Joint Meeting of the ERS Board of Trustees and Investment Advisory Committee

March 10, 2021

ERS
Employees Retirement System of Texas

Public Agenda #7

Call Meeting of the Board of Trustees to Order

March 10, 2021

Public Agenda #8

Call Meeting of the Investment Advisory Committee to Order

March 10, 2021

Public Agenda #9

Review and Approval of the Minutes to the December 9, 2020 Joint Meeting of the Board of Trustees and Investment Advisory Committee – (Action)

March 10, 2021

Questions?

Action Item

ERS

Public Agenda Item #10

Review and Consideration of the Texa$aver 401(k)/457 Program Updates – (Action)

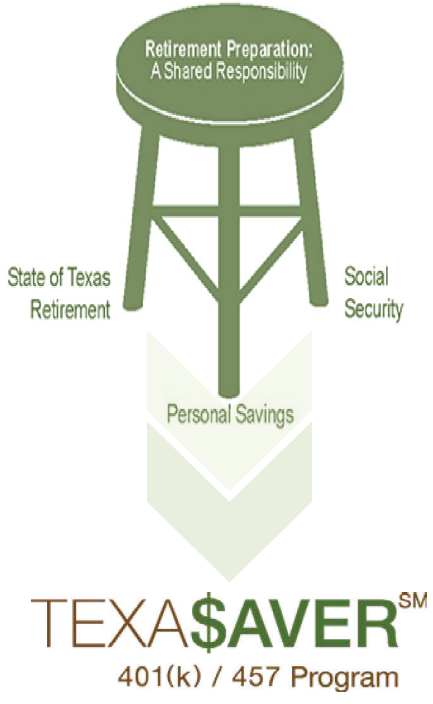
March 10, 2021

Diana Kongevick, Director of Group Benefits
Georgina Bouton, CTCM, Assistant Director of Group Benefits
Thomas Nun, CFA® Portfolio Strategist, Great-West Investments
Nora Alvarado, CTCM, Voluntary Income Plans, Group Benefits
Blaise Duran, FSA, Actuarial and Reporting Services, Group Benefits

Texa$aver℠ Program

Overview

- Texa$aver 401(k)/457 program (Texa$aver) is a voluntary tax-deferred supplemental retirement program
  - Designed to help state and eligible higher education employees with personal retirement savings
- Texa$aver is comprised of two plans
  - 401(k) plan - available to state agency employees
  - 457 plan - available to state agency and eligible higher education employees



Texa$aver Program

Executive Summary: $4.253B AUM 12/31/2020

	401(k) Plan	
ASSETS	Traditional balances	$3,036 million
	Roth balances	$72 million
	Total Assets Under Management (AUM)	**$3,108 million**
ACCOUNTS	Contributing	104,271
	Non-contributing	111,612
	Total number of participant accounts	**215,883**
ACTIVITY	Contributions, deposits, loan repayments	$53 million
	Change in value, interest, dividends	$313 million
	Withdrawals	($60) million

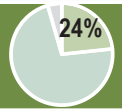
	457 Plan	
ASSETS	Traditional balances	$1,084 million
	Roth balances	$61 million
	Total Assets Under Management (AUM)	**$1,145 million**
ACCOUNTS	Contributing	19,058
	Non-contributing	14,465
	Total number of participant accounts	**33,523**
ACTIVITY	Contributions, deposits, loan repayments	$23 million
	Change in value, interest, dividends	$111 million
	Withdrawals	($18) million

Texa$aver Program

Investment offerings

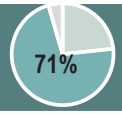
A range of investment products are offered to help participants reach their individual retirement savings goals. The same investment products are offered between plans.

Target Date Funds



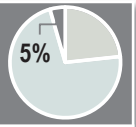
- Professionally managed asset allocation strategy
- Gradually reduces investment risk and equity exposure over time
- Offers a streamlined approach to investing
- Strategy requires the lowest level of participant engagement

Core Funds



- Allows participants to create their own investment portfolios based on defined asset classes
- Funds include both actively managed and passively managed investment funds
- Investment requires a higher level of participant engagement to maintain desired diversification and risk levels

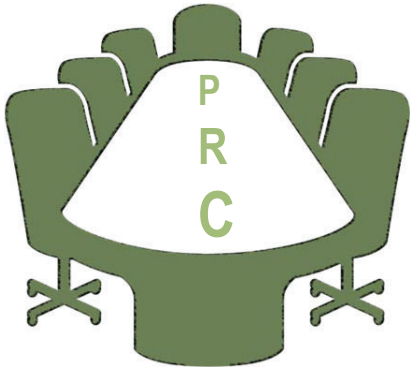
Self Directed Brokerage Account



- Provides additional investment options
- Offered through Schwab Personal Choice Retirement Account®
- Investment requires the highest level of participant engagement for diversification and investment selection

Texa$aver Program

Product Review Committee (PRC)



- **Porter Wilson** – ERS Executive Director
- **Catherine Terrell** – ERS Deputy Executive Director
- **Diana Kongevick** – ERS Director of Group Benefits
- **Tom Tull** – ERS Chief Investment Officer
- **Leighton Shantz** – ERS Director of Fixed Income
- **Carlos Chujoy** – ERS Investment Risk Officer
- **Gene L. Needles, Jr**. – Chairman and CEO Resolute Investment Managers and Vice-chair of ERS' Investment Advisory Committee (IAC)
- **Laurie L. Dotter**, CPA – IAC member
- **Laura T. Starks**, Ph.D. – Charles E. and Sarah M. Seay Regents Chair in Finance and Co-Executive Director, Social Innovation Initiative, McCombs School of Business, University of Texas at Austin

PRC

Sub-committee

- PRC may appoint a sub-committee for a specific purpose (e.g., due diligence, fund evaluation, research, etc.), assisting the PRC in fulfilling its duties.
- PRC sub-committee members include:
  - Carlos Chujoy – PRC Member
  - Leighton Shantz – PRC Member
  - Dr. Laura T. Starks – PRC Member
  - Lauren Honza – ERS Portfolio Manager
  - Brannon Andrews – ERS Assistant General Counsel
  - Gene Needles – PRC Member to serve as an alternate, if necessary

Capital Markets Update

Equity Market Returns

	(as of December 31, 2020)	QTD	YTD	1 Year Trailing	3 Year Trailing	5 Year Trailing	10 Year Trailing	2020	2019	2018	2017	2016	2015	2014
Domestic Equity														
Large Cap	S&P 500	12.1%	18.4%	18.4%	14.2%	15.2%	13.9%	18.4%	31.5%	-4.4%	21.8%	12.0%	1.4%	13.7%
	Russell 1000 Value	16.3%	2.8%	2.8%	6.1%	9.7%	10.5%	2.8%	26.5%	-8.3%	13.7%	17.3%	-3.8%	13.5%
	Russell 1000 Growth	11.4%	38.5%	38.5%	23.0%	21.0%	17.2%	38.5%	36.4%	-1.5%	30.2%	7.1%	5.7%	13.0%
Mid Cap	Russell Mid Cap	19.9%	17.1%	17.1%	11.6%	13.4%	12.4%	17.1%	30.5%	-9.1%	18.5%	13.8%	-2.4%	13.2%
	Russell Mid Cap Value	20.4%	5.0%	5.0%	5.4%	9.7%	10.5%	5.0%	27.1%	-12.3%	13.3%	20.0%	-4.8%	14.7%
	Russell Mid Cap Growth	19.0%	35.6%	35.6%	20.5%	18.7%	15.0%	35.6%	35.5%	-4.8%	25.3%	7.3%	-0.2%	11.9%
Small Cap	Russell 2000	31.4%	20.0%	20.0%	10.2%	13.3%	11.2%	20.0%	25.5%	-11.0%	14.6%	21.3%	-4.4%	4.9%
	Russell 2000 Value	33.4%	4.6%	4.6%	3.7%	9.7%	8.7%	4.6%	22.4%	-12.9%	7.8%	31.7%	-7.5%	4.2%
	Russell 2000 Growth	29.6%	34.6%	34.6%	16.2%	16.4%	13.5%	34.6%	28.5%	-9.3%	22.2%	11.3%	-1.4%	5.6%
International Equity														
Developed Markets	MSCI EAFE	16.0%	7.8%	7.8%	4.3%	7.4%	5.5%	7.8%	22.0%	-13.8%	25.0%	1.0%	-0.8%	-4.9%
	Australia	22.9%	8.7%	8.7%	5.6%	9.5%	4.5%	8.7%	22.9%	-12.0%	19.9%	11.4%	-10.0%	-3.4%
	Canada	13.9%	5.3%	5.3%	3.6%	10.0%	2.2%	5.3%	27.5%	-17.2%	16.1%	24.6%	-24.2%	1.5%
	France	20.4%	4.1%	4.1%	4.5%	9.0%	5.9%	4.1%	25.7%	-12.8%	28.7%	4.9%	-0.1%	-9.9%
	Germany	11.5%	11.5%	11.5%	1.6%	6.6%	5.5%	11.5%	20.8%	-22.2%	27.7%	2.8%	-1.9%	-10.4%
	Japan	15.3%	14.5%	14.5%	6.1%	8.7%	6.5%	14.5%	19.6%	-12.9%	24.0%	2.4%	9.6%	-4.0%
	Switzerland	8.2%	11.6%	11.6%	10.3%	9.4%	8.4%	11.6%	32.3%	-9.1%	22.5%	-4.9%	0.4%	-0.1%
	UK	16.9%	-10.5%	-10.5%	-2.4%	2.6%	3.0%	-10.5%	21.0%	-14.2%	22.3%	-0.1%	-7.6%	-5.4%
Emerging Markets	MSCI Emerging Markets	19.7%	18.3%	18.3%	6.2%	12.8%	3.6%	18.3%	18.4%	-14.6%	37.3%	11.2%	-14.9%	-2.2%
	Brazil	37.0%	-19.0%	-19.0%	0.6%	16.0%	-3.6%	-19.0%	26.3%	-0.5%	24.1%	66.2%	-41.4%	-14.0%
	China	11.2%	29.5%	29.5%	9.1%	15.1%	7.6%	29.5%	23.5%	-18.9%	54.1%	0.9%	-7.8%	8.0%
	India	21.0%	15.6%	15.6%	4.8%	9.5%	3.4%	15.6%	7.6%	-7.3%	38.8%	-1.4%	-6.1%	23.9%
	Indonesia	31.8%	-8.1%	-8.1%	-3.1%	5.8%	1.4%	-8.1%	9.1%	-9.2%	24.2%	17.0%	-19.5%	26.6%
	Korea	38.3%	44.6%	44.6%	8.8%	15.6%	6.6%	44.6%	12.5%	-20.9%	47.3%	8.7%	-6.7%	-11.1%
	Mexico	31.0%	-1.9%	-1.9%	-2.6%	-0.6%	-1.5%	-1.9%	11.4%	-15.5%	16.0%	-9.2%	-14.4%	-9.3%
	Russia	21.6%	-12.5%	-12.5%	9.6%	16.5%	1.0%	-12.5%	50.9%	-0.4%	5.2%	54.8%	4.2%	-46.3%

Source: Morningstar Direct; GWCM Analysis; Individual country returns are represented by MSCI indices and shown as USD returns;*Canada is not part of the EAFE Index.
Past performance is not a guarantee or prediction of future results.

Fixed Income and Specialty Returns

(as of December 31, 2020)	QTD	YTD	1 Year Trailing	3 Year Trailing	5 Year Trailing	10 Year Trailing	2020	2019	2018	2017	2016	2015	2014
Fixed Income													
Bloomberg Barclays US Aggregate	0.7%	7.5%	7.5%	5.3%	4.4%	3.8%	7.5%	8.7%	0.0%	3.5%	2.6%	0.5%	6.0%
Bloomberg Barclays US Treasury	-0.8%	8.0%	8.0%	5.2%	3.8%	3.3%	8.0%	6.9%	0.9%	2.3%	1.0%	0.8%	5.1%
Bloomberg Barclays US Govt/Credit Intermediate	0.5%	6.4%	6.4%	4.7%	3.6%	3.1%	6.4%	6.8%	0.9%	2.1%	2.1%	1.1%	3.1%
Bloomberg Barclays US Govt/Credit Long	1.7%	16.1%	16.1%	9.8%	9.3%	8.2%	16.1%	19.6%	-4.7%	10.7%	6.7%	-3.3%	19.3%
Bloomberg Barclays US TIPS	1.6%	11.0%	11.0%	5.9%	5.1%	3.8%	11.0%	8.4%	-1.3%	3.0%	4.7%	-1.4%	3.6%
Bloomberg Barclays US Corporate High Yield	6.5%	7.1%	7.1%	6.2%	8.6%	6.8%	7.1%	14.3%	-2.1%	7.5%	17.1%	-4.5%	2.5%
FTSE WGBI	2.8%	10.1%	10.1%	5.0%	4.8%	2.3%	10.1%	5.9%	-0.8%	7.5%	1.6%	-3.6%	-0.5%
JPM EMBI Global Diversified	5.8%	5.3%	5.3%	5.0%	7.1%	6.2%	5.3%	15.0%	-4.3%	10.3%	10.2%	1.2%	7.4%
FTSE Treasury Bill 3 Month	0.0%	0.6%	0.6%	1.6%	1.2%	0.6%	0.6%	2.3%	1.9%	0.8%	0.3%	0.0%	0.0%
Specialty													
Bloomberg Commodity	10.2%	-3.1%	-3.1%	-2.5%	1.0%	-6.5%	-3.1%	7.7%	-11.2%	1.7%	11.8%	-24.7%	-17.0%
DJ US Select REIT	12.9%	-11.2%	-11.2%	1.5%	3.0%	7.6%	-11.2%	23.1%	-4.2%	3.8%	6.7%	4.5%	32.0%
FTSE EPRA/NAREIT Developed Ex US	14.0%	-6.5%	-6.5%	2.4%	5.7%	5.1%	-6.5%	21.8%	-5.8%	20.8%	2.0%	-3.2%	3.2%

Source: Morningstar Direct; GWCM Analysis
Past performance is not a guarantee or prediction of future results.

Returns by Style

3 Months

	Value	Blend	Growth
Large	16.3%	12.1%	11.4%
Mid	20.4%	19.9%	19.0%
Small	33.4%	31.4%	29.6%

1 Year

	Value	Blend	Growth
Large	2.8%	18.4%	38.5%
Mid	5.0%	17.1%	35.6%
Small	4.6%	20.0%	34.6%

Since Market Peak (February, 2020)

	Value	Blend	Growth
Large	-17.0%	-7.3%	1.2%
Mid	-19.4%	-12.2%	-2.0%
Small	-21.6%	-13.9%	-7.1%

3 Year

	Value	Blend	Growth
Large	6.1%	14.2%	23.0%
Mid	5.4%	11.6%	20.5%
Small	3.7%	10.2%	16.2%

5 Year

	Value	Blend	Growth
Large	9.7%	15.2%	21.0%
Mid	9.7%	13.4%	18.7%
Small	9.7%	13.3%	16.4%

Since Market Low (March, 2020)

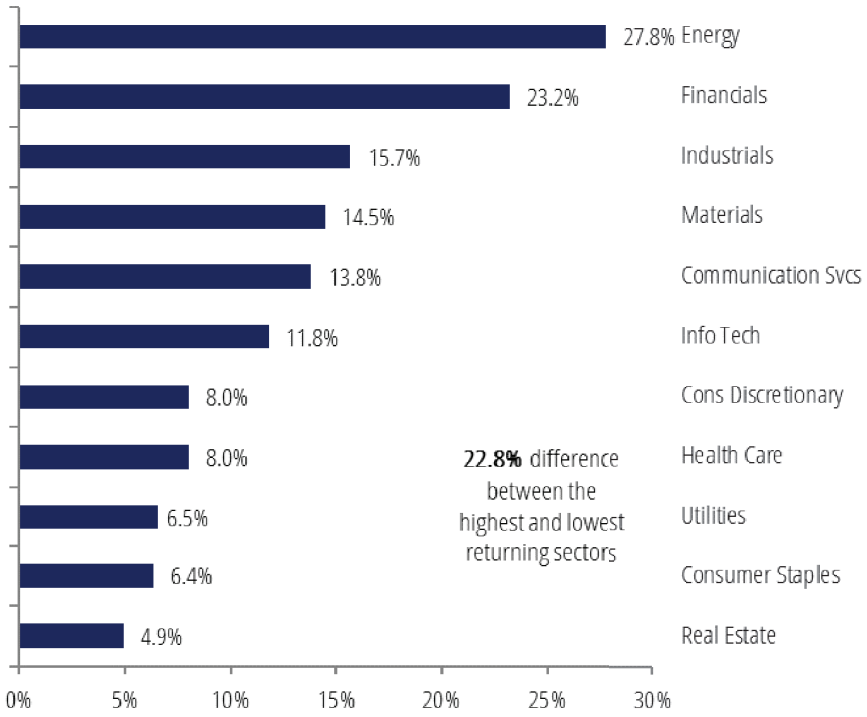
	Value	Blend	Growth
Large	57.4%	65.2%	81.5%
Mid	74.9%	82.8%	93.3%
Small	83.0%	96.8%	108.4%

performance as of December 31, 2020

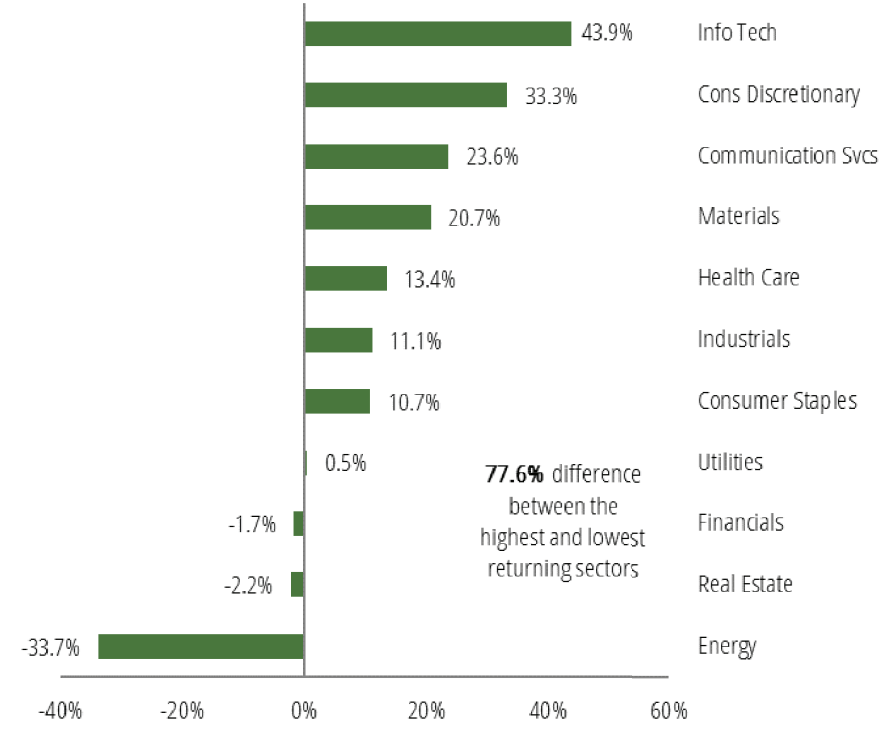
Source: Morningstar Direct; GWCM Analysis; Large Blend – S&P 500 Index, Large Value – Russell 1000 Value Index, Large Growth – Russell 1000 Growth Index, Mid Blend – Russell Mid Cap Index, Mid Value – Russell Mid Cap Value Index, Mid Growth – Russell Mid Cap Growth Index, Small Blend – Russell 2000 Index, Small Value – Russell 2000 Value Index, Small Growth – Russell 2000 Growth Index

S & P 500 Sector Returns

QTD Returns
as of December 31, 2020



1 Year Trailing Returns
as of December 31, 2020

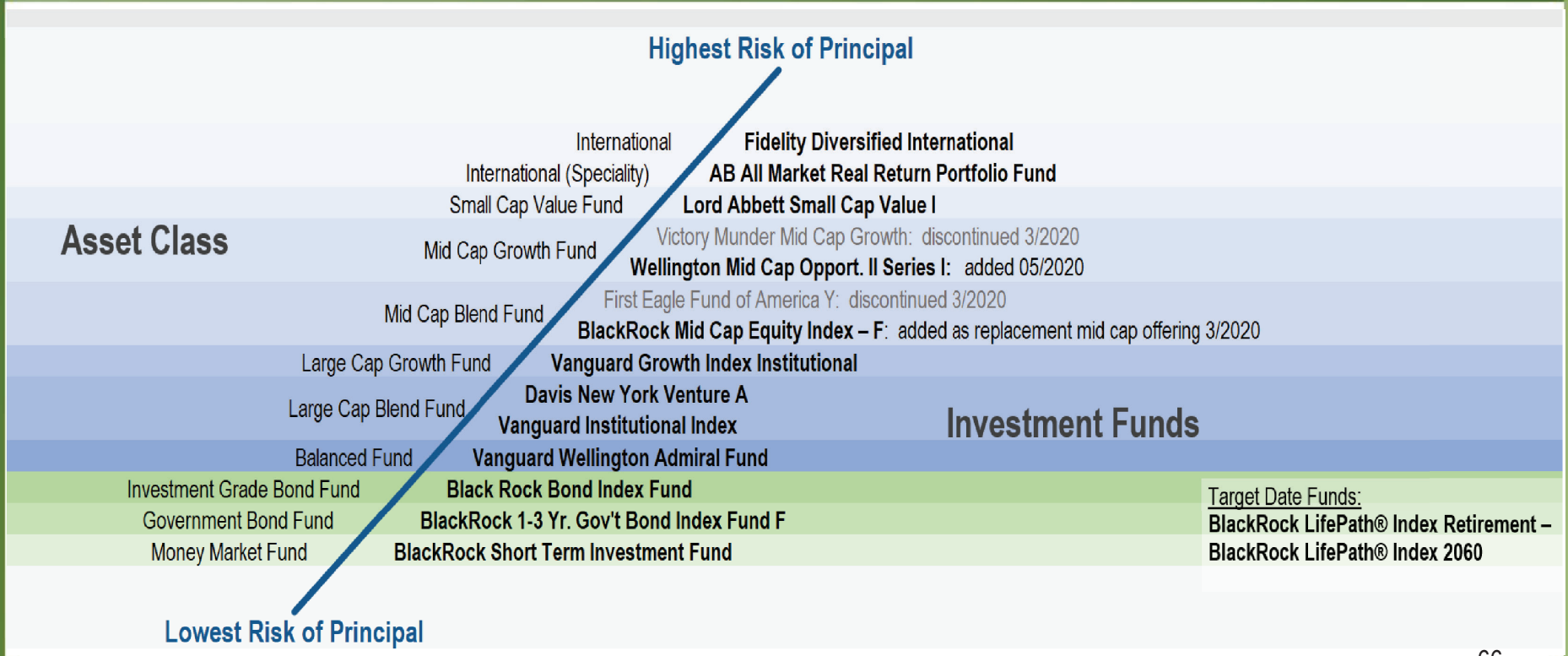


Source: Morningstar Direct; GWCM Analysis

I. Texa$aver Fund Performance Analysis

Texa$aver Investment Funds

for the period ending December 31, 2020



BlackRock Mid-Cap Equity Index – F

Mid Cap Blend

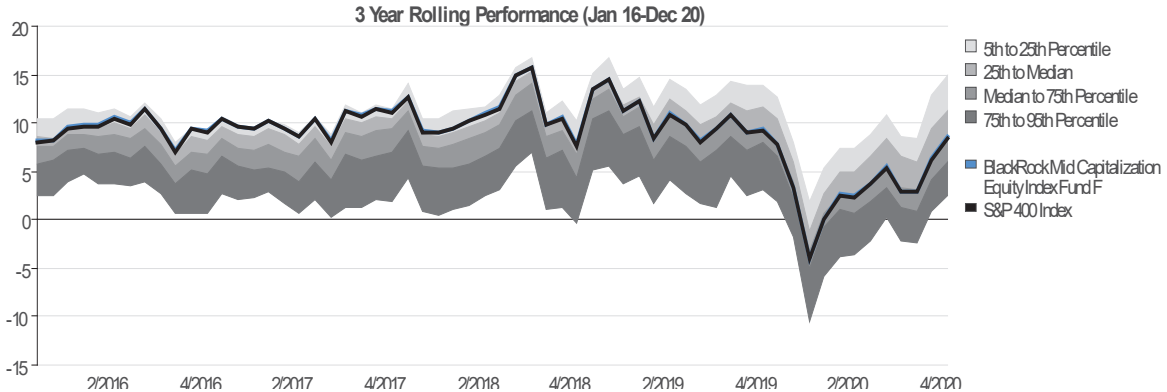
2020 Fund Change

March 2020: Fund replaced Victory Munder Mid Cap Growth (MGOYX) and First Eagle Fund of America Y (FEAFX) as mid cap offering within program's lineup.

