



**Retirement Board Agenda  
February 18, 2021**

**Click the Zoom Link to Join the Meeting:**

<https://ohsers.zoom.us/j/99324660561?pwd=dmRBYnJjZkhHL3JiR1lYQkx4WWRWdz09>

**Meeting ID:** 993 2466 0561

**Password:** 328401

**To join by phone, dial by your location:** (301) 715-8592 US (Washington D.C)

**Meeting ID:** 993 2466 0561

**Password:** 328401

**PLEDGE OF ALLEGIANCE**

1. Oath of Office
2. Roll Call
3. Approval of Minutes (R)

**INVESTMENT REPORT**

4. Annual Portfolio Review – Real Assets
5. Wilshire Associates Quarterly Performance Report
6. Quarterly Investment Report
7. Amended Statement of Investment Policy (Global Equity Benchmark changes) (R)
8. Amended Annual Investment Policy (Global Equity Benchmark changes) (R)
9. Summary of Investment Transactions 11/30/2020 and 12/31/2020 (R)

**EXECUTIVE DIRECTOR'S REPORT**

10. Executive Director's Update
  - Quarterly Financials
11. Board Use of Technology Policy Amendment (R)
12. Superannuation and Survivor Benefits (R)
13. Special Cases (R)

**RETIREMENT REPORT**

14. Executive Session pursuant to R.C. 121.22 (G)(5) to review applications for Disability Retirement Benefits (R)
  - Personal Appearance
15. Approval of Disability Benefits (R)
16. Disapproval of Disability Benefits (R)
17. Disapproval of Appeal for Disability Benefits (R)
18. Approval of Appeal on Personal Appearance (R)
19. Approval of Appeal of Termination – Any Occupation (R)
20. Extension of Agreement for Vocational Consulting Services (R)

**EXECUTIVE DIRECTOR'S REPORT (cont.)**

21. Member Appeal (R)

**HEALTH CARE REPORT**

22. Approval to Negotiate Dental Services Contract (R)
23. Approval to Negotiate Vision Services Contract (R)
24. Approval to Negotiate Wraparound HRA Administration Contract (R)

**BOARD COMMUNICATION AND POLICY ISSUES**

25. Calendar Dates for Future Board Meetings
26. Continued or New Business
  - Board Information Requests and Follow-up Items

**Adjournment (R)**

# Oath of Office

**OATH OF OFFICE**

OATH OF OFFICE OF JEFFREY T. DELEONE  
MEMBER OF THE RETIREMENT BOARD OF THE  
SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO

STATE OF OHIO            )  
                                  ) ss:  
COUNTY OF FRANKLIN)

I, JEFFREY T. DELEONE, do solemnly swear that I will support the Constitution of the United States and the Constitution of the State of Ohio; that I will not knowingly violate or willfully permit to be violated any of the provisions of law applicable to this Retirement System, and that I will diligently and honestly administer the affairs of the said office and duties as a member of the Retirement Board of the School Employees Retirement System of Ohio during the period for which I was appointed.

\_\_\_\_\_  
JEFFREY T. DELEONE

SWORN TO and SUBSCRIBED before me this 18<sup>th</sup> day of February, 2021.

\_\_\_\_\_  
Notary Public

ATTESTED BY:

\_\_\_\_\_  
Richard Stensrud, Executive Director

\_\_\_\_\_  
Hugh Garside, Jr., Chairperson

ROLL CALL

Retirement Board Meeting  
February 18, 2021

\_\_\_\_\_ A.M.

Roll Call:

Hugh Garside	_____
Jeffrey T. DeLeone	_____
James Haller	_____
Matthew King	_____
Catherine Moss	_____
James Rossler	_____
Frank Weglarz	_____
Daniel Wilson	_____
Barbra Phillips	_____

## APPROVAL OF MINUTES

**ITEM 3.**

**APPROVAL OF MINUTES OF THE RETIREMENT BOARD MEETING HELD ON  
December 17, 2020**

\_\_\_\_\_ moved and \_\_\_\_\_ seconded the motion to approve the minutes of the Retirement Board meeting held on Thursday, December 17, 2020.

Upon roll call, the vote was as follows:

<b><u>ROLL CALL:</u></b>	<b><u>YEA</u></b>	<b><u>NAY</u></b>	<b><u>ABSTAIN</u></b>
Barbra Phillips	_____	_____	_____
Jeffrey DeLeone	_____	_____	_____
James Haller	_____	_____	_____
Matthew King	_____	_____	_____
Catherine Moss	_____	_____	_____
James Rossler	_____	_____	_____
Frank Weglarz	_____	_____	_____
Daniel Wilson	_____	_____	_____
Hugh Garside	_____	_____	_____

ANNUAL PORTFOLIO REVIEW -  
REAL ASSETS



# Global Real Assets Portfolio Review

February 2021

*Serving the People Who Serve Our Schools®*



# Portfolio Summary

## \$2.42 Billion in Market Value

- Real Estate \$1.78 billion in market value
- Infrastructure \$636 million in market value
- Unfunded commitments of \$640 million
- 8 managers ranked as A and 2 managers ranked as B

## Performance for 2020

- 2.75% net return; 75 basis points above benchmark (NPI)
- Overweight in industrial and infrastructure boosted returns
- 3.01% 1-year gross income return
- Total cash distributions in 2020 were \$107.3 million
- Management fee of 82 bps

## Focus on Portfolio Structure in 2021

- Larger allocation to infrastructure
- Increase industrial property type weight within Real Estate
- Focus on income producing strategies

## Contribution to Total Fund

- Contribution to Total Fund risk is 19.96% while portfolio weight is 14.7%

# Implementation Guidelines

## Role

- SERS invests in Real Assets to provide stable income from tangible assets, be a partial inflation hedge over the long term, and provide low correlation to equities.

## Objective

- The performance objective is to provide returns in excess of the benchmark, NCREIF Property Index (NPI), net of fees.

## Allocation

- Real Assets interim target allocation is set at 16% with a permissible range of 14-20%.

## Risk Management

- Real Assets is monitored to ensure that the majority of the portfolio is comprised of operating assets, located in the US, utilizing moderate leverage.

# Real Estate Market Review as of September 30, 2020

One Year	Three Years	Five Years	Ten Years
Industrial 10.14%	Industrial 12.64%	Industrial 12.64%	Industrial 12.93%
Office 2.81%	Office 5.38%	NPI 6.28%	NPI 9.37%
Multifamily 2.31%	NPI 5.11%	Office 5.87%	Multifamily 9.12%
NPI 2.00%	Multifamily 4.67%	Multifamily 5.73%	Office 8.74%
Retail (6.27%)	Retail (0.41%)	Retail 3.06%	Retail 8.21%
Hotel (22.89%)	Hotel (4.70%)	Hotel (0.60%)	Hotel 4.78%

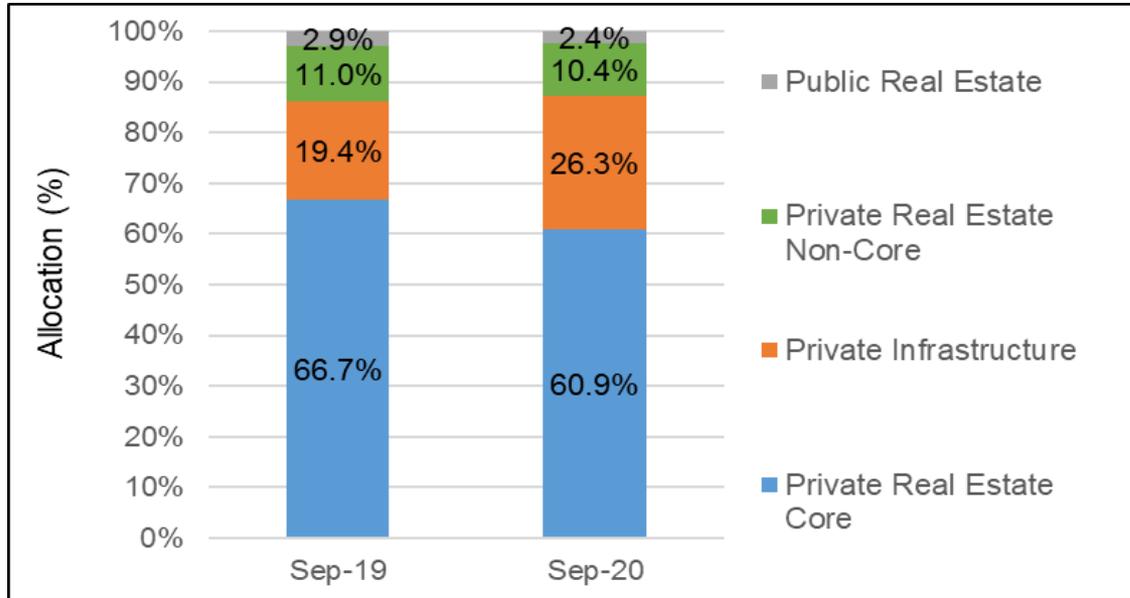


# Real Estate Market Review as of September 30, 2020

One Year	Three Years	Five Years	Ten Years
West 3.29%	West 6.84%	West 8.15%	West 10.97%
NPI 2.00%	NPI 5.11%	NPI 6.28%	South 9.52%
South 1.51%	South 5.06%	South 6.15%	NPI 9.37%
East 1.49%	East 3.77%	East 4.75%	East 7.96%
Midwest (1.07%)	Midwest 2.39%	Midwest 4.15%	Midwest 7.76%

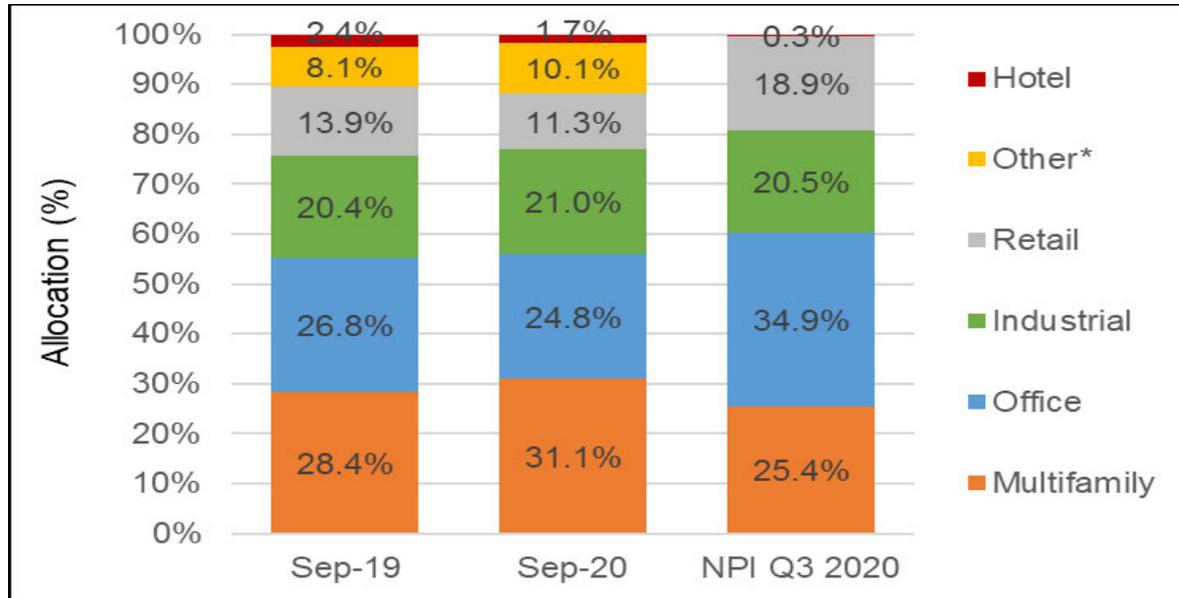


# Portfolio Structure – Sector



- Real Estate (public and private) remains predominant sector at 73%
- Private Real Estate has decreased over the past year
- Infrastructure is 26% of the total Real Assets portfolio and growing
- Public Real Estate provides portfolio liquidity

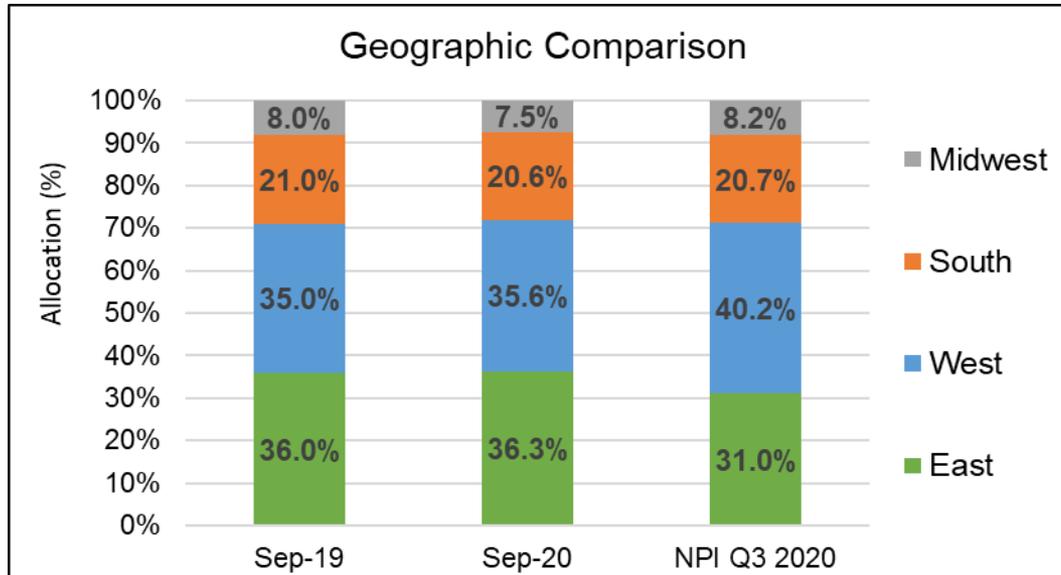
# Real Estate - Property Type



- Overweight multifamily – high occupancy and consistent rent growth over the long run
- Underweight office – COVID impact and high capital expenses
- Overweight industrial - best performing property type for all time periods
- Underweight retail - headwinds including e-commerce growth and store closings
- Overweight hotel/other – senior housing, single family rental, and student housing provide diversification



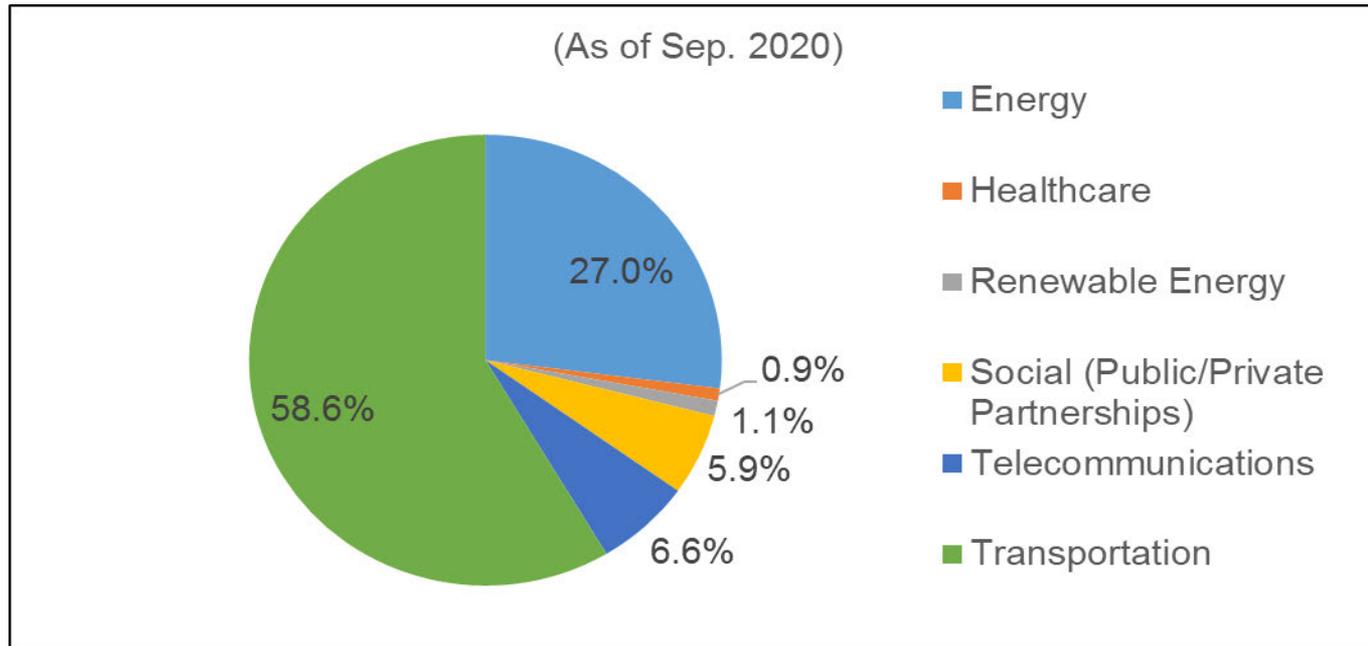
# Real Estate – Geography



- US Real Estate exposures are close to the policy benchmark (NPI) except for the West and East
- Managers are increasing exposure to cities with favorable demographic trends and strong economic growth
- South and West are the best performing regions

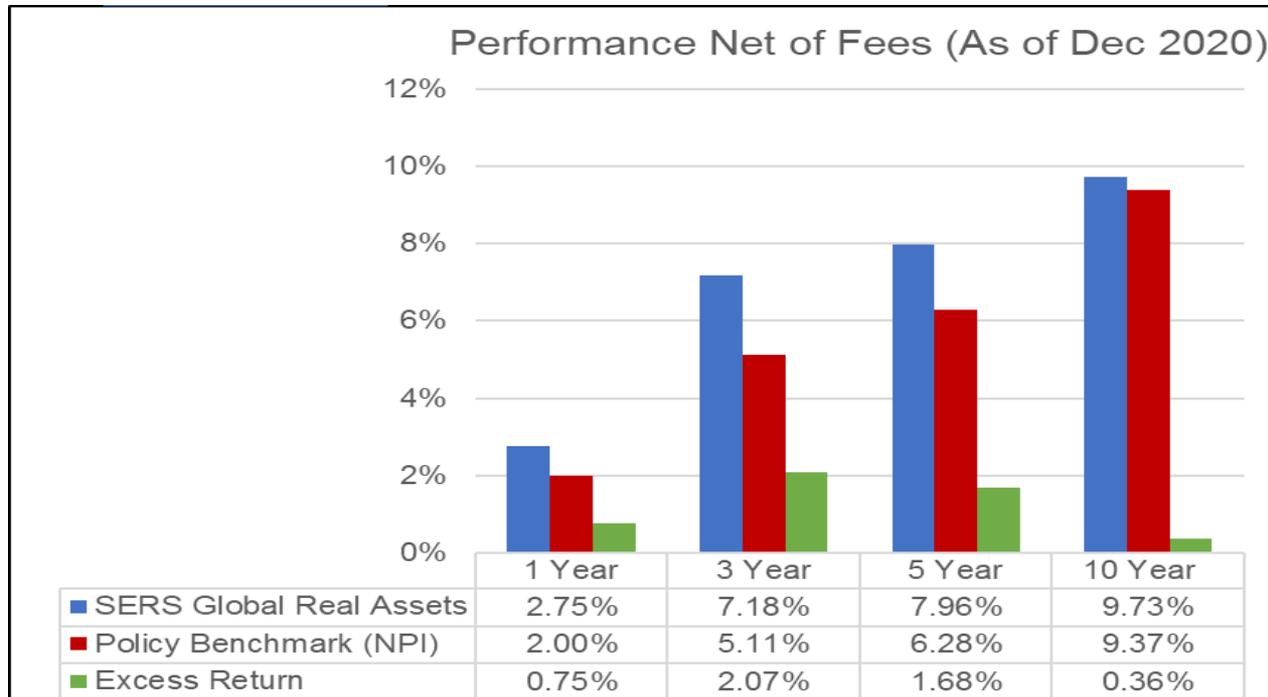


# Global Infrastructure



- \$636 million invested with five managers. SERS has \$264.5 million of outstanding infrastructure commitments
- Infrastructure is 26.3% of the total Real Assets portfolio
- Assets include airports, railways, ports, toll roads, wind/solar, energy facilities, public partnerships, medical facilities, and fiber networks
- Eight of the top ten largest holdings in the Real Assets portfolio are infrastructure

# Real Assets Performance (Net of Fees)



- All time period returns exceed the policy benchmark net of fees
- Returns are driven by the three I's (Income, Infrastructure, and Industrial)



# Sector Net of Fee Performance as of December 31, 2020

	1 Year	3 Year	5 Year	10 Year
<b>Private Real Estate Core</b> (60.9%)	2.51%	6.37%	7.40%	10.24%
<b>Private Real Estate Non-Core</b> (10.4%)	(0.70%)	6.11%	7.58%	9.21%
<b>Private Infrastructure</b> (26.3%)	6.51%	11.77%	11.15%	
<b>Public Real Assets</b> (2.4%)	(7.62%)	4.40%	5.35%	6.38%
<b>Policy Benchmark (NPI)</b>	2.00%	5.11%	6.28%	9.37%

- Private Real Estate core strategies exceed Private Real Estate non-core over most time periods
- Private Infrastructure exceeds policy benchmark net of fees for 1, 3, and 5-year periods
- Public Real Assets (REITs) returns are below the policy benchmark and Private Real Estate (core and non-core)



# Goals for 2021-2022

## Real Asset Allocation

- Increased allocation from 15% to 17% with a range of 14% to 20%
- Goal is to achieve 17% portfolio weight by June 2022
- Staff made \$475 million of contributions in 2020

## Infrastructure

- Evaluate new equity and debt managers
- Pursue co-investment opportunities

## Real Estate

- Evaluate new core and non-core managers

## Income

- Maintain a 4% income yield over the long run

# Definitions

Core – substantially leased, institutional quality properties located in major metropolitan markets. Core strategies are diversified by property type and location and generally use low to moderate amounts of leverage.

Infrastructure – the essential facilities and services upon which the economic productivity of society depends. Infrastructure involves the movement of goods, people, water, and energy.

Non-core (aka Opportunistic and Value-Added) – existing buildings in need of re-leasing or re-development, major re-development projects, or ground-up construction. Compared to core strategies, non-core strategies generally use higher amounts of leverage, involve greater risk due to the uncertainty of cash flows, and have higher return expectations.

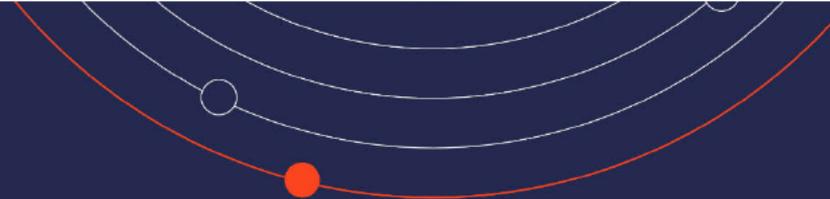
REITs – publicly-traded real estate companies. REIT securities provide immediate access to real estate assets but exhibit greater volatility than privately-held properties.

NCREIF – National Council of Real Estate Investment Fiduciaries.

NPI (NCREIF Property Index) – NPI is an aggregate of United States investment manager members property data. NPI provides benchmark returns for the Real Asset portfolio.



WILSHIRE QUARTERLY  
PERFORMANCE REPORT  
(tab)



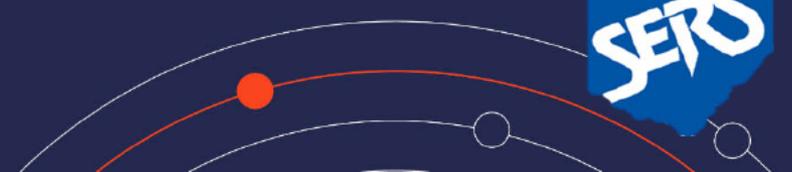
# Executive Summary of Investment Performance

School Employees Retirement System of Ohio

As of December 31, 2020



Wilshire



# Asset Class Performance

ASSET CLASS RETURNS - BEST TO WORST						ANNUALIZED 5-YEAR AS OF 12/20
2015	2016	2017	2018	2019	2020 YTD	
REITs 4.2%	MLPs 18.3%	Emrg Mrkts 37.7%	T-Bills 1.9%	U.S. Equity 31.0%	U.S. Equity 20.8%	U.S. Equity 15.5%
U.S. Equity 0.7%	High Yield 17.1%	Developed 25.6%	Core Bond 0.0%	REITs 25.8%	Emrg Mrkts 18.7%	Emrg Mrkts 13.2%
Core Bond 0.6%	U.S. Equity 13.4%	U.S. Equity 21.0%	U.S. TIPS -1.3%	Developed 22.7%	U.S. TIPS 11.0%	High Yield 8.6%
T-Bills 0.1%	Commodities 11.8%	High Yield 7.5%	High Yield -2.1%	Emrg Mrkts 18.9%	Developed 8.3%	Developed 8.0%
Developed -0.4%	Emrg Mrkts 11.6%	REITs 4.2%	REITs -4.8%	High Yield 14.3%	Core Bond 7.5%	U.S. TIPS 5.1%
U.S. TIPS -1.4%	REITs 7.2%	Core Bond 3.6%	U.S. Equity -5.3%	Core Bond 8.7%	High Yield 7.1%	Core Bond 4.4%
High Yield -4.5%	U.S. TIPS 4.7%	U.S. TIPS 3.0%	Commodities -11.2%	U.S. TIPS 8.4%	T-Bills 0.7%	REITs 4.3%
Emrg Mrkts -14.6%	Core Bond 2.6%	Commodities 1.7%	MLPs -12.4%	Commodities 7.7%	Commodities -3.1%	Midstream 1.5%
Commodities -24.7%	Developed 1.5%	T-Bills 0.8%	Developed -13.4%	MLPs 6.6%	REITs -7.9%	T-Bills 1.2%
MLPs -32.6%	T-Bills 0.3%	MLPs -6.5%	Emrg Mrkts -14.2%	T-Bills 2.3%	Midstream -23.4%	Commodities 1.0%

Data Sources: Bloomberg

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



# Market Commentary

## U.S. Equity

Although Coronavirus infections are accelerating and many cities are re-imposing restrictions, both consumer and business surveys are moderating at encouraging levels. However, job growth has slowed dramatically and initial jobless claims remain at what would normally be historic levels. The big news on the virus front is the commencement of vaccine distribution but that does not mean we are close to any normalization of everyday activities.

Consumer price changes slowed during the fourth quarter, with modest gains for the past twelve months. The Consumer Price Index was up 0.4% for the three months ending November and up 1.2% for the one-year period.

## Non-U.S. Equity

A second wave of COVID-19 infections is hindering several European countries and the ECB responded by expanding its money-printing program by hundreds of billions of euros. The Chinese economy is poised for growth this year, unlike most other countries, but that is driven by the PRC's traditional strengths, such as exports, while domestic demand is still weak.

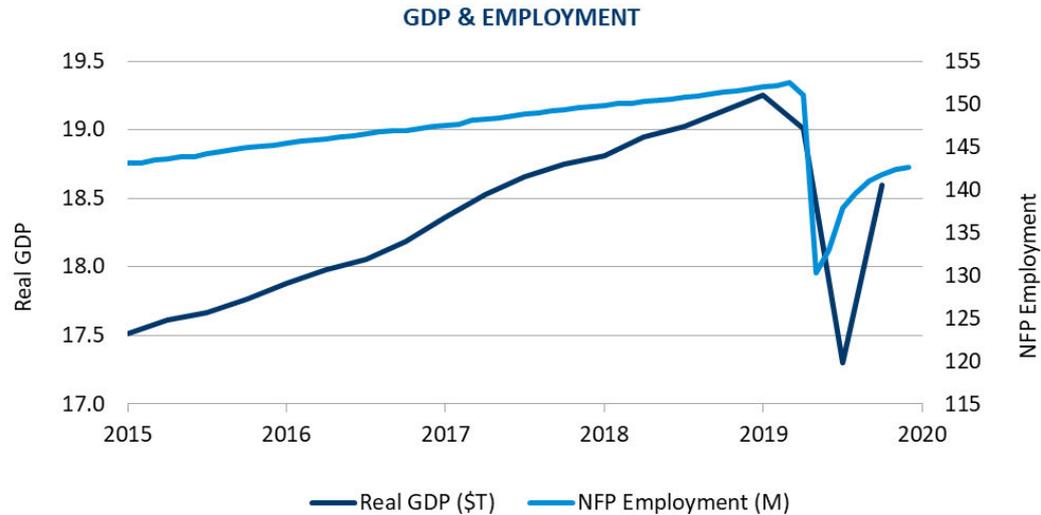
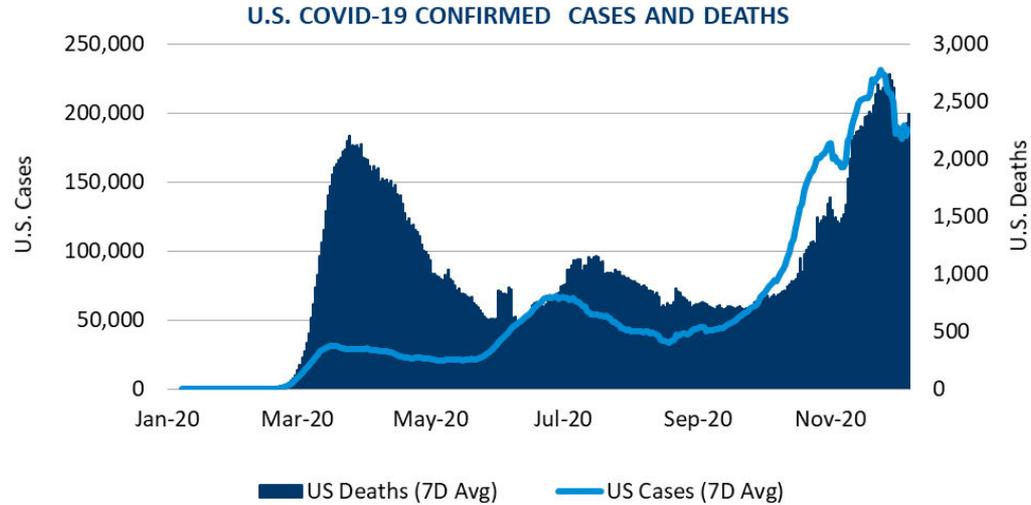
## Fixed Income

The U.S. Treasury yield curve was up across most maturities with the 10-year Treasury yield ending the quarter at 0.93%. The FOMC met twice with no change to their overnight rate, which they expect will be near zero through 2023. The Committee reiterated its pledge to support the economic recovery, including an increase in its bond-buying activities.

# December 2020 Asset Class Assumptions

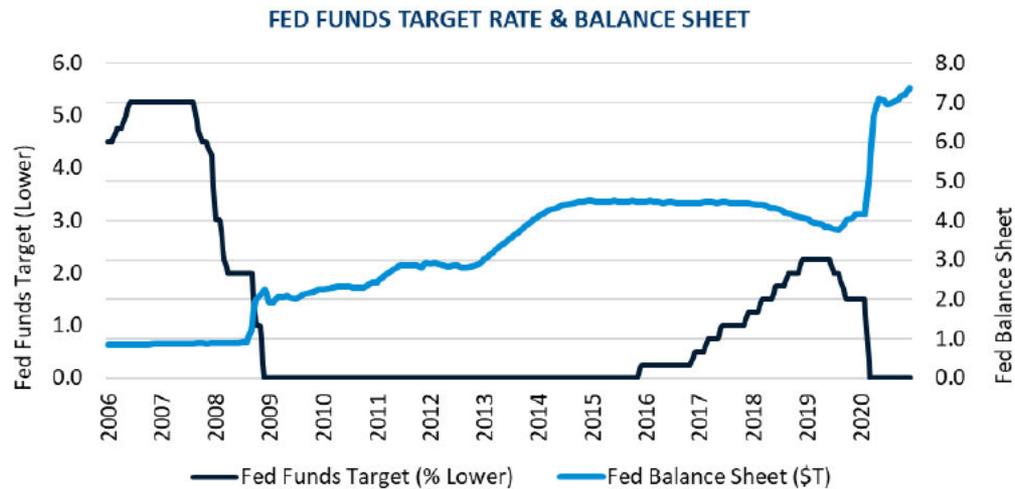
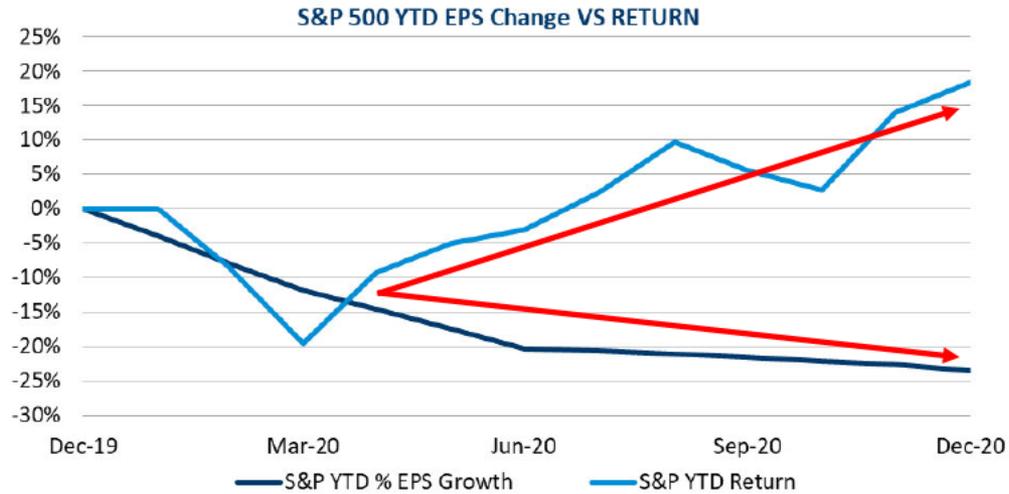
	EQUITY						FIXED INCOME						REAL ASSETS					
	US Stock	Dev ex-US Stock	Emg Stock	Global ex-US Stock	Global Stock	Private Equity	Cash	Core Bond	LT Core Bond	TIPS	High Yield	Dev ex-US Bond (Hdg)	Real Estate			Cmnty	Real Assets	US CPI
		US RES	Global RES	Private RE	US RES	Global RES			Private RE									
COMPOUND RETURN (%)	5.00	5.75	5.75	6.00	5.55	6.95	0.70	1.30	1.75	0.80	3.10	0.35	5.20	5.40	6.20	2.85	5.65	2.15
ARITHMETIC RETURN (%)	6.35	7.25	8.75	7.65	6.90	10.35	0.70	1.40	2.15	1.00	3.60	0.45	6.55	6.55	7.10	3.90	6.15	2.15
EXPECTED RISK (%)	17.00	18.00	26.00	19.15	17.15	28.00	0.75	4.30	8.85	6.00	10.00	4.30	17.00	15.85	14.00	15.00	10.15	1.75
CASH YIELD (%)	1.50	2.25	1.75	2.10	1.75	0.00	0.70	2.35	3.00	1.60	7.00	1.35	3.60	3.60	2.50	0.70	2.00	0.00
GROWTH EXPOSURE	8.00	8.00	8.00	8.00	8.00	13.50	0.00	-0.80	-2.10	-3.00	4.00	-1.00	6.00	6.00	3.50	0.00	1.80	0.00
INFLATION EXPOSURE	-3.00	0.00	5.00	1.55	-1.10	-3.80	0.00	-2.45	-6.55	2.50	-1.00	-3.00	1.00	1.95	1.00	12.00	4.90	1.00
<b>CORRELATIONS</b>																		
US Stock	1.00																	
Dev ex-US Stock (USD)	0.81	1.00																
Emerging Mkt Stock	0.74	0.74	1.00															
Global ex-US Stock	0.83	0.96	0.87	1.00														
Global Stock	0.95	0.92	0.83	0.94	1.00													
Private Equity	0.74	0.64	0.62	0.67	0.74	1.00												
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.07	0.00	1.00											
Core Bond	0.28	0.13	0.00	0.09	0.20	0.31	0.19	1.00										
LT Core Bond	0.31	0.16	0.01	0.12	0.23	0.32	0.11	0.92	1.00									
TIPS	-0.05	0.00	0.15	0.05	0.00	-0.03	0.20	0.59	0.47	1.00								
High Yield Bond	0.54	0.39	0.49	0.45	0.51	0.34	-0.10	0.25	0.32	0.05	1.00							
Dev ex-US Bond (Hdg)	0.16	0.25	-0.01	0.17	0.18	0.26	0.10	0.66	0.65	0.39	0.26	1.00						
US RE Securities	0.58	0.47	0.44	0.49	0.56	0.50	-0.05	0.17	0.23	0.10	0.56	0.05	1.00					
Global RE Securities	0.64	0.58	0.56	0.61	0.65	0.58	-0.05	0.17	0.22	0.11	0.61	0.03	0.96	1.00				
Private Real Estate	0.54	0.44	0.44	0.47	0.52	0.51	-0.05	0.19	0.25	0.09	0.57	0.05	0.77	0.75	1.00			
Commodities	0.25	0.34	0.39	0.38	0.32	0.27	0.00	-0.02	-0.02	0.25	0.29	-0.10	0.25	0.28	0.25	1.00		
Real Assets	0.48	0.51	0.58	0.57	0.54	0.47	-0.02	0.23	0.25	0.39	0.56	0.05	0.70	0.75	0.70	0.65	1.00	
Inflation (CPI)	-0.10	-0.15	-0.13	-0.15	-0.13	-0.10	0.10	-0.12	-0.12	0.15	-0.08	-0.08	0.05	0.03	0.05	0.44	0.26	1.00

