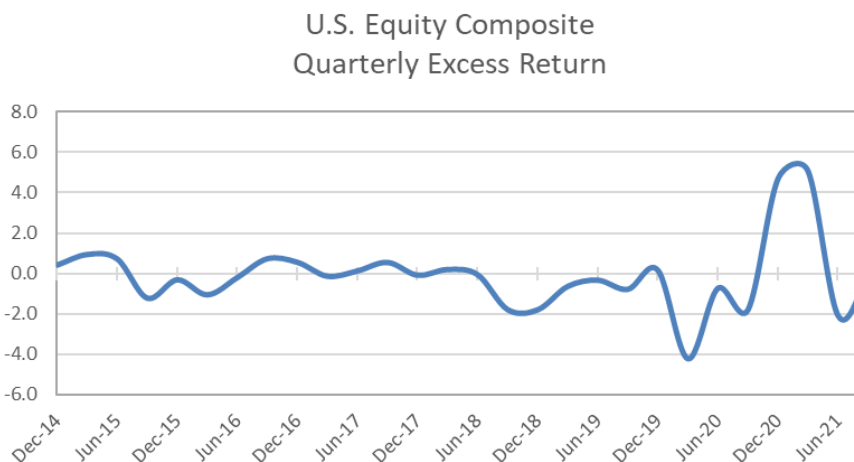
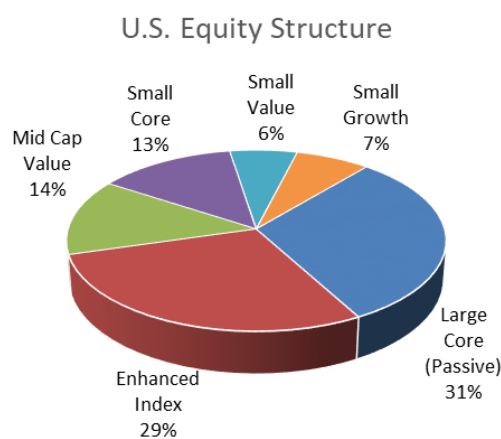
Dallas Total Fund

Periods Ended 1 Year Ending September 30, 2021





## U.S. Equity Overview



## Composite

	Assets		Performance				
	(Millions)	QTR	YTD	1-year	3-year	5-year	10-year
<b>Total U.S. Equity (Gross)</b>	<b>\$ 569.2</b>	<b>-0.03</b>	<b>18.84</b>	<b>41.79</b>	<b>14.79</b>	<b>16.18</b>	<b>16.26</b>
<b>Total U.S. Equity (Net)</b>		<b>-0.14</b>	<b>18.47</b>	<b>41.19</b>	<b>14.30</b>	<b>15.73</b>	<b>15.83</b>
Custom Benchmark <sup>1</sup>		0.14	15.62	32.35	16.19	17.01	16.66
<i>Net of Fee Value Added vs Benchmark</i>		<i>-0.29</i>	<i>2.86</i>	<i>8.84</i>	<i>-1.89</i>	<i>-1.27</i>	<i>-0.83</i>
<b>Small Cap Composite</b>	<b>\$ 153.2</b>	<b>-1.81</b>	<b>18.23</b>	<b>51.68</b>	<b>10.58</b>	<b>13.13</b>	<b>14.64</b>
Wilshire 5000 Index		0.14	15.62	32.35	16.19	17.01	16.66
S&P 500 Index		0.58	15.92	30.00	15.99	16.90	16.63
Russell 2000 Index		-4.36	12.41	47.68	10.54	13.45	14.63

## U.S. Equity Managers

	Assets (Millions)	QTR	YTD	Performance (%)			Since Inception	Inception Date
				1-year	3-year	5-year		
<b>Large Core - Passive</b>								
<b>Northern Trust S&amp;P 500 (Gross)</b>	<b>\$ 175.8</b>	<b>0.58</b>	<b>15.92</b>	<b>30.00</b>	<b>15.96</b>	<b>16.88</b>	<b>10.89</b>	<b>Dec-94</b>
<b>Northern Trust S&amp;P 500 (Net)</b>		<b>0.58</b>	<b>15.92</b>	<b>30.00</b>	<b>15.96</b>	<b>16.87</b>	<b>10.86</b>	<b>Dec-94</b>
S&P 500 Index		0.58	15.92	30.00	15.99	16.90	10.82	Dec-94
<i>Net of Fee Value Added vs Benchmark</i>		<i>0.00</i>	<i>-0.01</i>	<i>-0.01</i>	<i>-0.04</i>	<i>-0.02</i>	<i>0.04</i>	
<b>Enhanced Index</b>								
<b>T. Rowe Price (Gross)</b>	<b>\$ 162.3</b>	<b>0.85</b>	<b>15.88</b>	<b>31.61</b>	<b>17.08</b>	<b>18.04</b>	<b>11.21</b>	<b>Mar-06</b>
<b>T. Rowe Price (Net)</b>		<b>0.77</b>	<b>15.63</b>	<b>31.22</b>	<b>16.73</b>	<b>17.69</b>	<b>10.88</b>	<b>Mar-06</b>
S&P 500 Index		0.58	15.92	30.00	15.99	16.90	10.30	Mar-06
<i>Net of Fee Value Added vs Benchmark</i>		<i>0.19</i>	<i>-0.29</i>	<i>1.22</i>	<i>0.73</i>	<i>0.79</i>	<i>0.58</i>	
<b>Information Ratio</b>				<b>0.82</b>	<b>0.59</b>	<b>0.60</b>		
<b>Sharpe Ratio</b>				<b>2.14</b>	<b>0.80</b>	<b>1.05</b>		

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



## U.S. Equity Overview (Continued)

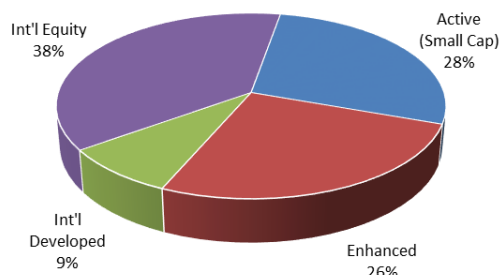
U.S. Equity Managers								
	Assets (Millions)	QTR	Performance (%)				Since Inception	Inception Date
			YTD	1-year	3-year	5-year		
<b>Small Core - Active</b>								
Systematic Financial (Gross)	\$ 75.5	-2.74	21.36	56.02	9.26	13.62	12.06	Jun-03
Systematic Financial (Net)		-2.97	20.62	54.75	8.34	12.66	11.22	Jun-03
Russell 2000 Index		-4.36	12.41	47.68	10.54	13.45	10.25	Jun-03
<i>Net of Fee Value Added vs Benchmark</i>		1.39	8.21	7.07	-2.20	-0.79	0.97	
Information Ratio				0.53	-0.30	-0.12		
Sharpe Ratio				3.05	0.29	0.56		
<b>Small Value - Active</b>								
Channing Capital Management (Gross) *	\$ 36.9	-2.11	14.86	55.94	9.90	11.91	9.47	Oct-13
Channing Capital Management (Net) *		-2.39	14.05	54.48	8.85	10.84	8.46	Oct-13
Russell 2000 Value Index		-2.98	22.92	63.92	8.58	11.03	8.64	Oct-13
<i>Net of Fee Value Added vs Benchmark</i>		0.59	-8.86	-9.44	0.26	-0.19	-0.19	
Information Ratio				-0.59	0.03	-0.03		
Sharpe Ratio				2.26	0.26	0.41		
<b>Small Growth - Active</b>								
Redwood Investments (Gross) *	\$ 40.8	1.17	18.60	45.00	16.81	16.14	16.14	Sep-16
Redwood Investments (Net) *		0.98	18.00	44.00	16.00	15.41	15.41	Sep-16
Russell 2000 Growth Index		-5.65	2.82	33.27	11.70	15.34	15.34	
<i>Net of Fee Value Added vs Benchmark</i>		6.63	15.18	10.74	4.31	0.08	0.08	
Information Ratio				0.87	0.41	0.06		
Sharpe Ratio				3.37	0.73	0.80		
<b>Mid Cap Value - Active</b>								
Smith Graham Mid Cap Value (Gross) *	\$ 77.9	-0.12	30.27	69.09	12.44		11.41	Dec-17
Smith Graham Mid Cap Value (Net) *		-0.34	29.56	67.86	11.59		10.62	Dec-17
Russell Midcap Index		-0.93	15.17	38.11	14.22		13.37	
<i>Net of Fee Value Added vs Benchmark</i>		0.59	14.39	29.76	-2.62		-2.76	
Information Ratio				1.96	-0.20	--		
Sharpe Ratio				3.47	0.35	--		

- ◆ The Fund's domestic equity composite generated a return of -0.14% (net of fees) during the third quarter of 2021, lagging the Wilshire 5000 Total Market Index, which returned 0.14%. Relative performance was positive during the quarter for Redwood Investments, T. Rowe Price, and Channing Capital. Relative performance was negative for 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.

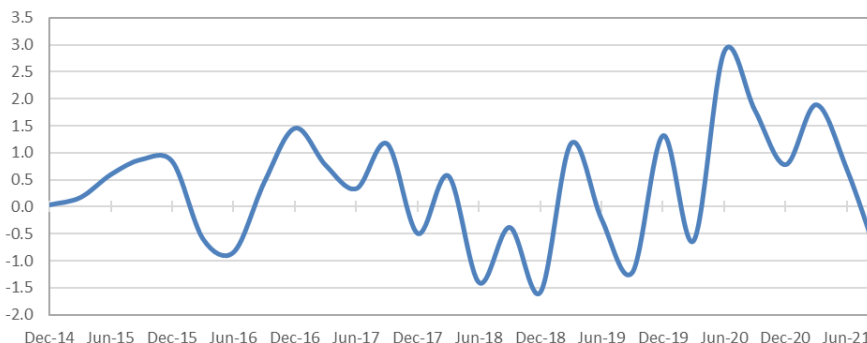


## International Equity Overview

International Equity Structure



International Equity Composite  
 Quarterly Excess Return



### International Equity Composite

	Assets		Performance				
	(Millions)	QTR	YTD	1-year	3-year	5-year	10-year
Total International Equity (Gross)	\$ 499.2	-3.34	8.85	28.64	10.51	11.03	9.73
Total International Equity (Net)		-3.47	8.41	27.93	9.95	10.49	9.24
Custom Benchmark <sup>1</sup>		-2.56	6.77	25.16	8.34	9.13	7.74
<i>Net of Fee Value Added vs Benchmark</i>		-0.91	1.64	2.77	1.60	1.37	1.50
MSCI ACWI x-US IMI (Net)		-2.56	6.77	25.16	8.34	9.13	7.74
MSCI ACWI x-US (Net)		-2.99	5.90	23.92	8.03	8.94	7.48
MSCI EAFE (Net)		-0.45	8.35	25.73	7.62	8.81	8.10
MSCI Emerging Markets		-8.09	-1.25	18.20	8.58	9.23	6.09

### International Equity Managers

	Assets		Performance (%)				Since Inception	Inception Date
	(Millions)	QTR	YTD	1-year	3-year	5-year		
<b>Int'l Small Cap - Active</b>								
Acadian International (Gross)	\$ 137.9	-3.34	15.58	36.35	10.71	12.50	9.28	Mar-89
Acadian International (Net)		-3.46	15.14	35.64	10.11	11.88	8.82	Mar-89
Custom Benchmark		0.00	12.23	33.06	10.33	10.28		Mar-89
<i>Net of Fee Value Added vs Benchmark</i>		-3.46	2.91	2.58	-0.23	1.61		
<b>Information Ratio</b>				<b>0.43</b>	<b>-0.05</b>	<b>0.35</b>		
<b>Sharpe Ratio</b>				<b>2.25</b>	<b>0.42</b>	<b>0.62</b>		

<sup>2</sup> 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)

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



## International Equity Overview (Continued)

### International Equity Managers

	Assets (Millions)	QTR	Performance (%)				Since Inception	Inception Date
			YTD	1-year	3-year	5-year		
<b>Int'l Enhanced Index</b>								
AQR Capital Management (Gross)	\$ 130.6	-4.95	5.78	22.47	8.04	9.23	4.82	Mar-06
AQR Capital Management (Net)		-5.10	5.33	21.76	7.43	8.62	4.28	Mar-06
Custom Benchmark		-2.99	5.90	23.92	8.03	8.94	3.90	Mar-06
<i>Net of Fee Value Added vs Benchmark</i>		-2.11	-0.57	-2.16	-0.59	-0.33	0.38	
<b>Information Ratio</b>				-0.59	-0.19	-0.11		
<b>Sharpe Ratio</b>				1.46	0.34	0.48		
<b>Int'l Developed</b>								
Ativo International Developed (Gross) *	\$ 42.7	-0.20	10.75	21.79	6.90		5.69	Dec-17
Ativo International Developed (Net) *		-0.35	10.28	21.10	6.27		5.08	Dec-17
MSCI EAFE Index		-0.45	8.35	25.73	7.62		5.65	
<i>Net of Fee Value Added vs Benchmark</i>		0.10	1.93	-4.63	-1.35		-0.57	
<b>Information Ratio</b>				-0.75	-0.25	--		
<b>Sharpe Ratio</b>				1.42	0.27	--		
<b>Int'l Equity (Active)</b>								
Baillie Gifford (Gross)	\$ 88.9	-5.01	0.91	16.79			17.86	Mar-19
Baillie Gifford (Net)		-5.14	0.52	16.16			17.35	Mar-19
MSCI ACWI x-US (Net)		-2.99	5.90	23.92			10.75	
<i>Net of Fee Value Added vs Benchmark</i>		-2.15	-5.38	-7.75			6.60	
<b>Information Ratio</b>				-1.51	--	--		
<b>Sharpe Ratio</b>				1.08	--	--		
<b>Int'l Equity (Active)</b>								
Earnest Partners (Gross) *	\$ 99.1	-0.89	11.38	43.30			14.43	Mar-19
Earnest Partners (Net) *		-1.04	10.91	42.48			13.80	Mar-19
MSCI ACWI x-US (Net)		-2.99	5.90	23.92			10.75	
<i>Net of Fee Value Added vs Benchmark</i>		1.95	5.01	18.56			3.05	
<b>Information Ratio</b>				2.46	--	--		
<b>Sharpe Ratio</b>				2.10	--	--		

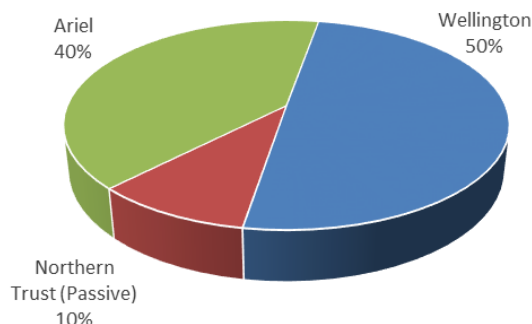
- ◆ The Fund's international equity composite returned -3.47% (net of fees) during the third quarter of 2021, trailing the MSCI ACWI x-US Investable Market Index (IMI) which returned -2.56%. Active management was inconsistent for the Fund's international equity program with three of the managers trailing their respective benchmarks and two outperforming. The program's long-standing small cap international equity mandate managed by Acadian trailed its benchmark by a robust margin. The program's negative performance was fueled by Acadian and AQR Capital Management, which trailed its benchmark by a significant margin. 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 except the current quarter.

<sup>5</sup> 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		Performance				
	(Millions)	QTR	YTD	1-year	3-year	5-year	10-year
<b>Total Global Equity (Gross)</b>	\$ 282.0	-1.76	9.36	22.76	10.80	12.64	
<b>Total Global Equity (Net)</b>		-1.89	8.93	22.10	10.19	12.09	
MSCI ACWI (Net)		-1.05	11.12	27.44	12.58	13.20	
<i>Net of Fee Value Added vs Index</i>		-0.84	-2.19	-5.34	-2.39	-1.10	
MSCI ACWI IMI (Net)		-1.11	11.42	28.92	12.38	13.06	11.96
MSCI ACWI (Net)		-1.05	11.12	27.44	12.58	13.20	11.90
MSCI World (Net)		-0.01	13.04	28.82	13.14	13.74	12.68

### Global Equity Managers

	Assets (Millions)	QTR	Performance (%)			Since Inception	Inception Date
			YTD	1-year	3-year		
<b>Global Equity - Active</b>							
<b>Wellington (Gross)</b>	\$ 140.6	-0.57	10.64	25.13	13.64	14.21	13.76 Aug-12
<b>Wellington (Net)</b>		-0.72	10.17	24.38	12.97	13.55	13.13 Aug-12
MSCI ACWI (Net)		-1.05	11.12	27.44	12.58	13.20	11.21 Aug-12
<i>Net of Fee Value Added vs Benchmark</i>		0.34	-0.95	-3.05	0.39	0.35	1.91
<b>Information Ratio</b>				-0.68	0.10	0.09	
<b>Sharpe Ratio</b>				1.91	0.61	0.80	
<b>Global Equity - Active</b>							
<b>Ariel (Gross) *</b>	\$ 114.0	-3.31	7.32	18.70	6.99	7.49	Dec-17
<b>Ariel (Net) *</b>		-3.46	6.84	17.98	6.34	6.86	Dec-17
MSCI ACWI (Net)		-1.05	11.12	27.44	12.58	11.05	
<i>Net of Fee Value Added vs Benchmark</i>		-2.40	-4.27	-9.45	-6.24	-4.18	
<b>Information Ratio</b>				-1.23	-0.80	--	
<b>Sharpe Ratio</b>				1.50	0.35	--	
<b>Global Equity - Passive</b>							
<b>Northern Trust (Gross)</b>	\$ 27.5	-1.25	11.42	28.90	12.84	13.53	13.41 Oct-15
<b>Northern Trust (Net)</b>		-1.25	11.42	28.90	12.83	13.49	13.37 Oct-15
MSCI ACWI IMI (Net)		-1.11	11.42	28.92	12.38	13.06	12.93 Oct-15
<i>Net of Fee Value Added vs Benchmark</i>		-0.14	-0.01	-0.02	0.45	0.43	0.45



## Global Equity Overview (Continued)

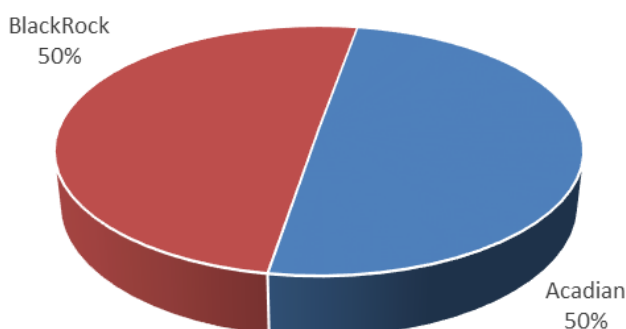
- ◆ The global equity composite is comprised of an actively-managed strategy (with a U.S. bias relative to the benchmark) managed by Wellington. This strategy is complemented by a passively-managed strategy provided by Northern Trust. The composite also added an exposure to the Ariel Global Product strategy nearly four years ago. The current structure favors active management (currently 90% active/10% passive) versus the previous 50%/50% allocation between active and passively managed funds within the composite. During the third 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	Performance					
	(Millions)	QTR	YTD	1-year	3-year	5-year	10-year
Total Global Low Volatility (Gross)	\$ 479.0	0.26	8.43	16.28	7.00	8.46	
Total Global Low Volatility (Net)		0.21	8.28	16.07	6.79	8.26	
MSCI ACWI Minimum Volatility (Net)		0.08	7.20	14.08	7.55	8.48	
<i>Net of Fee Value Added vs Index</i>		0.13	1.08	1.99	-0.77	-0.21	
MSCI ACWI Minimum Volatility (Net)		0.08	7.20	14.08	7.55	8.48	9.92
MSCI World x-US Minimum Volatility (Net)		-0.11	5.31	13.24	4.76	5.89	7.57
MSCI ACWI (Net)		-1.05	11.12	27.44	12.58	13.20	11.90

### Global Equity Managers

	Assets (Millions)	QTR	Performance (%)				Since Inception	Inception Date
			YTD	1-year	3-year	5-year		
<b>Global Low Volatility - Active</b>								
Acadian Global Low Vol (Gross)	\$ 238.8	0.39	9.46	18.17	6.42	8.20	8.24	Jun-15
Acadian Global Low Vol (Net)		0.30	9.20	17.78	6.05	7.84	7.89	Jun-15
MSCI ACWI (Net)		-1.05	11.12	27.44	12.58	13.20	10.67	Jun-15
<i>Net of Fee Value Added vs MSCI ACWI</i>		1.36	-1.92	-9.65	-6.53	-5.36	-2.78	
MSCI ACWI Min Vol (Net)		0.08	7.20	14.08	7.55	8.48	8.56	Jun-15
<i>Net of Fee Value Added vs MSCI ACWI Min Vol</i>		0.22	2.00	3.71	-1.50	-0.64	-0.67	
<b>Information Ratio</b>				-0.99	-0.89	-0.88		
<b>Sharpe Ratio</b>				1.58	0.31	0.53		
<b>Global Low Volatility - Passive</b>								
BlackRock Global Low Vol (Gross)	\$ 240.3	0.13	7.42	14.46	7.57	8.71	8.86	Jun-15
BlackRock Global Low Vol (Net)		0.12	7.39	14.42	7.52	8.68	8.83	Jun-15
MSCI ACWI Min Vol (Net)		0.08	7.20	14.08	7.55	8.48	8.56	Jun-15
<i>Net of Fee Value Added vs Benchmark</i>		0.04	0.19	0.34	-0.03	0.20	0.27	

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



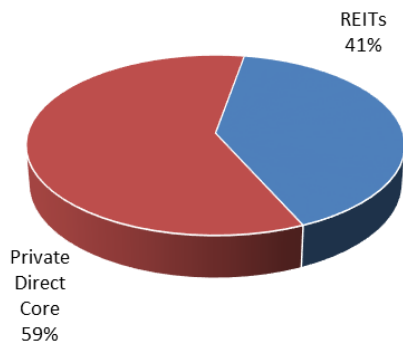
## Global Low Volatility Equity Overview (Continued)

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

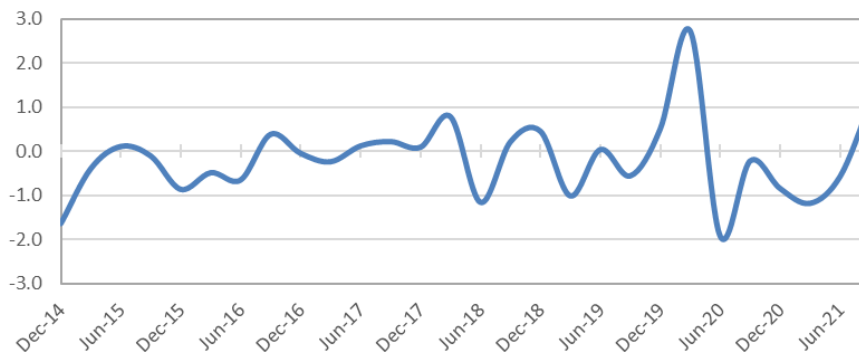


## Real Estate Overview

Real Estate Structure



Total Real Estate Composite  
 Quarterly Excess Return



## Real Estate Composite

	Assets		Performance				
	(Millions)	QTR	YTD	1-year	3-year	5-year	10-year
<b>Total Real Estate (Gross)</b>	<b>\$ 422.2</b>	<b>3.54</b>	<b>15.90</b>	<b>21.63</b>	<b>9.01</b>	<b>7.32</b>	<b>10.53</b>
<b>Total Real Estate (Net)</b>		<b>3.40</b>	<b>15.43</b>	<b>20.96</b>	<b>8.39</b>	<b>6.69</b>	<b>9.80</b>
Custom Benchmark <sup>1</sup>		3.48	17.44	24.05	9.09	7.08	10.10
<i>Net of Fee Value Added vs Benchmark</i>		<i>-0.08</i>	<i>-2.01</i>	<i>-3.09</i>	<i>-0.70</i>	<i>-0.39</i>	<i>-0.30</i>
REIT Strategies	\$ 162.9	1.80	25.13	39.44	12.18	8.07	11.57
Private Core Real Estate	\$ 259.3	4.53	10.43	11.07	6.12	5.97	8.49
Wilshire Real Estate Securities Index		1.64	24.72	38.09	10.34	7.11	11.48
NCREIF Open Diversified Core Equity (Net)		6.42	12.42	13.65	6.13	6.56	8.92

## Real Estate Managers

	Assets (Millions)	Performance (%)					Since Inception	Inception Date
		QTR	YTD	1-year	3-year	5-year		
<b>Real Estate Securities - Public</b>								
<b>Adelante Capital Management (Gross)</b>	<b>\$ 81.9</b>	<b>2.58</b>	<b>27.33</b>	<b>41.40</b>	<b>13.43</b>	<b>9.19</b>	<b>10.85</b>	Sep-01
<b>Adelante Capital Management (Net)</b>		<b>2.45</b>	<b>26.82</b>	<b>40.62</b>	<b>12.78</b>	<b>8.56</b>	<b>10.25</b>	Sep-01
Wilshire Real Estate Securities		1.64	24.72	38.09	10.34	7.11	10.31	Sep-01
<i>Net of Fee Value Added vs Index</i>		<i>0.81</i>	<i>2.10</i>	<i>2.53</i>	<i>2.44</i>	<i>1.45</i>	<i>-0.06</i>	
<b>Information Ratio</b>				<b>1.52</b>	<b>1.20</b>	<b>0.76</b>		
<b>Sharpe Ratio</b>				<b>2.95</b>	<b>0.62</b>	<b>0.47</b>		
<b>CenterSquare (Gross)</b>	<b>\$ 81.0</b>	<b>1.27</b>	<b>23.89</b>	<b>38.91</b>	<b>12.12</b>		<b>12.81</b>	May-18
<b>CenterSquare (Net)</b>		<b>1.15</b>	<b>23.47</b>	<b>38.26</b>	<b>11.58</b>		<b>12.30</b>	May-18
Wilshire Real Estate Securities		1.64	24.72	38.09	10.34		10.93	May-18
<i>Net of Fee Value Added vs Index</i>		<i>-0.49</i>	<i>-1.26</i>	<i>0.17</i>	<i>1.24</i>		<i>1.37</i>	
<b>Information Ratio</b>				<b>0.08</b>	<b>0.69</b>	<b>--</b>		
<b>Sharpe Ratio</b>				<b>2.44</b>	<b>0.53</b>	<b>--</b>		

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



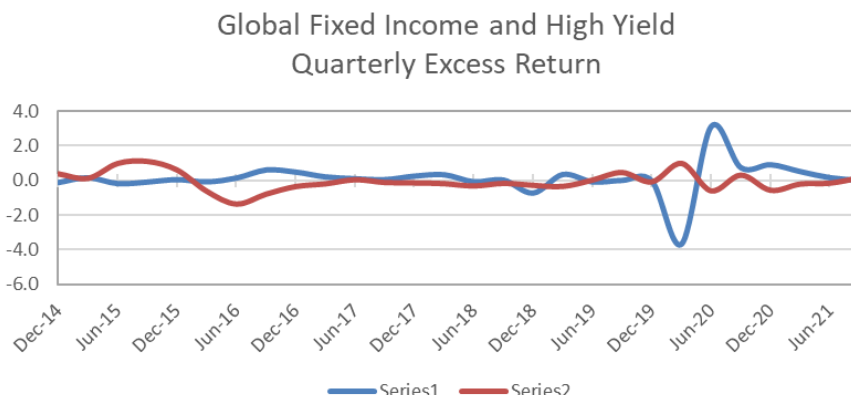
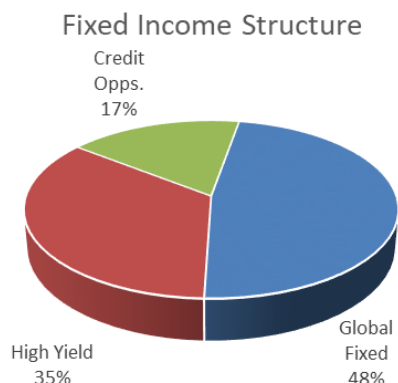
## Real Estate Overview (Continued)

Real Estate Managers								
	Assets (Millions)	Performance (%)					Since Inception	Inception Date
		QTR	YTD	1-year	3-year	5-year		
<b>Direct Core Real Estate - Private</b>								
Heitman America Real Estate Trust (Gross)	\$ 91.6	7.05	14.48	16.58	5.30	6.43	10.67	Aug-10
Heitman America Real Estate Trust (Net)		6.81	13.70	15.53	4.35	5.48	9.65	Aug-10
NCREIF Open-End Diversified Core (Net)		6.42	12.42	13.65	6.13	6.56	9.80	Aug-10
<i>Net of Fee Value Added vs Index</i>		0.39	1.28	1.88	-1.78	-1.08	-0.15	
Invesco Core Real Estate USA (Gross)	\$ 77.4	7.85	15.27	17.42	8.02	8.74	11.37	Aug-10
Invesco Core Real Estate USA (Net)		7.61	14.52	16.40	7.09	7.81	10.40	Aug-10
NCREIF Open-End Diversified Core (Net)		6.42	12.42	13.65	6.13	6.56	9.80	Aug-10
<i>Net of Fee Value Added vs Index</i>		1.19	2.10	2.75	0.96	1.25	0.60	
AEW Partners Real Estate Fund IX (Gross)	\$ 4.6	2.46					-27.36	Apr-21
AEW Partners Real Estate Fund IX (Net)		2.46					-27.36	Apr-21
NCREIF Open-End Diversified Core (Net)		6.42					12.42	Apr-21
<i>Net of Fee Value Added vs Index</i>		-3.96					-39.78	
Virtus Real Estate Capital III (Gross)	\$ 15.6	-0.88					16.30	Feb-21
Virtus Real Estate Capital III (Net)		-0.88					16.30	Feb-21
NCREIF Open-End Diversified Core (Net)		6.42					12.42	Feb-21
<i>Net of Fee Value Added vs Index</i>		-7.30					3.88	
Invesco II	\$ 70.1	0.00	1.62	0.00	7.97	4.53	2.77	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 3.40% (net of fees) during the third quarter, trailing its benchmark (split 50% Wilshire Real Estate Securities Index, 39% NCREIF Open-End Diversified Core Index and 11% Invesco II Custom Benchmark) which returned 3.48%. 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 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		Performance				
	(Millions)	QTR	YTD	1-year	3-year	5-year	10-year
<b>Global Fixed Income (Gross)</b>	\$ 511.9	0.12	-0.68	0.95	6.05	3.74	3.91
<b>Global Fixed Income (Net)</b>		0.07	-0.83	0.74	5.82	3.52	3.71
Bloomberg Aggregate Bond Index		0.05	-1.56	-0.90	5.35	2.94	3.01
<i>Net of Fee Value Added vs Benchmark</i>		0.02	0.72	1.64	0.47	0.58	0.70
<b>High Yield (Gross)</b>	\$ 375.4	1.22	4.66	10.85	6.94	6.39	7.25
<b>High Yield (Net)</b>		1.10	4.29	10.37	6.43	5.88	6.74
Custom Benchmark <sup>1</sup>		0.95	4.52	11.22	6.47	6.20	7.01
<i>Net of Fee Value Added vs Benchmark</i>		0.15	-0.23	-0.85	-0.04	-0.32	-0.27
Bloomberg Aggregate		0.05	-1.56	-0.90	5.35	2.94	3.01
Citigroup High Yield Cash Pay		0.95	4.52	11.22	6.47	6.20	7.01
BofA ML High Yield Master II		0.94	4.67	11.46	6.62	6.35	7.29

## Global Fixed Income Managers

	Assets		Performance (%)				Since Inception	Inception Date
	(Millions)	QTR	YTD	1-year	3-year	5-year		
<b>Global Fixed Income</b>								
<b>Securian Asset Mgmt. (Gross)</b>	\$ 223.7	0.20	0.02	1.94	5.72	3.77	4.82	May-07
<b>Securian Asset Mgmt. (Net)</b>		0.16	-0.11	1.76	5.54	3.59	4.64	May-07
Bloomberg Aggregate		0.05	-1.56	-0.90	5.35	2.94	4.23	May-07
<i>Net of Fee Value Added vs Benchmark</i>		0.10	1.45	2.66	0.18	0.65	0.41	
<b>Information Ratio</b>				3.28	0.05	0.23		
<b>Sharpe Ratio</b>				0.52	0.81	0.54		

<sup>7</sup> 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)	Performance (%)					Since Inception	Inception Date
		QTR	YTD	1-year	3-year	5-year		
NT Collective Agg. Bond Index (Gross)	\$ 221.5	0.07					0.07	Jul-21
NT Collective Agg. Bond Index (Net)		0.07					0.07	Jul-21
Bloomberg Aggregate		0.05					0.05	Jul-21
<i>Net of Fee Value Added vs Benchmark</i>		<i>0.02</i>					<i>0.02</i>	
<b>Information Ratio</b>				--	--	--		
<b>Sharpe Ratio</b>				--	--	--		
<b>Global Fixed Income</b>								
Garcia Hamilton (Gross)	\$ 66.6	-0.02	-1.95	-1.17	4.68	3.03	3.71	Oct-13
Garcia Hamilton (Net)		-0.09	-2.14	-1.43	4.42	2.76	3.46	Oct-13
Bloomberg Aggregate		0.05	-1.56	-0.90	5.35	2.94	3.28	Oct-13
<i>Net of Fee Value Added vs Benchmark</i>		<i>-0.14</i>	<i>-0.58</i>	<i>-0.53</i>	<i>-0.94</i>	<i>-0.18</i>	<i>0.18</i>	
<b>Information Ratio</b>				-0.77	-0.67	-0.15		
<b>Sharpe Ratio</b>				-0.58	0.95	0.53		

- ◆ The Fund's global fixed income segment returned 0.07% (net of fees) during the third quarter of 2021, outperforming the Bloomberg Aggregate Bond Index, which returned 0.05%. The segment has historically been comprised of three actively managed strategies: (1) Securian Asset Management (previously Advantus Capital Management), (2) Aberdeen Asset Management, and (3) Garcia Hamilton. Last period, Aberdeen Asset Management was defunded while the passive Collective Aggregate Bond Index managed by Northern Trust was funded as its replacement. The remaining actively managed portfolios 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	Performance (%)				Since Inception	Inception Date
			YTD	1-year	3-year	5-year		
<b>High Yield</b>								
Oaktree Capital Management (Gross)	\$ 189.1	1.14	4.65	11.33	6.55	6.05	7.21	Dec-96
Oaktree Capital Management (Net)		1.01	4.27	10.79	6.03	5.53	6.70	Dec-96
Citigroup High Yield Cash Pay		0.95	4.52	11.22	6.47	6.20	6.86	Dec-96
<i>Net of Fee Value Added vs Benchmark</i>		0.07	-0.25	-0.43	-0.44	-0.66	-0.16	
<b>Information Ratio</b>				-0.79	-0.37	-0.66		
<b>Sharpe Ratio</b>				2.91	0.54	0.61		
<b>BlackRock High Yield (Gross)</b>								
BlackRock High Yield (Gross)	\$ 186.3	1.30	4.66	10.37	7.32	6.71	6.98	Sep-06
BlackRock High Yield (Net)		1.19	4.31	9.96	6.82	6.22	6.51	Sep-06
Citigroup High Yield Cash Pay		0.95	4.52	11.22	6.47	6.20	6.94	Sep-06
<i>Net of Fee Value Added vs Benchmark</i>		0.24	-0.21	-1.26	0.35	0.02	-0.43	
<b>Information Ratio</b>				-0.23	0.11	0.01		
<b>Sharpe Ratio</b>				1.24	0.59	0.67		
<b>Credit Opportunities</b>								
Neuberger Berman (Gross)	\$ 185.0	0.51	3.16	9.22	5.82	5.53	6.92	Jan-16
Neuberger Berman (Net)		0.44	2.94	8.88	5.50	5.22	6.63	Jan-16
Custom Benchmark		0.46	2.57	8.07	5.50	4.97	6.73	Jan-16
<i>Net of Fee Value Added vs Benchmark</i>		-0.02	0.36	0.81	0.00	0.26	-0.09	
<b>Information Ratio</b>				1.00	0.00	0.16		
<b>Sharpe Ratio</b>				2.16	0.40	0.48		

- ◆ The high yield composite returned 1.10% (net of fees) during the third quarter, outperforming the Citigroup High Yield Cash Pay Index, which returned 0.95%. The composite is currently split equally between the two actively-managed strategies. During the period, both strategies outperformed the benchmark. The high yield composite is currently trailing its benchmark over all time periods beyond the current period.