Program Assets: $204.3 million

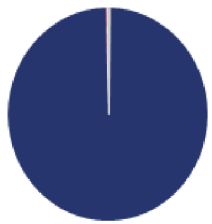
No. of Texa$aver accounts: 32,348

PERFORMANCE, 12/31/2020	1Y	3Y	5Y	7Y	10Y
Fund	13.81	8.54	12.43	9.87	11.58
Benchmark: S&P 400 Index	13.66	8.45	12.35	9.78	11.51
Peer Group Median	12.82	8.28	11.70	8.87	10.87



PORTFOLIO COMPOSITION

Asset Allocation



Cash	0.37%
US Stock	99.44%
Non US Stock	0.19%
Bond	0.00%
Other	0.00%

As of 12/31/2020

Overall Morningstar Rating™ ★★★★

FUND OVERVIEW

Investment type	Collective Trust
Investment strategy	Passive
Fund expense ratio	0.02%
Fund reimbursement	0.00%
Net Texa$aver expense	0.02%

Wellington MidCap Opportunities - II

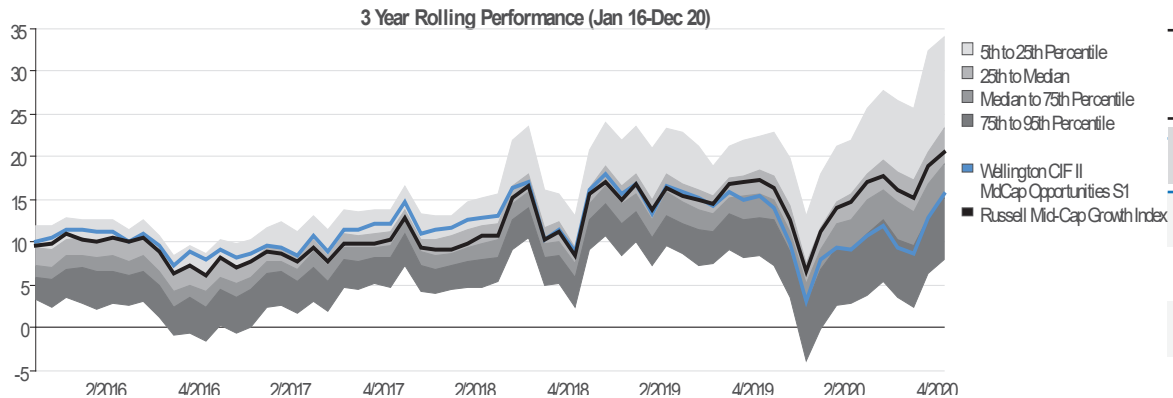
Mid Cap Growth

2020 Fund Change

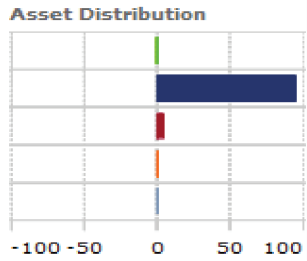
May 2020: Fund added to the lineup and available to accept contributions.

Program Assets: $29.1 million | No. of Texa$aver accounts: 22,208

PERFORMANCE, 12/31/2020	1Y	3Y	5Y	7Y	10Y
Fund	25.09	15.60	16.57	13.50	13.99
Benchmark: Russell Mid-Cap Growth Index	35.59	20.50	18.66	14.79	15.04
Peer Group Median	33.41	19.16	17.61	13.68	14.06



PORTFOLIO COMPOSITION



Type	% Net
Cash	0.14
US Stock	95.15
Non US Stock	4.71
Bond	0.00
Other	0.00

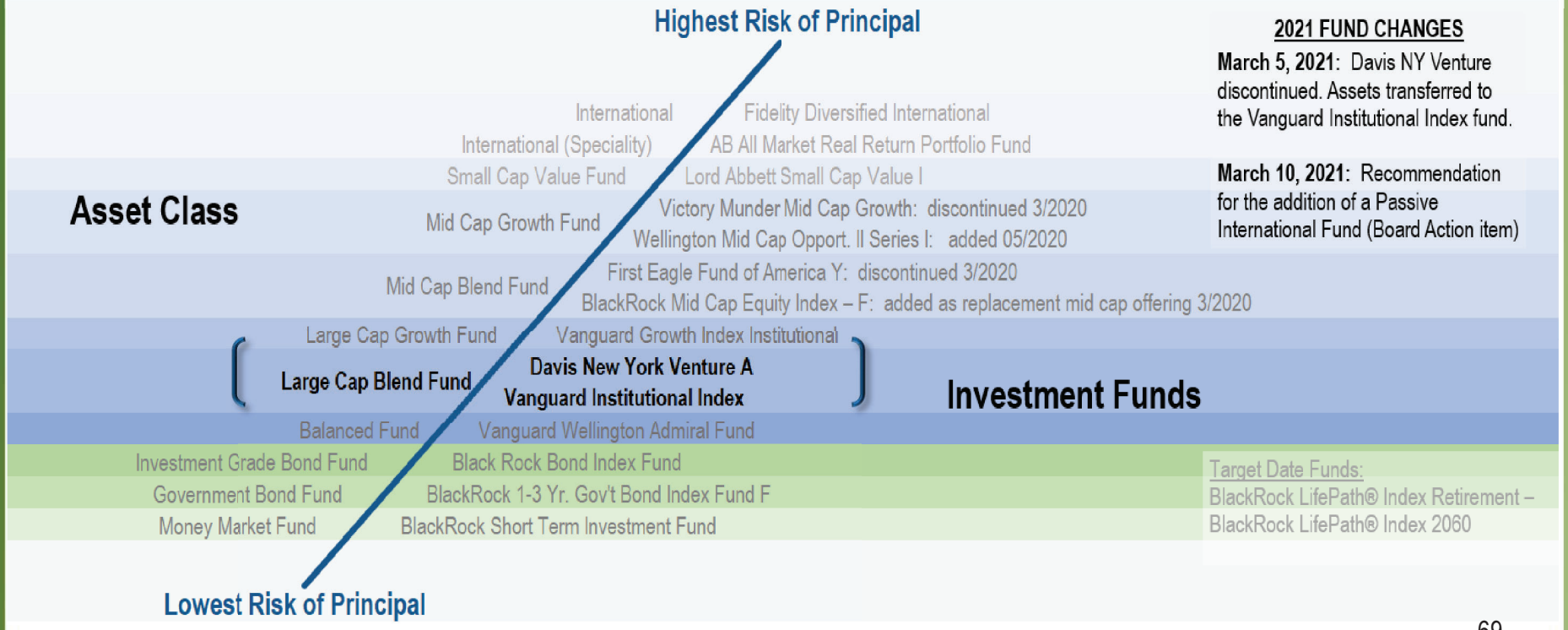
Overall Morningstar Rating™ ★★★

FUND OVERVIEW

Investment type	Collective Trust
Investment strategy	Active
Fund expense ratio	0.66%
Fund reimbursement	0.00%
Net Texa$aver expense	0.66%

Texa$aver Investment Funds

for the period ending December 31, 2020



2021 FUND CHANGES

March 5, 2021: Davis NY Venture discontinued. Assets transferred to the Vanguard Institutional Index fund.

March 10, 2021: Recommendation for the addition of a Passive International Fund (Board Action item)

Davis New York Venture A (NYVTX)

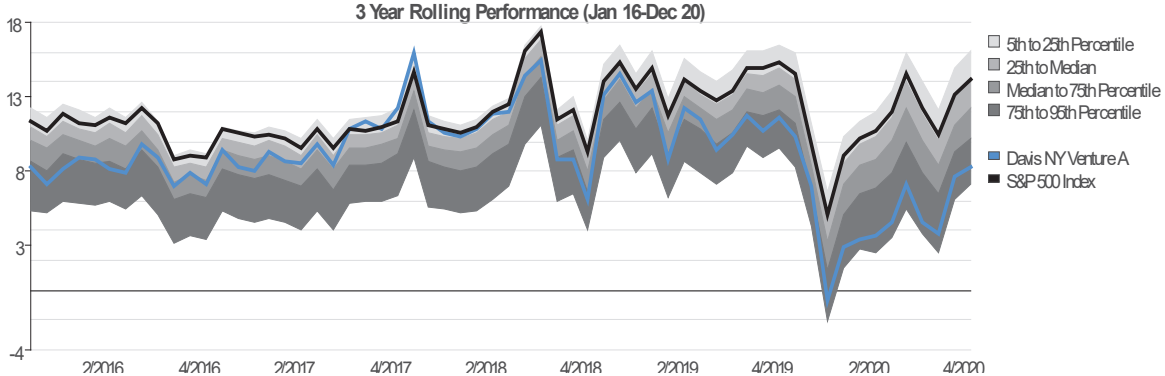
Large Cap Blend

2021 Fund Change

March 5, 2021: Fund scheduled to be discontinued; assets will be transferred to Vanguard Institutional Index fund.

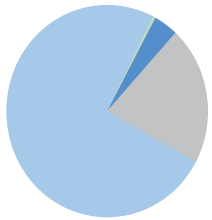
Program Assets: $156.9 million | No. of Texa$aver accounts: 32,105

PERFORMANCE, 12/31/2020	1Y	3Y	5Y	7Y	10Y
Fund	11.41	8.26	11.71	9.67	10.67
Benchmark: S&P Index	18.40	14.18	15.22	12.92	13.88
Peer Group Median	16.35	12.18	13.58	11.30	12.50



PORTFOLIO COMPOSITION

Assets



Cash	0.44%
US Stocks	75.05%
US Bonds	0.00%
Non-US Stocks	20.95%
Preferred Stocks	0.00%
Convertible Bonds	0.00%
Other	3.56%
Non-US Bonds	0.00%

Overall Morningstar Rating™ ★★

FUND OVERVIEW

Investment type	Mutual fund
Investment strategy	Active
Fund expense ratio	0.90%
Fund reimbursement	0.55%
Net Texa$aver expense	0.35%

Vanguard Institutional Index (VIIIX)

Large Cap Blend

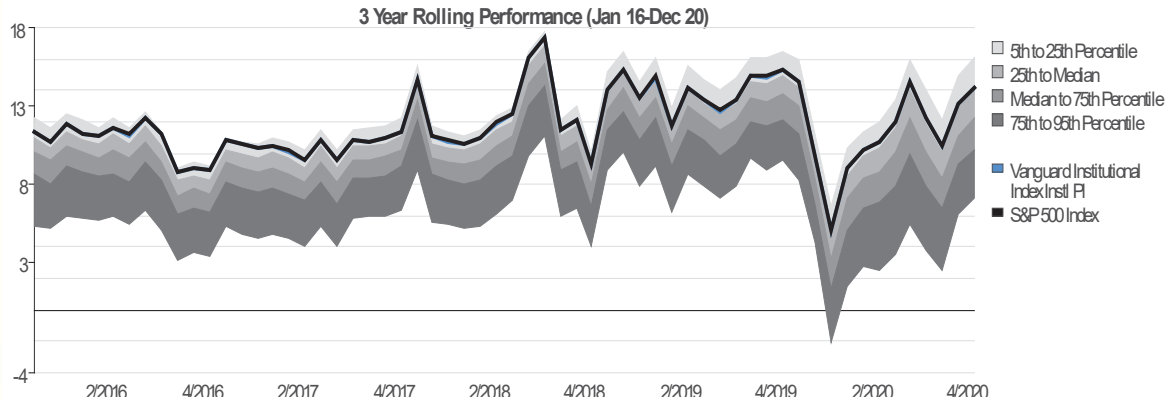
2021 Fund Change

March 5, 2021: Davis fund assets will be transferred to Vanguard Institutional Index fund

Program Assets: $604.3 million

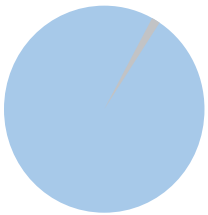
No. of Texa$aver accounts: 39,347

PERFORMANCE, 12/31/2020	1Y	3Y	5Y	7Y	10Y
Fund	**18.41**	**14.17**	**15.21**	**12.91**	**13.88**
Benchmark: S&P 500 Index	18.40	14.18	15.22	12.92	13.88
Peer Group Median	16.35	12.18	13.58	11.30	12.50



PORTFOLIO COMPOSITION

Assets



Cash	0.03%
US Stocks	99.04%
US Bonds	0.00%
Non-US Stocks	0.93%
Preferred Stocks	0.00%
Convertible Bonds	0.00%
Other	0.00%
Non-US Bonds	0.00%

Overall Morningstar Rating™ ★★★★★

FUND OVERVIEW

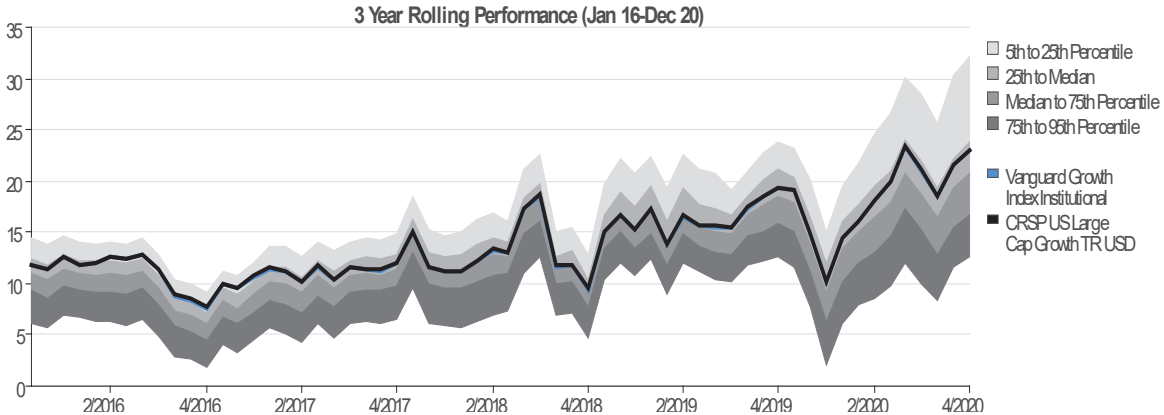
Investment type	Mutual fund
Investment strategy	Passive
Fund expense ratio	0.02%
Fund reimbursement	0.00%
Net Texa$aver expense	0.02%

Vanguard Growth Index Institutional (VIGIX)

Large Cap Growth

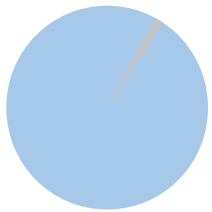
Program Assets: $573.2 million	No. of Texa$aver accounts: 29,867

PERFORMANCE, 12/31/2020	1Y	3Y	5Y	7Y	10Y
Fund	**40.20**	**22.99**	**20.34**	**16.78**	**16.68**
Benchmark: CRSP US Lg. Growth Index	40.27	23.02	20.37	16.83	NA
Peer Group Median	34.34	20.70	18.41	15.25	15.36



PORTFOLIO COMPOSITION

Assets



Cash	0.01%
US Stocks	98.89%
US Bonds	0.00%
Non-US Stocks	1.10%
Preferred Stocks	0.00%
Convertible Bonds	0.00%
Other	0.00%
Non-US Bonds	0.00%

Overall Morningstar Rating™ ★★★★

FUND OVERVIEW

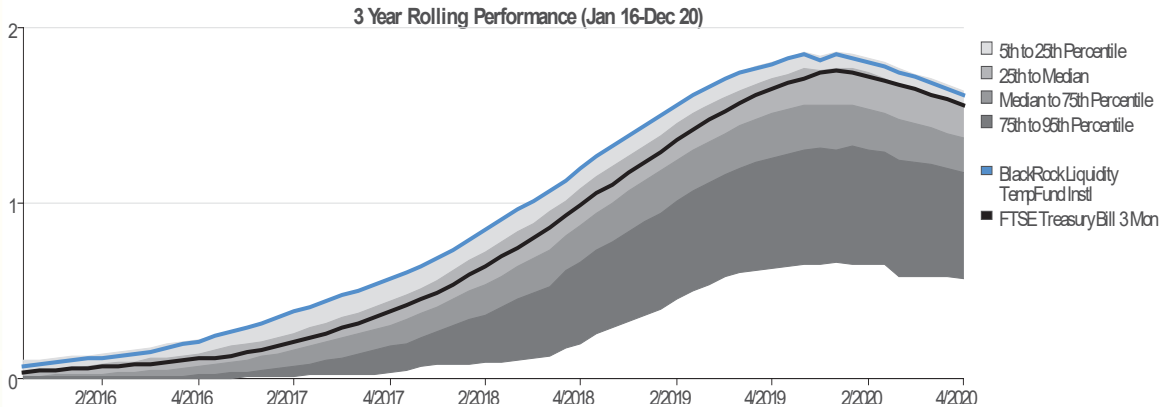
Investment type	Mutual fund
Investment strategy	Passive
Fund expense ratio	0.04%
Fund reimbursement	0.00%
Net Texa$aver expense	0.04%

BlackRock Short Term Investment

Money Market

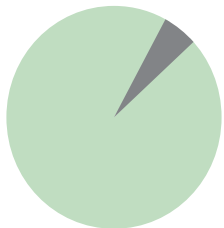
Program Assets: $167.4 million	No. of Texa$aver accounts: 21,409

PERFORMANCE, 12/31/2020	1Y	3Y	5Y	7Y	10Y
Fund	**0.57**	**1.62**	**1.29**	**0.94**	**0.69**
Benchmark: FTSE 3 Month Treasury Bill Index	0.58	1.56	1.16	0.84	0.60
Peer Group Median	0.40	1.37	0.99	0.73	0.51



PORTFOLIO COMPOSITION

Assets



Cash	95.30%
US Stocks	0.00%
US Bonds	4.70%
Non-US Stocks	0.00%
Preferred Stocks	0.00%
Convertible Bonds	0.00%
Other	0.00%
Non-US Bonds	0.00%

FUND OVERVIEW

Investment type	Collective Trust
Investment strategy	Active
Fund expense ratio	0.08%
Fund reimbursement	0.00%
Net Texa$aver expense	0.08%

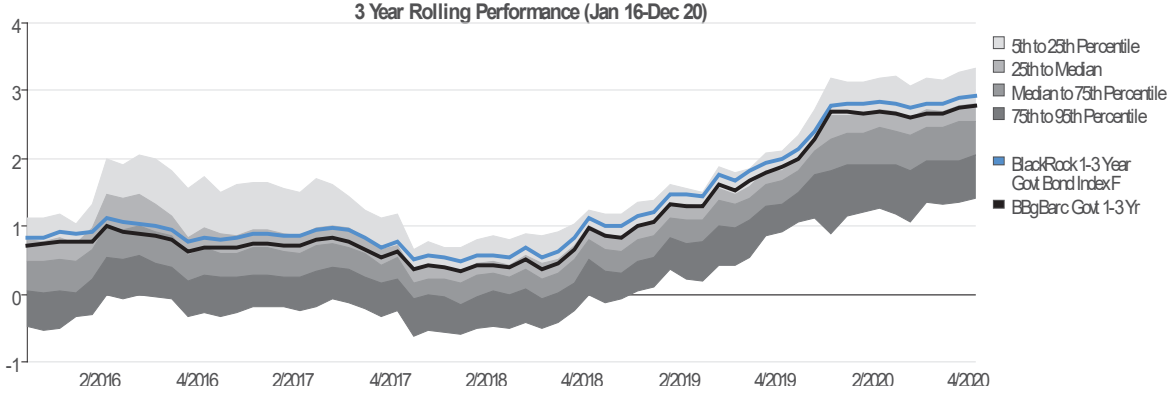
BlackRock 1-3 Yr. Government Bond Index F

Short-term Bond

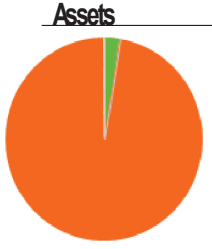
ERS

Program Assets: $55.8 million | No. of Texa$aver accounts:19,030

PERFORMANCE, 12/31/2020	1Y	3Y	5Y	7Y	10Y
Fund	**3.35**	**2.91**	**2.07**	**1.68**	**1.45**
Benchmark: Bloomberg Barclays U.S. 1-3 Year Government Bond Index	3.14	2.77	1.92	1.54	1.32
Peer Group Median	3.16	2.56	1.80	1.47	1.31



PORTFOLIO COMPOSITION



Type	% Net
Cash	2.66
US Stock	0.00
Non US Stock	0.00
Bond	97.34
Other	0.00

As of 12/31/2020

Overall Morningstar Rating™ ★★★★

FUND OVERVIEW

Investment type	Collective Trust
Investment strategy	Passive
Net expense ratio	0.06%
Fund reimbursement	0.00%
Net Texa$aver expense	0.06%

BlackRock Bond Index

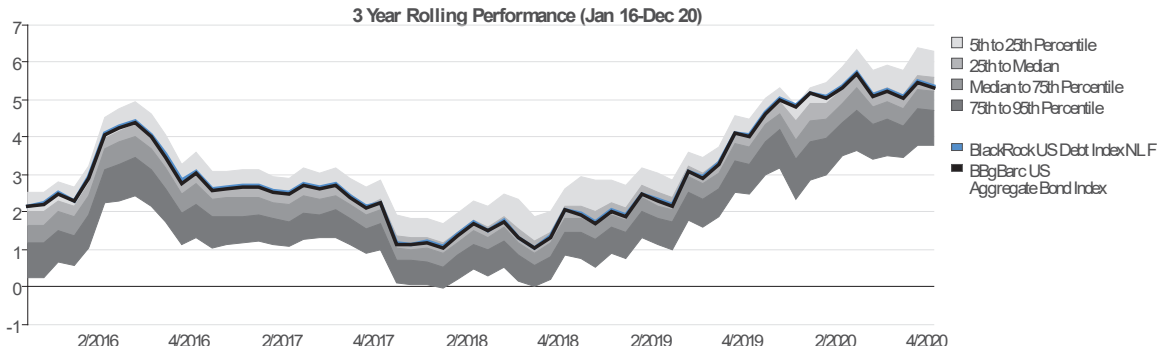
Intermediate Bond

ERS

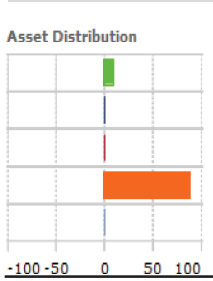
Program Assets: $291.2 million

No. of Texa$aver accounts: 32,637

PERFORMANCE, 12/31/2020	1Y	3Y	5Y	7Y	10Y
Fund	**7.58**	**5.37**	**4.47**	**4.14**	**3.87**
Benchmark: Bloomberg Barclays U.S. Aggregate Bond Index	7.51	5.34	4.44	4.09	3.84
Peer Group Median	7.78	5.23	4.37	3.94	3.79



PORTFOLIO COMPOSITION



Type	% Net
Cash	9.31
US Stock	0.00
Non US Stock	0.00
Bond	89.85
Other	0.84

As of 12/31/2020

Overall Morningstar Rating™ ★★★★

FUND OVERVIEW

Investment type	Collective Trust
Investment strategy	Passive
Fund expense ratio	0.11%
Fund reimbursement	0.00%
Net Texa$aver expense	0.11%

Vanguard Wellington Admiral (VWENX)

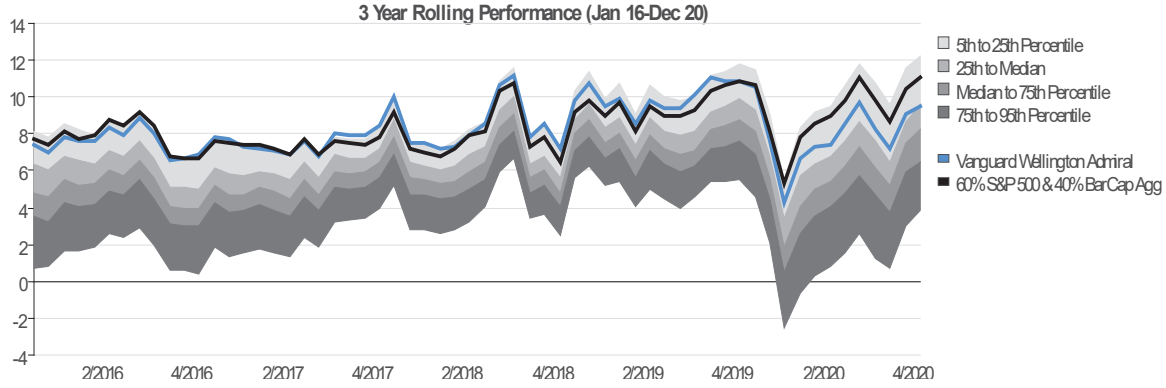
Balanced Fund

ERS

Program Assets: $453.8 million

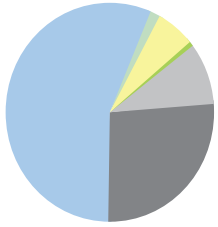
No. of Texa$aver accounts: 36,373

PERFORMANCE, 12/31/2020	1Y	3Y	5Y	7Y	10Y
Fund	**10.68**	**9.46**	**10.84**	**9.11**	**9.95**
Benchmark: 60% S&P 500; and 40% BarCap Agg	14.73	11.03	11.11	9.58	10.02
Peer Group Median	12.27	8.24	8.24	7.30	8.02



PORTFOLIO COMPOSITION

Assets



Cash	2.24%
US Stocks	55.71%
US Bonds	26.61%
Non-US Stocks	9.38%
Preferred Stocks	0.00%
Convertible Bonds	0.86%
Other	0.00%
Non-US Bonds	5.20%

Overall Morningstar Rating™ ★★★★★

FUND OVERVIEW

Investment type	Mutual Fund
Investment strategy	Active
Fund expense ratio	0.17%
Fund reimbursement	0.00%
Net Texa$aver expense	0.17%