# 2020 “Turn the Page”



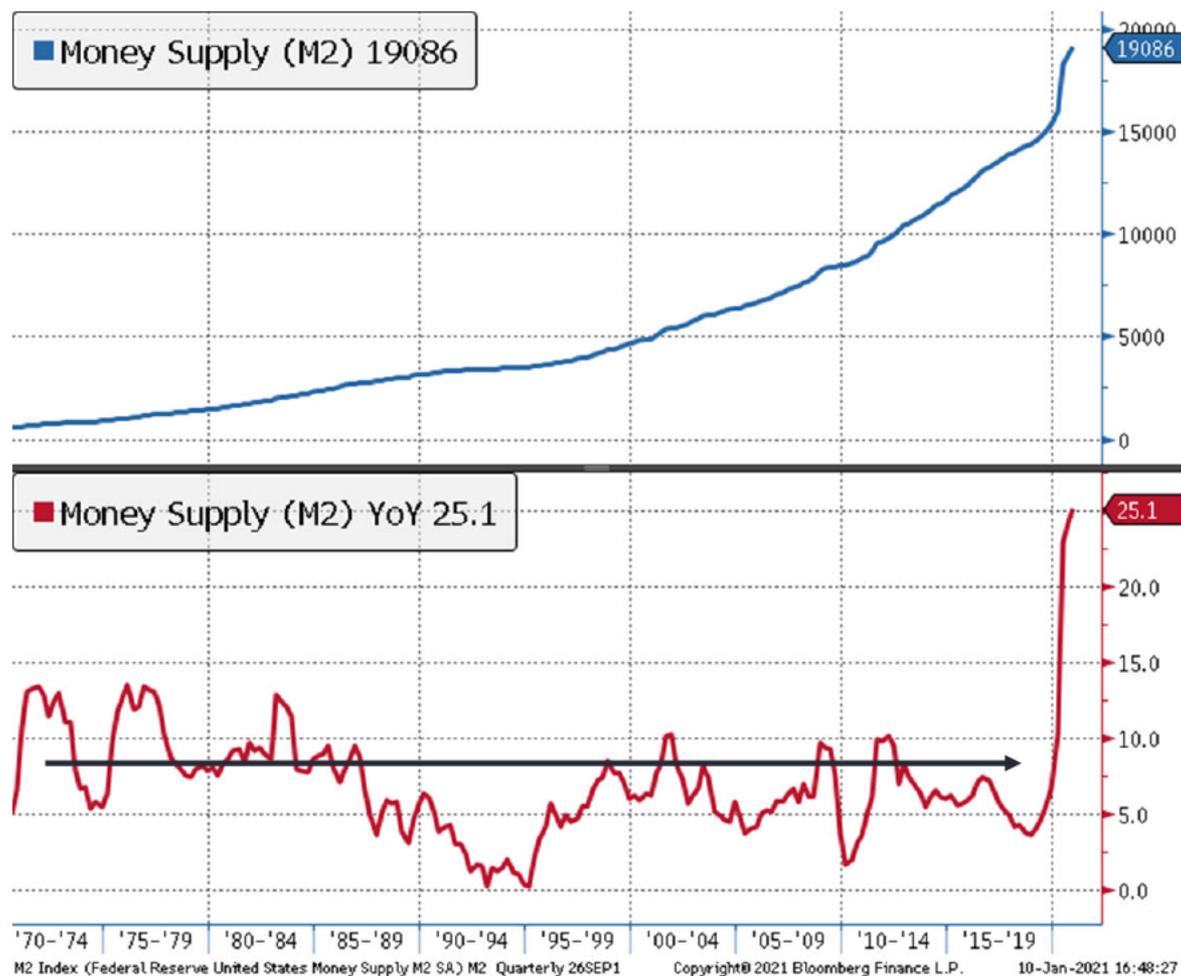
Data Source: Bloomberg

# 2020 Economic & Market Divergence



Data Source: Bloomberg

# Money Supply (M2) Growth

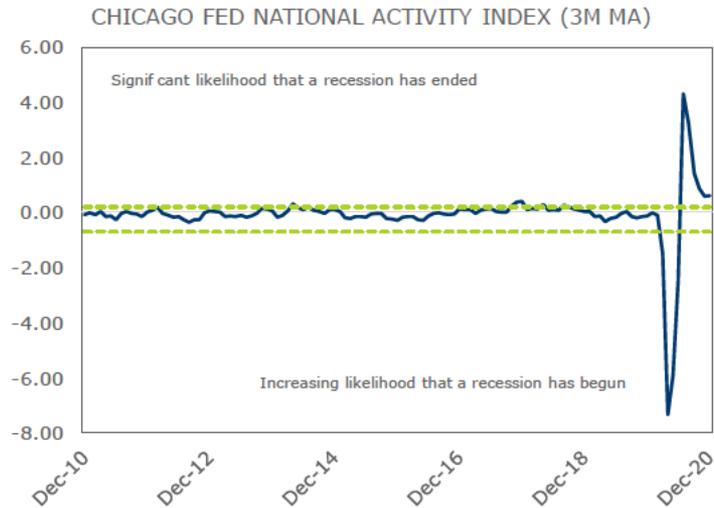
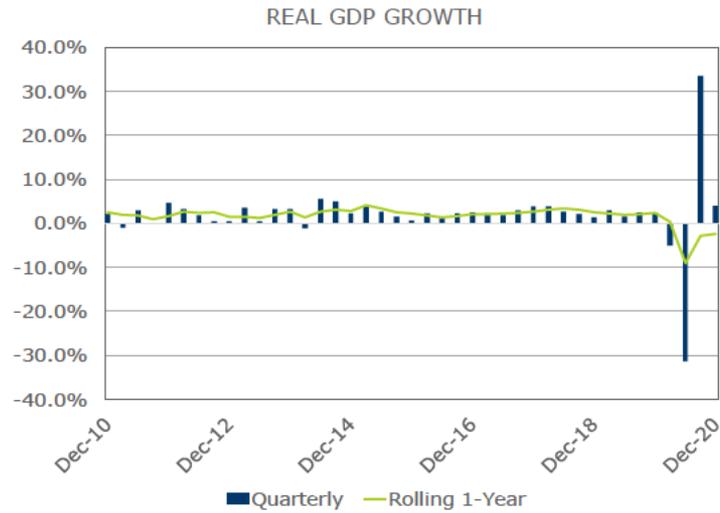


Data Source: Bloomberg

Economic/Market Activity

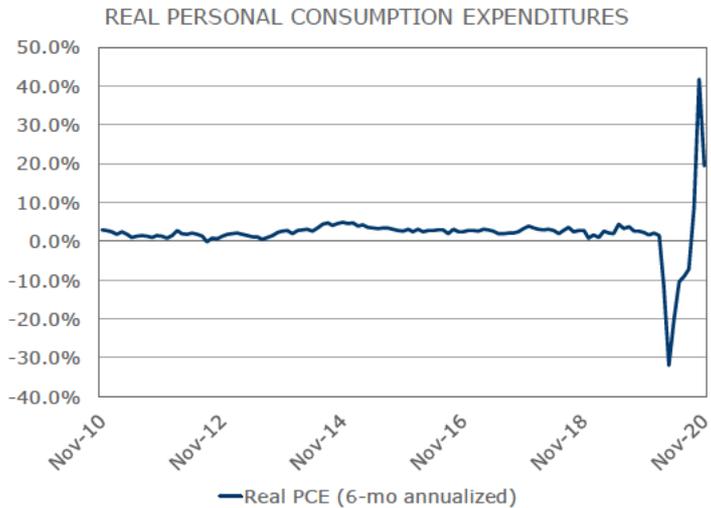
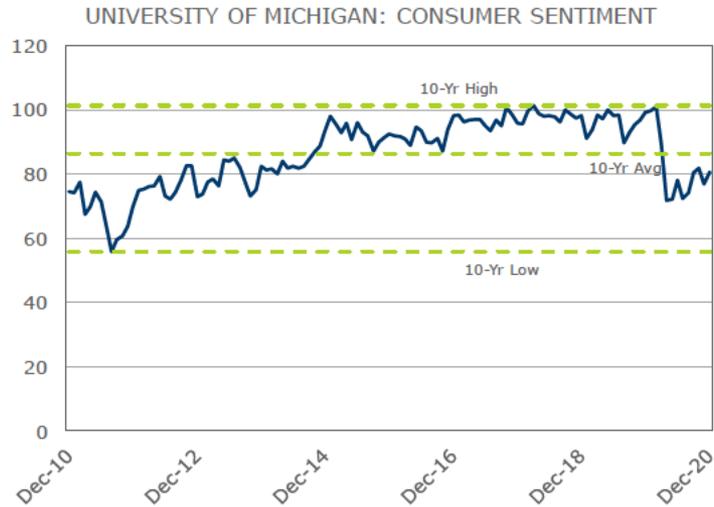
Wilshire

# Economic Growth



Data Sources: Bloomberg

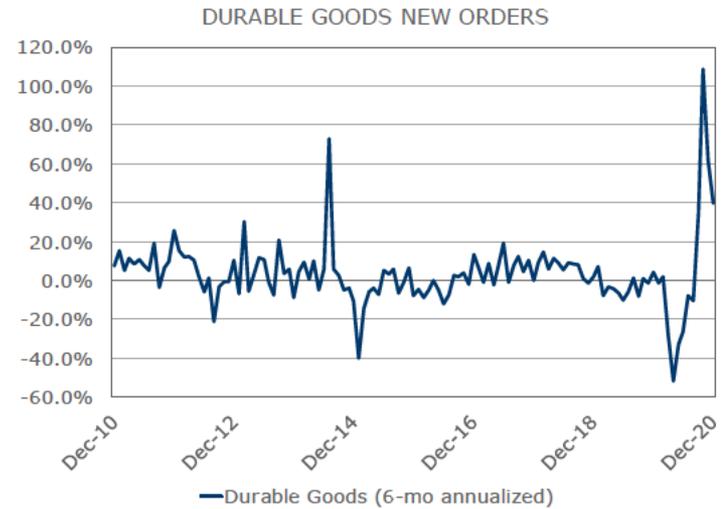
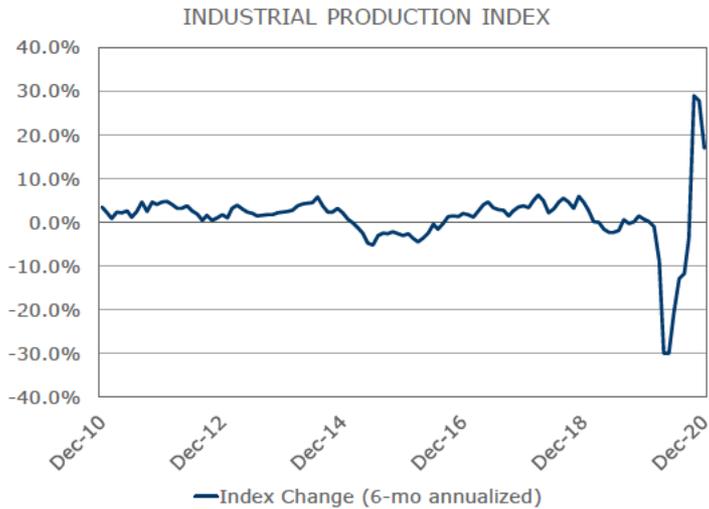
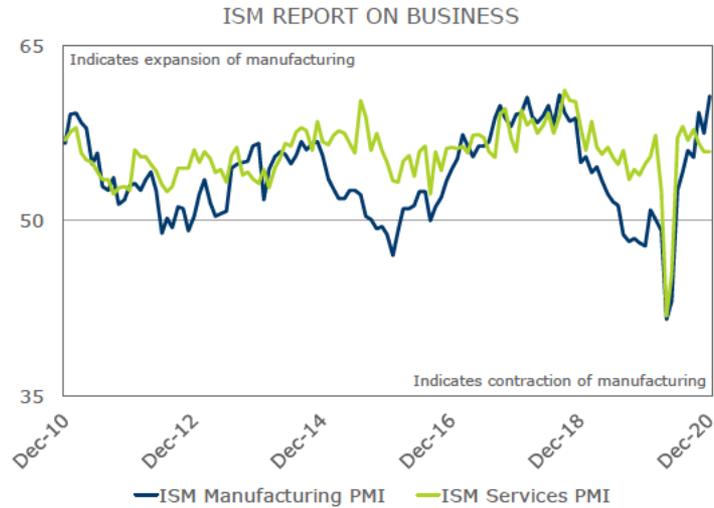
# Consumer Activity



Data Sources: Bloomberg

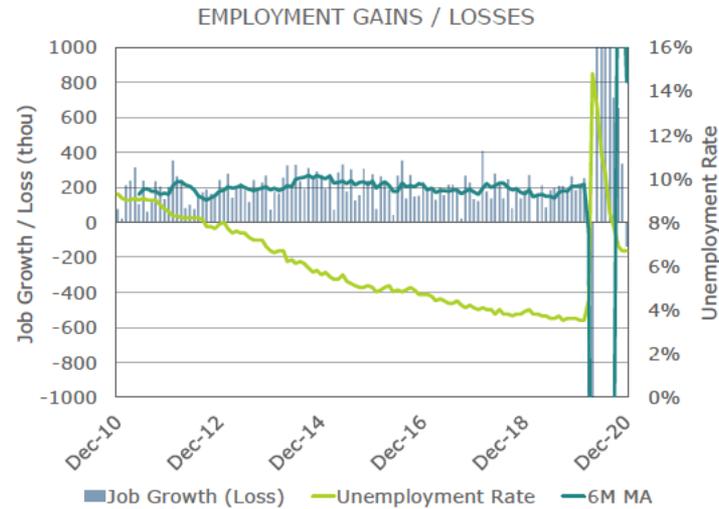
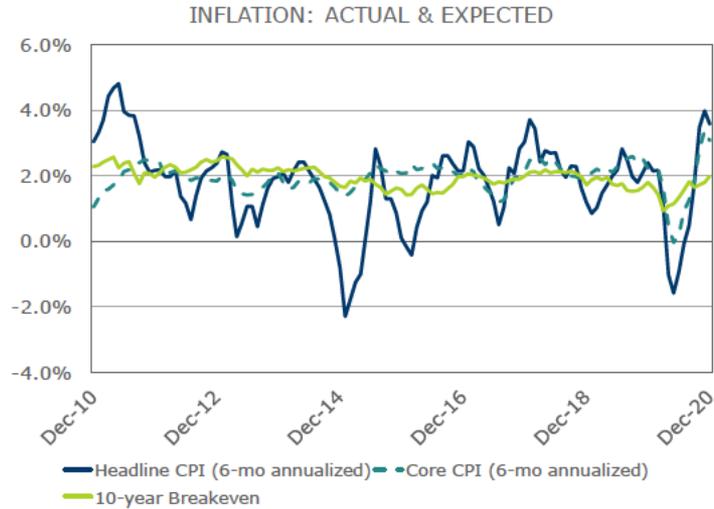


# Business Activity



Data Sources: Bloomberg

# Inflation and Employment

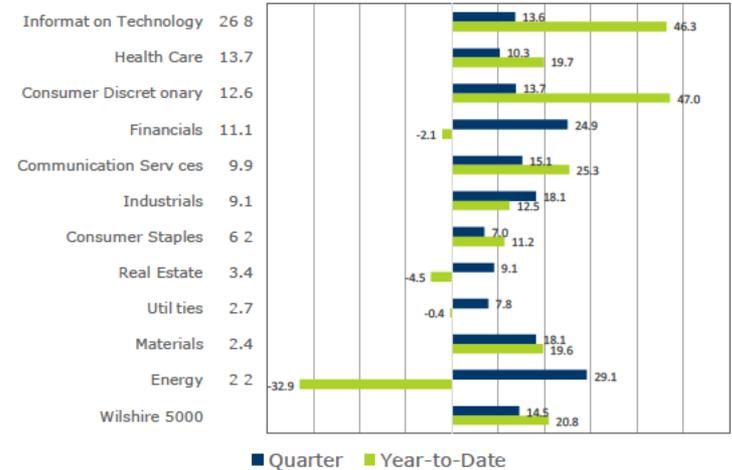


Data Sources: Bloomberg

# U.S. Equity Market

AS OF 12/31/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
WILSHIRE 5000 INDEX	14.5	20.8	20.8	14.5	15.5	13.8
WILSHIRE U.S. LARGE CAP	13.2	21.2	21.2	15.0	15.8	14.0
WILSHIRE U.S. SMALL CAP	31.0	17.4	17.4	9.7	12.9	11.5
WILSHIRE U.S. LARGE GROWTH	12.8	35.4	35.4	21.0	19.8	16.4
WILSHIRE U.S. LARGE VALUE	13.6	7.4	7.4	8.9	11.6	11.6
WILSHIRE U.S. SMALL GROWTH	29.7	29.7	29.7	14.9	16.2	13.2
WILSHIRE U.S. SMALL VALUE	32.2	6.2	6.2	4.7	9.5	9.7
WILSHIRE REIT INDEX	10.6	-7.9	-7.9	3.3	4.3	8.3
MSCI USA MIN. VOL. INDEX	6.9	5.8	5.8	11.2	12.6	13.4
FTSE RAFI U.S. 1000 INDEX	17.5	8.0	8.0	8.2	11.7	11.7

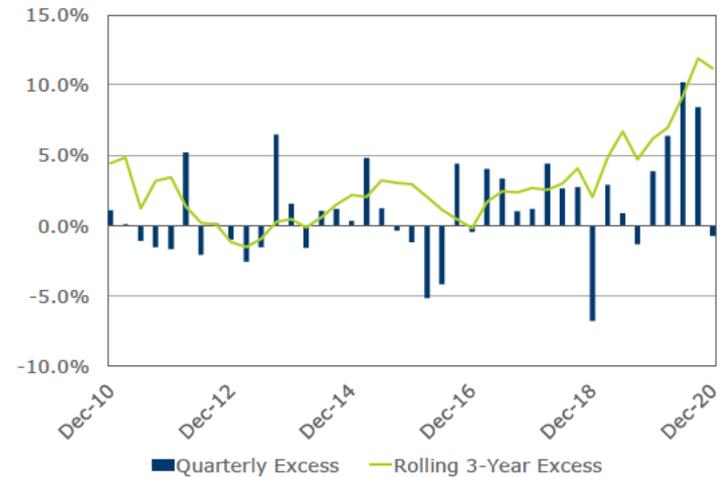
U.S. SECTOR WEIGHT AND RETURN (%)



LARGE CAP VS SMALL CAP



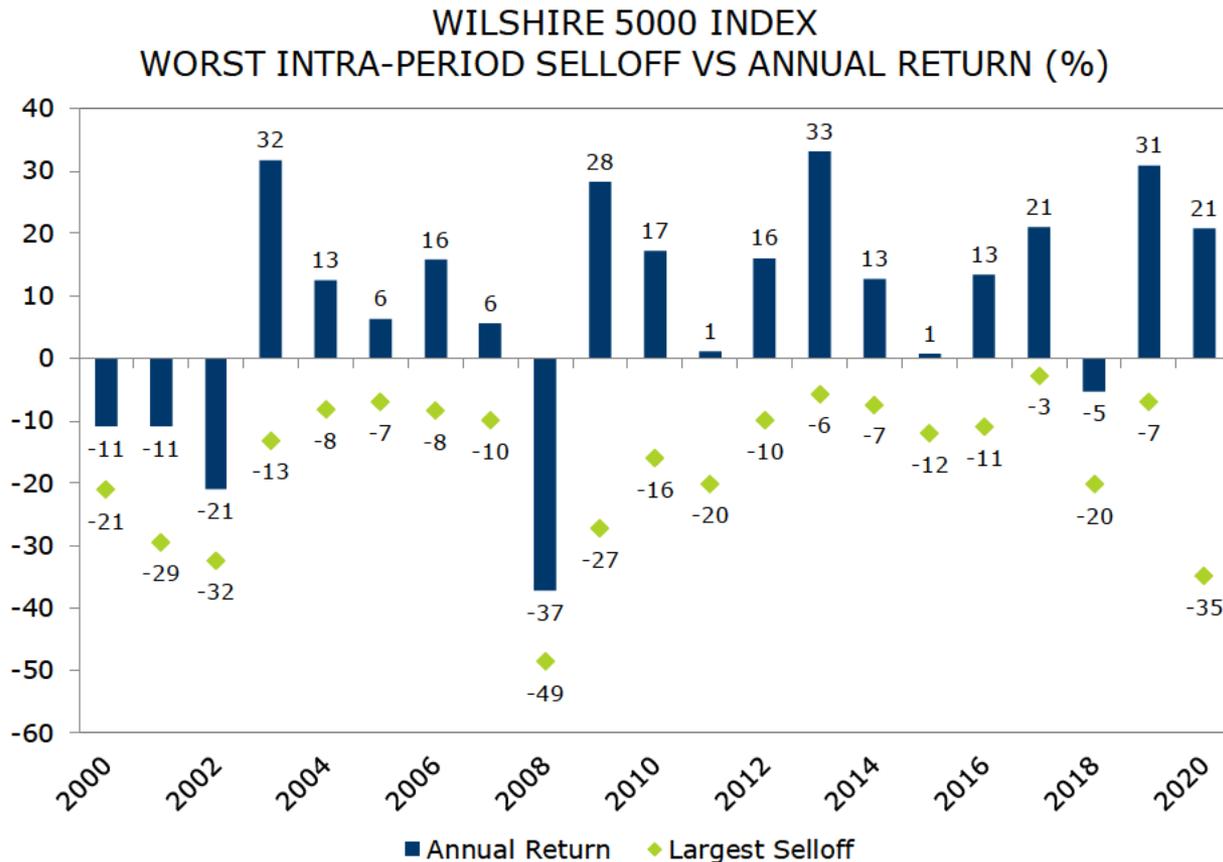
LARGE GROWTH VS LARGE VALUE



Data Sources: Bloomberg, Wilshire Atlas

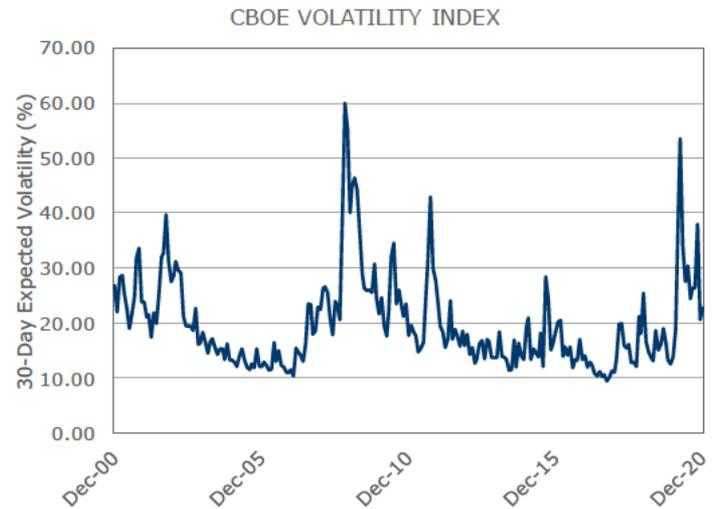
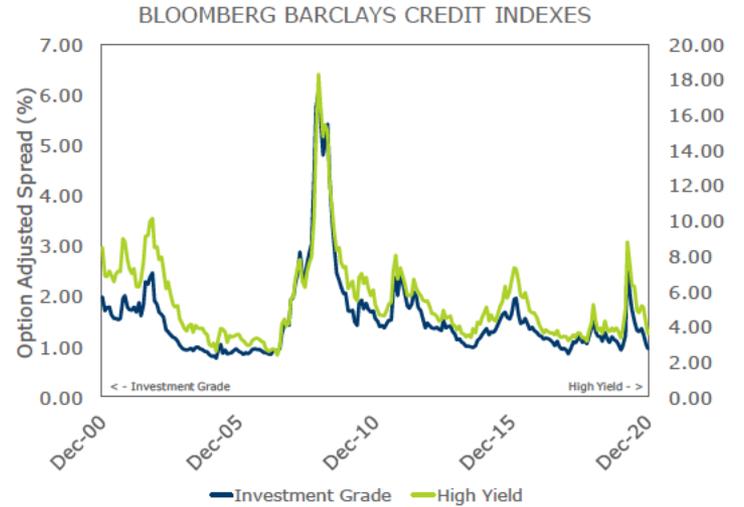
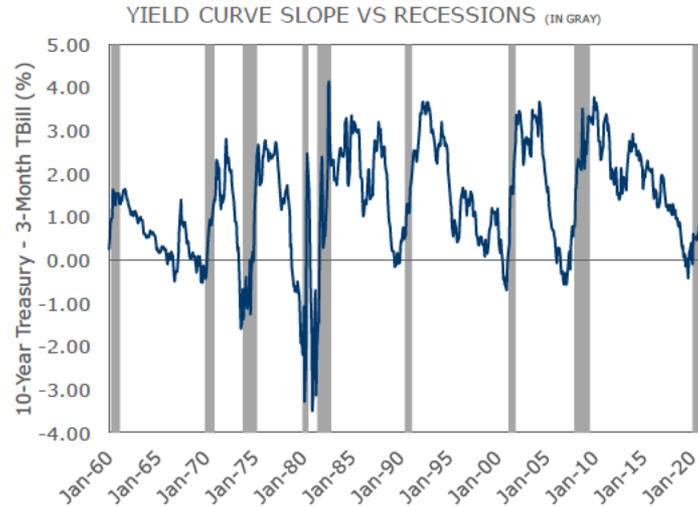
# Annual Returns

Despite the largest sell-off since the credit crisis, U.S. equity had a second-straight big year



Data Sources: Wilshire

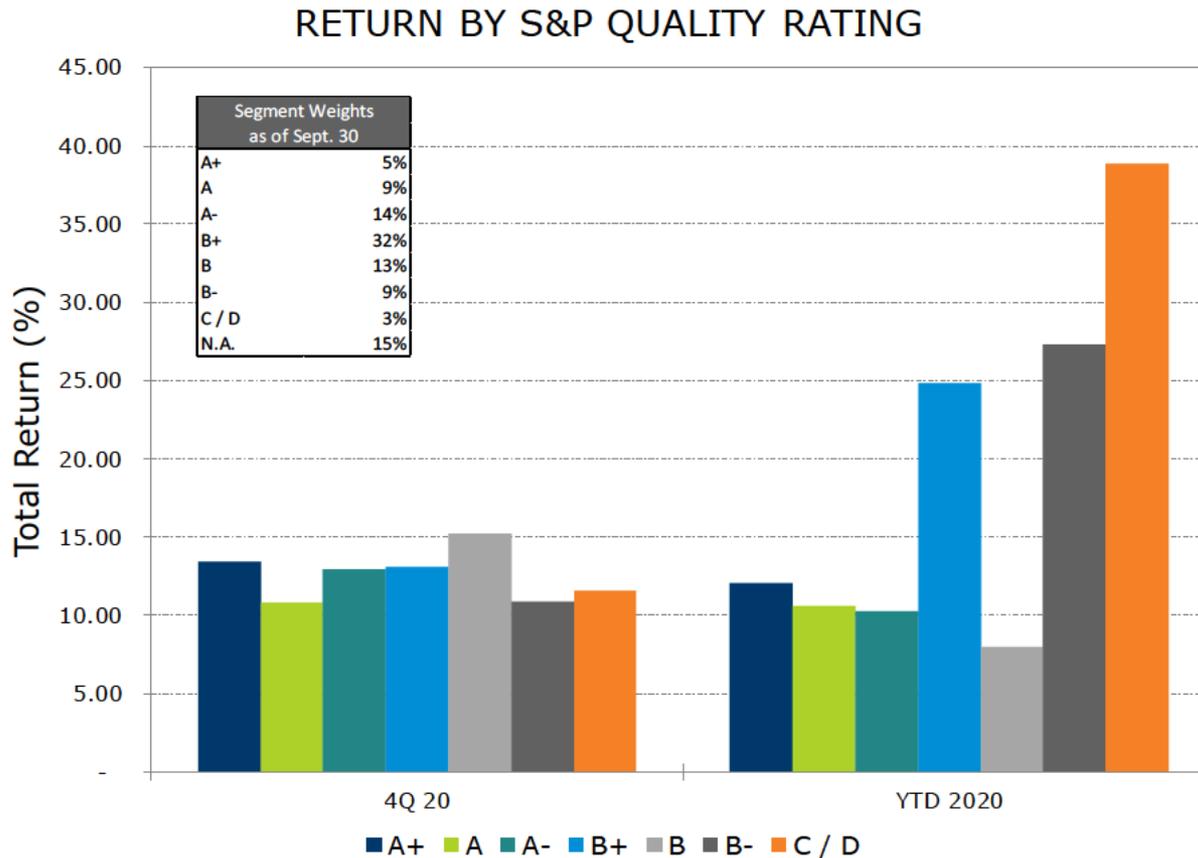
# Risk Monitor



Data Sources: Bloomberg

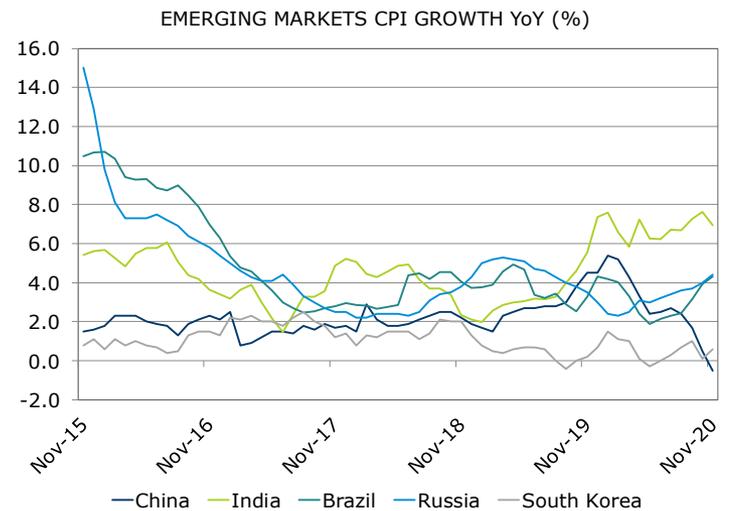
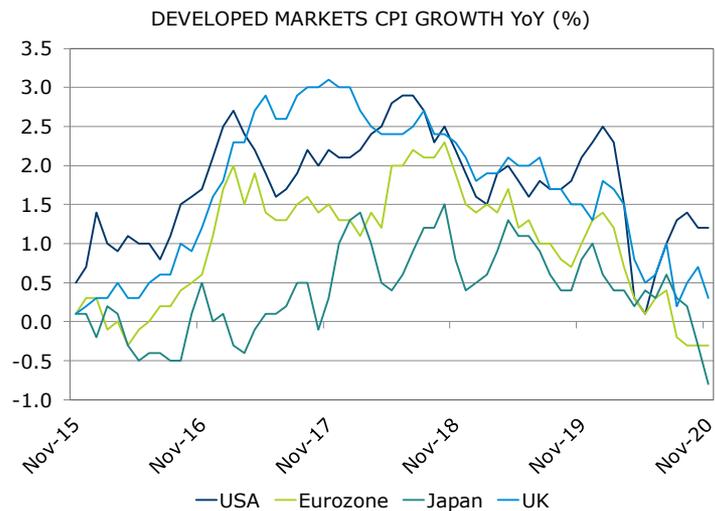
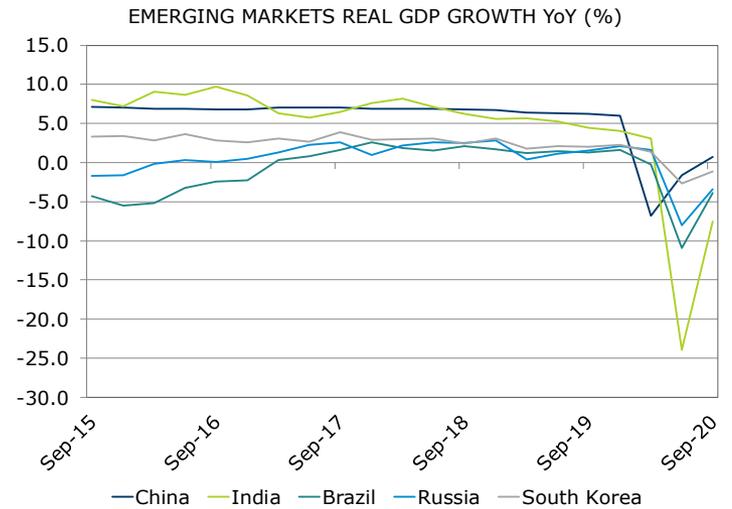
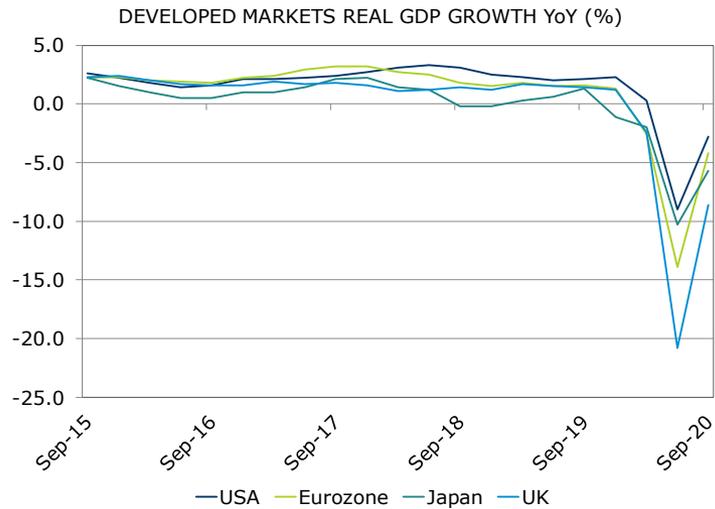
# Returns by Quality Segment

Although gains were broad based for the quarter, lower quality names led for the year



Data Sources: Wilshire Atlas

# Non-U.S. Growth and Inflation

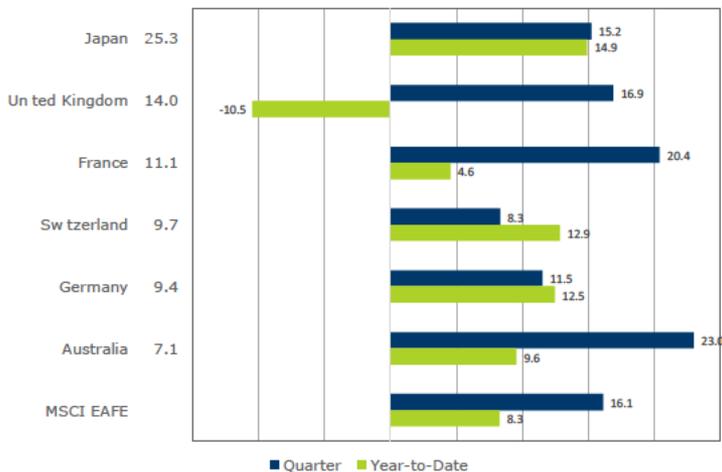


Data Sources: Bloomberg

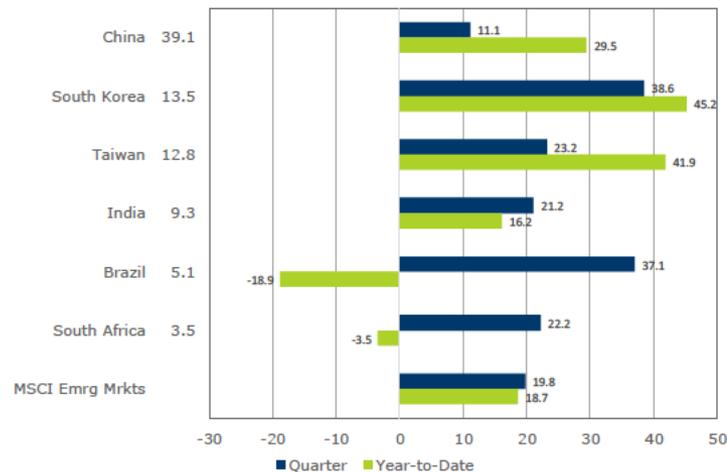
# Non-U.S. Equity Market

AS OF 12/31/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
MSCI ACWI EX-US (\$G)	17.1	11.1	11.1	5.4	9.4	5.4
MSCI EAFE (\$G)	16.1	8.3	8.3	4.8	8.0	6.0
MSCI EMERGING MARKETS (\$G)	19.8	18.7	18.7	6.6	13.2	4.0
MSCI FRONTIER MARKETS (\$G)	17.5	-2.4	-2.4	-1.5	5.1	1.7
MSCI ACWI EX-US GROWTH (\$G)	14.0	22.6	22.6	10.4	12.4	7.3
MSCI ACWI EX-US VALUE (\$G)	20.6	0.5	0.5	0.4	6.6	3.6
MSCI ACWI EX-US SMALL (\$G)	18.6	14.7	14.7	5.0	9.8	6.3
MSCI ACWI MINIMUM VOLATILITY	6.5	3.3	3.3	7.6	9.8	9.8
MSCI EAFE MINIMUM VOLATILITY	8.0	0.6	0.6	3.8	6.2	7.2
FTSE RAFI DEVELOPED EX-US	21.3	3.0	3.0	1.1	6.6	4.2
MSCI EAFE LC (G)	11.4	1.3	1.3	3.5	6.3	7.3
MSCI EMERGING MARKETS LC (G)	16.1	19.5	19.5	8.5	13.0	7.0

DEVELOPED MARKETS WEIGHT AND RETURN (%)



EMERGING MARKETS WEIGHT AND RETURN (%)



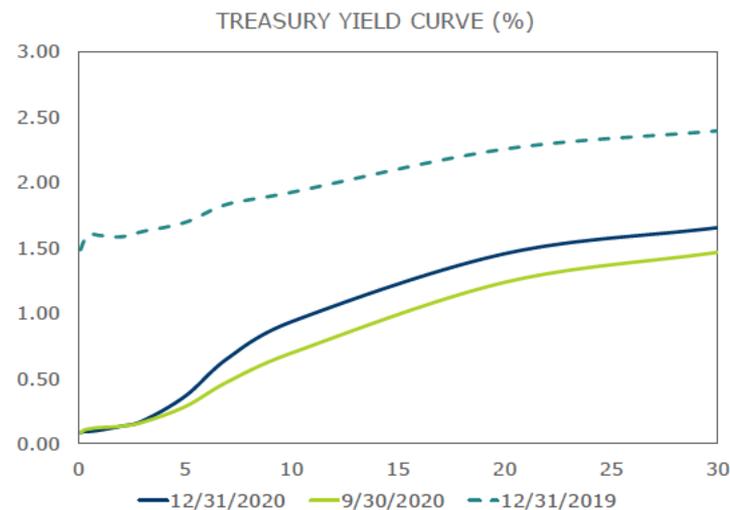
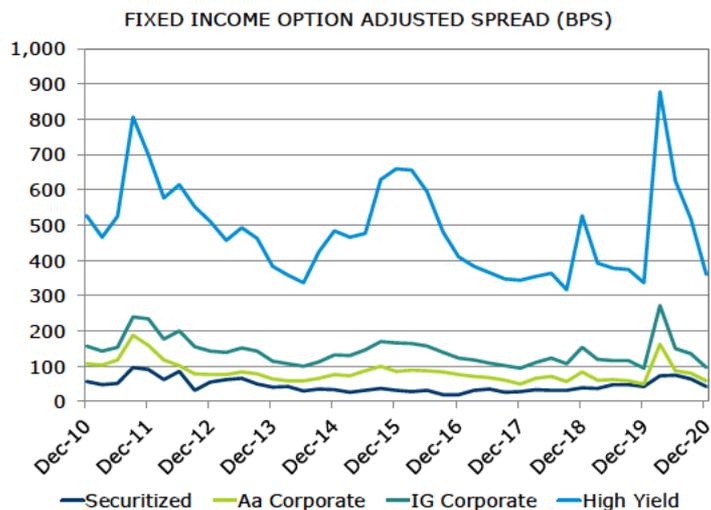
Data Sources: Bloomberg



# U.S. Fixed Income

AS OF 12/31/2020	YTW	DUR.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
BLOOMBERG BARCLAYS AGGREGATE	1.1	6.2	0.7	7.5	7.5	5.3	4.4	3.8
BLOOMBERG BARCLAYS TREASURY	0.6	7.2	-0.8	8.0	8.0	5.2	3.8	3.3
BLOOMBERG BARCLAYS GOV'T-REL.	1.1	6.0	0.9	5.9	5.9	5.0	4.4	3.6
BLOOMBERG BARCLAYS SECURITIZED	1.2	2.6	0.3	4.2	4.2	3.8	3.2	3.1
BLOOMBERG BARCLAYS CORPORATE	1.7	8.8	3.0	9.9	9.9	7.1	6.7	5.6
BLOOMBERG BARCLAYS LT G/C	2.3	16.8	1.7	16.1	16.1	9.8	9.3	8.2
BLOOMBERG BARCLAYS LT TREASURY	1.5	19.2	-3.0	17.7	17.7	9.9	7.8	7.8
BLOOMBERG BARCLAYS LT GOV'T-REL.	2.7	13.8	2.7	9.6	9.6	8.0	8.4	7.7
BLOOMBERG BARCLAYS LT CORP.	2.8	15.5	5.1	13.9	13.9	9.4	10.2	8.3
BLOOMBERG BARCLAYS U.S. TIPS *	0.8	8.0	1.6	11.0	11.0	5.9	5.1	3.8
BLOOMBERG BARCLAYS HIGH YIELD	4.2	3.6	6.5	7.1	7.1	6.2	8.6	6.8
TREASURY BILLS	0.1	0.3	0.0	0.7	0.7	1.6	1.2	0.7

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



Data Sources: Bloomberg

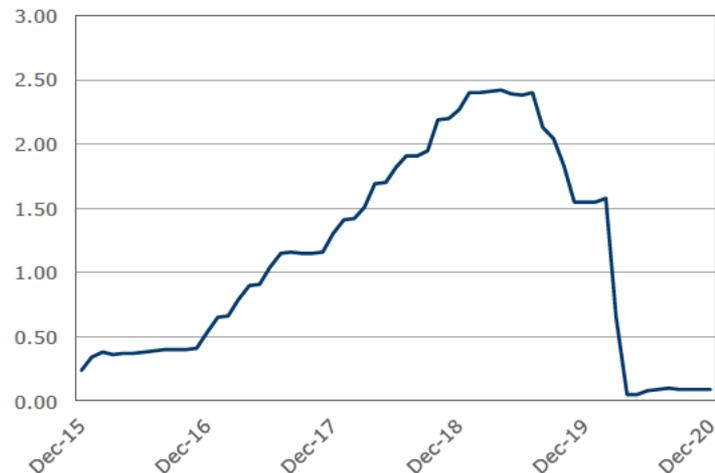
# Federal Reserve

- **Current expectation for the Fed-funds rate is to remain near zero through 2023**
- **Federal Reserve has added more than \$3 trillion in assets to their balance sheet just this year**
- **Unlike after the GFC, the Fed is also buying corporate and municipal bonds in addition to Treasuries and MBS**