<sup>8</sup> 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	16,455,803	1.78	12.2%
Hamilton Lane Fund VII LP (Series B)	20,000,000	2010	18,031,161	90.2%	14,960,416	7,761,791	1.26	4.4%
<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>24,217,594</i>	<i>1.57</i>	<i>7.1%</i>
Hamilton Lane Secondary Fund II LP	25,000,000	2009	22,058,532	88.2%	31,007,605	461,599	1.43	13.5%
Hamilton Lane Secondary Fund III LP	30,000,000	2012	23,372,292	77.9%	25,387,382	5,682,173	1.33	10.2%
Hamilton Lane Secondary Fund IV LP	30,000,000	2017	25,907,343	86.4%	17,076,274	24,524,072	1.61	23.9%
Hamilton Lane Secondary Fund V LP	40,000,000	2020	29,795,744	74.5%	2,124,965	37,096,615	1.32	57.4%
Hamilton Lane Fund VIII LP (Global)	30,000,000	2012	22,162,244	73.9%	9,635,728	21,423,318	1.40	7.0%
GCM Grosvenor - Partnership, L.P.	75,000,000	2011	85,868,430	114.5%	106,904,598	36,224,498	1.67	14.3%
GCM Grosvenor - Partnership II, L.P. (2014)	60,000,000	2014	69,559,751	115.9%	52,696,582	56,288,841	1.57	15.7%
GCM Grosvenor - Partnership II, L.P. (2015)	30,000,000	2015	34,423,858	114.7%	9,770,143	45,886,269	1.62	16.3%
GCM Grosvenor - Partnership II, L.P. (2017)	30,000,000	2018	19,501,710	65.0%	3,376,212	20,047,408	1.20	13.2%
GCM Grosvenor - Advance Fund, L.P.	10,000,000	2021	1,359,265	13.6%		1,661,168	1.22	
Fairview Capital - Lone Star Fund I	40,000,000	2015	35,513,040	88.8%	9,273,654	49,478,435	1.65	17.3%
Fairview Capital - Lone Star Fund II	30,000,000	2018	12,797,793	42.7%	107,274	15,747,851	1.24	7.7%
Fairview Capital - Lone Star Fund III	25,000,000	2021	1,769,971	7.1%		1,694,554	0.96	-5.4%
<b>Total Private Equity Program</b>	<b>505,000,000</b>	<b>2009</b>	<b>429,690,806</b>	<b>85.1%</b>	<b>314,934,733</b>	<b>340,434,395</b>	<b>1.53</b>	<b>14.2%</b>

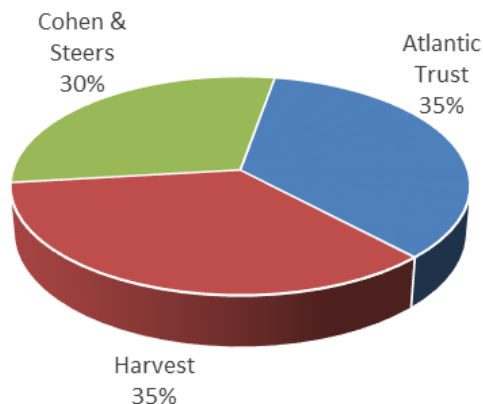
- Multiple calculation = (market value + distributions) / capital called
- Internal Rate of Return shown here is calculated by Wilshire based on cumulative cash flows and annualized since inception.





## 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)	\$ 220.8	-0.59	28.52	50.73	-4.34	-1.38	
Global Listed Infra (Net)		-0.75	27.94	49.71	-5.00	-2.04	
GLI Custom Benchmark		-4.26	30.85	67.23	-7.42	-4.33	
<i>Net of Fee Value Added vs Index</i>		3.51	-2.91	-17.52	2.42	2.29	
Alerian MLP Index		-5.71	39.40	84.63	-4.32	-2.42	1.21
S&P MLP Index		-6.07	31.92	65.52	-11.81	-9.08	-5.03
Bloomberg Commodities Index		6.59	29.13	42.29	6.86	4.54	-2.66
FTSE Global Core Infra 50/50 Idx Net		-0.25	6.83				

### Managers

	Assets (Millions)	Performance (%)					Since Inception	Inception Date
		QTR	YTD	1-year	3-year	5-year		
<b>MLPs</b>								
Harvest Fund Advisors (Gross)	\$ 77.7	-0.53	39.74	71.57	0.81	2.05	5.14	
Harvest Fund Advisors (Net)		-0.71	38.99	70.24	0.02	1.26	4.38	Dec-11
Alerian MLP Index		-5.71	39.40	84.63	-4.32	-2.42	-0.32	Dec-11
<i>Net of Fee Value Added vs Benchmark</i>		5.00	-0.40	-14.39	4.33	3.68	4.70	
<b>Information Ratio</b>				-1.21	0.32	0.34		
<b>Sharpe Ratio</b>				3.75	-0.03	0.00		
Atlantic Trust CIBC (Gross)	\$ 77.8	-1.17	37.52	72.79	-0.84	0.45	5.10	
Atlantic Trust CIBC (Net)		-1.32	36.93	71.73	-1.44	-0.14	4.51	Dec-11
Alerian MLP Index		-5.71	39.40	84.63	-4.32	-2.42	-0.32	Dec-11
<i>Net of Fee Value Added vs Benchmark</i>		4.39	-2.46	-12.90	2.87	2.28	4.83	
<b>Information Ratio</b>				-1.31	0.31	0.31		
<b>Sharpe Ratio</b>				3.57	-0.06	-0.04		



### Global Listed Infrastructure Overview (Continued)

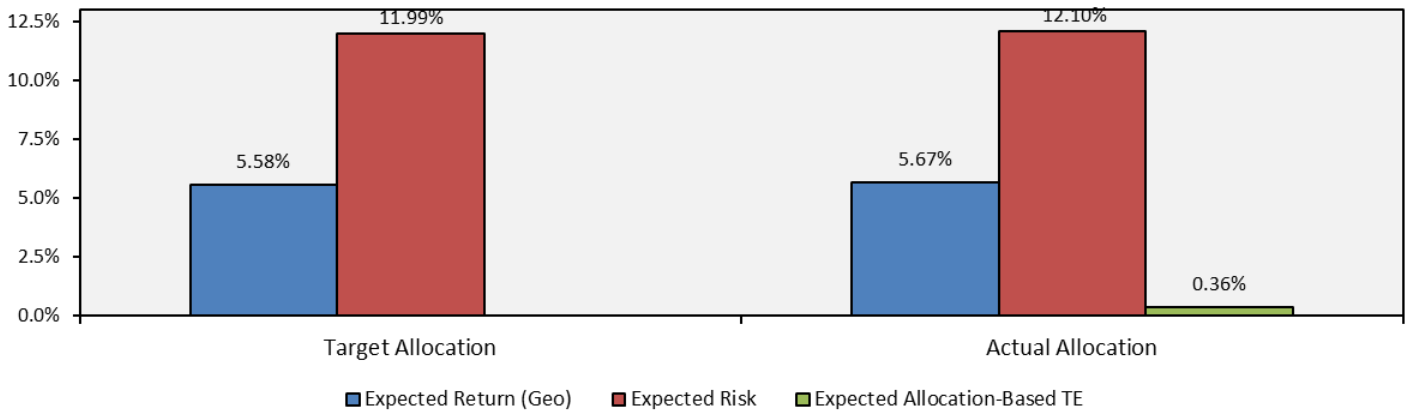
	Assets (Millions)	Performance (%)				Since Inception	Inception Date
		QTR	YTD	1-year	3-year		
<b>Global Listed Infrastructure</b>							
Cohen & Steers GLI (Gross)	\$ 65.4	0.04	8.53			17.24	
Cohen & Steers GLI (Net)		-0.11	8.10			16.77	Nov-20
FTSE Global Core Infra 50/50 Index		-0.25	6.83			16.68	Nov-20
		0.14	1.27			0.09	
				--	--	--	
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◆ The Fund’s Master Limited Partnership (MLP) program, which is comprised with nearly equal weights 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. The Global Listed Infrastructure composite is outperforming across the longer time periods, including the three- year, five- year, and since inception periods.

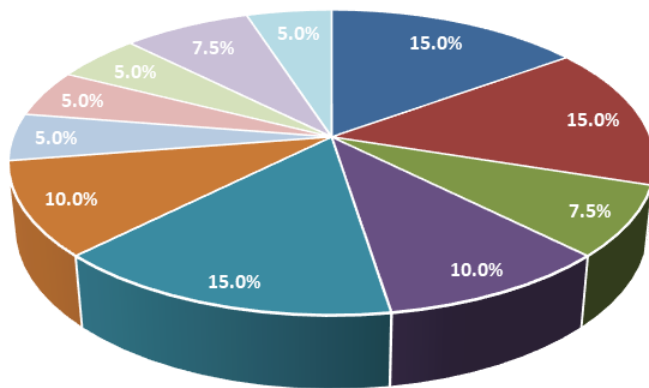
## **Appendix: Risk Analysis & Performance Objectives**



## Expected Return and Risk

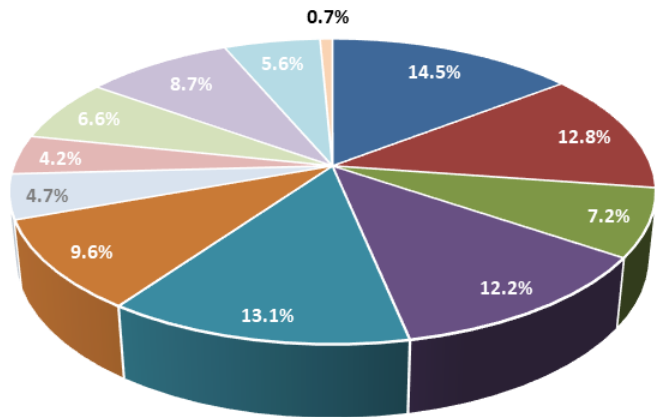


Target Asset Allocation



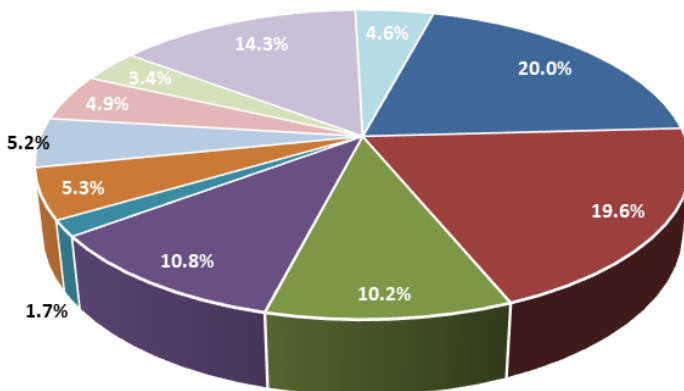
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Actual Asset Allocation



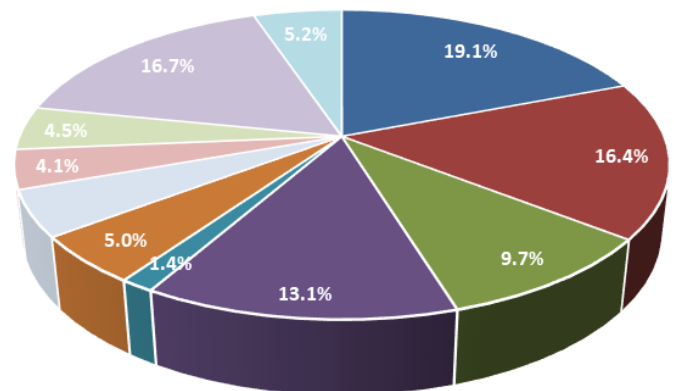
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Contribution to Total Risk - Target Allocation



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

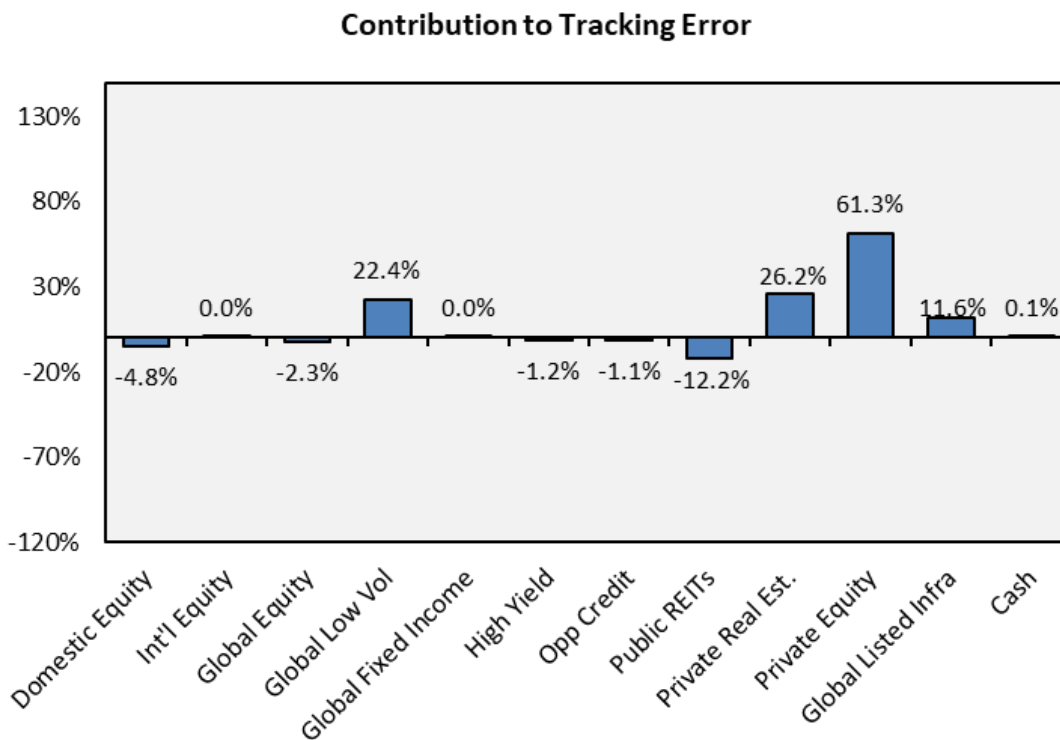
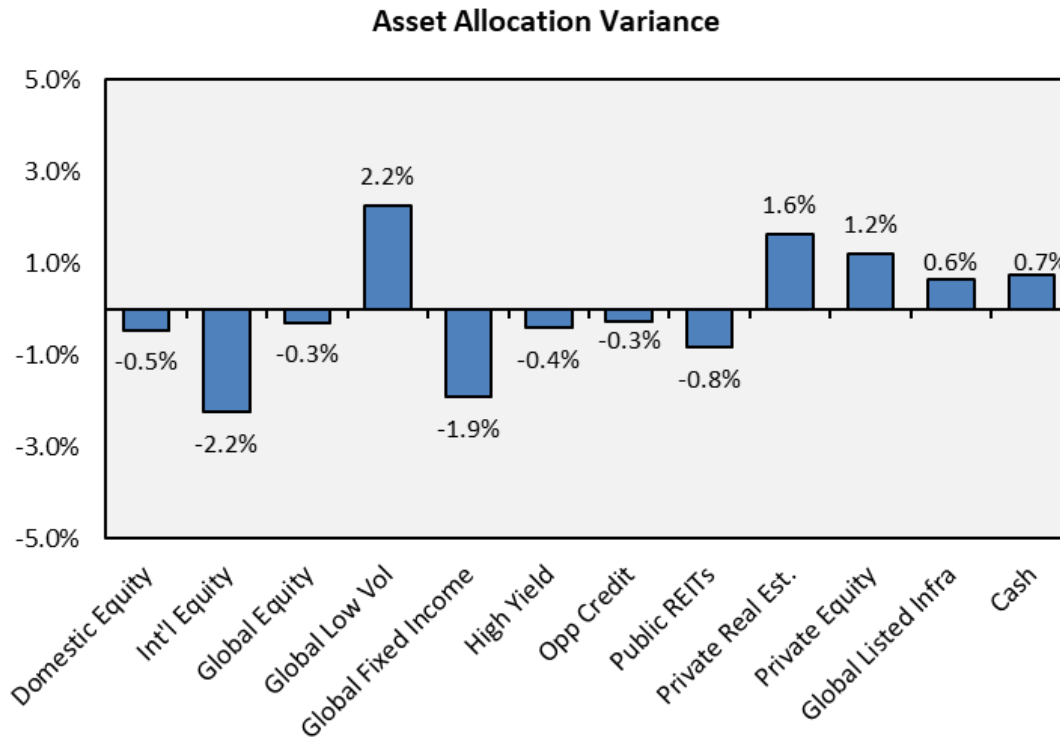
Contribution to Total Risk - Actual Allocation



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



**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 0.36% (for the one-year period) at quarter-end. Private Equity and Private Real Estate provided the largest contributions to tracking error at the total fund level.



### Manager Risk Statistics

U.S. Equity					Non-U.S. Equity				
<u>T. Rowe Price (Enhanced Index)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<u>Acadian (Int'l Small Cap)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation		19.29	15.50	13.57	Standard Deviation	15.80	20.93	17.19	15.88
Standard Deviation (Index)	13.93	18.81	15.20	13.26	Standard Deviation (Index)	15.90	21.12	17.08	15.54
Sharpe Ratio	2.14	0.80	1.05	1.21	Sharpe Ratio	2.25	0.42	0.62	0.67
Sharpe Ratio (Index)	2.15	0.78	1.02	1.20	Sharpe Ratio (Index)	2.07	0.43	0.53	0.56
Excess Risk	1.13	1.07	1.12	1.06	Excess Risk	4.47	4.43	4.22	3.80
Information Ratio	0.82	0.59	0.60	0.42	Information Ratio	0.43	-0.05	0.35	0.46
<u>Systematic (Small Core)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<u>AQR (Int'l Equity)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation	17.93	24.48	20.26	17.56	Standard Deviation	14.85	18.43	15.34	14.77
Standard Deviation (Index)	20.27	25.69	21.11	18.24	Standard Deviation (Index)	15.25	17.73	14.65	14.38
Sharpe Ratio	3.05	0.29	0.56	0.84	Sharpe Ratio	1.46	0.34	0.48	0.53
Sharpe Ratio (Index)	2.35	0.36	0.58	0.76	Sharpe Ratio (Index)	1.56	0.38	0.53	0.47
Excess Risk	8.99	6.53	5.60	4.66	Excess Risk	2.97	2.91	2.65	2.50
Information Ratio	0.53	-0.30	-0.12	0.15	Information Ratio	-0.59	-0.19	-0.11	0.41
<u>Channing Capital (Small Value)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<u>Ativo (Int'l Developed)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation	24.11	28.64	23.38	n/a	Standard Deviation	14.76	18.36	n/a	n/a
Standard Deviation (Index)	20.93	26.99	22.39	n/a	Standard Deviation (Index)	17.25	17.78	n/a	n/a
Sharpe Ratio	2.26	0.26	0.41	n/a	Sharpe Ratio	1.42	0.27	n/a	n/a
Sharpe Ratio (Index)	3.05	0.27	0.44	n/a	Sharpe Ratio (Index)	1.49	0.36	n/a	n/a
Excess Risk	9.70	7.7	6.48	n/a	Excess Risk	4.91	4.98	n/a	n/a
Information Ratio	-0.59	0.03	-0.03	n/a	Information Ratio	-0.75	-0.25	n/a	n/a
<u>Redwood (Small Growth)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<u>Global Equity</u>				
Standard Deviation	14.11	21.26	18.39	n/a	<u>Wellington (Global Equity)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation (Index)	21.62	25.66	20.95	n/a	Standard Deviation	12.75	19.08	15.37	n/a
Sharpe Ratio	3.37	0.73	0.80	n/a	Standard Deviation (Index)	14.23	18.20	14.65	n/a
Sharpe Ratio (Index)	1.53	0.41	0.67	n/a	Sharpe Ratio	1.91	0.61	0.80	n/a
Excess Risk	12.48	11.45	9.49	n/a	Sharpe Ratio (Index)	1.92	0.62	0.81	n/a
Information Ratio	0.87	0.41	0.06	n/a	Excess Risk	3.52	3.64	3.30	n/a
<u>Smith Graham (Mid-Cap)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	Information Ratio	-0.68	0.10	0.09	n/a
Standard Deviation	19.54	29.46	n/a	n/a	<u>Ariel (Global Equity)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation (Index)	15.13	22.29	n/a	n/a	Standard Deviation	11.94	14.38	n/a	n/a
Sharpe Ratio	3.47	0.35	n/a	n/a	Standard Deviation (Index)	14.23	18.2	n/a	n/a
Sharpe Ratio (Index)	2.51	0.58	n/a	n/a	Sharpe Ratio	1.50	0.35	n/a	n/a
Excess Risk	11.02	11.76	n/a	n/a	Sharpe Ratio (Index)	1.92	0.62	n/a	n/a
Information Ratio	1.96	-0.20	n/a	n/a	Excess Risk	6.05	6.92	n/a	n/a
<u>Real Estate Investment Trusts</u>					Information Ratio	-1.23	-0.80	n/a	n/a
<u>Adelante (REIT)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<u>Global Low Volatility</u>				
Standard Deviation	13.72	18.38	15.60	15.08	<u>Acadian (Global Low Volatility)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation (Index)	14.51	19.35	16.41	15.89	Standard Deviation	11.18	14.75	12.16	n/a
Sharpe Ratio	2.95	0.62	0.47	0.75	Standard Deviation (Index)	14.23	18.20	14.65	n/a
Sharpe Ratio (Index)	2.62	0.47	0.36	0.68	Sharpe Ratio	1.58	0.31	0.53	n/a
Excess Risk	1.20	1.85	1.78	1.80	Sharpe Ratio (Index)	1.92	0.62	0.81	n/a
Information Ratio	1.52	1.20	0.76	0.25	Excess Risk	7.63	6.73	5.52	n/a
<u>Centersquare (REIT)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	Information Ratio	-0.99	-0.89	-0.88	n/a
Standard Deviation	15.61	19.29	n/a	n/a	<u>Fixed Income (Core)</u>				
Standard Deviation (Index)	14.51	19.35	n/a	n/a	<u>Securian (Core Fixed Income)</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Sharpe Ratio	2.44	0.53	n/a	n/a	Standard Deviation	3.27	5.32	4.42	3.65
Sharpe Ratio (Index)	2.62	0.47	n/a	n/a	Standard Deviation (Index)	3.05	3.54	3.31	2.99
Excess Risk	1.68	1.63	n/a	n/a	Sharpe Ratio	0.52	0.81	0.54	0.89
Information Ratio	0.08	0.69	n/a	n/a	Sharpe Ratio (Index)	-0.32	1.16	0.53	0.79
					Excess Risk	0.82	3.51	2.73	1.95
					Information Ratio	3.28	0.05	0.23	0.45



### Manager Risk Statistics

High Yield Fixed Income					Fixed Income (Core)				
<b>BlackRock (High Yield)</b>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<b>Garcia Hamilton (Core Fixed Income)</b>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation	7.97	9.49	7.45	6.55	Standard Deviation	2.60	3.35	2.98	n/a
Standard Deviation (Index)	3.81	9.45	7.42	6.87	Standard Deviation (Index)	3.05	3.54	3.31	n/a
Sharpe Ratio	1.24	0.59	0.67	0.95	Sharpe Ratio	-0.58	0.95	0.53	n/a
Sharpe Ratio (Index)	2.92	0.55	0.67	0.92	Sharpe Ratio (Index)	-0.32	1.16	0.53	n/a
Excess Risk	4.93	3.07	2.38	2.07	Excess Risk	0.70	1.33	1.19	n/a
Information Ratio	-0.23	0.11	0.01	-0.07	Information Ratio	-0.77	-0.67	-0.15	n/a
<b>Oaktree (High Yield)</b>					<b>Master Limited Partnerships</b>				
	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<b>Harvest (MLP)</b>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation	3.68	8.91	7.05	6.59	Standard Deviation	18.69	36.33	29.68	n/a
Standard Deviation (Index)	3.81	9.45	7.42	6.87	Standard Deviation (Index)	24.84	47.86	38.16	n/a
Sharpe Ratio	2.91	0.54	0.61	0.87	Sharpe Ratio	3.75	-0.03	0.00	n/a
Sharpe Ratio (Index)	2.92	0.55	0.67	0.92	Sharpe Ratio (Index)	3.40	-0.11	-0.09	n/a
Excess Risk	0.50	1.10	0.95	0.94	Excess Risk	6.45	14.27	11.12	n/a
Information Ratio	-0.79	-0.37	-0.66	-0.64	Information Ratio	-1.21	0.32	0.34	n/a
<b>Neuberger Berman (Credit Opps)</b>					<b>Atlantic Trust CIBC (MLP)</b>				
	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>		<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>
Standard Deviation	4.08	10.64	8.43	n/a	Standard Deviation	20.04	40.22	32.54	26.74
Standard Deviation (Index)	3.76	9.36	7.38	n/a	Standard Deviation (Index)	24.84	47.86	38.16	29.81
Sharpe Ratio	2.16	0.40	0.48	n/a	Sharpe Ratio	3.57	-0.06	-0.04	0.21
Sharpe Ratio (Index)	2.12	0.46	0.51	n/a	Sharpe Ratio (Index)	3.40	-0.11	-0.09	0.02
Excess Risk	0.75	1.70	1.54	n/a	Excess Risk	5.33	9.54	7.59	6.63
Information Ratio	1.00	0.00	0.16	n/a	Information Ratio	-1.31	0.31	0.31	0.74



## Manager Performance Objectives

Domestic Equity	<u>3-year</u>	<u>5-year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b><u>Enhanced Index</u></b>				
<b>T. Rowe Price (Net)</b>	<b>16.73</b>	<b>17.69</b>	<b>10.88</b>	<b>Mar-06</b>
S&P 500 Index + 1%	17.15	18.06	11.43	Mar-06
<i>Net of Fee Value Added vs Objective</i>	-0.42	-0.37	-0.55	
S&P 500 Index	15.99	16.90	10.30	Mar-06
<i>Net of Fee Value Added vs Benchmark</i>	0.73	0.79	0.58	
<b><u>Small Core - Active</u></b>				
<b>Systematic Financial (Net)</b>	<b>8.34</b>	<b>12.66</b>	<b>11.22</b>	<b>Jun-03</b>
Russell 2000 Index + 1.25%	11.92	14.86	11.62	Jun-03
<i>Net of Fee Value Added vs Objective</i>	-3.58	-2.20	-0.40	
Russell 2000 Index	10.54	13.45	10.25	Jun-03
<i>Net of Fee Value Added vs Benchmark</i>	-2.20	-0.79	0.97	
<b><u>Small Value - Active</u></b>				
<b>Channing Capital Management (Net) *</b>	<b>8.85</b>	<b>10.84</b>	<b>8.46</b>	<b>Oct-13</b>
Russell 2000 Value Index + 1.25%	9.44	12.42	10.00	Oct-13
<i>Net of Fee Value Added vs Objective</i>	-0.59	-1.58	-1.54	
Russell 2000 Value Index	8.58	11.03	8.64	Oct-13
<i>Net of Fee Value Added vs Benchmark</i>	0.26	-0.19	-0.19	
<b><u>Small Growth - Active</u></b>				
<b>Redwood Investments (Net) *</b>	<b>16.00</b>	<b>15.41</b>	<b>15.41</b>	<b>Sep-16</b>
Russell 2000 Growth Index + 1.50%	13.37	17.06	17.12	Sep-16
<i>Net of Fee Value Added vs Objective</i>	2.63		-1.71	
Russell 2000 Growth Index	11.70	15.34	15.34	
<i>Net of Fee Value Added vs Benchmark</i>	4.31	0.08	0.08	
<b><u>Mid Cap Value - Active</u></b>				
<b>Smith Graham Mid Cap Value (Net) *</b>	<b>11.59</b>		<b>10.62</b>	<b>Dec-17</b>
Russell Midcap Index + 2%	16.50		15.64	Dec-17
<i>Net of Fee Value Added vs Objective</i>	-4.91		-5.02	
Russell Midcap Index	14.22		13.37	
<i>Net of Fee Value Added vs Benchmark</i>	-2.62		-2.76	