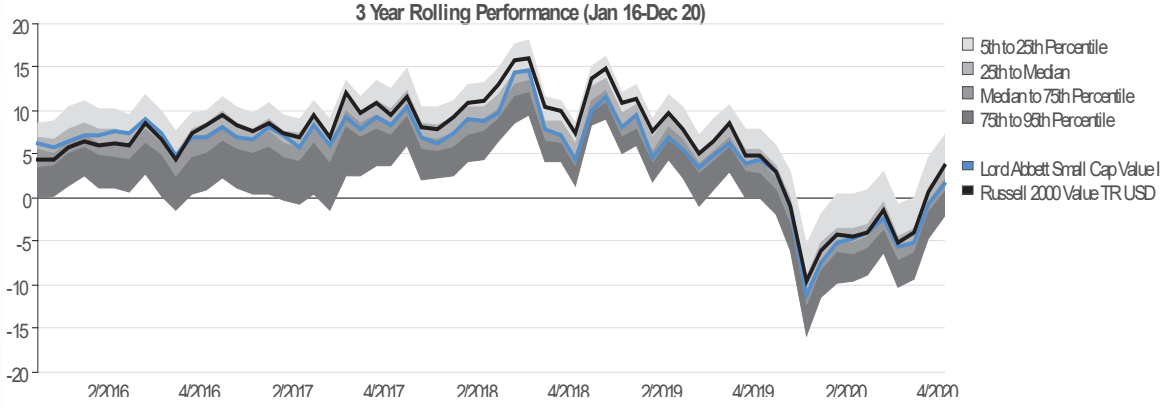
Lord Abbett Small Cap Value I (LRSYX)

Small Cap

Program Assets: $160.0 million

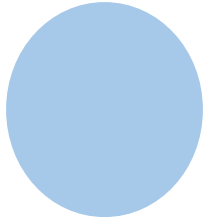
No. of Texa$aver accounts: 32,478

PERFORMANCE, 12/31/2020	1Y	3Y	5Y	7Y	10Y
Fund	-1.25	1.70	6.25	4.61	6.90
Benchmark: Russell 2000 Value Index	4.63	3.72	9.65	6.25	8.66
Peer Group Median	3.50	2.17	7.85	5.21	8.01



PORTFOLIO COMPOSITION

Assets



Cash	0.00%
US Stocks	100.00%
US Bonds	0.00%
Non-US Stocks	0.00%
Preferred Stocks	0.00%
Convertible Bonds	0.00%
Other	0.00%
Non-US Bonds	0.00%

Overall Morningstar Rating™ ★★

FUND OVERVIEW

Investment type	Mutual fund
Investment strategy	Active
Fund expense ratio	0.95%
Fund reimbursement	0.10%
Net Texa$aver expense	0.85%

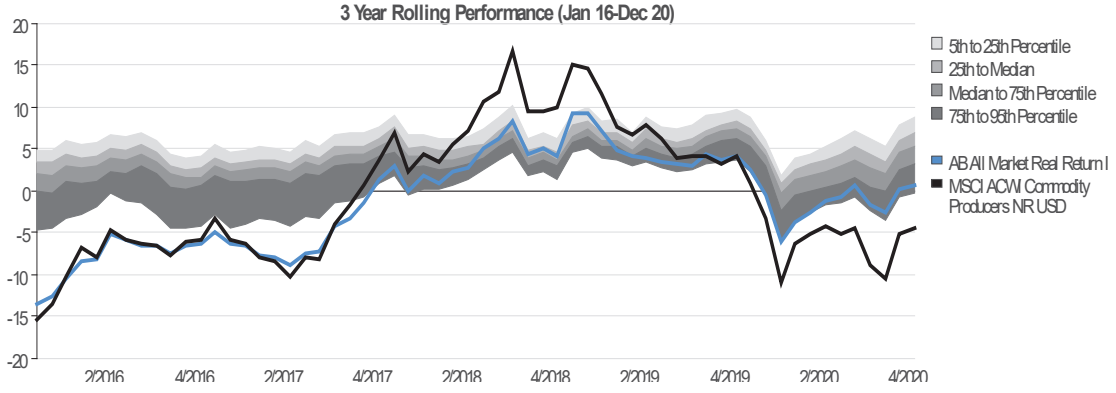
AB All Market Real Return Portfolio Fund

International (Specialty)

ERS

Program Assets: $2.4 million	No. of Texa$aver accounts: 658

PERFORMANCE, 12/31/2020	1Y	3Y	5Y	7Y	10Y
Fund	**0.69**	**0.79**	**1.18**	**-1.16**	**-0.70**
Benchmark: MSCI ACWI Commodity Producers Index	-12.32	-4.36	2.19	-0.26	2.54
Peer Group Median	6.65	5.39	4.87	5.91	6.01



PORTFOLIO COMPOSITION

Assets

Cash	20.84%
US Stocks	34.14%
US Bonds	0.00%
Non-US Stocks	41.05%
Preferred Stocks	0.00%
Convertible Bonds	0.00%
Other	0.02%
Non-US Bonds	3.96%

Overall Morningstar Rating™ ★

FUND OVERVIEW

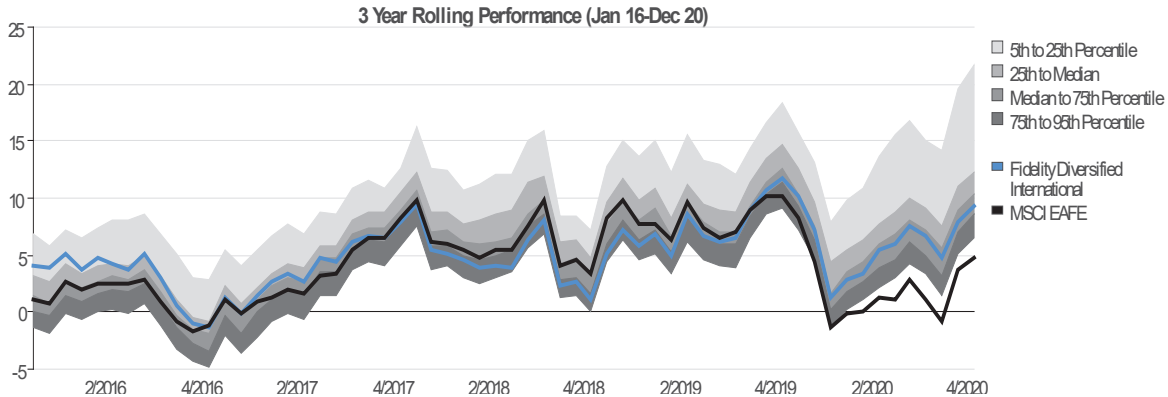
Investment type	Mutual fund
Investment strategy	Active
Fund expense ratio	0.87%
Fund reimbursement	0.55%
Net Texa$aver expense	0.32%

Fidelity Diversified International (FDIVX)

International

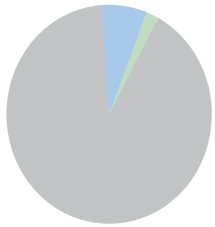
Program Assets: $301.6 million	No. of Texa$aver accounts: 35,734

PERFORMANCE, 12/31/2020	1Y	3Y	5Y	7Y	10Y
Fund	**18.91**	**9.34**	**9.77**	**6.86**	**7.45**
Benchmark: MSCI EAFE	8.28	4.79	7.97	4.88	6.00
Peer Group Median	21.94	10.29	11.62	7.59	7.70



PORTFOLIO COMPOSITION

Assets



Cash	2.72%
US Stocks	7.32%
US Bonds	0.00%
Non-US Stocks	89.96%
Preferred Stocks	0.00%
Convertible Bonds	0.00%
Other	0.00%
Non-US Bonds	0.00%

Overall Morningstar Rating™ ★★★

FUND OVERVIEW

Investment type	Mutual fund
Investment strategy	Active
Fund expense ratio	1.05%
Fund reimbursement	0.25%
Net Texa$aver expense	0.80%

BlackRock LifePath® Index Funds

Target Date Funds

	Excess Benchmark Performance						Peer Return Rank				Sharpe Ratio Rank	
	QTR	YTD	1 Yr	3 Yr	5 Yr	10 Yr	1 Yr	3 Yr	5 Yr	10 Yr	3 Yr	5 Yr
Target-Date Retirement												
BlackRock LifePath Index Retire F	1.86	3.23	3.23	1.47	1.45	0.84	9	6	8	9	40	39
S&P Target Date Retirement Income												
Number of Funds in Peer Group							*38*	*36*	*33*	*23*		
Target-Date 2025												
BlackRock LifePath Index 2025 F	-0.61	1.05	1.05	0.51	0.12	-0.43	63	52	62	80	32	21
S&P Target Date 2025												
Number of Funds in Peer Group							*54*	*49*	*42*	*28*		
Target-Date 2030												
BlackRock LifePath Index 2030 F	-0.42	1.06	1.06	0.62	0.25	-0.40	65	49	62	77	45	41
S&P Target Date 2030												
Number of Funds in Peer Group							*54*	*50*	*42*	*25*		
Target-Date 2035												
BlackRock LifePath Index 2035 F	-0.44	0.86	0.86	0.68	0.33	-0.37	68	51	54	77	50	43
S&P Target Date 2035												
Number of Funds in Peer Group							*52*	*48*	*41*	*27*		

BlackRock LifePath® Index Funds

Target Date Funds

	Excess Benchmark Performance						Peer Return Rank				Sharpe Ratio Rank	
	QTR	YTD	1 Yr	3 Yr	5 Yr	10 Yr	1 Yr	3 Yr	5 Yr	10 Yr	3 Yr	5 Yr
Target-Date 2040												
BlackRock LifePath Index 2040 F	-0.08	0.84	0.84	0.79	0.53	-0.27	62	45	37	73	54	57
S&P Target Date 2040												
Number of Funds in Peer Group							*53*	*50*	*42*	*25*		
Target-Date 2045												
BlackRock LifePath Index 2045 F	0.44	1.24	1.24	1.00	0.73	-0.14	59	36	34	63	51	57
S&P Target Date 2045												
Number of Funds in Peer Group							*52*	*48*	*41*	*26*		
Target-Date 2050												
BlackRock LifePath Index 2050 NL F	0.67	1.41	1.41	1.10	0.73		58	33	30	61	46	55
S&P Target Date 2050												
Number of Funds in Peer Group							*53*	*50*	*42*	*20*		
Target-Date 2055												
BlackRock LifePath Index 2055 NL F	0.59	1.49	1.49	1.10	0.62		62	35	35	49	47	58
S&P Target Date 2055												
Number of Funds in Peer Group							*52*	*48*	*39*	*11*		
Target-Date 2060+												
BlackRock LifePath Index 2060 F	0.59	1.39	1.39	-0.38	-0.37		64	86	80		86	87
S&P Target Date 2060+												
Number of Funds in Peer Group							*64*	*47*	*25*	*0*		

II. PRC Recommendations

Texa$aver Fund Line-up Review

Identified opportunities

- GWI Portfolio Strategist led the PRC through a strategic review of the funds offered within the program
- PRC determined opportunities to explore a passive international equity and high yield bond fund (fund additions)
- Sub-committee appointed to determine options and provide timing recommendations
  - Passive international equity: due diligence began October 2020
  - High yield bond fund: due diligence to begin 3Q 2021

Additional Core Fund Offering

Passive international equity fund

- Passive international equity is a common offering for other large government plans
- New fund would *not* replace the existing actively-managed international equity option, Fidelity Diversified International Fund (FDIVX)
  - Some portion of Fidelity International fund will likely migrate
- Common for large plans to offer both active and passive international equity funds

Sub-committee

Passive international equity fund

- Established parameters for initial screening
  - $2B minimum fund size
  - Net expense ratio ≤ 25 bps
  - Availability on TPA's platform
  - Fund objective and investment style
- Passive International Fund Due Diligence Questionnaire (DDQ) finalized on October 13, 2020.
- PRC met on October 26 to finalize review sub-committee findings and determine funds advancing to the next Review Phase.

Sub-committee

Passive international equity fund

- DDQs sent on November 4, 2020 to the following:
  - Fidelity International Index Fund (FSPSX)
  - iShares MSCI EAFE International Index (BTMKX)
  - Schwab International Index (SWISX)
  - TIAA International Equity Index (TCIEX)
  - Vanguard Developed Markets Index (VDIPX)
- Responses were received from all five entities on November 18, 2020.

Sub-committee

Passive international equity fund

- Sub-committee's review included an initial evaluation of:
  - Minimum Requirements
  - Firm Qualifications
    - Management team; investment team
    - Compliance and operations
  - Strategy Qualifications
    - Investment strategy and philosophy; style and process; risk management; historical returns and performance; asset flows

Sub-committee

Passive international equity fund

- On December 14, 2020 the sub-committee recommended the following entities as finalists based on the DDQ responses provided during the Review Phase and performance information of the funds.
  - Fidelity International Index Fund (FSPSX)
  - iShares MSCI EAFE International Index (BTMKX)

  PRC agreed with the sub-committee's recommendation.

- Video conference meetings were held with each finalist on January 11, 2021.

	Fidelity International Index FSPSX			iShares MSCI EAFE International Index		
Fund size (AUM)	$31. 4 B			$43.3B / $6.9B		
Net expense ratio (bps)	3.5 bps			4.1 bps		
Morningstar Rating	3 star			3 star		
Fund type	Mutual fund			CIT (with iShares as a proxy)		
3 year annual returns	2018 -13.52%	2019 22.00%	2020 8.17%	2018 -13.37%	2019 21.80%	2020 8.03%
Portfolio Management and Firm detail	• Over $592 B Equity Index AUM • Managing index since 2002 • Experienced team; 22 yrs. average experience • Geode Capital Management			• Detailed knowledge of index methodologies • Proprietary tools allow PM to oversee large number of portfolios • Serves 65,000 DC plans – 2nd largest DC provider by AUM		
Investment Strategy	• Limits exposure; provides high returns • Fully replicates			• Majority of outperformance attributed to tax advantage • Does not fully replicate		

Texa$aver program

Passive international equity fund

- Passive international equity fund would enhance the program's fund line-up
  - High-quality, well-managed, competitively priced fund with international market exposure
- New fund would be
  - Offered alongside the existing international fund, Fidelity Diversified International Fund (FDIVX)
  - Available to participant contributions on or after May 1, 2021

Texa$aver program: Passive International Equity

ERS Recommendation

ERS, together with the Texa$aver Product Review Committee, recommends that the Board of Trustees of the Employees Retirement System of Texas approve the addition of the [ ], a passive international equity fund, to the Texa$aver[SM] 401(k)/457 Program.

Questions?

Action Item (Board Only)

III. Participant Fee Rate Restructure

Texa$aver Program

Funding

ERS is responsible for the administration of the Texa$aver 401(k) and 457 Program (Texa$aver).

- The legislature does not appropriate funds for Texa$aver administrative costs
- 100% funded by participants
- Costs are assessed to participant accounts as a monthly administrative fee and cover program recordkeeping costs and ERS' internal costs
- Assessed to the 401(k) and 457 plans separately

Texa$aver Program

Participant Fee Structure

ERS adopted a tiered fee structure for Texa$aver administrative fees effective September 1, 2009.

- ERS' Actuarial and Reporting Services (ARS) designed the tiered fee structure and corresponding fees.
  - Fees were based on participant's account balance.
  - Percentage of fees relative to the account balance declines with each progressive tier.

Texa$aver Program

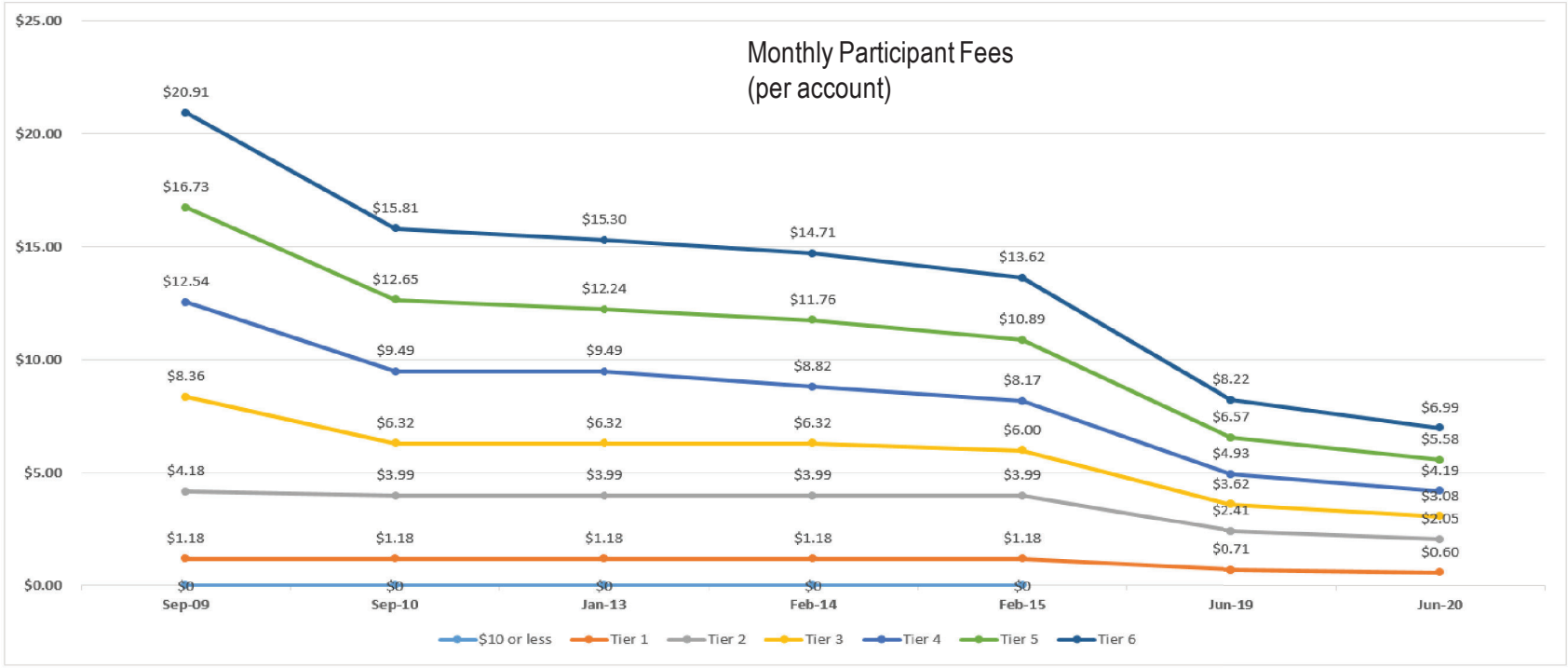
Participant Fee Structure

In May of 2019, ERS took action to reduce the number of small balance accounts.

- Those accounts with a $10 or less fund balance did not pay administrative fees. This tier was combined with the next tier level, $0.00 - $1,000 account balance.
- This change eliminated higher balance accounts subsiding fees for the growing number of small balance accounts, which were primarily due to automatic enrollment.
- New participants continued to enjoy a six-month fee waiver in order to build up their account balance.
- This change resulted in the number of Texa$aver small balance accounts reduced by 99.4% due to fee attrition.

Texa$aver

Participant Fee History



Texa$aver

Participant fee review

- ERS analyzed the appropriateness of the current tier structure and reviewed standard fee options based on industry practices, participant ease in understanding, surveys, data, and Texa$aver program design.
- Staff reviewed the following three participant fee options:

  1) an asset based fee,

  2) a flat fee, and

  3) tiered stratification *(current hybrid model).*

Participant Fee Review

Asset based fee

1. **Asset Based Fee** is based on a percentage of the participant's account balance and could change month to month.

   - Texa$aver's Third Party Administrator (Empower), estimates that of the 39% of plans with asset based fees, only 25% have automatic enrollment.
   - As a standard practice, plans with automatic enrollment typically do not offer asset based fees.
   - Based on the 2019 National Association of Government Defined Contribution Administrators' (NAGDCA) Perspective in Practice (PIP) Survey, annual asset-based fees represented 47.8% of plans with assets over $2.25 billion.

Participant Fee Review

Flat fee

2. **Flat Fee** structure uses a fixed dollar amount assessed monthly on a per participant per account basis.
   - The 2018 Texa$aver Participant Satisfaction Survey indicates participants have a better understanding of a flat fee approach when compared to an asset based fee.
   - In the 2019 survey, ERS asked Texa$aver participants their overall preference in the administrative fee structure:
     - 33.7% preferred a flat fee
     - 29.6% did not have a strong preference
     - 23.3% preferred the current hybrid tiered structure
     - 13.4% would rather have an asset based fee

Participant Fee Review

Flat fee

- Based on Empower's book of business, a flat fee is the most common structure among plans, followed by an asset based fee.
- The majority of state plans offering automatic enrollment tend to use a flat fee structure for ease in spreading administrative plan cost.
- The NAGDCA PIP Survey also showed 47.8% of plans with assets exceeding $2.25B use a flat fee approach.

Participant Fee Review

Tiered (stratification) fee

3. Tiered Stratification (*current fee structure)* offers a progressively higher set monthly fee across six tiers, based on the participant's account balance.

- Newly enrolled participants have a six month fee waiver to assist with building initial retirement savings prior to incurring a fee.
- This is a hybrid, customized approach and not standard among other Deferred Compensation plans.

Account Balance		Monthly Fee per Participant	Number of Participants
		Waived	13,375
$ 0.01	$ 1,000.00	$ 0.60	101,278
$ 1,000.01	$ 16,000.00	$ 2.05	101,137
$ 16,000.01	$ 32,000.00	$ 3.08	10,959
$ 32,000.01	$ 48,000.00	$ 4.19	5,647
$ 48,000.01	$ 64,000.00	$ 5.58	3,616
$ 64,000.01		$ 6.99	15,212
Totals			**251,224**

As of December 2020

Texa$aver Participant Fee Restructure

ERS Recommendation

ERS recommends that the Board adopt the proposed revised Texa$aver flat fee structure.

- $1.50 monthly participant fee: per account, per participant regardless of account balance
- Continue six month fee waiver for new participants to allow account balance to build
- Effective May 1, 2021
- Establish a minimum $1 million ERS account balance (baseline)
  - Due to the current large account balance, waive any “internal” administrative portion of the fee to allow the spend down of excess funds.

Questions?

Action Item (Board Only)

Public Agenda Item #11

**Review and Discussion of the Investment Compliance Annual Report*

March 10, 2021

Aaron Ismail, Investment Compliance Officer

ERS Investment Compliance Program Overview

Prevent, detect and address issues of non-compliance.

Help ERS meet its fiduciary, regulatory and contractual obligations.

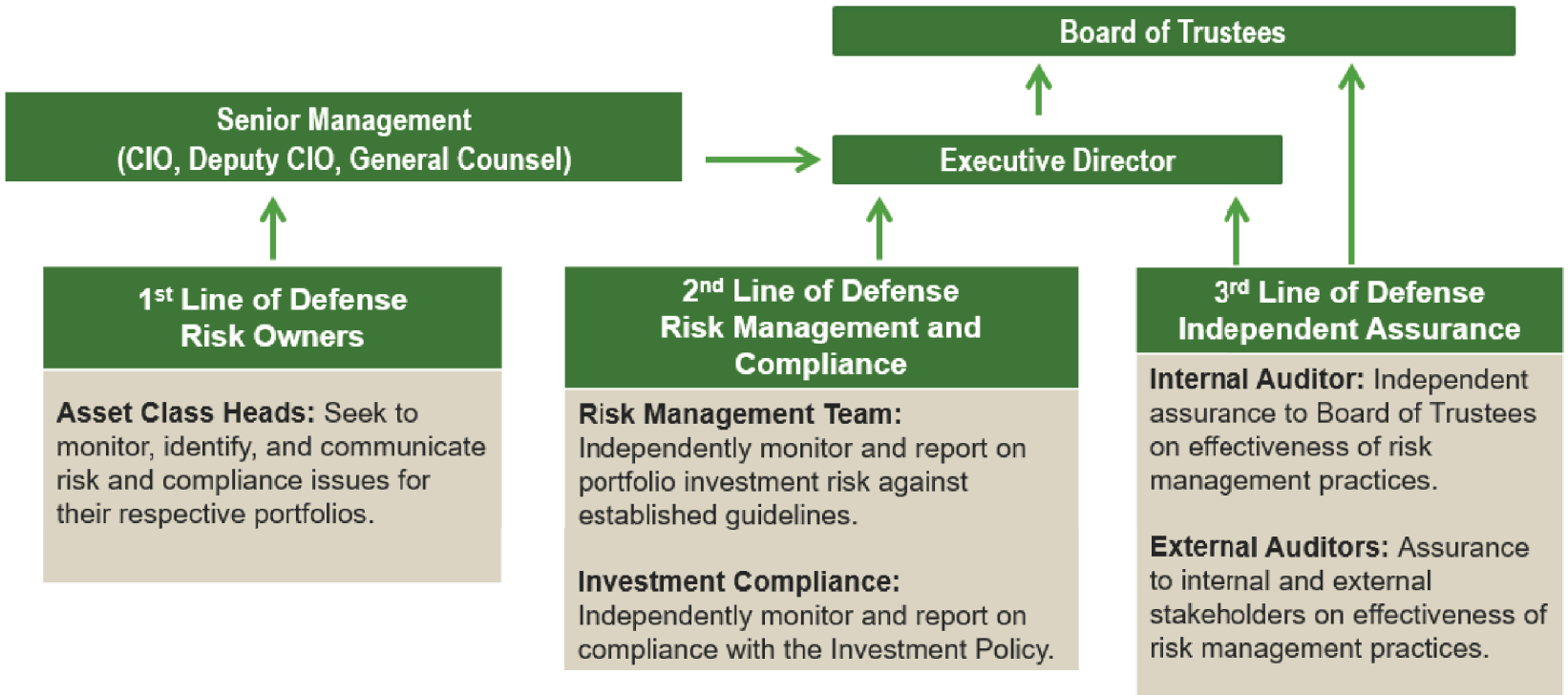
Investment Compliance Program

Independent control function that monitors for compliance with applicable laws, regulations, ERS policies and investment guidelines.

Align policies and procedures with high ethical conduct.

Educate, train and communicate the program to the organization and Board.