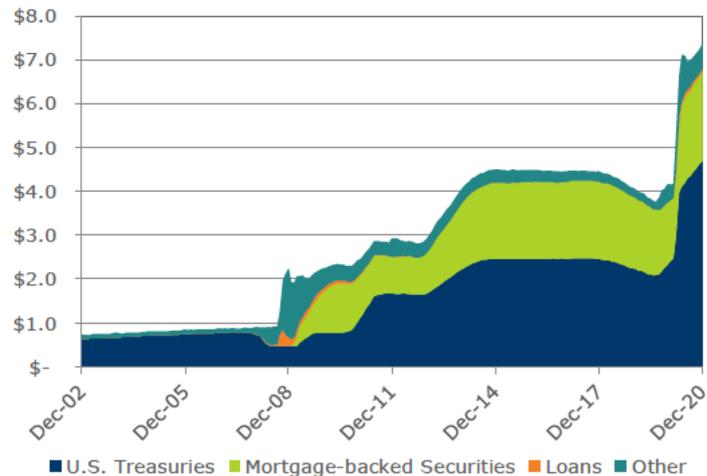
	Announced	Closed	Amount (bil)
QE1	11/25/2008	3/31/2010	\$1,403
QE2	11/3/2010	6/29/2012	\$568
QE3	9/13/2012	10/29/2014	\$1,674
QE4	3/23/2020		\$3,245

Data Sources: Bloomberg

FEDERAL FUNDS RATE (%)



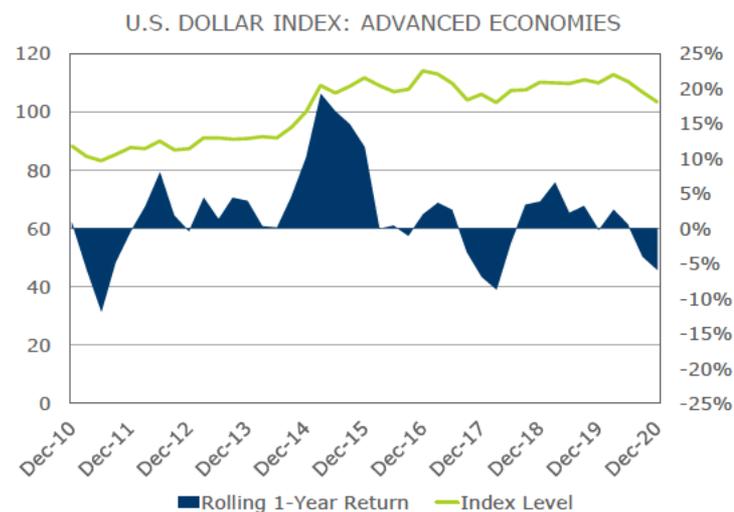
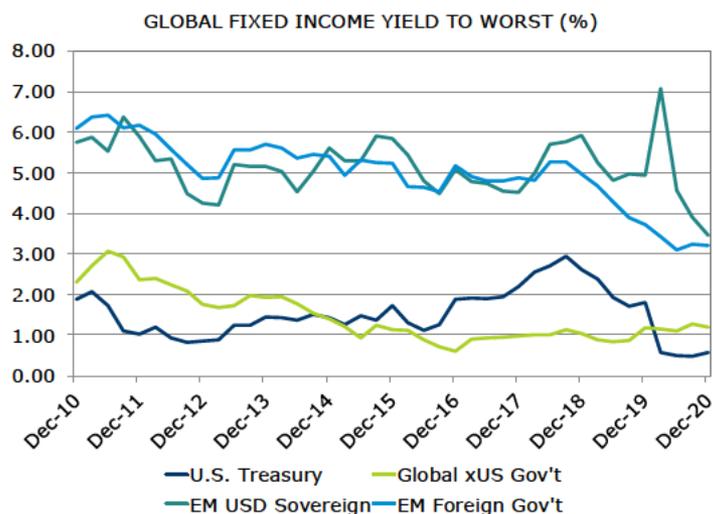
FEDERAL RESERVE BALANCE SHEET (\$T)



# Non-U.S. Fixed Income

AS OF 12/31/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
<b>DEVELOPED MARKETS</b>						
BLMBRG BRCLYS GLBL AGGREGATE xUS	5.1	10.1	10.1	4.2	4.9	2.0
BLMBRG BRCLYS GLBL AGGREGATE xUS *	0.9	3.9	3.9	4.9	4.4	4.4
BLMBRG BRCLYS GLOBAL INF LNKD xUS	7.0	13.4	13.4	4.8	6.0	4.3
BLMBRG BRCLYS GLOBAL INF LNKD xUS *	1.9	8.4	8.4	5.9	7.0	6.2
<b>EMERGING MARKETS (HARD CURRENCY)</b>						
BLMBRG BRCLYS EM USD AGGREGATE	4.5	6.5	6.5	5.5	6.9	6.0
<b>EMERGING MARKETS (FOREIGN CURRENCY)</b>						
BLMBRG BRCLYS EM LOCAL CURR. GOV'T	7.1	5.3	5.3	3.7	6.1	2.7
BLMBRG BRCLYS EM LOCAL CURR. GOV'T *	0.9	3.2	3.2	4.8	4.2	3.4
EURO vs. DOLLAR	4.2	8.9	8.9	0.6	2.4	-0.9
YEN vs. DOLLAR	2.2	5.2	5.2	3.0	3.1	-2.4
POUND vs. DOLLAR	5.8	3.1	3.1	0.4	-1.5	-1.3

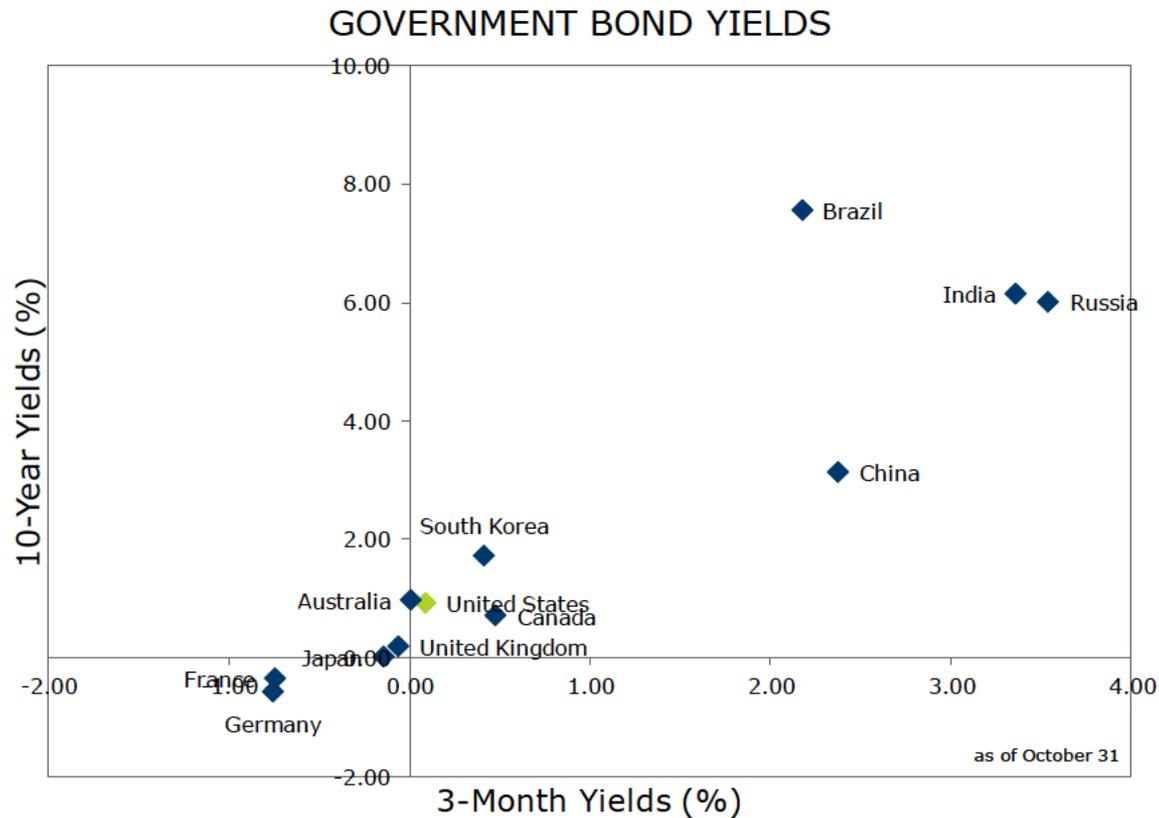
\* Returns are reported in terms of local market investors, which removes currency effects.



Data Sources: Bloomberg

# Global Interest Rates

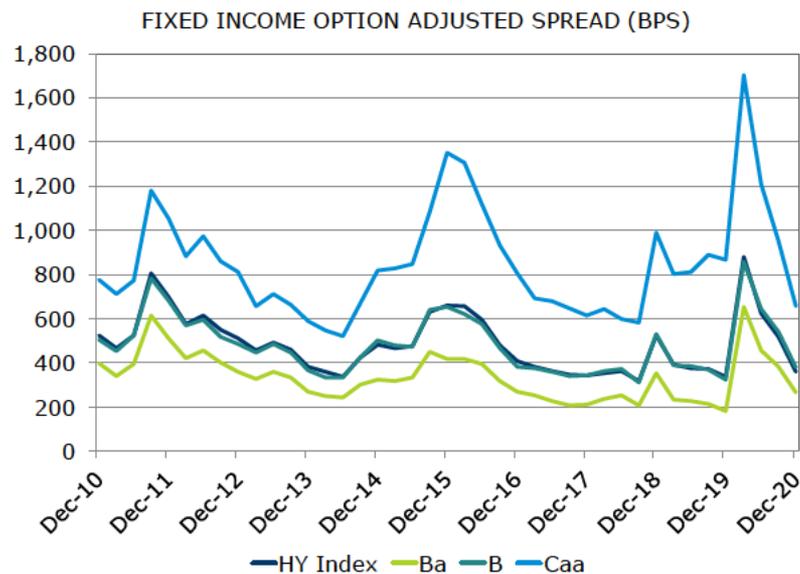
**Negative rates found in Germany and France; low but positive rates, and at similar levels, in the U.S. and Australia while the U.K. approaches zero**



Data Sources: Bloomberg

# High Yield Bond Market

AS OF 12/31/2020		YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
BLOOMBERG BARCLAYS HIGH YIELD		4.2	6.5	7.1	7.1	6.2	8.6	6.8
S&P LSTA LEVERAGE LOAN INDEX		4.0	3.4	2.8	2.8	4.2	5.3	4.0
<b>HIGH YIELD QUALITY DISTRIBUTION</b>	<b>WEIGHT</b>							
Ba U.S. HIGH YIELD	54.4%	3.2	5.7	10.2	10.2	7.5	8.5	7.3
B U.S. HIGH YIELD	32.7%	4.4	5.8	4.6	4.6	5.8	7.9	6.3
Caa U.S. HIGH YIELD	12.1%	7.1	9.9	2.3	2.3	2.5	9.3	6.4
Ca to D U.S. HIGH YIELD	0.8%	15.6	34.1	2.6	2.6	0.3	16.1	-3.9
Non-Rated U.S. HIGH YIELD	0.0%	0.0	0.0	-6.5	-6.5	0.2	3.0	3.2

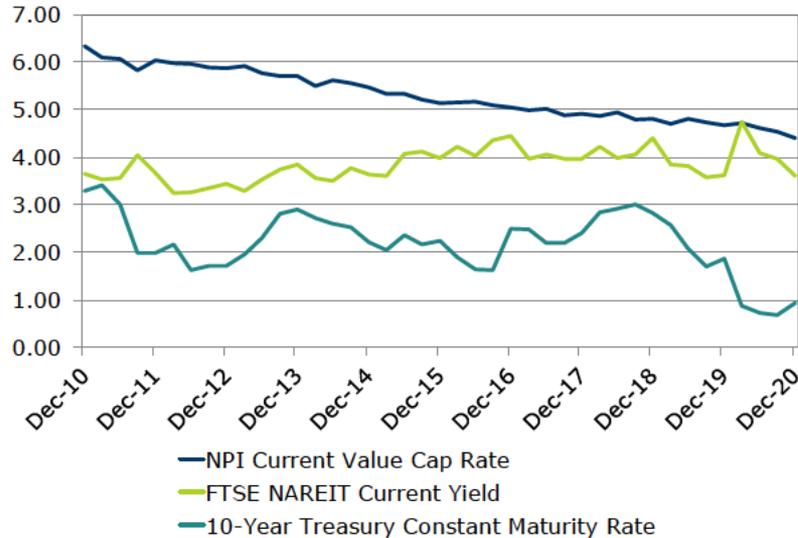


Data Sources: Bloomberg

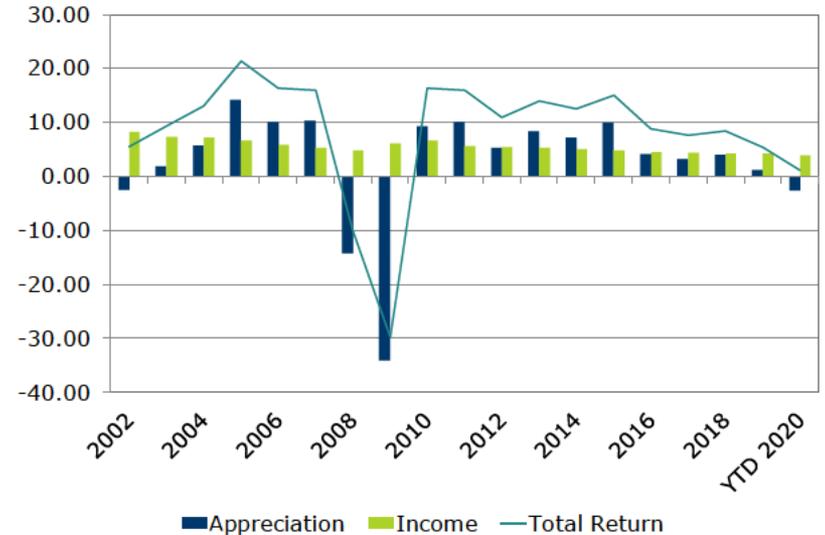
# Real Assets

AS OF 12/31/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
BLOOMBERG BARCLAYS U.S. TIPS	1.6	11.0	11.0	5.9	5.1	3.8
BLOOMBERG COMMODITY INDEX	10.2	-3.1	-3.1	-2.5	1.0	-6.5
BLOOMBERG GOLD INDEX	-0.4	20.9	20.9	11.5	11.0	2.1
WILSHIRE GLOBAL RESI INDEX	13.4	-8.5	-8.5	2.5	4.6	7.1
NCREIF ODCE FUND INDEX	1.3	1.2	1.2	4.9	6.2	9.9
NCREIF TIMBERLAND INDEX	0.6	0.8	0.8	1.8	2.3	4.6
ALERIAN MIDSTREAM ENERGY	20.1	-23.4	-23.4	-6.2	1.5	n.a.

REAL ESTATE VALUATION (%)



NCREIF ODCE FUND INDEX RETURN (%)



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



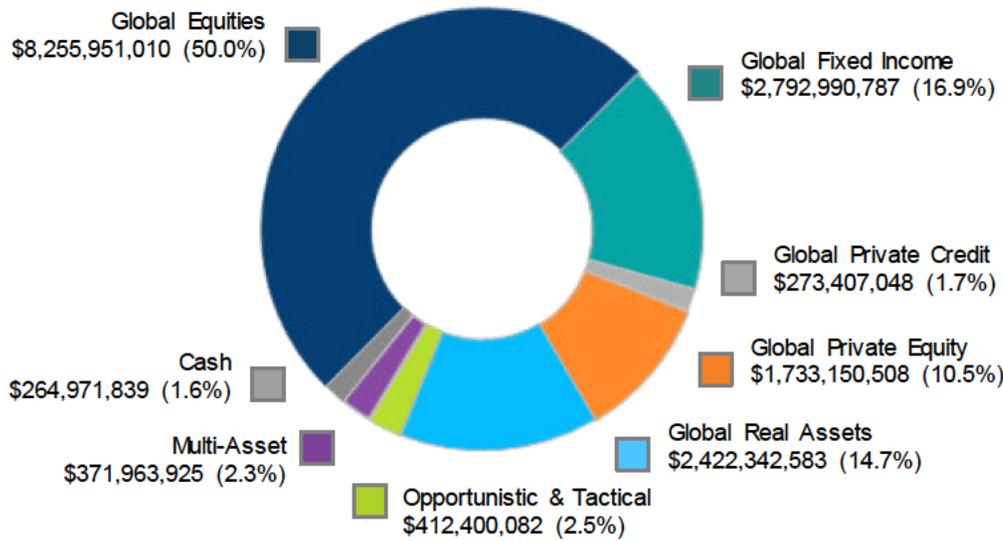
# TOTAL FUND

# Asset Allocation Summary

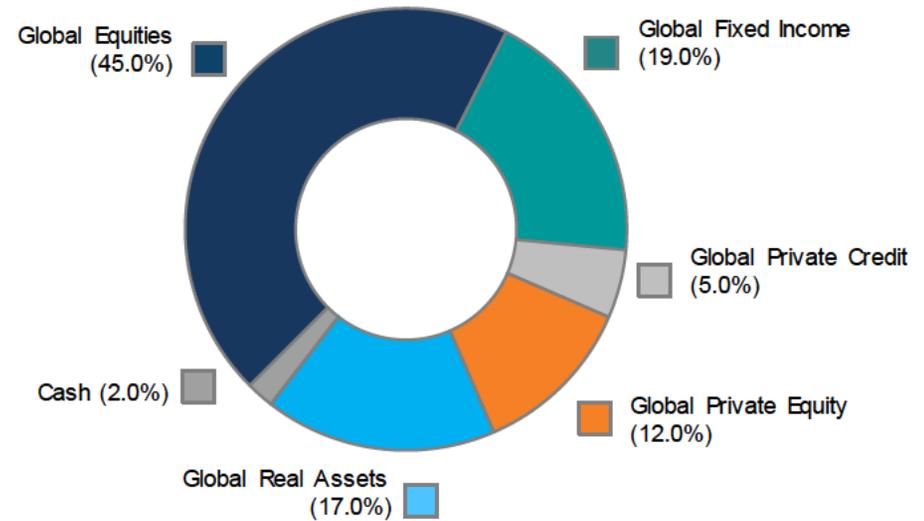
Total Fund

Periods Ended December 31, 2020

## Actual Allocation



## Current Policy



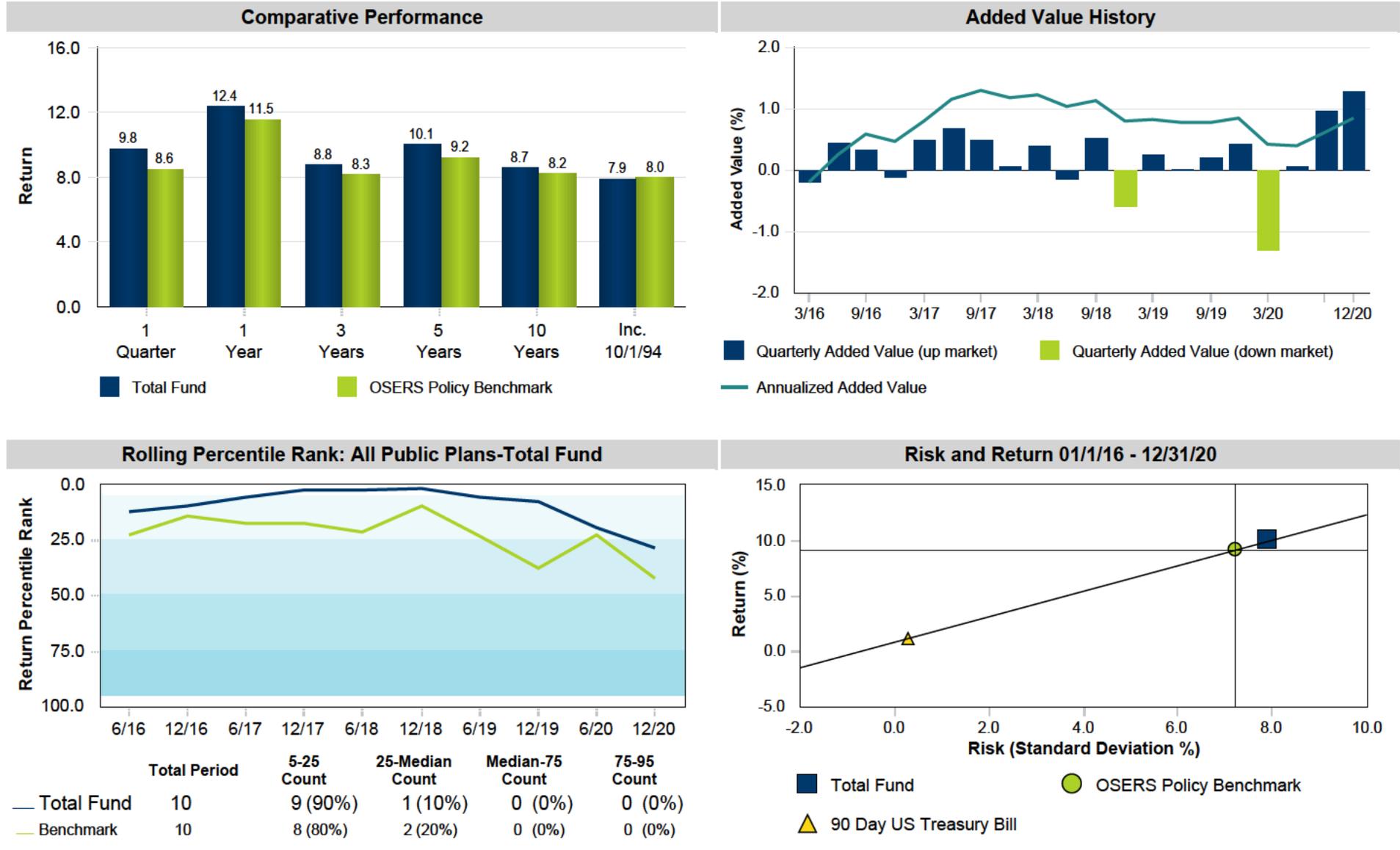
**\$16,527,177,781**



# Composite Performance Summary

Total Fund

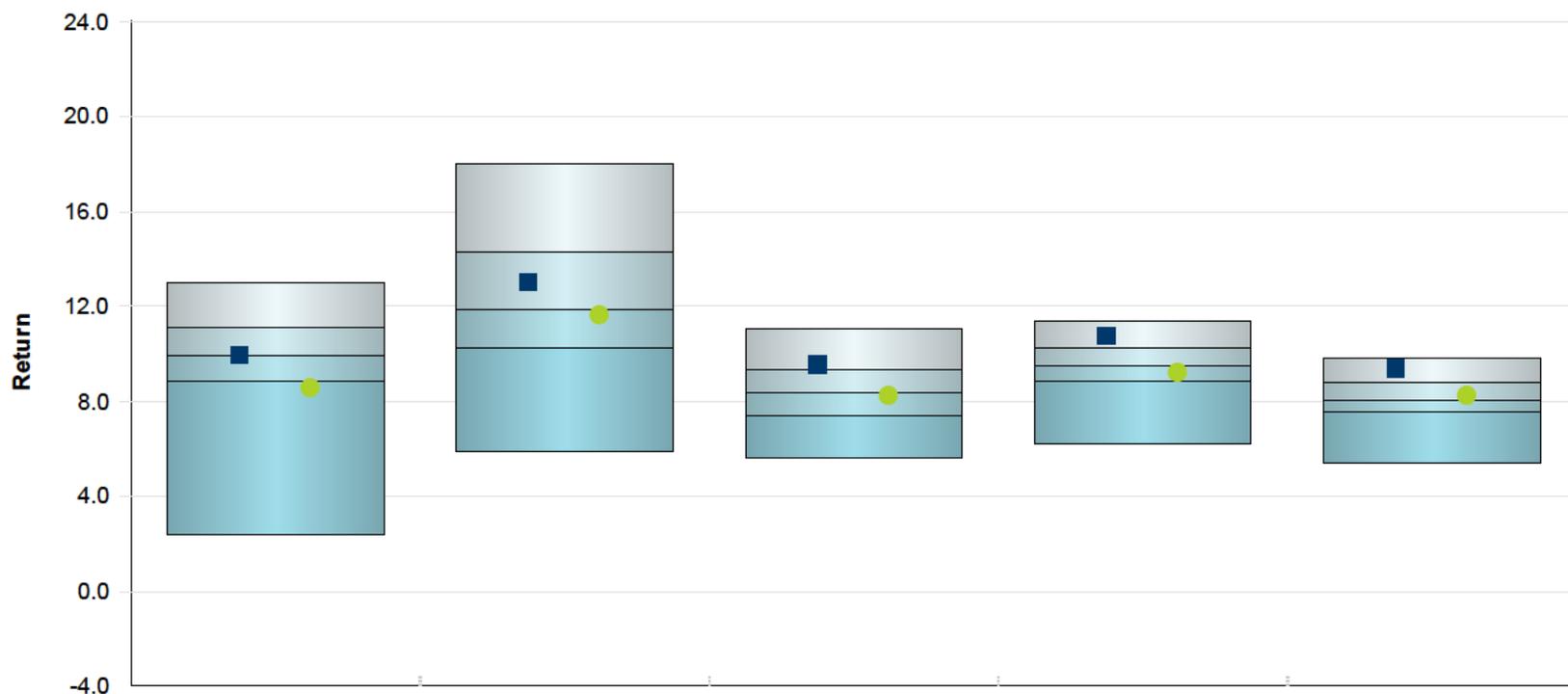
Periods Ended December 31, 2020



# Plan Sponsor Peer Group Analysis

Total Fund vs All Public Plans-Total Fund

Periods Ended December 31, 2020

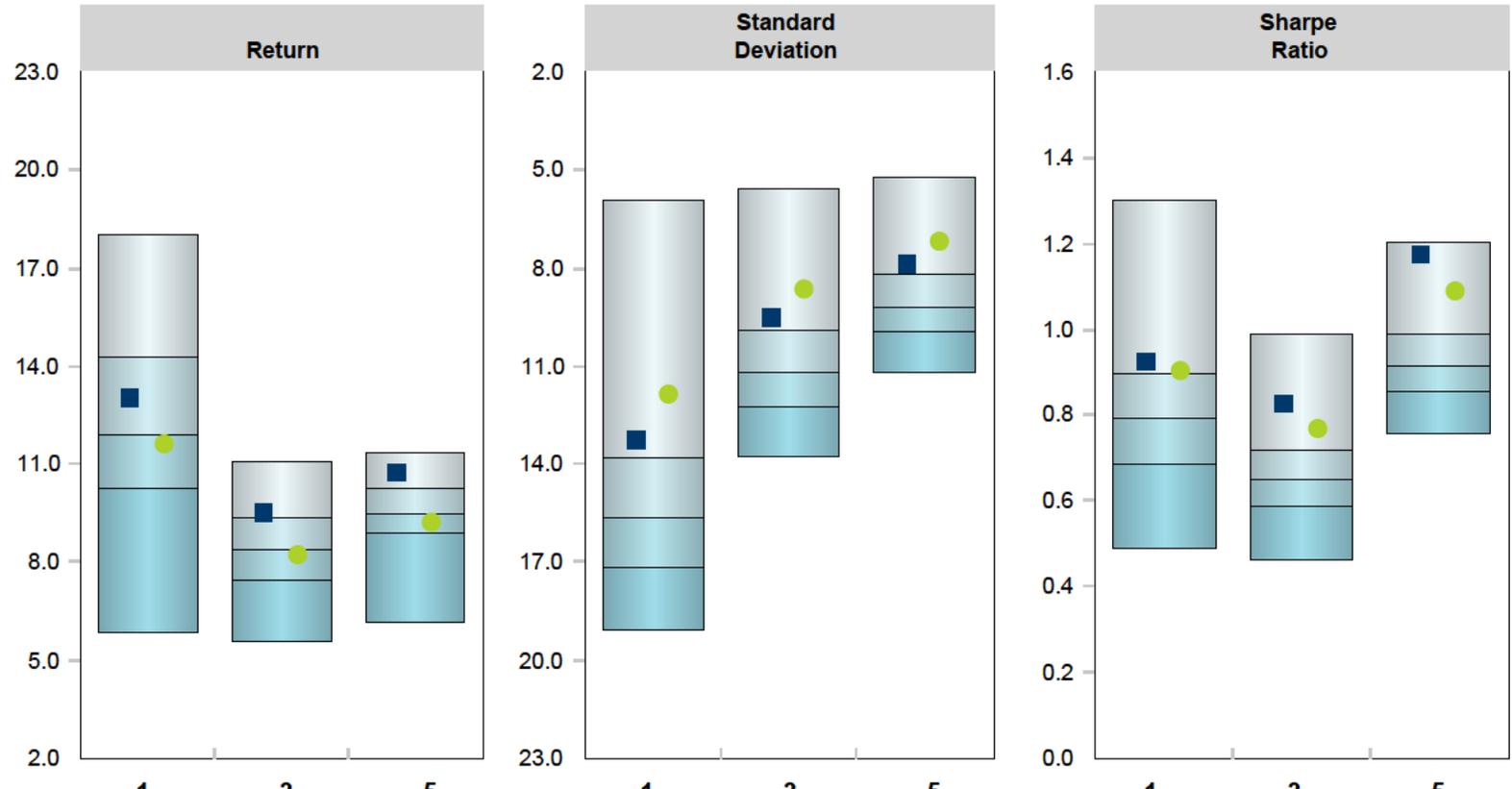


	QTD	1 Year	3 Years	5 Years	10 Years
■ Total Fund	9.94 (51)	12.99 (38)	9.49 (23)	10.74 (15)	9.37 (10)
● OSERS Policy Benchmark	8.56 (79)	11.55 (57)	8.25 (55)	9.24 (60)	8.24 (44)
5th Percentile	12.96	18.04	11.04	11.39	9.83
1st Quartile	11.10	14.28	9.34	10.26	8.78
Median	9.95	11.88	8.35	9.48	8.09
3rd Quartile	8.90	10.24	7.43	8.88	7.59
95th Percentile	2.37	5.89	5.59	6.17	5.43
Population	364	360	351	334	291

Parenteses contain percentile rankings.  
 Calculation based on monthly periodicity.  
 Gross of Fees

# Plan Sponsor Peer Group Analysis - Multi Statistics

Total Fund vs All Public Plans-Total Fund  
 Periods Ended December 31, 2020



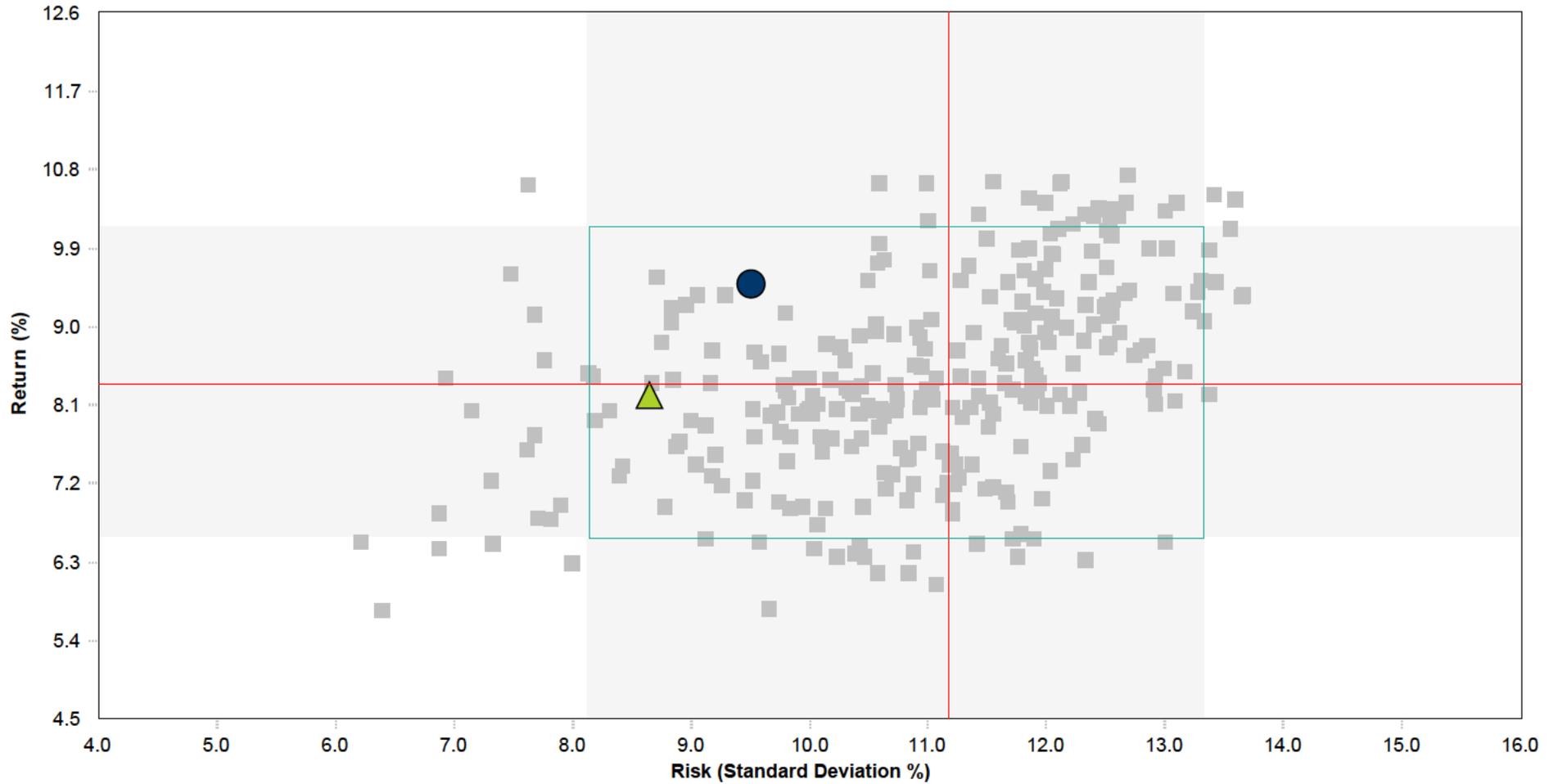
	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years	1 Year	3 Years	5 Years
■ Total Fund	12.99 (38)	9.49 (23)	10.74 (15)	13.28 (20)	9.52 (19)	7.92 (19)	0.92 (21)	0.83 (11)	1.17 (6)
● OSERS Policy Benchmark	11.55 (55)	8.25 (55)	9.24 (60)	11.88 (13)	8.64 (12)	7.23 (13)	0.90 (25)	0.76 (18)	1.09 (12)
5th Percentile	18.04	11.04	11.39	5.91	5.56	5.21	1.30	0.99	1.20
1st Quartile	14.28	9.34	10.26	13.81	9.91	8.19	0.90	0.72	0.99
Median	11.88	8.35	9.48	15.65	11.17	9.17	0.79	0.65	0.92
3rd Quartile	10.24	7.43	8.88	17.13	12.23	9.96	0.69	0.59	0.85
95th Percentile	5.89	5.59	6.17	19.07	13.77	11.20	0.49	0.47	0.76

Parenteses contain percentile rankings.  
 Calculation based on monthly periodicity.  
 Gross of Fees

# Plan Sponsor Scattergram

Total Fund vs All Public Plans-Total Fund

Periods Ended January 1, 2018 To December 31, 2020



	Return	Standard Deviation
● Total Fund	9.49	9.52
▲ OSERS Policy Benchmark	8.25	8.64
— Median	8.35	11.17

Calculation based on monthly periodicity.  
Gross of Fees

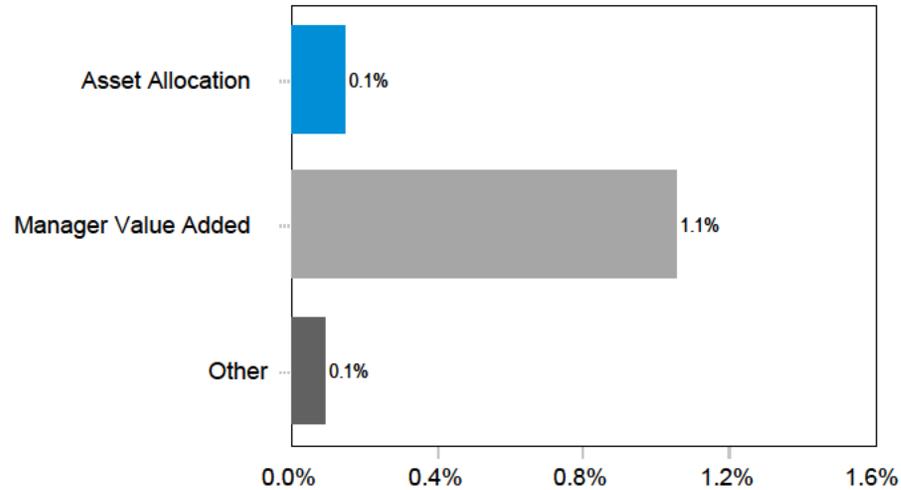
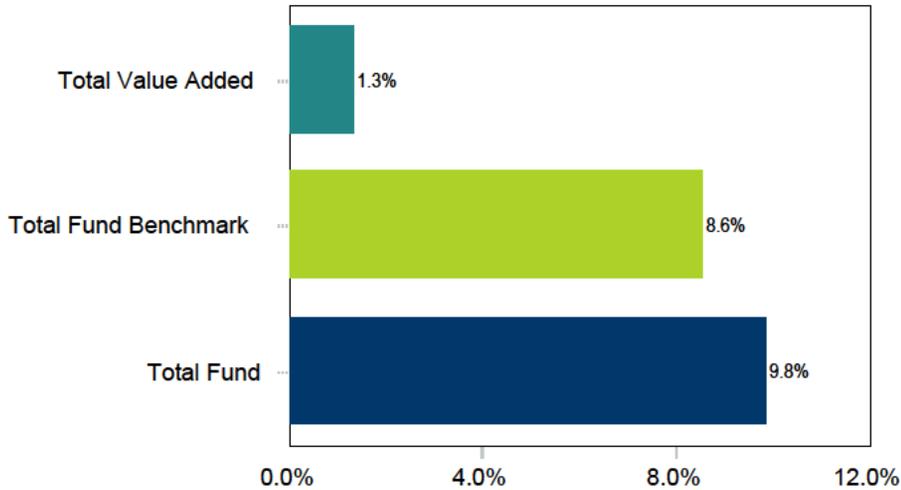
# Total Fund Attribution

Total Fund

Periods Ended 1 Quarter Ending December 31, 2020

**Total Fund Performance**

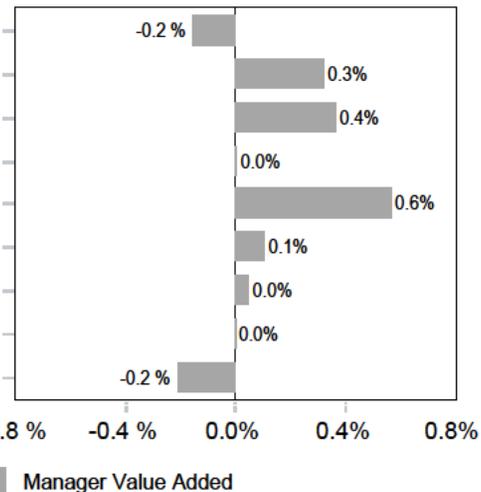
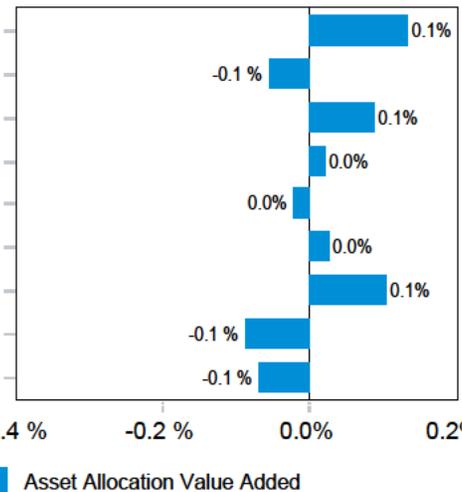
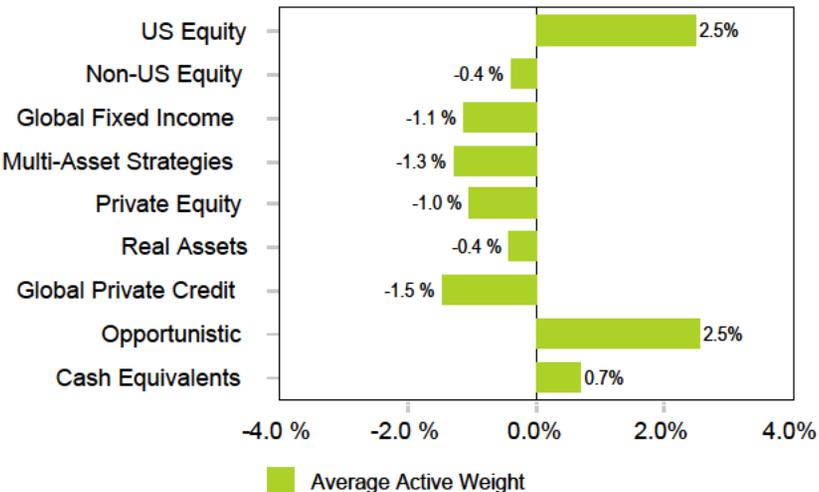
**Total Value Added:1.3%**