**Manager Performance Objectives**

International Equity	Since			
	<u>3-year</u>	<u>5-year</u>	<u>Inception</u>	
<b><u>Int'l Small Cap - Active</u></b>				
<b>Acadian International (Net)</b>	<b>10.11</b>	<b>11.88</b>	<b>8.82</b>	<b>Mar-89</b>
Custom Benchmark + 2%	12.55	12.49	8.62	Mar-89
<i>Net of Fee Value Added vs Objective</i>	<i>-2.44</i>	<i>-0.61</i>	<i>0.20</i>	
Custom Benchmark	10.33	10.28		Mar-89
<i>Net of Fee Value Added vs Benchmark</i>	<i>-0.23</i>	<i>1.61</i>		
<b><u>Int'l Enhanced Index</u></b>				
<b>AQR Capital Management (Net)</b>	<b>7.43</b>	<b>8.62</b>	<b>4.28</b>	<b>Mar-06</b>
Custom Benchmark + 1.5%	9.65	10.58	5.46	Mar-06
<i>Net of Fee Value Added vs Objective</i>	<i>-2.22</i>	<i>-1.96</i>	<i>-1.18</i>	
Custom Benchmark	8.03	8.94	3.90	Mar-06
<i>Net of Fee Value Added vs Benchmark</i>	<i>-0.59</i>	<i>-0.33</i>	<i>0.38</i>	
<b><u>Int'l Developed</u></b>				
<b>Ativo International Developed (Net) *</b>	<b>6.27</b>		<b>5.08</b>	<b>Dec-17</b>
MSCI EAFE Index + 2%	9.79		8.09	
<i>Net of Fee Value Added vs Objective</i>	<i>-3.52</i>		<i>-3.01</i>	
MSCI EAFE Index	7.62		5.65	
<i>Net of Fee Value Added vs Benchmark</i>	<i>-1.35</i>		<i>-0.57</i>	
<b><u>Int'l Equity (Active)</u></b>				
<b>Baillie Gifford (Net)</b>	--	--	<b>17.35</b>	<b>Mar-19</b>
MSCI ACWI x-US (Net) + 2%	--	--	12.86	
<i>Net of Fee Value Added vs Objective</i>			<i>4.49</i>	
MSCI ACWI x-US (Net)	--	--	10.75	
<i>Net of Fee Value Added vs Benchmark</i>			<i>6.60</i>	
<b><u>Int'l Equity (Active)</u></b>				
<b>Earnest Partners (Net) *</b>	--	--	<b>13.80</b>	<b>Mar-19</b>
MSCI ACWI x-US (Net) + 2%	--	--	12.86	
<i>Net of Fee Value Added vs Objective</i>			<i>0.94</i>	
MSCI ACWI x-US (Net)	--	--	10.75	
<i>Net of Fee Value Added vs Benchmark</i>			<i>3.05</i>	



**Manager Performance Objectives**

<b>Global Equity</b>	<b>3-year</b>	<b>5-year</b>	<b>Since Inception</b>	<b>Inception Date</b>
<b>Global Equity - Active</b>				
<b>Wellington (Net)</b>	<b>12.97</b>	<b>13.55</b>	<b>13.13</b>	<b>Aug-12</b>
MSCI ACWI (Net) + 2%	14.83	15.46	13.44	Aug-12
<i>Net of Fee Value Added vs Objective</i>	<i>-1.86</i>	<i>-1.91</i>	<i>-0.31</i>	
MSCI ACWI (Net)	12.58	13.20	11.21	Aug-12
<i>Net of Fee Value Added vs Benchmark</i>	<i>0.39</i>	<i>0.35</i>	<i>1.91</i>	

<b>Global Equity - Active</b>				
<b>Ariel (Net) *</b>	<b>6.34</b>		<b>6.86</b>	<b>Dec-17</b>
MSCI ACWI (Net) + 1.5%	14.27		12.71	
<i>Net of Fee Value Added vs Objective</i>	<i>-7.93</i>		<i>-5.85</i>	
MSCI ACWI (Net)	12.58		11.05	
<i>Net of Fee Value Added vs Benchmark</i>	<i>-6.24</i>		<i>-4.18</i>	

	<b>3-year</b>	<b>5-year</b>	<b>Since Inception</b>	<b>Inception Date</b>
<b>Global Low Volatility - Active</b>				
<b>Acadian Global Low Vol (Net)</b>	<b>6.05</b>	<b>7.84</b>	<b>7.89</b>	<b>Jun-15</b>
MSCI ACWI (Net) + 2%	14.83	15.46	12.31	Jun-15
<i>Net of Fee Value Added vs Objective</i>	<i>-8.78</i>	<i>-7.62</i>	<i>-4.42</i>	
MSCI ACWI (Net)	12.58	13.20	10.67	Jun-15
<i>Net of Fee Value Added vs MSCI ACWI</i>	<i>-6.53</i>	<i>-5.36</i>	<i>-2.78</i>	
MSCI ACWI Min Vol (Net)	7.55	8.48	8.56	Jun-15
<i>Net of Fee Value Added vs MSCI ACWI Min Vol</i>	<i>-1.50</i>	<i>-0.64</i>	<i>-0.67</i>	



**Manager Performance Objectives**

Real Estate	<u>3-year</u>	<u>5-year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Real Estate Securities - Public</b>				
<b>Adelante Capital Management (Net)</b>	<b>12.78</b>	<b>8.56</b>	<b>10.25</b>	<b>Sep-01</b>
Wilshire Real Estate Securities + 1%	11.44	8.18	11.41	Sep-01
<i>Net of Fee Value Added vs Objective</i>	<i>1.34</i>	<i>0.38</i>	<i>-1.16</i>	
Wilshire Real Estate Securities	10.34	7.11	10.31	Sep-01
<i>Net of Fee Value Added vs Index</i>	<i>2.44</i>	<i>1.45</i>	<i>-0.06</i>	
<b>CenterSquare (Net)</b>				
<b>Wilshire Real Estate Securities + 1%</b>	<b>11.44</b>	<b>-.</b>	<b>12.04</b>	<b>May-18</b>
<i>Net of Fee Value Added vs Objective</i>	<i>0.14</i>		<i>0.26</i>	
Wilshire Real Estate Securities	10.34	-.	10.93	May-18
<i>Net of Fee Value Added vs Index</i>	<i>1.24</i>		<i>1.37</i>	



## Manager Performance Objectives

Fixed Income	<u>3-year</u>	<u>5-year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Global Fixed Income</b>				
<b>Securian Asset Mgmt. (Net)</b>	<b>5.54</b>	<b>3.59</b>	<b>4.64</b>	<b>May-07</b>
Bloomberg Aggregate + 0.5%	5.88	3.46	4.71	May-07
<i>Net of Fee Value Added vs Objective</i>	-0.34	0.13	-0.07	
Bloomberg Aggregate	5.35	2.94	4.23	May-07
<i>Net of Fee Value Added vs Benchmark</i>	0.18	0.65	0.41	
<hr/>				
<b>Garcia Hamilton (Net)</b>	<b>4.42</b>	<b>2.76</b>	<b>3.46</b>	<b>Oct-13</b>
Bloomberg Aggregate + 0.5%	5.88	3.46	3.79	Oct-13
<i>Net of Fee Value Added vs Objective</i>	-1.46	-0.70	-0.33	
Bloomberg Aggregate	5.35	2.94	3.28	Oct-13
<i>Net of Fee Value Added vs Benchmark</i>	-0.94	-0.18	0.18	
<hr/>				
<b>High Yield</b>				
<b>Oaktree Capital Management (Net)</b>	<b>6.03</b>	<b>5.53</b>	<b>6.70</b>	<b>Dec-96</b>
Performance Objective	7.54	7.26	8.06	Dec-96
<i>Net of Fee Value Added vs Objective</i>	-1.51	-1.73	-1.36	
Custom Benchmark	6.47	6.20	6.86	Dec-96
<i>Net of Fee Value Added vs Benchmark</i>	-0.44	-0.66	-0.16	
<hr/>				
<b>BlackRock High Yield (Net)</b>	<b>6.82</b>	<b>6.22</b>	<b>6.51</b>	<b>Sep-06</b>
Citigroup High Yield Cash Pay + 1%	7.53	7.25	8.00	Sep-06
<i>Net of Fee Value Added vs Objective</i>	-0.71	-1.03	-1.49	
Citigroup High Yield Cash Pay	6.47	6.20	6.94	Sep-06
<i>Net of Fee Value Added vs Benchmark</i>	0.35	0.02	-0.43	
<hr/>				
<b>Credit Opportunities</b>				
<b>Neuberger Berman (Net)</b>	<b>5.50</b>	<b>5.22</b>	<b>6.63</b>	<b>Jan-16</b>
Custom Benchmark + 1%	6.55	6.02	7.79	Jan-16
<i>Net of Fee Value Added vs Objective</i>	-1.05	-0.80	-1.16	
Custom Benchmark	5.50	4.97	6.73	Jan-16
<i>Net of Fee Value Added vs Benchmark</i>	0.00	0.26	-0.09	



**Manager Performance Objectives**

MLP's	<u>3-year</u>	<u>5-year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>MLPs</b>				
<b>Harvest Fund Advisors (Net)</b>	<b>0.02</b>	<b>1.26</b>	<b>4.38</b>	<b>Dec-11</b>
Alerian MLP Index + 1.5%	-2.85	-0.93	1.77	Dec-11
<i>Net of Fee Value Added vs Objective</i>	2.87	2.19	2.61	
Alerian MLP Index	-4.32	-2.42	-0.32	Dec-11
<i>Net of Fee Value Added vs Benchmark</i>	4.33	3.68	4.70	
<b>Atlantic Trust CIBC (Net)</b>	<b>-1.44</b>	<b>-0.14</b>	<b>4.51</b>	<b>Dec-11</b>
Alerian MLP Index + 1.5%	-2.85	-0.93	1.77	Dec-11
<i>Net of Fee Value Added vs Objective</i>	1.41	0.79	2.74	
Alerian MLP Index	-4.32	-2.42	-0.32	Dec-11
<i>Net of Fee Value Added vs Benchmark</i>	2.87	2.28	4.83	

# DISCUSSION SHEET

## Employees' Retirement Fund Board of Trustees Meeting

December 14, 2021

- Issue:** Value-Add Real Estate Request for Information (“RFI”)
- Attachment:** None
- Discussion:** ERF Staff and Wilshire have developed a Value-Add Real Estate RFI to be sent to investment managers for their response and posted publicly. This process will help fulfill the 2.5% percent allocation approved by the board in November 2019.

### Proposed Timeline:

- December 17<sup>th</sup> – RFI issued
- January 21<sup>st</sup> – RFI submissions due to ERF
- February 8<sup>th</sup> – Submit managers for on-site/virtual due diligence
- February/ March – Conduct on-site/virtual due diligence
- April 12<sup>th</sup> – Final manager presentations made to the Board and manager selection made

**Recommendation:** Approve the issuance of the Value-Add Real Estate RFI. Suggested motion for the approval is as follows: Move to approve the issuance for the Value-Add Real Estate RFI.

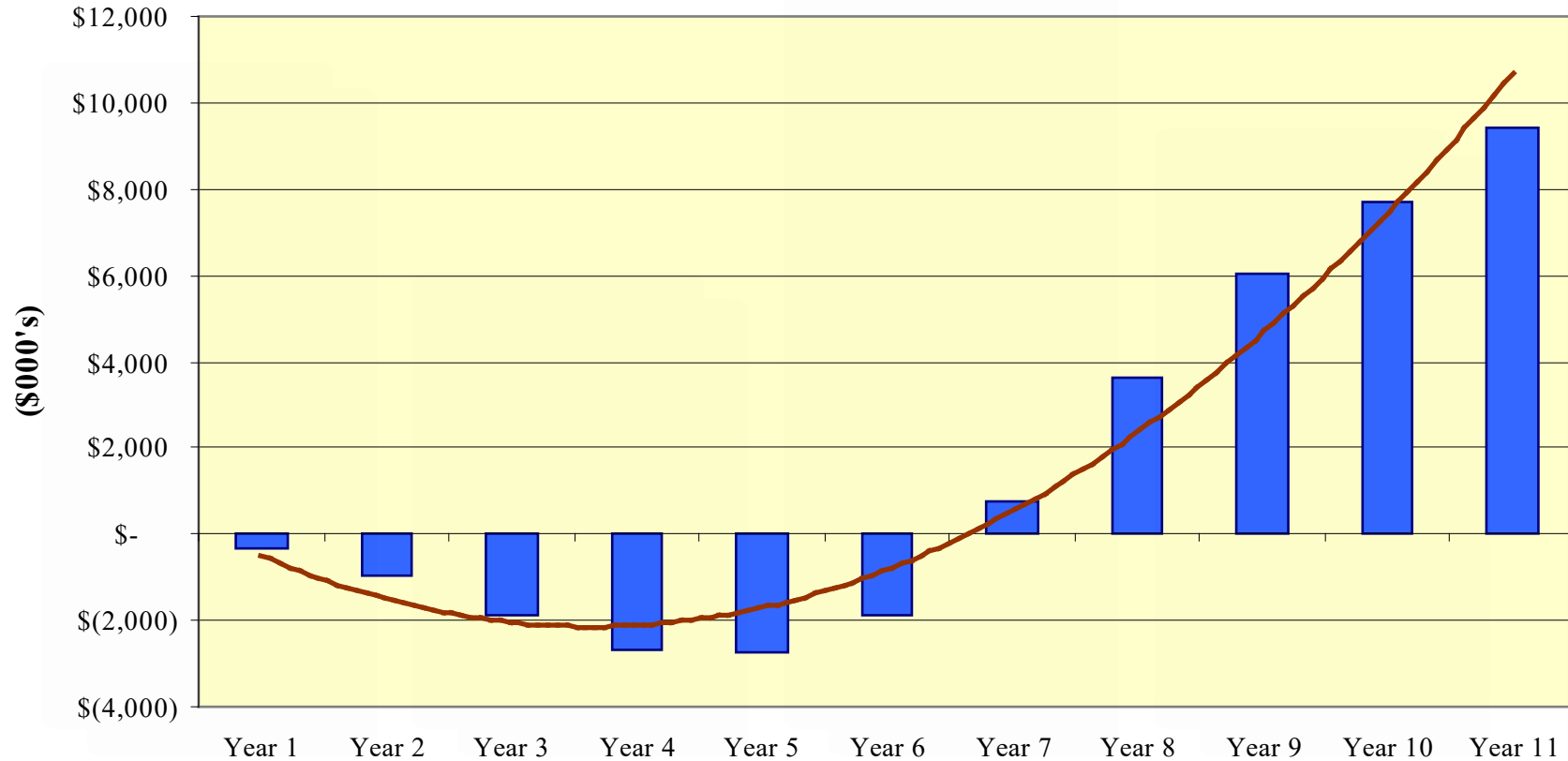
# DISCUSSION SHEET

## Employees' Retirement Fund Board of Trustees Meeting

December 14, 2021

- Issue:** Private Equity Allocation
- Attachment:** Private Equity Pacing Analysis
- Discussion:** Each year ERF makes an allocation to Private Equity to maintain our 7.5% allocation to the asset class. Staff recommends a \$90 million allocation for 2022 to be equally divided among our three private equity managers: Hamilton Lane; Grosvenor Capital Management; and Fairview Capital.
- Recommendation:** Approve the proposed private equity allocation. Suggested motion for the approval is as follows:  
Move to approve the private equity investment manager allocations as noted.

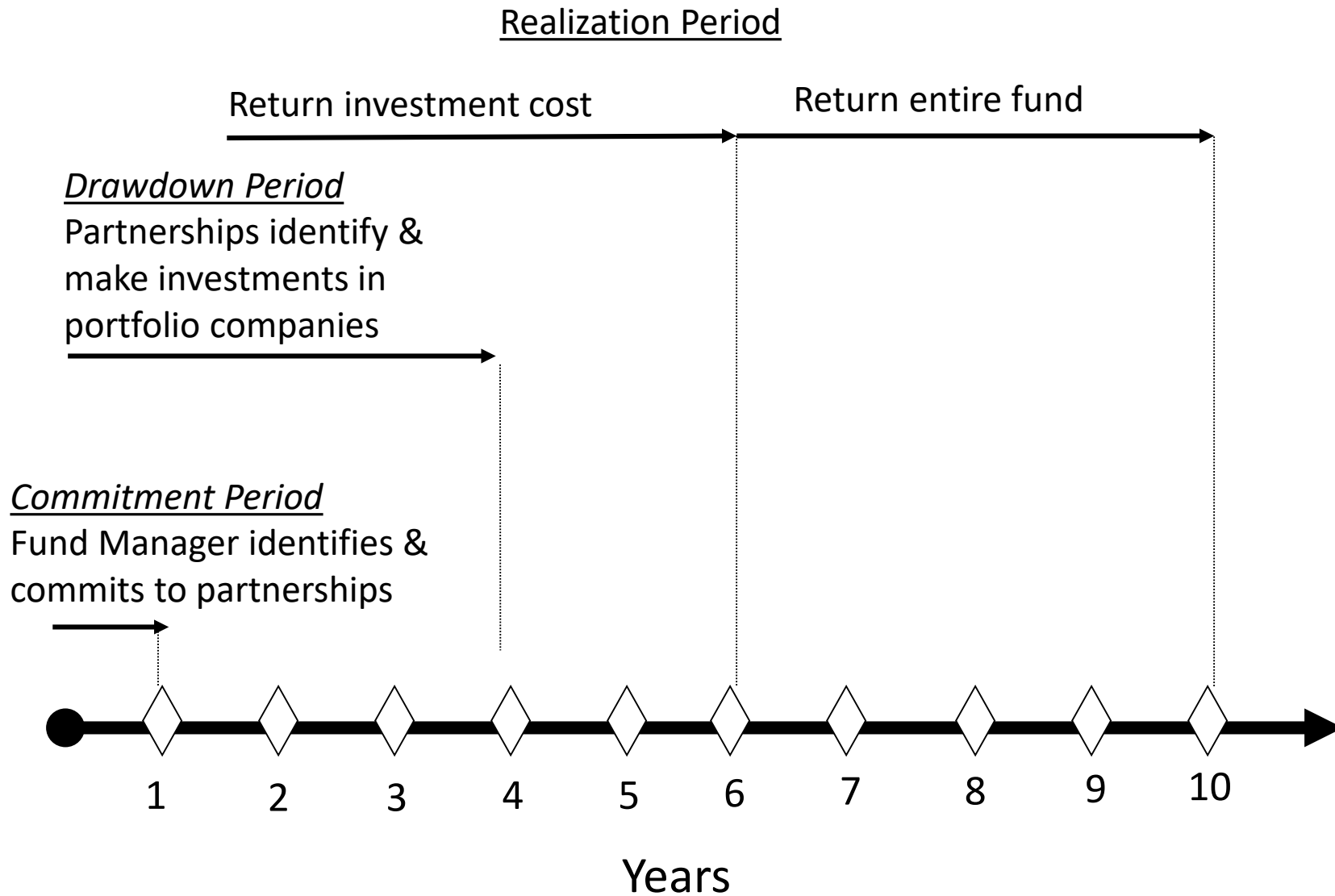
## Expected Cumulative Value of a \$5 million commitment



- The investment cycle of a private equity investment is very long and exhibits a pattern that is referred to as the 'J-Curve'



# Illustrative Cash Flow Cycle



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



Periods Ended 11/30/21

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple <sup>3</sup>
Invesco II	70,304,119	65,188,333	65,188,333	9,202,934	Jan-14	4.0%	1.2
<b>Total Direct Private Real Estate</b>	<b>70,304,119</b>	<b>65,188,333</b>	<b>65,188,333</b>	<b>9,202,934</b>	<b>Jan-14</b>	<b>4.0%</b>	<b>1.2</b>

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple <sup>3</sup>
Hamilton Lane Secondary Fund II	461,599	25,000,000	22,058,532	31,007,605	Jul-09	13.5%	1.4
Hamilton Lane Secondary Fund III	4,676,433	30,000,000	23,372,292	26,393,122	Nov-12	10.1%	1.3
Hamilton Lane Secondary Fund IV	23,060,012	30,000,000	25,907,343	18,537,004	Mar-17	23.0%	1.6
Hamilton Lane Secondary Fund V	40,818,737	65,000,000	33,517,866	2,124,965	Mar-20	43.3%	1.3
Hamilton Lane Fund VII Composite	24,217,594	50,000,000	45,600,834	47,574,317	Jan-10	7.0%	1.6
Hamilton Lane Fund VIII (Global)	21,448,604	30,000,000	22,270,594	11,076,603	Nov-12	7.7%	1.5
GCM Grosvenor - Partnership, L.P.	32,379,804	75,000,000	86,094,430	110,955,310	Jun-11	14.3%	1.7
GCM Grosvenor - Partnership II, L.P. (2014)	47,063,822	60,000,000	69,559,751	52,696,583	Jul-14	15.7%	1.4
GCM Grosvenor - Partnership II, L.P. (2015)	41,435,292	30,000,000	35,128,808	9,770,143	Dec-15	16.3%	1.5
GCM Grosvenor - Partnership II, L.P. (2017)	20,646,692	30,000,000	20,451,710	3,376,212	Jan-18	13.2%	1.2
GCM Grosvenor - Advance Fund, L.P.	1,647,623	10,000,000	1,800,039	53,279	Jun-21	-	0.9
Fairview Capital - Lone Star Fund I	49,478,435	40,000,000	35,563,040	9,273,654	Aug-15	16.6%	1.7
Fairview Capital - Lone Star Fund II	17,728,049	30,000,000	14,822,991	107,274	Dec-18	6.4%	1.2
Fairview Capital - Lone Star Fund III	1,991,583	25,000,000	2,104,500	-	Apr-21	<b>-7.2%</b>	0.9
<b>Total Private Equity Composite</b>	<b>327,054,279</b>	<b>530,000,000</b>	<b>438,252,729</b>	<b>322,946,070</b>	<b>Jul-09</b>	<b>13.7%</b>	<b>1.5</b>

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

**501,473,374**

**19.0%**

\* Next Generation Manager

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

<sup>2</sup> 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.

<sup>3</sup> Private Equity cash account

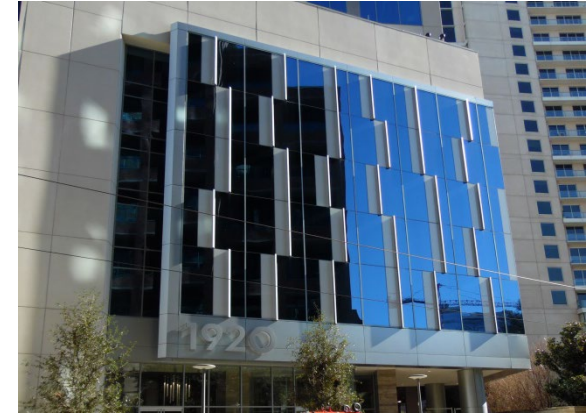
- \$90M split evenly between secondaries and FoF in 2022 through 2026

### Horizon Model Summary – Dallas ERF

	2021	2022	2023	2024	2025	2026
Annual Commitments (USD in millions)						
Private Equity Total	530	90	90	90	90	90
Annual Cash Flow (USD in millions)						
Capital Calls	33	58	54	60	69	71
Distributions	68	75	80	83	89	97
Cumulative Cash Flows (USD in millions)						
Capital Calls	419	477	531	591	660	731
Distributions	328	403	483	566	655	752
Private Equity Exposure (USD in millions)						
PE Market Value	320	335	365	372	382	399
Overall Plan Value*	3,864	3,970	4,079	4,192	4,307	4,425
PE as % of Plan Value	8.3%	8.4%	8.9%	8.9%	8.9%	9.0%

As of March 31, 2021

\*Assumes 2.75% annual growth rate



# EMPLOYEES' RETIREMENT FUND

## BOARD OF TRUSTEES MEETING

LEGAL SERVICES REQUEST FOR PROPOSAL PROCESS

DECEMBER 14, 2021, 9:00 AM

# Overview

## Project Objective

- According to 40A, the Board has the authority to appoint a legal advisor. This briefing is to describe the Request for Proposal (RFP) under Project Objective for legal services to ERF. The intent of the proposal process is to establish an ongoing contractual relationship between the Fund and the selected firm(s) for the purpose of providing legal services.

## Project Scope

- The selected legal services firm(s) will be expected to keep abreast of and provide on-going advice and counsel with respect to matters of the Fund for which the firm(s) has been retained. The firm(s) shall represent the Fund in all matters involving two primary areas including investment management, benefits administration or both areas.
- A proposer may elect to submit a proposal with regard to a logical subset of said services including:
  - A. The administration of benefits; or**
  - B. The investment activities of the Board; or**
  - c. Both the administration of benefits and investment activities of the Board.**

# Overview – cont.

## Project Scope – cont.

- ❑ Provide ongoing advice and counsel with respect to applicable Federal and Texas laws and statutes concerning employee benefits matters, including the review and analysis of proposed legislation, rules, or regulations;
- ❑ Provide advice and assistance regarding the legal requirements of State and Federal programs related to public retirement systems, as defined by Texas Government Code section 802.001(2), and qualified retirement plans as promulgated;
- ❑ Provide advice regarding the Texas Open Meetings Act and the Texas Public Information Act;
- ❑ Provide advice regarding the investment contracts, custodial agreements and performance guarantees;
- ❑ Represent the Fund in all administrative and judicial proceedings in which the Fund is involved;
- ❑ Review retirement benefit applications, death and disability benefits referred to it by the Executive Director and assist in all proceedings relating to the determination of eligibility for such benefits; and
- ❑ Review and give advice concerning legal issues relating to the Fund's legal studies.

# Proposal Evaluation

Proposals will be reviewed to determine whether they meet the requirements of the RFP.

Proposals will be evaluated on the following five criteria:

❖ Proposer's Organization, Staff Qualifications, and Relevant Experience	30 points
❖ Approach to Legal Services	20 points
❖ Reporting and Firm Resources	20 points
❖ MBE/WBE Participation	10 points
❖ Fee Services Proposal	<u>20 points</u>
<b>Total Points Possible:</b>	<b>100 points</b>



# **Targeted Legal Firms**

<b>Barnes &amp; Thornberg LLP</b>	<b>Dallas</b>
<b>Bell Nunnally &amp; Martin LLP</b>	<b>Dallas</b>
<b>Cohen Milstein</b>	<b>New York</b>
<b>FordHarrison LLP</b>	<b>Dallas</b>
<b>Foster Garvey LLP</b>	<b>Seattle</b>
<b>Ice Miller LLP</b>	<b>Indianapolis</b>
<b>Jackson Walker LLP</b>	<b>Austin</b>
<b>Lloyd Gosselink</b>	<b>Austin</b>
<b>Locke Lord LLP</b>	<b>Dallas</b>
<b>White &amp; Wiggins LLP</b>	<b>Dallas</b>

# Timeline

Board approves Request for Proposals (RFP) Process	December 14, 2021
Proposals are Released	December 15, 2021
Bidders' Question and Answer Period Deadline	December 22, 2021
Proposal Deadline Date	January 19, 2022
Due Diligence conducted Virtually	January 26-28, 2022
Board Finalist Presentations and Selection	February 8, 2022
Contract Awarded	February 9, 2022

## **Recommended Motion**

Motion to approve the release of the Legal Services Request for Proposals (RFP); approval for designated staff to conduct a due diligence process virtually; and to present the proposed Finalists at the February 8, 2022 ERF Board meeting.



# QUESTIONS





# **EMPLOYEES' RETIREMENT FUND**

## **BOARD OF TRUSTEES MEETING**

**MASTER CUSTODIAN REQUEST FOR PROPOSALS PROCESS**

**DECEMBER 14, 2021, 9:00 AM**

# Overview

## Project Objective

- According to 40A, the Board has the authority to appoint a master custodian. This briefing is to describe the Request for Proposal (RFP) under Project Objective for master custodian to ERF. The intent of the proposal process is to establish an ongoing contractual relationship between the Fund and the selected Bank for the purpose of providing custodian services.

## Project Scope

- The master custodian will be expected to manage and safekeep investment assets of the Fund of money managers as approved by the Board. In addition, the custodian bank will provide security clearing at all security clearing operations in accordance with standard industry practice; process and settle foreign exchange ("FX") contracts with an investment manager and utilizes the FX services; provide investment manager interface on all trading activity; and process notices of corporate actions on the Fund's holdings, e.g., stock splits or dividend announcements, as provided in the ERF Board's policies.

# Overview – cont.

## Project Scope – cont.

- ❑ Provide trade date multi-currency accounting (U.S. dollars) with full accruals.
- ❑ Provide accounting services for the following assets whether presently existing or hereafter created, domestic and international equities and fixed income portfolios, multi-currency securities and cash equivalents, mortgage loan portfolio, options and futures, derivatives.
- ❑ Evaluate corporate actions, including mergers, acquisitions, tenders, stock splits, dividends, and spinoffs.
- ❑ Provide credit payments in accordance with market practice upon receipt for dividends, bond interest and principal, and interest on mortgage pass-through certificates on domestic securities.
- ❑ Provide credit payments in accordance with market practice for the country, upon receipt for dividends and bond interest on international securities.

# Overview – cont.

## Project Scope – cont.

- ❑ Provide the capability for unaudited daily pricing information for all publicly traded assets and exchange rates for all major currencies, which prices shall be audited monthly.
- ❑ Provide daily positions with ability to post accrued trades; provide reporting for settled trades and accounting for cash equivalents.
- ❑ Provide security clearing at all security clearing operations in accordance with standard industry practice.
- ❑ The Custodian shall ensure that the flow of transactions is controlled in such a manner that after submission to the Custodian by an investment manager that no transaction may be altered, revised, or amended in any way unless done by the investment manager initiating the transaction.



# Proposal Evaluation

Proposals will be reviewed to determine whether they meet the requirements of the RFP.

Proposals will be evaluated on the following five criteria:

- |  |                  |
|--|------------------|
| ❖ Proposer's Organization, Staff Qualifications, and Relevant Experience | 20 points        |
| ❖ Approach to Master Custodian Services including FDIC                   | 20 points        |
| ❖ Reporting and Bank Resources   | 20 points        |
| ❖ MBE/WBE Participation  | 10 points        |
| ❖ Fee Proposal   | <u>30 points</u> |

**Total Points Possible:**

**100 points**

# Targeted Custodian Banks

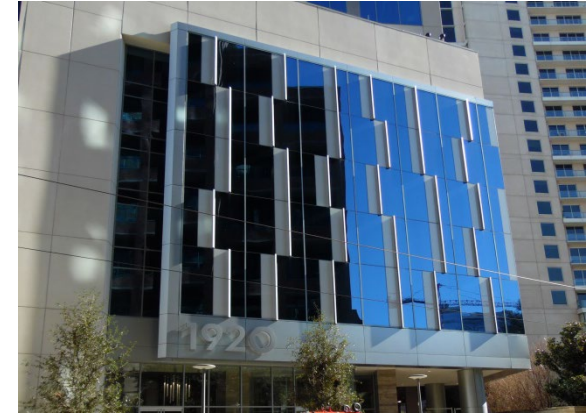
Custodian Banks (FDIC Insured)	Country	Assets Under Custody USD in Millions
The Bank of New York Mellon Corporation	U.S.	24,266,267
J.P. Morgan	U.S.	16,032,933
State Street Corporation	U.S.	15,794,657
Citi	U.S.	12,600,000
Northern Trust Corporation	U.S.	4,100,000

# Timeline

Board approves Request for Proposals (RFP) Process	December 14, 2021
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Proposal Deadline Date	January 19, 2022
Due Diligence conducted Virtually	January 26-28, 2022
Board Finalist Presentations and Selection	February 8, 2022
Contract Awarded	February 9, 2022

## **Recommended Motion**

Motion to approve the release of the Master Custodian Services - Request for Proposals (RFP); approval for designated staff to conduct a due diligence process virtually; and to present the proposed Finalists at the February 8, 2022, ERF Board meeting.



# QUESTIONS





# 2022 STRATEGIC PLAN

## DECEMBER 14, 2021

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

# ERF Mission, Guiding Principles and Core Values

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- » Mission – Provide retirement benefits and superior service to advance the financial security of its members
- » Guiding Principles
  - We are committed to excellence, quality and value in everything we do through the most effective use of our resources.
  - We focus on the needs of our members and deliver consistent and timely information to our members about their retirement benefits.
  - We are committed to public trust by being an ethical, sensitive, and cost efficient organization.
  - We model best practices in our industry and innovate to achieve higher standards
  - We continually evaluate our business processes to support a user friendly environment that improves member satisfaction.
  - We support open communication.

## » Core Values

***The ERF Staff is committed to reflecting these core values in all we say and do:***

- Fulfilling fiduciary responsibilities with the utmost integrity and accountability;
- Thinking independently, respecting individuality, and working as a team;
- Encouraging open communication and collaboration;
- Continuously expanding our knowledge; and
- In all endeavors, act in an ethical, honest, and professional manner.