Compliance Risk Control Framework



Ethics and Compliance

ERS

Ethical Leadership

Supervisor Reinforcement

Peer Commitment

Moral Ownership

Transparency

Compliance Program Process

Prevent

- Investment Policy and Compliance Policies and Procedures development.
- Advising investment staff on compliance issues.
- Staff compliance education during onboarding and continued training.

Detect

- Leveraging robust compliance Reporting and monitoring systems.
- Testing compliance procedures for adequacy and effectiveness.

Correct

- Prompt investigation and correction of violations.
- Revision of policies or control procedures.
- Resolution documentation and reporting to Board and EO.

Investment Compliance Reporting

- Annual Investment Compliance Report
- Quarterly Investment Compliance Reporting

Compliance Function and Business Risks	Testing Procedures	Results and Exceptions	Remediation and Assigned Risk Level

Compliance Program Roadmap

Key Accomplishments

Investment Compliance Monitoring

- Enhanced testing for asset class investment compliance.
- Assisted Internal Audit with asset class specific audits.

Code of Ethics Reporting and Oversight

- Updated staff personal trading materials and communicated requirements to staff.
- Revised Annual Compliance Affirmations to effectively capture potential conflicts of interests.

Development of Policies and Procedures

- Revised the Investment Policy Code of Ethics to clarify procedures related to violation monitoring and reporting.
- Formalized Investment Compliance Policies and Procedures.

Compliance Reporting & Board Engagement

- Enhanced the Quarterly Investment Compliance Report for the Board.

Compliance Program Roadmap

Action Plan

Summary Finding: ERS's compliance policies and procedures are reasonably designed to prevent, detect and cure violations of applicable laws, regulations and policies.

Action Plan:

- Expand staff level communication and training for compliance requirements and measure effectiveness.
- Enhance implementation plans of mitigating identified compliance risks.
- Continue to review investment program guidelines to improve consistency and clarity.
- Leverage technology to support effective compliance testing and documentation.

ERS

Questions?

ERS

Public Agenda Item #12

Review and Discussion of Eligibility and Compliance of the Investment Advisory Committee

March 10, 2021

Aaron Ismail, Investment Compliance Officer

Investment Advisory Committee

Requirements

The Investment Advisory Committee (IAC) assists the Board in carrying out its fiduciary duties with regard to the investment of the Trust and related duties.

Pursuant to Texas Government Code §§ 815.5092 and 815.5093, the Board shall review the eligibility status of IAC members at least annually.

Criteria for the eligibility status include:

- Review of potential of conflicts of interest between the IAC members and ERS.
- Review of IAC Members' ability to fully discharge his or her duties.
- Record of attendance for scheduled Board Meetings.

IAC Skills Assessment

	Term Expiration	Investment Experience	Global Equity	Fixed Income	Private Equity	Real Estate	Hedge Funds	Infrastructure	Derivatives
IAC Chair, Bob Alley, CFA Retired from AIM Advisors, Inc. as Chief Fixed Income Officer	8/31/2021	44 years	X	X	X				
IAC Vice-Chair, Gene L. Needles, Jr. Chairman and CEO Resolute Investment Management	5/31/2023	40 years	X	X	X	X	X		X
Caroline Cooley Managing Partner – Hedge Funds Crestline Investors, Inc.	12/31/2022	35 years		X			X		X
James Hille, CFA, CAIA CIO Texas Christian University Endowment	8/31/2023	28 years	X	X	X	X	X		
Ken Mindell Sr. VP, Treasurer & Director of Investments Rosewood Management Corporation	5/31/2022	39 years	X	X	X	X	X	X	X
Laurie Dotter Retired from Transwestern Corporation Properties as President	5/31/2022	36 years				X		X	
Milton Hixson, CPA, CFP CEO FMP Wealth Advisors	3/31/2023	47 years	X	X	X	X	X	X	

ERS

Questions?

ERS

Public Agenda Item #13

*Review and Discussion of Investment Performance for 4th Quarter of 2020 and Risk Update

March 10, 2021

Tom Tull, CFA, Chief Investment Officer
Carlos Chujoy, CFA, Director of Risk Management and Applied Research
Sam Austin and Michael Malchenko, NEPC

QUARTERLY PERFORMANCE REPORT

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

March 10, 2021

Sam Austin, Partner

BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

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Total Fund Performance Summary	2
Appendix and Disclosures	3

EXECUTIVE SUMMARY

ERS TRUST DASHBOARD

	CYTD	FYTD 2020
Fund Performance	10.0%	7.8%
Policy Benchmark	9.1%	6.2%
Excess Return	0.9%	1.6%
3 Yr Tracking Error	2.26%	
5 Yr Sharpe Ratio	1.08	
5 Yr Sortino Ratio	1.19	

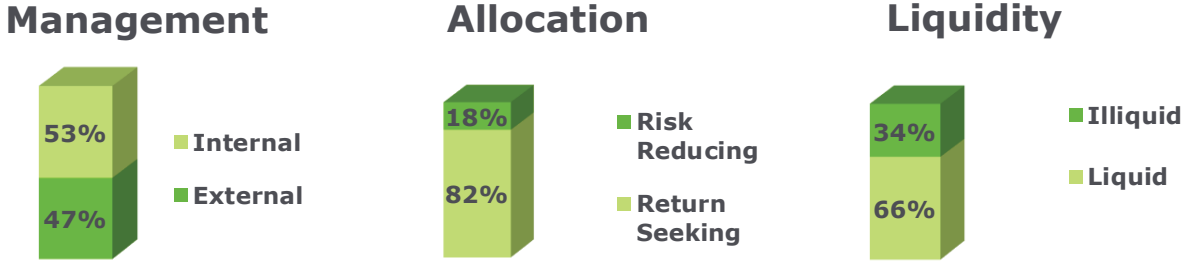
Largest Contributors (Quarter)

Private Equity contributed +0.4% versus the policy benchmark

Largest Detractors (Quarter)

Total Rates contributed -0.1% versus the policy benchmark

Profile
Market Value at 12/31/2020:
$30.87 Billion
Actuarial Accrued Liability 8/31/19:
$39.8 Billion
Actuarial Assumed Rate of Return:
7.0%
Retirees and Beneficiaries 8/31/2019:
115,155
Retirement Payments Year Ended 8/31/2019:
$2.62 Billion
ERS Trust Funding Ratio 8/31/2019
70.5%



TOTAL FUND PERFORMANCE DETAIL (NET OF FEES)

	Market Value($)	3 Mo(%)	Fiscal YTD	1 Yr(%)	3 Yrs(%)	5 Yrs(%)	10 Yrs(%)
Total Fund	30,865,543,933	9.1	7.8	10.0	7.4	8.8	7.8
Total Fund Policy Index		7.6	6.2	9.1	6.9	8.6	7.5
Long Term Public Index		12.2	9.4	15.3	9.2	10.6	8.1

- **One-year ended December 31, 2020, the Fund outperformed the policy benchmark by .9%.**
- **The Fund's assets increased to $30.87 billion from $29.41 billion in the last calendar year which includes an investment gain of $2.772 billion for the year.**

Note: Long Term Public Index is comprised of 79% MSCI ACW IMI and 21% Barclays Intermediate Treasury Index. Index Definitions can be found in the appendix.

TOTAL FUND PERFORMANCE DETAIL (NET OF FEES)

3 Years Ending December 31, 2020	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Sortino Ratio RF
Total Fund	7.36%	8.55%	0.69	0.84
Total Fund Policy Index	6.86%	9.24%	0.58	0.76

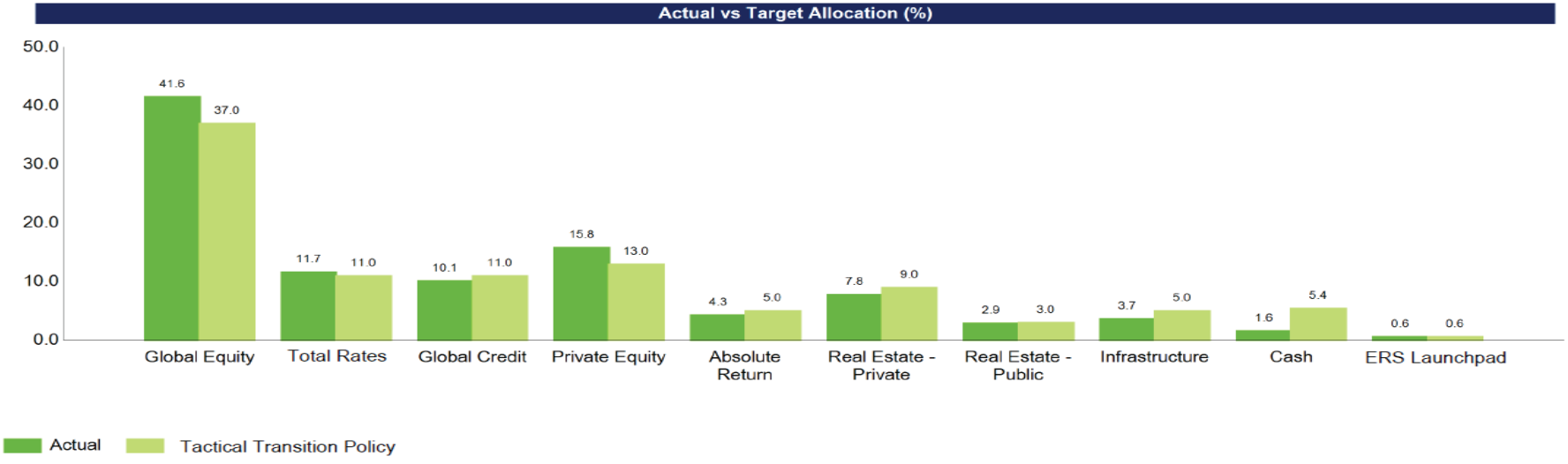
5 Years Ending December 31, 2020	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Sortino Ratio RF
Total Fund	8.84%	7.14%	1.08	1.19
Total Fund Policy Index	8.57%	7.84%	0.95	1.11

- **Three–year period ended December 31, 2020, the return of 7.36% outperformed the benchmark by 0.50%. On a risk-adjusted basis, the Sharpe Ratio and Sortino Ratio outperformed the benchmark.**

- **Five-year period ended December 31, 2020, the Fund returned 8.84% and outperformed the policy benchmark by 0.27%. On a risk-adjusted basis, the Fund's Sharpe Ratio and Sortino Ratios outperformed the benchmark and suggests that active management benefitted the Plan.**

Note: Long Term Public Index is comprised of 79% MSCI ACW IMI and 21% Barclays Intermediate Treasury Index. Index Definitions can be found in the appendix.

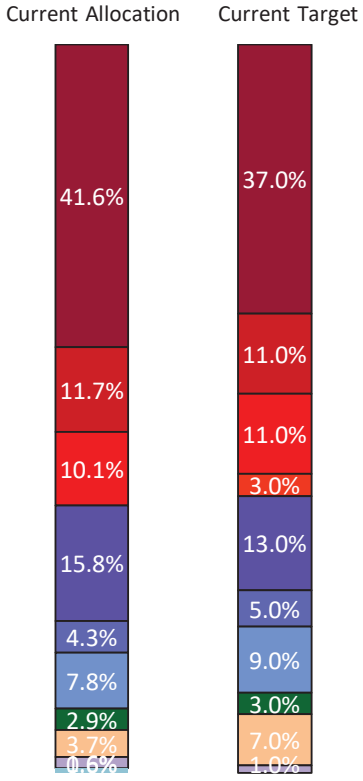
TOTAL FUND ASSET GROWTH SUMMARY



Summary of Cash Flows	Last Three Months	Fiscal Year-To-Date	One Year	Three Years	Five Years
Beginning Market Value	$28,618,113,390	$29,076,050,354	$29,406,588,242	$28,518,822,728	$24,891,929,422
Contributions	$2,506,580,125	$3,543,117,527	$11,770,016,479	$38,653,757,729	$53,954,133,872
Withdrawals	-$2,859,475,104	-$4,007,636,600	-$13,083,475,151	-$42,472,587,532	-$59,721,484,457
Net Cash Flow	-$352,894,979	-$464,519,073	-$1,313,458,672	-$3,806,724,605	-$5,755,231,037
Net Investment Change	$2,600,325,522	$2,254,012,651	$2,772,414,364	$6,153,445,810	$11,728,845,548
Ending Market Value	$30,865,543,933	$30,865,543,933	$30,865,543,933	$30,865,543,933	$30,865,543,933

Employees Retirement System of Texas

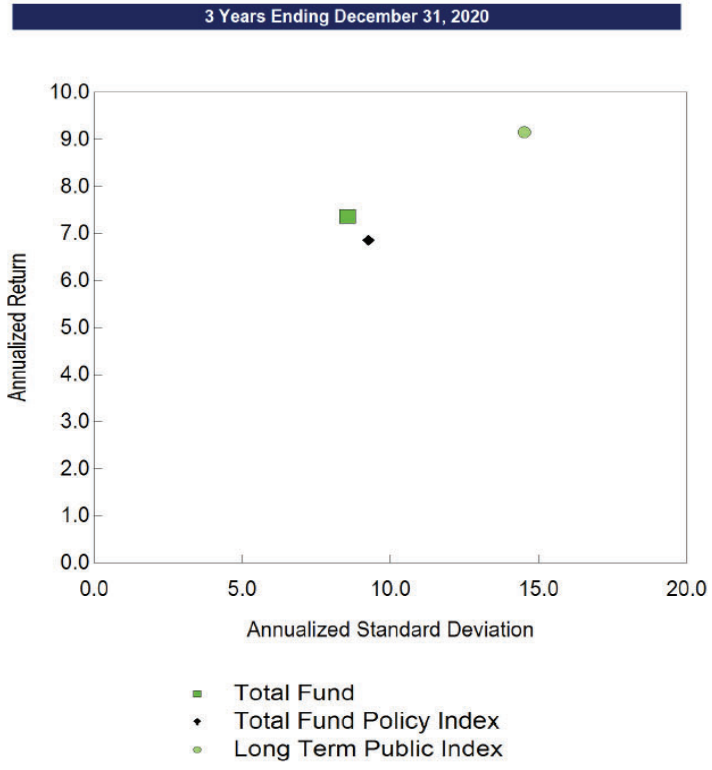
FUND ASSET ALLOCATION VS. POLICY TARGETS

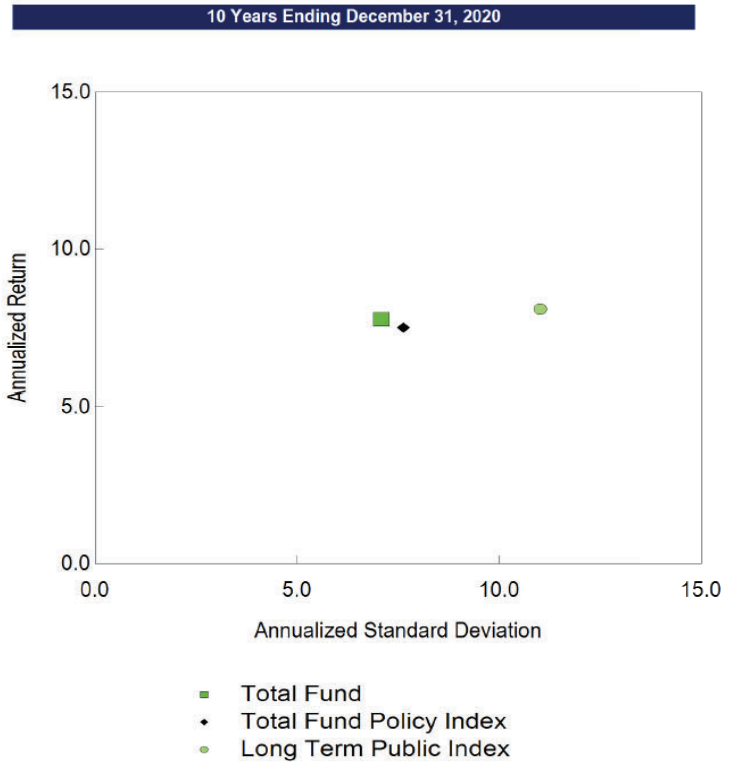


	Current	Current	Long-Term Target	Long-Term Target Range
Public Equity	$12,826,017,289	41.6%	37.0%	27.0% - 47.0%
Total Rates	$3,597,163,379	11.7%	11.0%	
Global Credit	$3,124,147,197	10.1%	11.0%	1.0% - 21.0%
Opportunistic Credit	-	-	3.0%	0.0% - 8.0%
Private Equity	$4,885,071,025	15.8%	13.0%	8.0% - 18.0%
Absolute Return	$1,329,262,543	4.3%	5.0%	0.0% - 10.0%
Real Estate - Private	$2,404,950,208	7.8%	9.0%	4.0% -14.0%
Real Estate - Public	$902,510,299	2.9%	3.0%	0.0% - 13.0%
Infrastructure	$1,127,867,149	3.7%	7.0%	2.0% - 12.0%
Cash	$480,271,239	1.6%	1.0%	0.0% - 1.0%
ERS Launchpad	$188,283,606	0.6%		0.0% - 5.0%
Total	**$30,865,543,933**	**100.0%**	**100.0%**	

Employees Retirement System of Texas

TOTAL FUND RISK/ RETURN

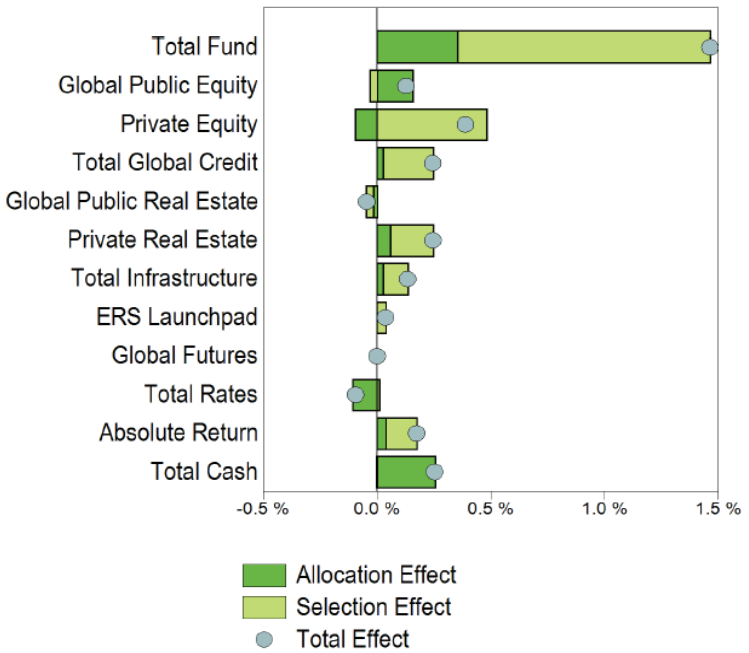




Note: Long Term Public Index is comprised of 79% MSCI ACW IMI and 21% Barclays Intermediate Treasury Index.
Index Definitions can be found in the appendix.

TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects
3 Months Ending December 31, 2020



Attribution Summary
3 Months Ending December 31, 2020

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Global Public Equity	15.7%	15.8%	0.0%	0.0%	0.2%	0.1%
Private Equity	7.5%	4.5%	3.1%	0.5%	-0.1%	0.4%
Total Global Credit	8.5%	6.4%	2.1%	0.2%	0.0%	0.2%
Global Public Real Estate	12.4%	13.4%	-1.0%	0.0%	0.0%	0.0%
Private Real Estate	2.4%	0.3%	2.1%	0.2%	0.1%	0.2%
Total Infrastructure	3.7%	1.1%	2.6%	0.1%	0.0%	0.1%
ERS Launchpad	6.5%	-0.1%	6.6%	0.0%	0.0%	0.0%
Global Futures	--	--	--	--	--	--
Total Rates	-0.1%	-0.2%	0.1%	0.0%	-0.1%	-0.1%
Absolute Return	3.9%	0.9%	3.0%	0.1%	0.0%	0.2%
Total Cash	0.0%	0.0%	-0.1%	0.0%	0.3%	0.3%
Total	**9.1%**	**7.6%**	**1.5%**	**1.1%**	**0.4%**	**1.5%**

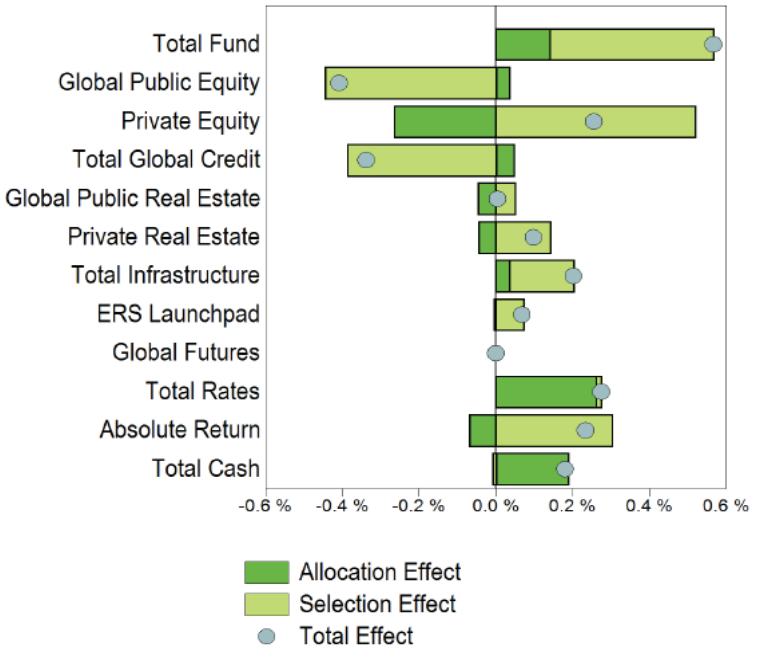
Note: Not all assets valued through December 31, 2020 within Private Equity, Total Global Credit, Private Real Estate, Total Infrastructure and Absolute Return.

*Total Fund Attribution Analysis uses policy weights.

Employees Retirement System of Texas

TOTAL FUND ATTRIBUTION ANALYSIS

Attribution Effects
1 Year Ending December 31, 2020



Attribution Summary
1 Year Ending December 31, 2020

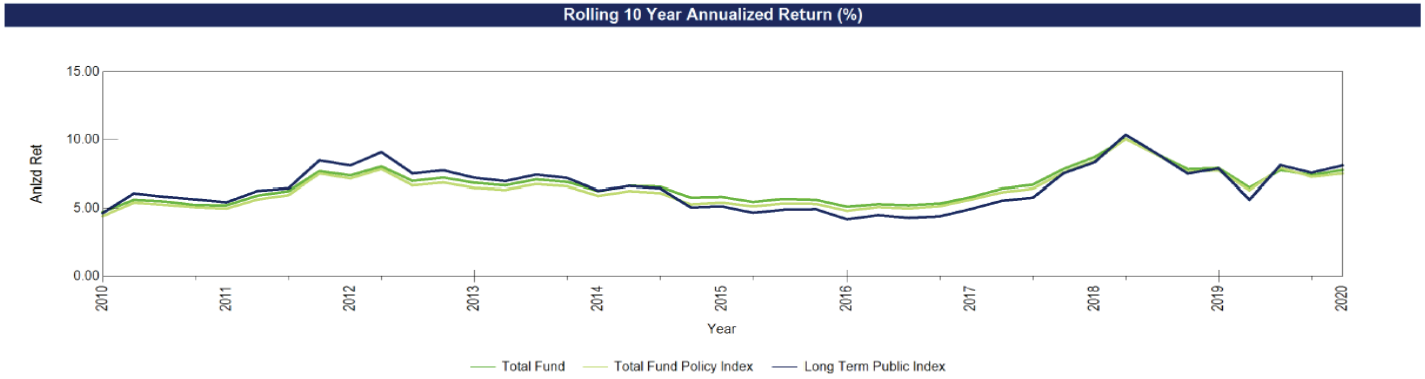
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Global Public Equity	15.3%	16.6%	-1.3%	-0.4%	0.0%	-0.4%
Private Equity	6.8%	2.8%	4.0%	0.5%	-0.3%	0.3%
Total Global Credit	3.6%	7.0%	-3.4%	-0.4%	0.0%	-0.3%
Global Public Real Estate	-6.7%	-8.5%	1.8%	0.0%	0.0%	0.0%
Private Real Estate	2.3%	0.5%	1.8%	0.1%	0.0%	0.1%
Total Infrastructure	9.1%	5.2%	3.9%	0.2%	0.0%	0.2%
ERS Launchpad	13.5%	-0.5%	14.0%	0.1%	0.0%	0.1%
Global Futures	--	--	--	--	--	--
Total Rates	5.9%	5.8%	0.1%	0.0%	0.3%	0.3%
Absolute Return	11.4%	4.3%	7.0%	0.3%	-0.1%	0.2%
Total Cash	0.3%	0.7%	-0.4%	0.0%	0.2%	0.2%
Total	**9.9%**	**9.1%**	**0.8%**	**0.4%**	**0.1%**	**0.6%**

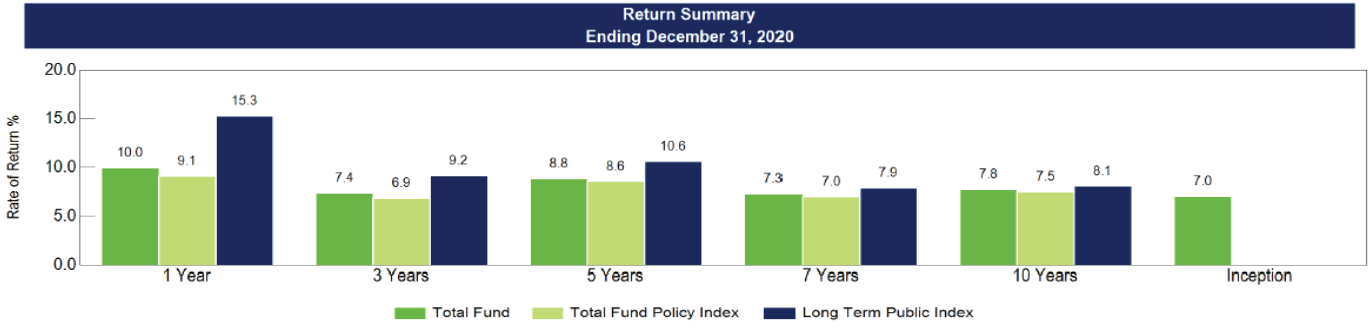
Note: Not all assets valued through December 31, 2020 within Private Equity, Total Global Credit, Private Real Estate, Total Infrastructure and Absolute Return.