**Total Asset Allocation:0.1%**

**Asset Allocation Value Added:0.1%**

**Total Manager Value Added:1.1%**



# Asset Class Performance

Total Fund

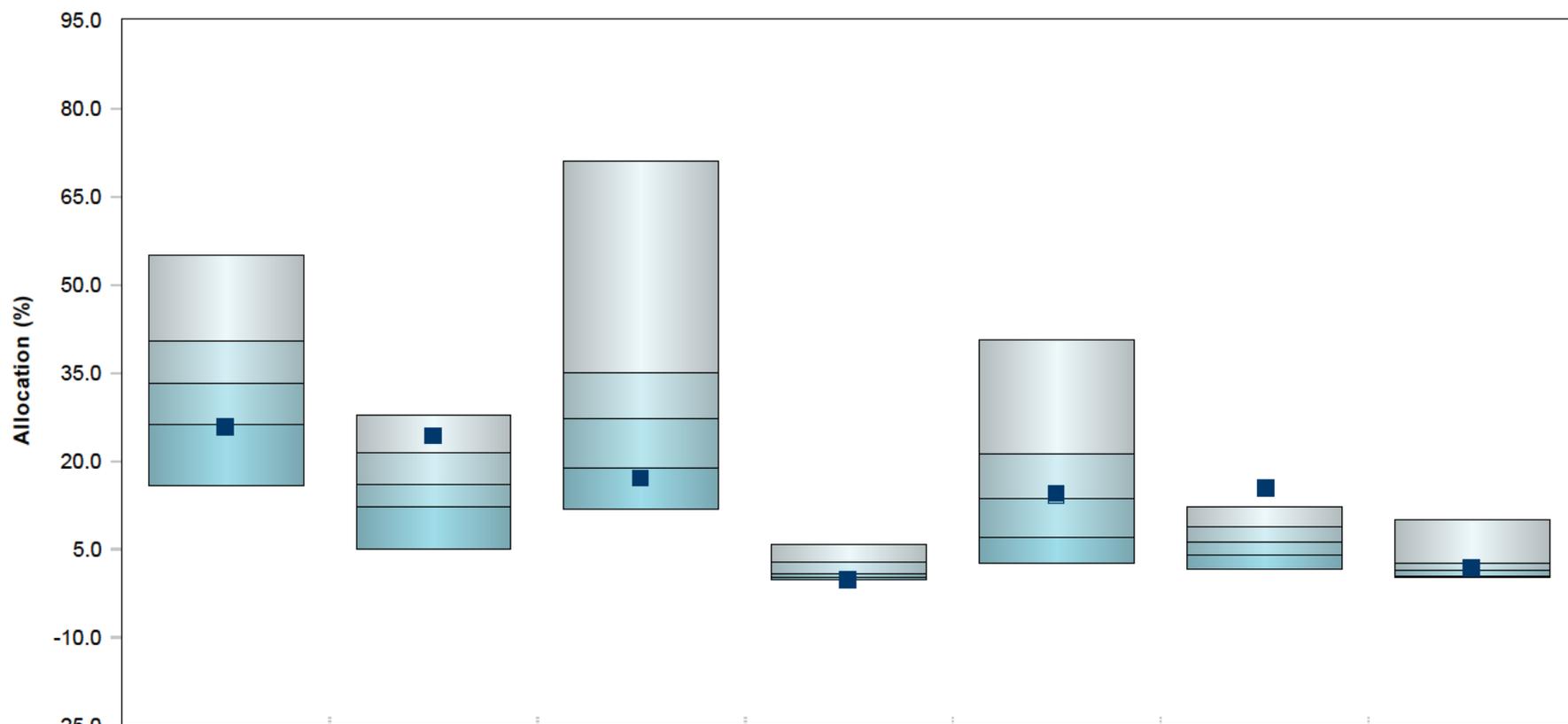
Periods Ended December 31, 2020

	QTD	YTD	Fiscal YTD	1 Year	Annualized					Inception Date
					3 Years	5 Years	10 Years	20 Years	Since Inception	
<b>Total Fund</b>	<b>9.8</b>	<b>12.4</b>	<b>15.9</b>	<b>12.4</b>	<b>8.8</b>	<b>10.1</b>	<b>8.7</b>	<b>6.2</b>	<b>7.9</b>	<b>Oct-94</b>
<i>OSERS Policy BM</i>	8.6	11.5	13.7	11.5	8.3	9.2	8.2	6.2	8.0	
Value Added	1.3	0.9	2.2	0.9	0.6	0.8	0.4	-0.0	-0.1	
<b>Global Equities</b>	<b>16.1</b>	<b>18.4</b>	<b>26.0</b>	<b>18.4</b>	<b>10.5</b>	<b>12.8</b>	<b>9.9</b>		<b>8.2</b>	<b>Jul-02</b>
<i>Custom Gbl Equities BM</i>	15.8	15.7	24.8	15.7	9.7	12.2	9.5		7.9	
Value Added	0.3	2.6	1.2	2.6	0.8	0.6	0.4		0.4	
<b>US Equity</b>	<b>14.1</b>	<b>21.7</b>	<b>24.3</b>	<b>21.7</b>	<b>14.1</b>	<b>15.0</b>	<b>13.5</b>	<b>7.5</b>	<b>10.1</b>	<b>Oct-94</b>
<i>Russell 3000 Index</i>	14.7	20.9	25.2	20.9	14.5	15.4	13.8	7.8	10.5	
Value Added	-0.6	0.8	-0.9	0.8	-0.4	-0.5	-0.3	-0.3	-0.3	
<b>Non-US Equity</b>	<b>18.5</b>	<b>14.8</b>	<b>27.8</b>	<b>14.8</b>	<b>6.8</b>	<b>10.5</b>	<b>6.3</b>	<b>5.8</b>	<b>6.9</b>	<b>Dec-94</b>
<i>Custom Non-US Equity BM</i>	17.0	10.7	24.3	10.7	4.9	8.9	5.2	5.0	6.2	
Value Added	1.5	4.2	3.4	4.2	1.9	1.6	1.1	0.9	0.6	
<b>Global Fixed Income</b>	<b>2.6</b>	<b>10.3</b>	<b>4.4</b>	<b>10.3</b>	<b>6.4</b>	<b>5.7</b>	<b>4.8</b>	<b>5.7</b>	<b>6.2</b>	<b>Oct-94</b>
<i>Bloomberg U.S. Aggregate</i>	0.7	7.5	1.3	7.5	5.3	4.4	3.8	4.8	5.6	
Value Added	2.0	2.8	3.1	2.8	1.0	1.2	1.0	0.9	0.6	
<b>Multi-Asset Strategies</b>	<b>8.1</b>	<b>8.6</b>	<b>11.4</b>	<b>8.6</b>	<b>4.9</b>	<b>4.8</b>	<b>4.4</b>		<b>4.1</b>	<b>Jun-08</b>
<i>Custom MAS BM</i>	7.8	11.3	12.6	11.3	5.7	5.5	4.0		3.5	
Value Added	0.3	-2.8	-1.2	-2.8	-0.8	-0.6	0.4		0.6	
<b>Global Private Credit</b>	<b>4.1</b>		<b>7.8</b>						<b>7.8</b>	<b>Jul-20</b>
<i>3 Mo. LIBOR + 4.5%</i>	1.2		2.4						2.4	
Value Added	3.0		5.4						5.4	
<b>Global Private Equity</b>	<b>13.4</b>	<b>15.8</b>	<b>20.8</b>	<b>15.8</b>	<b>15.6</b>	<b>16.1</b>	<b>16.1</b>	<b>6.1</b>	<b>12.5</b>	<b>Oct-94</b>
<i>Custom Gbl Private Equity BM</i>	7.7	12.2	17.6	12.2	12.3	12.1	14.2	8.6	12.3	
Value Added	5.7	3.6	3.3	3.6	3.3	4.0	1.9	-2.6	0.2	
<b>Global Real Assets</b>	<b>1.7</b>	<b>2.8</b>	<b>2.7</b>	<b>2.8</b>	<b>7.2</b>	<b>8.0</b>	<b>9.7</b>	<b>6.2</b>	<b>7.3</b>	<b>Sep-94</b>
<i>Custom Gbl Real Assets BM</i>	0.7	2.0	-0.3	2.0	5.1	6.3	9.4	8.6	9.2	
Value Added	1.0	0.8	2.9	0.8	2.1	1.7	0.4	-2.3	-1.9	
<b>Opportunistic &amp; Tactical</b>	<b>5.2</b>	<b>1.0</b>	<b>10.1</b>	<b>1.0</b>	<b>3.9</b>	<b>7.4</b>			<b>6.0</b>	<b>Jun-13</b>
<i>Opportunistic &amp; Tactical BM</i>	1.2	0.4	2.3	0.4	4.5	7.0			6.7	
Value Added	4.0	0.6	7.8	0.6	-0.6	0.4			-0.8	
<b>Cash Equivalents*</b>	<b>-7.7</b>	<b>-2.2</b>	<b>-0.6</b>	<b>-2.2</b>	<b>1.2</b>	<b>1.2</b>	<b>0.8</b>		<b>1.6</b>	<b>Jul-02</b>
<i>FTSE 30 Day Treasury Bill</i>	0.0	0.5	0.0	0.5	1.5	1.1	0.6		1.2	
Value Added	-7.7	-2.7	-0.7	-2.7	-0.3	0.1	0.3		0.4	
<b>Short-Term Cash</b>	<b>0.0</b>	<b>0.5</b>	<b>0.0</b>	<b>0.5</b>	<b>1.6</b>	<b>1.2</b>	<b>0.7</b>	<b>1.8</b>	<b>4.0</b>	<b>Mar-84</b>
<i>FTSE 30 Day Treasury Bill</i>	0.0	0.5	0.0	0.5	1.5	1.1	0.6	1.3	3.2	
Value Added	-0.0	0.1	-0.0	0.1	0.1	0.2	0.1	0.4	0.8	

# Plan Sponsor TF Asset Allocation

Total Fund vs All Public Plans-Total Fund

Periods Ended December 31, 2020



	US Equity	Global ex-US Equity	US Fixed	Global ex-US Fixed	Alternatives	Total Real Estate	Cash & Equivalents
■ Total Fund	25.81	24.15	16.90	0.00	14.39	14.66	1.60
5th Percentile	55.08	27.80	71.12	5.82	40.76	12.24	10.09
1st Quartile	40.39	21.37	34.86	2.79	21.16	8.87	2.48
Median	33.10	16.21	27.19	0.89	13.83	6.30	1.37
3rd Quartile	26.31	12.34	18.84	0.13	7.23	4.17	0.59
95th Percentile	15.79	5.02	11.82	0.01	2.46	1.60	0.09

Global Private Equity, Global Private Credit and Multi-Asset Strategies are included in Alternatives.  
Global Real Assets are included in Real Estate.



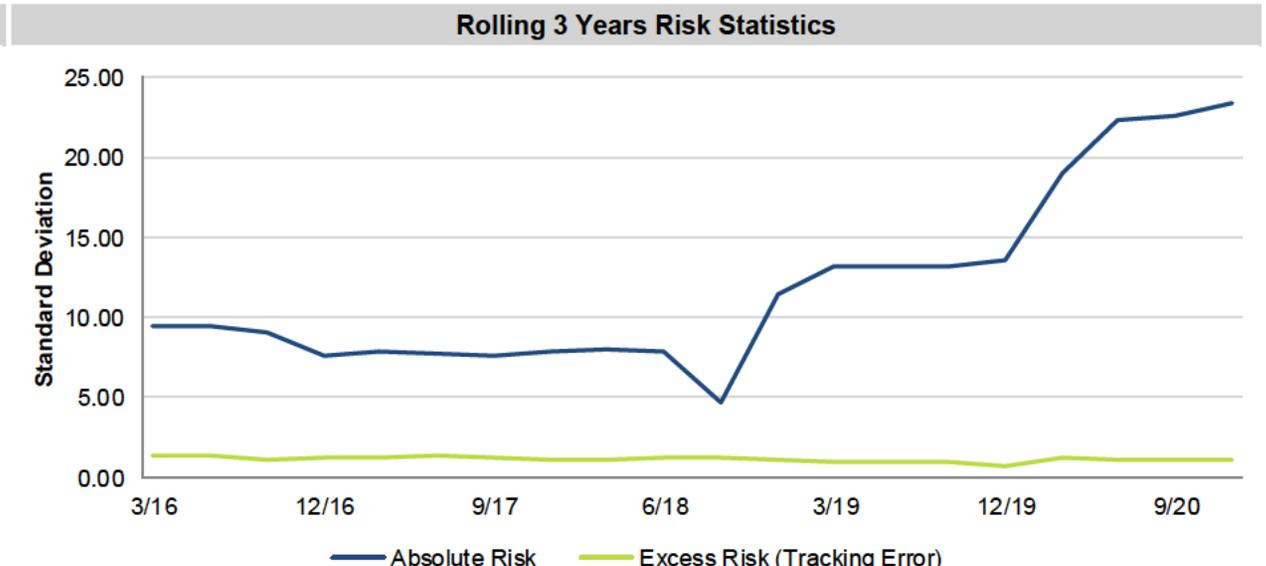
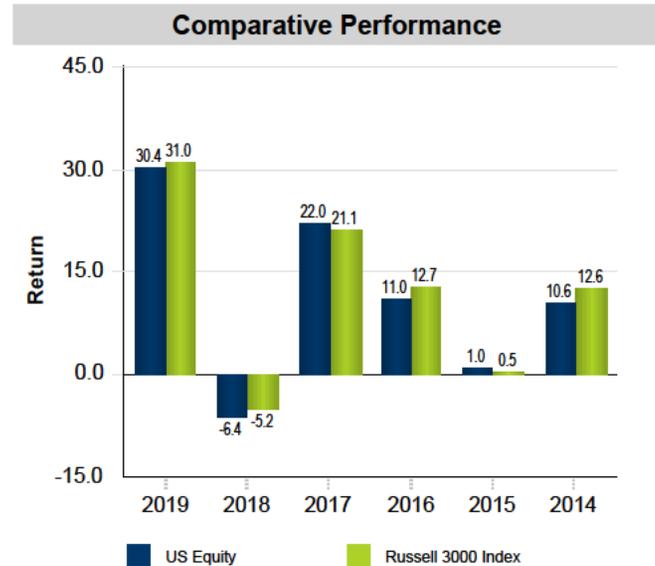
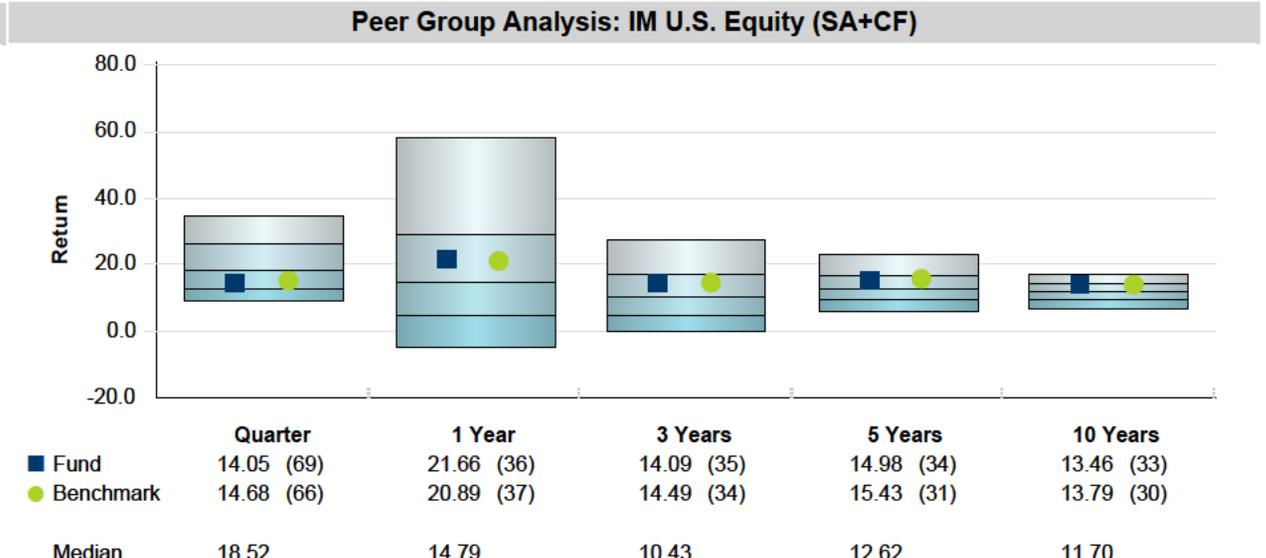
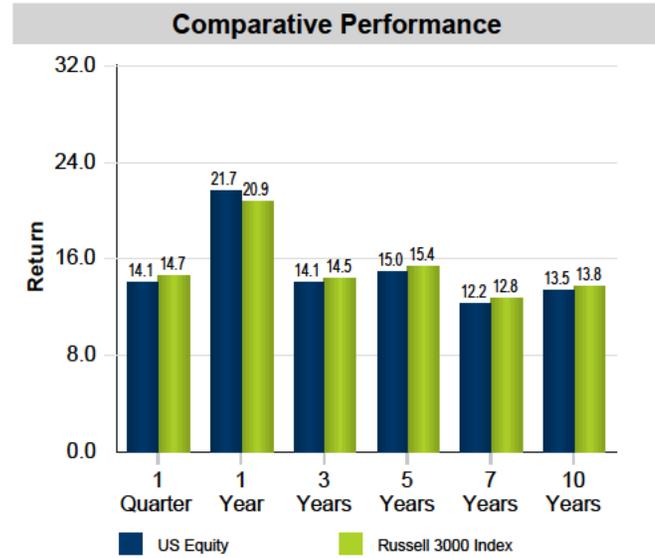
# US EQUITY



# Performance Summary

US Equity

Periods Ended December 31, 2020





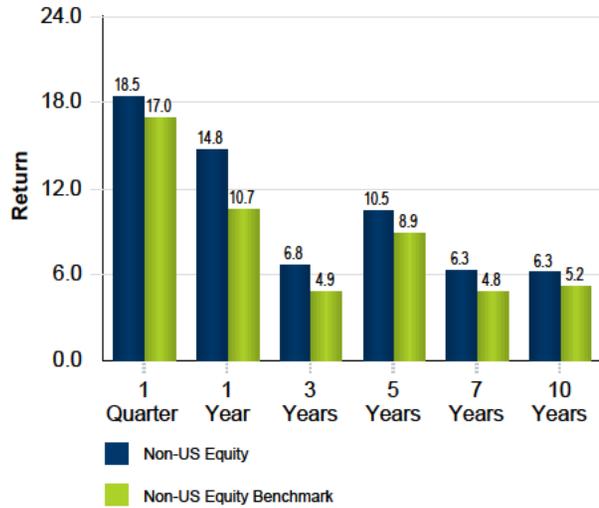
# NON-US EQUITY

# Performance Summary

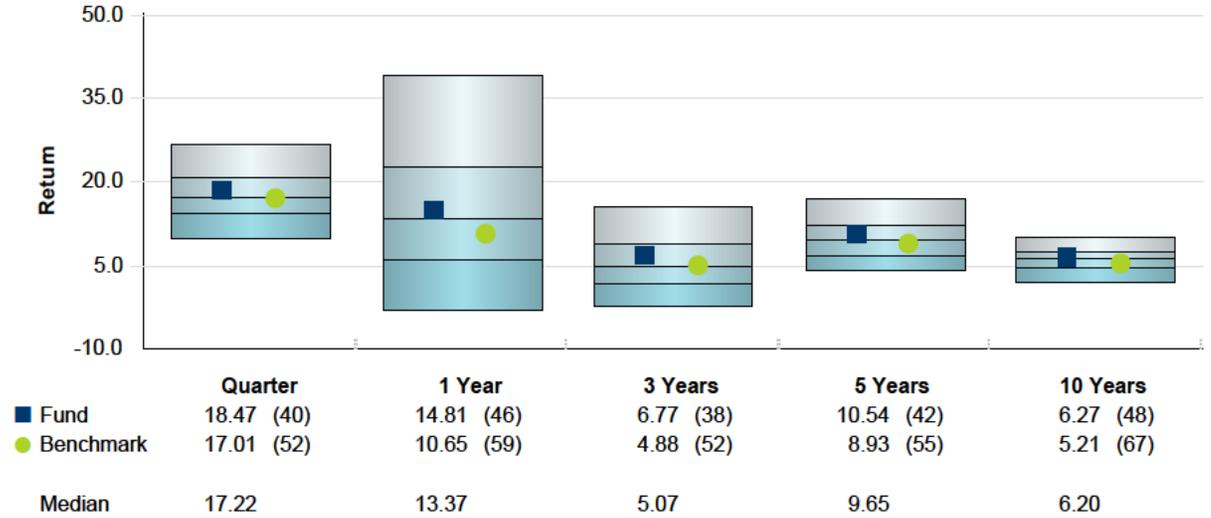
Non-US Equity

Periods Ended December 31, 2020

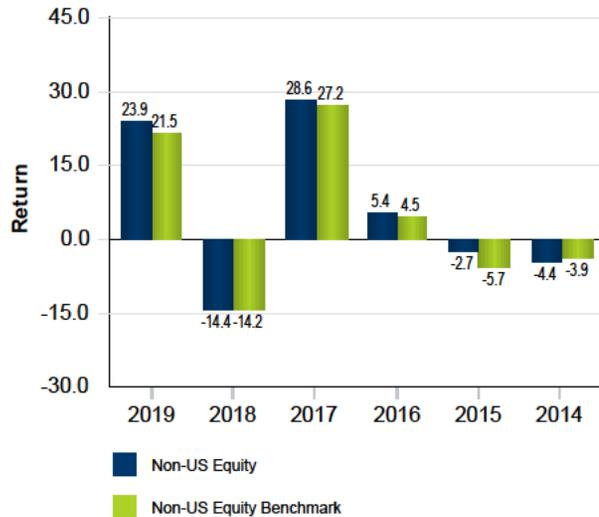
**Comparative Performance**



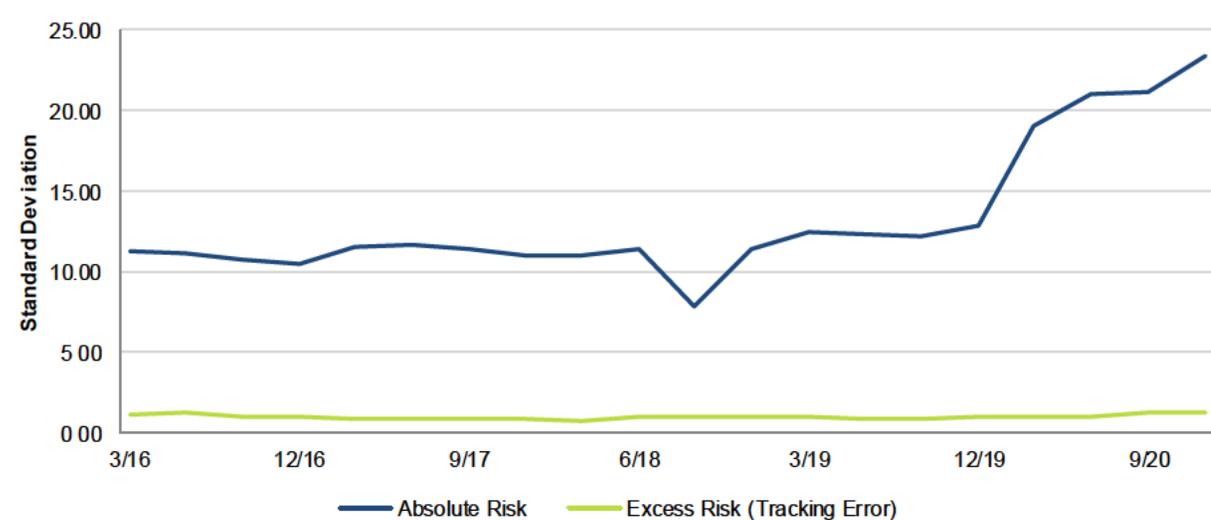
**Peer Group Analysis: IM International Equity (SA+CF)**



**Comparative Performance**



**Rolling 3 Years Risk Statistics**





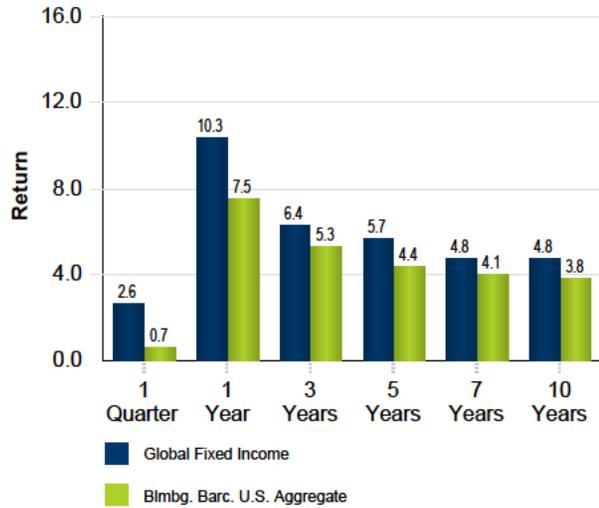
# GLOBAL FIXED INCOME

# Performance Summary

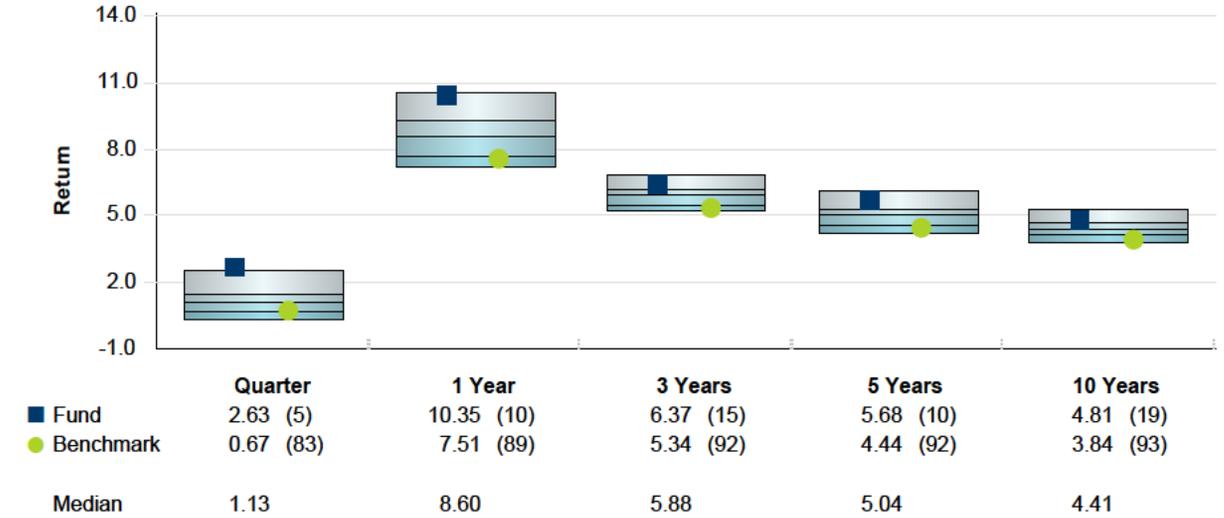
Global Fixed Income

Periods Ended December 31, 2020

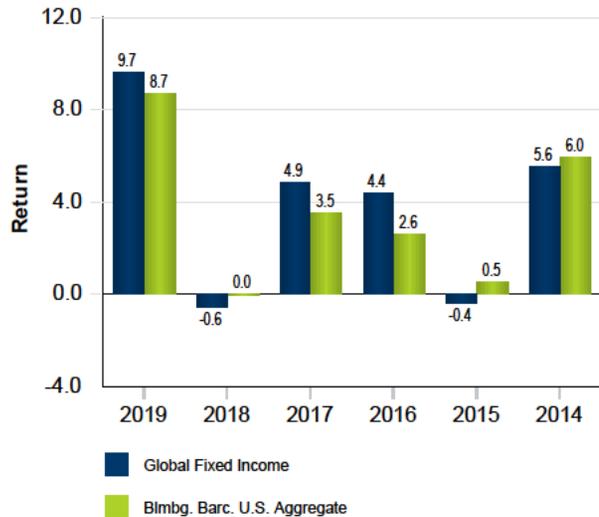
## Comparative Performance



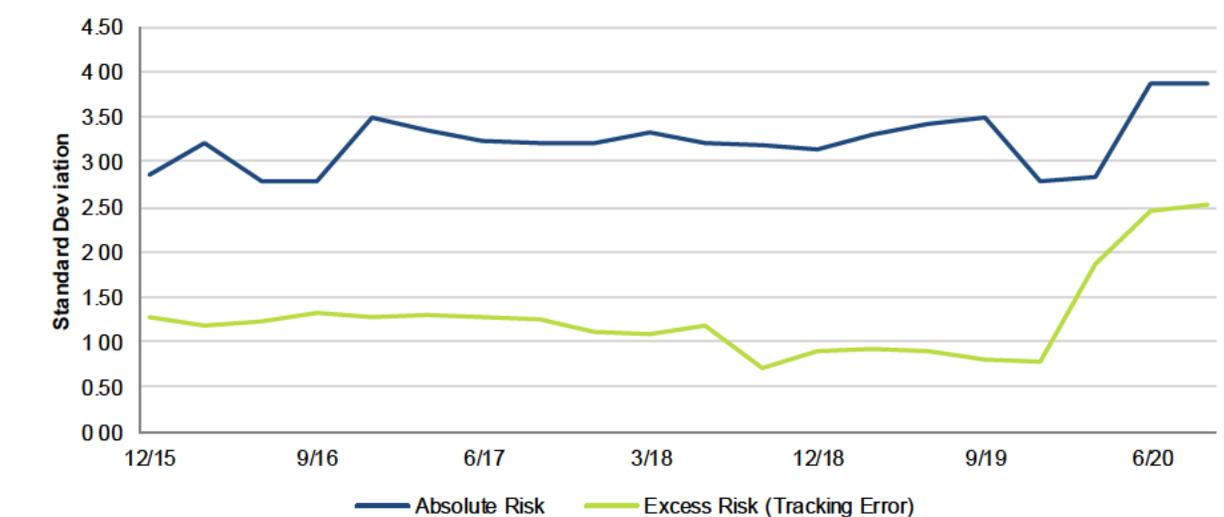
## Peer Group Analysis: IM U.S. Broad Market Core Fixed Income (SA+CF)



## Comparative Performance



## Rolling 3 Years Risk Statistics





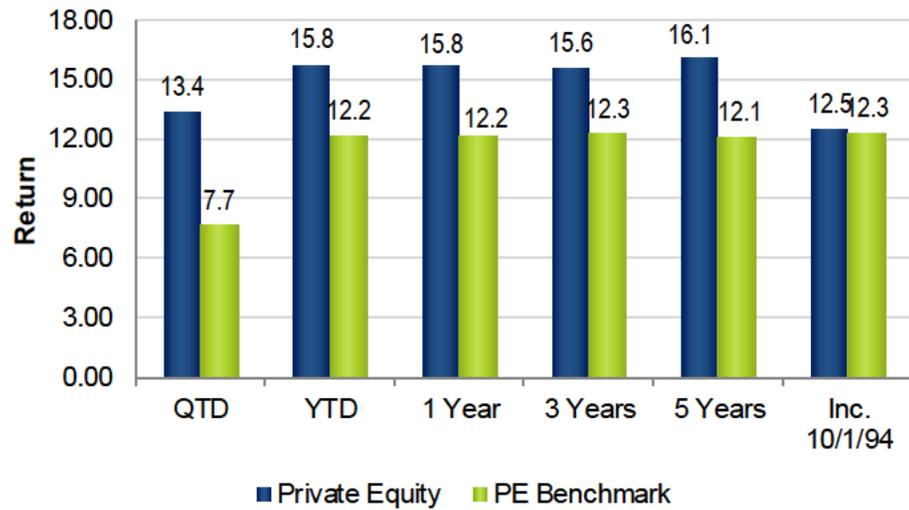
# GLOBAL PRIVATE EQUITY

# Performance Summary

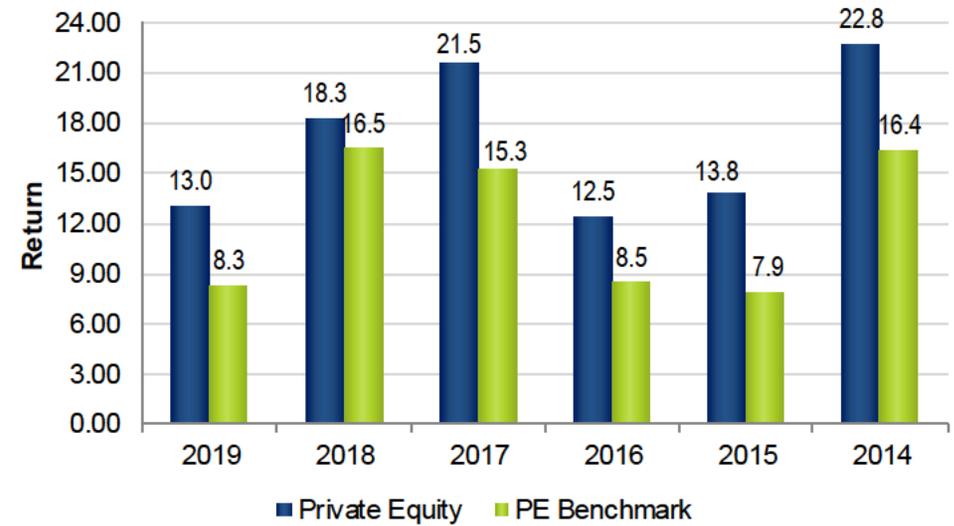
Global Private Equity

Periods Ended December 31, 2020

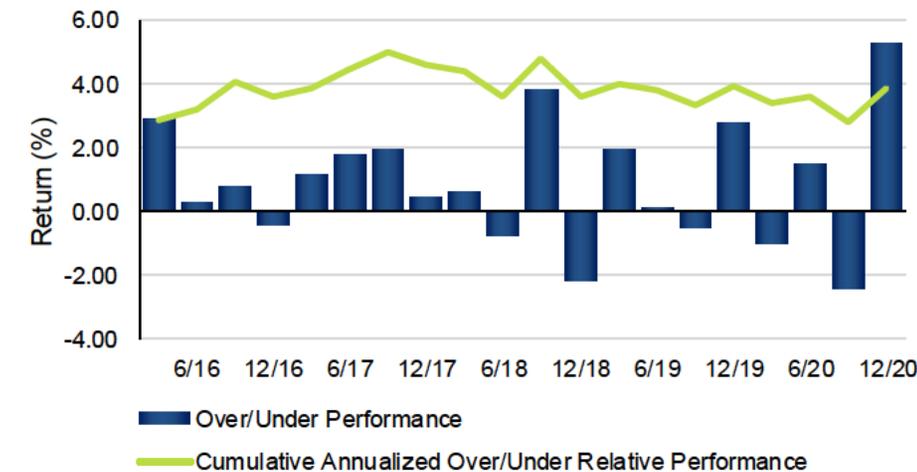
Comparative Performance



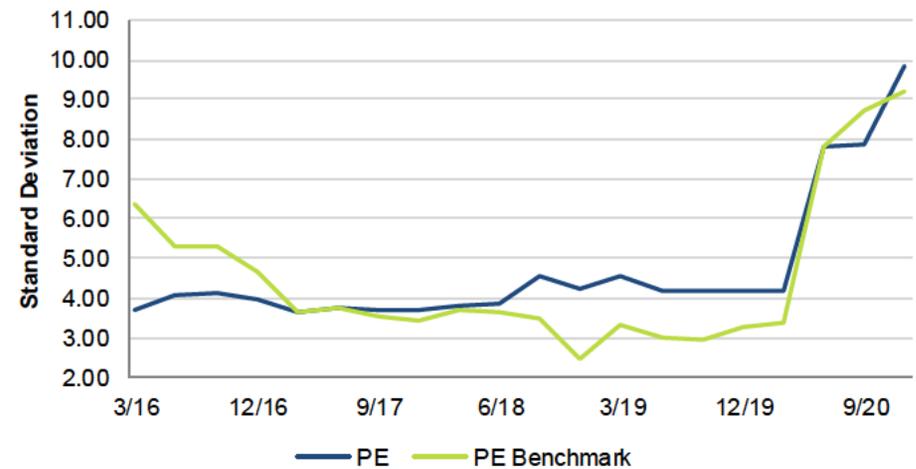
Comparative Performance



Relative Performance



3-Yr Rolling Absolute Risk Statistics





# GLOBAL REAL ASSETS

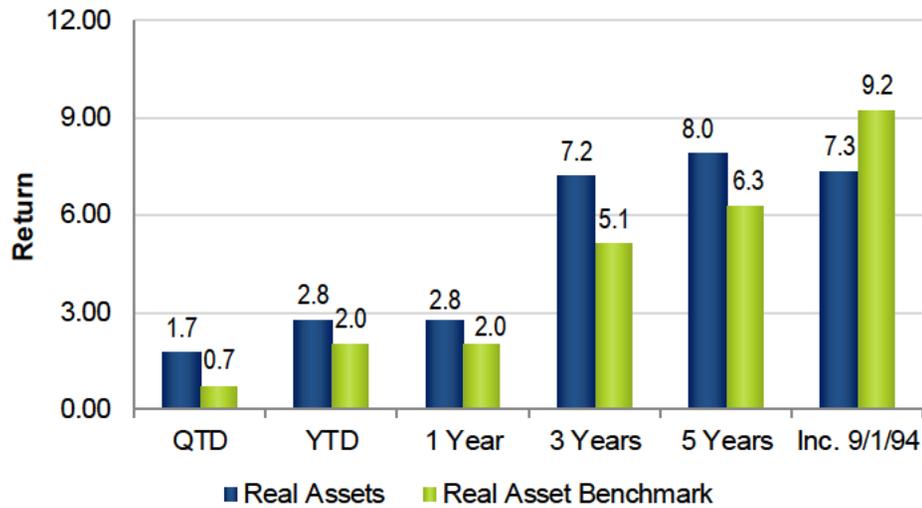


# Performance Summary

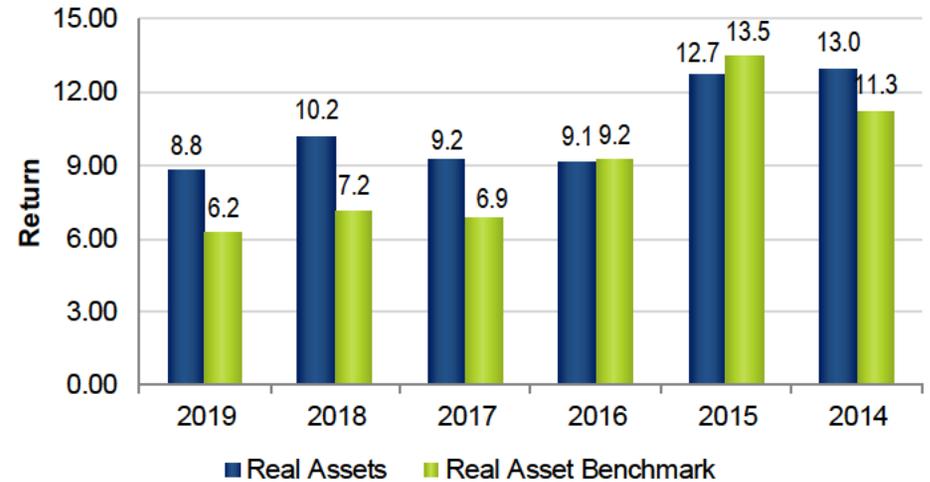
Global Real Assets

Periods Ended December 31, 2020

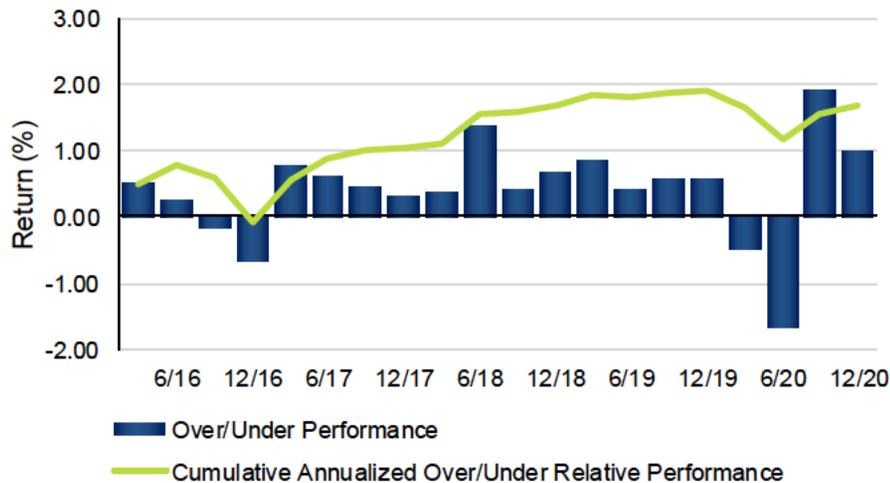
**Comparative Performance**



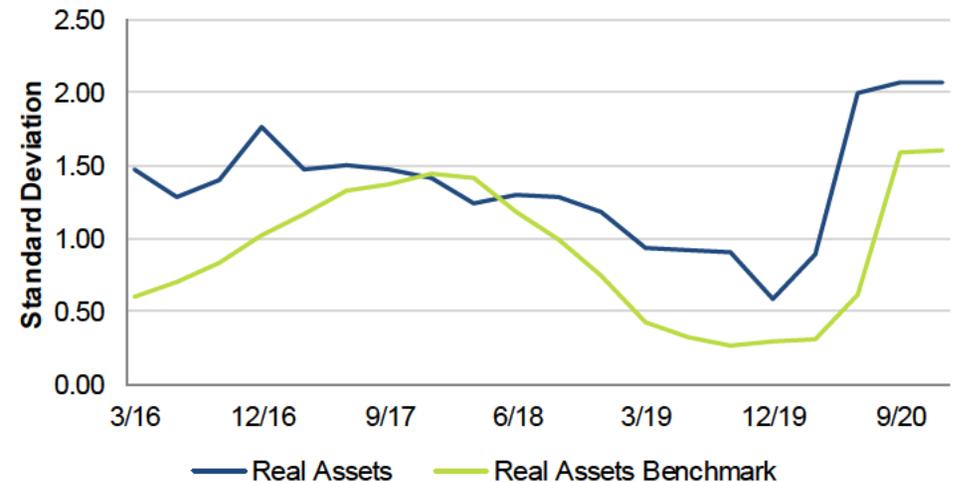
**Comparative Performance**



**Relative Performance**



**3-Yr Rolling Absolute Risk Statistics**



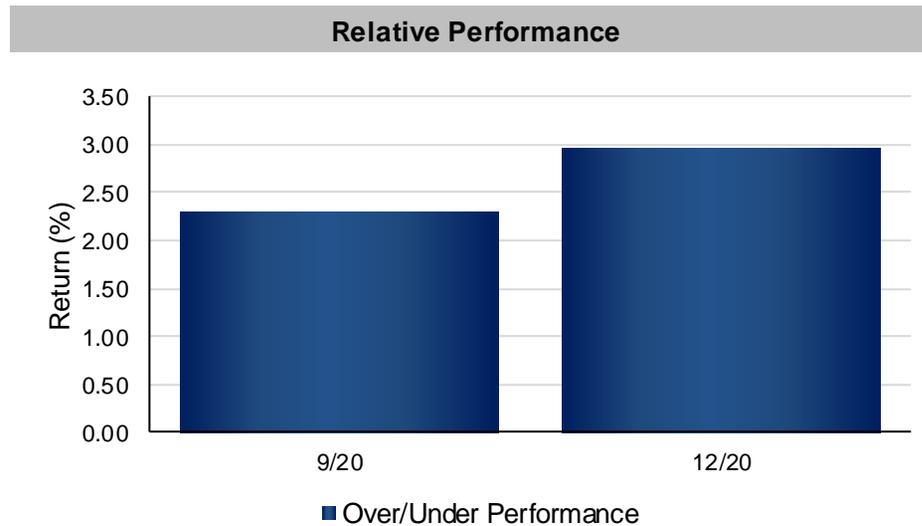
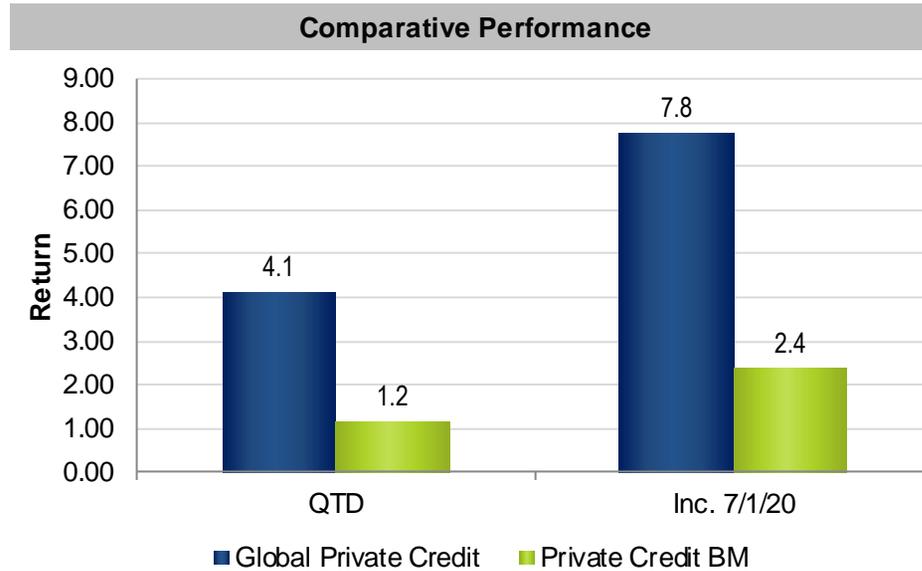