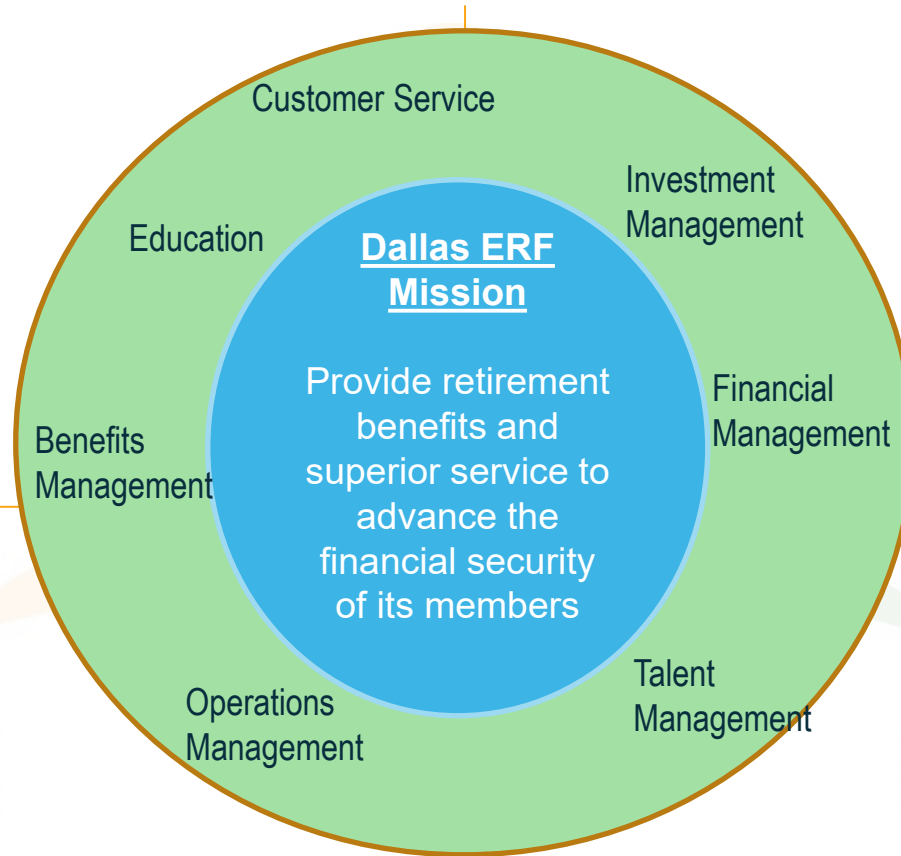
# Strategy Map

## Member

Enhance services to members



Financial  
Ensure a financially sound retirement system



## Business Transformation

Drive operational excellence



Workforce Transformation  
Grow an engaged, highly skilled and diverse workforce



# 2021 Year in Review



- People Connectivity
- Location Independence
- Resilient Delivery

# 2021 Accomplishments

The Benefits, Records Management and Administration Teams have had enormous success regarding membership services. All services have been performed remotely using the Zoom and Teams platforms, supported by the Microsoft Office suite of services and the VPN access created by the Technology Team.

## Key Metric Results:

Number of members counseled by Benefit Officers	1,205
Number of member files presented to the ERF Trustee Board in 2021 ➤ <b>Retirees</b> 319 ➤ <b>Deferred Vested</b> 8 ➤ <b>Survivors</b> 102 ➤ <b>Estates</b> 42 ➤ <b>Disability</b> 0	471
Percentage of members processed for retirement remotely in 2021	100%
Members' Customer Service rating as of December 9, 2021	96.4%

# 2021 Accomplishments

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- Completed the annual audit on time with a clean audit opinion and no control deficiencies noted
- Processed the 1099s from the new Vitech system for the first time. This was accomplished earlier than previous years and without any errors
- Further automated the procedures for payments in the Vitech system, improving workflow processing of approvals by eliminating hardcopies, and developing a monthly vendor checklist for outstanding or pending invoices.
- Strengthen remote capabilities and cybersecurity by
  - Implement Absolute for laptop monitor and support
  - Upgrade Wi-Fi access points (AP) to fight fake AP MFA for remote access
  - Reconfigure email protection to allow email from 30 countries
  - Replace Laserfiche imaging system with Vitech/Kofax imaging system

# 2021 Accomplishments

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- Reached \$4 billion in AUM for the first time
- As of 10/31/2021, the Fund achieved returns exceeding the actuarial rate of return of 7.25%
  - YTD – 13.65% ,
  - 1 year – 25.63%
  - 3 year – 11.03%,
  - 5 year – 9.38%
  - Since inception (1/1/98)– 9.17%
- Onboarded two value added real estate managers
- Transitioned fixed income portfolio
- Received award from Chief Investment Officer magazine for the work on Diversity, Equity and Inclusion and nominated for CIO of the year
- Received nomination from Institutional Investor Magazine

# 2021 Accomplishments

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- Hosted nineteen pre-retirement webinars attended by approximately 1,356 employees virtually
- Conducted three webinars for retirees to include an instructional webinar to assist retirees with myERF and DCREA annual meeting
- Enhanced ERF website to improve engagement and accessibility
- Transitioned the Board packet process into a more secure environment protecting our members' personal information
- Incorporated videos on social media to further engage our members



# 2021 Accomplishments

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The Employees' Retirement Fund created an environment conducive to learning and tracking performance through a relatively new portal system called ERF University, led by Katie Shaw. With this system in mind, training and development experts have compared ERF's learning culture to Adobe and Google, companies that have mastered strong continuous educational environments. The best-in-class employee learning system evokes the ability to attract & retain high performing employees, enhancing the employees' knowledge base, and has produced a stellar succession planning model. This culture of learning is designed to develop future high performers and leaders through a cohort model of cross training. Key results accomplished in 2021 include:

- The Vitech related Business Process Improvements procedures have been completed and are now established in the ERF University portal. The goal was to establish clear roles and responsibilities for each work assignment at ERF. As a result, 98% of all operational and member services duties are documented.
- The Succession Planning Program is called the Employee Certification Incentive Plan (ECIP).

## ECIP Participation Results

- 25 of 32 ERF staff signed up for an ECIP in May
- 24 staff who earned a ECIP Payment
- 27 staff have signed up for a 2022 ECIP succession plan



# 2022 Theme – Accelerating the Innovation Roadmap

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# Strategic Plan – Business Objectives

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The Employees' Retirement Fund of the City of Dallas focuses on seven key business objectives. They are the following:

- **Customer Service** - Provide high quality customer service and education that enables members to make informed and timely retirement decisions
- **Education** - Improve the accessibility to, quantity, and quality of member education programs
- **Benefits Management** - Administer benefit programs and business processes in an innovative, effective and efficient manner
- **Investment Management** - Maintain an investment management program that will provide funding for the benefit obligations of the Fund
- **Financial Management** - Develop and maintain financial and accounting processes that support ERF's business objectives and initiatives
- **Operations Management** - Develop and maintain a secure technology infrastructure and operations that will support ERF business objectives and initiatives
- **Talent Management** - Provide ERF staff with training in the skill sets, policies, and procedures that enables them to perform their respective functions



# Customer Service 2022

Provide High Quality Customer Service that Enables Members to make Informed and Timely Retirement Decisions

Initiative	Project Owner	Cost	Metric
Improve the customer service system to a real time reporting process for each business owner	David	Low	Current rating is 96.4%. Goal – Maintain rating of 96% or better
Improve the workflow of the records management system with the City’s HR department	David	Low	100% of records obtained within 90 days of an employee status change
Update policies with human resources to improve Workday with a focus on contributions	David	Low	Effective feed from the new system
Update policies and procedures to use the new Vitech pension accounting system to improve member experience	David	Low	Update 100% of the procedures
Expand opportunities to connect with our retirees virtually working with the DCREA	Melissa	Low	Create two events in 2022
Increase social media presence and content	Melissa	Low	Create 4-6 podcasts in 2022

# Education 2022

Improve the accessibility to, quantity and quality of member education programs

Initiatives	Project Manager(s)	Cost	Metric
Administer 5 part one-hour webinars for active members	Melissa	Low	Hold classes every quarter
Quarterly Newsletters for Active members and retirees and expand use of social media	Melissa	Low	Increase social media presence by 25%
Expand suite of member education programs including webinars, podcasts, electronic publications, and animated series available on ERF website	Melissa	Low	Reach 100% of attendees
Provide webinar series for retirees. Topics to include instructional help with myERF, Health Insurance, DCREA meetings & more	Melissa	Low	Hold 6 classes per year
Perform testing and user experience expertise to provide new and improved features to the secure member portal	Melissa	Low	Users will be able to upload documents & receive messages in myERF portal
Continue to provide on-site and/or virtual pension education	David / Melissa	Low	Reach 10% of active members

# Benefits Administration 2022

Administer benefit programs in an innovative, effective and efficient manner

Initiatives	Project Manager(s)	Cost	Metric
Establish the new Consent Agenda onboarding process using the ERF University Portal with credentials	David	Low	Number of active employees certified as a pre-retirement action step in 2022
Barcode all ERF Forms to establish a member document tracking and upload processing	David	Medium	Multi-year project with a scheduled implementation of 2022
Create the E-Signature process for members completing all forms using Adobe	David	Low	Number of active employees becoming certified as a pre-retirement action step
Implement Risk mitigation assessment and RFP process	David	High	Update enterprise risk assessment
Modify Vitech Agreement to include "Performance Guarantee Measurements"	David/Duc/Edward	High	Multi-year defined agreement with a scheduled implementation of 2022
Implement a records retention, contract and records management system	David/Duc/Edward	Low	Benefit and Administration procedures are converted to Workflow Design based on best practice

# Investment Management 2022

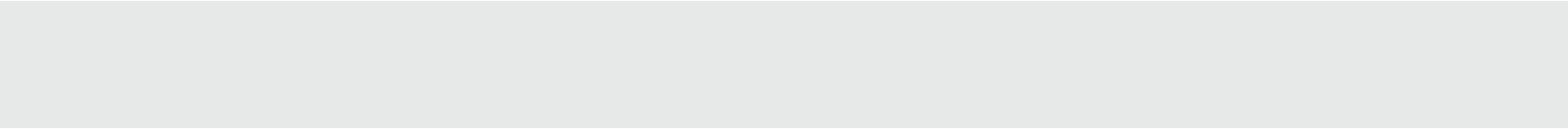
Maintain an investment management program that will provide funding for the benefit obligations of the Fund

Initiatives	Project Manager	Cost	Metric
Conduct investment manager searches according to asset allocation: MALTs; Value-Add Real Estate; Global Bonds	Natalie	Low/ Medium	Complete manager searches and successful portfolio transitions
Utilize enhanced risk management tools for both detailed portfolio analysis and risk management	Natalie/ Josh	Low	Enhance quantitative metrics and risk management analytics for ongoing internal portfolio analysis
Conduct quarterly conference calls with investment managers; investment manager Board presentations during the year; monitor managers on watch monthly	Natalie/ Jaladhi	Low	Meet with 100% of managers 4x a year either in-person or via conference call
Conduct due diligence on existing investment managers and examine new potential asset classes: Decentralized Finance; Growth Equity/ Early-Stage Private Equity	Natalie	Low/ Medium	Conduct due diligence meetings on 1/3 <sup>rd</sup> of managers every year; examine other asset classes as per Board interest
Develop and execute ERF Open Houses for Next Generation Managers	Natalie	Low	Hold a minimum of two virtual or in person Open Houses in 2022
Complete custodian search	Natalie	Low	Selection of custodian in first half of 2022

# Financial Management 2022

Develop and maintain financial and accounting processes that support ERF’s business objectives and initiatives

Initiatives	Project Manager(s)	Cost	Metric
Streamline the budget preparation process to reduce the time needed to present the final budget to the Board	Edward	Low	Present a final budget to the Executive Director before August 1
Implement improvements to processes identified in the Risk Mitigation Assessment	Edward	High	Number of recommendations implemented by September 30
Identify and implement additional reports and IRS requirements in V3	Edward	High	Continued compliance with IRS regulations and audit requirements by September 30



# Operations Management 2022

Develop and maintain a secure technology infrastructure and operations that will support ERF's business objectives and initiatives

Initiatives	Project Manager	Cost	Metric
Continuously strengthen processes and resources to secure the confidentiality and integrity of member data and information	Duc	Medium	<ul style="list-style-type: none"> <li>Define security policies regarding PII identification, handling, and securing</li> <li>Migrate ERF website to Trupal 9 to improve security and functionality</li> <li>Enhance RFP process capabilities</li> </ul>
Enhance cybersecurity policy	Duc	High	<ul style="list-style-type: none"> <li>Enhance capabilities with Fortinac setup, FortiEDR configuration, and enhance remote monitoring</li> <li>Mandatory cybersecurity training for all staff</li> </ul>
Vitech Imaging System Project	Duc	High	<ul style="list-style-type: none"> <li>To support Business/Vitech with IT operations</li> <li>Enhance reporting capabilities</li> <li>Integrate with workflow to provide more business functionality for Vitech's line of business (LOB)</li> <li>Integrate various components to create end-to-end business process in current infrastructure</li> <li>Expand JIRA system to help with helpdesk support calls</li> </ul>
Continue to improve remote business operations	Duc	Medium	<ul style="list-style-type: none"> <li>Refine and update remote access for business operation</li> </ul>
Continue to improve efficiency in IT functions	Duc	Medium	<ul style="list-style-type: none"> <li>Develop and generate system reports to reflect current systems security status.</li> <li>Develop relevant security materials for users and admins including training, tips,</li> </ul>

# Talent Management 2022

Provide ERF staff with training in the skill sets, policies and procedures that enables them to perform their respective functions

Initiatives	Project Manager(s)	Cost	Metric
Create individual development plans for all ERF employees	All Managers	Low	Completed plans for 100% of employees
Enhance cross-training and succession plan	All Managers	Low	1– 3 staff are cross trained for every ERF Function
Enhance ERF University with greater relevancy to ERF functions and quality of life training options	All Managers	Medium	Number of employees who achieve a 40-hour training annually
Establish an Employee Recognition Program using benchmark measurements through ERF University	All Managers	High	Number of employees recognized based on scorecard accomplishments

# Next Step – Create 3 to 5 year strategic plan

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- Begin a process to create a longer strategic plan to address the following trends:
  - Market outlook
  - Demographic trends
  - Investment trends
  - Best practices of institutional investors
  - Best practices of public pensions
  - Diversity, equity and inclusion
  - Enterprise risk management
  - The new work environment



# Conclusion

## Member

Enhance services to members



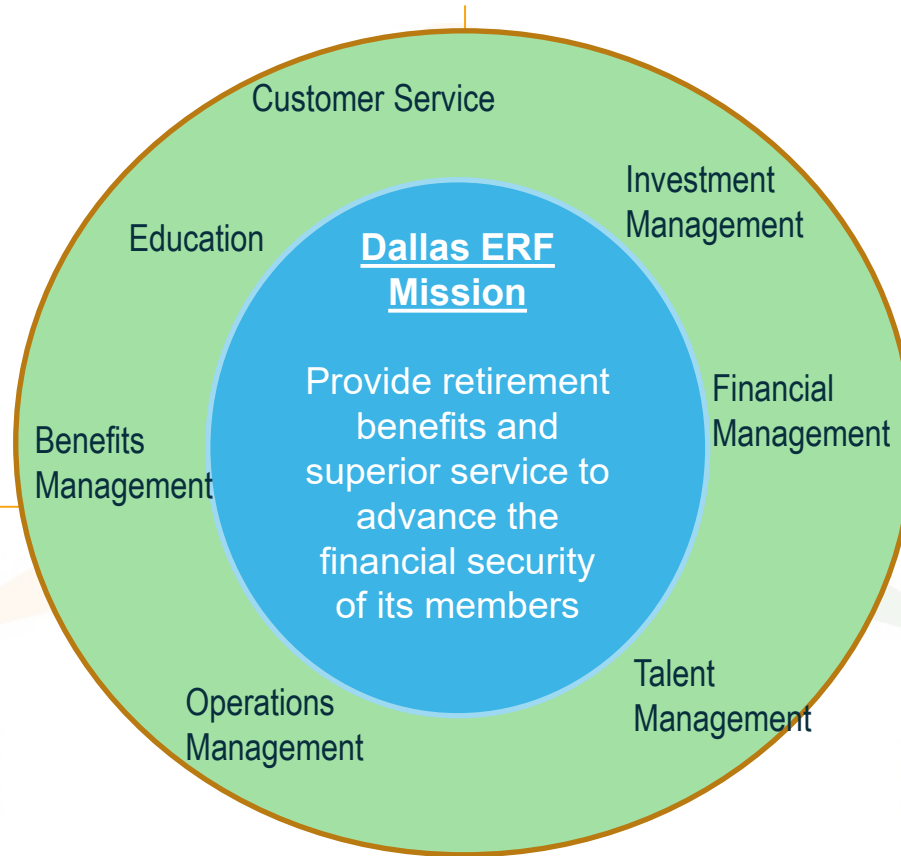
## Financial

Ensure a financially sound retirement system



## Workforce Transformation

Grow an engaged, highly skilled and diverse workforce



## Business Transformation

Drive operational excellence

THE NCPERS

# MONITOR

The Latest in Legislative News

October 2021

## Upcoming 2022 Events

### [Trustee Educational Seminar \(TEDS\)](#)

May 21 – 22  
Washington, DC

### [Program for Advanced Trustee Studies \(PATS\)](#)

May 21 – 22  
Washington, DC

### [NCPERS Accredited Fiduciary \(NAF\) Program](#)

May 21 – 22  
Washington, DC

### [Annual Conference & Exhibition \(ACE\)](#)

May 22 – 25  
Washington, DC

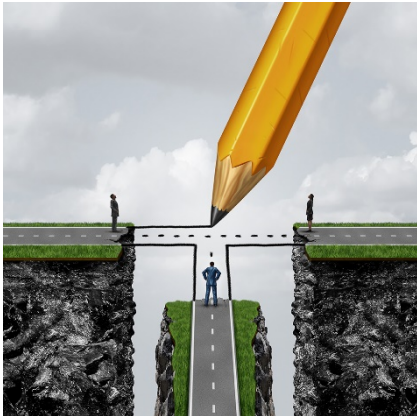


## Executive Director's Corner

*More than 18 months have passed since the Covid-19 shutdown began in March 2020, forcing organizations across the country to equip employees to work remotely and find new ways to serve customers.*

Read Hank Kim's EDC [here](#).  
Read the full Monitor [here](#)

**Auto-IRAs and New Fintech Options Are Changing The Face of Private Sector Retirement Savings**



*Transformative changes are afoot in the creation of retirement savings options for private-sector workers.*

[READ MORE](#)



### **Around the Regions**

*This month, we will highlight California, Missouri, Pennsylvania, and Texas.*

[Read More](#)



### **Latest Developments**

*There are three potentially harmful federal tax changes that the public pension community is monitoring closely. I discussed these issues – Unrelated Business Income Tax, Rothification, and the Financial Transactions Tax – in some detail in last month's NCPERS Monitor. I'm pleased to report that, thus far, of the three issues only Rothification is receiving any serious consideration by this Congress.*

[Read More](#)

**ASSET ALLOCATION COMPARISON**

October 31, 2021

	Market Value	% of Total Fund	Allocation Policy	% Difference from Allocation	Prior Period Market Value	Prior Period % of Total Fund
<b>EQUITY</b>						
CHANNING CAPITAL	38,363,876.20	0.96			36,886,045.96	0.95
REDWOOD- SL	43,279,463.78	1.08			40,792,236.50	1.05
SYSTEMATIC	78,708,247.69	1.97			75,543,434.72	1.94
<i>Total Small Cap</i>	<b>160,351,587.67</b>	<b>4.02</b>			<b>153,221,717.18</b>	<b>3.94</b>
SMITH GRAHAM	81,105,109.16	2.03			77,862,525.29	2.00
T. ROWE PRICE	173,384,934.68	4.34			162,285,014.04	4.17
<i>Total Domestic/Enhanced equity</i>	<b>254,490,043.84</b>	<b>6.37</b>			<b>240,147,539.33</b>	<b>6.17</b>
NTGI S&P 500 EQUITY INDEX	188,101,960.42	4.71			175,791,745.35	4.52
<i>Total Index</i>	<b>188,101,960.42</b>	<b>4.71</b>			<b>175,791,745.35</b>	<b>4.52</b>
<i>Total Domestic</i>	<b>602,943,591.93</b>	<b>15.10</b>	<b>12.50</b>	<b>2.60</b>	<b>569,161,001.86</b>	<b>14.63</b>
ADELANTE CAPITAL	88,006,809.48	2.20			81,875,563.09	2.11
CENTERSQUARE-SL	86,818,389.19	2.17			81,020,773.92	2.08
<i>Total REITS</i>	<b>174,825,198.67</b>	<b>4.38</b>	<b>2.50</b>	<b>1.88</b>	<b>162,896,337.01</b>	<b>4.19</b>
AEW PARTNERS	4,586,166.00	0.11			4,586,166.00	0.12
HEITMAN	91,637,576.84	2.29			86,497,835.06	2.22
INVESCO	70,053,501.00	1.75			70,053,501.00	1.80
INVESCO - SL	72,516,458.82	1.82			72,516,458.82	1.86
VIRTUS REAL ESTATE CAP	13,415,617.00	0.34			15,607,313.00	0.40
<i>Total Real Estate</i>	<b>252,209,319.66</b>	<b>6.31</b>	<b>7.50</b>	<b>-1.19</b>	<b>249,261,273.88</b>	<b>6.40</b>
FAIRVIEW CAPITAL	69,039,651.00	1.73			66,920,840.00	1.72
GROSVENOR GCM - CFGI	157,463,033.00	3.94			147,355,501.00	3.79
HAMILTON LANE	118,485,304.00	2.97			111,814,869.00	2.87
<i>Total Private Equity</i>	<b>344,987,988.00</b>	<b>8.64</b>	<b>7.50</b>	<b>1.14</b>	<b>326,091,210.00</b>	<b>8.38</b>
ACADIAN	139,689,794.61	3.50			137,870,094.30	3.54
AQR CAPITAL	131,541,404.36	3.29			130,565,088.22	3.36
ATIVO	43,962,554.70	1.10			42,724,835.02	1.10
BAILLIE GIFFORD	91,239,488.94	2.28			88,942,939.83	2.29
EARNEST PARTNERS	100,294,748.90	2.51			99,036,084.82	2.55
<i>Total International</i>	<b>506,727,991.51</b>	<b>12.70</b>	<b>12.50</b>	<b>0.20</b>	<b>499,139,042.19</b>	<b>12.84</b>
ARIEL	118,014,997.91	2.96			113,972,823.41	2.93
NORTHERN TRUST INTL EQ ACWI INDEX	28,907,335.69	0.72			27,501,920.88	0.71
WELLINGTON MGMT	147,752,690.98	3.70			140,564,630.93	3.61
<i>Total Global Equity</i>	<b>294,675,024.58</b>	<b>7.38</b>	<b>7.50</b>	<b>-0.12</b>	<b>282,039,375.22</b>	<b>7.25</b>
ACADIAN-LVG	244,533,423.65	6.12			238,753,596.48	6.14
BLACKROCK	246,491,492.65	6.17			240,292,356.81	6.18
<i>Total Global Low Volatility Equity</i>	<b>491,024,916.30</b>	<b>12.30</b>	<b>12.50</b>	<b>-0.20</b>	<b>479,045,953.29</b>	<b>12.32</b>
ATLANTIC TRUST	82,168,130.35	2.06			77,763,100.61	2.00
HARVEST FUND	81,768,730.41	2.05			77,664,633.27	2.00
COHEN & STEERS	68,106,403.75	1.71			65,406,997.32	1.68
<i>Total Global Listed Infrastructure</i>	<b>232,043,264.51</b>	<b>5.81</b>	<b>5.00</b>	<b>0.81</b>	<b>220,834,731.20</b>	<b>5.68</b>
<i>Total Marketable Alternatives</i>	-	0.00	2.50	-2.50	-	0.00
<b>TOTAL EQUITY</b>	<b>2,899,437,295.16</b>	<b>72.60</b>	<b>70.00</b>	<b>2.60</b>	<b>2,788,468,924.65</b>	<b>71.70</b>
<b>FIXED INCOME</b>						
ABERDEEN ASSET MGMT	18.71	0.00			147,182.65	0.00
GARCIA HAMILTON	66,520,807.81	1.67			66,590,879.76	1.71
NT COLLECTIVE AGGREGATE BOND INDEX FUND	221,366,618.01	5.54			221,499,870.74	5.70
SECURIAN ASSET MANAGEMENT	223,468,470.01	5.60			223,673,393.77	5.75
<i>Total Investment Grade</i>	<b>511,355,914.54</b>	<b>12.80</b>	<b>15.00</b>	<b>-2.20</b>	<b>511,911,326.92</b>	<b>13.16</b>
NEUBERGER BERMAN	184,558,630.69	4.62			185,001,219.70	4.76
<i>Total Opportunistic Credit</i>	<b>184,558,630.69</b>	<b>4.62</b>	<b>5.00</b>	<b>-0.38</b>	<b>185,001,219.70</b>	<b>4.76</b>
BLACKROCK-HY	185,906,607.16	4.66			186,318,868.72	4.79
OAKTREE	188,687,527.17	4.72			189,058,702.75	4.86
<i>Total High Yield</i>	<b>374,594,134.33</b>	<b>9.38</b>	<b>10.00</b>	<b>-0.62</b>	<b>375,377,571.47</b>	<b>9.65</b>
CASH ACCOUNT	23,537,936.40	0.59			28,583,263.49	0.73
<i>Total Short Term</i>	<b>23,537,936.40</b>	<b>0.59</b>	<b>0.00</b>	<b>0.59</b>	<b>28,583,263.49</b>	<b>0.73</b>
<b>TOTAL FIXED INCOME</b>	<b>1,094,046,615.96</b>	<b>27.40</b>	<b>30.00</b>	<b>-2.60</b>	<b>1,100,873,381.58</b>	<b>28.30</b>

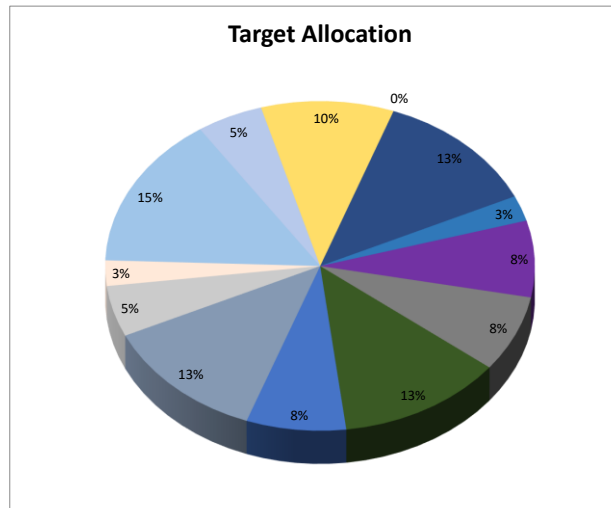
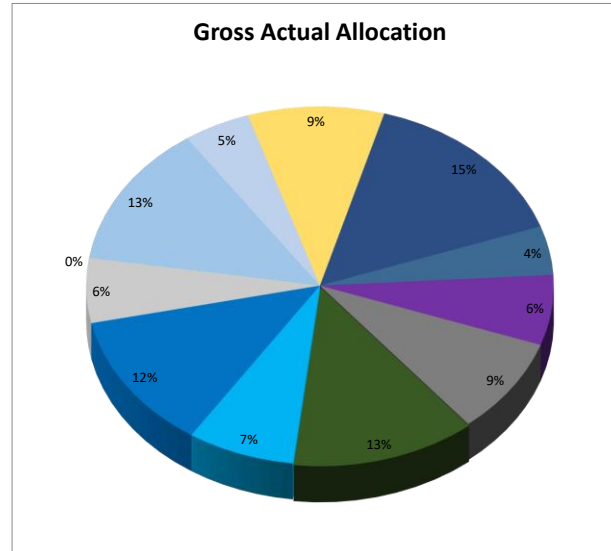
**TOTAL FUND** \$ 3,993,483,911.12 \$ 3,889,342,306.23

**Market Value YE 2020** \$ 3,701,350,125.97 **Market Value Variance**  
Change from YE 2020: \$ 292,133,785.15  
Change from prior month: \$ 104,141,604.89

Asset Allocation: Actual vs. Target

October 31, 2021

	Market Value	Gross Actual Allocation	Target Allocation	% Difference from Allocation
<b>EQUITY</b>				
CHANNING CAPITAL	38,363,876.20	0.96		
REDWOOD-SL	43,279,463.78	1.08		
SYSTEMATIC	78,708,247.69	1.97		
<i>Total Small Cap</i>	160,351,587.67	4.02		
SMITH GRAHAM	81,105,109.16	2.03		
T. ROWE PRICE	173,384,934.68	4.34		
<i>Total Domestic/Enhanced equity</i>	254,490,043.84	6.37		
NTGI S&P 500 EQUITY INDEX	188,101,960.42	4.71		
<i>Total Index</i>	188,101,960.42	4.71		
<i>Total Domestic</i>	602,943,591.93	15.10	12.50	2.60
ADELANTE CAPITAL	88,006,809.48	2.20		
CENTERSQUARE-SL	86,818,389.19	2.17		
<i>Total REITS</i>	174,825,198.67	4.38	2.50	1.88
AEW PARTNERS	4,586,166.00	0.11		
HEITMAN	91,637,576.84	2.29		
INVESCO	70,053,501.00	1.75		
INVESCO - SA	72,516,458.82	1.82		
VIRTUS REAL ESTATE CAP	13,415,617.00	0.34		
<i>Total Real Estate</i>	252,209,319.66	6.31	7.50	-1.19
FAIRVIEW CAPITAL	69,039,651.00	1.73		
GROSVENOR GCM - CFG	157,463,033.00	3.94		
HAMILTON LANE	118,485,304.00	2.97		
<i>Total Private Equity</i>	344,987,988.00	8.64	7.50	1.14
ACADIAN	139,689,794.61	3.50		
AQR CAPITAL	131,541,404.36	3.29		
ATIVO	43,962,554.70	1.10		
BAILLIE GIFFORD	91,239,488.94	2.28		
EARNEST PARTNERS	100,294,748.90	2.51		
<i>Total International</i>	506,727,991.51	12.70	12.50	0.20
ARIEL	118,014,997.91	2.96		
NORTHERN TRUST INTL EQ ACWI INDEX	28,907,335.69	0.72		
WELLINGTON MGMT	147,752,690.98	3.70		
<i>Total Global Equity</i>	294,675,024.58	7.38	7.50	-0.12
ACADIAN-LVG	244,533,423.65	6.12		
BLACKROCK	246,491,492.65	6.17		
<i>Total Global Low Volatility Equity</i>	491,024,916.30	12.30	12.50	-0.20
ATLANTIC TRUST	82,168,130.35	2.06		
HARVEST FUND	81,768,730.41	2.05		
COHEN & STEERS	68,106,403.75	1.71		
<i>Total Global Listed Infrastructure</i>	232,043,264.51	5.81	5.00	0.81
<i>Total Marketable Alternatives</i>	-	0.00	2.50	-2.50
<b>TOTAL EQUITY</b>	<b>2,899,437,295.16</b>	<b>72.60</b>	<b>70.00</b>	<b>2.60</b>
<b>FIXED INCOME</b>				
ABERDEEN ASSET MGMT	18.71	0.00		
GARCIA HAMILTON	66,520,807.81	1.67		
NT COLLECTIVE AGGREGATE BOND INDEX FUND	221,366,618.01	5.54		
SECURIAN ASSET MANAGEMENT	223,468,470.01	5.60		
<i>Total Investment Grade</i>	511,355,914.54	12.80	15.00	-2.20
NEUBERGER BERMAN	184,558,630.69	4.62		
<i>Total Opportunistic Credit</i>	184,558,630.69	4.62	5.00	-0.38
BLACKROCK-HY	185,906,607.16	4.66		
OAKTREE	188,687,527.17	4.72		
<i>Total High Yield</i>	374,594,134.33	9.38	10.00	-0.62
CASH ACCOUNT	23,537,936.40	0.59		
<i>Total Short Term</i>	23,537,936.40	0.59	0.00	0.59
<b>TOTAL FIXED INCOME</b>	<b>1,094,046,615.96</b>	<b>27.40</b>	<b>30.00</b>	<b>-2.60</b>
<b>TOTAL FUND</b>	<b>\$ 3,993,483,911.12</b>			