* Total Fund Attribution Analysis uses policy weights.

Employees Retirement System of Texas

LONG TERM INVESTMENT RESULTS





Note: Long Term Public Index is comprised of 79% MSCI ACW IMI and 21% Barclays Intermediate Treasury Index.
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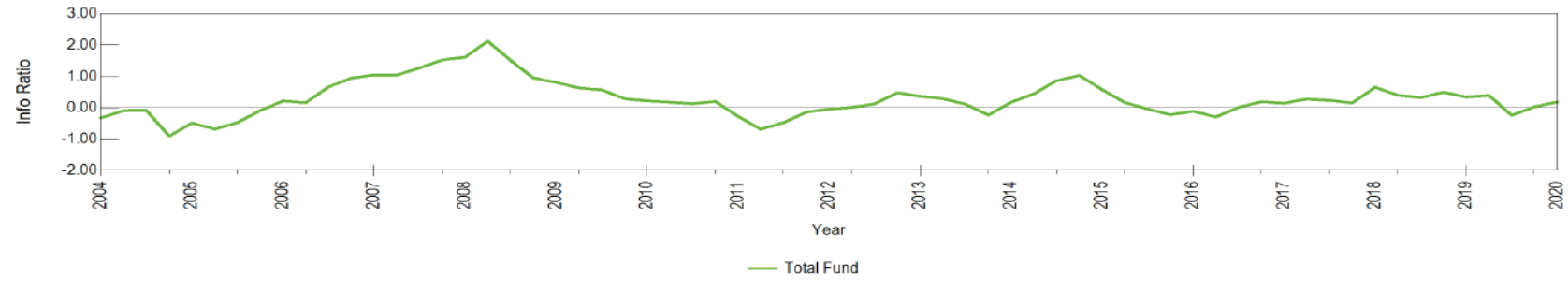
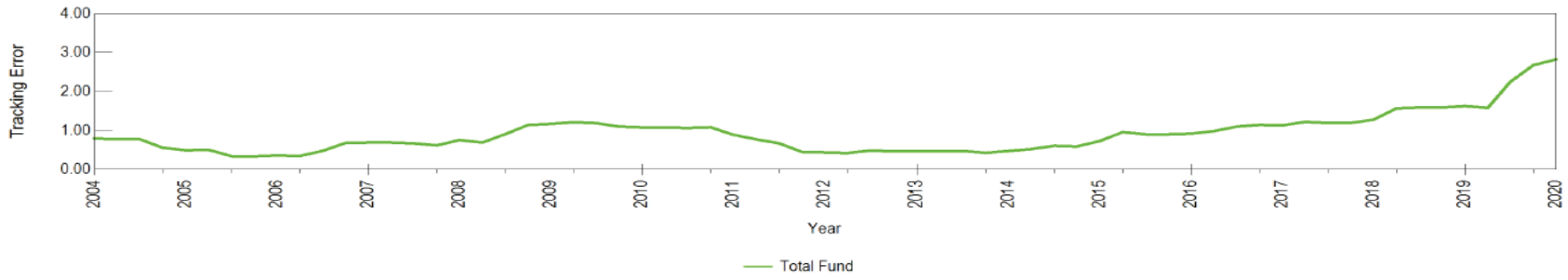
Employees Retirement System of Texas

ROLLING INFORMATION RATIO AND TRACKING ERROR

Rolling 3 Year Information Ratio



Rolling 3 Year Tracking Error



SUMMARY PERFORMANCE COMMENTARY

- **Over the past 10 years, Total Fund returns outperformed the policy benchmark by 0.3% and outperformed the Plan's actuarial rate of return.**

- **In the one-year ended December 31, 2020 the Fund outperformed the policy benchmark by 0.9%.**
  - Global Credit detracted -0.3% and Global Public Equity detracted -0.4% from Fund returns vs. the policy benchmark
  - Rates contributed +0.3%, Private Equity contributed +0.3%, and Absolute Return contributed +0.2% to returns vs. the policy benchmark

- **In the past one-year, portfolio positioning at the asset class level contributed +0.1% to Total Fund returns vs. policy benchmark.**
  - An over-weight position to Private Equity contributed negatively (-0.3%) to total fund returns vs. the policy benchmark.
  - An under-weight position to Rates contributed positively (+0.3%) to Fund returns versus the policy benchmark.

Risk Management & Applied Research
Risk Update

March 10, 2021

Carlos Chujoy, CFA, Director of Risk Management & Applied Research

Risk Update

4Q2020 Update

ERS

Agenda

- Headwinds and Tailwinds
- Performance Review of Selected Markets (Drawdowns, performance 2020, since 03/2020)
- Heatmap of Market Stress
- Global Economic Conditions
- Risk Concerns

Risk Update

4Q2020 Update

ERS

Headwinds

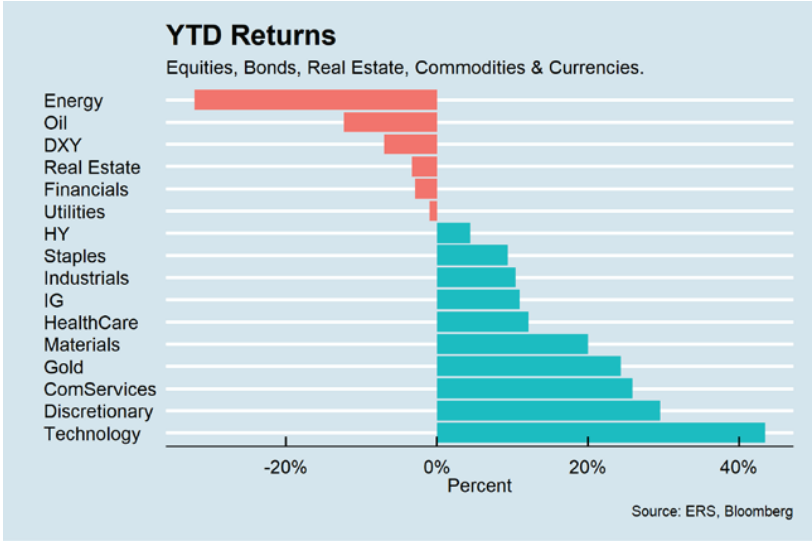
- Resurgence Of COVID-19
- Uncertainty Regarding US Election
- Concerns
  - Market Valuation
  - High Correlation In Asset Returns
  - Inflation Expectations
  - Speculative Bubbles (Gamestop, AMC)

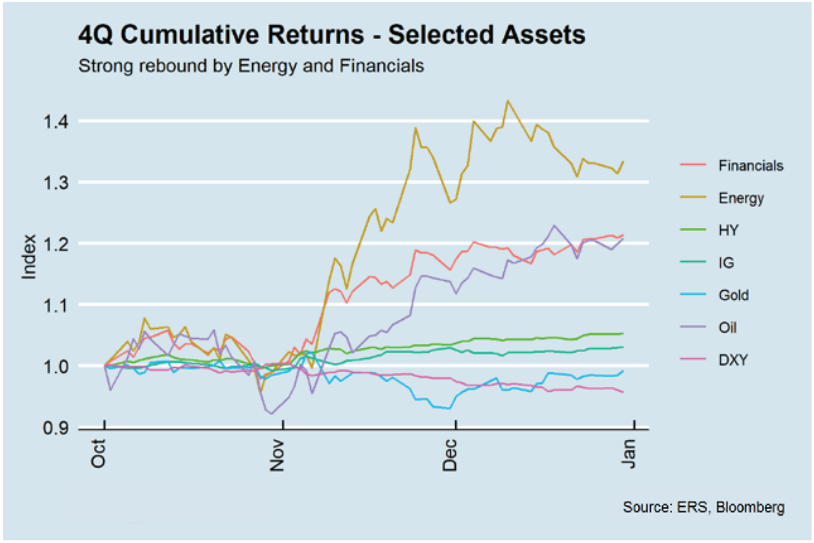
Tailwinds

- Vaccine Announcement
- Broadening In Asset Participation
- Global PMI's On The Rise
- UK-EU Memorandum of Understanding
- Additional Stimulus Package

Market Performance

YTD and 4Q20 Returns

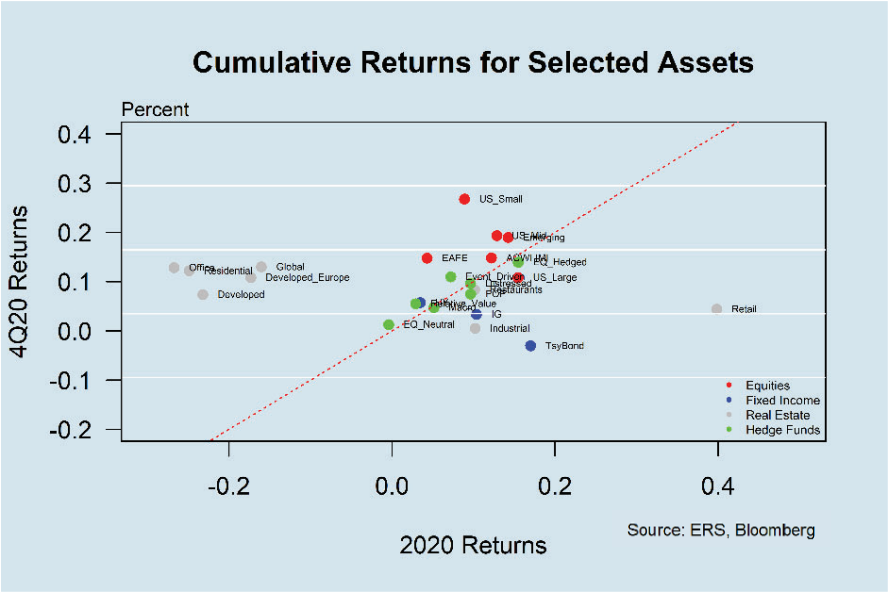




- Technology, Discretionary and Comm. Services Sectors delivered the best returns in 2020
- Risk-on environment saw 4Q20 post some of the strongest returns in recent times

Market Performance

Strong rebound during 4Q20



- Stocks of industries that had lagged throughout the year (i.e.: Office and Residential) posted their strongest returns in the year during 4Q.

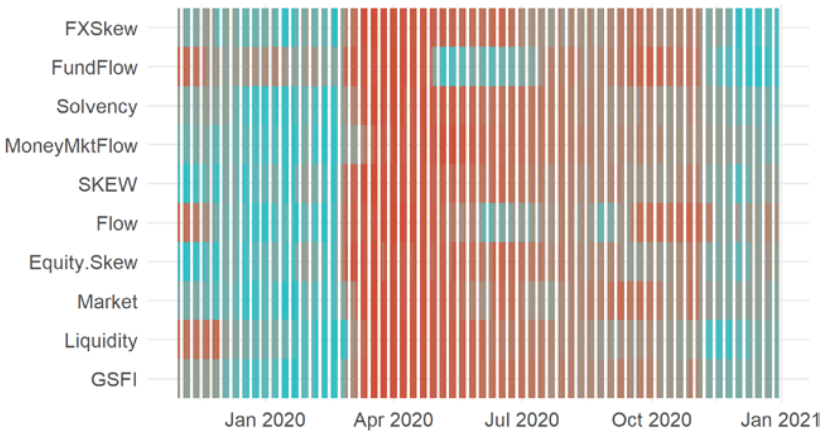
- Small Cap and International stocks did well during the quarter. A decrease in uncertainty regarding the state of the domestic economy and a decrease in uncertainty regarding the state of the domestic economy and a memorandum of understanding between the UK and EU helped to lift investor sentiment around the globe.

Market Stress

Global Stress Financial Indicator and Cross Asset Class Implied Risk

Heatmap of Global Stress Financial Indicators-GSFI

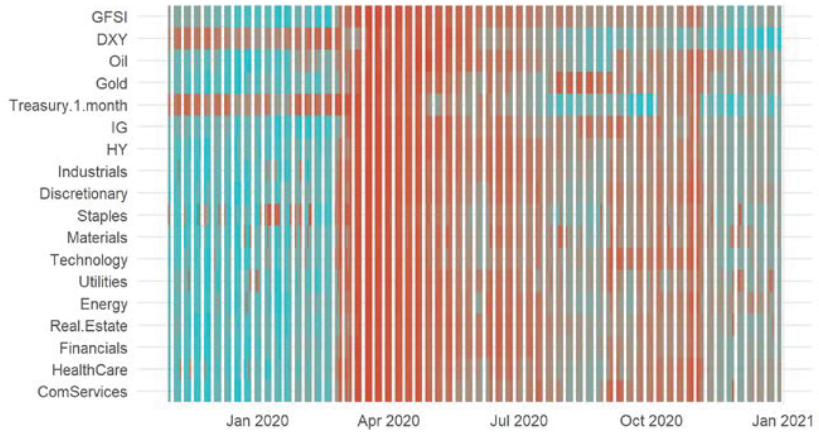
Over the preceding 12-month period ending December 2020.



Source: ERS, Bloomberg, Bank of America

Heatmap of Cross Asset Class Implied Risk

Over the preceding 12-month period ending December 2020.



Source: ERS, Bloomberg

- Stress Indicators subsided a great deal as market uncertainties receded during the quarter
- Fund flows came back fueling the risk-on environment

Market Performance

What drove the markets during the 4rd Quarter

Drivers

- Loose monetary policy
- US Elections
- Approval of COVID-19 Vaccines /Lockdown Policy
- UK-EU Brexit deal announcement
- $900Billion COVID-19 relief package
- Steepening of the yield curve
- Broadening of asset participation
- Risk levels

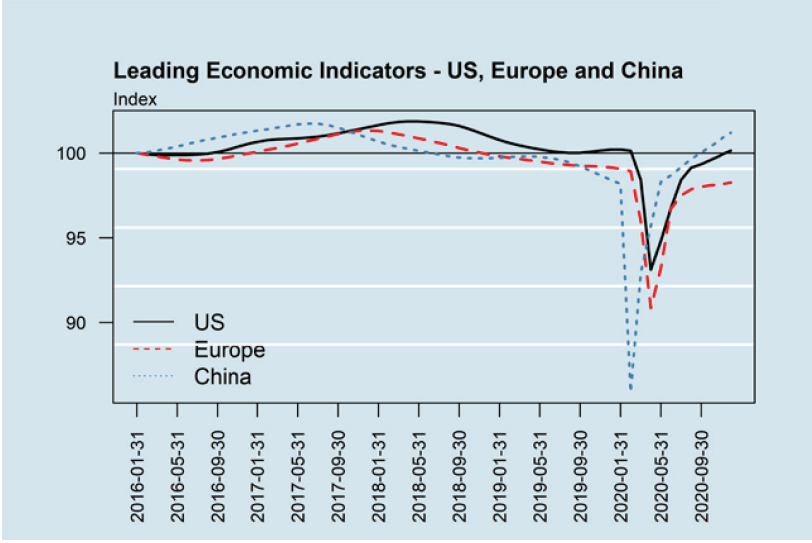
Economic Output

Global Economic Rebound and V-shape Recovery

Manufacturing PMI's around the World

	2019-12-31	2020-03-31	2020-06-30	2020-09-30	2020-12-31
Regions					
Global	50.10	47.30	47.90	52.40	53.80
Developed	49.10	45.90	46.40	52.20	54.80
Emerging	51.00	49.10	49.60	52.80	52.80
America					
USA	47.80	49.10	52.60	55.40	60.70
Canada	50.40	46.10	47.80	56.00	57.90
Mexico	47.10	47.90	38.60	42.10	42.40
Europe					
Europe	46.30	44.50	47.40	53.70	55.20
Germany	43.70	45.40	45.20	56.40	58.30
UK	47.50	47.80	50.10	54.10	57.50
France	50.40	43.20	52.30	51.20	51.10
Italy	46.20	40.30	47.50	53.20	52.80
Spain	47.40	45.70	49.00	50.80	51.00
Asia					
China	50.20	52.00	50.90	51.50	51.90
Japan	48.40	44.80	40.10	47.70	50.00

Source: ERS, Bloomberg

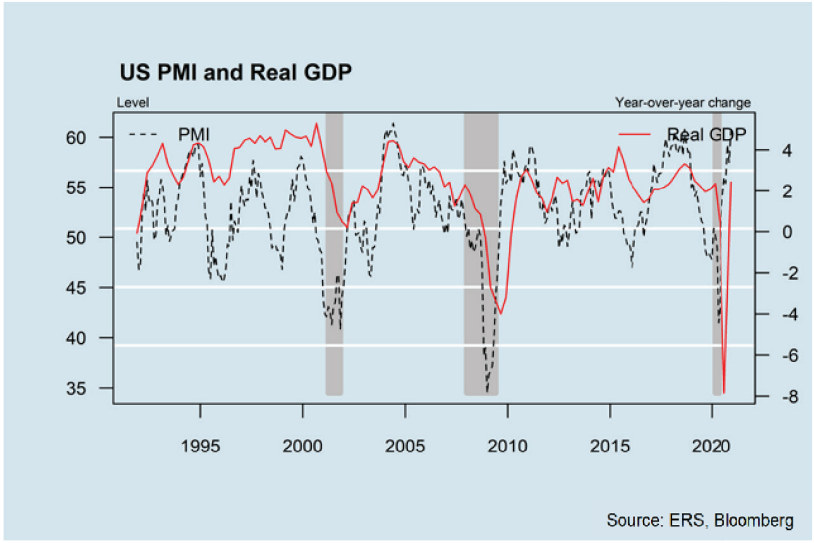


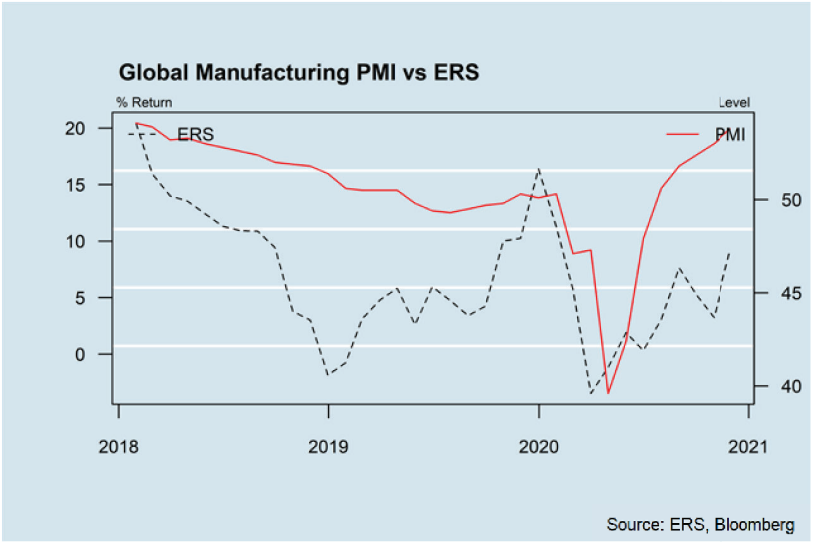
Source: ERS, Bloomberg

- Almost all markets monitored registered economic improvement since the beginning of the pandemic
- The leading economic indicators saw one of the fastest recoveries in modern history

Economic Output and Portfolio Returns

ERS plan returns tied to better economic outcomes

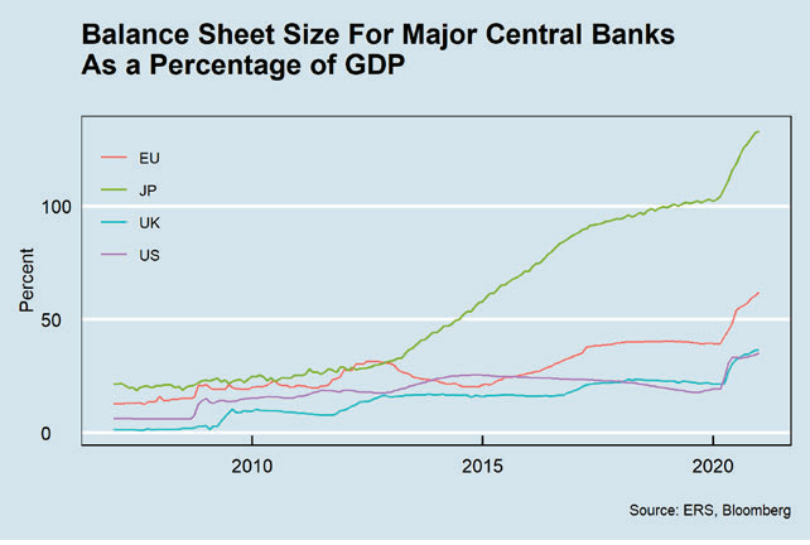


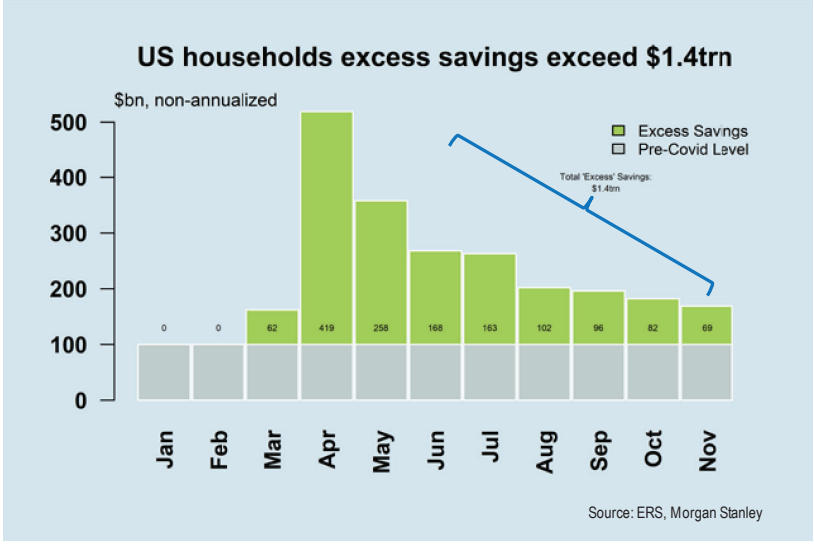


- Risk-on assets tend to do well when economic conditions improve

Risk Concerns

Large fiscal stimulus programs have led to a massive level of excess savings

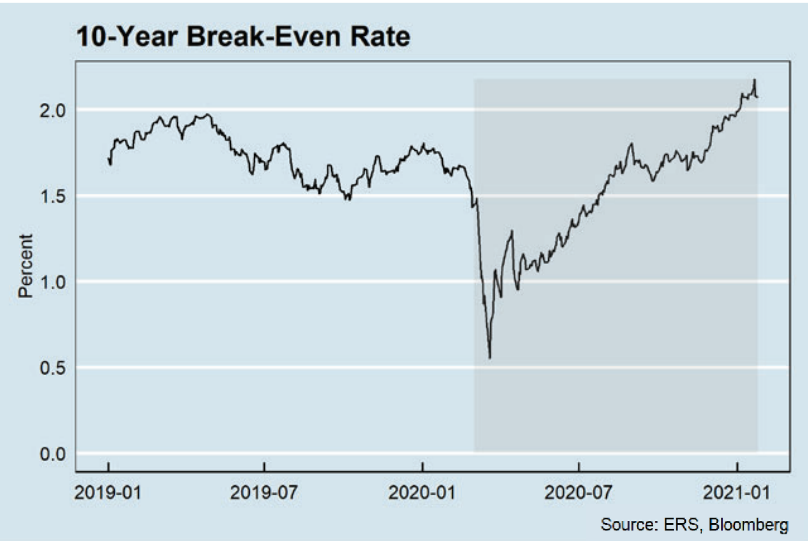


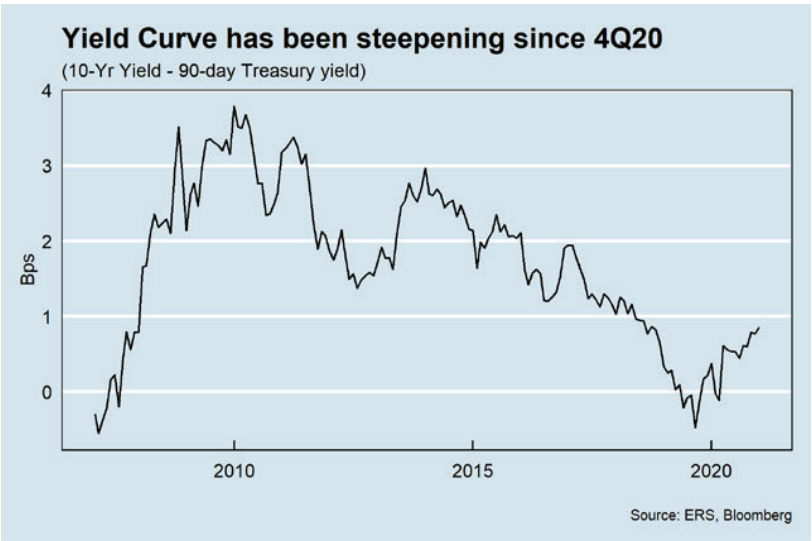


- The expectation to getting back to normal in an economy that is rebounding at a time when consumers have amassed an excess savings level exceeding $1.4trn may add to inflationary pressures in the future