# GLOBAL PRIVATE CREDIT

# Performance Summary

Global Private Credit

Periods Ended December 31, 2020





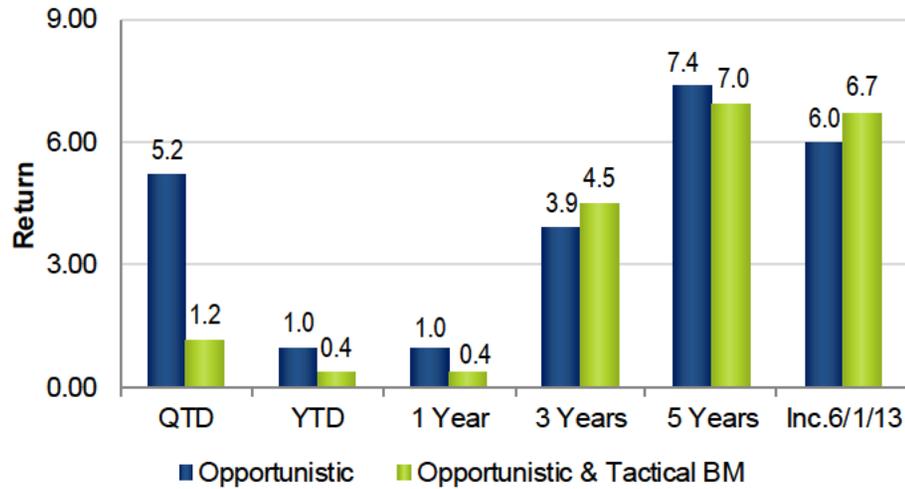
# OPPORTUNISTIC & TACTICAL

# Performance Summary

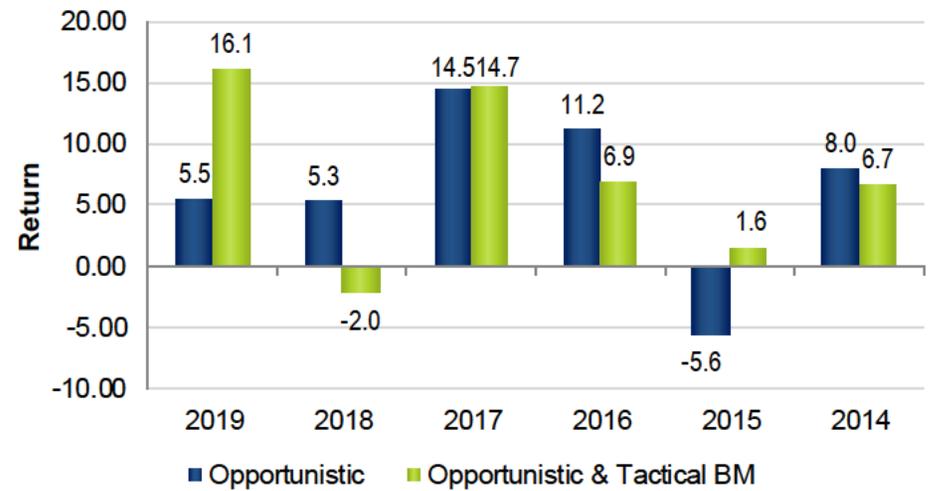
Opportunistic & Tactical

Periods Ended December 31, 2020

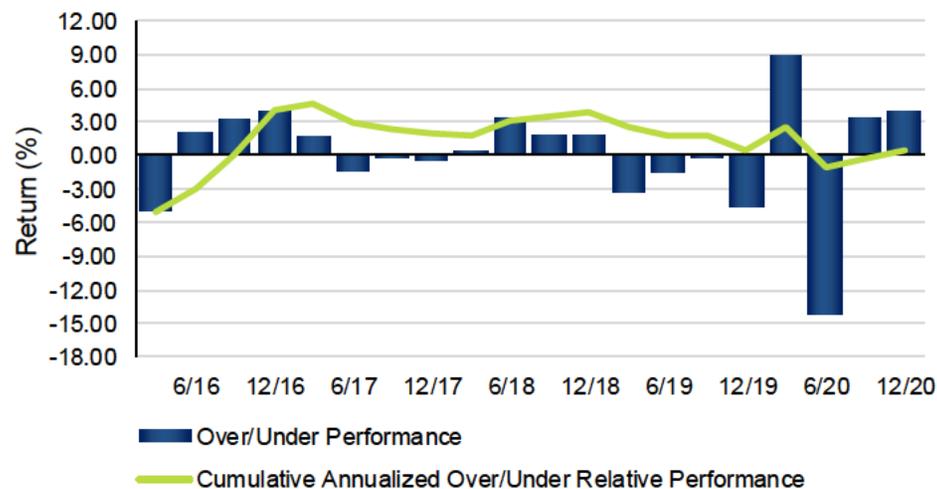
**Comparative Performance**



**Comparative Performance**



**Relative Performance**





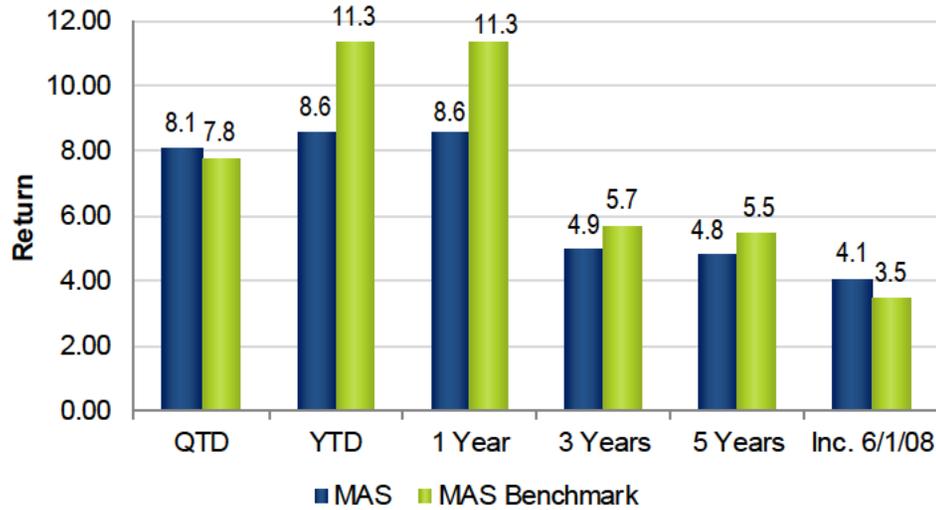
# MULTI-ASSET STRATEGIES

# Performance Summary

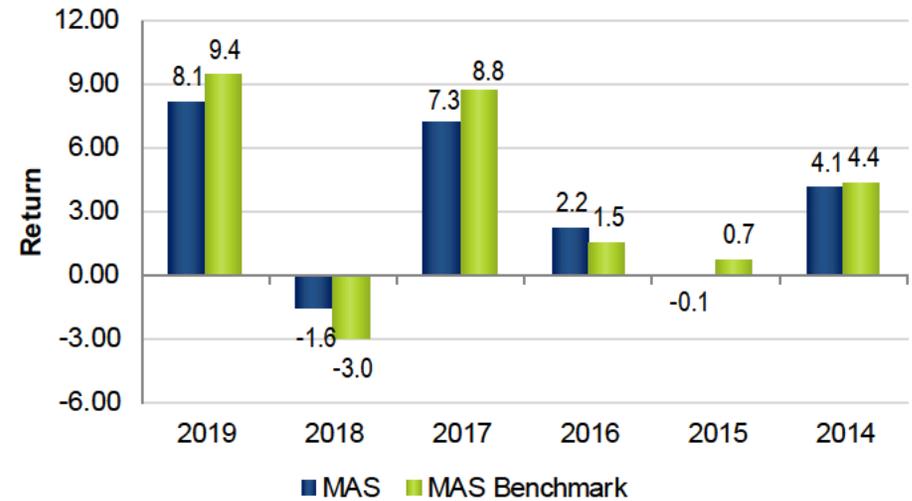
Multi-Asset Strategies

Periods Ended December 31, 2020

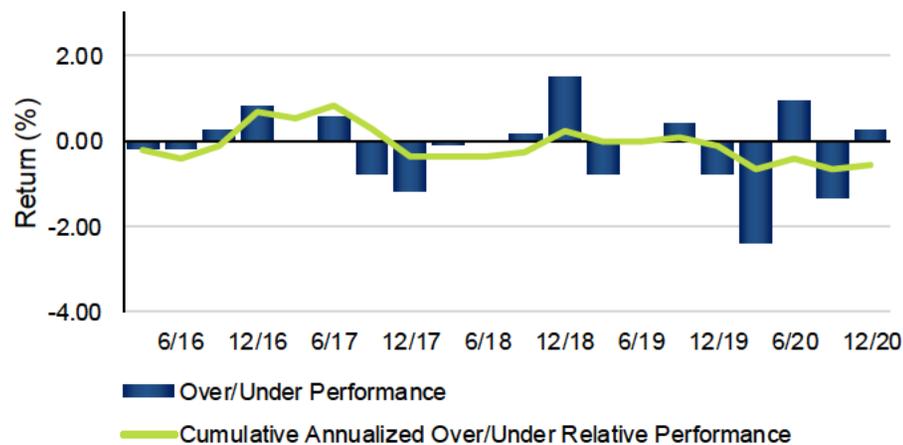
**Comparative Performance**



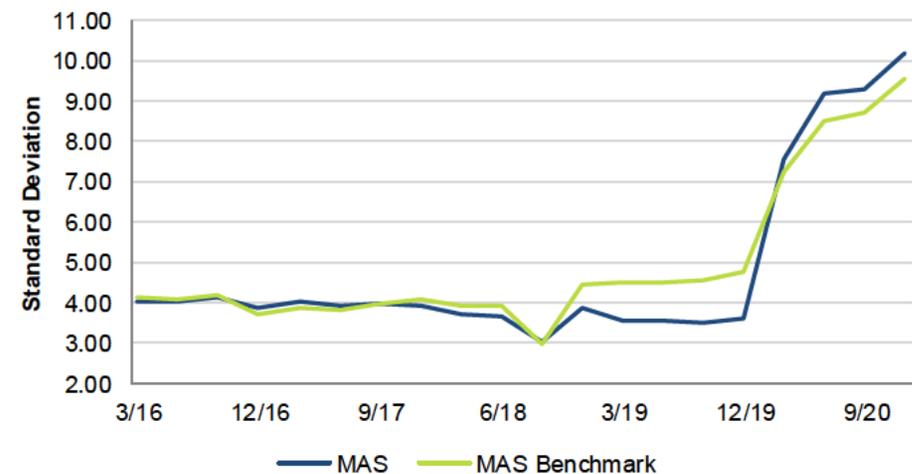
**Comparative Performance**



**Relative Performance**



**3-Yr Rolling Absolute Risk Statistics**



INVESTMENT REPORT  
(tab)



# Ohio SERS Investment Report

## Monthly Report to the Board

For the period ending:  
December 31, 2020

Prepared by Investment and IAD Staff

Farouki Majeed, Chief Investment Officer

*Meeting Date: February 2021*

*Serving the People Who Serve Our Schools®*





## **Investment Agenda**

---

Annual Portfolio Review – Real Assets

Wilshire Quarterly Performance Report (December 31, 2020)

Quarterly Investment Report (December 31, 2020)

Amendments to the Statement of Investment Policy (possible vote)

Amendments to the Annual Investment Plan (possible vote)



# Economic and Financial Market Outlook



## Ohio SERS Investment Report

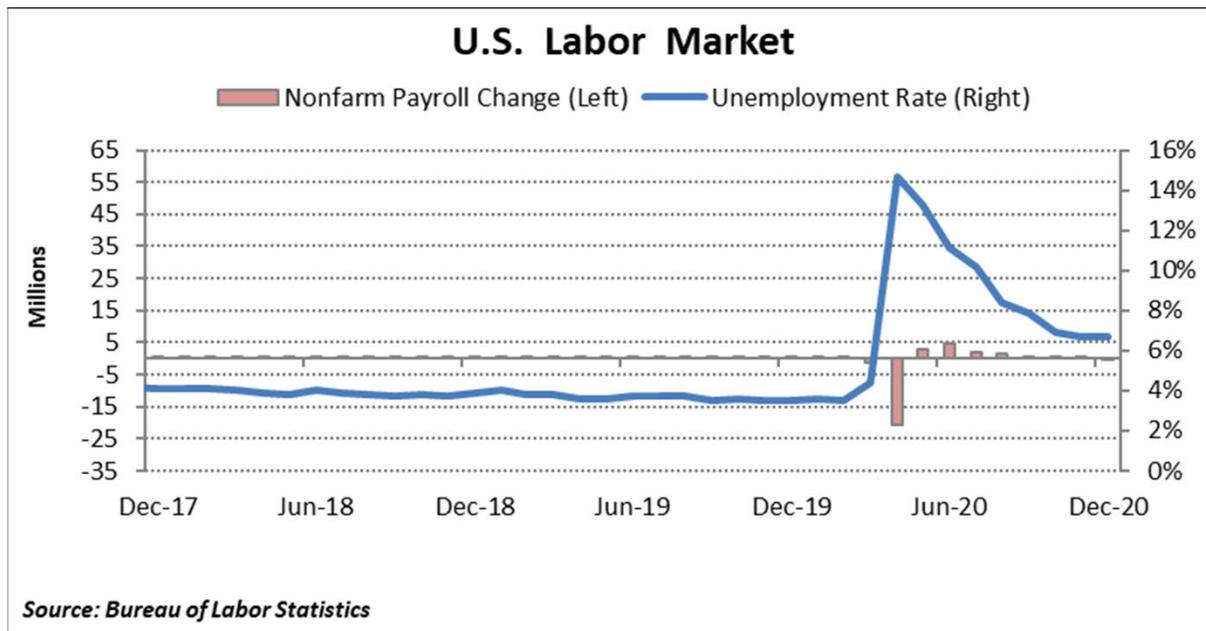
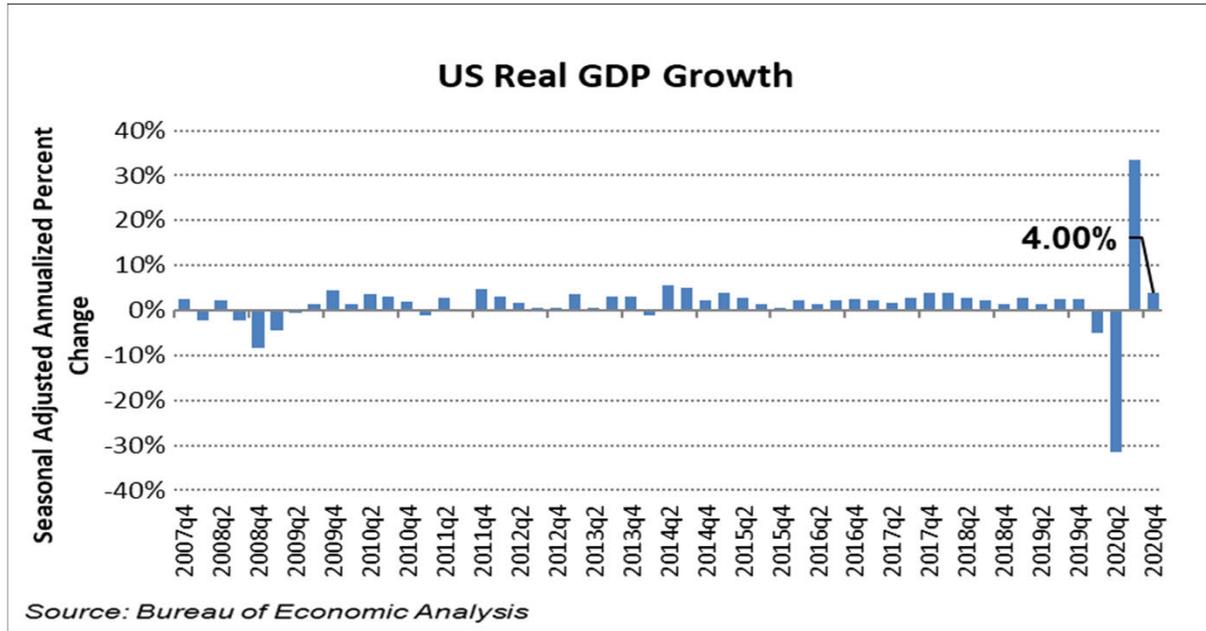
Quarter Ending: 12/31/2020

- The US economy continued to recover in Q4, although significantly slowing down from Q3 amid a resurgence of the coronavirus cases and business curtailments. The growth rate was 4% in Q4 and -3.5% for calendar year 2020. The IMF projected the US economic growth to reach 5.1% in 2021 with the nationwide vaccine rollout projects. (Source: *Bureau of Economic Analysis and IMF World Economic Outlook Update January 2021*)
- The US labor market lost 140,000 jobs in December and the unemployment rate remained at 6.7%. (Sources: *Bureau of Labor Statistics and Department of Labor*)
- The US headline inflation was 1.4% in December. Over the last 12 months, the energy index declined 7% while the food index increased 3.9%. The core inflation, excluding food and energy, was 1.6%. (Source: *Bureau of Labor Statistics*).
- The 10-year Treasury nominal yield was 93bps in December. The 10-year real yield was -47bps.
- The housing market continued to perform well. The S&P Case-Shiller 20-City home price index posted an annual gain of 9.1% in November, up from 8.0% in October.
- The Consumer Sentiment Index released by Thomson Reuters and University of Michigan was 80.7, slightly higher than November, but was well below the historical average level. The US Economic Surprise index was at a healthy level of 48.2, after trending down from its record high level in August, 2020. The Leading Economic Index (LEI) issued by the Conference Board continued its recovery, reaching 109.5 in December.
- The US manufacturing PMI continued to rise, reaching 60.7 in December. Global manufacturing continued to recover as the JPMorgan Global Manufacturing PMI increased to 53.8 in December. (Source: *Institute for Supply Management, Markit*).
- Equity markets were positive in December, finishing 2020 with strong gains despite the market crash in Q1. The US markets returned 4.5% for December and 20.89% for 2020. The non-US developed markets and emerging markets were up 4.55% and 7.35% for December, respectively. For the year 2020, the non-US developed markets and emerging markets returned 7.59% and 18.31%, respectively.
- The US fixed income market, Bloomberg Barclay's US Aggregate Bond Index, was up 0.14% for December. The fixed income market gained 7.51% for 2020.

Notes: Acronym – PMI – Purchasing-Managers' Index



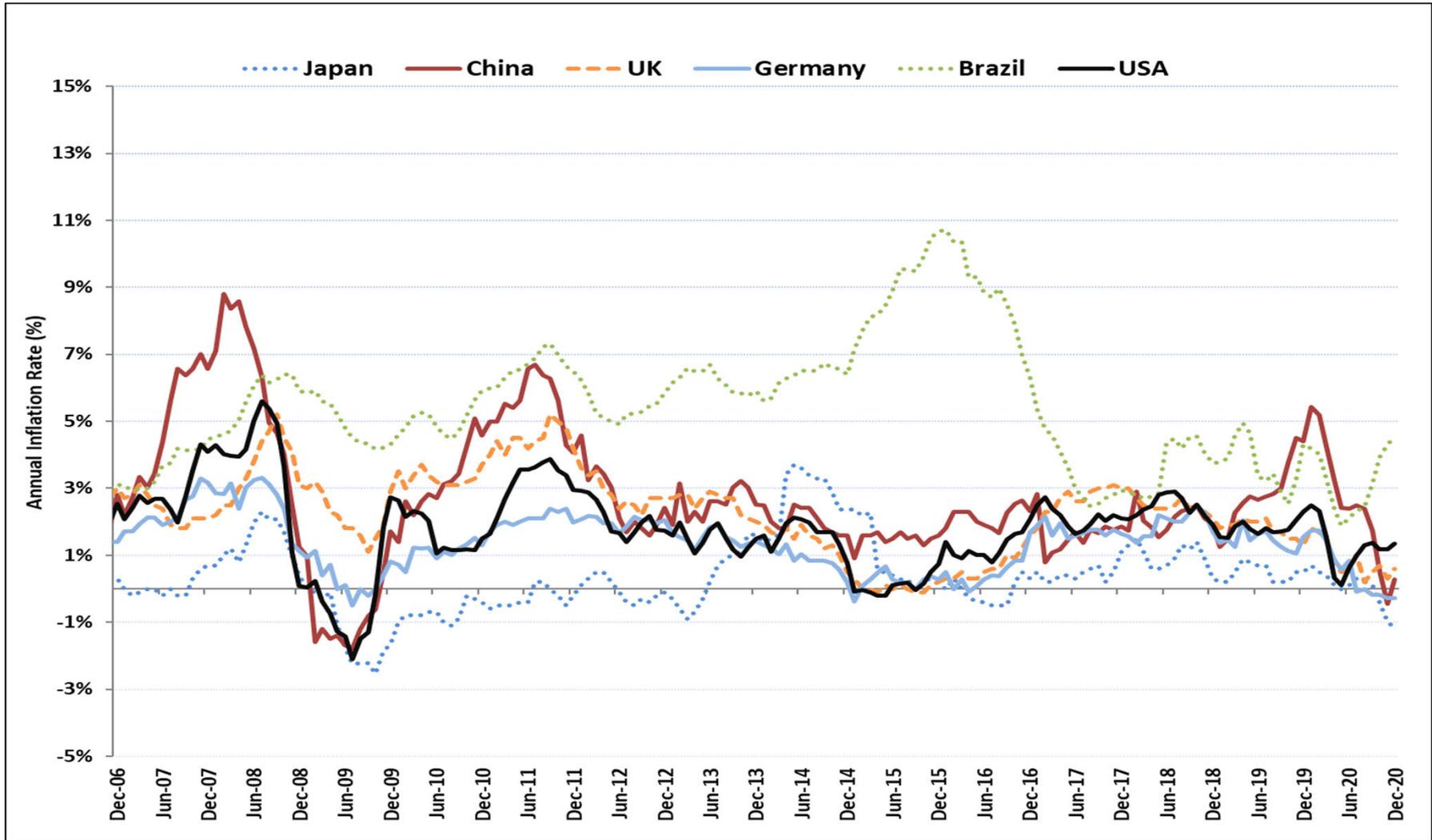
**ECONOMY** US Real GDP Growth and Labor Market





Ohio SERS Investment Report  
**ECONOMY** Headline Inflation

Quarter Ending: 12/31/2020



	Japan	China	UK	Germany	Brazil	USA
<b>Dec-20</b>	-1.2	0.3	0.6	-0.3	4.5	1.4

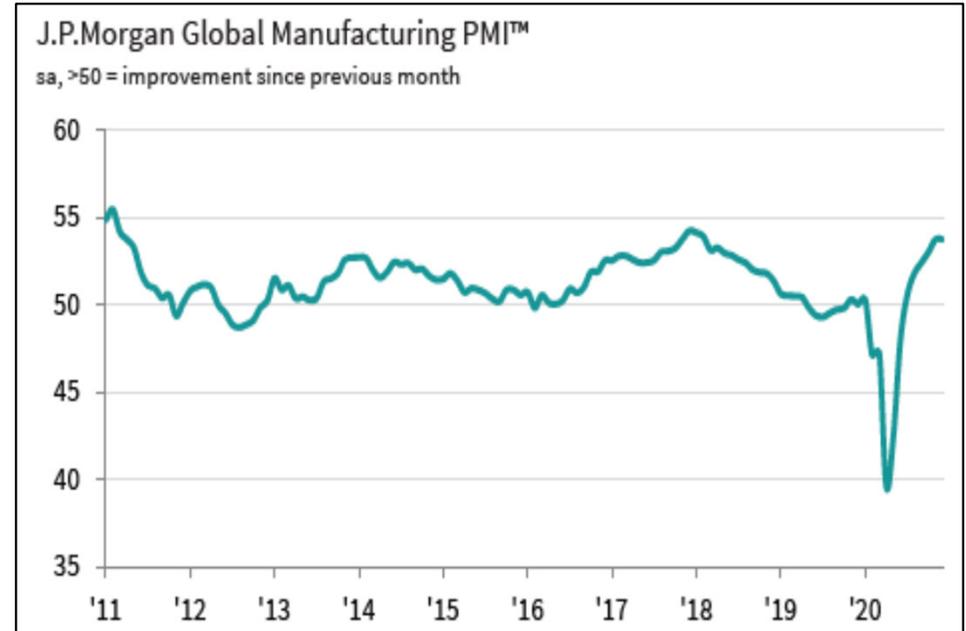
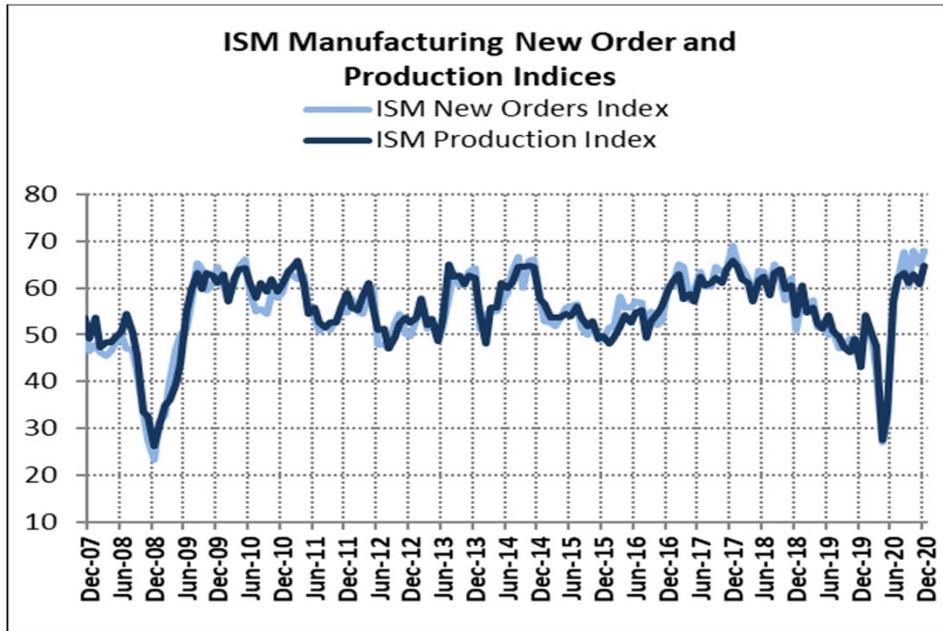
Sources: [www.ons.gov.uk](http://www.ons.gov.uk), [www.oecd.org](http://www.oecd.org), [www.inflation.eu](http://www.inflation.eu), and [www.tradingeconomics.com](http://www.tradingeconomics.com)



# Ohio SERS Investment Report

## **ECONOMY** US & Global Manufacturing Activities

Quarter Ending: 12/31/2020

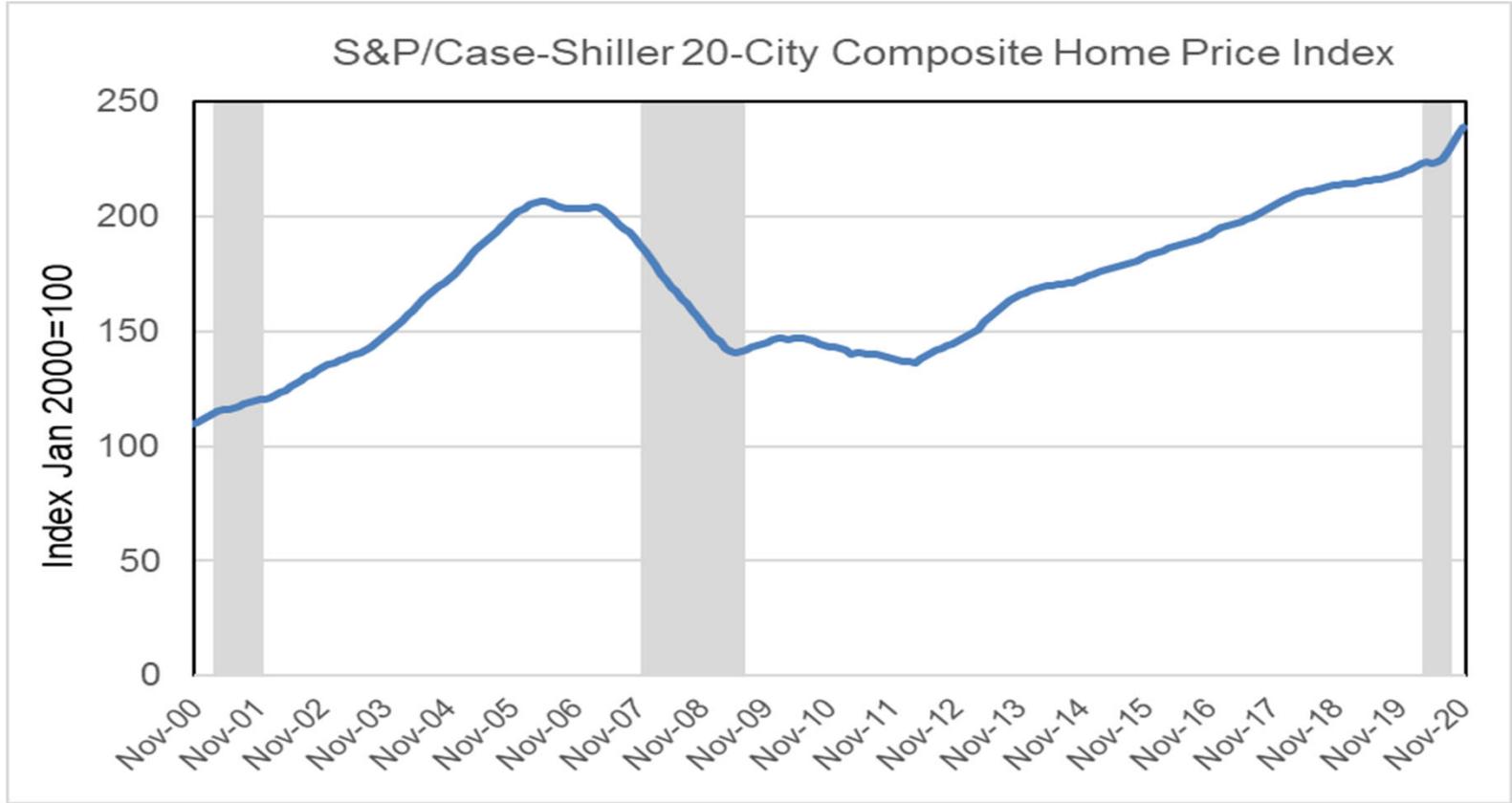


Source: Manufacturing ISM Report On Business & JPMorgan Global Manufacturing PMI™  
Notes: Acronym – ISM – Institute of Supply Management; PMI – Purchasing Managers Index



Ohio SERS Investment Report  
**ECONOMY** US Housing Market

Quarter Ending: 12/31/2020



Date	S&P Case-Shiller 20-City Home Price Index January 2000 = 100, Seasonally Adjusted
Jul-16	188.71
Jul-17	199.91
Jul-18	211.80
Jul-19	216.09
Jul-20	225.23
Nov-20	238.94

Source: [www.research.stlouisfed.org](http://www.research.stlouisfed.org)

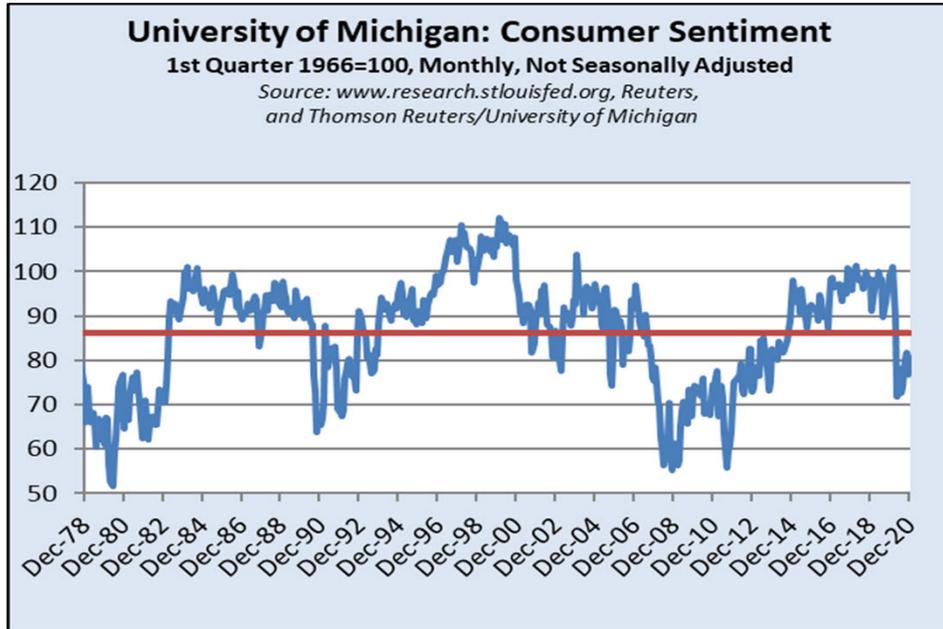




# Ohio SERS Investment Report

## ECONOMY

### Consumer Sentiment

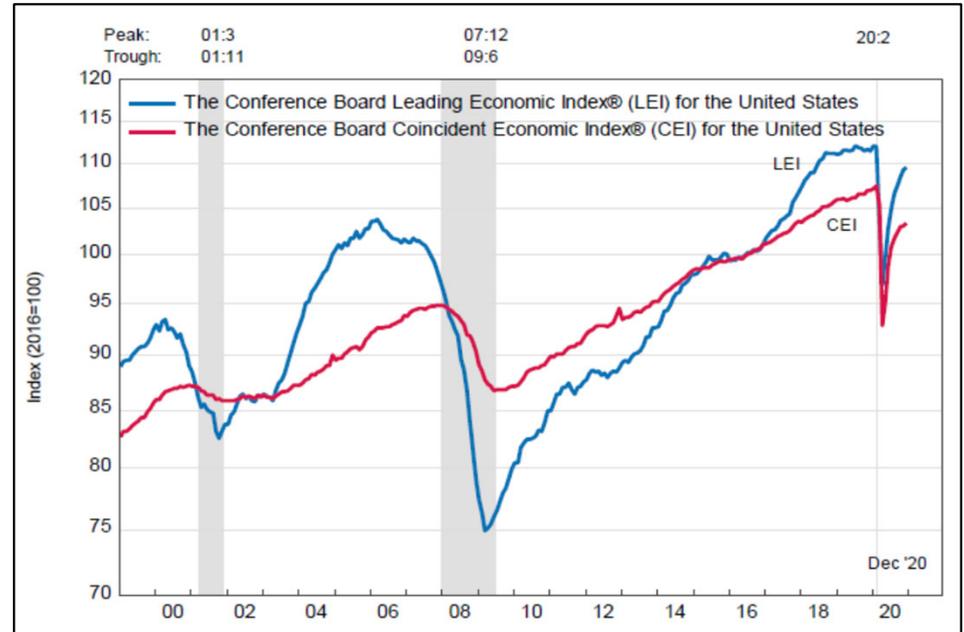


Index of Consumer Sentiment				
Nov-20	Dec-20	Dec-19	M-M Change	Y-Y Change
76.9	80.7	99.3	4.9%	-18.7%