**ASSET ALLOCATION COMPARISON**

November 30, 2021

	Market Value	% of Total Fund	Allocation Policy	% Difference from Allocation	Prior Period Market Value	Prior Period % of Total Fund
<b>EQUITY</b>						
CHANNING CAPITAL	36,525,034.24	0.94			38,363,876.20	0.96
REDWOOD- SL	42,223,184.53	1.08			43,279,463.78	1.08
SYSTEMATIC	77,397,344.15	1.98			78,708,247.69	1.97
<i>Total Small Cap</i>	<b>156,145,562.92</b>	<b>4.00</b>			<b>160,351,587.67</b>	<b>4.02</b>
SMITH GRAHAM	79,685,645.90	2.04			81,105,109.16	2.03
T. ROWE PRICE	171,790,035.59	4.40			173,384,934.68	4.34
<i>Total Domestic/Enhanced equity</i>	<b>251,475,681.49</b>	<b>6.45</b>			<b>254,490,043.84</b>	<b>6.37</b>
NTGI S&P 500 EQUITY INDEX	186,797,487.58	4.79			188,101,960.42	4.71
<i>Total Index</i>	<b>186,797,487.58</b>	<b>4.79</b>			<b>188,101,960.42</b>	<b>4.71</b>
<i>Total Domestic</i>	<b>594,418,731.99</b>	<b>15.24</b>	<b>12.50</b>	<b>2.74</b>	<b>602,943,591.93</b>	<b>15.10</b>
ADELANTE CAPITAL	57,700,457.44	1.48			88,006,809.48	2.20
CENTERSQUARE-SL	56,047,932.54	1.44			86,818,389.19	2.17
<i>Total REITS</i>	<b>113,748,389.98</b>	<b>2.92</b>	<b>2.50</b>	<b>0.42</b>	<b>174,825,198.67</b>	<b>4.38</b>
AEW PARTNERS	6,501,036.00	0.17			4,586,166.00	0.11
HEITMAN	91,637,576.84	2.35			91,637,576.84	2.29
INVESCO	70,304,119.00	1.80			70,053,501.00	1.75
INVESCO - SL	77,412,368.68	1.98			72,516,458.82	1.82
VIRTUS REAL ESTATE CAP	13,415,617.00	0.34			13,415,617.00	0.34
<i>Total Real Estate</i>	<b>259,270,717.52</b>	<b>6.64</b>	<b>7.50</b>	<b>-0.86</b>	<b>252,209,319.66</b>	<b>6.31</b>
FAIRVIEW CAPITAL	69,198,067.00	1.77			69,039,651.00	1.73
GROSVENOR GCM - CFGI	143,173,233.00	3.67			157,463,033.00	3.94
HAMILTON LANE	114,682,979.00	2.94			118,485,304.00	2.97
<i>Total Private Equity</i>	<b>327,054,279.00</b>	<b>8.38</b>	<b>7.50</b>	<b>0.88</b>	<b>344,987,988.00</b>	<b>8.64</b>
ACADIAN	132,972,840.28	3.41			139,689,794.61	3.50
AQR CAPITAL	125,786,607.77	3.22			131,541,404.36	3.29
ATIVO	42,330,299.54	1.09			43,962,554.70	1.10
BAILLIE GIFFORD	85,320,300.12	2.19			91,239,488.94	2.28
EARNEST PARTNERS	96,673,304.10	2.48			100,294,748.90	2.51
<i>Total International</i>	<b>483,083,351.81</b>	<b>12.40</b>	<b>12.50</b>	<b>-0.10</b>	<b>506,727,991.51</b>	<b>12.70</b>
ARIEL	114,670,903.46	2.94			118,014,997.91	2.96
NORTHERN TRUST INTL EQ ACWI INDEX	28,144,002.07	0.72			28,907,335.69	0.72
WELLINGTON MGMT	141,782,522.07	3.63			147,752,690.98	3.70
<i>Total Global Equity</i>	<b>284,597,427.60</b>	<b>7.30</b>	<b>7.50</b>	<b>-0.20</b>	<b>294,675,024.58</b>	<b>7.38</b>
ACADIAN-LVG	240,441,018.55	6.16			244,533,423.65	6.12
BLACKROCK	241,793,654.50	6.20			246,491,492.65	6.17
<i>Total Global Low Volatility Equity</i>	<b>482,234,673.05</b>	<b>12.36</b>	<b>12.50</b>	<b>-0.14</b>	<b>491,024,916.30</b>	<b>12.30</b>
ATLANTIC TRUST	77,853,616.93	2.00			82,168,130.35	2.06
HARVEST FUND	77,661,694.58	1.99			81,768,730.41	2.05
COHEN & STEERS	66,101,893.31	1.69			68,106,403.75	1.71
<i>Total Global Listed Infrastructure</i>	<b>221,617,204.82</b>	<b>5.68</b>	<b>5.00</b>	<b>0.68</b>	<b>232,043,264.51</b>	<b>5.81</b>
<i>Total Marketable Alternatives</i>	-	0.00			-	0.00
<b>TOTAL EQUITY</b>	<b>2,766,024,775.77</b>	<b>70.91</b>	<b>70.00</b>	<b>0.91</b>	<b>2,899,437,295.16</b>	<b>72.60</b>
<b>FIXED INCOME</b>						
ABERDEEN ASSET MGMT		0.00			18.71	0.00
GARCIA HAMILTON	66,698,355.15	1.71			66,520,807.81	1.71
NT COLLECTIVE AGGREGATE BOND INDEX FUND	222,046,625.36	5.69			221,366,618.01	5.68
SECURIAN ASSET MANAGEMENT	223,973,616.34	5.74			223,468,470.01	5.73
<i>Total Investment Grade</i>	<b>512,718,596.85</b>	<b>13.14</b>	<b>15.00</b>	<b>-1.86</b>	<b>511,355,914.54</b>	<b>13.11</b>
NEUBERGER BERMAN	182,173,210.30	4.67			184,558,630.69	4.73
<i>Total Opportunistic Credit</i>	<b>182,173,210.30</b>	<b>4.67</b>	<b>5.00</b>	<b>-0.33</b>	<b>184,558,630.69</b>	<b>4.73</b>
BLACKROCK-HY	184,174,111.82	4.72			185,906,607.16	4.77
OAKTREE	186,967,112.59	4.79			188,687,527.17	4.84
<i>Total High Yield</i>	<b>371,141,224.41</b>	<b>9.52</b>	<b>10.00</b>	<b>-0.48</b>	<b>374,594,134.33</b>	<b>9.60</b>
CASH ACCOUNT	68,486,600.64	1.76			23,537,936.40	0.60
<i>Total Short Term</i>	<b>68,486,600.64</b>	<b>1.76</b>	<b>0.00</b>	<b>1.76</b>	<b>23,537,936.40</b>	<b>0.60</b>
<b>TOTAL FIXED INCOME</b>	<b>1,134,519,632.20</b>	<b>29.09</b>	<b>30.00</b>	<b>-0.91</b>	<b>1,094,046,615.96</b>	<b>28.05</b>

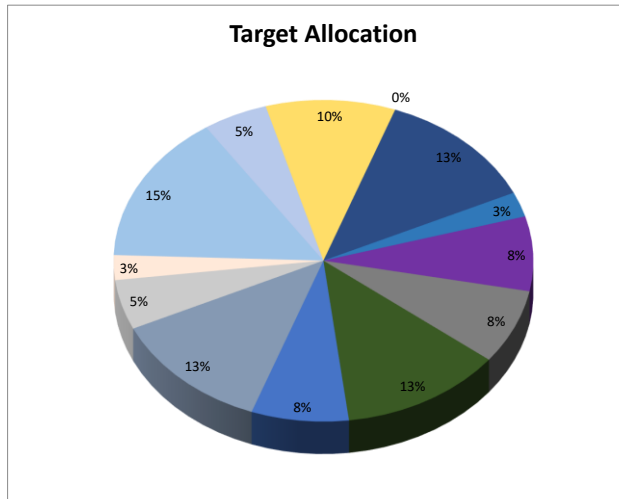
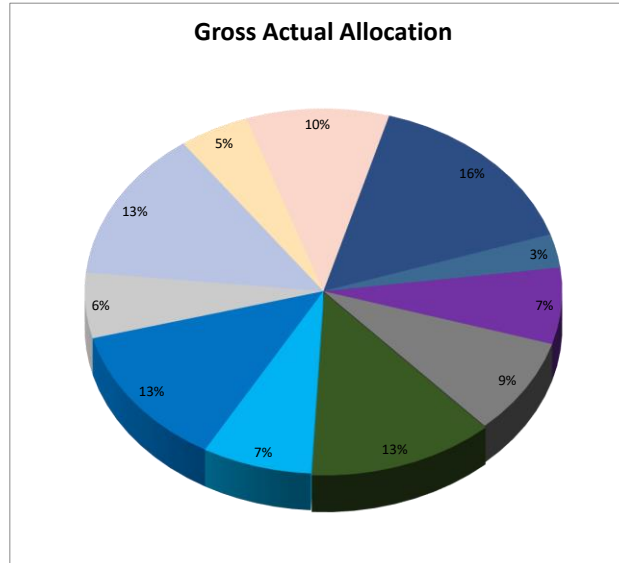
<b>TOTAL FUND</b>	<b>\$ 3,900,544,407.97</b>	<b>\$ 3,993,483,911.12</b>
<b>Market Value YE 2020</b>	<b>\$ 3,701,350,125.97</b>	<b>Market Value Variance</b>
		<b>Change from YE 2020: \$ 199,194,282.00</b>
		<b>Change from prior month: \$ (92,939,503.15)</b>



**Asset Allocation: Actual vs. Target**

November 30, 2021

	Market Value	Gross Actual Allocation	Target Allocation	% Difference from Allocation
<b>EQUITY</b>				
CHANNING CAPITAL	36,525,034.24	0.94		
REDWOOD- SL	42,223,184.53	1.08		
SYSTEMATIC	77,397,344.15	1.98		
<i>Total Small Cap</i>	156,145,562.92	4.00		
SMITH GRAHAM	79,685,645.90	2.04		
T. ROWE PRICE	171,790,035.59	4.40		
<i>Total Domestic/Enhanced equity</i>	251,475,681.49	6.45		
NTGI S&P 500 EQUITY INDEX	186,797,487.58	4.79		
<i>Total Index</i>	186,797,487.58	4.79		
<i>Total Domestic</i>	594,418,731.99	15.24	12.50	2.74
ADELANTE CAPITAL	57,700,457.44	1.48		
CENTERSQUARE-SL	56,047,932.54	1.44		
<i>Total REITS</i>	113,748,389.98	2.92	2.50	0.42
AEW PARTNERS	6,501,036.00	0.17		
HEITMAN	91,637,576.84	2.35		
INVESCO	70,304,119.00	1.80		
INVESCO - SA	77,412,368.68	1.98		
VIRTUS REAL ESTATE CAP	13,415,617.00	0.34		
<i>Total Real Estate</i>	259,270,717.52	6.64	7.50	-0.86
FAIRVIEW CAPITAL	69,198,067.00	1.77		
GROSVENOR GCM - CFGI	143,173,233.00	3.67		
HAMILTON LANE	114,682,979.00	2.94		
<i>Total Private Equity</i>	327,054,279.00	8.38	7.50	0.88
ACADIAN	132,972,840.28	3.41		
AQR CAPITAL	125,786,607.77	3.22		
ATIVO	42,330,299.54	1.09		
BAILLIE GIFFORD	85,320,300.12	2.19		
EARNEST PARTNERS	96,673,304.10	2.48		
<i>Total International</i>	483,083,351.81	12.40	12.50	-0.10
ARIEL	114,670,903.46	2.94		
NORTHERN TRUST INTL EQ ACWI INDEX	28,144,002.07	0.72		
WELLINGTON MGMT	141,782,522.07	3.63		
<i>Total Global Equity</i>	284,597,427.60	7.30	7.50	-0.20
ACADIAN-LVG	240,441,018.55	6.16		
BLACKROCK	241,793,654.50	6.20		
<i>Total Global Low Volatility Equity</i>	482,234,673.05	12.36	12.50	-0.14
ATLANTIC TRUST	77,853,616.93	2.00		
HARVEST FUND	77,661,694.58	1.99		
COHEN & STEERS	66,101,893.31	1.69		
<i>Total Global Listed Infrastructure</i>	221,617,204.82	5.68	5.00	0.68
<i>Total Marketable Alternatives</i>	-	0.00	2.50	-2.50
<b>TOTAL EQUITY</b>	<b>2,766,024,775.77</b>	<b>70.91</b>	<b>70.00</b>	<b>0.91</b>
<b>FIXED INCOME</b>				
GARCIA HAMILTON	66,698,355.15	1.71		
NT COLLECTIVE AGGREGATE BOND INDEX FUND	222,046,625.36	5.69		
SECURIAN ASSET MANAGEMENT	223,973,616.34	5.74		
<i>Total Investment Grade</i>	512,718,596.85	13.14	15.00	-1.86
NEUBERGER BERMAN	182,173,210.30	4.67		
<i>Total Opportunistic Credit</i>	182,173,210.30	4.67	5.00	-0.33
BLACKROCK-HY	184,174,111.82	4.72		
OAKTREE	186,967,112.59	4.79		
<i>Total High Yield</i>	371,141,224.41	9.52	10.00	-0.48
CASH ACCOUNT	68,486,600.64	1.76		
<i>Total Short Term</i>	68,486,600.64	1.76	0.00	1.76
<b>TOTAL FIXED INCOME</b>	<b>1,134,519,632.20</b>	<b>29.09</b>	<b>30.00</b>	<b>-0.91</b>
<b>TOTAL FUND</b>	<b>\$ 3,900,544,407.97</b>			



## DISCUSSION SHEET

Employees' Retirement Fund  
Board of Trustees Meeting

December 14<sup>th</sup>, 2021

**Issue:** Fourth Quarter of 2021 Cash Rebalance

**Attachment:** None, informational purposes only

**Discussion:** During the month of October, ERF Staff rebalanced fund managers taking \$60 million in cash to pay benefits for the Fourth Quarter of 2021.

Redemptions were as follows: \$30 million from Adelante, and \$30 million from CenterSquare.



**Wilshire**

# Dallas Employees' Retirement Fund

Monthly Investment Summary

Oct-2021

## Market Commentary

*Month Ended October 31, 2021*

### U.S. Economy and Markets

- Domestic equity markets were positive in October, as the FT Wilshire 5000 Index<sup>SM</sup> and the S&P 500 Index returned 6.73% and 7.01%, respectively.
- The CBOE Volatility Index (VIX) ended October at 16.26, a decrease from its September close of 23.14, and is down since year-end 2020.
- Performance across GICS sectors was positive for the month, with the Consumer Discretionary and Energy sectors leading the group, gaining 10.25% and 9.78%, respectively. The Consumer Services sector trailed but was still positive, up 2.39%.
- Small cap stocks underperformed their large cap counterparts in October, with the Wilshire U.S. Small Cap Index<sup>SM</sup> and the Wilshire U.S. Large Cap Index<sup>SM</sup> returning 3.96% and 7.02%, respectively.
- For the month of October, value-oriented equities underperformed their growth-oriented counterparts in both the large and small capitalization segments of the market.

### International Economy and Markets

- Developed international equity markets, as measured by the MSCI EAFE Index, returned 2.46% this month.
- The MSCI Emerging Markets Index gained 0.99% in October.

### Fixed Income & Real Assets

- The 10-year U.S. Treasury yield ended the month at 1.56%, an increase from its September close of 1.49%.
- The Bloomberg U.S. Aggregate Index posted a small loss of -0.03% in October.
- Long duration fixed income was the best performing segment within U.S. fixed income, with the Bloomberg Long Term Treasury Index returning 1.86%. While the 10-year Treasury rate was up slightly, longer maturity bonds were down, flattening the yield curve and pushing up long duration bond prices.
- Listed U.S. real estate posted positive returns in October, with the Wilshire U.S. Real Estate Securities Index<sup>SM</sup> returning 7.96%. Listed global infrastructure was up, as well, with the S&P Global Infrastructure Index gaining 3.61%.
- Commodities, as measured by the Bloomberg Commodity Index, gained 2.58% in October.

# Monthly Index Performance

Periods Ended October 31, 2021

	Performance (%)				
	1 Month	YTD	1 Year	3 Years	5 Years
U.S. Equity					
FT Wilshire 5000 Total Market TR Index	6.73	23.40	44.44	21.78	19.03
S&P 500	7.01	24.04	42.91	21.48	18.93
FT Wilshire 4500 Completion Index	5.02	19.77	52.90	22.62	18.97
MSCI USA Minimum Volatility Index	5.47	15.59	28.00	14.66	14.30
U.S. Equity by Size/Style					
FT Wilshire U.S. Large-Cap Index	7.02	23.73	43.69	22.29	19.62
FT Wilshire U.S. Large-Cap Growth Index	8.75	25.62	45.89	28.15	24.02
FT Wilshire U.S. Large-Cap Value Index	4.78	20.20	39.59	15.81	14.11
FT Wilshire U.S. Small-Cap Index	3.96	19.96	53.69	16.81	15.25
FT Wilshire U.S. Small-Cap Growth Index	4.39	12.95	44.74	19.48	17.87
FT Wilshire U.S. Small-Cap Value Index	3.52	27.65	63.51	14.22	12.19
FT Wilshire U.S. Micro-Cap Index	0.40	25.44	65.52	14.00	14.38
Non-U.S. Equity (USD)					
MSCI AC World ex USA (Net)	2.39	8.43	29.66	12.00	9.77
MSCI ACWI ex USA Minimum Volatility Index (Net)	0.82	7.50	18.85	7.83	7.23
MSCI EAFE Index (Net)	2.46	11.01	34.18	11.54	9.79
MSCI Emerging Markets (Net)	0.99	-0.27	16.96	12.30	9.39
MSCI AC World ex USA Small Cap (Net)	1.56	13.99	38.83	14.75	11.21
U.S. Fixed Income					
Blmbg. U.S. Aggregate	-0.03	-1.58	-0.48	5.62	3.09
Blmbg. U.S. Treasury: Long	1.86	-5.77	-5.76	11.03	4.55
Blmbg. U.S. Long Corporate Index	1.50	-1.09	4.55	12.47	7.06
Blmbg. U.S. TIPS	1.13	4.69	7.07	8.37	4.66
Blmbg. U.S. Credit Index	0.22	-1.09	1.90	7.68	4.60
Blmbg. U.S. Corp: High Yield	-0.17	4.36	10.53	7.43	6.40
S&P LSTA Leverage Loan Index					

# Asset Allocation & Performance

Dallas Total Fund

Periods Ended October 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	4.48	2.67	13.81	31.06	15.03	13.55	10.68	9/1/2012	294,675,025	7.37
Global Low Volatility Composite	2.50	0.91	10.99	22.21	9.49	9.48	8.68	7/1/2015	491,024,916	12.28
Domestic Equity Composite	5.94	4.59	25.51	49.54	19.93	17.64	10.89	1/1/1990	602,943,592	15.08
International Equity Composite	1.48	-1.34	10.01	32.60	14.15	10.94	6.06	1/1/1990	506,575,920	12.67
Global Fixed Income Composite	-0.08	-1.11	-0.91	1.13	6.15	3.64	5.00	10/1/1995	511,355,915	12.79
High Yield Composite	-0.23	0.57	4.05	11.64	6.95	5.77	6.49	1/1/1997	374,572,449	9.37
Credit Opportunities Composite	-0.24	0.06	2.69	8.28	5.83	5.36	6.49	2/1/2016	184,558,631	4.62
Total Real Estate Composite	2.09	3.96	18.09	24.94	9.69	7.79	6.82	1/1/1990	430,844,835	10.78
Global Listed Infrastructure Composite	5.01	7.01	34.35	56.45	-0.55	-0.01	3.67	1/1/2012	232,043,265	5.81
Private Equity Composite	0.19	13.69	32.26	39.32	16.93	15.60	14.19	6/1/2009	344,987,988	8.63
Managed Short Term Composite	0.00	0.01	0.03	0.05	1.12	1.15	2.78	1/1/1990	23,537,936	0.59
Dallas Total Fund	2.16	2.57	13.65	25.63	11.03	9.38	9.17	1/1/1985	3,997,120,470	100.00
Policy Index	2.87	2.33	13.38	26.04	11.72	9.58	9.77			

# Asset Allocation & Performance

## Domestic Equity

Periods Ended October 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Systematic Financial</b>	<b>4.19</b>	<b>2.99</b>	<b>25.68</b>	<b>55.29</b>	<b>13.60</b>	<b>14.50</b>	<b>11.42</b>	<b>8/1/2003</b>	<b>78,708,248</b>	<b>13.05</b>
Russell 2000 Index	4.25	3.44	17.19	50.80	16.47	15.52	10.45			
<b>Redwood Investments *</b>	<b>6.10</b>	<b>6.40</b>	<b>25.20</b>	<b>50.14</b>	<b>23.09</b>	<b>18.50</b>	<b>16.49</b>	<b>10/1/2016</b>	<b>43,279,464</b>	<b>7.18</b>
Russell 2000 Growth Index	4.68	2.50	7.64	38.45	18.64	17.90	16.11			
<b>Channing Capital *</b>	<b>4.01</b>	<b>1.72</b>	<b>18.62</b>	<b>54.31</b>	<b>15.46</b>	<b>12.28</b>	<b>8.90</b>	<b>12/1/2013</b>	<b>38,363,876</b>	<b>6.36</b>
Russell 2000 Value Index	3.81	4.46	27.60	64.30	13.44	12.61	9.06			
<b>Domestic Equity Small Cap Composite</b>	<b>4.65</b>	<b>3.58</b>	<b>23.73</b>	<b>53.70</b>	<b>16.65</b>	<b>15.15</b>	<b>10.64</b>	<b>6/1/2003</b>	<b>160,351,588</b>	<b>26.59</b>
<b>Smith Graham *</b>	<b>4.16</b>	<b>4.17</b>	<b>34.96</b>	<b>66.51</b>	<b>16.97</b>		<b>11.55</b>	<b>1/1/2018</b>	<b>81,105,109</b>	<b>13.45</b>
Russell Midcap Index	5.95	4.17	22.02	45.40	19.85		14.78			
<b>T. Rowe Price</b>	<b>6.84</b>	<b>5.17</b>	<b>23.54</b>	<b>43.69</b>	<b>22.22</b>	<b>19.59</b>	<b>11.29</b>	<b>4/1/2006</b>	<b>173,384,935</b>	<b>28.76</b>
S&P 500	7.01	5.13	24.04	42.91	21.48	18.93	10.73			
<b>Northern Trust S&amp;P 500 (Lending)</b>	<b>7.00</b>	<b>5.13</b>	<b>24.03</b>	<b>42.90</b>	<b>21.43</b>	<b>18.90</b>	<b>11.10</b>	<b>1/1/1995</b>	<b>188,101,960</b>	<b>31.20</b>
S&P 500	7.01	5.13	24.04	42.91	21.48	18.93	11.07			
<b>Domestic Equity Composite</b>	<b>5.94</b>	<b>4.59</b>	<b>25.51</b>	<b>49.54</b>	<b>19.93</b>	<b>17.64</b>	<b>10.89</b>	<b>1/1/1990</b>	<b>602,943,592</b>	<b>100.00</b>
Custom Benchmark	6.73	5.00	23.40	44.44	21.78	19.03	11.05			

# Asset Allocation & Performance

## Real Estate

Periods Ended October 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Adelante Capital Management</b>	<b>7.49</b>	<b>4.72</b>	<b>36.31</b>	<b>54.59</b>	<b>16.59</b>	<b>11.49</b>	<b>10.61</b>	<b>10/1/2001</b>	<b>88,006,809</b>	<b>20.43</b>
Wilshire U.S. Real Estate Securities Index	7.96	4.42	34.64	52.85	14.36	9.98	10.69			
<b>CenterSquare</b>	<b>7.16</b>	<b>2.92</b>	<b>32.30</b>	<b>52.22</b>	<b>15.52</b>		<b>14.27</b>	<b>6/1/2018</b>	<b>86,818,389</b>	<b>20.15</b>
Wilshire U.S. Real Estate Securities Index	7.96	4.42	34.64	52.85	14.36		13.16			
<b>REIT Composite</b>	<b>7.32</b>	<b>3.82</b>	<b>34.29</b>	<b>53.41</b>	<b>16.05</b>	<b>10.87</b>	<b>10.65</b>	<b>10/1/2001</b>	<b>174,825,199</b>	<b>40.58</b>
Wilshire U.S. Real Estate Securities Index	7.96	4.42	34.64	52.85	14.36	9.98	10.69			
<b>Heitman America Real Estate Trust, LP</b>	<b>0.00</b>	<b>6.81</b>	<b>13.70</b>	<b>15.53</b>	<b>4.35</b>	<b>5.48</b>	<b>9.57</b>	<b>12/1/2010</b>	<b>90,974,397</b>	<b>21.12</b>
NCREIF ODCE NOF	0.00	6.41	12.41	13.64	6.13	6.56	9.72			
<b>Invesco Core Real Estate USA, LLC</b>	<b>0.00</b>	<b>7.61</b>	<b>14.52</b>	<b>16.40</b>	<b>7.09</b>	<b>7.81</b>	<b>10.32</b>	<b>12/1/2010</b>	<b>76,989,955</b>	<b>17.87</b>
NCREIF ODCE NOF	0.00	6.41	12.41	13.64	6.13	6.56	9.72			
<b>Virtus Real Estate Capital III</b>	<b>-14.04</b>	<b>-14.04</b>					<b>-0.04</b>	<b>2/1/2021</b>	<b>13,415,617</b>	<b>3.11</b>
NCREIF ODCE NOF	0.00	6.41					12.41			
<b>AEW Partners Real Estate Fund IX</b>	<b>0.00</b>	<b>2.46</b>					<b>-27.36</b>	<b>4/1/2021</b>	<b>4,586,166</b>	<b>1.06</b>
NCREIF ODCE NOF	0.00	6.41					10.33			

# Asset Allocation & Performance

## Real Estate

Periods Ended October 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Private Core Real Estate Composite</b>	-1.19	4.06	9.49	10.13	5.82	5.92	9.07	10/1/2010	256,019,636	59.42
Custom Benchmark	-0.28	5.25	9.98	10.53	6.64	6.32	8.73			
<b>Total Real Estate Composite</b>	2.09	3.96	18.09	24.94	9.69	7.79	6.82	1/1/1990	430,844,835	100.00
Custom Benchmark	3.84	5.06	22.12	30.61	11.09	8.58	8.81			

**Employees' Retirement Fund of the City of Dallas**  
**Private Equity & Direct Private Real Estate Monthly Performance and Market Value Summary**  
*Periods Ended 10/31/21*



	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple <sup>3</sup>
Invesco II	70,053,501	65,188,333	65,188,333	9,202,934	Jan-14	4.0%	1.2
<b>Total Direct Private Real Estate</b>	<b>70,053,501</b>	<b>65,188,333</b>	<b>65,188,333</b>	<b>9,202,934</b>	<b>Jan-14</b>	<b>4.0%</b>	<b>1.2</b>

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple <sup>3</sup>
Hamilton Lane Secondary Fund II	461,599	25,000,000	22,058,532	31,007,605	Jul-09	13.5%	1.4
Hamilton Lane Secondary Fund III	5,682,173	30,000,000	23,372,292	25,387,382	Nov-12	10.1%	1.3
Hamilton Lane Secondary Fund IV	24,524,072	30,000,000	25,907,343	17,076,274	Mar-17	23.4%	1.6
Hamilton Lane Secondary Fund V	40,818,737	40,000,000	33,517,866	2,124,965	Mar-20	49.6%	1.3
Hamilton Lane Fund VII Composite	24,217,594	50,000,000	45,600,834	47,574,317	Jan-10	7.1%	1.6
Hamilton Lane Fund VIII (Global)	22,781,129	30,000,000	22,162,244	9,635,728	Nov-12	7.7%	1.5
GCM Grosvenor - Partnership, L.P.	32,379,804	75,000,000	86,094,430	110,955,310	Jun-11	14.3%	1.7
GCM Grosvenor - Partnership II, L.P. (2014)	56,375,013	60,000,000	69,559,751	52,696,583	Jul-14	15.7%	1.6
GCM Grosvenor - Partnership II, L.P. (2015)	45,886,269	30,000,000	34,423,858	9,770,143	Dec-15	16.3%	1.6
GCM Grosvenor - Partnership II, L.P. (2017)	21,050,846	30,000,000	20,451,710	3,376,212	Jan-18	13.2%	1.2
GCM Grosvenor - Advance Fund, L.P.	1,771,101	10,000,000	1,800,039	53,279	Jun-21	-	1.0
Fairview Capital - Lone Star Fund I	49,478,435	40,000,000	35,563,040	9,273,654	Aug-15	16.9%	1.7
Fairview Capital - Lone Star Fund II	17,728,049	30,000,000	14,822,991	107,274	Dec-18	6.9%	1.2
Fairview Capital - Lone Star Fund III	1,833,167	25,000,000	1,946,084	-	Apr-21	-7.6%	0.9
<b>Total Private Equity Composite</b>	<b>344,987,988</b>	<b>505,000,000</b>	<b>437,281,012</b>	<b>319,038,725</b>	<b>Jul-09</b>	<b>14.1%</b>	<b>1.5</b>

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

**523,747,724**

**19.4%**

\* Next Generation Manager

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

<sup>2</sup> 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.

<sup>3</sup> Private Equity cash account



# Asset Allocation & Performance

## International Equity

Periods Ended October 31, 2021

	Performance (%) net of fees							Allocation		
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Acadian International</b>	<b>1.32</b>	<b>-2.19</b>	<b>16.66</b>	<b>40.45</b>	<b>14.94</b>	<b>12.26</b>	<b>8.84</b>	<b>4/1/1989</b>	<b>139,689,795</b>	<b>27.58</b>
Custom Benchmark	1.56	0.75	13.99	38.83	14.75	11.21	6.51			
<b>Ativo International *</b>	<b>2.90</b>	<b>0.50</b>	<b>13.47</b>	<b>30.93</b>	<b>10.79</b>		<b>5.75</b>	<b>1/1/2018</b>	<b>43,962,555</b>	<b>8.68</b>
MSCI EAFE Index (Net)	2.46	1.24	11.01	34.18	11.54		6.19			
<b>AQR Capital Management</b>	<b>0.78</b>	<b>-2.36</b>	<b>6.15</b>	<b>25.88</b>	<b>11.34</b>	<b>8.85</b>	<b>4.31</b>	<b>4/1/2006</b>	<b>131,541,404</b>	<b>25.97</b>
Custom Benchmark	2.39	0.99	8.43	29.66	12.00	9.77	4.04			
<b>Baillie Gifford</b>	<b>2.59</b>	<b>-1.02</b>	<b>3.12</b>	<b>21.25</b>			<b>17.90</b>	<b>4/1/2019</b>	<b>91,239,489</b>	<b>18.01</b>
MSCI AC World ex USA (Net)	2.39	0.99	8.43	29.66			11.40			
<b>Earnest Partners</b>	<b>1.01</b>	<b>0.17</b>	<b>12.03</b>	<b>44.70</b>			<b>13.77</b>	<b>4/1/2019</b>	<b>100,142,677</b>	<b>19.77</b>
MSCI AC World ex USA (Net)	2.39	0.99	8.43	29.66			11.40			
<b>International Equity Composite</b>	<b>1.48</b>	<b>-1.34</b>	<b>10.01</b>	<b>32.60</b>	<b>14.15</b>	<b>10.94</b>	<b>6.06</b>	<b>1/1/1990</b>	<b>506,575,920</b>	<b>100.00</b>
Custom Benchmark	2.27	0.96	9.19	30.90	12.38	9.97	5.04			

# Asset Allocation & Performance

## Global Equity

Periods Ended October 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Ariel Global *</b>	<b>3.55</b>	<b>1.19</b>	<b>10.64</b>	<b>26.80</b>	<b>9.77</b>		<b>7.69</b>	<b>1/1/2018</b>	<b>118,014,998</b>	<b>40.05</b>
MSCI AC World Index (Net)	5.10	3.28	16.79	37.28	17.47		12.24			
<b>Wellington</b>	<b>5.12</b>	<b>3.77</b>	<b>15.80</b>	<b>33.25</b>	<b>19.06</b>	<b>15.18</b>	<b>13.61</b>	<b>9/1/2012</b>	<b>147,752,691</b>	<b>50.14</b>
MSCI AC World Index (Net)	5.10	3.28	16.79	37.28	17.47	14.72	11.71			
<b>Northern Trust Global Equity</b>	<b>5.11</b>	<b>3.27</b>	<b>17.11</b>	<b>38.42</b>	<b>17.86</b>	<b>15.07</b>	<b>14.11</b>	<b>10/1/2015</b>	<b>28,907,336</b>	<b>9.81</b>
MSCI AC World IMI (Net)	4.86	3.18	16.84	38.18	17.32	14.59	13.62			
<b>Global Equity Composite</b>	<b>4.48</b>	<b>2.67</b>	<b>13.81</b>	<b>31.06</b>	<b>15.03</b>	<b>13.55</b>	<b>10.68</b>	<b>9/1/2012</b>	<b>294,675,025</b>	<b>100.00</b>
MSCI AC World Index (Net)	5.10	3.28	16.79	37.28	17.47	14.72	11.71			

# Asset Allocation & Performance

## Global Low Volatility

Periods Ended October 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Acadian Global Low Vol.</b>	<b>2.42</b>	<b>0.73</b>	<b>11.85</b>	<b>23.97</b>	<b>8.78</b>	<b>9.06</b>	<b>8.19</b>	<b>7/1/2015</b>	<b>244,533,424</b>	<b>49.80</b>
MSCI AC World Index (Net)	5.10	3.28	16.79	37.28	17.47	14.72	11.39			
MSCI ACWI Minimum Volatility Index (Net)	2.53	1.02	9.91	20.10	10.20	9.69	8.87			
<b>BlackRock Global Low Vol.</b>	<b>2.57</b>	<b>1.09</b>	<b>10.15</b>	<b>20.52</b>	<b>10.19</b>	<b>9.90</b>	<b>9.15</b>	<b>7/1/2015</b>	<b>246,491,493</b>	<b>50.20</b>
MSCI ACWI Minimum Volatility Index (Net)	2.53	1.02	9.91	20.10	10.20	9.69	8.87			
<b>Global Low Volatility Composite</b>	<b>2.50</b>	<b>0.91</b>	<b>10.99</b>	<b>22.21</b>	<b>9.49</b>	<b>9.48</b>	<b>8.68</b>	<b>7/1/2015</b>	<b>491,024,916</b>	<b>100.00</b>
MSCI ACWI Minimum Volatility Index (Net)	2.53	1.02	9.91	20.10	10.20	9.69	8.87			

# Asset Allocation & Performance

Global Listed Infrastructure  
 Periods Ended October 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Atlantic Trust CIBC</b>	5.67	9.28	44.69	76.71	3.19	2.06	5.06	1/1/2012	82,168,130	35.41
Alerian MLP Index	4.98	5.65	46.34	85.70	-0.01	-0.56	0.18			
<b>Harvest Fund Advisors MLP</b>	5.10	9.02	46.08	74.91	4.93	3.40	4.87	1/1/2012	81,768,730	35.24
Alerian MLP Index	4.98	5.65	46.34	85.70	-0.01	-0.56	0.18			
<b>C&amp;S Global Listed Infrastructure</b>	4.13	2.20	12.56	21.59			21.59	11/1/2020	68,106,404	29.35
FTSE Global Core Infrastructure 50/50 (Net)	3.71	2.12	10.79	21.01			21.01			
<b>Global Listed Infrastructure Composite</b>	5.01	7.01	34.35	56.45	-0.55	-0.01	3.67	1/1/2012	232,043,265	100.00
Global Listed Infrastructure Benchmark	4.66	4.82	36.95	67.69	-3.36	-2.57	-0.86			

# Asset Allocation & Performance

## Global Fixed Income

Periods Ended October 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Securian Asset Management</b>	-0.09	-1.09	-0.20	2.16	5.81	3.69	4.61	7/1/2007	223,468,470	43.70
Blmbg. U.S. Aggregate	-0.03	-1.08	-1.58	-0.48	5.62	3.09	4.21			
<b>Garcia Hamilton *</b>	-0.11	-1.08	-2.24	-1.21	4.59	2.92	3.41	11/1/2013	66,520,808	13.01
Blmbg. U.S. Aggregate	-0.03	-1.08	-1.58	-0.48	5.62	3.09	3.24			
<b>NT Collective Aggregate Bond Index</b>	-0.05	-1.09					0.02	7/1/2021	221,366,618	43.29
Blmbg. U.S. Aggregate	-0.03	-1.08					0.02			
<b>Aberdeen Global Fixed Income</b>									19	0.00
<b>Global Fixed Income Composite</b>	-0.08	-1.11	-0.91	1.13	6.15	3.64	5.00	10/1/1995	511,355,915	100.00
Blmbg. U.S. Aggregate	-0.03	-1.08	-1.58	-0.48	5.62	3.09	5.04			

# Asset Allocation & Performance

Opportunistic Credit

Periods Ended October 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	-0.24	0.06	2.69	8.28	5.83	5.36	6.49	2/1/2016	184,558,631	
Custom Benchmark	0.03	0.23	2.60	7.88	5.96	4.98	6.63			

# Asset Allocation & Performance

High Yield

Periods Ended October 31, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Oaktree Capital Management</b>	-0.24	0.52	4.02	10.10	6.62	5.39	6.66	2/1/1997	188,687,527	50.37
FTSE High Yield Cash Pay	-0.15	0.45	4.36	10.55	6.98	6.11	6.83			
<b>BlackRock</b>	-0.23	0.63	4.07	13.23	7.27	6.15	6.45	10/1/2006	185,884,922	49.63
FTSE High Yield Cash Pay	-0.15	0.45	4.36	10.55	6.98	6.11	6.89			
<b>High Yield Composite</b>	-0.23	0.57	4.05	11.64	6.95	5.77	6.49	1/1/1997	374,572,449	100.00
FTSE High Yield Cash Pay	-0.15	0.45	4.36	10.55	6.98	6.11	6.83			

# Asset Allocation & Performance

Cash

*Periods Ended October 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	0.00	0.01	0.03	0.05	1.12	1.15	3.13	1/1/1988	23,537,936	100.00
Managed Short Term Composite	0.00	0.01	0.03	0.05	1.12	1.15	2.78	1/1/1990	23,537,936	100.00



**Wilshire**

# Dallas Employees' Retirement Fund

Monthly Investment Summary

Nov-2021

## Market Commentary

*Month Ended November 30, 2021*

### U.S. Economy and Markets

- U.S. equity markets were mostly negative in November, as the FT Wilshire 5000 Index<sup>SM</sup> and the S&P 500 Index returned -1.17% and -0.69%, respectively.
- The CBOE Volatility Index (VIX) ended November at 27.19, an increase from its October close of 16.26, and its highest level since May 2021.
- Performance across GICS sectors was negative for the month for all but two sectors. The Energy, Communication Services and Financials sectors were the worst performers, each down by more than -5%. The Information Technology and Consumer Discretionary sectors were in positive territory for the month, up 3.49% and 1.49%, respectively.
- Small cap stocks underperformed their large cap counterparts in November, with the Wilshire U.S. Small Cap Index<sup>SM</sup> and the Wilshire U.S. Large Cap Index<sup>SM</sup> returning -3.76% and -0.92%, respectively.
- For the month of November, value-oriented equities underperformed their growth-oriented counterparts in the large capitalization segment of the market but led within small capitalization.