Risk Concerns

Indicators have surged as a result of expectations for higher inflation ahead

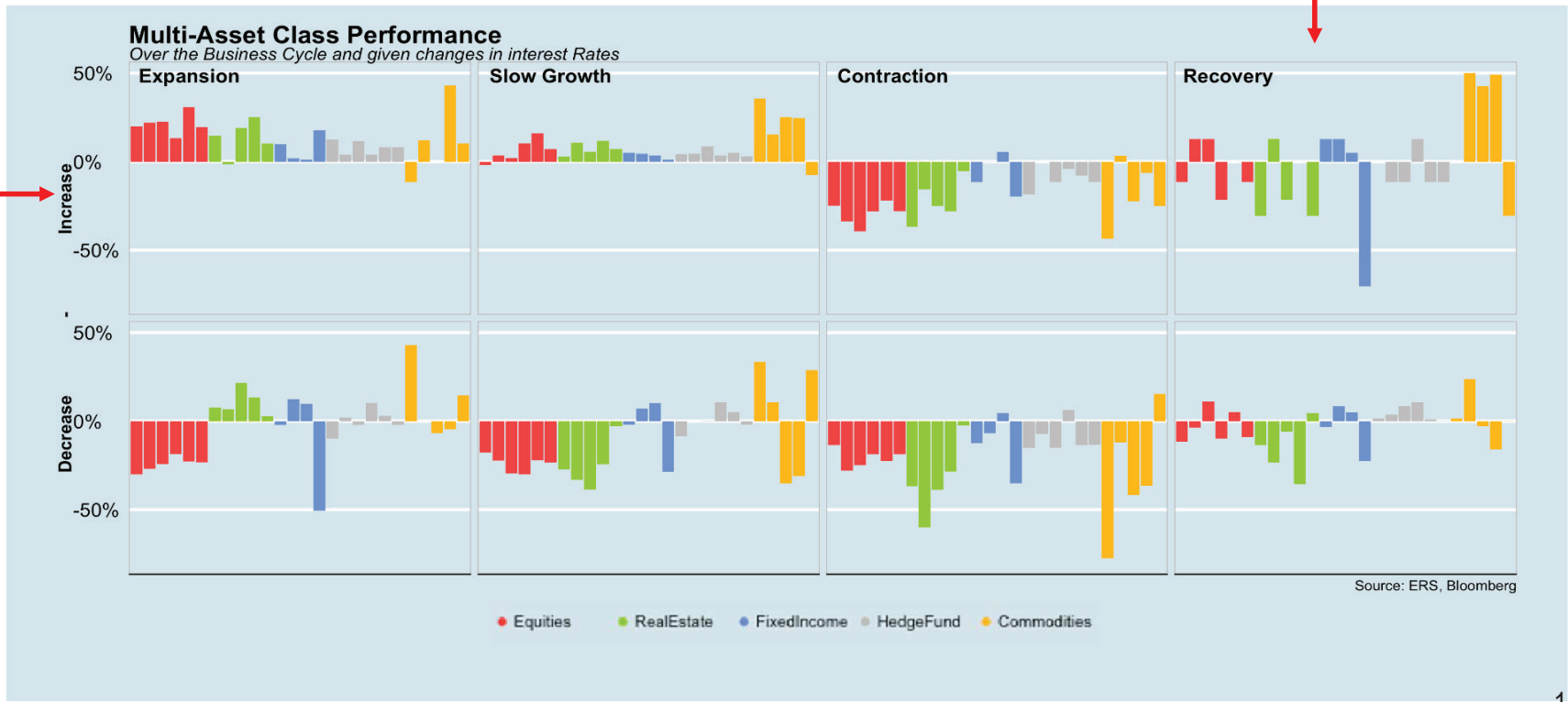




- Continued uptrend of the 10-year break-even rate can lead to a headwind in the repricing of financial assets
- Steepening of the yield curve due to better economic prospects or higher inflation

Risk Concerns

Gold, Copper and Base Metals perform the best during an economic recovery with rate increases



Risk Concerns

Challenges for 2021

- COVID-19 vaccine roll-out and new variants of the virus
- Macro economic backdrop that may lead to rising interest rate expectations and increased inflationary pressures
- Stretched levels of market valuation
- Executive and Legislative Agenda
- Sectors in the economy that may suffer from prolonged effects due to the pandemic
- High levels of correlation within risk-on and risk-off assets
- Increased likelihood for tail events

ERS

Questions?

Public Agenda Item #14

*Review, Discussion and Consideration of Real Estate – (Action)

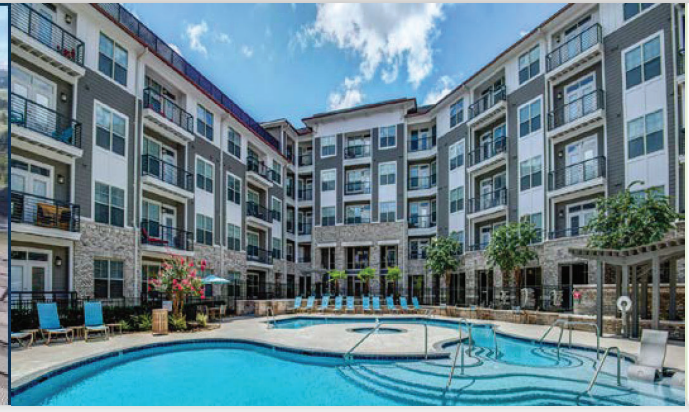
March 10, 2021

Robert Sessa, CFA, Director of Real Estate
Simon Mok, CFA, Real Estate Portfolio Manager

Public Agenda Item

Real Estate Market Update and Program Overview

Logistics Facility, South Korea, Brookfield



The Tribute Mid-Rise Multifamily, Raleigh, NC, Waterton

St. Louis Ambulatory Surgery Center, Hammes Partners

March 10, 2021

Robert Sessa, CFA, Director of Real Estate

Market Update & Program Overview

Agenda

- Real Estate Overview
- Staffing
- Listed Securities as of December 31, 2020
- Private Real Estate
- Pandemic Thoughts
- Accomplishments
- Initiatives

Grove Arcade, Asheville, NC, Northpond Partners

Market Update & Program Overview

Overview

Target Weights:

12% of Pension Fund

Current weight 10.7% or
$3.3 billion as of December 31

Private ($2.4 billion or 7.8% of Trust)	Global Listed Securities ($900 million or 2.9% of Trust)
Target Weight: (9%) by 2021	**Target Weight:** (3%) **Global Portfolio** > Domestic > International

Market Update & Program Overview

Staffing

Bob Sessa, CFA
Director of Real Estate

- 26 years work experience, 19 Real Estate
- BS from Fordham University and MBA from UT Austin

Annie Xiao, CFA
Portfolio Manager

- Covers Int'l Listed Securities
- 19 years work experience, 14 Real Estate
- BS from Zhengzhou University and MBA from Duke

Ken McDowell, CPA
Portfolio Manager

- Private Real Estate Focused
- 29 years work experience, 29 Real Estate
- BA and BS from Ohio State University

Amy Cureton
Portfolio Manager

- Private Real Estate Focused
- 17 years work experience, 12 Real Estate
- BA and MBA from UT Austin

Simon Mok, CPA, CFA
Portfolio Manager

- Private Real Estate Focused
- 21 years work experience, 18 Real Estate
- BA and MPA from UT Austin

Tony Cardona,
Portfolio Manager

- Public Real Estate Focused
- 11 years work experience, 6 Real Estate
- BS from Cornell University

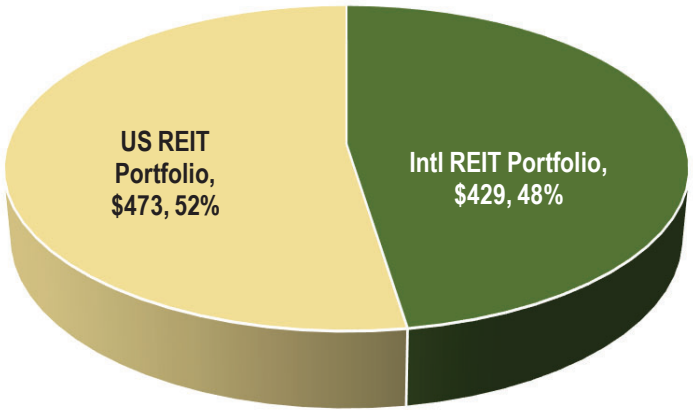
Sriyas Pande
Investment Analyst

- Supports Private and Public Real Estate PMs
- 5 years work experience, 4 Real Estate
- BA from Texas Christian University and MS from Baruch College

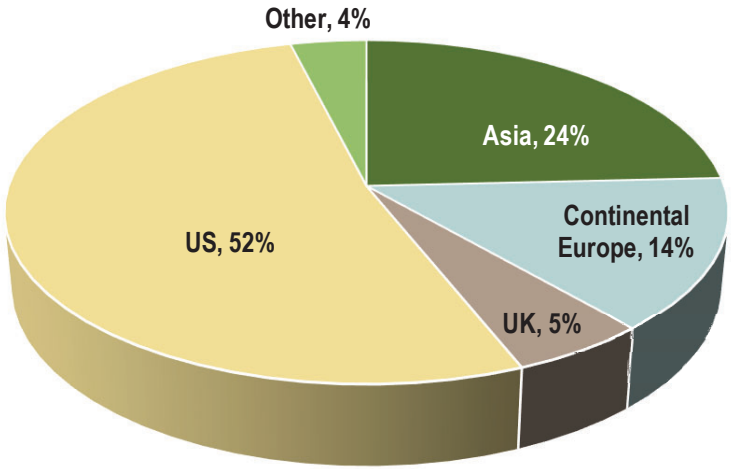
Market Update & Program Overview

Listed Securities as of December 31, 2020

Total Portfolio: $903 million



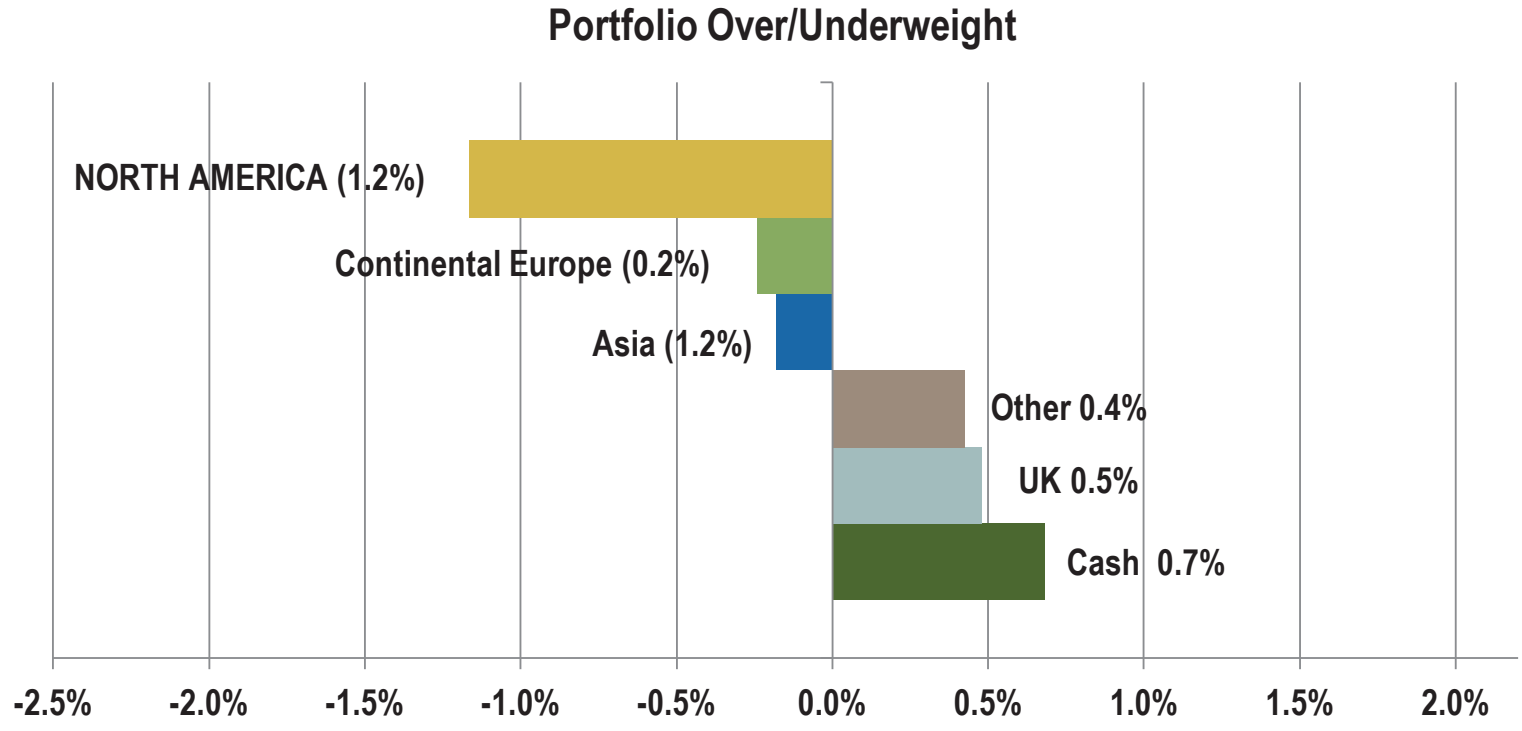
Total Portfolio - Geography



Note: Other includes Canada, Middle East and Cash

Market Update & Program Overview

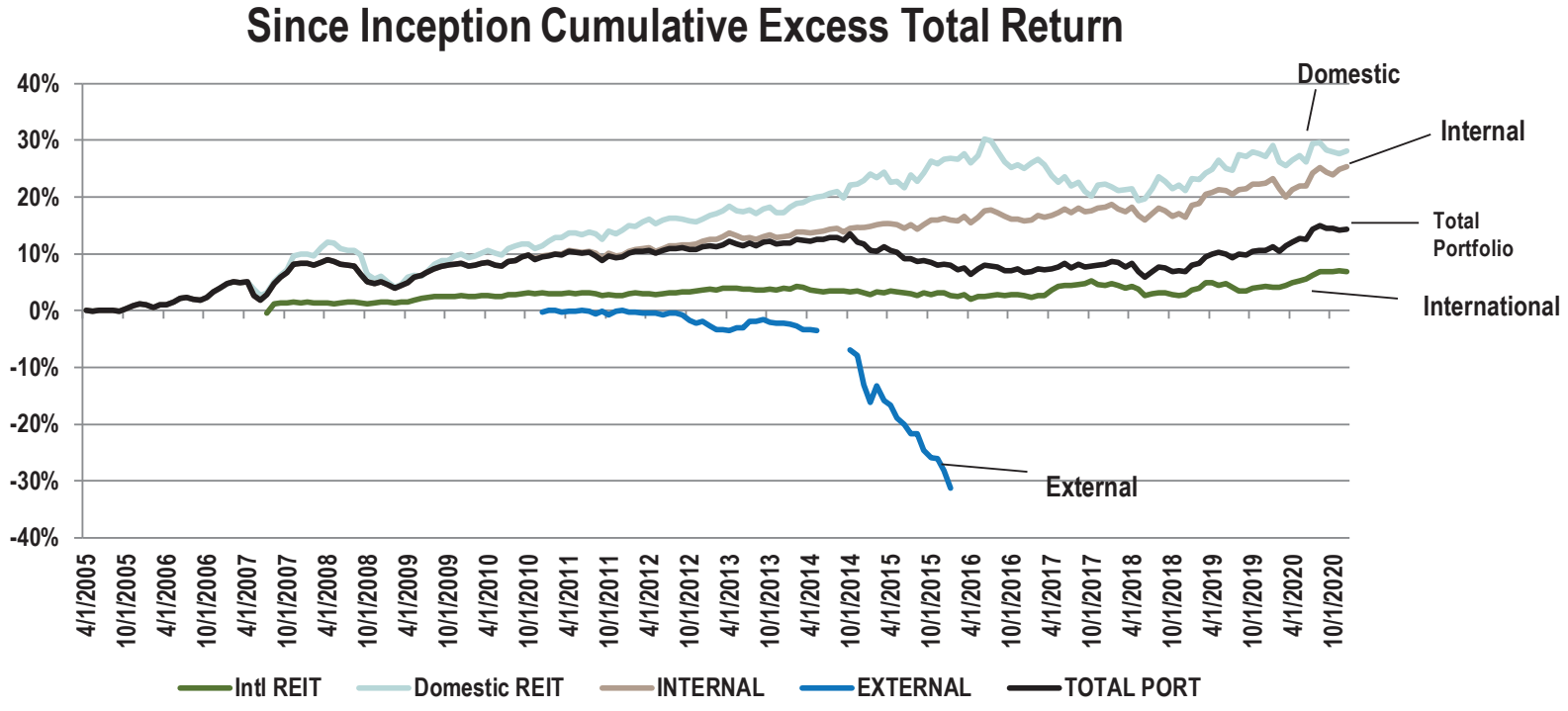
Listed Securities as of December 31, 2020



** Benchmark is FTSE EPRA/NAREIT Developed Index*

Market Update & Program Overview

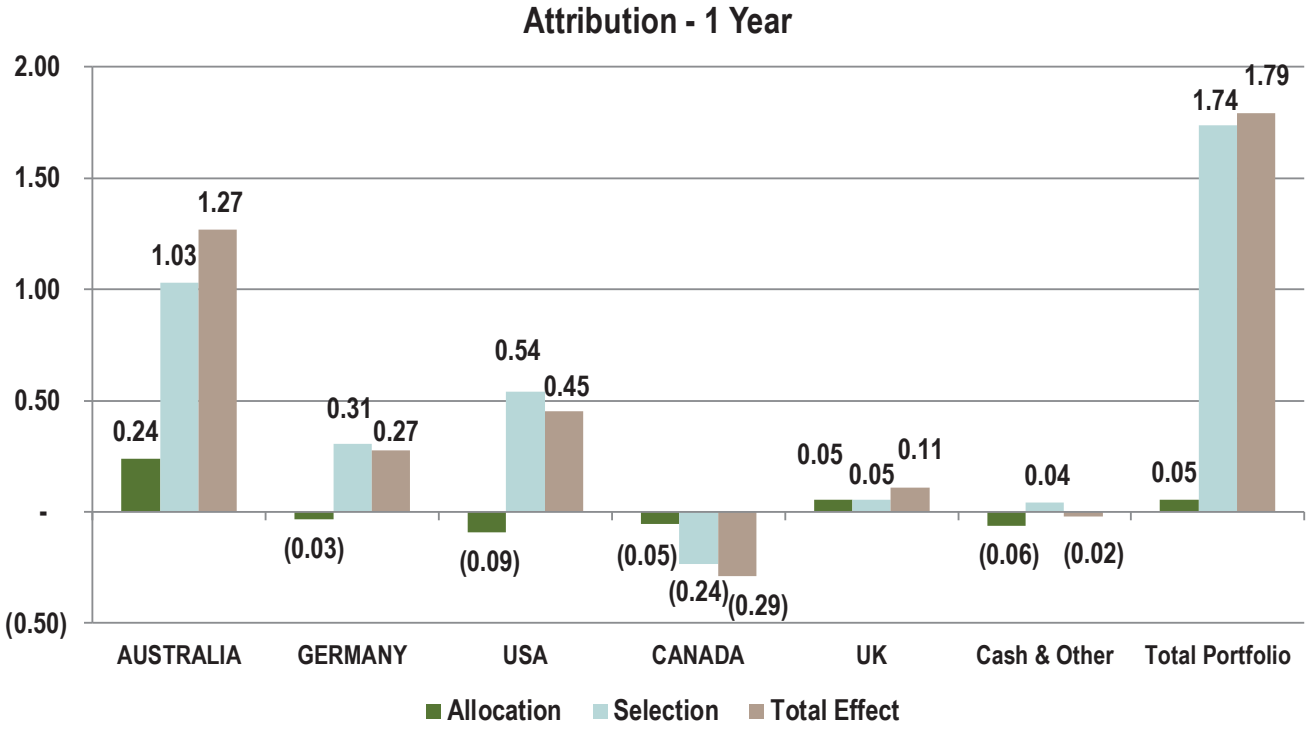
Excess Total Return as of December 31, 2020



** Benchmark is FTSE EPRA/NAREIT Developed Index*

Market Update & Program Overview

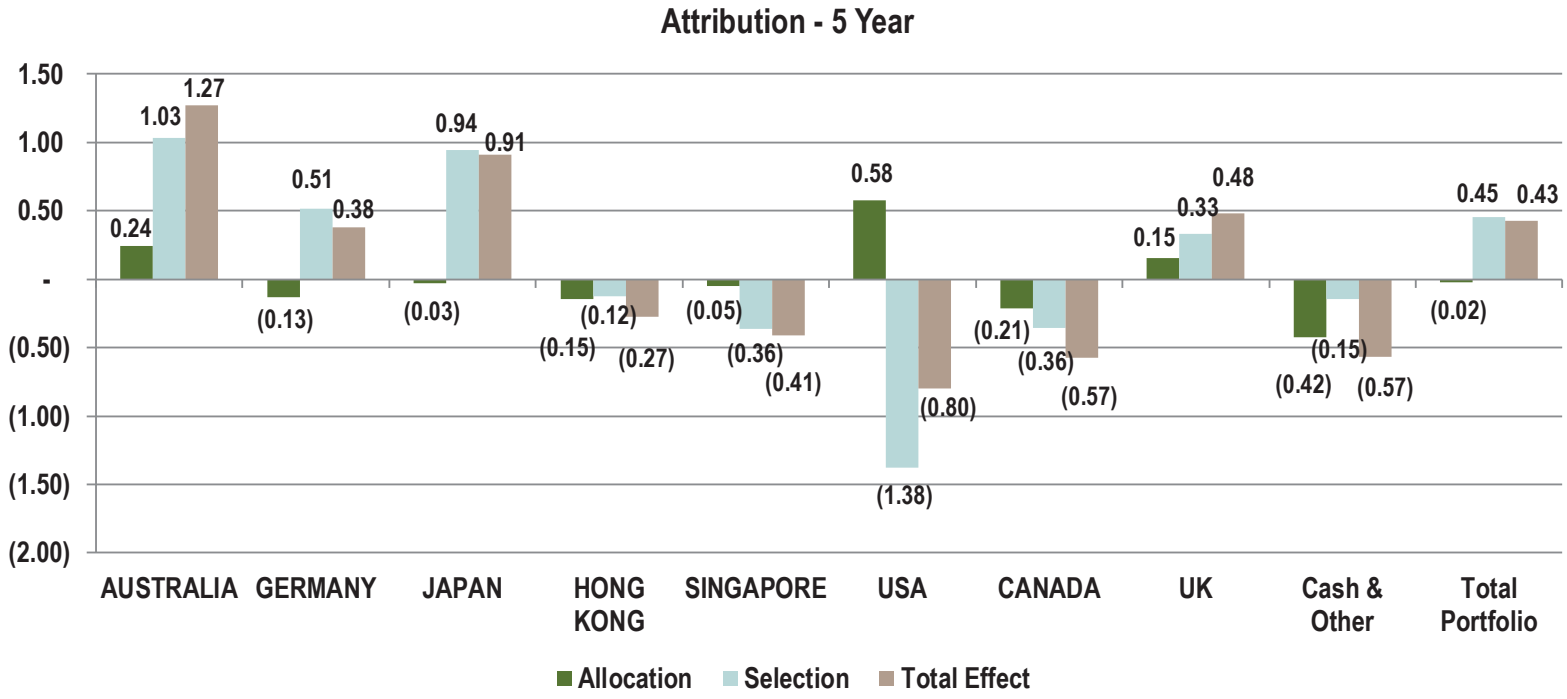
Attribution as of December 31, 2020 – One Year