Sources: Thomson Reuters / University of Michigan;

Quarter Ending: 12/31/2020

### The Leading Economic Index (LEI) and Coincident Economic Index (CEI) for the United States



Index	Oct-20	Nov-20	Dec-20	Month -Month Percent Change	6-Month Percent Change
LEI	108.4	109.2 r	109.5 p	0.3	6.5
CEI	102.9 r	103.0 r	103.3 p	0.3	4.4

p Preliminary; r Revised; Indexes equal 100 in 2016

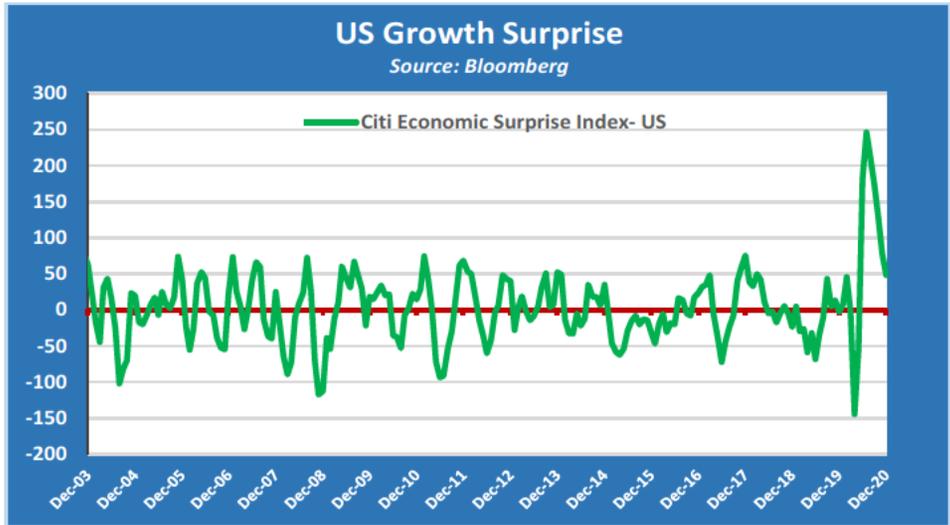
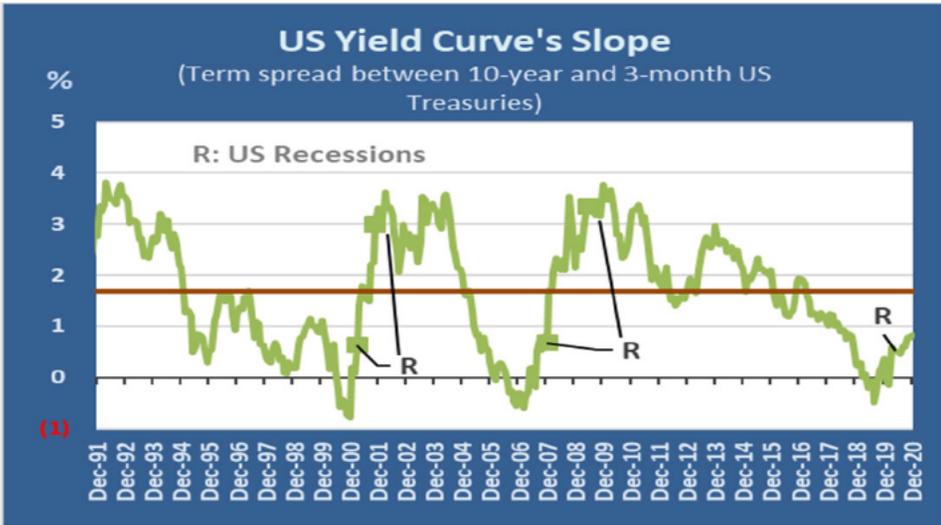
Sources: The Conference Board and advisorperspectives.com



# Ohio SERS Investment Report

## ECONOMY

Quarter Ending: 12/31/2020

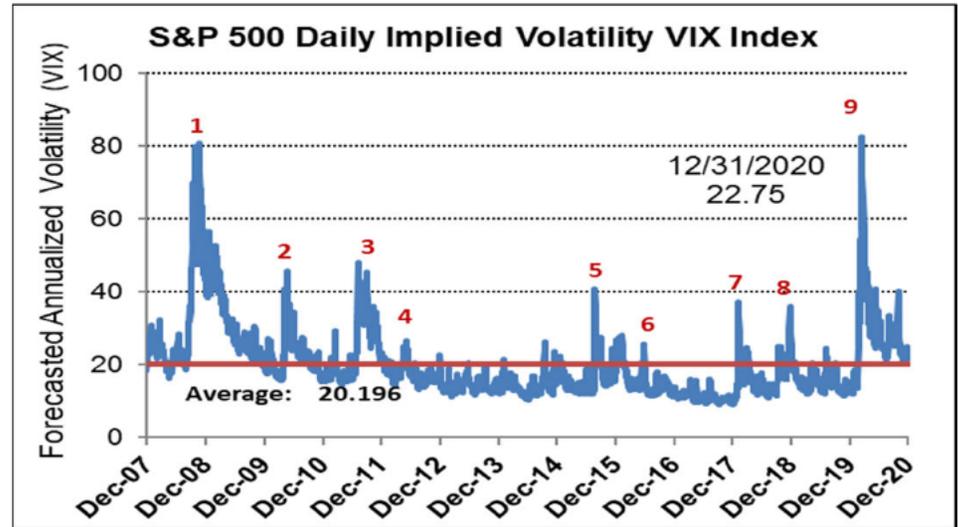
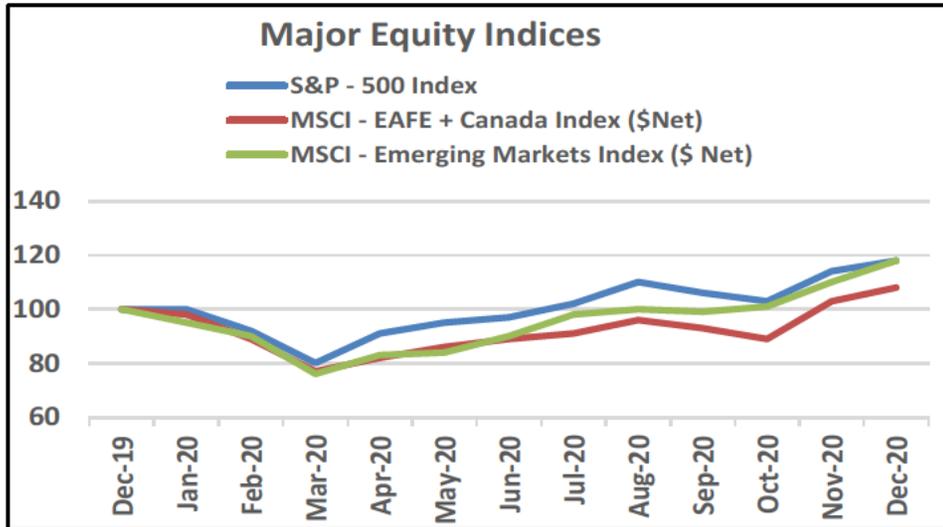




# Ohio SERS Investment Report

## MARKETS Equity

Quarter Ending: 12/31/2020



	Return as of 12/31/2020	
	1 Year	FYTD
S&P 500	18.40	22.16
MSCI - EAFE + Canada Index (\$Net)	7.59	21.55
MSCI - Emerging Markets Index (\$Net)	18.31	31.14

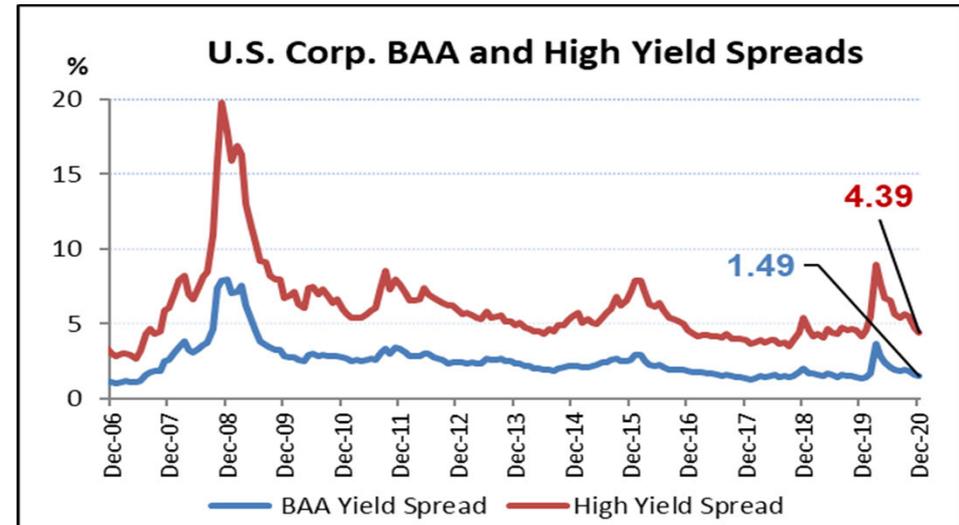
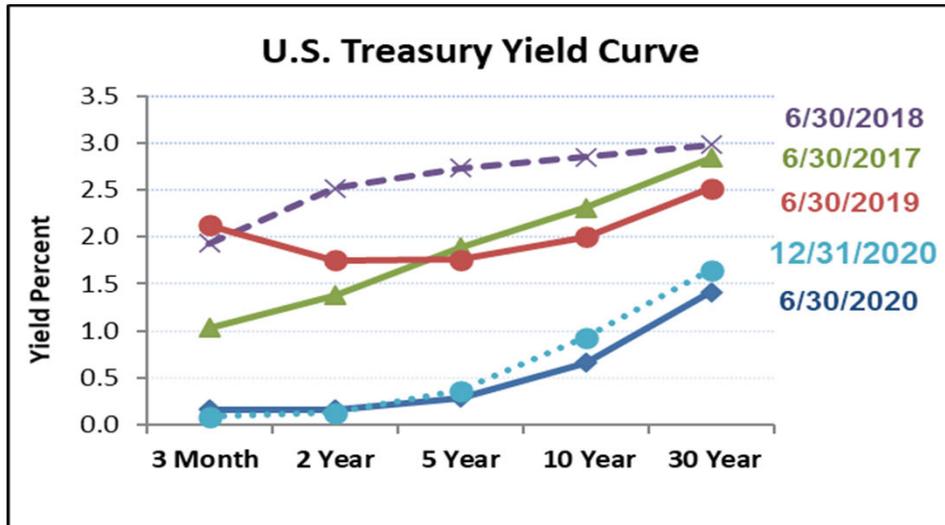
- 1 2008 (Nov.) Financial Crisis S&P 500: -48.8%
- 2 2010 (May) Flash crash; Europe/ Greece debt S&P 500: -16%
- 3 2011 (Aug.) US downgrade, Europe periphery S&P 500: -19.4%
- 4 2012 (June) Eurozone double dip S&P 500: -9.9%
- 5 2015 (Aug.) Global slowdown, China, Fed S&P 500: -12.4%
- 6 2016 (Feb.) Oil crash, US recession fear, China S&P 500: -10.5%
- 7 2018 (Feb.) Inflation, trade, tech S&P 500 : -10.2%
- 8 2018 (Dec.) Interest rate hike, trade tension, global slowdown S&P 500: -10.5%
- 9 2020 (Mar.) Coronavirus, S&P 500 : -23.7%

Sources: [www.research.stlouisfed.org](http://www.research.stlouisfed.org), and Wilshire Compass



Ohio SERS Investment Report  
**MARKETS** Fixed Income

Quarter Ending: 12/31/2020



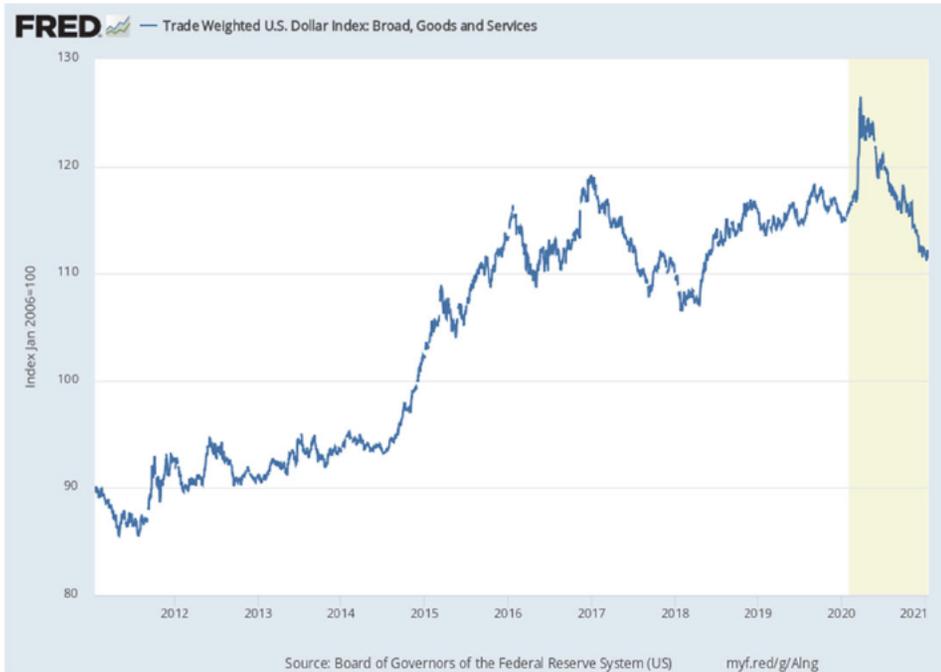
Sources: Wilshire Compass, ThomsonReuters, and Bloomberg



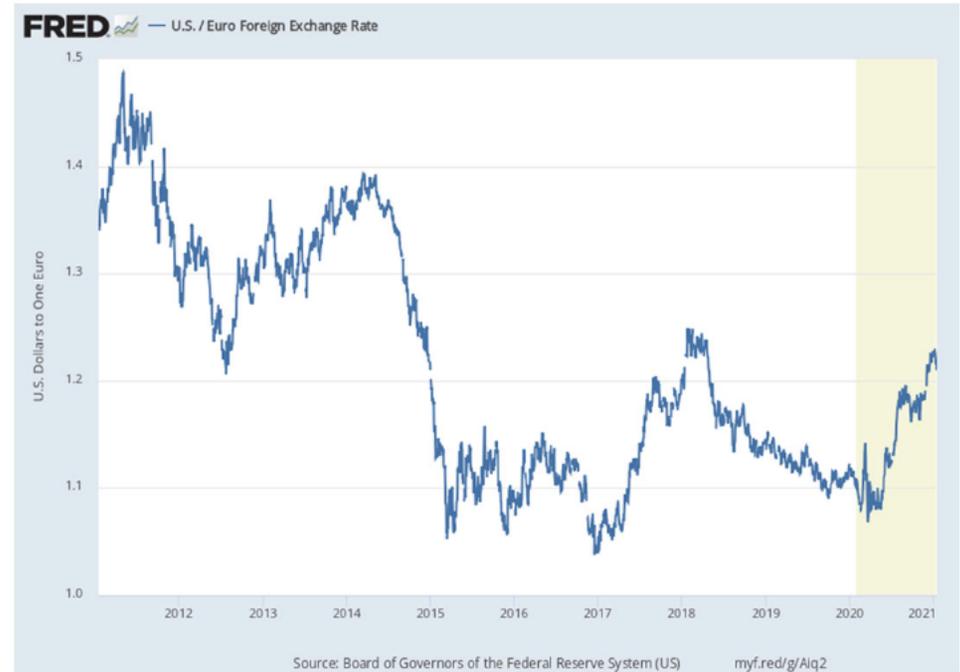
# Ohio SERS Investment Report

## MARKETS Foreign Exchange

Quarter Ending: 12/31/2020



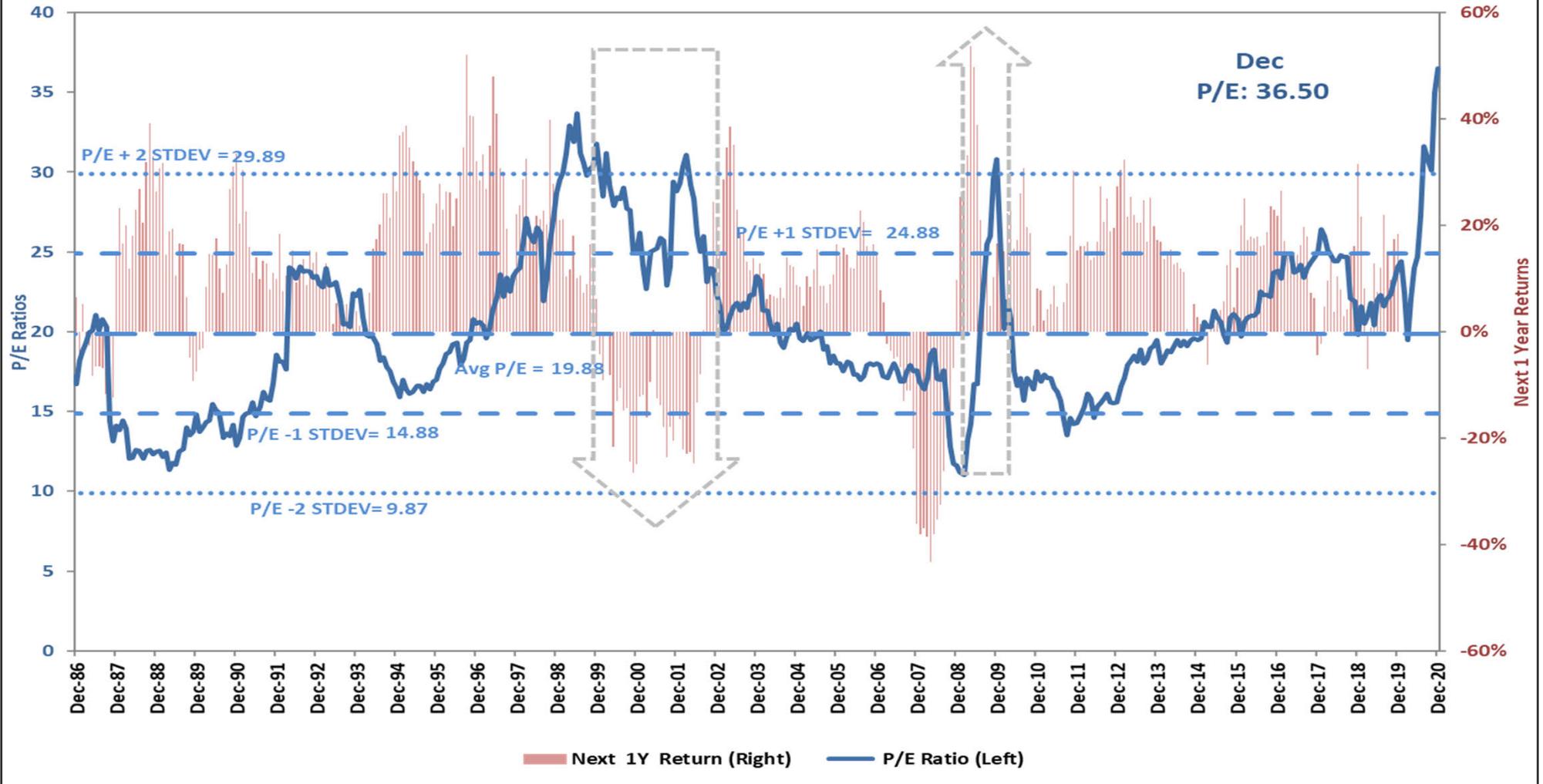
Date	Trade Weighted Broad U.S. Dollar Index January 1997=100
June-16	112.15
June-17	111.97
June-18	113.27
June-19	114.56
June-20	120.86
December-20	111.65



Date	U.S. / Euro Foreign Exchange Rate U.S. Dollars to One Euro
June-16	1.10
June-17	1.14
June-18	1.17
June-19	1.14
June-20	1.12
December-20	1.22

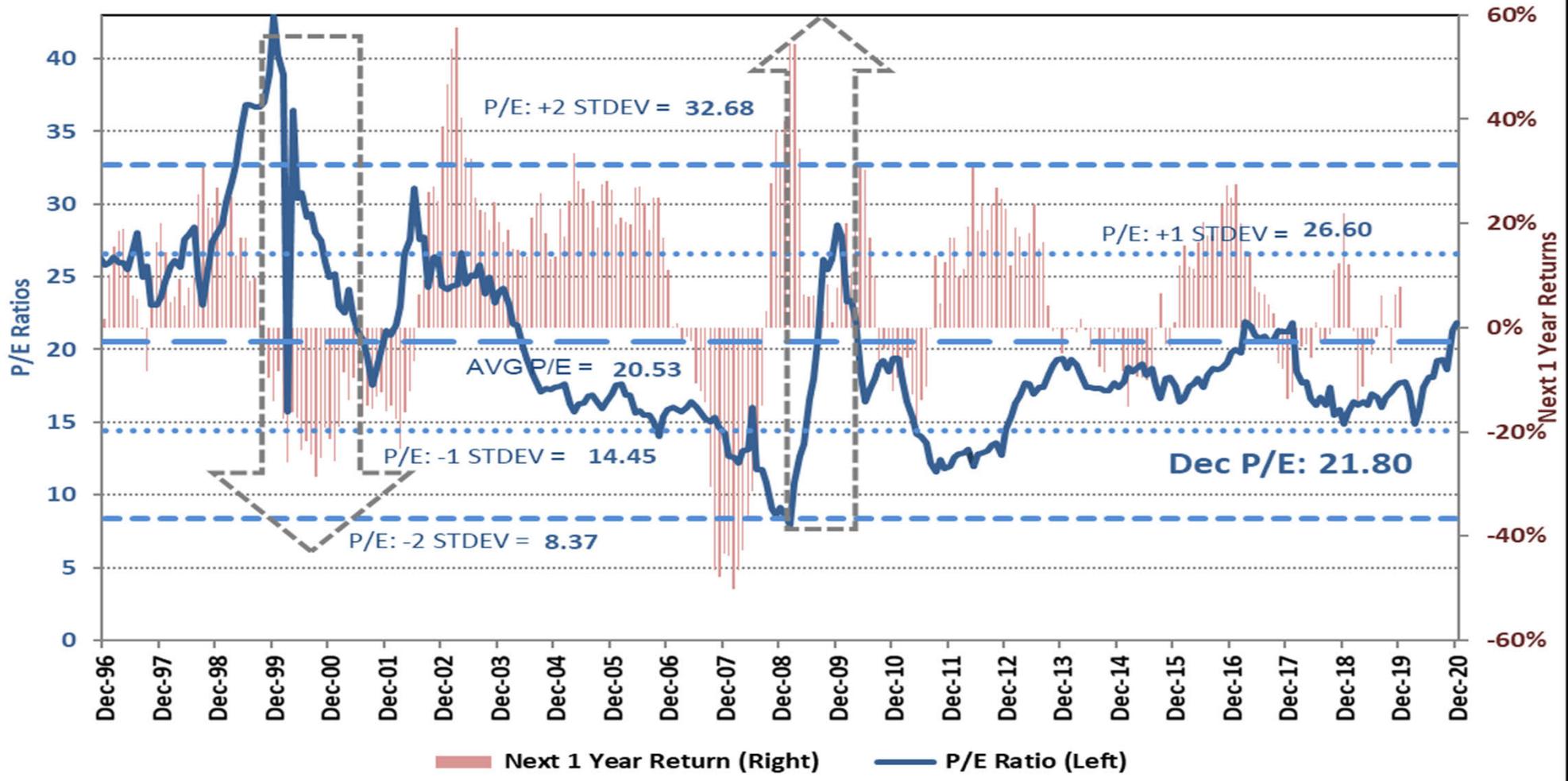


### S&P 500 P/E Ratios and Next 1 Year Returns



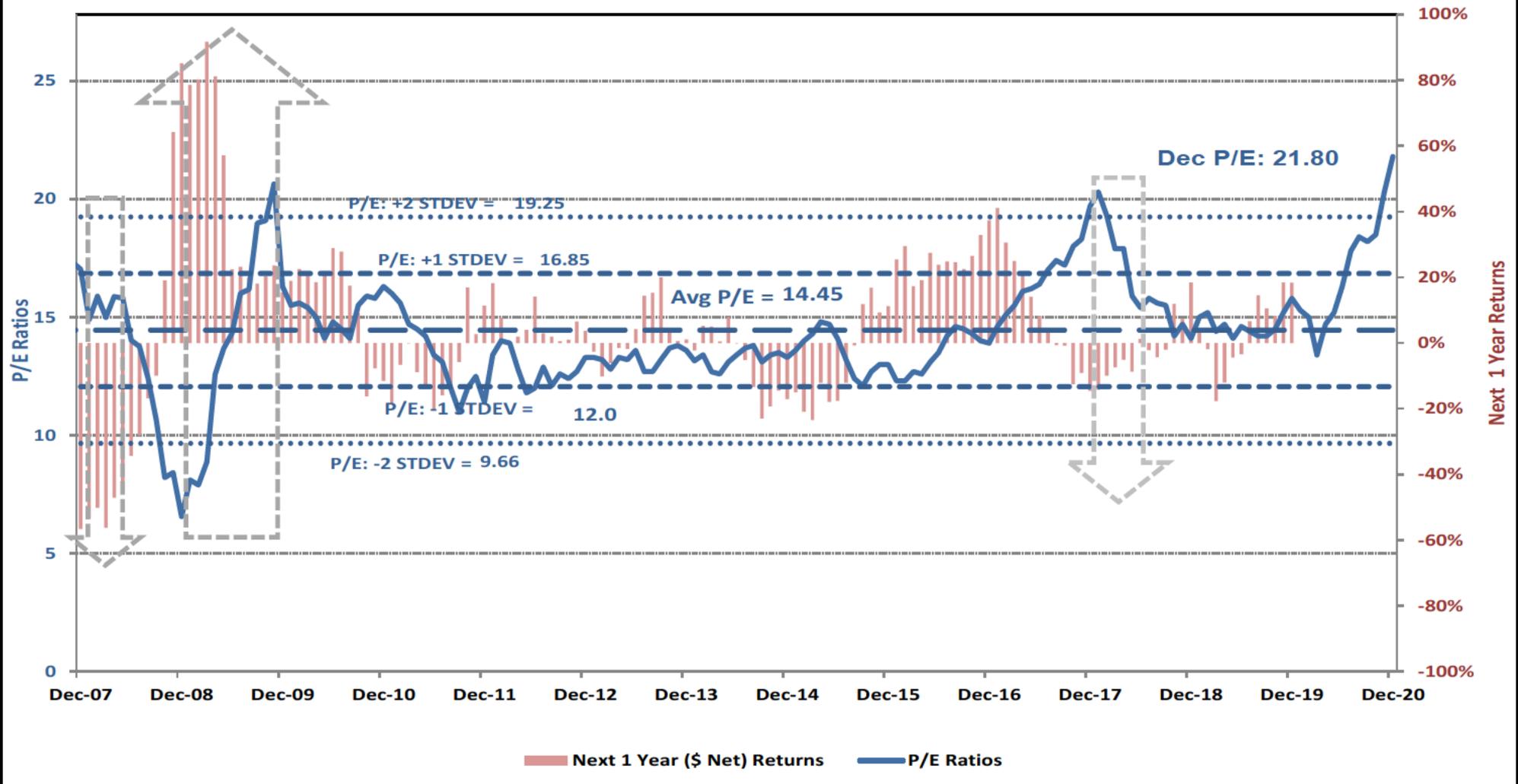


### MSCI EAFE (\$ Net) P/E Ratios and Next 1 Year Returns





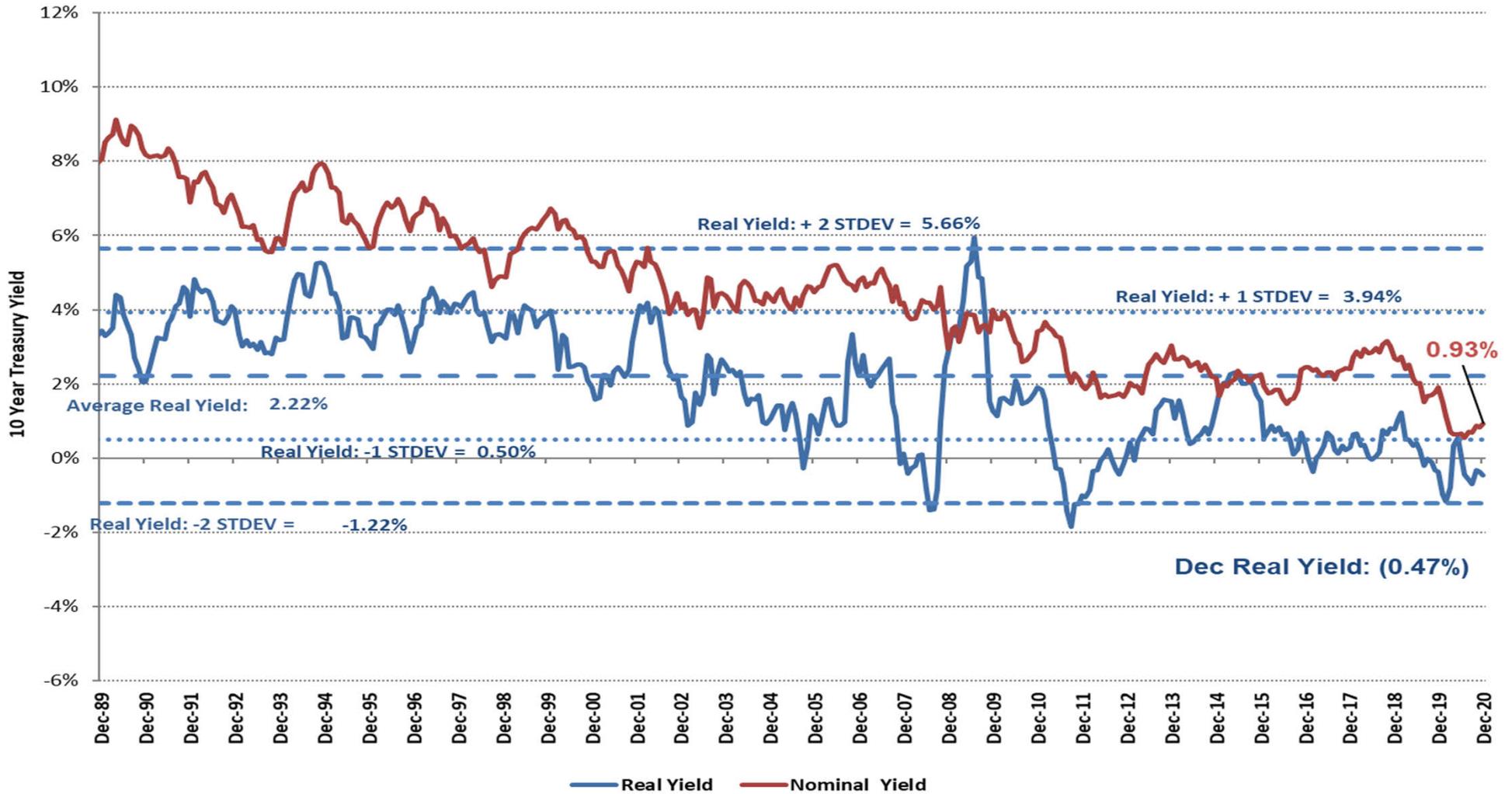
### MSCI EM P/E Ratios and Next 1 Year (\$ Net) Returns







### 10 Year Treasury Nominal and Real Yields





# SERS' Investment Portfolios Review



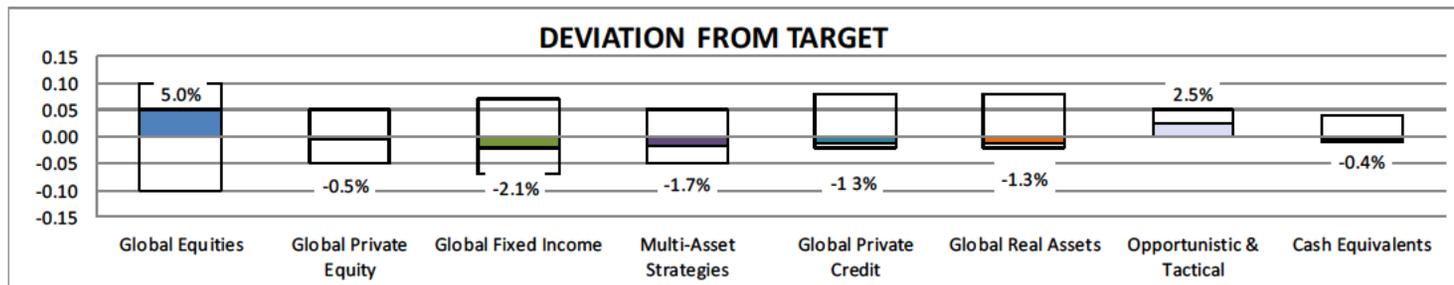
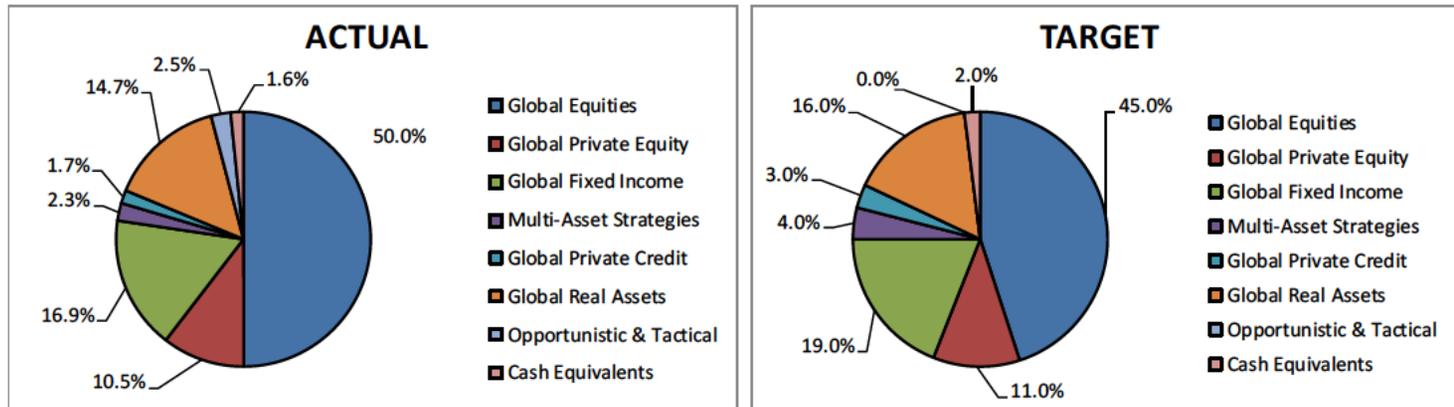
# Ohio SERS Investment Report

Quarter Ending: 12/31/2020

## Total Fund: Asset Allocation & Valuation

Asset Class	Market Value \$	Actual	Target	Range
Global Equities	8,255,951,010	50.0%	45.0%	35% - 55%
US Equity	4,264,941,647	25.8%	22.5%	15% - 30%
Non-US Equity	3,991,009,363	24.1%	22.5%	15% - 30%
Global Private Equity	1,733,150,508	10.5%	11.0%	8% - 16%
Global Fixed Income	2,792,990,787	16.9%	19.0%	12% - 26%
Multi-Asset Strategies	371,963,924	2.3%	4.0%	0% - 4%
Global Private Credit	273,407,048	1.7%	3.0%	3% - 7%
Global Real Assets	2,422,342,583	14.7%	16.0%	14% - 20%
Opportunistic & Tactical	412,400,082	2.5%	0.0%	0% - 5%
Cash Equivalents	264,971,839	1.6%	2.0%	0% - 5%
Short-Term	259,126,826	1.6%	2.0%	
Russell EA Overlay	0	0.0%	0.0%	
Direct Rebalance Overlay	0	0.0%	0.0%	
Currency Overlay	5,845,013	0.0%	0.0%	
<b>Total Fund</b>	<b>16,527,177,781</b>	<b>100.0%</b>	<b>100.0%</b>	

Source: BNY Mellon GRS





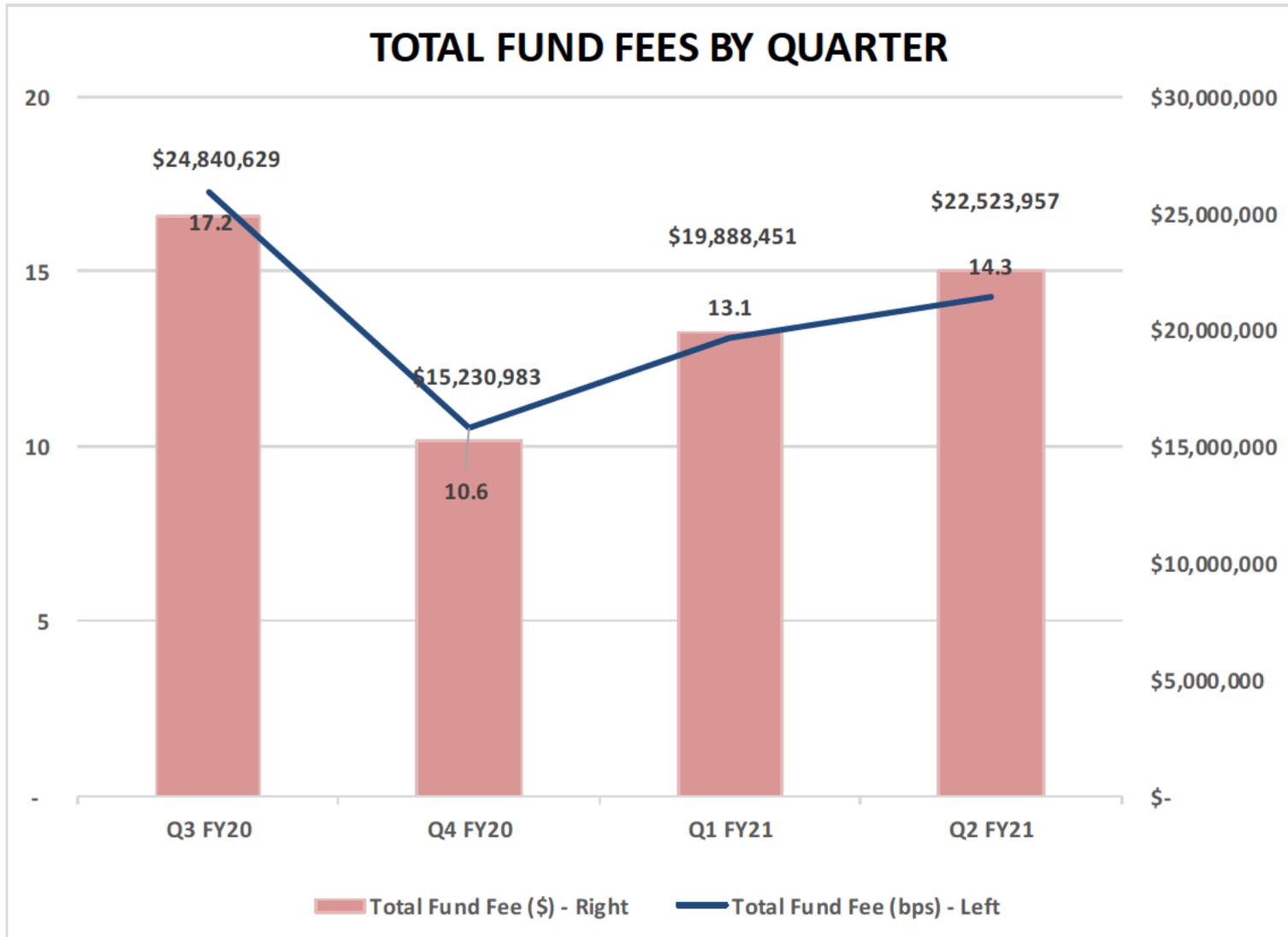


## CHANGE IN NET ASSETS

	<i>vs. One Year Ago, since 1/1/2020</i>	<i>vs. Three Years Ago, since 12/1/2018</i>
<b>Beginning Market Value</b>	15,238,050,241	14,335,615,807
<b>Gain/Loss</b>	1,893,411,683	4,014,303,631
<b>Expenses</b>	(69,034,144)	(190,491,657)
<b>Net Transfer</b>	(535,250,000)	(1,632,250,000)
<b>End of Period Market Value</b>	<b>16,527,177,781</b>	<b>16,527,177,781</b>