### International Economy and Markets

- Developed international equity markets, as measured by the MSCI EAFE Index, returned -4.65% this month.
- The MSCI Emerging Markets Index fell -4.08% in November.

### Fixed Income & Real Assets

- The 10-year U.S. Treasury yield ended the month at 1.45%, a decrease from its October close of 1.56%.
- The Bloomberg U.S. Aggregate Index posted a gain of 0.30% in November.
- Long duration fixed income was the best performing segment within U.S. fixed income, with the Bloomberg Long Term Treasury Index returning 2.65%. High yield corporate bonds fell nearly -1% as credit spreads widened and the Treasury curve was little changed in the shorter end.
- Listed U.S. real estate posted negative returns in November, with the Wilshire U.S. Real Estate Securities Index<sup>SM</sup> returning -0.31%. Listed global infrastructure was also down with the S&P Global Infrastructure Index falling -5.34%.
- Commodities, as measured by the Bloomberg Commodity Index, fell -7.31% in November.

# Monthly Index Performance

*Periods Ended November 30, 2021*

	Performance (%)					
	1 Month	QTD	YTD	1 Year	3 Years	5 Years
U.S. Equity						
FT Wilshire 5000 Total Market TR Index	-1.17	5.48	21.95	27.42	20.53	17.69
S&P 500	-0.69	6.26	23.18	27.92	20.38	17.90
FT Wilshire 4500 Completion Index	-4.31	0.49	14.61	23.32	20.06	16.02
MSCI USA Minimum Volatility Index	-1.97	3.39	13.31	15.95	12.52	13.70
U.S. Equity by Size/Style						
FT Wilshire U.S. Large-Cap Index	-0.92	6.04	22.59	27.67	21.12	18.49
FT Wilshire U.S. Large-Cap Growth Index	0.33	9.11	26.04	32.12	28.19	23.07
FT Wilshire U.S. Large-Cap Value Index	-2.59	2.07	17.09	21.11	13.47	12.71
FT Wilshire U.S. Small-Cap Index	-3.76	0.05	15.44	25.08	14.69	12.06
FT Wilshire U.S. Small-Cap Growth Index	-4.11	0.11	8.31	18.11	16.97	14.33
FT Wilshire U.S. Small-Cap Value Index	-3.42	-0.01	23.29	32.73	12.48	9.37
FT Wilshire U.S. Micro-Cap Index	-7.27	-6.90	16.32	26.89	11.92	10.51
Non-U.S. Equity (USD)						
MSCI AC World ex USA (Net)	-4.50	-2.22	3.54	9.14	9.95	9.28
MSCI ACWI ex USA Minimum Volatility Index (Net)	-2.02	-1.21	5.32	8.43	6.26	7.61
MSCI EAFE Index (Net)	-4.65	-2.31	5.84	10.77	9.83	9.19
MSCI Emerging Markets (Net)	-4.08	-3.13	-4.34	2.70	9.27	9.52
MSCI AC World ex USA Small Cap (Net)	-4.95	-3.46	8.34	15.92	12.74	10.75
U.S. Fixed Income						
Blmbg. U.S. Aggregate	0.30	0.27	-1.29	-1.16	5.52	3.65
Blmbg. U.S. Treasury: Long	2.65	4.56	-3.27	-4.41	11.30	6.74
Blmbg. U.S. Long Corporate Index	0.40	1.90	-0.70	-0.40	12.81	8.18
Blmbg. U.S. TIPS	0.89	2.04	5.62	6.83	8.52	5.25
Blmbg. U.S. Credit Index	0.08	0.30	-1.00	-0.55	7.73	5.20
Blmbg. U.S. Corp: High Yield	-0.97	-1.14	3.34	5.29	7.39	6.29
S&P LSTA Leverage Loan Index	-0.16	0.11	4.46	5.87	4.48	4.37

# Asset Allocation & Performance

Dallas Total Fund

Periods Ended November 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	-3.42	-2.82	9.92	15.67	13.06	12.48	10.16	9/1/2012	284,597,428	7.30
Global Low Volatility Composite	-1.79	-2.84	9.00	12.05	7.92	9.40	8.25	7/1/2015	482,234,673	12.37
Domestic Equity Composite	-1.41	0.58	23.73	30.20	18.66	16.04	10.82	1/1/1990	594,418,732	15.24
International Equity Composite	-4.65	-7.12	4.94	11.87	12.06	10.38	5.89	1/1/1990	483,083,352	12.39
Global Fixed Income Composite	0.27	-0.62	-0.65	-0.11	6.03	4.14	4.99	10/1/1995	512,718,597	13.15
High Yield Composite	-0.92	-0.87	3.09	4.94	6.98	5.68	6.43	1/1/1997	371,141,224	9.52
Credit Opportunities Composite	-1.27	-1.96	1.39	2.87	5.83	5.38	6.16	2/1/2016	182,173,210	4.67
Total Real Estate Composite	-0.32	2.87	17.95	19.88	8.94	7.91	6.79	1/1/1990	371,933,514	9.54
Global Listed Infrastructure Composite	-4.49	1.84	28.31	30.33	-1.49	-1.56	3.16	1/1/2012	221,617,205	5.68
Private Equity Composite	0.00	8.19	32.13	33.49	15.19	15.38	14.08	6/1/2009	327,054,279	8.39
Managed Short Term Composite	0.01	0.01	0.04	0.05	1.05	1.15	2.78	1/1/1990	68,486,601	1.76
Dallas Total Fund	-1.69	-0.63	11.75	15.07	10.01	8.95	9.09	1/1/1985	3,899,458,815	100.00
Policy Index	-1.55	-0.60	11.65	14.59	10.74	9.24	9.70			

# Asset Allocation & Performance

## Domestic Equity

Periods Ended November 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Systematic Financial</b>	-1.67	-0.10	23.58	32.74	12.74	11.80	11.26	8/1/2003	77,397,344	13.02
Russell 2000 Index	-4.17	-3.04	12.31	22.02	14.22	12.14	10.14			
<b>Redwood Investments *</b>	-2.44	0.94	22.14	30.75	21.59	15.87	15.65	10/1/2016	42,223,185	7.10
Russell 2000 Growth Index	-4.88	-4.25	2.38	11.95	16.08	14.74	14.71			
<b>Channing Capital *</b>	-4.79	-3.96	12.94	22.39	12.37	8.26	8.14	12/1/2013	36,525,034	6.14
Russell 2000 Value Index	-3.42	-1.74	23.24	33.01	11.54	9.08	8.49			
<b>Domestic Equity Small Cap Composite</b>	-2.62	-0.76	20.48	29.60	15.07	12.10	10.43	6/1/2003	156,145,563	26.27
<b>Smith Graham *</b>	-1.75	0.17	32.59	40.11	15.81		10.79	1/1/2018	79,685,646	13.41
Russell Midcap Index	-3.48	-1.95	17.77	23.29	17.49		13.41			
<b>T. Rowe Price</b>	-0.92	1.20	22.41	27.42	20.99	18.70	11.17	4/1/2006	171,790,036	28.90
S&P 500	-0.69	1.32	23.18	27.92	20.38	17.90	10.62			
<b>Northern Trust S&amp;P 500 (Lending)</b>	-0.69	1.32	23.17	27.91	20.34	17.88	11.04	1/1/1995	186,797,488	31.43
S&P 500	-0.69	1.32	23.18	27.92	20.38	17.90	11.00			
<b>Domestic Equity Composite</b>	-1.41	0.58	23.73	30.20	18.66	16.04	10.82	1/1/1990	594,418,732	100.00
Custom Benchmark	-1.17	0.80	21.95	27.42	20.53	17.69	10.98			

# Asset Allocation & Performance

## Real Estate

Periods Ended November 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Adelante Capital Management</b>	-0.51	1.97	35.62	39.69	14.50	11.72	10.53	10/1/2001	57,700,457	15.51
Wilshire U.S. Real Estate Securities Index	-0.31	2.15	34.22	37.99	12.52	10.22	10.62			
<b>CenterSquare</b>	-1.31	0.11	30.57	34.92	13.37		13.48	6/1/2018	56,047,933	15.07
Wilshire U.S. Real Estate Securities Index	-0.31	2.15	34.22	37.99	12.52		12.72			
<b>REIT Composite</b>	-0.91	1.04	33.07	37.29	13.93	11.02	10.56	10/1/2001	113,748,390	30.58
Wilshire U.S. Real Estate Securities Index	-0.31	2.15	34.22	37.99	12.52	10.22	10.62			
<b>Heitman America Real Estate Trust, LP</b>	0.00	6.81	13.70	15.53	4.35	5.48	9.50	12/1/2010	90,974,397	24.46
NCREIF ODCE NOF	0.00	6.41	12.41	13.64	6.13	6.56	9.65			
<b>Invesco Core Real Estate USA, LLC</b>	0.00	7.61	14.52	16.40	7.09	7.81	10.24	12/1/2010	76,989,955	20.70
NCREIF ODCE NOF	0.00	6.41	12.41	13.64	6.13	6.56	9.65			
<b>Virtus Real Estate Capital III</b>	0.00	-14.04					-0.04	2/1/2021	13,415,617	3.61
NCREIF ODCE NOF	0.00	6.41					12.41			
<b>AEW Partners Real Estate Fund IX</b>	-2.56	-2.56					-29.22	4/1/2021	6,501,036	1.75
NCREIF ODCE NOF	0.00	6.41					10.33			

# Asset Allocation & Performance

## Real Estate

Periods Ended November 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Private Core Real Estate Composite</b>	-0.06	4.01	9.82	10.46	5.92	5.97	9.03	10/1/2010	258,185,124	69.42
Custom Benchmark	0.00	5.28	10.29	10.84	6.74	6.36	8.69			
<b>Total Real Estate Composite</b>	-0.32	2.87	17.95	19.88	8.94	7.91	6.79	1/1/1990	371,933,514	100.00
Custom Benchmark	-0.16	3.92	22.09	24.12	10.23	8.71	8.78			

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



Periods Ended 11/30/21

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple <sup>3</sup>
Invesco II	70,304,119	65,188,333	65,188,333	9,202,934	Jan-14	4.0%	1.2
<b>Total Direct Private Real Estate</b>	<b>70,304,119</b>	<b>65,188,333</b>	<b>65,188,333</b>	<b>9,202,934</b>	<b>Jan-14</b>	<b>4.0%</b>	<b>1.2</b>

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple <sup>3</sup>
Hamilton Lane Secondary Fund II	461,599	25,000,000	22,058,532	31,007,605	Jul-09	13.5%	1.4
Hamilton Lane Secondary Fund III	4,676,433	30,000,000	23,372,292	26,393,122	Nov-12	10.1%	1.3
Hamilton Lane Secondary Fund IV	23,060,012	30,000,000	25,907,343	18,537,004	Mar-17	23.0%	1.6
Hamilton Lane Secondary Fund V	40,818,737	65,000,000	33,517,866	2,124,965	Mar-20	43.3%	1.3
Hamilton Lane Fund VII Composite	24,217,594	50,000,000	45,600,834	47,574,317	Jan-10	7.0%	1.6
Hamilton Lane Fund VIII (Global)	21,448,604	30,000,000	22,270,594	11,076,603	Nov-12	7.7%	1.5
GCM Grosvenor - Partnership, L.P.	32,379,804	75,000,000	86,094,430	110,955,310	Jun-11	14.3%	1.7
GCM Grosvenor - Partnership II, L.P. (2014)	47,063,822	60,000,000	69,559,751	52,696,583	Jul-14	15.7%	1.4
GCM Grosvenor - Partnership II, L.P. (2015)	41,435,292	30,000,000	35,128,808	9,770,143	Dec-15	16.3%	1.5
GCM Grosvenor - Partnership II, L.P. (2017)	20,646,692	30,000,000	20,451,710	3,376,212	Jan-18	13.2%	1.2
GCM Grosvenor - Advance Fund, L.P.	1,647,623	10,000,000	1,800,039	53,279	Jun-21	-	0.9
Fairview Capital - Lone Star Fund I	49,478,435	40,000,000	35,563,040	9,273,654	Aug-15	16.6%	1.7
Fairview Capital - Lone Star Fund II	17,728,049	30,000,000	14,822,991	107,274	Dec-18	6.4%	1.2
Fairview Capital - Lone Star Fund III	1,991,583	25,000,000	2,104,500	-	Apr-21	-7.2%	0.9
<b>Total Private Equity Composite</b>	<b>327,054,279</b>	<b>530,000,000</b>	<b>438,252,729</b>	<b>322,946,070</b>	<b>Jul-09</b>	<b>13.7%</b>	<b>1.5</b>

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

**501,473,374**

**19.0%**

\* Next Generation Manager

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

<sup>2</sup> 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.

<sup>3</sup> Private Equity cash account



# Asset Allocation & Performance

## International Equity

Periods Ended November 30, 2021

	Performance (%) net of fees							Allocation		
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Acadian International</b>	<b>-4.81</b>	<b>-8.02</b>	<b>11.06</b>	<b>19.74</b>	<b>12.90</b>	<b>11.66</b>	<b>8.65</b>	<b>4/1/1989</b>	<b>132,972,840</b>	<b>27.53</b>
Custom Benchmark	-4.95	-6.40	8.34	15.92	12.74	10.75	6.33			
<b>Ativo International *</b>	<b>-3.71</b>	<b>-4.83</b>	<b>9.26</b>	<b>13.63</b>	<b>9.22</b>		<b>4.61</b>	<b>1/1/2018</b>	<b>42,330,300</b>	<b>8.76</b>
MSCI EAFE Index (Net)	-4.65	-5.14	5.84	10.77	9.83		4.77			
<b>AQR Capital Management</b>	<b>-4.32</b>	<b>-7.28</b>	<b>1.61</b>	<b>7.45</b>	<b>9.38</b>	<b>8.44</b>	<b>4.00</b>	<b>4/1/2006</b>	<b>125,786,608</b>	<b>26.04</b>
Custom Benchmark	-4.50	-5.35	3.54	9.14	9.95	9.28	3.71			
<b>Baillie Gifford</b>	<b>-6.49</b>	<b>-9.64</b>	<b>-3.57</b>	<b>1.46</b>			<b>14.38</b>	<b>4/1/2019</b>	<b>85,320,300</b>	<b>17.66</b>
MSCI AC World ex USA (Net)	-4.50	-5.35	3.54	9.14			9.12			
<b>Earnest Partners</b>	<b>-3.61</b>	<b>-4.26</b>	<b>8.15</b>	<b>17.72</b>			<b>11.83</b>	<b>4/1/2019</b>	<b>96,673,304</b>	<b>20.01</b>
MSCI AC World ex USA (Net)	-4.50	-5.35	3.54	9.14			9.12			
<b>International Equity Composite</b>	<b>-4.65</b>	<b>-7.12</b>	<b>4.94</b>	<b>11.87</b>	<b>12.06</b>	<b>10.38</b>	<b>5.89</b>	<b>1/1/1990</b>	<b>483,083,352</b>	<b>100.00</b>
Custom Benchmark	-4.57	-5.51	4.21	10.06	10.33	9.48	4.88			

# Asset Allocation & Performance

## Global Equity

Periods Ended November 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Ariel Global *</b>	<b>-2.83</b>	<b>-3.59</b>	<b>7.50</b>	<b>14.49</b>	<b>7.98</b>		<b>6.73</b>	<b>1/1/2018</b>	<b>114,670,903</b>	<b>40.29</b>
MSCI AC World Index (Net)	-2.41	-1.66	13.98	19.27	15.96		11.27			
<b>Wellington</b>	<b>-4.04</b>	<b>-2.38</b>	<b>11.12</b>	<b>15.77</b>	<b>16.90</b>	<b>13.92</b>	<b>12.98</b>	<b>9/1/2012</b>	<b>141,782,522</b>	<b>49.82</b>
MSCI AC World Index (Net)	-2.41	-1.66	13.98	19.27	15.96	13.99	11.30			
<b>Northern Trust Global Equity</b>	<b>-2.64</b>	<b>-1.89</b>	<b>14.02</b>	<b>19.79</b>	<b>16.22</b>	<b>14.21</b>	<b>13.41</b>	<b>10/1/2015</b>	<b>28,144,002</b>	<b>9.89</b>
MSCI AC World IMI (Net)	-2.68	-2.02	13.71	19.36	15.71	13.72	12.93			
<b>Global Equity Composite</b>	<b>-3.42</b>	<b>-2.82</b>	<b>9.92</b>	<b>15.67</b>	<b>13.06</b>	<b>12.48</b>	<b>10.16</b>	<b>9/1/2012</b>	<b>284,597,428</b>	<b>100.00</b>
MSCI AC World Index (Net)	-2.41	-1.66	13.98	19.27	15.96	13.99	11.30			

# Asset Allocation & Performance

## Global Low Volatility

Periods Ended November 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Acadian Global Low Vol.</b>	<b>-1.67</b>	<b>-2.75</b>	<b>9.98</b>	<b>13.47</b>	<b>7.48</b>	<b>8.96</b>	<b>7.80</b>	<b>7/1/2015</b>	<b>240,441,019</b>	<b>49.86</b>
MSCI AC World Index (Net)	-2.41	-1.66	13.98	19.27	15.96	13.99	10.81			
MSCI ACWI Minimum Volatility Index (Net)	-1.93	-3.03	7.79	10.37	8.38	9.63	8.42			
<b>BlackRock Global Low Vol.</b>	<b>-1.91</b>	<b>-2.94</b>	<b>8.05</b>	<b>10.66</b>	<b>8.36</b>	<b>9.83</b>	<b>8.70</b>	<b>7/1/2015</b>	<b>241,793,655</b>	<b>50.14</b>
MSCI ACWI Minimum Volatility Index (Net)	-1.93	-3.03	7.79	10.37	8.38	9.63	8.42			
<b>Global Low Volatility Composite</b>	<b>-1.79</b>	<b>-2.84</b>	<b>9.00</b>	<b>12.05</b>	<b>7.92</b>	<b>9.40</b>	<b>8.25</b>	<b>7/1/2015</b>	<b>482,234,673</b>	<b>100.00</b>
MSCI ACWI Minimum Volatility Index (Net)	-1.93	-3.03	7.79	10.37	8.38	9.63	8.42			

# Asset Allocation & Performance

## Global Listed Infrastructure

Periods Ended November 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Atlantic Trust CIBC</b>	-5.25	3.66	37.09	39.71	1.95	0.31	4.45	1/1/2012	77,853,617	35.13
Alerian MLP Index	-7.51	0.03	35.35	38.75	-2.31	-2.55	-0.61			
<b>Harvest Fund Advisors MLP</b>	-5.02	4.49	38.74	40.64	3.74	1.68	4.29	1/1/2012	77,661,695	35.04
Alerian MLP Index	-7.51	0.03	35.35	38.75	-2.31	-2.55	-0.61			
<b>C&amp;S Global Listed Infrastructure</b>	-2.94	-3.06	9.25	10.81			16.52	11/1/2020	66,101,893	29.83
FTSE Global Core Infrastructure 50/50 (Net)	-3.34	-3.42	7.09	8.52			15.57			
<b>Global Listed Infrastructure Composite</b>	-4.49	1.84	28.31	30.33	-1.49	-1.56	3.16	1/1/2012	221,617,205	100.00
Global Listed Infrastructure Benchmark	-6.47	-0.78	28.10	30.94	-5.22	-4.30	-1.52			

# Asset Allocation & Performance

## Global Fixed Income

Periods Ended November 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Securian Asset Management</b>	0.23	-0.65	0.03	0.65	5.79	4.15	4.59	7/1/2007	223,973,616	43.68
Blmbg. U.S. Aggregate	0.30	-0.60	-1.29	-1.16	5.52	3.65	4.20			
<b>Garcia Hamilton *</b>	0.27	-0.62	-1.98	-1.81	4.50	3.35	3.40	11/1/2013	66,698,355	13.01
Blmbg. U.S. Aggregate	0.30	-0.60	-1.29	-1.16	5.52	3.65	3.24			
<b>NT Collective Aggregate Bond Index</b>	0.31	-0.60					0.33	7/1/2021	222,046,625	43.31
Blmbg. U.S. Aggregate	0.30	-0.60					0.32			
<b>Aberdeen Global Fixed Income</b>										0.00
<b>Global Fixed Income Composite</b>	0.27	-0.62	-0.65	-0.11	6.03	4.14	4.99	10/1/1995	512,718,597	100.00
Blmbg. U.S. Aggregate	0.30	-0.60	-1.29	-1.16	5.52	3.65	5.04			

# Asset Allocation & Performance

Opportunistic Credit

Periods Ended November 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	-1.27	-1.96	1.39	2.87	5.83	5.38	6.16	2/1/2016	182,173,210	
Custom Benchmark	-0.96	-1.39	1.62	3.36	5.88	5.07	6.36			

# Asset Allocation & Performance

High Yield

Periods Ended November 30, 2021

	Performance (%) net of fees								Allocation	
	1 Month	1 Quarter	YTD	1 Year	3 Years	5 Years	Since Inception	Inception Date	Market Value \$	%
<b>Oaktree Capital Management</b>	-0.91	-0.76	3.08	5.13	6.66	5.34	6.60	2/1/1997	186,967,113	50.38
FTSE High Yield Cash Pay	-1.06	-1.17	3.25	5.26	6.91	5.94	6.76			
<b>BlackRock</b>	-0.93	-0.98	3.11	4.74	7.28	6.02	6.35	10/1/2006	184,174,112	49.62
FTSE High Yield Cash Pay	-1.06	-1.17	3.25	5.26	6.91	5.94	6.77			
<b>High Yield Composite</b>	-0.92	-0.87	3.09	4.94	6.98	5.68	6.43	1/1/1997	371,141,224	100.00
FTSE High Yield Cash Pay	-1.06	-1.17	3.25	5.26	6.91	5.94	6.77			

# Asset Allocation & Performance

Cash

*Periods Ended November 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	0.01	0.01	0.04	0.05	1.05	1.15	3.12	1/1/1988	68,486,601	100.00
Managed Short Term Composite	0.01	0.01	0.04	0.05	1.05	1.15	2.78	1/1/1990	68,486,601	100.00



# At A Glance

For period ended October 31, 2021

	2020		2021	
	This Month	YTD	This Month	YTD
<b>Retirements</b>				
Age	20	161	21	176
Service	1	20	1	15
Rule of 78	3	81	9	91
QDRO	0	6	0	2
<i>Total</i>	24	268	31	284
<b>Disability Retirements</b>				
Service	0	0	0	0
Non-service	0	3	0	3
<i>Total</i>	0	3	0	3
<b>Benefits Paid</b>	\$ 24,346,858.81	\$ 239,046,996.44	\$ 24,766,791.68	\$ 246,111,437.64
<b>Refunds</b>	\$ 540,790.02	\$ 5,551,974.65	\$ 824,443.80	\$ 8,909,280.76
<b>Number of refunds</b>	38	369	52	553
<b>*Contributions</b>	\$ 9,058,752.16	\$ 100,562,763.35	\$ 9,259,999.00	\$ 96,419,954.44

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

# At A Glance

For period ended November 30, 2021

	2020		2021	
	This Month	YTD	This Month	YTD
<b>Retirements</b>				
Age	15	176	16	192
Service	4	24	0	15
Rule of 78	8	89	6	97
QDRO	0	6	0	2
<i>Total</i>	27	295	22	306
<b>Disability Retirements</b>				
Service	0	0	0	0
Non-service	0	3	0	3
<i>Total</i>	0	3	0	3
<b>Benefits Paid</b>	\$ 24,164,199.84	\$ 263,211,196.28	\$ 24,925,146.45	\$ 271,036,584.09
<b>Refunds</b>	\$ 717,635.15	\$ 6,269,609.80	\$ 802,834.37	\$ 9,712,115.13
<b>Number of refunds</b>	36	405	43	596
<b>*Contributions</b>	\$ 9,011,460.49	\$ 109,574,223.84	\$ 14,780,074.24	\$ 111,200,028.68

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

**CONSUMER PRICE INDEX - CPI-W  
U. S. CITY AVERAGE  
2021**

Effective January 1, 2022

<u>MONTH AND YEAR</u>		<u>PERCENTAGE OF ANNUAL MONTHLY INCREASE</u>
NOVEMBER	2020	1.300%
DECEMBER	2020	1.400%
JANUARY	2021	1.600%
FEBRUARY	2021	1.900%
MARCH	2021	3.000%
APRIL	2021	4.700%
MAY	2021	5.600%
JUNE	2021	6.100%
JULY	2021	6.000%
AUGUST	2021	5.800%
SEPTEMBER	2021	5.900%
OCTOBER	2021	<u>6.900%</u>
<b>TOTAL</b>		50.200%

**PERCENTAGE OF ANNUAL AVERAGE CHANGE IN THE PRICE INDEX FOR LAST 12 MONTHS**

$$50.20\% / 12 \text{ mos.} = \mathbf{4.183\%}$$

**PERCENTAGE CHANGE IN THE PRICE INDEX FROM OCTOBER 2020 TO OCTOBER 2021**

$$271.552 - 254.076 / 254.076 = \mathbf{6.878\%}$$

10/21 Index    10/20 Index    10/20 Index

**ERF COLA effective January 1, 2022 will be 5% for Tier A & 3% for Tier B**

**COLA REQUIREMENT**

COLA increase is required by City Code of Ordinances, Chapter 40A, Section 28

The maximum COLA is:            5%    Tier A  
   3%    Tier B (members hired after Decemeber 31, 2016)

**CALCULATION**

The ERF COLA is an automatic adjustment to benefit payments that occurs annually. The purpose of the COLA is to ensure that the purchasing power of income received from pension benefits is not eroded by inflation. It is based on the higher of:

- (1) the annual average change of the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) for the 12 month period from November through October; or
- (2) the percentage increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) from October of one year to October of the next year.

If there is no increase, there is no COLA.

The retiree COLA is not compounded, and the COLA percentage is applied to the initial base pension.

**Social Security COLA for January 1, 2022 is 5.9%.**

The increase for Social Security is based on the change in the CPI-W from the 3rd Quarter of the Prior year (2020) to the 3rd quarter of the Current year (2021).



# Dallas Employees Retirement Fund

Compensation Review

December 15, 2021

## Introduction

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- Dallas Employees Retirement Fund asked McLagan to review the competitiveness of Dallas ERF's compensation program.
- Recognizing that Dallas ERF competes with a broad range of firms for investment talent, McLagan assembled pay data from three compensation reference groups (see Appendix for additional detail on each group):
  - I. All US based public funds.
  - II. Public funds with AUM less than \$35B.
  - III. All private sector investment organizations - including advisory firms, banks, insurance companies, endowments, foundations, and corporate plan sponsors.
- This report contains information about the competitive range of salary and total cash compensation (e.g., salary + cash incentives) for 31 Dallas ERF employees.
- Note that long-term incentives, common in the private sector, have been excluded (e.g., stock options, mutual fund deferrals, restricted stock, etc.).

## McLagan Recommendation to the Board

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- While the private sector dominates the labor market for the majority of ERF's positions (e.g., there are far more similar jobs in the private sector than the public sector, ERF must recognize it is a public employer located in Dallas, TX and offers benefits that may not be available at many private sector employers.
- For these reasons, McLagan recommends that ERS focus on the "All Public Funds" data presented in this report to represent the most robust sample of other public funds.
- The definitions used in this report include:
  - 25<sup>th</sup> Percentile: the value in which 25% of the sample is paid less (75% is paid more).
  - 50<sup>th</sup> Percentile / Median: the value in which 50% of the sample is paid more and 50% is paid less. This is generally where most public funds target their compensation philosophy.
  - 75<sup>th</sup> Percentile: the value in which 75% of the population is paid less (25% is paid more).

# Aggregate Spend Analysis

- From a base salary perspective, Dallas ERF \$3.3M aggregate spend for 31 employees approximates the median of all Public Funds and 75<sup>th</sup> percentile for Public Funds with AUM < \$35B.
- Dallas ERF is positioned substantially below the private sector 25<sup>th</sup> percentile.