** Benchmark is FTSE EPRA/NAREIT Developed Index*

Market Update & Program Overview

Attribution as of December 31, 2020 – Five Years



Note: Internal portfolios only

** Benchmark is FTSE EPRA/NAREIT Developed Index*

Market Update & Program Overview

Private Real Estate as of December 31, 2020

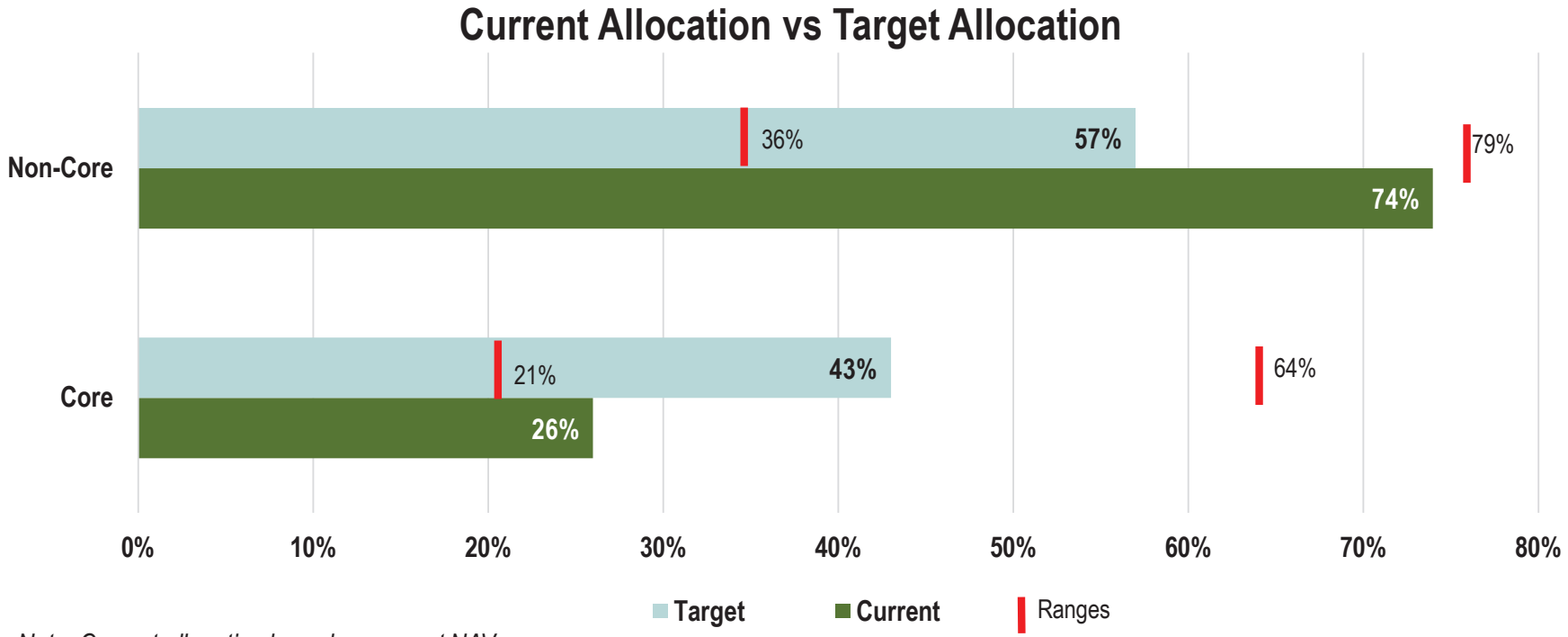
ERS

- **PORTFOLIO NET ASSET VALUE**: $2.4 billion
- **INVESTMENT TYPE**: Equity 92%; Debt 8%
- **OVERALL LOAN TO VALUE RATIO**: 52%
- **COMMITMENTS**:
  - Total Portfolio (since inception) $5.3 billion with 83 Investments (73 active deals) and 38 managers
  - FY 2021 Committed $175 million to 3 deals
- **PROGRAM AVERAGE ECONOMICS:**
  - Management Fee: 110 bps
  - Carry: 16.70%

- **CAPITAL CALLED**:
  - Since Inception ≈ $4.1 billion
  - FY 2021 $143 million
- **DISTRIBUTIONS**:
  - Since Inception ≈ $3.1 billion
  - FY 2021 $150 Million

Market Update & Program Overview

Asset Allocation vs. Target as of December 31, 2020



Note: Current allocation based on current NAV

Non-Core Target Weight – 57%; Range 36% - 79%

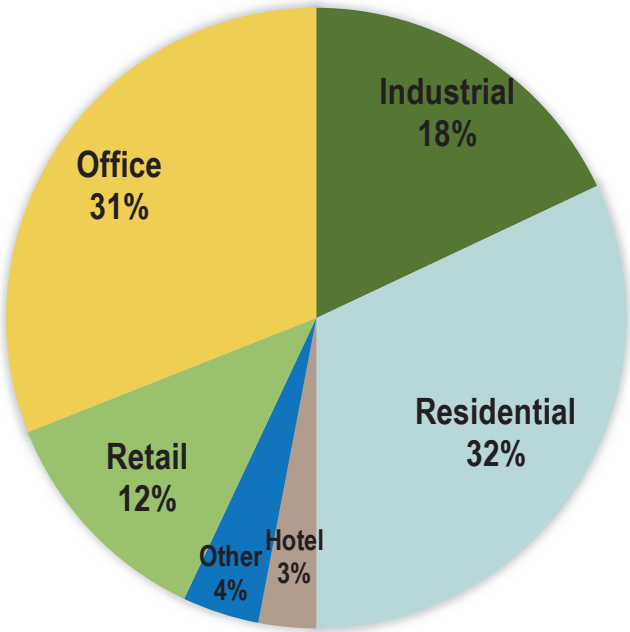
Core Target Weight – 43%; Range 21% - 64%

Market Update & Program Overview

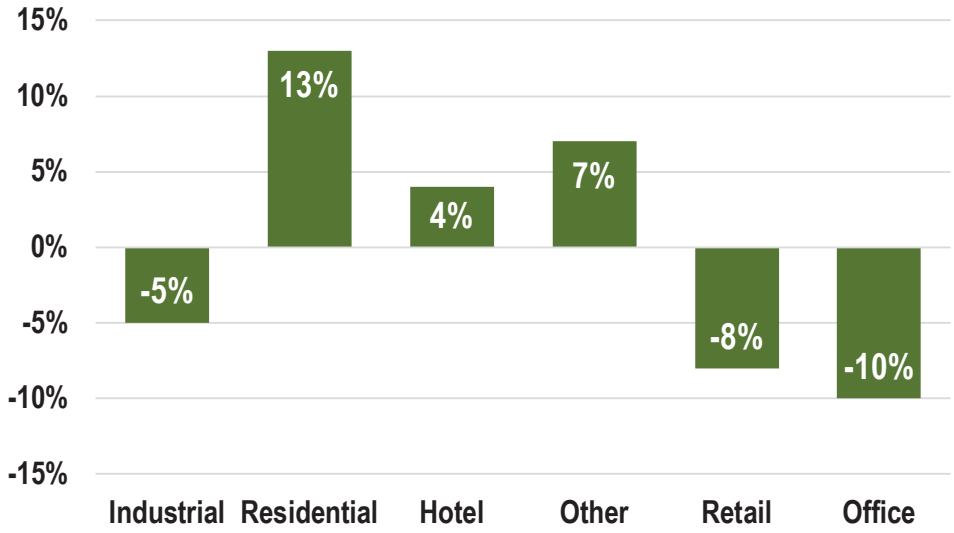
Property Type Weights as of September 30, 2020

ERS

ERS Portfolio by Property Type Based on ERS' NAV, Global



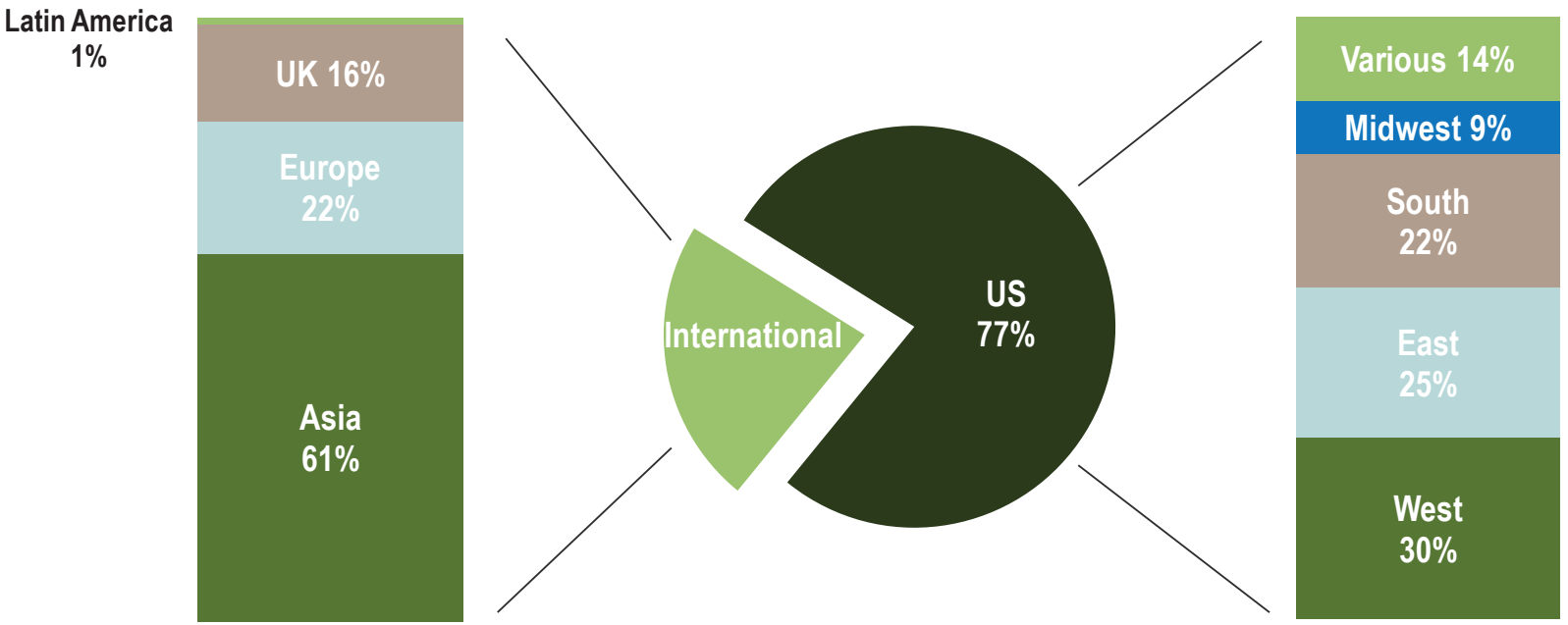
ERS Portfolio Compared to NCREIF Property Index Benchmark, US Only



Note: Residential includes niche segments (e.g. Student Housing, Senior Housing and Manufactured Housing, etc.) and Office includes Life Science and Medical Office. Other includes portfolios of assets, Self Storage, Data Centers, and Proptech.

Market Update & Program Overview

Geographic Weights Based on ERS' NAV as of Sept. 30, 2020

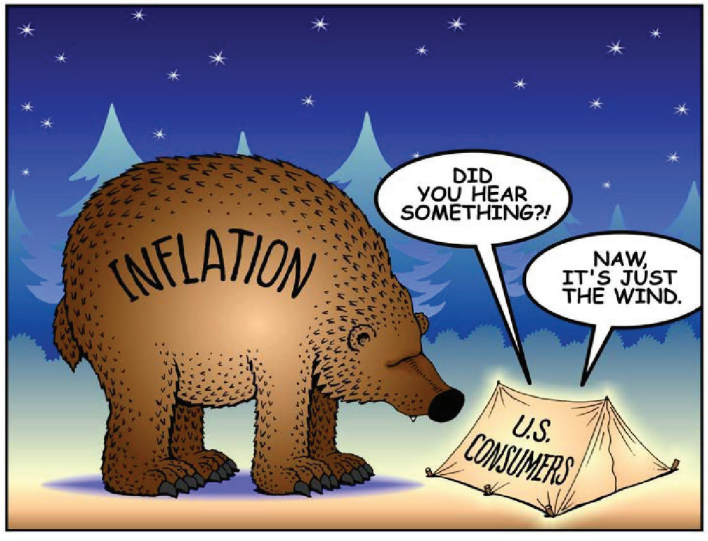


Pandemic Thoughts

Impact on Real Estate

ERS

- Hotels and Retail bore the brunt but rental collections are increasing
- Work, Live, Travel differently post Covid-19??
- Acceleration of existing trends
  - eCommerce (especially grocery sales)
  - Supply chain reconfiguration
  - Cloud computing adoption
  - Exodus from Coastal cities
- Government Intervention in Real Estate
- Global Monetary and Fiscal Response
  - Short and Long Term Impacts
  - Inflationary ??



Market Update & Program Overview

FY21 Accomplishments

- Internal REIT portfolios have outperformed the benchmark for the 1,3,5 years and since inception periods
- Private Real Estate Portfolio has outperformed the benchmark since inception
- Managed to continue to underwrite new deals and monitor the portfolio remotely
- Negotiated an estimated $150 million in savings since inception plus non-economic terms to improve corporate governance
- Hired a new analyst
- In compliance with the Real Estate Guidelines

Market Update & Program Overview

FY22 Initiatives

- Continue to commit new capital to Private Real Estate on a selective basis
- Understand the Post Covid-19 environment and analyze repositioning the private real estate portfolio
- Targeting $350 million in commitments with a range of $300 million to $700 million and 3 to 8 new commitments
- Continue to improve upon the REIT investment process and performance

Questions?

ERS

Review, Discussion and Consideration of Amended Real Estate Annual Tactical Plan For Fiscal Year 2021– (Action)

March 10, 2021

Robert Sessa, CFA, Director of Real Estate

Proposed FY21 Amended Tactical Plan

Overview

- Original FY21 Tactical Plan completed in late March/early April 2020 at depths of market sell off
- Weighting of Private Real Estate at that time was 8.9% (target allocation is 9%)
- In hindsight, the tactical plan was too conservative
- Weighting of Private Real Estate as of December 31, 2020 is 7.8%

Proposed FY 2021 Amended Tactical Plan

Fiscal Year 2021

	FY21 Tactical Plan - Original		FY21 Tactical Plan – Proposed Amended	
Category	**Number of new Investments**	**New Commitment in millions (range)**	**Number of New Commitments**	**Commitment Amount in millions**
Core	0 – 2	$150 ($0 -$300)	2 – 4	$250 ($200-$400)
Non-Core	3 – 6	$150 ($0 - $300)	4 – 6	$250 ($200-$400)
Total	3 – 8	$300 ($200 - $600)	6 - 10	$500 ($400-$800)

ERS

Questions?

Action Item

Review, Discussion and Consideration of Proposed Real Estate Annual Tactical Plan for Fiscal Year 2022– (Action)

March 10, 2021

Robert Sessa, CFA, Director of Real Estate
Simon Mok, CFA, CPA, Portfolio Manager

Proposed FY22 Tactical Plan

Overview

- Private Real Estate Annual Tactical Plan is a guideline for investing
- Current value of Private Real Estate is $2.4 billion
- Currently at 7.8% of the total ERS portfolio (target allocation is 9%)
- Commitments will target $350 million for FY22, with a range of $300 million to $700 million
- $50 million - $100 million commitment sizes, but may be smaller or larger for niche or special situations

Proposed FY22 Tactical Plan

Fiscal Year 2021 in Review

FY21 Tactical Plan (Amended) [A]			FY21 Actual (as of December 31, 2020)	
Category	**Number of new Investments**	**New Commitment in millions (range)**	**Number of New Commitments**	**Commitment Amount in millions**
Core	2 – 4	$ 250 ($200 -$400)	0	$ 0
Non-Core	4 – 6	$ 250 ($200 - $400)	3	$175
Total	6 – 10	$ 500 ($400 - $800)	3	$175

[A] – This assumes the FY21 Amended Tactical Plan is approved. Original targets were $300 million in total with $150 million targets each for core and non-core.

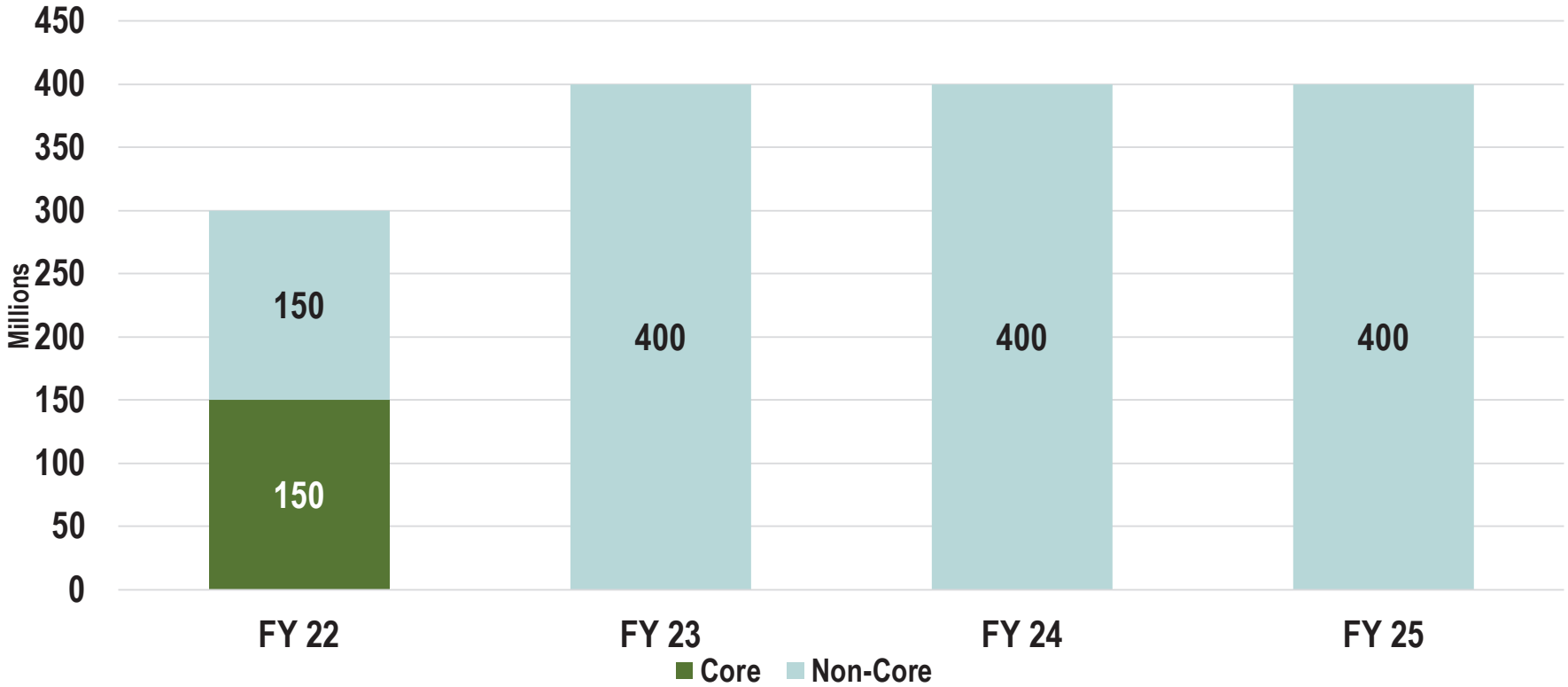
Proposed FY22 Tactical Plan

ERS

FY22 Proposed Tactical Plan		
Category	**Number of new Investments**	**New Commitment in millions (range)**
Core	2 – 3	$175 ($0 -$350)
Non-Core	3 – 6	$175 ($0 - $350)
Total	**3 – 8**	**$350 ($300 - $700)**

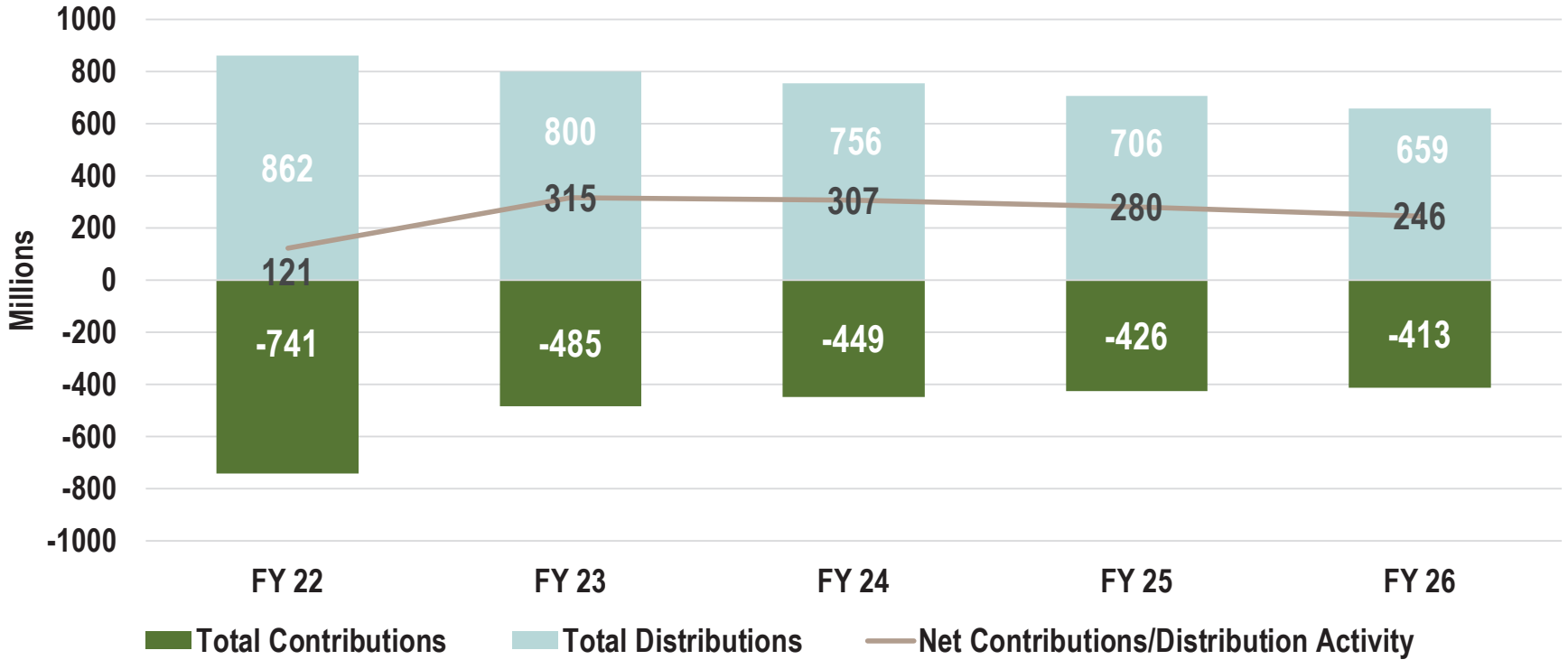
Proposed FY22 Tactical Plan

Targeted New Commitments Through Fiscal Year 2025



Proposed FY22 Tactical Plan

Projected Cash Flows Through FY2025



Proposed FY22 Tactical Plan

Near Term Strategy

ERS

- Understand post pandemic world and potential opportunities
- Build relationships of scale with strong partners and small groups of investors
- Niche type funds or other strategies that will diversify the existing portfolio (life science, self-storage, manufactured housing and debt funds)
- Co-Investments and separate accounts to leverage strategic partnerships
- Explore long term holds for select investments, including core
- Selective international investments – Asia and possibly the UK

Questions?

Action Item

Public Agenda Item #15

** Opportunistic Credit Program - Market Update and Consideration of Proposed Opportunistic Credit Annual Tactical Plan for Fiscal Year 2022 – (Action)*

March 10, 2021

Panayiotis Lambropoulos, CFA, FRM, CAIA, Hedge Funds Portfolio Manager
Nicholas Maffeo, CAIA, Hedge Funds Portfolio Manager
Dr. John Claisse, Tom Cawkwell, James Kokoza; Albourne Partners

Opportunistic Credit Program

Portfolio Objectives

- Capture opportunities that do not fit naturally within other more traditional asset classes.
- Opportunities may exist due to structural issues (i.e. banks not lending, Basel III, etc.) or market dislocations (i.e. COVID-19 pandemic).
- Capitalize on various forms of “illiquidity premium”, and maneuver across the spectrum of private credit strategies and sub-strategies such as distressed, private lending, structured product, and real asset or esoteric.
- Primary focus will be on yield-seeking, credit-oriented investments; although the portfolio may capitalize on dislocations in distressed should an attractive opportunity set present itself. Total trust allocation target is 3% (when fully allocated).

Opportunistic Credit Program

Portfolio Description

- A flexible mandate that gives ERS the ability to identify unique and niche opportunities across the credit spectrum.
- A differentiated approach that allows ERS to generate unique sources of return within the credit markets.
- A portfolio that includes a diverse spectrum of strategies, which can span across traditional asset classes such as income producing, asset backed, and distressed.
- Access to private opportunities, which can potentially be more attractive relative to public markets given the current credit cycle (i.e. distressed or stressed).

Opportunistic Credit Program

Investment Approach

- Non-traditional portfolio construction mandate;
  - Only compelling opportunities relative to current Trust credit allocations will be considered.
- No minimum exposure ranges, and thus not forced to allocate capital;
  - This allows ERS to invest in an opportunistic fashion.
- Mandate that is flexible and primarily structured through private market investment vehicles;
  - This offers an opportunity for solution-based structures and funds.
- Preference for committed capital structures where capital will be drawn over a specified period of time.
- Certain strategies may also provide consistent cash distributions throughout the life of the investment, effectively de-risking ERS' initial allocation.

Current Asset Allocation

Opportunistic Credit: Allocation within the Trust

Asset Class	Final	Credit Investments	Main Focus - Public/Private
Global Equity	37.0%	n/a	Public
Private Equity	13.0%	Yes	Private
Global Credit	11.0%	Yes	Public
Real Estate	12.0%	Limited	Private
Infrastructure	7.0%	Limited	Private
Opportunistic Credit	**3.0%**	**Yes**	**Private**
Total Return-Seeking Assets	83.0%		
Rates	11.0%	Yes	Public
Absolute Return	5.0%	Yes	Both
Cash	1.0%	n/a	
Total Risk-Reducing Assets	17.0%		

Opportunistic Credit Program

Investment Focus

Return Profile

- On an aggregate basis, will target portfolio time-weighted returns of at least 6.5% (net)

J-Curve Mitigation

- Management fees generally paid on invested capital
- Periodic cash distributions

Downside Risk Protection Options

- Self liquidating
- Senior Secured
- Emphasis on strategies with consistent cash flows
- Deals with both covenants and collateral

Opportunistic Credit Program

Investment Strategies & Targeted Ranges

Strategy Class	Target Range	
Distressed/Stressed	0%	40%
Private Lending	0%	75%
Structured Product	0%	25%
Real Asset & Esoteric Credit	0%	25%
Geography	**Target Range**	
North America	50%	100%
Europe	0%	50%
Asia/Rest of World	0%	25%

Opportunistic Credit Program

COVID-19: *Impact on Due Diligence*

- The COVID-19 pandemic negatively affected the prior deployment schedule. ERS staff has been working from home since March 2020.
- ERS staff has maintained a rigorous approach to sourcing. Over 150 calls with opportunistic/private credit managers have been held since March 2020.
- Due to the uncertainty of the timing of a resolution to the pandemic, ERS staff:
  - Explored opportunities with existing Trust relationships.
  - Explored immediate pandemic-related opportunities.
- Looking ahead, ERS staff has adjusted its due diligence process to allow for investment considerations and to account for current due diligence limitations.