***\*Origins of the Net Transfer***

<i>Dividends/Interest</i>	<i>169,957,286</i>
<i>Net Distributions</i>	<i>365,292,714</i>
<i>Cash on Hand</i>	<i>Not Required</i>





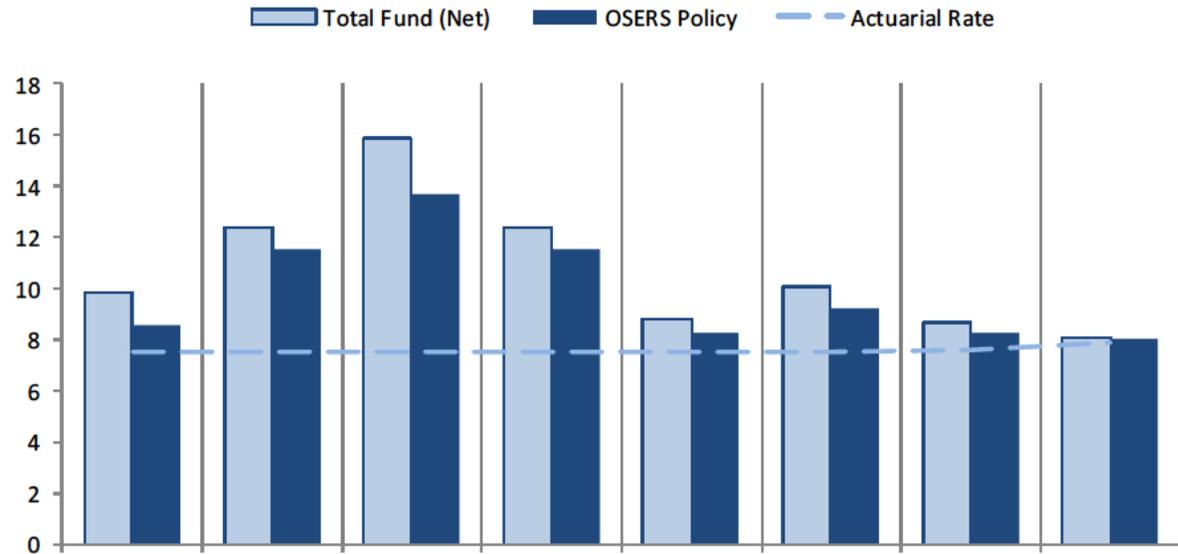
**Total Fund Performance**

**Current Benchmark:**

- 22.5% Russell 3000
- 22.5% MSCI ACWI ex US Index (net dividends)
- 11% Burgiss All Private Equity benchmark (1q lag) (BAPE)
- 19% Bloomberg Barclays Aggregate Bond
- 16% NCREIF Property (1q lag)
- 4% HFRI Fund of Funds Composite plus 1%
- 3% LIBOR + 4.5%
- 2% Citigroup 30 Day US T-Bill

**Actuarial Rate**

(7.5% adopted 4/21/16)



	Qtr	CYTD	FYTD	1 Year	3 Year	5 Year	10 Year	ITD*
Total Fund (Gross)	9.94	12.99	16.14	12.99	9.49	10.74	9.37	8.46
Total Fund (Net)	9.84	12.41	15.87	12.41	8.84	10.06	8.66	7.95
OSERS Policy	8.56	11.55	13.69	11.55	8.25	9.24	8.24	8.04
Value Added (Net of Fee)	1.29	0.86	2.18	0.86	0.58	0.81	0.42	(0.10)

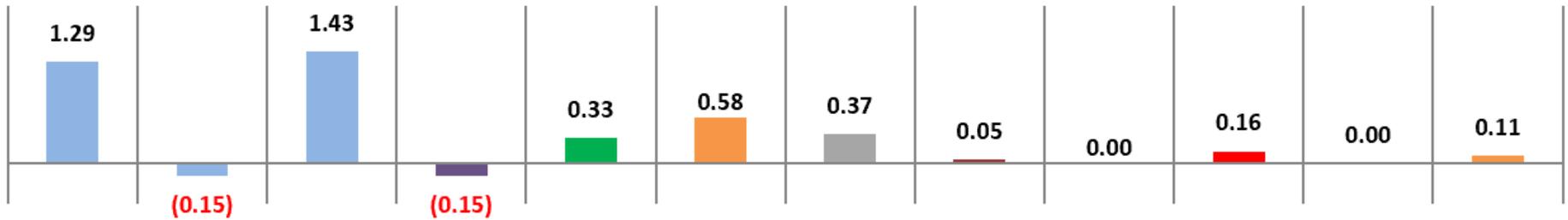
Source: BNY Mellon GRS

\*ITD is Inception date 10/1/1994 (26 years and 3 months)

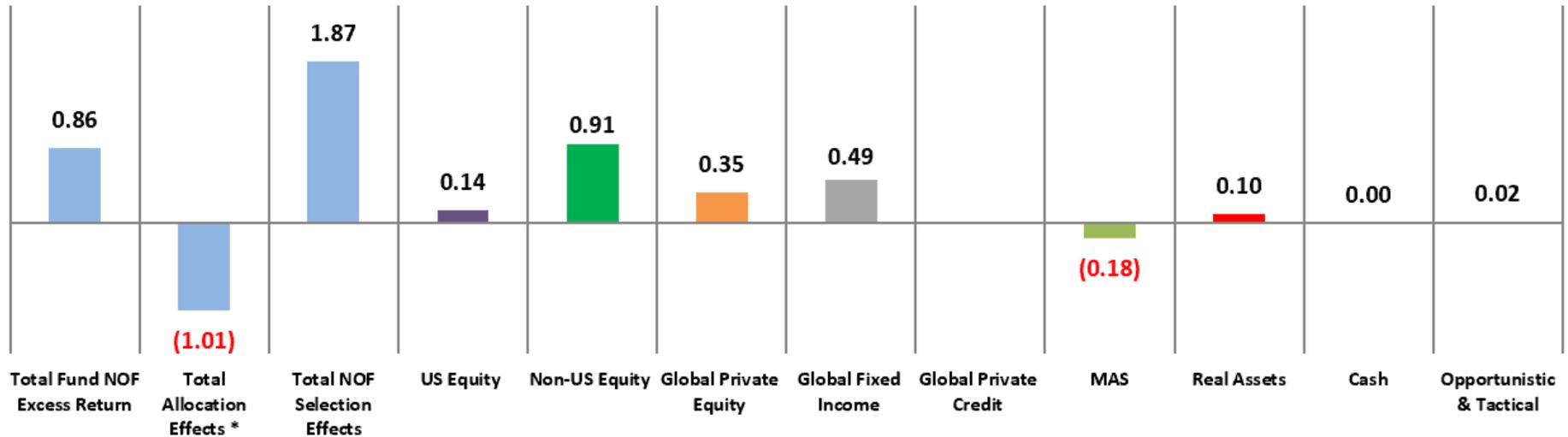


**Net of Fee Excess Return Attribution**

**3 Month Attribution (%)**

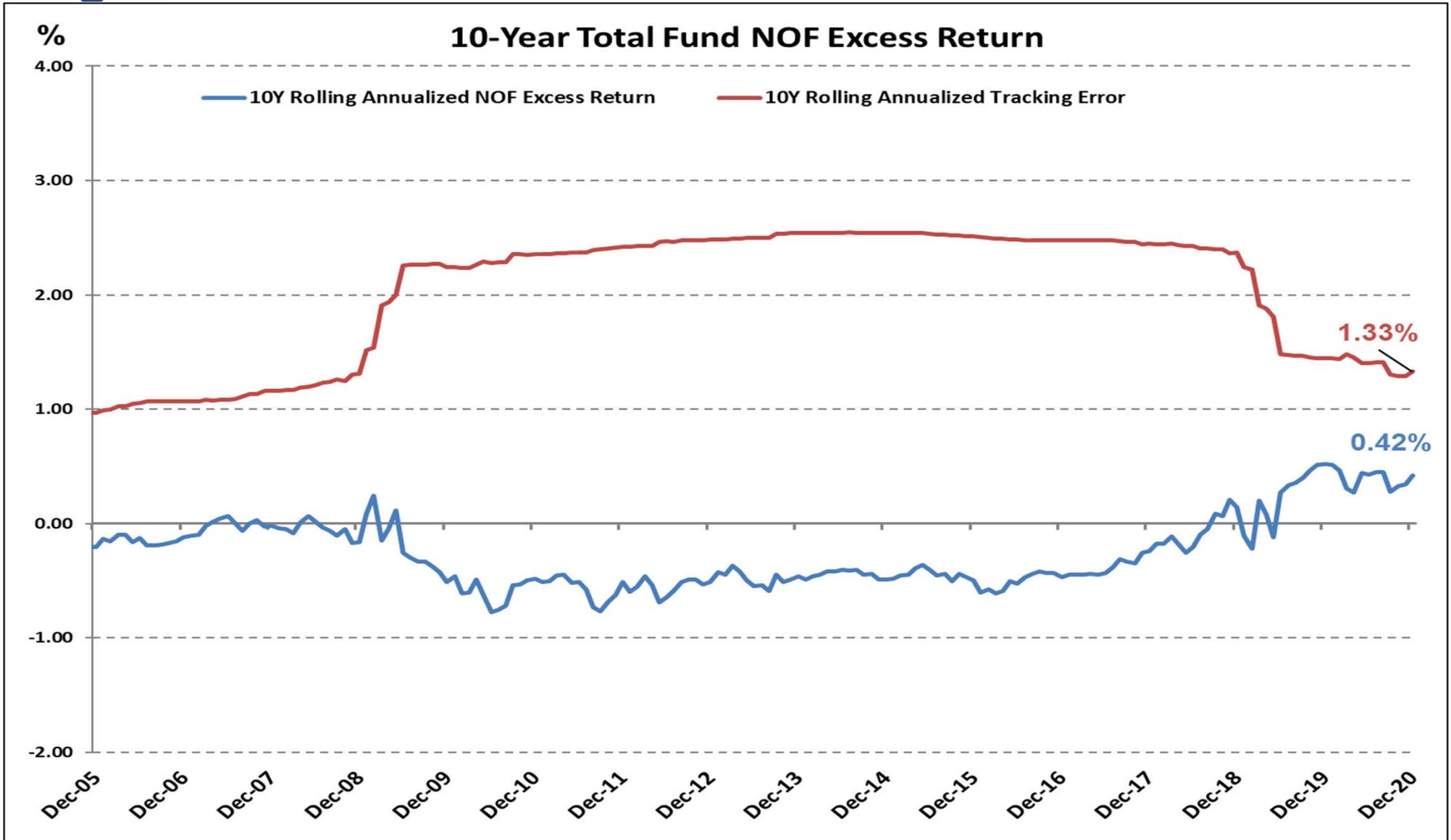


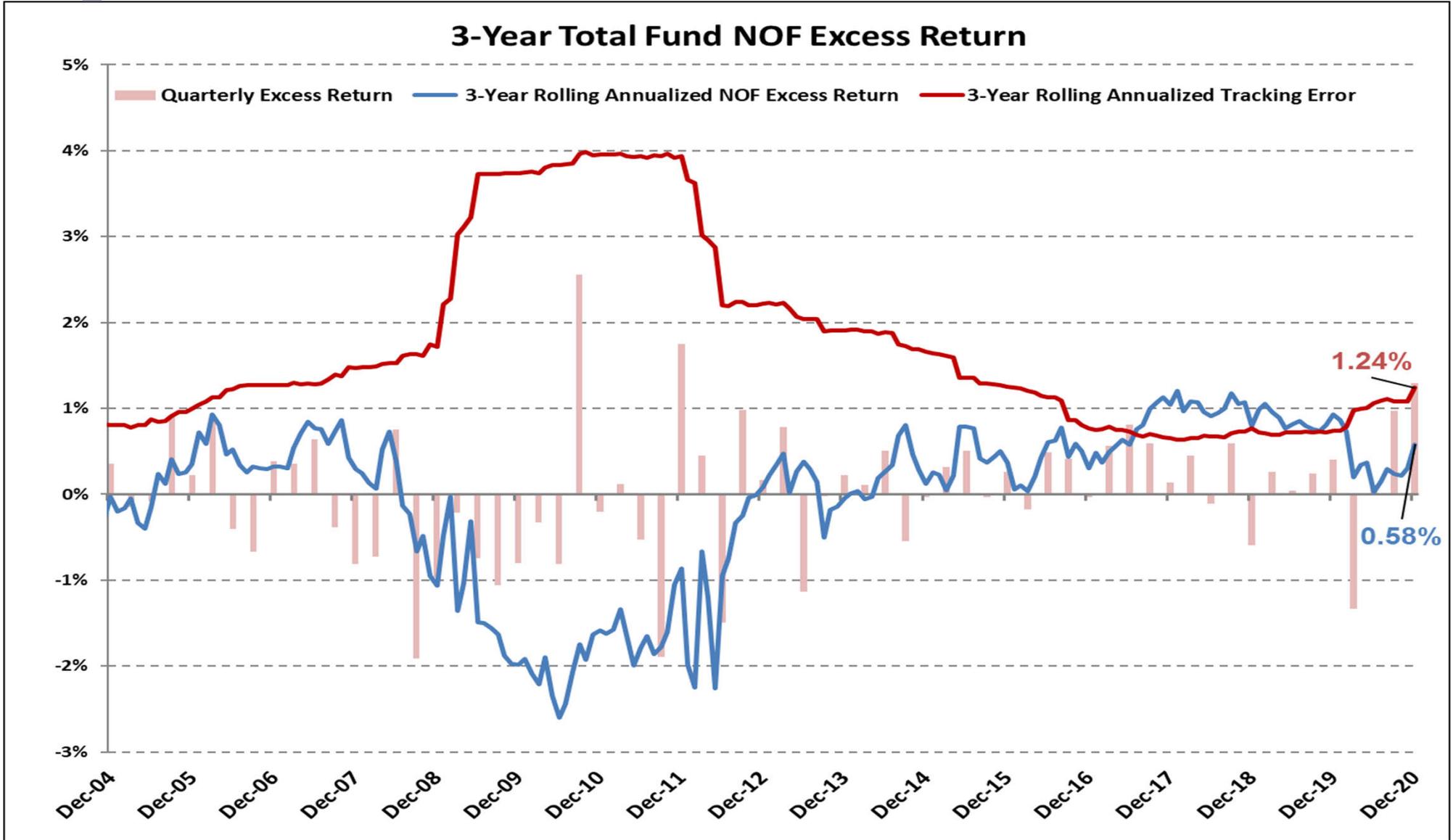
**1 Year Attribution (%)**



\* Total Allocation Effects include net contributions from the Enhanced Asset Allocation and Currency Overlay Programs

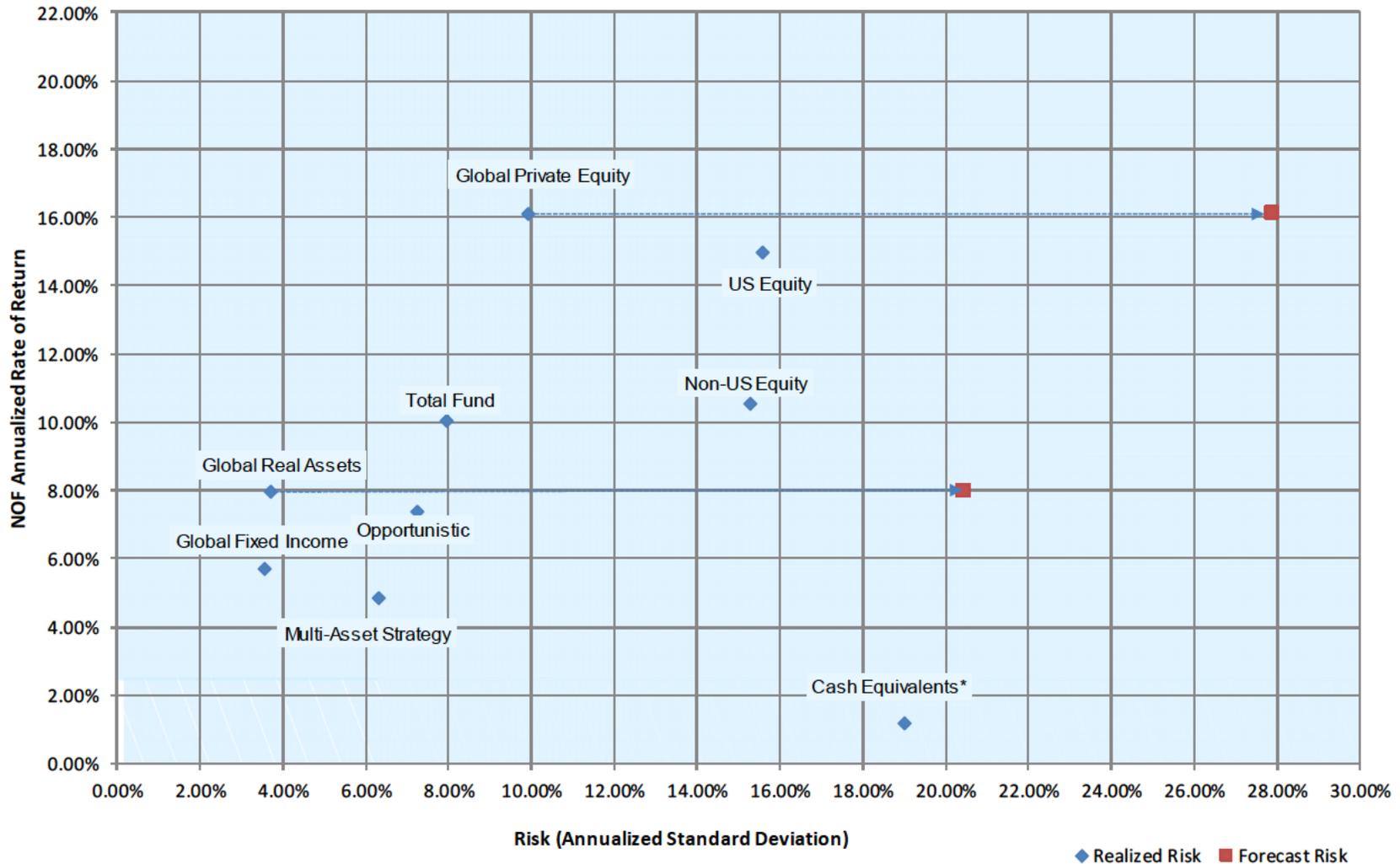








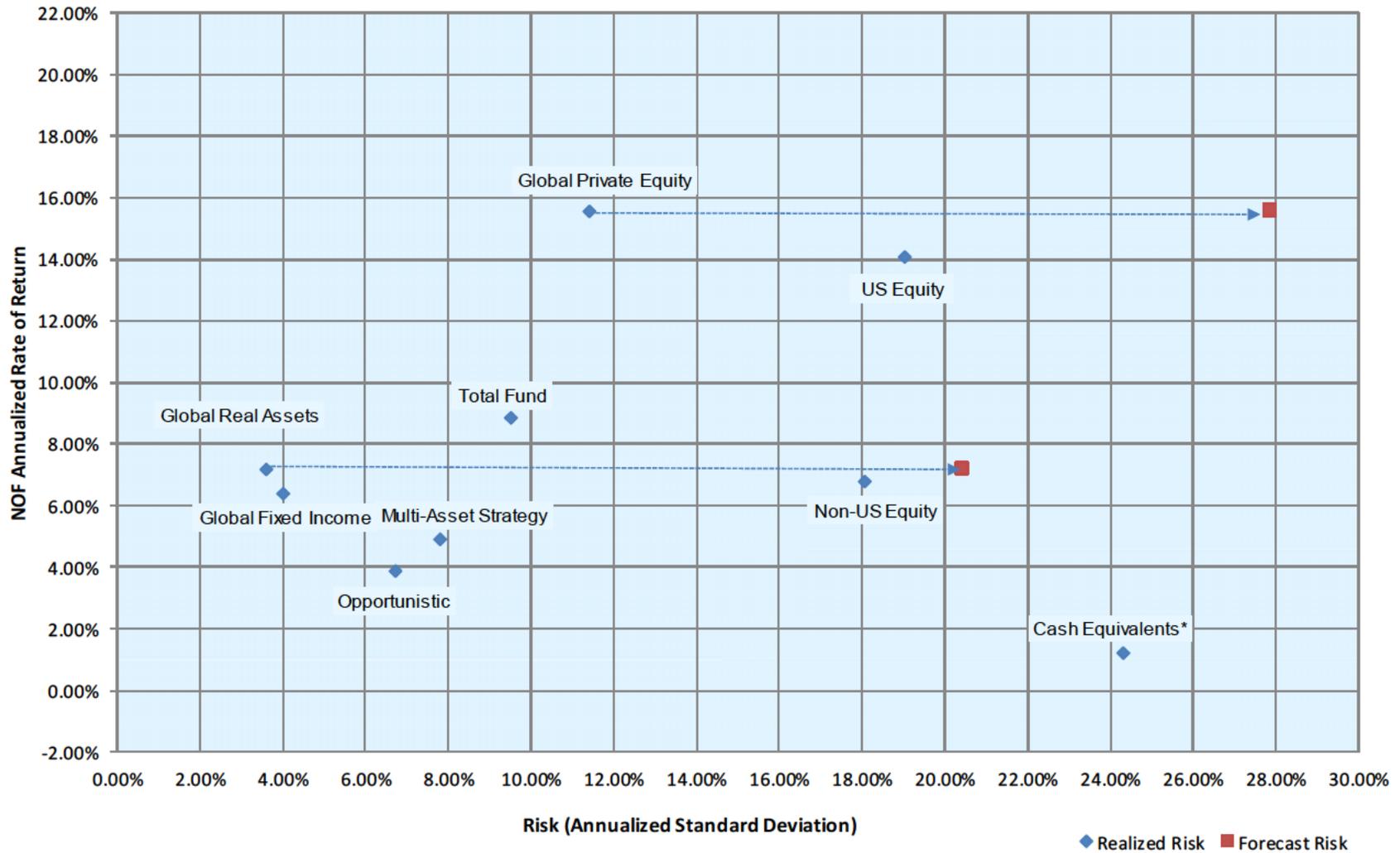
### 5 Year Risk and Return



\*Cash Equivalents include Short-Term, Enhanced Allocation Overlay and Currency Overlay



### 3 Year Risk and Return

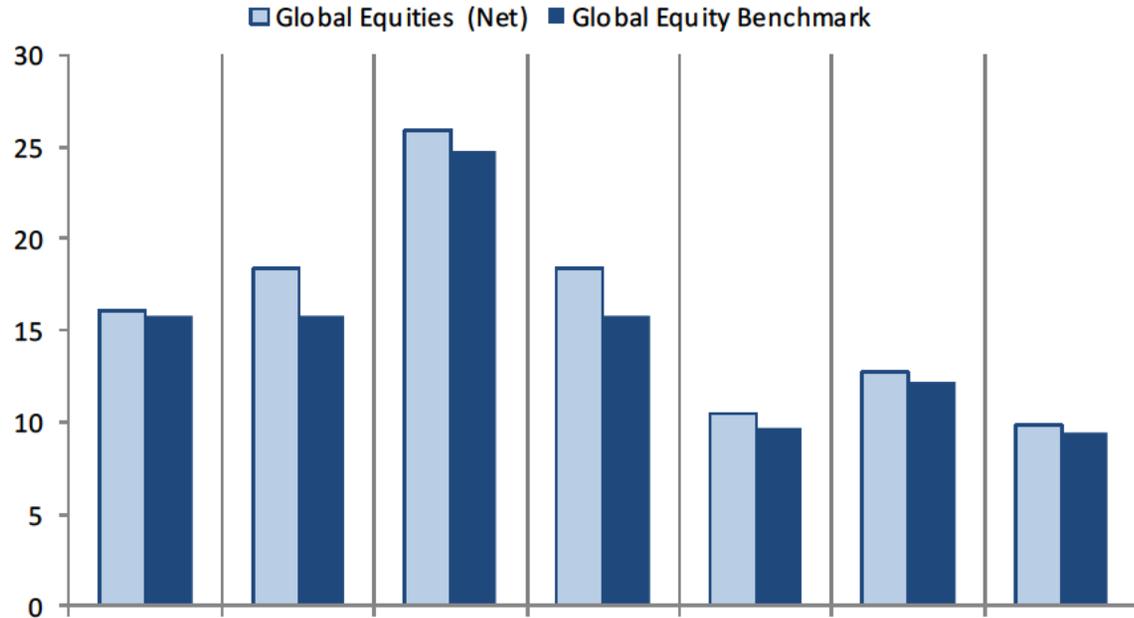


\*Cash Equivalents include Short-Term, Enhanced Allocation Overlay and Currency Overlay



**Global Equities Performance**

**Current Benchmark:**  
 50% Russell 3000  
 50% MSCI ACWI ex US Index  
 (net dividends)

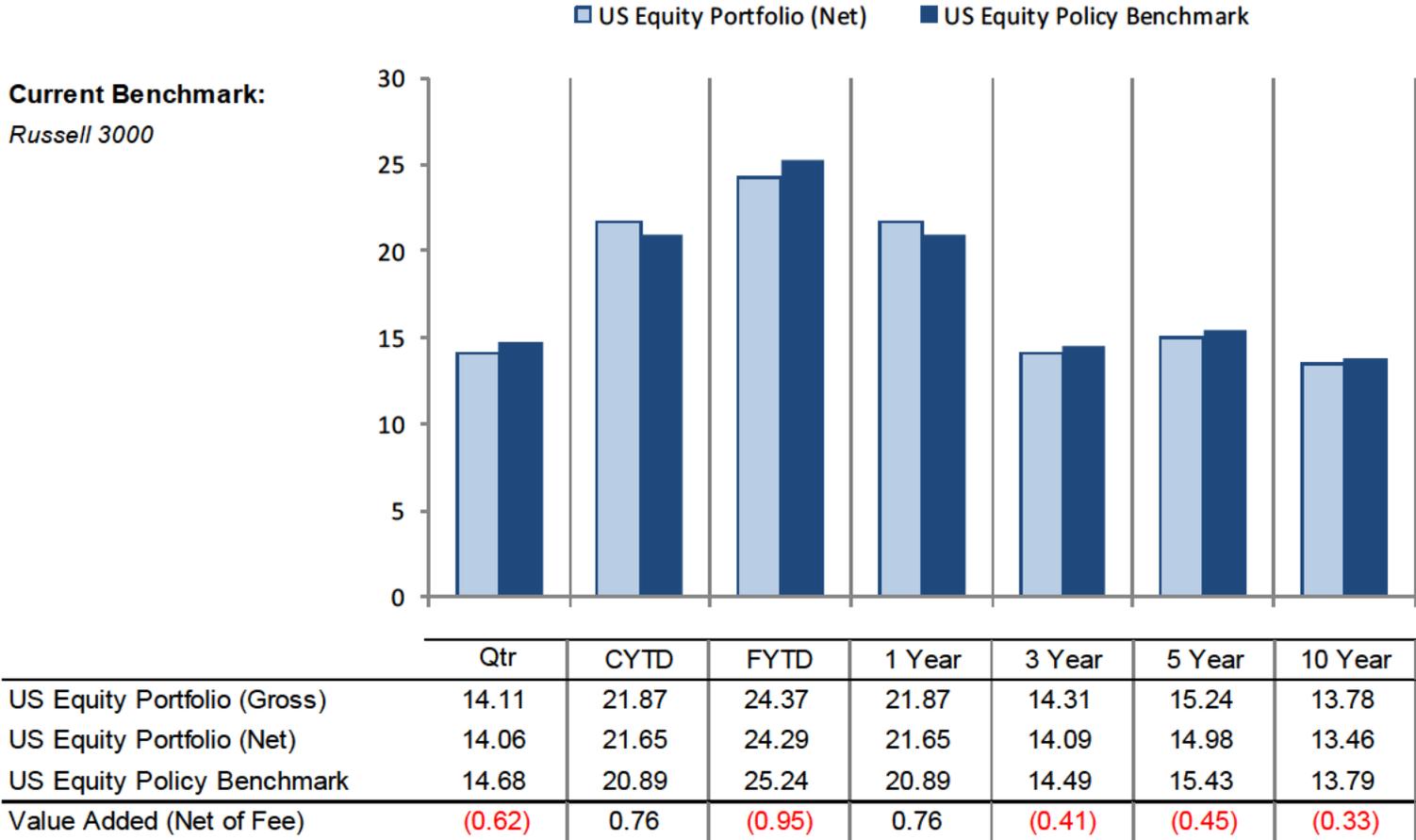


	Qtr	CYTD	FYTD	1 Year	3 Year	5 Year	10 Year
Global Equities (Gross)	16.22	18.71	26.12	18.71	10.79	13.15	10.24
Global Equities (Net)	16.14	18.37	25.97	18.37	10.46	12.80	9.87
Global Equity Benchmark	15.84	15.74	24.80	15.74	9.66	12.21	9.49
MSCI ACWI	14.79	16.82	24.26	16.82	10.64	12.86	9.71
Value Added (Net of Fee)	0.29	2.63	1.16	2.63	0.79	0.59	0.38

Source: BNY Mellon GRS



## US Equity Performance

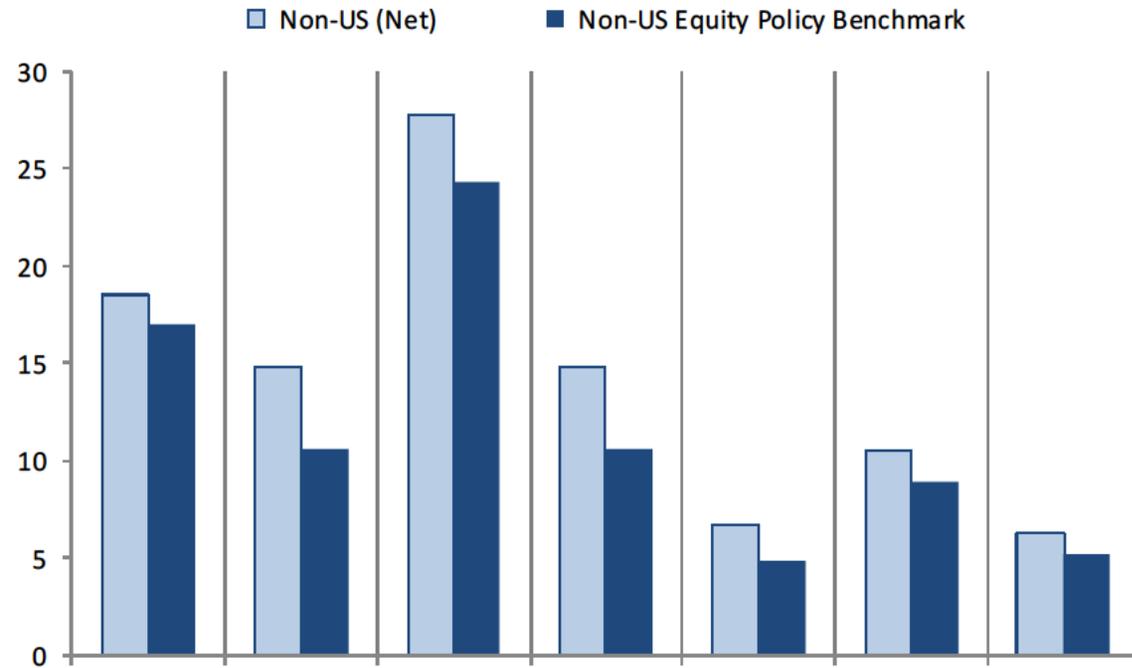


Source: BNY Mellon GRS



## Non-US Equity Performance

**Current Benchmark:**  
*MSCI ACWI Ex US Index*  
*(Net dividends)*



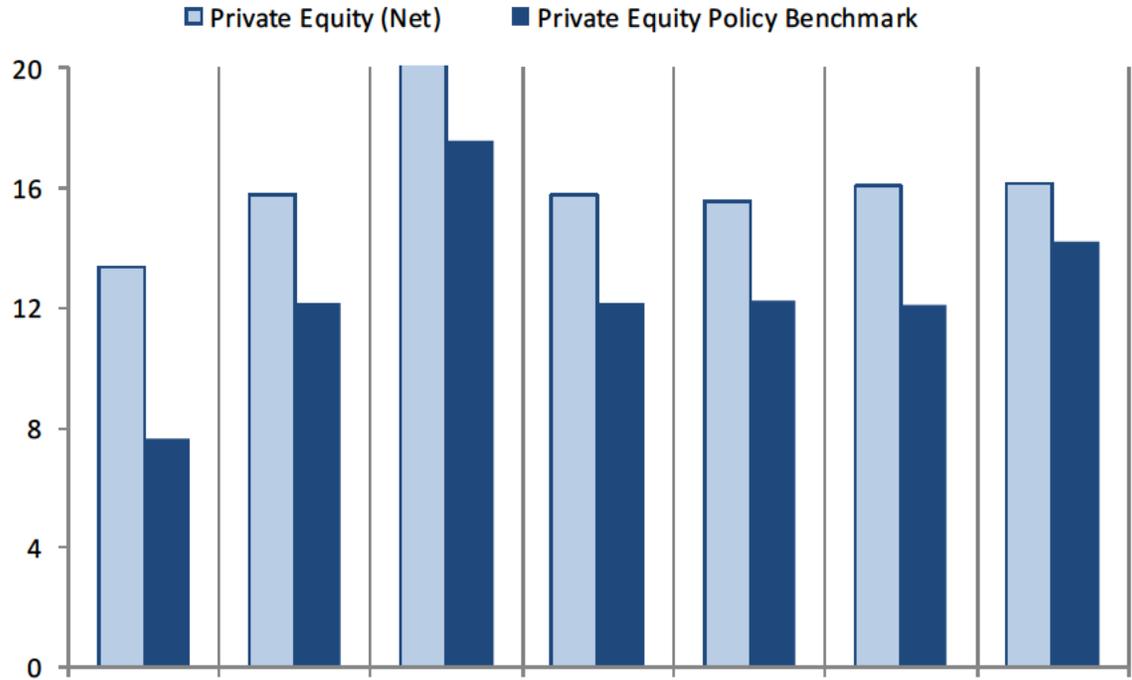
	Qtr	CYTD	FYTD	1 Year	3 Year	5 Year	10 Year
Non-US (Gross)	18.59	15.29	28.02	15.29	7.22	10.99	6.71
Non-US (Net)	18.48	14.81	27.77	14.81	6.77	10.54	6.27
Non-US Equity Policy Benchmark	17.01	10.65	24.33	10.65	4.88	8.93	5.21
Value Added (Net of Fee)	1.46	4.16	3.44	4.16	1.89	1.61	1.06

Source: BNY Mellon GRS



**Global Private Equity Performance**

**Current Benchmark:**  
*Burgiss All Private Equity Index*



	Qtr	CYTD	FYTD	1 Year	3 Year	5 Year	10 Year
Private Equity (Gross)	13.56	17.14	21.62	17.14	17.14	17.65	17.80
Private Equity (Net)	13.38	15.77	20.84	15.77	15.58	16.10	16.13
Private Equity Policy Benchmark	7.66	12.16	17.59	12.16	12.28	12.11	14.20
Value Added (Net of Fee)	5.72	3.61	3.26	3.61	3.30	3.98	1.93

Source: BNY Mellon GRS

The difference between Gross and Net is management fee only. Performance based fees are captured in the Gross return.

Global Private Equity performance is reported one quarter in arrears.





## Public vs Private Equity - Performance (Net)

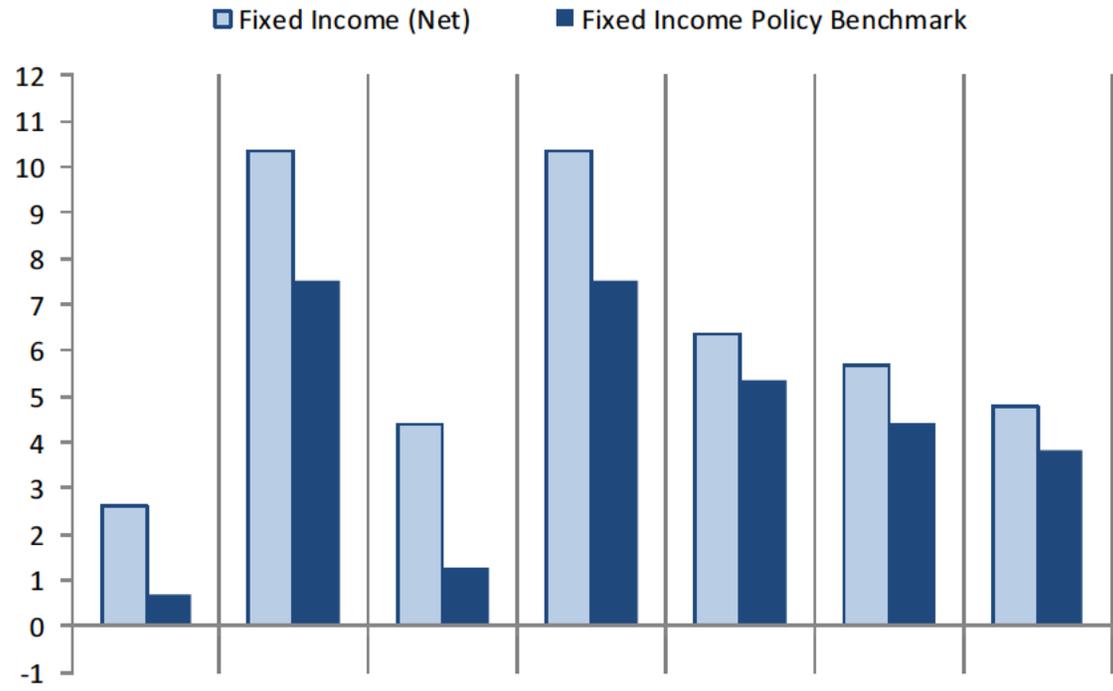
	3 Year	5 Year	10 Year
US Equity	14.09	14.98	13.46
Non-US Equity	6.77	10.54	6.27
Global Equity	10.46	12.80	9.87
Private Equity	15.58	16.10	16.13

\* Private Equity returns are lagged one quarter



## Global Fixed Income Performance

**Current Benchmark:**  
*Bloomberg Barclays Aggregate  
 Bond Index*



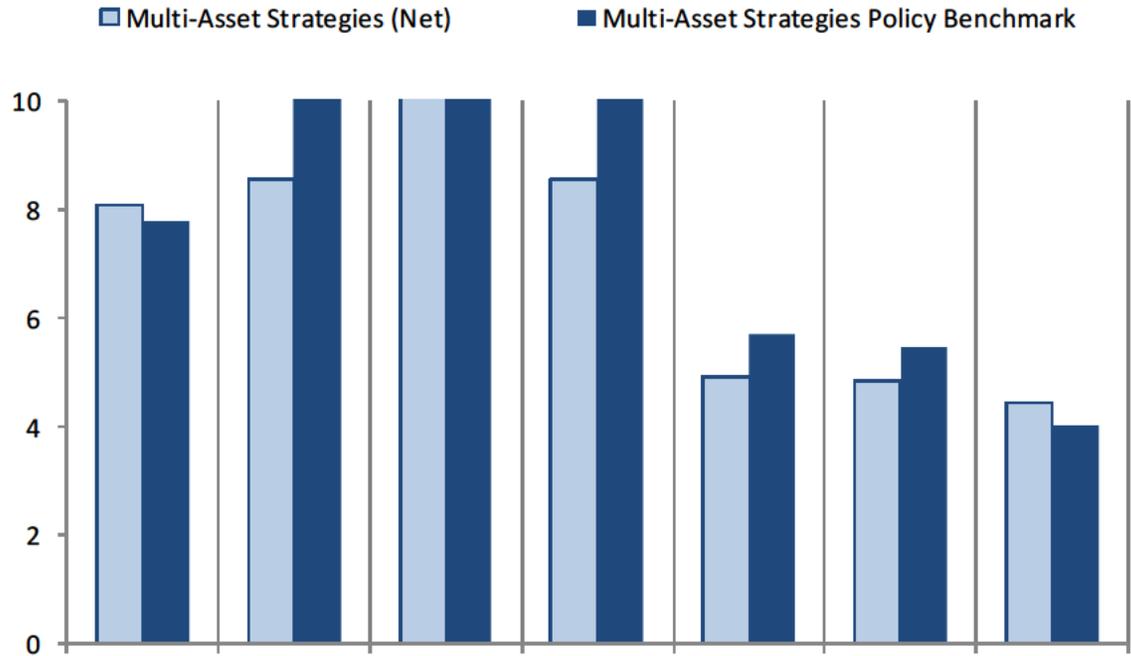
	Qtr	CYTD	FYTD	1 Year	3 Year	5 Year	10 Year
Fixed Income (Gross)	2.68	10.59	4.50	10.59	6.60	5.91	5.04
Fixed Income (Net)	2.64	10.35	4.37	10.35	6.37	5.68	4.81
Fixed Income Policy Benchmark	0.67	7.51	1.29	7.51	5.34	4.44	3.84
Value Added (Net of Fee)	1.97	2.84	3.08	2.84	1.03	1.25	0.97

Source: BNY Mellon GRS



## Multi-Asset Strategies Performance

**Current Benchmark:**  
*HFRI Fund of Funds Composite  
 plus 1%*



	Qtr	CYTD	FYTD	1 Year	3 Year	5 Year	10 Year
Multi-Asset Strategies (Gross)	8.23	9.59	11.77	9.59	6.17	6.18	5.95
Multi-Asset Strategies (Net)	8.08	8.56	11.40	8.56	4.93	4.84	4.44
Multi-Asset Strategies Policy Benchmark	7.79	11.34	12.62	11.34	5.71	5.46	4.02
Value Added (Net of Fee)	0.28	(2.78)	(1.21)	(2.78)	(0.78)	(0.62)	0.42

Source: BNY Mellon GRS

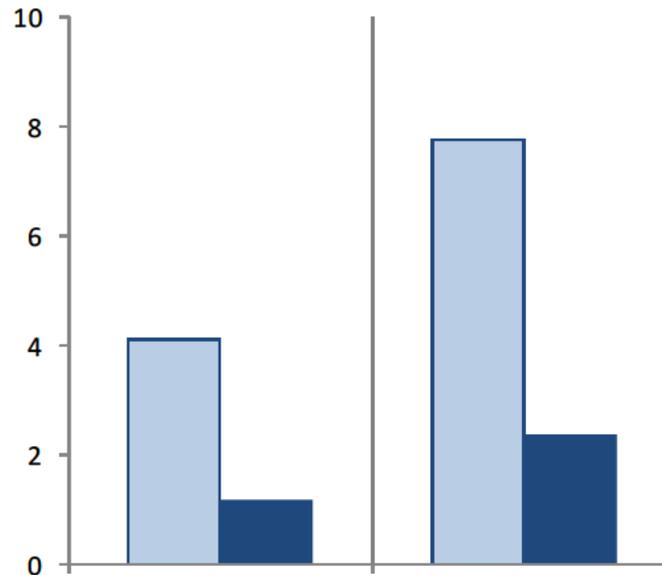
The difference between Gross and Net is management fee only. Performance based fees are captured in the Gross return.