Dallas ERF Agg Spend vs. Public Funds and Private Sector Firms									Mkt Positioning
	# of EEs	Dallas ERF	Aggregate Spend (\$000s)			% Diff to Market			
			25th	Median	75th	LowQ	Median	HighQ	
<b>Base Salary</b>									
Public Funds	31	\$3,301	\$2,810	\$3,347	\$3,966	+17%	-1%	-17%	3
Public Funds AUM <\$35B	31	3,301	2,621	2,989	3,419	+26%	+10%	-3%	2
Private Sector Firms	31	3,301	4,959	5,591	6,473	-33%	-41%	-49%	4
<b>Total Cash Compensation</b>									
Public Funds	31	\$3,317	\$2,843	\$3,399	\$4,221	+17%	-2%	-21%	3
Public Funds AUM <\$35B	31	3,317	2,657	3,016	3,500	+25%	+10%	-5%	2
Private Sector Firms	31	3,317	8,292	11,267	16,126	-60%	-71%	-79%	4

## Pay Positioning Varies by Function

- Salary and total cash compensation positioning varies by function.
- Management and administrative positions fall within +/- 5% of median total cash while the two investment positions are well below market.

Dallas ERF vs Competitive Market															
	Dallas ERF		Salary						Total Cash						
	# off EEs	Salary	Total Cash	Aggregate Spend			% Variance			Aggregate Spend			% Variance		
				LowQ	Median	HighQ	LowQ	Median	HighQ	LowQ	Median	HighQ	LowQ	Median	HighQ
<b>Public Funds</b>															
Management	7	1,178	1,210	909	1,140	1,479	+30%	+3%	-20%	925	1,156	1,659	+31%	+5%	-27%
Investments	2	170	180	193	217	235	-12%	-22%	-28%	200	228	258	-10%	-21%	-30%
Administrative	25	1,953	1,928	1,709	1,991	2,252	+14%	-2%	-13%	1,718	2,015	2,303	+12%	-4%	-16%
<b>Total</b>	<b>34</b>	<b>3,301</b>	<b>3,317</b>	<b>2,810</b>	<b>3,347</b>	<b>3,966</b>	<b>+17%</b>	<b>-1%</b>	<b>-17%</b>	<b>2,843</b>	<b>3,399</b>	<b>4,221</b>	<b>+17%</b>	<b>-2%</b>	<b>-21%</b>
<b>Public Funds AUM &lt;\$35B</b>															
Management	7	1,178	1,210	813	1,025	1,205	+45%	+15%	-2%	838	1,048	1,277	+44%	+15%	-5%
Investments	2	170	180	176	205	225	-4%	-17%	-25%	187	209	234	-4%	-14%	-23%
Administrative	25	1,953	1,928	1,632	1,759	1,989	+20%	+11%	-2%	1,632	1,759	1,989	+18%	+10%	-3%
<b>Total</b>	<b>34</b>	<b>3,301</b>	<b>3,317</b>	<b>2,621</b>	<b>2,989</b>	<b>3,419</b>	<b>+26%</b>	<b>+10%</b>	<b>-3%</b>	<b>2,657</b>	<b>3,016</b>	<b>3,500</b>	<b>+25%</b>	<b>+10%</b>	<b>-5%</b>
<b>Private Sector</b>															
Management	7	1,178	1,210	1,783	2,120	2,617	-34%	-44%	-55%	4,231	6,702	10,646	-71%	-82%	-89%
Investments	2	170	180	211	248	280	-20%	-32%	-39%	269	330	390	-33%	-46%	-54%
Administrative	25	1,953	1,928	2,965	3,223	3,577	-34%	-39%	-45%	3,792	4,236	5,090	-49%	-54%	-62%
<b>Total</b>	<b>34</b>	<b>3,301</b>	<b>3,317</b>	<b>4,959</b>	<b>5,591</b>	<b>6,473</b>	<b>-33%</b>	<b>-41%</b>	<b>-49%</b>	<b>8,292</b>	<b>11,267</b>	<b>16,126</b>	<b>-60%</b>	<b>-71%</b>	<b>-79%</b>



# All Public Funds

All Public Pension Funds					
12/31/19			12/31/19		
	Location	AUM		Location	AUM
CA Public Employees' Retirement Sys	Sacramento, CA	\$394.7	PA State Employees' Retirement Sys	Harrisburg, PA	\$31.0
CA State Teachers' Retirement Sys	West Sacramento, CA	254.1	Employees Retirement Sys of Texas	Austin, TX	29.4
New York State & Local Retirement Sys	New York, NY	225.9	Alaska Retirement Management Board	Juneau, Alaska	27.9
Florida State Board of Administration	Tallahassee, FL	169.7	New Mexico State Investment Council	Santa Fe, NM	27.4
Teacher Retirement Sys of Texas	Austin, TX	160.0	Louisiana Teachers' Retirement Sys	Baton Rouge, LA	21.5
New York State Teachers' Retirement Sys	Albany, NY	125.6	Kansas Public Employees Retirement Sys	Topeka, KS	21.2
State of Wisconsin Investment Board	Madison, WI	116.5	State Univ. Retirement Sys of Illinois	Champaign, IL	20.3
Washington State Investment Board	Olympia, WA	107.5	Idaho Public Employee Retirement Sys	Boise, ID	19.6
Ohio Public Employees Retirement Sys	Columbus, OH	104.2	Hawaii Employees Retirement Sys	Honolulu, HI	18.1
Virginia Retirement Sys	Richmond, VA	85.5	Nebraska Investment Council	Lincoln NE	17.6
New Jersey Division of Investment	Trenton, NJ	79.7	Orange County Employees Retirement System	Santa Ana, CA	17.3
Massachusetts PRIM	Boston, MA	79.1	West Virginia Investment Mgmt Board	Charleston, WV	16.8
Michigan State Retirement Systems	East Lansing, MI	77.7	Maine Public Employees Retirement System	Augusta, ME	15.4
Minnesota State Board of Investments	St. Paul, MN	74.2	Ohio School Employees Retirement Board	Columbus, OH	15.2
Oregon Public Employees' Retirement Fund	Tigard, OR	71.8	New Mexico Educational Retirement Board	Santa Fe, NM	13.2
State Teachers Retirement Sys of Ohio	Columbus, OH	71.5	South Dakota Investment Council	Sioux Falls, SD	12.8
Alaska Permanent Fund Corporation	Juneau, AK	65.2	Montana Board of Investments	Helena, MT	12.2
Maryland State Retirement Agency	Baltimore, MD	56.1	Municip. Employees' Retirement Sys of MI	Lansing, MI	10.8
Tennessee Consolidated Retirement Sys	Nashville, TN	55.2	Wyoming Retirement Sys	Cheyenne, WY	9.0
CO Public Employees' Retirement Assoc.	Denver, CO	52.0	Missouri State Employees' Retirement Sys	Jefferson City, MO	8.3
Nevada Public Employees' Retirement Sys	Carson City, NV	47.0	MO Local Gov't Employees Retirement Sys	Jefferson City, MO	7.0
Missouri Public School Retirement Sys	Jefferson City, MO	46.9	Fire & Police Pension Assoc. of CO	Greenwood Village, CO	5.7
Arizona State Retirement Sys	Phoenix, AZ	42.7	Municip. Fire & Police Retire. Sys of IA	Des Moines, IA	2.7
Utah State Retirement Systems	Salt Lake City, UT	35.6	Utah School & Institutional Trust Funds Office	Salt Lake City, UT	2.6
Iowa Public Employees' Retirement Sys	Des Moines, IA	35.5	Idaho Endowment Investment Board	Boise, ID	2.6
Texas County and District Retirement Sys	Austin, TX	33.7	Wisconsin Dept of Employee Trust Funds	Madison, WI	
Indiana Public Employees Retirement Fund	Indianapolis, IN	31.9	North Dakota Retirement and Investment Office	Bismark, ND	
Texas Municipal Retirement Sys	Austin, TX	31.5			
			HighQ		\$74.2
			<b>Median</b>		<b>31.9</b>
			LowQ		16.8

## Public Funds with AUM <\$35B

Dallas ERF's Public Pension Fund Comparator Group			
	12/31/19 AUM		12/31/19 AUM
Texas County and District Retirement Sys	\$33.7	West Virginia Investment Mgmt Board	\$16.8
Indiana Public Employees Retirement Fund	31.9	Maine Public Employees Retirement System	15.4
Texas Municipal Retirement Sys	31.5	Ohio School Employees Retirement Board	15.2
PA State Employees' Retirement Sys	31.0	New Mexico Educational Retirement Board	13.2
Employees Retirement Sys of Texas	29.4	South Dakota Investment Council	12.8
Alaska Retirement Management Board	27.9	Montana Board of Investments	12.2
New Mexico State Investment Council	27.4	Municip. Employees' Retirement Sys of MI	10.8
Louisiana Teachers' Retirement Sys	21.5	Wyoming Retirement Sys	9.0
Kansas Public Employees Retirement Sys	21.2	Missouri State Employees' Retirement Sys	8.3
State Univ. Retirement Sys of Illinois	20.3	MO Local Gov't Employees Retirement Sys	7.0
Idaho Public Employee Retirement Sys	19.6	Fire & Police Pension Assoc. of CO	5.7
Hawaii Employees Retirement Sys	18.1	Municip. Fire & Police Retire. Sys of IA	2.7
Nebraska Investment Council	17.6	Utah School & Institutional Trust Funds Office	2.6
Orange County Employees Retirement System	17.3	Idaho Endowment Investment Board	2.6
		HighQ	\$23.0
		<b>Median</b>	<b>17.1</b>
		LowQ	10.3
		<b>Dallas ERF</b>	<b>\$3.7</b>

## Private Sector Firms

All Private Sector				
	# Firms	12/31/19 AUM (\$Billions)		
		LowQ	Median	HighQ
Investment Mangement Firms	162	\$14.9	\$53.1	\$218.6
Banks (Investment Management Department)	24	15.8	38.6	88.6
Insurance Companies (Investment Management Departments)	39	26.1	63.1	97.3
Endowments & Foundations	54	1.9	3.3	7.2
Corporate Plan Sponsors	11	1.7	6.0	17.6
<b>Total</b>	<b>290</b>	<b>\$7.0</b>	<b>\$28.4</b>	<b>\$101.2</b>

**Wilshire**

# Dallas ERF

Incentive Compensation Review

November 2021

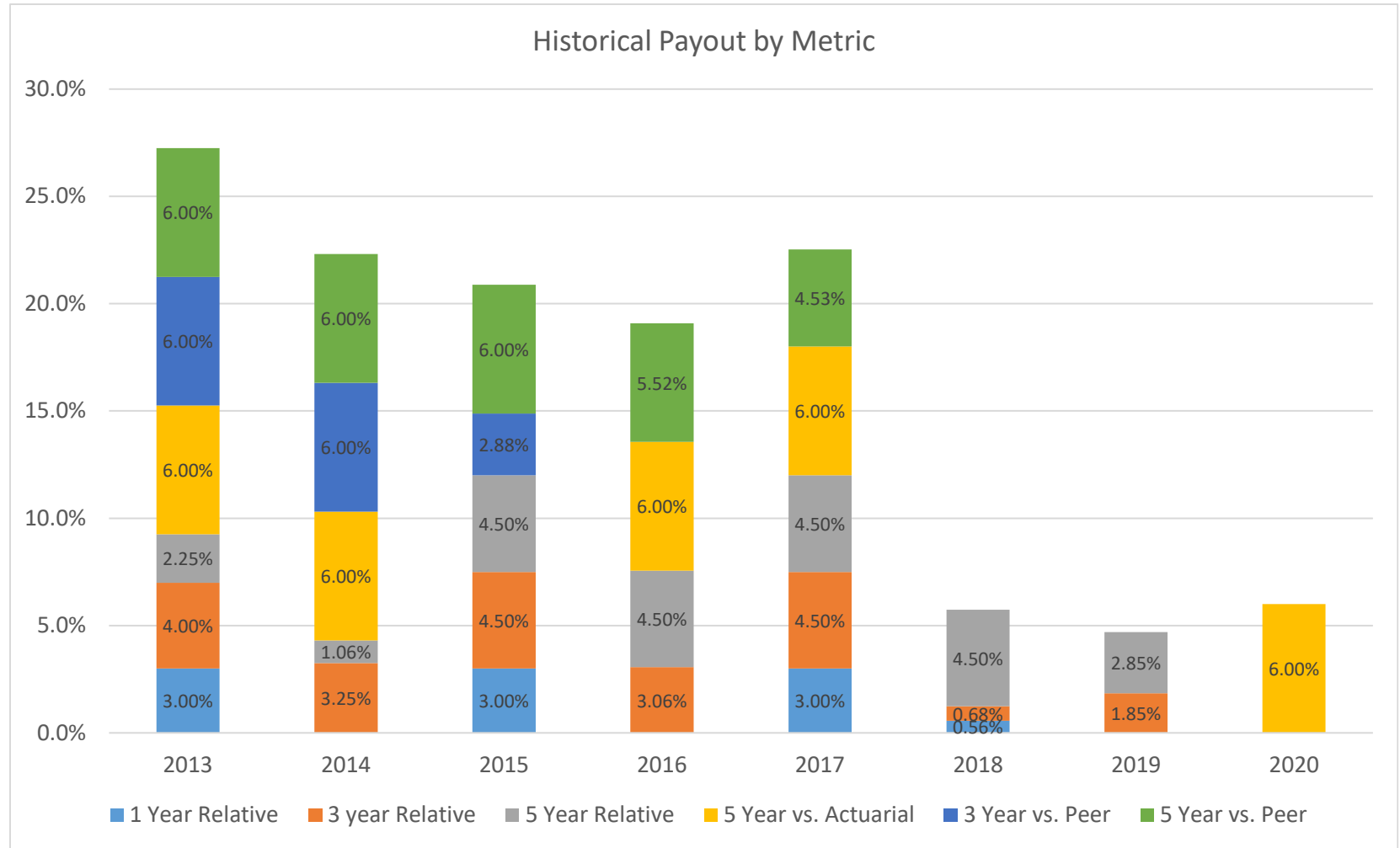
## Incentive Compensation

- In 2013, Wilshire was asked to opine on the concept of an incentive compensation structure ERF investment staff
  - Designed to align the financial interests of Staff with the results of the fund and to provide competitive levels of compensation
  - Investment “success” measured across multiple factors
    - Performance versus benchmark – 1, 3, and 5 year periods
    - Performance versus actuarial rate – 5 year period
    - Performance versus peer group – 3 and 5 year periods
  - Reward should not be binary (i.e., on or off) – it should range from 0 to a target % to a maximum % in a linear fashion
    - Payout target was set at 20% with a minimum of 0% and a maximum of 30%

# Payout Structure

		Minimum	Target	Maximum
Relative performance metrics	<b>1 Year performance versus benchmark:</b> <i>Bonus range: 0 bps minimum, 20 bps target, 30 bps max</i> Payout for Factor	0.0%	2.0%	3.0%
	<b>3 Year performance versus benchmark:</b> <i>Bonus range: 0 bps minimum, 20 bps target, 30 bps max</i> Payout for Factor	0.0%	3.0%	4.5%
	<b>5 Year performance versus benchmark:</b> <i>Bonus range: 0 bps minimum, 20 bps target, 30 bps max</i> Payout for Factor	0.0%	3.0%	4.5%
Absolute performance metric	<b>5 Year performance versus actuarial rate:</b> <i>Bonus range: 0 bps minimum, 20 bps target, 30 bps max</i> Payout for Factor	0.0%	4.0%	6.0%
Peer comparison metrics	<b>3 Year performance versus peer group:</b> <i>Bonus range: median = minimum, top third = target, top quartile = max</i> Payout for Factor	0.0%	4.0%	6.0%
	<b>5 Year performance versus peer group:</b> <i>Bonus range: median = minimum, top third = target, top quartile = max</i> Payout for Factor	0.0%	4.0%	6.0%
<b>Total Payout</b>		<b>0.0%</b>	<b>20.0%</b>	<b>30.0%</b>

# Incentive Compensation Historical Payouts



- Different components of the payout ratio have been rewarded at different times
- Incentive compensation has been paid out every year since inception in 2013
- In 8 years, incentive compensation has not hit the maximum 30% level
- In 4 of 8 years (50%), incentive compensation has ranged between target of 20% and maximum of 30%
- In 1 of 8 (12.5%) years, incentive compensation was between 10% and 20% target
- In 3 of 8 years (37.5%), incentive compensation has been moderately below or above 5%

# Important Information

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GLOBAL  
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ADVISORS

# Incentive Plan Assessment

December 8, 2021

Prepared for:



Employees' Retirement Fund  
of the City of DALLAS®

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# Introduction

**Dallas Employees' Retirement Fund ("ERF") retained Global Governance Advisors Inc. ("GGA")** to provide a review of the design and effectiveness of its current Short-Term Incentive Plan ("STIP") design when compared to market best practices. This request came primarily from the Board whereby there was a concern that the current incentive program might not be achieving what it was initially set out to do in attracting, retaining and motivating eligible professionals.

As part of the assessment process, GGA reviewed all desktop materials related to the current ERF incentive plan and then conducted one-on-one interviews with key members of the Board of Directors ("Board") and management to discuss ERF's longer-term strategy, compensation philosophy, incentive plans, and compensation benchmarking history in the marketplace.

ERF's requested intent of this work was to assess the:

- Simplicity and equitability of the plan;
- Timeliness of the annual cycle and simplicity of the payouts;
- Relevance of the positions included;
- Materiality of percentage opportunity and payouts; and
- Overall calculation of the payouts and associated amounts.

The remainder of this assessment report provides an overview of GGA's:

- Key observations on the current ERF incentive program;
- Recommendations for the ERF based on our observations and understanding of current incentive levels and best practices in the competitive marketplace;
- Key findings from the interviews; and
- A full plan assessment based on the requested intent previously outlined above.

# INTERVIEW FINDINGS

# Interview Findings

As part of the assessment process, GGA had conversations with the following individuals:

- Cheryl D. Alston – Executive Director & CIO
- Henry Talavera – Board Chair
- Dr. John Peavy – Board Member & Investment SME
- David Etheridge – Deputy Director

Each conversation touched on several investment related topics and included either all or some of the following items:

- Fund strategy on various fronts,
- Background on the current incentive program and the rationale for the current design,
- The effectiveness of the current incentive program,
- Future investment expectations and aspirations internally,
- Process roles and responsibilities, and
- Climate, dynamics, and perceptions around performance compensation and expectations of both the Board and impacted staff members.

The following themes resulted from the conversations:

- The intention of the ERF is to establish and maintain the best team possible to oversee the investment activities of the fund, exceed benchmarks through strong risk-adjusted performance, and avoid large/material losses.
- The ERF has been doing well and it would like to maintain its momentum and ongoing success.
- The reason for the requested incentive assessment is because some people believe that the current incentive plan is not doing what it was originally intended to do.

# Interview Findings

- The current pandemic (work from home) situation has made it even more competitive for talent because relocation is not as big of a problem as it was in the past.
  - ERF anticipates a high level of difficulty in filling holes if it was to experience higher levels of attrition.
- The incentive program may be too narrowly focused regarding the personnel included as well as the specific performance areas and objectives that it covers and the plan is currently lacking criteria on who else could be included and/or eligible to participate.
  - Other objectives should be considered besides investment performance such as budget performance, satisfaction levels, attrition rates, commissions and indirect fees, etc.
  - However, subjective objectives could possibly lead to more issues and scrutiny from stakeholders, so there would be a need to quantify performance as much as possible if other objectives are used that are not investment-related.
- Overall, there is a consensus that the plan, as it stands, is difficult to understand at both the Board and staff levels and the Board is not fully informed or engaged in the annual process.
- The ERF does benchmark its pay levels but has historically found it difficult to find data on incentive levels for similar-sized pension funds.
- The association with the city makes it very difficult, politically, to pay out incentives when the city is freezing pay levels.
  - COLA adjustments to salary are equally difficult and problematic.
- The current plan participants do not have equal levels of influence and/or impact and therefore should not be eligible for the same level of incentive payout.
- There is currently no way to differentiate individual high performers under the plan as it is solely based on investment performance results that are applied equally to all plan participants. There is some concern over this.
- With the ERF being a smaller fund that is fully outsourced in its investment activity, the Wilshire Trust Universe Comparison Service (TUCS) benchmark may not be the most appropriate benchmark to use given the fact that it is heavily dominated by larger funds that are actively managed.



# KEY OBSERVATIONS

# Summary of Key Initial Observations

GGA has reviewed the current Short-Term Incentive Plan at ERF and has no material concerns with the current design. That said, GGA has highlighted the following observations when compared to the peer group and overall pension fund marketplace which could lead to some tweaks to the current incentive plan design. These include:

- The number of investment performance benchmarks used within the plan design exceeds the typical number of benchmarks observed within short-term incentive plans in the market. The use of three different time periods is also above what is commonly observed in the market.
- The risk profile (i.e., payout curve used under the plan) is not linear and therefore could incent participants to take greater risks once they know they have surpassed the target goal.
- Even though the ERF has only completed few years of performance cycles with payouts, it is evident at this early stage that the performance targets set may not have been calibrated properly and could be viewed as too difficult to achieve. This may make the plan design less motivating to eligible professionals over time.
- With the ERF being a smaller fund that is fully outsourced in its investment activity, the Wilshire Trust Universe Comparison Service (TUCS) benchmark may not be the most appropriate benchmark to use given the fact that it is heavily dominated by larger funds that are more actively managed.
- Relative investment performance against an index is most commonly observed within short-term incentive plans in the pension fund industry with Absolute investment performance having much lower prevalence.
- Given the fact that non-investment activities can have material impacts on pension fund returns, solely focusing on investment performance may be limiting the intended impact of the performance incentive program. The use of non-investment metrics (i.e., Individual Qualitative performance) within the short-term incentive plan is quite commonly observed at other pension funds that have adopted incentives.
- The setting of Incentive opportunity levels at the same level (as a % of Base Salary) is less commonly observed in the marketplace as typically more senior level roles (e.g., CIO) will be eligible to earn a higher incentive (as a % of Base Salary) than less senior roles.



# PLAN DESIGN ASSESSMENT

# Current Incentive Plan Design

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Displayed in the chart below is the current performance incentive plan implemented at ERF:

- 1- and 3- or 5-year performance versus adjusted benchmark is most commonly observed in the marketplace. Only one multi-year period (3 or 5 years) is typically measured under the plan, not both.

Performance Objectives	Performance Metrics			Payout Factor		
	Minimum	Target	Maximum	Minimum	Target	Maximum
1 Year performance versus adjusted benchmark	0 bps	20 bps	30 bps	0.0%	2.0%	3.0%
3 Year performance versus adjusted benchmark	0 bps	20 bps	30 bps	0.0%	3.0%	4.5%
5 Year performance versus adjusted benchmark	0 bps	20 bps	30 bps	0.0%	3.0%	4.5%
5 Year performance versus actuarial rate	0 bps	20 bps	30 bps	0.0%	4.0%	6.0%
3 Year performance versus peer group	0 bps	20 bps	30 bps	0.0%	4.0%	6.0%
5 Year performance versus peer group	0 bps	20 bps	30 bps	0.0%	4.0%	6.0%
<b>Total Payout (% of Base Salary)</b>				<b>0.0%</b>	<b>20.0%</b>	<b>30.0%</b>



Performance incentive should be simple in order to properly and clearly communicate its expected performance levels and associated reward structure. This means that it should:

1. Have a limited but sufficient number of objectives that adequately address specific strategic performance areas.
  - Based on current best practices and our professional knowledge and experience, when reviewing the incentive design provided on the previous page, GGA notes that there are more investment objectives measured than are normally included in similar plans in the marketplace.
  - Normally within a short-term incentive program, three-year performance periods are used to help smooth out anomalous years and reinforce the fact that pensions are normally long-term investment entities. 75% weighting is placed on multi-year performance and 25% weighting on annual investment performance for the investment portion of the incentive program. Some pension funds will use 4 or 5 years instead of 3 years as the multi-year period measured. At larger pension funds with more of an internal investing approach, long-term investment performance is also measured under separate long-term incentive programs which increasingly are being measured against Absolute performance benchmarks such as the Actuarial Rate of Return as opposed to Relative performance versus the Total Fund benchmark.
2. Try to establish and maintain a linear or equal level of risk throughout the expected performance window.
  - The nonlinear payout curve (i.e., 0 to 20% of Salary then 20% to 30% of Salary) suggests that the plan may be incenting riskier behaviors once performance levels go beyond the initial targets.
3. Clearly articulate the performance concerns and priorities of the pension system.
  - When viewing the current plan, a logical conclusion is that the ERF only values performance in investment-related areas.
  - Non-investment-related activities also have material impacts on fund performance which is why GGA normally sees them included in impactful incentive programs.

Performance incentive plans must be perceived as fair in order to succeed. This means that it should be:

1. Tested and recognized as market competitive;

- There is very little incentive data for funds with assets under \$10 billion mostly because the prevalence of incentives tends to be inconsistent throughout the U.S.. However, due to increased competition or skilled employees, pensions are now looking for ways to attract and retain talent from both the public and private financial sectors. The result is that the offering of competitive incentive programs is a trend that we see increasing annually.
- Out of four third-party and proprietary sources of data that GGA frequently uses, only one provided us with data for the top executive position for pensions with assets between \$3B and \$10B which showed a range of Target Incentive opportunity levels between 40% and 50% of Base Salary.
- This survey was mostly comprised of more internally-managed funds which tend to pay higher, so it is fair to assume that a market competitive level would for a fund similar to ERF would be a little lower at:

**30% Target for ERF's Top Executive**

2. Aligned with the span of influence positions have on the outcomes and aligned with the organizational hierarchy.

- Plans that have a uniform target payout percentage for all eligible participants are not viewed as a typical market practice and therefore a more commonly observed tiered structure would look something like:

Position Level	Minimum	Target	Maximum
1	15%	30%	45%
2	12.5%	25%	37.5%
3	10%	20%	30%
4	7.5%	15%	22.5%
5	5%	10%	15%

### 3. Based on realistic and attainable targets.

- As GGA noted earlier, the uniform nature of the performance metrics implies that the probability of attainment was most likely not analyzed as much as it should have been for each specific objective. A result that we normally see in situations like this is that the plan participants will either be demotivated because the performance levels are set unreasonably high or the objectives and/or the entire plan becomes a given because the performance levels are set unreasonably low.
- GGA also recognized that the two years of payouts have not been anywhere near the plan's Target of 20% of Base Salary. Therefore, it is fair to assume that the performance levels might not have been properly tested.
- Normally, we advise that the performance metrics be calibrated and align with:

**80% Probability for  
Threshold Performance  
(8 years out of 10)**

**60% Probability for  
Target Performance  
(6 years out of 10)**

**20% Probability for  
Maximum Performance  
(2 years out of 10)**

### 4. Bring staff together under common goals and not creating or exacerbating silos.

- Having incentive plans expanded beyond investment professional positions helps to bring staff together and collectively realize that everyone has a role to play in the overall material/financial success of the organization and the fulfillment of its mission to provide sustainable income to its members throughout their retirement years.
- Therefore, it is quite common to see senior non-investment professionals participate in the incentive program, albeit at a lower Incentive opportunity than equivalent level investment professionals in many cases.

Incentive programs need to adhere to an annual schedule so that:

1. All parties can anticipate when things will happen and when their input and/or participation is required.
  - If a programs timing is lost or not adhered to, participants may lose faith in its intentions and merits. Therefore, the ERF needs to do its best to adhere to an annual cycle.
  - A typical cycle includes the following steps:

## Month 1 – Month 3

### LOOK BACK - Review Previous Year's Performance

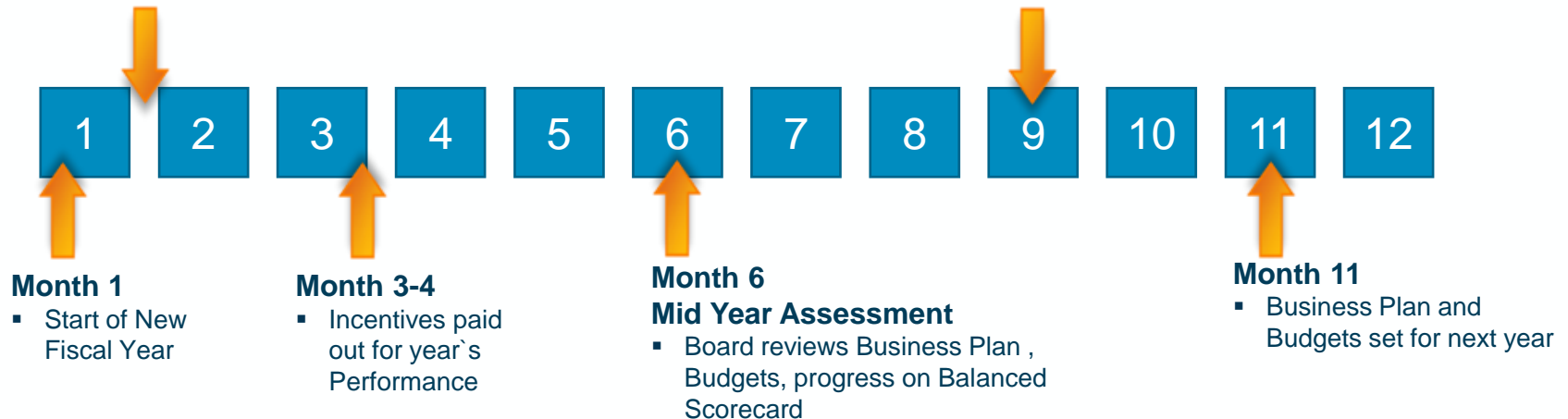
- *Investment and non-investment performance levels* for previous fiscal year determined by Board
- Total payout calculated and discussed with plan participants

### LOOK FORWARD - Set current year's Performance Targets

- Set *Base Salaries* for current year
- Set *performance expectations* for current year incentive plan
- Start of new year's performance period.

## Month 9

- Preliminary Pension Performance Review and establish initial targets for next year. May include a compensation review as well.



# Timeliness

2. Participants will trust the plan and honor the performance agreement that was made to them.
  - GGA was informed that the 2020 incentive payouts were delayed this year and we understand that political sensitivities and prevailing market conditions at the time of payout often play a role.
  - It is our experience that delays in earned incentive payouts can often lead to higher levels of attrition and mistrust in the process. Therefore, we advise all our clients to adhere to a normalized payout schedule to maintain trust and employee commitments to strong performance levels.
    - Some leading pension funds have developed policies that allow for the deferral or elimination of incentive payouts in extraordinary circumstances, but these policies are clearly articulated and will outline specific circumstances where the deferral or elimination of incentive payouts can occur. It is important to note that while underlying market conditions may be negative in certain situations, if investment and non-investment related performance goals are met by the pension fund then incentive payouts should be made.

# Relevance

The objectives used in an incentive design need to hold meaning to the plan participants, broader stakeholder groups, and:

1. Be directly related to a broader/longer-term strategic plan.
  - Although investment performance and fund sustainability is a general goal that every pension fund should have, only focusing an incentive program on broader investment performance elements may possibly distance staff members from the importance of other responsibilities and services.
  - Incentive plans that incorporate other areas of responsibility and progress tend to have a higher success in ensuring that all aspects of a pension system and services are improving, and that progress is achieved toward the broader strategic goals of the fund. This includes measuring areas such as Member Satisfaction, Cost Containment/Budget performance, Employee Engagement as well as Individual objectives for each individual in their role that are important to the fund.
  
2. Be aligned to participants' span of control and/or influence.
  - Broadening out the breadth of the performance areas and increasing the number of non-investment performance objectives measured under the plan should help to make the program more relevant to the participants and their areas of control as well as further align the actions of the staff to the expectations of the ERF members and stakeholders. It also will allow ERF to better differentiate high performers from lower performers if Individual performance is assessed under an updated plan design to match the typical approach followed in the marketplace.
  - A high-level example of an expanded performance framework is provided on the following page for ERF's reference:



# Illustrative Example of STIP Design Weightings for ED & CIO (Investment & Non-Investment)

Displayed in the chart below is a sample breakdown of performance objective weightings for an ED & CIO including Investment and Non-Investment related objectives.

- While this shows a relatively low weighting on Investment performance, this could be streamlined further to place more weighting on Investment performance within the plan.

Performance Area	Performance Metric	Overall Weighting
<b>Corporate Performance</b>		<b>75%</b>
<b>Operational</b>	• Achieve Service Standards for Members	15%
	• Achieve Target Employee Engagement Level	10%
<b>Investment/Financial</b>	• Relative Total Fund performance over 1 & 3 years	40%
	• Budget Performance in line with expectations	10%
<b>Individual Performance</b>		<b>25%</b>
<b>Individual</b>	• Oversight and Execution of Strategic & Business Plans	10%
	• Strategic Asset Mix and New Asset Class Implementation	10%
	• Continued Analysis of Growth Opportunities	5%

# Illustrative Example of STIP Design Weightings for Investment Staff (Investment & Non-Investment)

Displayed in the chart below is a sample breakdown of performance objective weightings for an investment professional, including Investment and Non-Investment related objectives.

- Given their ability to influence investment results more impactfully, the overall weighting within the scorecard is tied mostly to Investment performance with some weighting placed on Individual performance as well. This allows for the potential of differentiation in payout outcomes between High and Low performers .