Opportunistic Credit Program

COVID-19: Opportunities

- Despite the rapid recovery in the markets since the March lows, many themes and potential opportunities remain within:
  - Stress/distressed: Restructurings, Rescue Finance (company specific)
  - Asset-based: Aviation, Rail, Land, Real Estate, Infrastructure
  - Technology/HC: 5G, Infrastructure (Data centers/Cell towers), Royalties
  - Consumer/Financials: Specialty Finance, Bank Risk Sharing

Opportunistic Credit Program

Expectations for Initial Focus

- Core-Satellite approach to portfolio construction

- Multi-Strategy/Multi-Asset Manager
  - Serves as a core position within the portfolio
  - Tactical flexibility to invest across different credit strategies
  - Could include a commingled or a “fund-of-one” fund structure

- Niche Strategy
  - Serves as a satellite (smaller) position within the portfolio
  - May be due to a market dislocation or to a manager’s investment focus and process

Opportunistic Credit Program

Expectations for Initial Multi-Strategy Allocation

Strategy Class	Target Range	
Distressed/Stressed	0%	25%
Private Lending	50%	70%
Structured Product	0%	10%
Real Asset & Esoteric Credit	0%	25%
Geography	**Target Range**	
North America	70%	100%
Europe	10%	30%
Rest of World	0%	10%

Opportunistic Credit Program

Summary

- Underlying structures will be illiquid while underlying investments will mostly be illiquid.
- Primary focus will be on cash flows (yield) with a secondary focus on price appreciation.
- Investments may provide equity “kickers” or have characteristics that resemble equity holdings.
- Will complement existing asset class exposures and will not act as an overflow vehicle.
- Ideas can be sourced from all ERS investment teams.

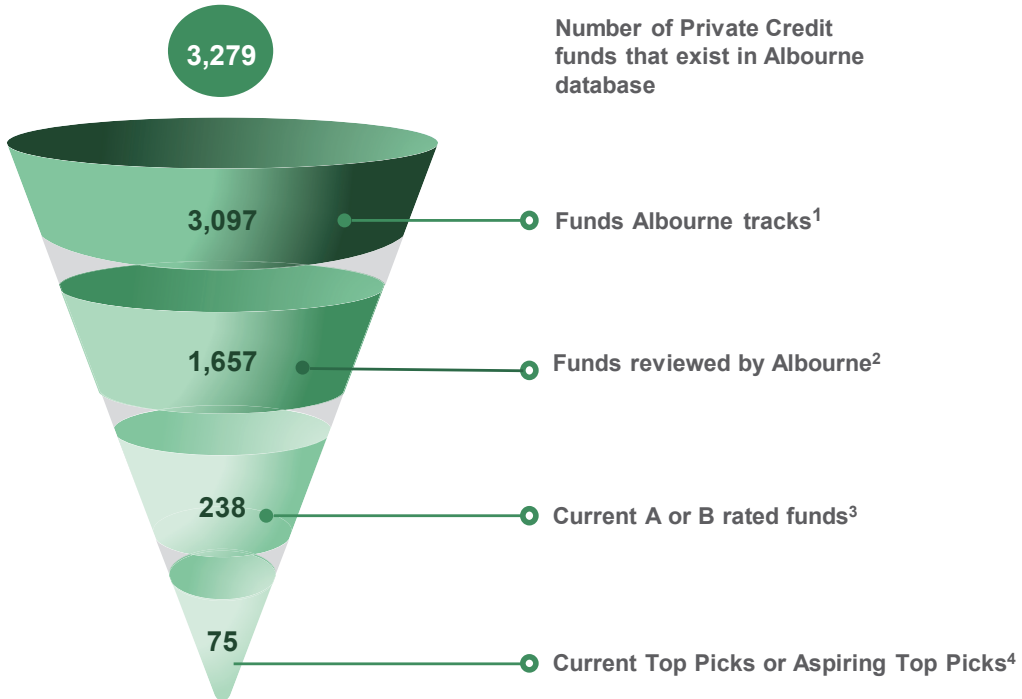
TX ERS Opportunistic Credit Update

March 10, 2021

ALBOURNE

Albourne Coverage

Albourne Private Credit Fund Selectivity

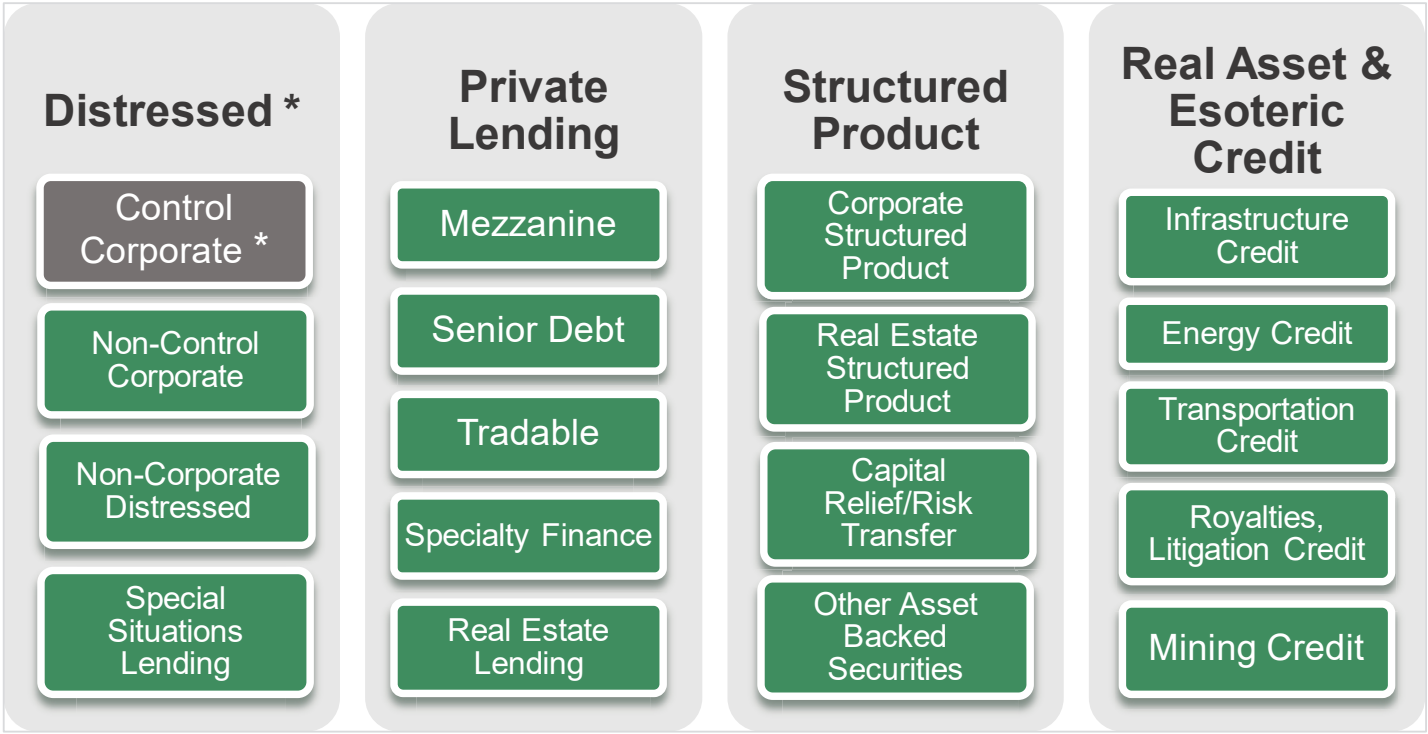


1. Funds for which Albourne has current target fund size/strategy/Form ADV data
2. Funds where Albourne has had a call or meeting with a manager and/or rated the next or current fund of the manager
3. Funds where the next or current fund in the market has a rating of A or B
4. Current Top Picks are funds recommended to clients which are Rated A or B with a conviction level of 4 or 5. Aspiring Top Picks are funds recommended to clients which have not met the criteria to be considered Top Picks

Figures as of Jan 14, 2021

Opportunistic Credit Guidelines

Albourne's Opportunistic Credit Taxonomy



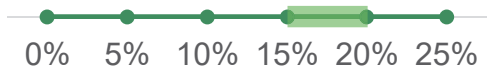
*Distressed can be separated between Illiquid Credit and Private Equity.

Distressed

Borrower	Mid to large cap corporations, predominately sponsor-backed. Usually secondary markets
Leverage	5-7x EV/EBITDA company creation (the entry value of the company is contingent on the discount to par value of the debt)
Protection	Usually the fulcrum security with equity value as cushion
Return Drivers	Dislocations in markets, cyclical sectors (i.e. O&G, shipping), stressed sellers (i.e. bank regulatory requirements)

Typical Duration of Investment (Years)

Targeted Net Returns (%)



Typical Fees

Management Fee:	Carry:
1.25%-1.75%	20%

Investment Structure

	Open Ended	Closed Ended
Commingled	◔	◕
Managed	◔	○

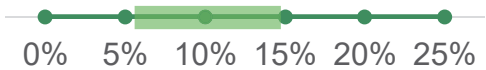
For illustrative purposes only

Private Lending

Borrower	70-90%+ are large cap sponsor backed corporations or real estate projects, small percent are sponsorless. Club deals and syndications
Leverage	Corporate Leverage: 4-7x Debt/EBITDA
Protection	1st liens secured to unsecured with incurrence-based covenants
Return Drivers	Amount of dry powder, leveraged loans and high yield markets, LBO dry powder & M&A activity, competition from banks, credit spreads

Typical Duration of Investment (Years)

Targeted Net Returns (%)



Typical Fees

Management Fee: 0.85%-1.5%	Carry: 10%-20%

Investment Structure

	Open Ended	Closed Ended
Commingled	◔	◑
Managed	◔	○

For illustrative purposes only

Structured Product

Borrower

Trusts with loans backed by residential and commercial real estate and other assets and credit of consumers, SMEs*, and large corporates. Bilateral synthetic trades with banks' loan portfolio as reference assets

Leverage

Corporate Leverage: 4-7x Debt/EBITDA

Asset-level leverage: 60-80%

Protection

At the collateral level, Loan to Value cushion for asset backed, equity cushion for corporates, while consumer assets are unsecured. At the trust level, credit enhancement for mezzanine and senior tranches.

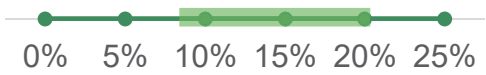
Return Drivers

Cashflows from loans, active collateral management, events such as refinancing and restructuring, and recovery in case of distressed credit. Premiums received for writing protection on pool of assets.

* Small & Medium Sized Enterprises.

Typical Duration of Investment (Years)

Targeted Net Returns (%)



Typical Fees

Management Fee: 1.5%	Carry: 15%-20%

Investment Structure

	Open Ended	Closed Ended
Commingled	◔	◔
Managed	◔	○

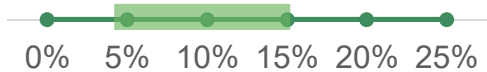
For illustrative purposes only

Real Asset and Other Credit

Borrower	Project finance loans to infrastructure projects or corporate loans to infrastructure companies. Aviation finance typically approached as a sale-leaseback strategy with carrier. Mine finance loans to public junior mining companies
Leverage	Up to 85% Loan to Value on core operating infrastructure with locked in cash flows. Depending on the stage of development, loans to mining companies may equate to 20-75% Loan to Value
Protection	1st or 2nd lien, typically with strong investor protections including cash flow covenants, restrictions on business activities, contractor controls. Aviation follows a typical lease arrangement
Return Drivers	Banks and insurance companies retrenching from the sub-investment grade infrastructure lending space, also complexity and illiquidity premium. In the case of Aviation, attractive financing strategy for carriers

Typical Duration of Investment (Years)

Targeted Net Returns (%)



Typical Fees

Management Fee:	Carry:
Infra: 75 bps-1.25%	Infra: 10%-15%
Aviation: 2%	Aviation: 20%
Mining: 1.5%-2%	Mining: 17.5%-20%

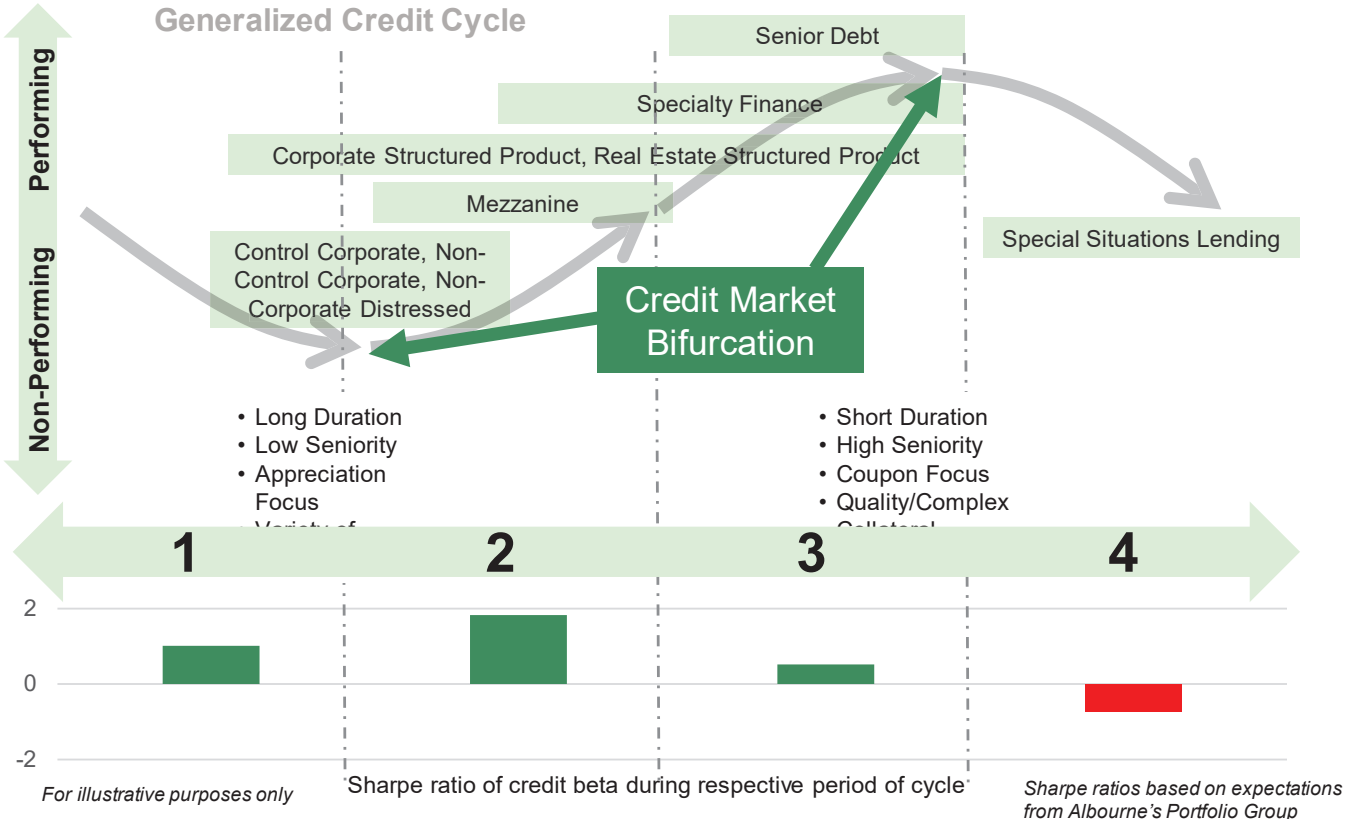
Investment Structure

	Open Ended	Closed Ended
Commingled	○	●
Managed	○	○

For illustrative purposes only

Strategy Outlook

Strategies and the Economic Cycle



Credit Market Observations

1) Improved Valuations and Conditions

• Credit valuations have recovered significantly from the depths of the COVID-19-related sell-off earlier in 2020.

• Liquidity conditions have improved materially helping to alleviate price stress.

• Restructuring activity has been constrained to a more modest level than was previously anticipated due to improved liquidity conditions.

2) Corresponding Reduction of Risk

• With the recovery in valuations and liquidity conditions, the level of systematic risk has also moderated.

• Central bank rate policy and bond purchases have served to allay default risk.

Credit Market Observations

3) Asian Opportunity

• Asian credit markets continue to offer the most compelling opportunities, across both Lending and Distressed.

• Private lending deal flow, across the middle market, real estate, acquisition financings, and "solution financings" (for family-owned groups) seems ample. Further, with competition to provide financings deemed low, private lenders are seen to be in strong position with regard to deal pricing and structuring.

• In Distressed, default rates have picked up and are expected to rise further due to the impact of COVID-19.

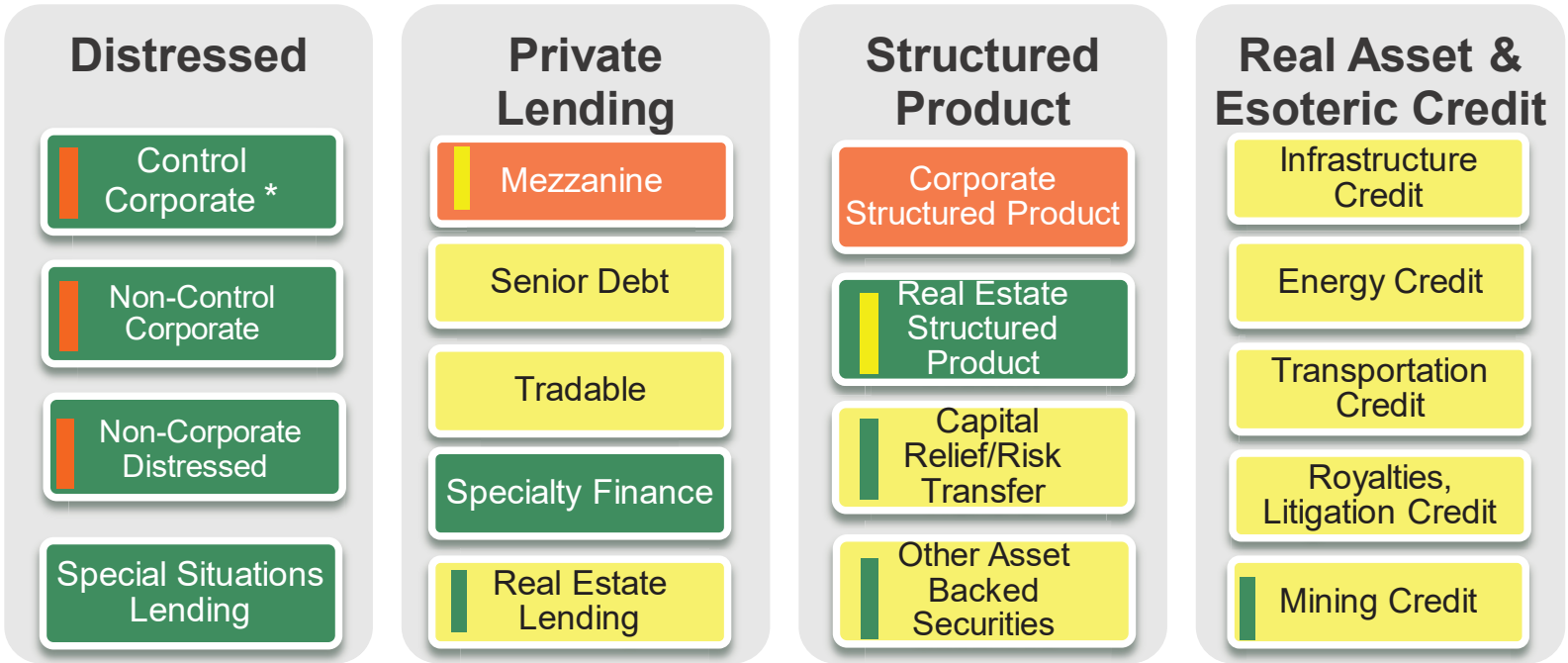
4) North American and European Opportunity

• In contrast to Asia, European Distressed credit opportunities remain muted, marked by anemic levels of stressed debt and still low default rates.

• North American opportunities are somewhere in between with an elevated trailing high yield default rate that portends additional restructurings as the impact of the economic slowdown take its toll on corporate cash flows.

• While the instances of non-performing loans are expected to increase in both regions, our expectations are tempered given the uncertainty surrounding the pace of sales as well as supply/demand dynamics that impact pricing.

Private Credit Outlook



*Distressed can be separated between Private Credit and Private Equity

Opportunistic Credit Program

Tactical Plan

- **Initial Targeted Allocation:**
  - Expectations are for 0-3 investments over the next 12 months
  - Equal to 1% of Trust's allocation target or equivalent of ~$300 million
- **Initial Sourcing:**
  - Initial focus will be on a multi-strategy/multi-asset anchor investment
  - Could include a commingled or a "Fund-of-One" fund structure
- **Benchmark:**
  - S&P LTSA Leveraged Loan (SPBDAL) + 150 basis points
- **Primary Consultant:**
  - Albourne Partners

Questions?

Action Item

ERS

Public Agenda Item #16

Agency Update

March 10, 2021

Porter Wilson, Executive Director

Agency Update

2021 Legislative Session

ERS

Budget Issues

- Met with Legislators and staff to discuss options for returning the ERS pension plans to actuarial soundness
- ERS has presented its budget request to:
  - Senate Finance Committee
  - House Appropriations Committee
  - House Appropriations Subcommittee for Articles 1, 4 and 5
- Legislature has been very engaged in discussions regarding how best to address the ERS pension issues.

Agency Update

2021 Legislative Session

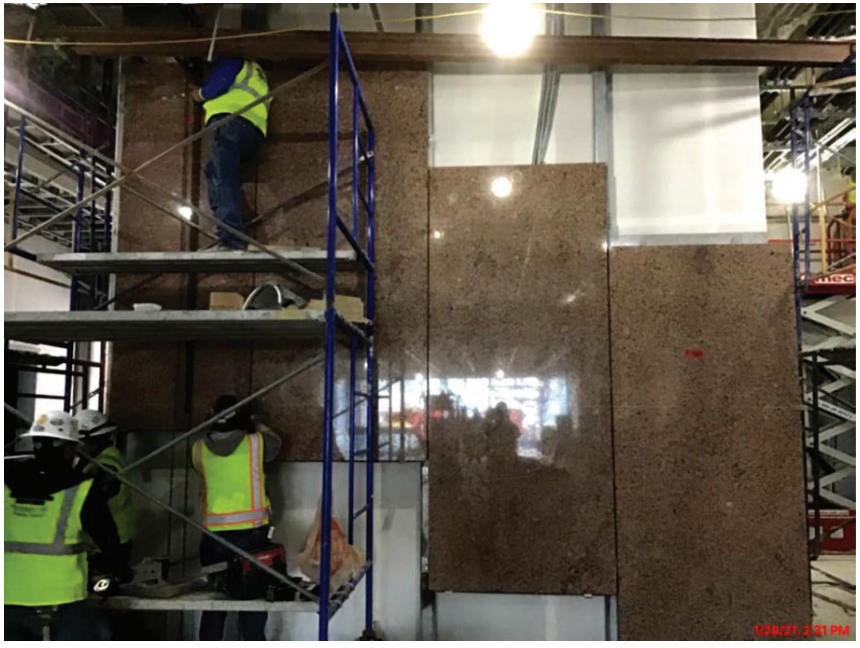
ERS

Policy Issues

- Legislation has been filed on a broad range of ERS related issues including: pensions, healthcare, general state agency operations, and Chapter 615 benefits.
- ERS is currently tracking around 150 bills.
  - ERS staff is reviewing and evaluating the potential impact on ERS
  - Legislative tracking report is available

Agency Update

1836 San Jacinto Building Update



Agency Update

2021 Get Fit Texas Challenge

ERS

ERS RANKINGS

2018 – 1st Place
2019 – 1st Place
2020 – 1st Place

We achieved the threepeat.
This year we're going for FOUR years in a row!

Agency Update

Chief Investment Officer Search

- Tom Tull announced plans to retire at the end of the fiscal year after nearly 12 years.
- ERS selected Korn Ferry to assist in finding the next Chief Investment Officer.
- Michael Kennedy, Senior Client Partner, has started interviewing candidates
- Following screening interviews, a search committee will meet with the candidates
- Recommended finalists will interview with Executive Director
- Selection targeted for early summer.

Agency Update

Deputy Executive Director & General Counsel Update

ERS

Congratulations upon her March 31 retirement

ERS recognizes and appreciates

Paula A. Jones

for her

23 years, 9 months of service to ERS,
the Board, and system members

Questions?

Public Agenda Item #17

Reminder date for the next Joint Meeting of the Board of Trustees and Investment Advisory Committee, the next meeting of the Board of Trustees, and the next meeting of the Audit Committee

March 10, 2021

Next Meeting Dates

2021 Meeting Dates

Wednesday, March 10, 2021

Wednesday, May 26, 2021

Wednesday, August 25, 2021

2-Day Workshop:

Tuesday - Wednesday, December 7 & 8, 2021

Public Agenda Item #18

Adjournment of the Joint Meeting of the Board of Trustees and Investment Advisory Committee

March 10, 2021

ERS

Public Agenda Item #19

Recess of the Board of Trustees
Following a temporary recess, the Board of Trustees will reconvene to take up the Board agenda items

March 10, 2021