Performance Area	Performance Metric	Overall Weighting
<b>Corporate Performance</b>		<b>75%</b>
<b>Investment/Financial</b>	<ul style="list-style-type: none"><li>• Relative Total Fund performance over 1 &amp; 3 years</li></ul>	75%
<b>Individual Performance</b>		<b>25%</b>
<b>Individual</b>	<ul style="list-style-type: none"><li>• Assessment of performance against various Individual objectives &amp; behaviors</li></ul>	25%

# Materiality

Incentives plans need to be psychologically impactful if they are to “incent the right behaviors.” Therefore, strong incentive programs need to:

1. Set a minimum target payout level that truly incentivizes the participants.

- It is our professional observation and experience that suggests:

**10% Should Be a Minimum Target Opportunity**

- Anything below 10% of Base Salary typically does not motivate changes in behavior.

2. Monitor the annual payout history and make sure that it is still considered meaningful as well as fully aligned to realized performance levels.

- GGA notes that two years of payouts under 10% of Base Salary for all participants should be concerning because, to date, the program has not provided sufficient rewards to truly drive or incent positive and meaningful changes in behaviors.
- As previously mentioned on page 13, the historical assessment and recalibration of performance metrics is often completed every year or every second year and can help to balance the payouts in a fair and positive way for the participants.

# Payment Calculation

For incentive programs to be considered fair and impactful, incentive payments need to be:

1. Calculated on a timely basis.
  - This supports the arguments raised earlier as well as the general timeline provide on page 18.
2. Clearly articulated so that Board members, participants, and stakeholders can easily understand how payouts are determined.
  - As previously mentioned on page 13, the historical assessment and recalibration of performance metrics may help to balance the payouts in a fair and positive way for the participants.
  - A simple, one-page performance scorecard is a best practice that helps to outline objectives, weightings, performance metrics, and anticipated payouts. The following is a high-level example of a simplified scorecard:

<i>Sample Salary = \$300,000</i>		Performance Metrics			Payout Factor			Final Payout
Performance Objectives	Weighting	Minimum	Target	Maximum	Minimum	Target	Maximum	Range
Objective 1	30%	Min Perf	Target Perf	Max Perf	4.50%	9.00%	13.50%	\$13,500 to \$40,500
Objective 2	30%	Min Perf	Target Perf	Max Perf	4.50%	9.00%	13.50%	\$13,500 to \$40,500
Objective 3	25%	Min Perf	Target Perf	Max Perf	3.75%	7.50%	11.25%	\$11,250 to \$33,750
Objective 4	15%	Min Perf	Target Perf	Max Perf	2.25%	4.50%	6.75%	\$6,750 to \$20,250
<b>Total Payout (@Suggested ED-CIO Target %)</b>					<b>15.0%</b>	<b>30.0%</b>	<b>45.0%</b>	<b>\$45,000 to \$135,000</b>



# Payment Calculation

3. Aligned properly with the participant's tenure within the organization.
  - It is GGA's understanding that all the current plan participants have been with the fund for well over 5 years and therefore one should correctly assume that both three and five-year performance levels apply to or can be attributed to the current participants.
  - Going forward, GGA suggest that all new hires undergo a phasing in of their incentive objectives and only have multi-year performance objectives apply once the participant has been employed within the fund for that full performance period.
    - Therefore, for example, 3-year performance objectives would only be included after a participants 3<sup>rd</sup> anniversary (see example on following page).
4. Aligned to each participant's level within the organizational hierarchy.
  - This issue is further outlined on page 12.
  - The fact that the current plan has not paid over a total of 6.5% of Base Salary (i.e., 32.5% of Target) over the last three years can help because a future restructuring and/or stratification of the payout targets should still include targets over a minimum of 10% and if the performance metrics are also recalibrated, participants should still perceive the program to be fair and in their best interests.
5. Inclusive of benchmarks and peers that are appropriate for the size and scope of the pension system.
  - GGA recognized that the use of the Wilshire Trust Universe Comparison Service (TUCS) benchmark may not be the most appropriate benchmark to use given the fact that it is heavily dominated by larger funds that are actively managed. Absolute Investment performance is also typically not measured within incentive programs for similar-sized pension funds where the predominate practice is Relative performance versus benchmark.

# Phasing In Multi-Year Investment Performance

Provided below is an example of how multi-year investment performance is phased-in for new hires that join a pension fund's short-term incentive plan.

- In this example, the pension fund measures 1 and 4-year investment performance as part of the incentive program.

The idea behind the phase-in is to provide more line-of-sight for the individual professional as their incentive is ultimately based on time periods in which they had the ability to influence decision-making and results under. It is not tied to earlier periods before they were a new employee, which they would have had no control over.

Year in Plan	Short-Term Performance (1 Year)	Long-Term Performance (Multi-Year)
1	100%	0%
2	50%	50% based on 2-yr. performance
3	33%	67% based on 3-yr. performance
4	25%	75% based on 4-yr. performance

# INVESTMENT METRIC ASSESSMENT

# Performance Data Summary

The following table outlines the ERF performance data over an 11-year period:

Year	ERF Performance History (bps) <sup>1</sup>					
	1 Year vs. Adjusted Benchmark	3 Year vs. Adjusted Benchmark	5 Year vs. Adjusted Benchmark	3 Year vs. Peer Group	5 Year vs. Peer Group	5 Year vs. Actuarial Rate
2010	21.57	-13.01	-37.16	165.55	77.54	-327.46
2011	-11.82	7.73	-41.84	423.03	31.65	-639.35
2012	34.98	13.79	-4.05	121.88	137.10	-439.90
2013	92.95	36.31	30.09	91.16	302.58	710.58
2014	8.21	44.22	27.67	60.68	90.86	246.86
2015	132.51	79.31	51.77	-39.65	-5.93	-105.90
2016	-84.60	23.07	38.40	-3.95	27.55	69.60
2017	94.61	50.54	49.85	-78.95	-30.79	61.24
2018	5.40	4.00	32.00	-40.00	-35.00	-359.00
2019	-67.77	11.00	19.00	-36.00	-17.00	-129.00
2020	-177.16	-77.72	-45.95	-112.72	-68.95	42.05
Performance Quartiles (bps)						
75th Percentile	63.97	40.27	35.20	106.52	84.20	65.42
50th Percentile	8.21	13.79	27.67	-3.95	27.55	-105.90
25th Percentile	-39.80	5.86	-20.60	-39.83	-23.89	-343.23
Average	4.44	16.29	10.89	50.09	46.33	-79.12
<b>Standard Deviation</b>	<b>89.44</b>	<b>40.41</b>	<b>36.95</b>	<b>151.34</b>	<b>104.89</b>	<b>370.62</b>

**Notes:**

(1) Performance data was provided by Wilshire.





# Assessing Performance Metric Probability

When evaluating and considering adjustments to any objective performance metric, the historic assessment of past performance will help in the determination and adoption of fair and equitable performance levels.

As a general practice, pensions should always try to align performance levels with the following probabilities:

## Threshold Performance

- 80% Probability -

Successful 8/10 Years

## Target Performance

- 60% Probability -

Successful 6/10 Years

## Maximum Performance

- 20% Probability -

Successful 2/10 Years

The following pages outline GGA's objective probability assessment of the current performance metrics as well as our recommended adjustments showing the corresponding probabilities.

# Metric Probability Assessment Summary

Based on the results of the assessment models outlined in **Appendix A**, the following table summarizes the performance probability / hit ratio over the past 11 years:

Performance Metric Probability Summary						
Performance Objective	Set Metrics (bps)			Historical Annual Probability of Attainment (%)		
	Threshold	Target	Maximum	Threshold	Target	Maximum
1 Year vs. Adjusted Benchmark	0.00	20.00	30.00	64%	45%	36%
3 Year vs. Adjusted Benchmark	0.00	20.00	30.00	82%	45%	36%
5 Year vs. Adjusted Benchmark	0.00	20.00	30.00	64%	55%	45%
3 Year vs. Peer Group	0.00	20.00	30.00	45%	45%	45%
5 Year vs. Peer Group	0.00	20.00	30.00	55%	55%	45%
5 Year vs. Actuarial Rate	0.00	20.00	30.00	45%	45%	45%

Based on the ideal probabilities outlined on the previous page, GGA recommends the following adjustments to the investment performance metrics for FY2022:

Performance Metric Probability Recommendations						
Performance Objective	Recommended Metrics (bps)			Adjusted Annual Probability of Attainment (%)		
	Threshold	Target	Maximum	Threshold	Target	Maximum
1 Year vs. Adjusted Benchmark	0.00	12.00	24.00	64%	45%	36%
3 Year vs. Adjusted Benchmark	0.00	12.00	24.00	82%	55%	36%
3 Year vs. Peer Group	0.00	10.00	20.00	45%	45%	45%
5 Year vs. Actuarial Rate	0.00	5.00	10.00	45%	45%	45%

GGA recommends the inclusion of 1- and 3-year performance against the benchmark and the immediate exclusion of the 5-year performance objectives against the benchmark and peer group. The remaining objectives pertaining to 3-year performance against the peer group and 5-year performance against the actuarial rate only be included if the Board wishes for more investment objectives to be included.

# RECOMMENDATIONS

## 1 Simplicity Of The Plan

- While within general market norms to have one-year and multi-year performance objectives accounted for within an incentive plan, based on our professional knowledge and experience, the current inclusion of three- and five-year performance periods is not considered normal practice. Also, impactful programs normally go beyond investment-related activities because there are many other activities that also have material impacts on performance.

### **GGA recommends the ERF:**

- Consider whether all the current objective benchmarks are necessary and appropriate and only select the time period that best aligns with this longer-term goals (1- and 3-year timeframes are most commonly in the market).
- Consider eliminating both the Absolute investment performance and Wilshire TUCS peer group relative performance metrics and focus on Relative Value add performance against the Total Fund benchmark.
- Expand the program to include non-investment performance objectives measured over a 1-year period.

## 2 Equitability Of The Plan

- The uniform selection of performance metrics suggests that the attainment of the performance metrics were not historically assessed and therefore the probability of success could be extremely hard to reach or possibly perceived as unattainable.
  - Either way, participants need to feel that the goals are fair and realistically within reach if they are to have any effect on motivation, behaviors and performance.
- Based on GGA's objective data and professional experience, the 20% of Base Salary Target Incentive payout opportunity for the ERF's top executive would be considered below market and should be reviewed to determine if a higher incentive opportunity is warranted.
- It is common for incentive plans to have tiered payout opportunities that are associated and aligned to the varying levels of authority, seniority, and impact that exist within the staff hierarchy.
- Having a plan for only one group within a pension fund can sometimes be a divisive factor within an employee base, especially when there are many areas within a pension systems that have material impacts on bottom lines and overall fund performance. At most pension funds that have adopted an incentive program, senior non-investment roles within the fund have been made eligible to participate in the incentive program, albeit at lower incentive opportunity levels than investment professionals.

## 2 Equitability Of The Plan cont'd.

### **GGA recommends the ERF:**

- Conduct a probability assessment on each of the performance objective targets (metrics) to help objectively assure staff participants that the performance metrics are fair and properly calibrated.
- Set the top ED-CIO Target payout to 30% of Base Salary to better align with current market levels.
- Tier the target payouts to better align with the hierarchy of the organization and the direct impacts of each position.
- Expand the participation in the plan to senior non-investment professionals to help unite staff through the adoption of common goals and incentive opportunities.

## 3 Timeliness Of The Plan

- In order to establish trust between the fund and the staff, plan participants need to understand, follow, and trust annual plan cycles which means that calculations and payouts need to be completed at approximately the same time every year.
- As well, a well followed schedule also helps to ensure that all stakeholders play their roles at the appropriate time in the process – i.e., following a familiar cycle helps to ensure that things get completed on time.

### **GGA recommends the ERF:**

- Adopt and implement a well-defined annual cycle for setting performance expectations and determining incentive payouts, which should generally be finalized within 3 months of the end of the fiscal year.
- Ensure that the schedule and payouts are adhered to on an annual basis.

## 4 Relevance Of The Plan

- Plan objectives need to have purpose, meaning, and connection to an overall strategy.
- Objectives also need to be aligned to participants' span of control and influence.

### **GGA recommends the ERF:**

- Broaden the plan to include additional performance areas beyond just investment performance.
- Expand the eligibility of the plan to include senior non-investment professionals (e.g., Deputy Executive Director).

## 5 Materiality Of The Plan

- Incentive plans need to “incent the right behaviors” and therefore pension systems need to be mindful of the overall target opportunity they are offering as well as the history of payouts that they are experiencing.

### **GGA recommends the ERF:**

- Establish a minimum 10% Target Incentive payout for the lowest organizational hierarchy level participating in the plan.
- Ensure that a minimum 10% weighting is applied to each performance metric within the plan design and that for investment professionals the vast majority of the plan design is tied to investment performance.
- Monitor the payout history to make sure that Target payouts are occurring approximately 60% of the time.

## 6 Payment Calculation

- Incentive payouts need to be calculated on a timely basis, be clearly articulated and understood, and align with each participant’s tenure and level within the organization.
- Benchmarks also need to be appropriately matched to the size and scope of the pension system.

### **GGA recommends the ERF:**

- Conduct final calculations and payouts on a timely basis and follow a consistent annual cycle.
- Adopt clear and simplified performance scorecards to measure performance and determine payouts.
- Align multi-year performance objectives with the length of a new participant’s tenure within the fund to phase them in over time to the typical investment performance periods measured under the plan design (see example in Appendix A).
- Establish a tiered system that aligns stratified Target Incentive opportunities to the level of each eligible participant within the ERF organizational hierarchy.
- Consider using an investment performance benchmark that is better aligned with smaller, externally managed investment funds. This is most often relative Total Fund performance against its benchmark.

# Draft Scorecard for Investment Staff

Taking into account GGA's recommendations within this report and the results of the probability assessment analysis outlined in **Appendix A**, a draft scorecard for investment staff currently under the Incentive Plan is provided below.

		Performance Metrics			Performance Payout (% of Total Opportunity)			
	Objective	Weight	Threshold	Target	Maximum	Threshold	Target	Maximum
Organization Investment/	1 Year vs. Adjusted Benchmark	30%	0 bps	12 bps	24 bps	10%	20%	30%
	3 Year vs. Adjusted Benchmark	30%	0 bps	12 bps	24 bps	10%	20%	30%
	Cost vs. Peers*	15%	P75 <sup>th</sup>	P50 <sup>th</sup>	P25 <sup>th</sup>	7.5%	15%	22.5%
Personal	Personal Leadership	15%	TBD	TBD	TBD	7.5%	15%	22.5%
	Personal Development	10%	TBD	TBD	TBD	5%	10%	15%
<b>Total</b>		<b>100%</b>				<b>50%</b>	<b>100%</b>	<b>150%</b>

- Cost vs. Peers objective could be delayed until FY2023 and the investment-related objective could be given a higher weighting for FY2022.

# Draft Scorecard for Non-Investment Staff

Considering GGA's recommendations within this report and the results of the probability assessment analysis outlined in **Appendix A**, a draft scorecard for non-investment staff not currently under the Incentive Plan is provided below.

		Performance Metrics			Performance Payout (% of Total Opportunity)			
	Objective	Weight	Threshold	Target	Maximum	Threshold	Target	Maximum
Organization	1 Year vs. Adjusted Benchmark	10%	0 bps	12 bps	24 bps	5%	10%	15%
	3 Year vs. Adjusted Benchmark	10%	0 bps	12 bps	24 bps	5%	10%	15%
	Cost vs. Peers*	10%	P75 <sup>th</sup>	P50 <sup>th</sup>	P25 <sup>th</sup>	5%	10%	15%
Leadership Team	Objective 1	10%	TBD	TBD	TBD	5%	10%	15%
	Objective 2	10%	TBD	TBD	TBD	5%	10%	15%
	Objective 3	10%	TBD	TBD	TBD	5%	10%	15%
	Objective 4	10%	TBD	TBD	TBD	5%	10%	15%
	Objective 5	10%	TBD	TBD	TBD	5%	10%	15%
Personal	Personal Leadership	10%	TBD	TBD	TBD	5%	10%	15%
	Personal Development	10%	TBD	TBD	TBD	5%	10%	15%
<b>Total</b>		<b>100%</b>				<b>50%</b>	<b>100%</b>	<b>150%</b>

\* Cost vs. Peers objective could be delayed until FY2023, and the investment-related objective could be given a higher weighting for FY2022.







# APPENDIX A: PROBABILITY ASSESSMENT

# Probability Assessment

## Current Metrics

1 Year vs. Adjusted Benchmark				
Year	Annual Performance	2021 Incentive Performance Metrics (bps)		
	ERF Actual (pbs)	Threshold	Target	Maximum
2010	21.57	0.00	20.00	30.00
2011	-11.82	0.00	20.00	30.00
2012	34.98	0.00	20.00	30.00
2013	92.95	0.00	20.00	30.00
2014	8.21	0.00	20.00	30.00
2015	132.51	0.00	20.00	30.00
2016	-84.60	0.00	20.00	30.00
2017	94.61	0.00	20.00	30.00
2018	5.40	0.00	20.00	30.00
2019	-67.77	0.00	20.00	30.00
2020	-177.16	0.00	20.00	30.00
<b>75th Percentile</b>	<b>63.97</b>	<b>Historical Annual Probability of Attainment</b>		
<b>50th Percentile</b>	<b>8.21</b>	<b>Threshold</b>	<b>Target</b>	<b>Maximum</b>
<b>25th Percentile</b>	<b>-39.80</b>	<b>64%</b>	<b>45%</b>	<b>36%</b>

### Frequency of Historical Performance Compared to FY2021 Targets

2021 Performance Targets (bps)			
Maximum	30.00	At or Above Maximum	>= 30
Target	20.00	Between Target and Maximum	> 20 ; < 30
Threshold	0.00	At Target	= 20
		Between Threshold and Target	> 0 ; < 20
		At or Below Threshold	<= 0

## Recommended Metrics

1 Year vs. Adjusted Benchmark				
Year	Annual Performance	2021 Incentive Performance Metrics (bps)		
	ERF Actual (pbs)	Threshold	Target	Maximum
2010	21.57	0.00	12.00	24.00
2011	-11.82	0.00	12.00	24.00
2012	34.98	0.00	12.00	24.00
2013	92.95	0.00	12.00	24.00
2014	8.21	0.00	12.00	24.00
2015	132.51	0.00	12.00	24.00
2016	-84.60	0.00	12.00	24.00
2017	94.61	0.00	12.00	24.00
2018	5.40	0.00	12.00	24.00
2019	-67.77	0.00	12.00	24.00
2020	-177.16	0.00	12.00	24.00
<b>75th Percentile</b>	<b>63.97</b>	<b>Historical Annual Probability of Attainment</b>		
<b>50th Percentile</b>	<b>8.21</b>	<b>Threshold</b>	<b>Target</b>	<b>Maximum</b>
<b>25th Percentile</b>	<b>-39.80</b>	<b>64%</b>	<b>45%</b>	<b>36%</b>

### Frequency of Historical Performance Compared to FY2021 Targets

2021 Performance Targets (bps)			
Maximum	24.00	At or Above Maximum	>= 24
Target	12.00	Between Target and Maximum	> 12 ; < 24
Threshold	0.00	At Target	= 12
		Between Threshold and Target	> 0 ; < 12
		At or Below Threshold	<= 0



# Probability Assessment

## Current Metrics

3 Year vs. Adjusted Benchmark				
Year	Annual Performance	2021 Incentive Performance Metrics (bps)		
	ERF Actual (pbs)	Threshold	Target	Maximum
2010	-13.01	0.00	20.00	30.00
2011	7.73	0.00	20.00	30.00
2012	13.79	0.00	20.00	30.00
2013	36.31	0.00	20.00	30.00
2014	44.22	0.00	20.00	30.00
2015	79.31	0.00	20.00	30.00
2016	23.07	0.00	20.00	30.00
2017	50.54	0.00	20.00	30.00
2018	4.00	0.00	20.00	30.00
2019	11.00	0.00	20.00	30.00
2020	-77.72	0.00	20.00	30.00
<b>75th Percentile</b>	<b>40.27</b>	<b>Historical Annual Probability of Attainment</b>		
<b>50th Percentile</b>	<b>13.79</b>	<b>Threshold</b>	<b>Target</b>	<b>Maximum</b>
<b>25th Percentile</b>	<b>5.86</b>	<b>82%</b>	<b>45%</b>	<b>36%</b>

### Frequency of Historical Performance Compared to FY2021 Targets

2021 Performance Targets (bps)			
Maximum	30.00	At or Above Maximum	>= 30
Target	20.00	Between Target and Maximum	> 20 ; < 30
Threshold	0.00	At Target	= 20
		Between Threshold and Target	> 0 ; < 20
		At or Below Threshold	<= 0

## Recommended Metrics

3 Year vs. Adjusted Benchmark				
Year	Annual Performance	2021 Incentive Performance Metrics (bps)		
	ERF Actual (pbs)	Threshold	Target	Maximum
2010	-13.01	0.00	12.00	24.00
2011	7.73	0.00	12.00	24.00
2012	13.79	0.00	12.00	24.00
2013	36.31	0.00	12.00	24.00
2014	44.22	0.00	12.00	24.00
2015	79.31	0.00	12.00	24.00
2016	23.07	0.00	12.00	24.00
2017	50.54	0.00	12.00	24.00
2018	4.00	0.00	12.00	24.00
2019	11.00	0.00	12.00	24.00
2020	-77.72	0.00	12.00	24.00
<b>75th Percentile</b>	<b>40.27</b>	<b>Historical Annual Probability of Attainment</b>		
<b>50th Percentile</b>	<b>13.79</b>	<b>Threshold</b>	<b>Target</b>	<b>Maximum</b>
<b>25th Percentile</b>	<b>5.86</b>	<b>82%</b>	<b>55%</b>	<b>36%</b>

### Frequency of Historical Performance Compared to FY2021 Targets

2021 Performance Targets (bps)			
Maximum	24.00	At or Above Maximum	>= 24
Target	12.00	Between Target and Maximum	> 12 ; < 24
Threshold	0.00	At Target	= 12
		Between Threshold and Target	> 0 ; < 12
		At or Below Threshold	<= 0



# Probability Assessment

## Current Metrics

5 Year vs. Adjusted Benchmark				
Year	Annual Performance	2021 Incentive Performance Metrics (bps)		
	ERF Actual (pbs)	Threshold	Target	Maximum
2010	-37.16	0.00	20.00	30.00
2011	-41.84	0.00	20.00	30.00
2012	-4.05	0.00	20.00	30.00
2013	30.09	0.00	20.00	30.00
2014	27.67	0.00	20.00	30.00
2015	51.77	0.00	20.00	30.00
2016	38.40	0.00	20.00	30.00
2017	49.85	0.00	20.00	30.00
2018	32.00	0.00	20.00	30.00
2019	19.00	0.00	20.00	30.00
2020	-45.95	0.00	20.00	30.00
<b>75th Percentile</b>	<b>35.20</b>	Historical Annual Probability of Attainment		
<b>50th Percentile</b>	<b>27.67</b>	Threshold	Target	Maximum
<b>25th Percentile</b>	<b>-20.60</b>	64%	55%	45%

### Frequency of Historical Performance Compared to FY2021 Targets

2021 Performance Targets (bps)		Frequency of Historical Performance Compared to FY2021 Targets	
Maximum	30.00	At or Above Maximum	>= 30
Target	20.00	Between Target and Maximum	> 20 ; < 30
Threshold	0.00	At Target	= 20
		Between Threshold and Target	> 0 ; < 20
		At or Below Threshold	<= 0

## Recommended Metrics

5 Year vs. Adjusted Benchmark				
Year	Annual Performance	2021 Incentive Performance Metrics (bps)		
	ERF Actual (pbs)	Threshold	Target	Maximum
2010	-37.16	0.00	15.00	30.00
2011	-41.84	0.00	15.00	30.00
2012	-4.05	0.00	15.00	30.00
2013	30.09	0.00	15.00	30.00
2014	27.67	0.00	15.00	30.00
2015	51.77	0.00	15.00	30.00
2016	38.40	0.00	15.00	30.00
2017	49.85	0.00	15.00	30.00
2018	32.00	0.00	15.00	30.00
2019	19.00	0.00	15.00	30.00
2020	-45.95	0.00	15.00	30.00
<b>75th Percentile</b>	<b>35.20</b>	Historical Annual Probability of Attainment		
<b>50th Percentile</b>	<b>27.67</b>	Threshold	Target	Maximum
<b>25th Percentile</b>	<b>-20.60</b>	64%	64%	45%

### Frequency of Historical Performance Compared to FY2021 Targets

2021 Performance Targets (bps)		Frequency of Historical Performance Compared to FY2021 Targets	
Maximum	30.00	At or Above Maximum	>= 30
Target	15.00	Between Target and Maximum	> 15 ; < 30
Threshold	0.00	At Target	= 15
		Between Threshold and Target	> 0 ; < 15
		At or Below Threshold	<= 0



# Probability Assessment

## Current Metrics

3 Year vs. Peer Group				
Year	Annual Performance	2021 Incentive Performance Metrics (bps)		
	ERF Actual (pbs)	Threshold	Target	Maximum
2010	165.55	0.00	20.00	30.00
2011	423.03	0.00	20.00	30.00
2012	121.88	0.00	20.00	30.00
2013	91.16	0.00	20.00	30.00
2014	60.68	0.00	20.00	30.00
2015	-39.65	0.00	20.00	30.00
2016	-3.95	0.00	20.00	30.00
2017	-78.95	0.00	20.00	30.00
2018	-40.00	0.00	20.00	30.00
2019	-36.00	0.00	20.00	30.00
2020	-112.72	0.00	20.00	30.00
<b>75th Percentile</b>	<b>106.52</b>	<b>Historical Annual Probability of Attainment</b>		
<b>50th Percentile</b>	<b>-3.95</b>	<b>Threshold</b>	<b>Target</b>	<b>Maximum</b>
<b>25th Percentile</b>	<b>-39.83</b>	<b>45%</b>	<b>45%</b>	<b>45%</b>

### Frequency of Historical Performance Compared to FY2021 Targets

At or Above Maximum	>= 30
Between Target and Maximum	> 20 ; < 30
At Target	= 20
Between Threshold and Target	> 0 ; < 20
At or Below Threshold	<= 0

### 2021 Performance Targets (bps)

Maximum	30.00
Target	20.00
Threshold	0.00

## Recommended Metrics

3 Year vs. Peer Group				
Year	Annual Performance	2021 Incentive Performance Metrics (bps)		
	ERF Actual (pbs)	Threshold	Target	Maximum
2010	165.55	0.00	10.00	20.00
2011	423.03	0.00	10.00	20.00
2012	121.88	0.00	10.00	20.00
2013	91.16	0.00	10.00	20.00
2014	60.68	0.00	10.00	20.00
2015	-39.65	0.00	10.00	20.00
2016	-3.95	0.00	10.00	20.00
2017	-78.95	0.00	10.00	20.00
2018	-40.00	0.00	10.00	20.00
2019	-36.00	0.00	10.00	20.00
2020	-112.72	0.00	10.00	20.00
<b>75th Percentile</b>	<b>106.52</b>	<b>Historical Annual Probability of Attainment</b>		
<b>50th Percentile</b>	<b>-3.95</b>	<b>Threshold</b>	<b>Target</b>	<b>Maximum</b>
<b>25th Percentile</b>	<b>-39.83</b>	<b>45%</b>	<b>45%</b>	<b>45%</b>

### Frequency of Historical Performance Compared to FY2021 Targets

At or Above Maximum	>= 20
Between Target and Maximum	> 10 ; < 20
At Target	= 10
Between Threshold and Target	> 0 ; < 10
At or Below Threshold	<= 0

### 2021 Performance Targets (bps)

Maximum	20.00
Target	10.00
Threshold	0.00



# Probability Assessment

## Current Metrics

5 Year vs. Peer Group				
Year	Annual Performance	2021 Incentive Performance Metrics (bps)		
	ERF Actual (pbs)	Threshold	Target	Maximum
2010	77.54	0.00	20.00	30.00
2011	31.65	0.00	20.00	30.00
2012	137.10	0.00	20.00	30.00
2013	302.58	0.00	20.00	30.00
2014	90.86	0.00	20.00	30.00
2015	-5.93	0.00	20.00	30.00
2016	27.55	0.00	20.00	30.00
2017	-30.79	0.00	20.00	30.00
2018	-35.00	0.00	20.00	30.00
2019	-17.00	0.00	20.00	30.00
2020	-68.95	0.00	20.00	30.00
<b>75th Percentile</b>	<b>84.20</b>	<b>Historical Annual Probability of Attainment</b>		
<b>50th Percentile</b>	<b>27.55</b>	<b>Threshold</b>	<b>Target</b>	<b>Maximum</b>
<b>25th Percentile</b>	<b>-23.89</b>	55%	55%	45%

### Frequency of Historical Performance Compared to FY2021 Targets

At or Above Maximum	>= 30
Between Target and Maximum	> 20 ; < 30
At Target	= 20
Between Threshold and Target	> 0 ; < 20
At or Below Threshold	<= 0

### 2021 Performance Targets (bps)

Maximum	30.00
Target	20.00
Threshold	0.00

## Recommended Metrics

5 Year vs. Peer Group				
Year	Annual Performance	2021 Incentive Performance Metrics (bps)		
	ERF Actual (pbs)	Threshold	Target	Maximum
2010	77.54	0.00	10.00	20.00
2011	31.65	0.00	10.00	20.00
2012	137.10	0.00	10.00	20.00
2013	302.58	0.00	10.00	20.00
2014	90.86	0.00	10.00	20.00
2015	-5.93	0.00	10.00	20.00
2016	27.55	0.00	10.00	20.00
2017	-30.79	0.00	10.00	20.00
2018	-35.00	0.00	10.00	20.00
2019	-17.00	0.00	10.00	20.00
2020	-68.95	0.00	10.00	20.00
<b>75th Percentile</b>	<b>84.20</b>	<b>Historical Annual Probability of Attainment</b>		
<b>50th Percentile</b>	<b>27.55</b>	<b>Threshold</b>	<b>Target</b>	<b>Maximum</b>
<b>25th Percentile</b>	<b>-23.89</b>	55%	55%	55%

### Frequency of Historical Performance Compared to FY2021 Targets

At or Above Maximum	>= 20
Between Target and Maximum	> 10 ; < 20
At Target	= 10
Between Threshold and Target	> 0 ; < 10
At or Below Threshold	<= 0

### 2021 Performance Targets (bps)

Maximum	20.00
Target	10.00
Threshold	0.00



# Probability Assessment

## Current Metrics

5 Year vs. Actuarial Rate				
Year	Annual Performance	2021 Incentive Performance Metrics (bps)		
	ERF Actual (pbs)	Threshold	Target	Maximum
2010	-327.46	0.00	20.00	30.00
2011	-639.35	0.00	20.00	30.00
2012	-439.90	0.00	20.00	30.00
2013	710.58	0.00	20.00	30.00
2014	246.86	0.00	20.00	30.00
2015	-105.90	0.00	20.00	30.00
2016	69.60	0.00	20.00	30.00
2017	61.24	0.00	20.00	30.00
2018	-359.00	0.00	20.00	30.00
2019	-129.00	0.00	20.00	30.00
2020	42.05	0.00	20.00	30.00
75th Percentile	65.42	Historical Annual Probability of Attainment		
50th Percentile	-105.90	Threshold	Target	Maximum
25th Percentile	-343.23	45%	45%	45%

### Frequency of Historical Performance Compared to FY2021 Targets

2021 Performance Targets (bps)		Frequency of Historical Performance	Count
Maximum	30.00	At or Above Maximum	>= 30
Target	20.00	Between Target and Maximum	> 20 ; < 30
Threshold	0.00	At Target	= 20
		Between Threshold and Target	> 0 ; < 20
		At or Below Threshold	<= 0

## Recommended Metrics

5 Year vs. Actuarial Rate				
Year	Annual Performance	2021 Incentive Performance Metrics (bps)		
	ERF Actual (pbs)	Threshold	Target	Maximum
2010	-327.46	0.00	5.00	10.00
2011	-639.35	0.00	5.00	10.00
2012	-439.90	0.00	5.00	10.00
2013	710.58	0.00	5.00	10.00
2014	246.86	0.00	5.00	10.00
2015	-105.90	0.00	5.00	10.00
2016	69.60	0.00	5.00	10.00
2017	61.24	0.00	5.00	10.00
2018	-359.00	0.00	5.00	10.00
2019	-129.00	0.00	5.00	10.00
2020	42.05	0.00	5.00	10.00
75th Percentile	65.42	Historical Annual Probability of Attainment		
50th Percentile	-105.90	Threshold	Target	Maximum
25th Percentile	-343.23	45%	45%	45%

### Frequency of Historical Performance Compared to FY2021 Targets

2021 Performance Targets (bps)		Frequency of Historical Performance	Count
Maximum	10.00	At or Above Maximum	>= 10
Target	5.00	Between Target and Maximum	> 5 ; < 10
Threshold	0.00	At Target	= 5
		Between Threshold and Target	> 0 ; < 5
		At or Below Threshold	<= 0







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