## Global Private Credit

**Current Benchmark:**  
 3 Month LIBOR plus 4.5%

■ Global Private Credit (Net)  
 ■ Global Private Credit Policy Benchmark



	Qtr	FYTD
Global Private Credit (Gross)	4.24	8.36
Global Private Credit (Net)	4.12	7.75
Global Private Credit Policy Benchmark	1.16	2.36
Value Added (Net of Fee)	2.96	5.39

Source: BNY Mellon GRS

The difference between Gross and Net is management fee only. Performance based fees are captured in the Gross return.

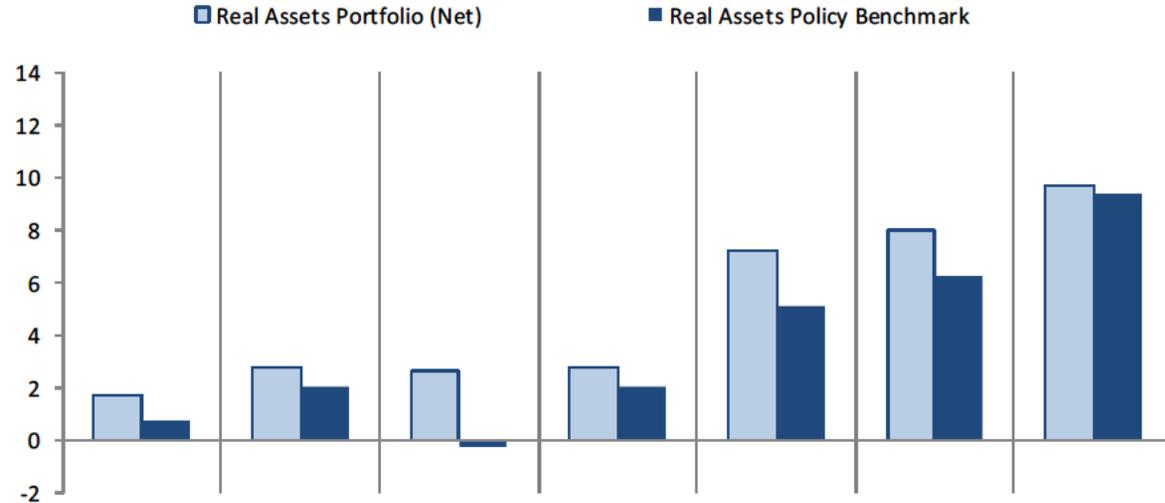


# Ohio SERS Investment Report

Quarter Ending: 12/31/2020

## Global Real Assets Performance

**Current Benchmark:**  
NCREIF Property Index (1q lag)



	Qtr	CYTD	FYTD	1 Year	3 Year	5 Year	10 Year
Real Assets Portfolio (Gross)	1.75	3.30	2.90	3.30	8.13	8.97	10.86
Real Assets Portfolio (Net)	1.74	2.76	2.66	2.76	7.18	7.96	9.73
Real Assets Policy Benchmark	0.74	2.00	(0.26)	2.00	5.11	6.28	9.37
Real Assets Value Added (NOF)	1.00	0.75	2.92	0.75	2.07	1.68	0.36
Real Assets Core (Net)	0.94	2.51	(0.29)	2.51	6.37	7.40	10.24
Real Assets Policy Benchmark	0.74	2.00	(0.26)	2.00	5.11	6.28	9.37
Real Assets Core Value Added (NOF)	0.20	0.51	(0.03)	0.51	1.26	1.12	0.87
Real Assets Non-Core (Net)	0.05	(0.70)	0.10	(0.70)	6.11	7.58	9.21
Real Assets Policy Benchmark	0.74	2.00	(0.26)	2.00	5.11	6.28	9.37
Real Assets Non-Core Value Added (NOF)	(0.69)	(2.70)	0.36	(2.70)	1.00	1.30	(0.16)
Real Assets Infrastructure (Net)	3.54	6.51	11.46	6.51	11.77	n/a	n/a
Real Assets Policy Benchmark	0.74	2.00	(0.26)	2.00	5.11	n/a	n/a
Real Assets Infrastructure Value Added (NOF)	2.80	4.51	11.72	4.51	6.66	n/a	n/a

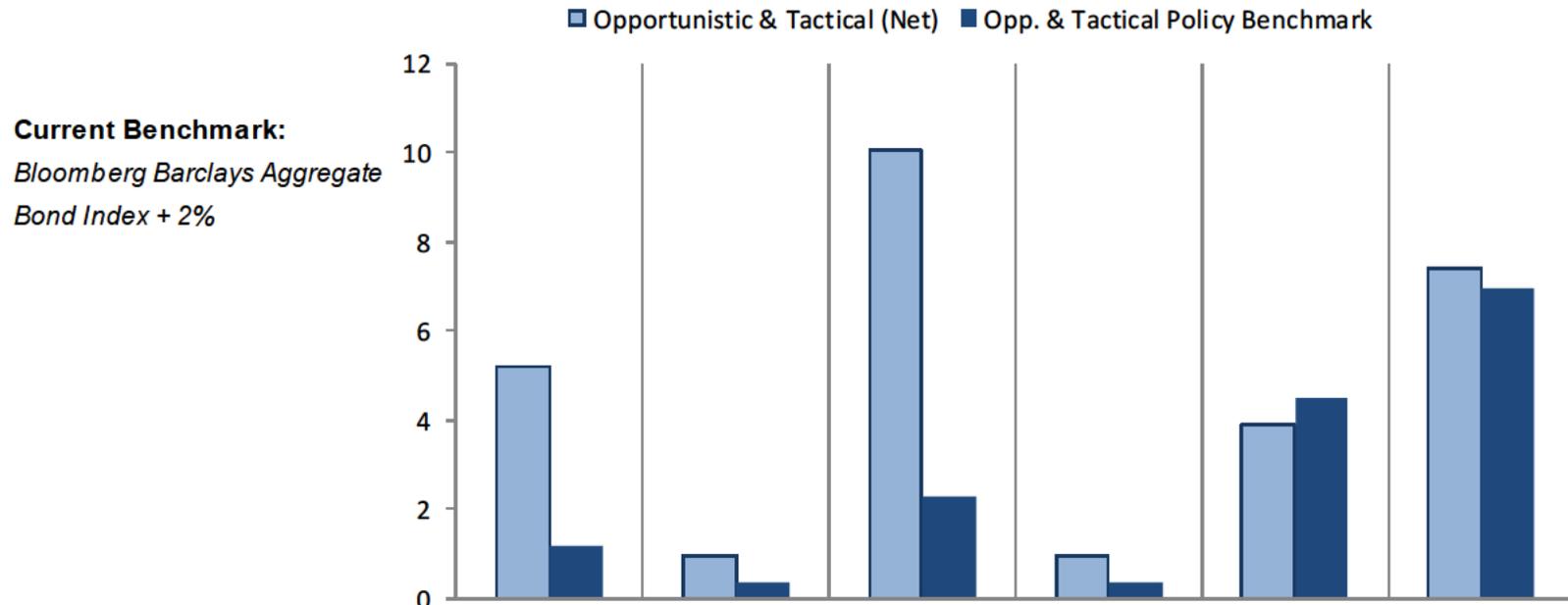
Source: BNY Mellon GRS

The difference between Gross and Net is management fee only. Performance based fees are captured in the Gross return.

Global Real Assets performance is reported one quarter in arrears.



## Opportunistic & Tactical Performance



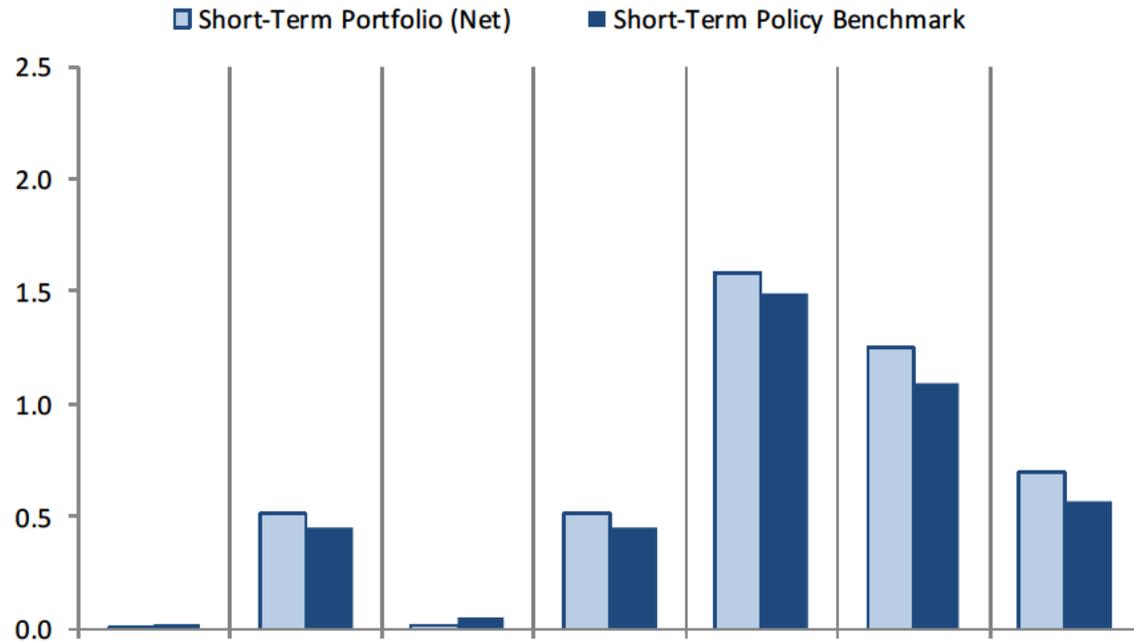
	Qtr	CYTD	FYTD	1 Year	3 Year	5 Year
Opportunistic & Tactical (Gross)	5.22	2.27	10.53	2.27	5.43	8.81
Opportunistic & Tactical (Net)	5.20	0.96	10.06	0.96	3.90	7.39
Opp. & Tactical Policy Benchmark	1.16	0.36	2.29	0.36	4.51	6.96
Value Added (Net of Fee)	4.04	0.60	7.77	0.60	(0.61)	0.43

Source: BNY Mellon GRS



## Short-Term Performance

**Current Benchmark:**  
Citigroup 30 Day Treasury Bill Index

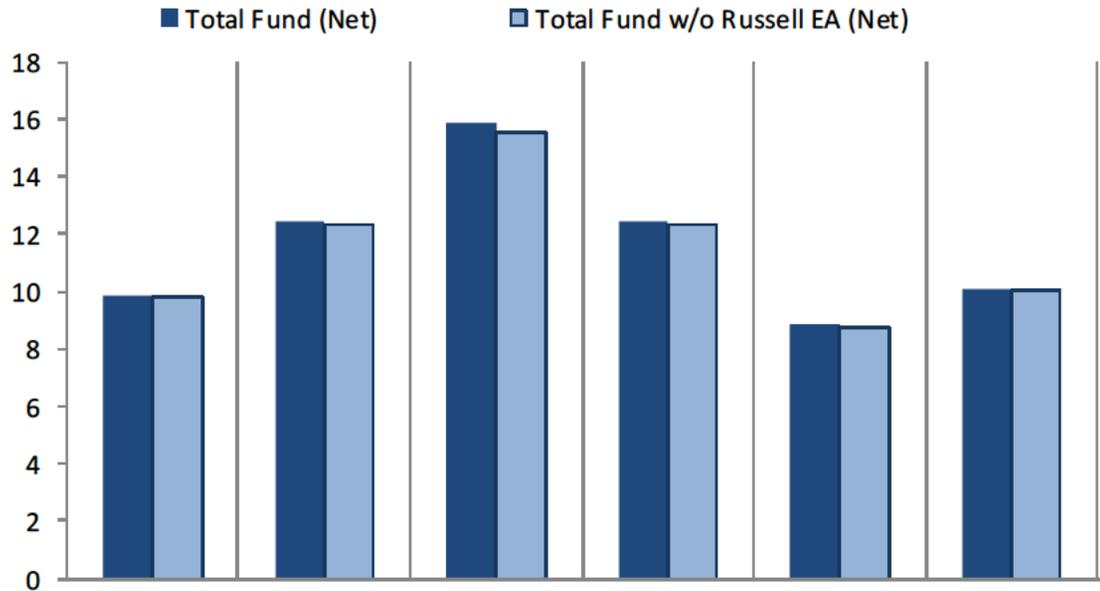


	Qtr	CYTD	FYTD	1 Year	3 Year	5 Year	10 Year
Short-Term Portfolio (Gross)	0.00	0.51	0.02	0.51	1.58	1.25	0.70
Short-Term Portfolio (Net)	0.00	0.51	0.02	0.51	1.58	1.25	0.70
Short-Term Policy Benchmark	0.02	0.45	0.05	0.45	1.49	1.09	0.56
Value Added (Net of Fee)	(0.02)	0.06	(0.03)	0.06	0.09	0.16	0.14

Source: BNY Mellon GRS



**Russell EA Overlay Performance**



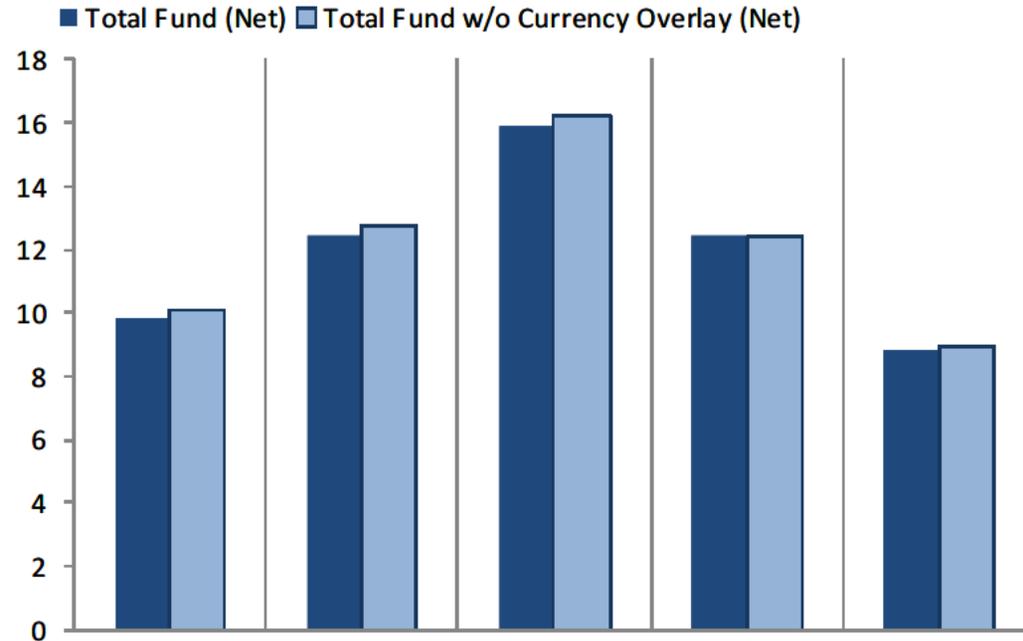
	Qtr	CYTD	FYTD	1 Year	3 Year	5 Year
Total Fund (Gross)	9.94	12.99	16.14	12.99	9.49	10.74
Total Fund w/o Russell EA (Gross)	9.91	12.87	15.79	12.87	9.42	10.68
Total Fund (Net)	9.84	12.41	15.87	12.41	8.84	10.06
Total Fund w/o Russell EA (Net)	9.83	12.31	15.55	12.31	8.78	10.01
Russell EA Overlay Impact (Net of Fee)	0.01	0.09	0.32	0.09	0.06	0.04

Source: BNY Mellon GRS





Currency Overlay Performance



	Qtr	CYTD	FYTD	1 Year	3 Year
Total Fund (Gross)	9.94	12.99	16.14	12.99	9.49
Total Fund w/o Currency Overlay (Gross)	10.17	13.30	16.48	13.30	9.57
Total Fund (Net)	9.84	12.41	15.87	12.41	8.84
Total Fund w/o Currency Overlay (Net)	10.08	12.74	16.21	12.41	8.93
Currency Overlay Impact (Net of Fee)	(0.23)	(0.34)	(0.34)	0.00	(0.10)

Source: BNY Mellon GRS



Proposed Investment Agenda – Next Meeting

---

Annual Portfolio Review – Opportunistic and Tactical  
Investment Report (January 30, 2021)

AMENDED STATEMENT OF  
INVESTMENT POLICY

(tab)

# Memo

To: Retirement Board  
From: Farouki Majeed  
CC: Richard Stensrud and Karen Roggenkamp  
Date: February 5, 2021  
Re: Proposed Amendments to Annual Investment Plan and Statement of Investment Policy

---

At the December 17, 2020 Board meeting, the Board approved changes to the Global Equities portfolio allocation and benchmark to split the existing 45% Global Equities allocation among US, developed markets and emerging markets, with the benchmark changing to 55% US, 30% developed markets and 15% emerging markets.

At this month's Board meeting, we will present proposed amendments to the Annual Investment Plan and Statement of Investment Policy as follows:

- *Annual Investment Plan*: changes include amendments to the Global Equities Portfolio Performance Objectives found on page 8, and Implementation Guidelines found on pages 30-32 of the document.
- *Statement of Investment Policy*: changes include the revised Global Equities Portfolio Benchmark found on page 11 of the document.

Should you have any questions in advance of the meeting, please contact me at [fmajeed@ohsers.org](mailto:fmajeed@ohsers.org).



# Statement of Investment Policy

INV1-001

<b>Effective Date:</b>	08/02/1985	<b>Revision Date:</b>	02/18/2021 <del>07/01/2020</del>	<b>Audience:</b>	Investments
<b>Owner:</b>	Investments	<b>Certifier:</b>	Richard Stensrud	<b>Co-Owner (s):</b>	None
<b>Document Links:</b>	Purpose, Policy, Procedure, Definitions, Related Documents, Policy History				

## I. Purpose of Statement of Investment Policy

The purpose of this Statement of Investment Policy (SIP) is to set forth the investment philosophy and objectives of the Retirement Board (Board) for the School Employees Retirement System of Ohio (SERS).

This SIP:

- A. incorporates and is subject to all restrictions and obligations set forth in Chapter 3309 of the Ohio Revised Code;
- B. establishes investment policies and describes the organization and division of responsibilities necessary to implement the Board's philosophy and objectives prudently; and
- C. establishes a framework for making investment decisions, and monitoring investment activity, and promotes effective communication between the Board, Staff, and other involved parties.

This SIP is subject to change at any time by the Board. The Board will review the SIP and revise it periodically to assure it continues to reflect the investment philosophy, objectives and strategies of the Board.

## II. Investment Philosophy

The Board recognizes the need to manage SERS assets prudently (the Total Fund) to meet its statutory and fiduciary obligations and to achieve or exceed its objectives. The Board's investment philosophy is grounded in fundamental, prudent investment principles, incorporating modern portfolio theory, risk management and portfolio management practices. These principles are incorporated in the "Investment Beliefs" below. The Board believes it can provide consistent, long-term performance at appropriate levels of risk. By delineating responsibilities and defining policy objectives, this SIP reflects the Board's investment philosophy and governance.

SERS Investment Beliefs:

### Financial Markets

- A. Capital markets are not perfectly efficient. Inefficiencies create opportunities that skilled investors could exploit to generate excess returns. Investment Staff will prudently attempt to add value by exploiting such inefficiencies across different assets selectively, although it is not easily achieved.
- B. Markets generally afford higher prospective returns for riskier assets, such as equity or credit risk premiums over the long term. Anomalies could occur in intermittent periods on account of shifting valuations. When valuations are elevated returns tend to be lower.

### Investment Process

- C. Strategic asset allocation is the key determinant of risk and return and represents the Board's tolerance for risk in achieving funding goals. It is important to diversify across risk factors and return sources and to be explicit about the role of asset classes.

- D. Risk is the likelihood of loss or less than expected outcomes and is not fully captured by a single metric such as volatility. Risk has many dimensions, subjective and objective, which must be comprehensively assessed and managed in the investment process.
- E. Long-term horizon is an advantage as it enables SERS to tolerate volatility, capture illiquidity and other risk premia, and take advantage of trends and opportunities.
- F. Costs matter. Managing fees and transaction costs adds value to the Fund. Costs must be judged relative to expected value added.

#### Organizational Skills and Design

- G. Investment success is dependent on good governance, decision process, skill and judgment. Having an experienced and talented staff with appropriate decision authority is an advantage. SERS' Board will delegate authority as appropriate to staff to facilitate execution of the investment process, but retain policy and oversight powers.
- H. Explicit investment objectives, guidelines and collaborative teamwork among staff as well as external partners is essential for success.

#### Sustainability and Corporate Governance

- I. Good governance of markets and entities comprising the markets improves outcomes for investors. SERS Board and Staff will exercise corporate ownership responsibly and with the best fiduciary interest of members and stakeholders.
- J. SERS Board and Staff must be attentive to important environmental, social and governance issues that affect markets and promote its interests in a responsible manner in the best fiduciary interest of members and stakeholders.

### III. Investment Objectives

The Investment Objectives of SERS are:

- A. to assure that SERS provides statutorily-mandated retirement benefits;
- B. to earn a net-of-fees total return that equals or exceeds over the long term the Actuarial Assumed Rate approved by the Board; and
- C. to enhance risk-adjusted investment returns of the Total Fund in a prudent and cost-effective manner.

### IV. Risk Management

- A. The Board evaluates risk in terms of the probability of not earning the actuarial assumed rate over the long-term. Diversification across asset classes, within asset classes and across investment styles, sectors and securities is employed to manage overall portfolio risk and volatility.
- B. SERS utilizes a risk budgeting approach in management of volatility risk of investment portfolios. Active risk of the Total Fund, asset class and individual portfolios and their respective risk contribution to total risk are important factors in the management of the capital allocations to individual asset classes and portfolios. The Total Fund shall be managed within a forecast active risk (tracking error) range of 0% to 3.0% relative to the policy benchmark and within the asset allocation range specified elsewhere in this SIP. Active risk is determined by asset allocation deviations and active security selection decisions as well as underlying market volatility. In times of high market volatility, the active risk may exceed 3%. In any event, if the active risk exceeds 3% staff will discuss this with the Board and present appropriate recommendations. The realized tracking error is also expected to be below 3% over rolling three-year periods. Individual asset classes will be managed within the tracking error range specified in the respective asset class implementation guideline. Private asset classes (Private Equity, Private Credit and Real Assets) are excluded at this point from tracking error guidelines.
- C. Other risks, including but not limited to those such as interest rate risk, credit risk, and liquidity risk, will be managed and carefully monitored by Investment Managers and Investment Staff.

## V. Implementation Approach

- A. The Board reserves certain responsibilities for itself, while delegating other responsibilities to the Executive Director, the Chief Investment Officer, the Investment Committee, Investment Staff, Investment Managers, Investment Consultants, the Investment Compliance Department and other Investment Service Providers. These responsibilities are described in this SIP.
- B. In fulfilling its fiduciary duties, the Board utilizes a competent and qualified Staff to implement the investment program and to manage daily operations.
- C. The Board utilizes Investment Managers or Funds selected by Staff to invest most assets of the Total Fund. The Board recognizes that costs associated with external Investment Managers and Funds are typically higher than costs associated with internal management. However, the Board believes external Investment Managers that act as fiduciaries possess specialized investment expertise and economies of scale, and can generate higher returns on a net-of-fee basis.
- D. The Board requires regular reporting on the Total Fund's investment program to ensure compliance with its SIP.

## VI. Investment Organization and Responsibilities

### A. Responsibilities of the **Board**

The Board as a fiduciary is responsible for ensuring that Total Fund assets are managed prudently and effectively, in compliance with applicable laws and with this SIP, for the exclusive benefit of participants and beneficiaries.

Responsibilities of the Board include:

- 1. establishing controls and systems to ensure that Total Fund fiduciaries comply with applicable laws;
- 2. establishing asset allocation and investment policies for SERS assets;
- 3. appointing and discharging the Executive Director and Board Investment Consultants;
- 4. confirming or rejecting the Executive Director's proposed appointment of a Chief Investment Officer for SERS;
- 5. designating the individual as Chief Investment Officer of SERS for purposes of R.C. 3309.043, and then notifying the Ohio Department of Commerce, Division of Securities in writing of the designation as required by the Ohio Revised Code;
- 6. monitoring and reviewing investment performance and policy compliance;
- 7. requesting, receiving and reviewing reports from Investment Staff, Board Consultants and other entities, if applicable;
- 8. approving an Annual Investment Plan;
- 9. approving Statement of Investment Policy and changes thereto; and
- 10. conducting an annual evaluation of the performance of the Board's Investment Consultant.

### B. Responsibilities of **Staff**

Staff will administer Total Fund assets as fiduciaries in accordance with applicable federal and state laws and regulations, and in accordance with this SIP, ethics laws, codes of professional conduct (in particular, the CFA Code of Ethics and Standards of Professional Conduct), and other applicable codes and/or regulations. Staff will establish plans, policies and procedures to carry out these duties.

- 1. The **Executive Director** is responsible for:
  - a. ensuring that reports of the Total Fund's investment performance are presented on a timely basis;

- b. retaining vendors, consultants and advisors as necessary to assist Staff, and assist the Board in the retention of Investment Consultants;
  - c. appointing, discharging and retaining the Chief Investment Officer and Investment Staff;
  - d. overseeing the investment function,
  - e. executing investment documents when necessary,
  - f. conducting a fiduciary audit of investment operations at least on a seven- to ten-year cycle unless circumstances require an audit to be conducted sooner.
2. The **Chief Investment Officer** is responsible for:
- a. overseeing the investment program and keeping the Executive Director advised;
  - b. conducting periodic asset liability studies with the assistance of Investment Consultants and recommending asset allocation targets and ranges;
  - c. reviewing the SIP on an annual basis and recommending changes as needed for approval by the Board;
  - d. preparing and presenting the Annual Investment Plan to the Board for approval;
  - e. implementing the Annual Investment Plan;
  - f. investigating, researching and recommending new and emerging investment concepts and strategies, and implementing appropriate strategies in accordance with approved policies and procedures;
  - g. informing Investment Managers, Investment Consultants, and others providing investment services to SERS about the requirements of applicable laws and Board policies, and monitoring their compliance with said laws and policies;
  - h. adjusting allocations to Asset Classes, Investment Managers and Funds as needed, subject to any approved allocation ranges;
  - i. approving implementation guidelines for each asset class to establish allocation ranges for sub-strategies, risk parameters and risk limits, and providing such guidelines to the Board;
  - j. appointing and discharging Investment Managers and approving investments in or redemptions from Funds subject to conditions and guidelines in Section VII.;
  - k. executing investment documents;
  - l. approving Investment Manager guidelines, changes and additions;
  - m. hiring and supervising Investment Staff;
  - n. monitoring and evaluating the effectiveness of executed securities transactions and reporting annually to the Board regarding the performance of agents who execute securities transactions on behalf of SERS; and
  - o. regularly reporting to the Board on market conditions, the status of the Total Fund, and its multi-period performance relative to benchmarks. Performance will be calculated on a gross-of-fees and net-of-fees basis.
3. The **Investment Committee** is responsible for:
- a. ensuring that a policy and procedure are in place defining the Committee's structure and establishing rules for reviewing and approving investments;
  - b. reviewing Investment Manager and Fund due diligence; and
  - c. approving Investment Managers or Funds.
-



4. The **Investment Staff** is responsible for:
- a. regularly reporting the status of the respective asset classes and Total Fund and its multi-period performance to the Chief Investment Officer;
  - b. periodically meeting and speaking with existing or potential Investment Managers to review and assess the quality of their investments and management of assets;
  - c. performing ongoing due diligence to evaluate and monitor Investment Manager capabilities relative to managing Total Fund assets;
  - d. recommending to the Chief Investment Officer implementation guidelines for the respective asset classes to establish allocation ranges for sub-strategies, risk parameters and risk limits, and managing the portfolio to the approved implementation guidelines;
  - e. recommending to the Chief Investment Officer any additions or withdrawals from Investment Manager accounts or Funds, or rebalancing of asset class allocations;
  - f. recommending to the Chief Investment Officer and the Investment Committee the appointment or discharge of Investment Managers and investments in or redemptions from Funds;
  - g. investing assets of the cash equivalents portfolio;
  - h. investigating and researching new and emerging investment concepts and strategies, and recommending those strategies to the Chief Investment Officer;
  - i. preparing periodic reports for the Chief Investment Officer on the performance of agents who execute securities transactions on behalf of SERS; and
  - j. maintaining a list of Ohio-qualified Investment Managers and their investment products.

C. Responsibilities of **Investment Service Providers**

Investment Service Providers who do business or seek to do business with SERS will act in the best interest of SERS when providing services to SERS or the Total Fund. Investment Service Providers will:

1. comply with all applicable federal and state laws and regulations, with this SIP, and with all applicable professional codes and regulations;
2. have established ethics and conflict of interest policies and procedures, and proper internal compliance controls in place as needed;
3. at the earliest opportunity disclose to Investment Staff any actual or potential conflict of interest;
4. as permitted by law, disclose any investigation of, or litigation involving, its operations to Investment Staff; and
5. provide annual or other periodic disclosures as required.

D. Responsibilities of **Investment Managers**

Investment Managers and Investment Staff managing assets internally are responsible as fiduciaries for investing prudently the Total Fund assets. In addition to those applicable responsibilities described in VI.B., Investment Managers and internal Investment Staff members will:

1. manage assets within their control in compliance with all applicable federal and state laws and regulations, including but not limited to applicable ethics requirements, this SIP, contractual obligations, and applicable professional codes of conduct;
  2. inform the Chief Investment Officer and Investment Staff of any substantial changes in investment strategy, portfolio structure, asset value, and of any organizational changes,
-

including that of ownership, affiliation, organizational structure, financial condition, or changes in professional personnel staffing in the investment management organization;

3. present in-depth reports to Investment Staff;
4. recommend to Investment Staff changes to investment guidelines the Investment Manager believes would enhance investment performance on a risk adjusted basis; and
5. select such agents for the execution of transactions, at such prices, and at such commission rates as in the good faith judgment of the Investment Manager will be in the best interest of the Total Fund, taking into consideration in the selection of such agents not only the available prices and rates of brokerage commissions, but also other factors relevant to the transaction.

#### E. Responsibilities of ***Investment Consultants***

Investment Consultants will:

1. provide services as fiduciaries and in accordance with all applicable federal and state laws and regulations, including but not limited to applicable ethics requirements; in accordance with this SIP and its written Agreement with SERS; and with all applicable professional codes and/or regulations;
2. provide independent and unbiased research, information and advice to the Board and Staff;
3. assist in the development and amendment of this SIP;
4. assist in the development of investment guidelines as may be requested by Staff;
5. assist in the development of strategic asset allocation targets and ranges;
6. assist in the development of performance measurement standards;
7. monitor and evaluate Investment Manager and Fund performance as appropriate on an ongoing basis;
8. recommend to Staff the retention or discharge of Investment Managers and investment in or redemption from Funds;
9. collaborate with Investment Staff on the due diligence of potential Investment Managers and Funds, and existing Investment Managers and Funds, as requested by Staff;
10. assist in the development of criteria for and procedures to be utilized in the selection of Investment Managers and Funds;
11. provide research, information and advice on investment topics and strategies considered relevant by the Investment Consultant, or when requested by the Board or Investment Staff;
12. provide those services delineated in the Advisory or Consultant Agreement;
13. provide any other advice or services that the Board, Executive Director or Chief Investment Officer determines are necessary, useful or appropriate to fulfill the objectives of this SIP; and
14. regularly report the status of the Total Fund and its multi-period performance to the Board. Performance will be calculated on a net-of-fee basis.

#### F. Responsibilities of the ***Investment Compliance Department***

The Investment Compliance Department is responsible for:

1. monitoring and reporting compliance with this SIP and Board Resolutions;
2. ensuring that investment management agreements and related contracts comply with the SIP;
3. ensuring that Investment Service Providers and Investment Managers comply with Section VI., herein; and
4. identifying and, in concert with Investment Staff, resolving compliance violations by Investment Managers and Investment Staff relative to their respective investment guidelines.

Staff will ensure that those accounts with guideline violations are efficiently and effectively brought back into compliance;

G. Responsibilities of the **Government Relations Officer**

The Government Relations Officer is responsible for:

1. promptly voting proxies and related actions in accordance with Board approved procedures, and maintaining detailed records of proxy votes and related actions for the Proxy Review Committee; and
2. reporting proxy voting activity to the Board on a quarterly basis and highlighting any emerging issues related to this activity.

H. Responsibilities of the **Investment Accounting Department**

Responsibilities of the Investment Accounting Department related to the Investments Department are defined in Policy FIN4-004 Investment Valuation.

**VII. Conditions and Guidelines for Making Investments**

A. Conditions

1. In cooperation with legal counsel, Staff will endeavor to ensure that the legal structure of each investment limits potential losses to no more than the amount invested;
2. Investments will be of institutional quality;
3. Investments will require the approval of the Chief Investment Officer and the Investment Committee;
4. Investment documents must be approved by SERS' Legal Department and the Investment Compliance Department;
5. The Investment Committee will develop and implement definitive procedures for approving investments in accordance with this SIP; and
6. The Chief Investment Officer or the Executive Director must sign the necessary investment documents when making investments.

B. Guidelines

1. Selected Investment Managers and Funds will have proven track records in the strategy;
2. Monthly reporting by the Fund or Investment Manager is preferred, but there shall be quarterly reporting at a minimum;
3. The liquidity of an investment will be prudent, both for the strategy and for the Total Fund;
4. The amount invested with an Investment Manager or in a Fund will be prudent for the strategy; and
5. Investment limits established by Board resolution remain in effect until modified or eliminated by the Board.

**VIII. Implementation Strategies**

A. Asset Allocation

The Board will conduct an asset and liability study every three- to five-years or sooner, if necessary, in order to establish allocation targets and ranges for asset classes within distinct capital markets. Staff, with the assistance of consultants, will review annually the market outlook and expected returns for asset classes with the Board. If there are significant changes in return assumptions, Staff will conduct an interim review of the Asset Allocation Policy.

In order to identify the investment horizon of SERS and its cash flow requirements, liability considerations will include but not be limited to current and expected future values of the benefits, contributions and total assets.

After giving due consideration to an asset and liability study conducted by the Investment Consultant, which study meets the requirements of this SIP, the Board hereby recognizes and reaffirms the following asset allocation for SERS:

<b><u>ASSET CLASS</u></b>	<b><u>TARGET</u></b>	<b><u>RANGE</u></b>
<b><u>Equity</u></b>	<b>57%</b>	<b>47% - 67%</b>
Global Equities	45%	35% - 55%
Global Private Equity	12%	8% - 16%
<b><u>Income</u></b>	<b>43%</b>	<b>38% - 48%</b>
Global Bonds	19%	12% - 26%
Global Private Credit	5%	3% - 7%
Global Real Assets	17%	14% - 20%
Cash Equivalents	2%	0% - 5%
<b><u>STRATEGY</u></b>		
Opportunistic and Tactical Investments	0%	0 – 5%
<b>Total</b>	<b>100%</b>	

#### B. Derivatives

The Board authorizes the use of derivatives in the Total Fund and authorizes the Chief Investment Officer, with the advice and assistance of the Investment Consultant, to develop and implement derivatives strategies as needed. The Chief Investment Officer will follow the derivatives policy setting forth general guidelines for the use of derivatives.

#### C. Leverage

The Board authorizes the use of leverage in the Total Fund and authorizes the Chief Investment Officer, with the advice and assistance of the Investment Consultant, to develop and implement certain leverage strategies. The Chief Investment Officer will follow the leverage policy setting forth general guidelines for the use of leverage.

#### D. Rebalancing

The Total Fund rebalancing is conducted by the Chief Investment Officer within the active risk limit specified in Section IV. (Risk Management) as well as asset class portfolio ranges specified in Section VIII. Within individual asset classes, rebalancing is conducted based on the specific targets and ranges of the sub-strategies specified in the implementation guidelines subject to the overall tracking error limit of each asset class.

#### E. Currency Hedging

The Board authorizes currency hedging in the Total Fund and authorizes the Chief Investment Officer to develop and implement currency hedging strategies as needed. Currency hedging programs and managers shall be approved by the Investment Committee.

#### F. Transition Management

The Board authorizes the Executive Director and the Chief Investment Officer to hire Transition Managers as needed.

#### G. Proxy Voting

The Board authorizes the Proxy Review Committee, which consists of staff members from Executive and Investments, to vote proxies of common stock owned by SERS and to hire proxy services as required to implement this strategy. The Proxy Review Committee will follow a process for voting proxies as described in the Proxy Voting Procedures document.

#### H. Securities Lending

The Board authorizes Investment Staff to develop and implement a securities lending program which may involve the appointment or discharge of third party securities lending agents by the Executive Director or the Chief Investment Officer. The Board recognizes that while the practice of securities lending can generate meaningful income for the Total Fund, it is not without investment risk. To mitigate investment risk the securities lending program will focus on intrinsic value lending and use conservative collateral reinvestment guidelines as outlined in the securities lending policy. If Staff determines the risk/reward relationship of the program is no longer advantageous for the Total Fund, the program will be discontinued.

#### I. Opportunistic and Tactical Investments

The Board authorizes Investment Staff to invest up to 5% of Total Assets in Opportunistic and Tactical Investment Strategies. These investments will comply with the Opportunistic and Tactical Investment Policy approved by the Chief Investment Officer. .

#### J. Overlay Program

The Board authorizes Investment Staff to invest in an overlay program which includes tactical asset allocation and active currency strategies. The overlay program trades derivatives of the Total Fund's underlying assets and foreign currency exposures to enhance Total Fund's risk adjusted return. The net notional exposures of the tactical asset allocation should be zero and the gross notional exposure of the currency program is limited to 50% of the Non-US Equity portfolio value. The active risk (tracking error) of the overlay positions are governed by the overall tracking error limit for the Total Fund as stated in Section IV. (Risk Management).

#### K. Investment Managers and Funds

The Board authorizes the Chief Investment Officer and the Investment Committee to approve Investment Managers and Funds based upon recommendations of Investment Staff or Investment Consultants, as may be appropriate, and discussions with Managers. The Chief Investment Officer is authorized to discharge Investment Managers or Funds and report such actions to the Investment Committee or to present the discharge action to the Investment Committee for approval on a discretionary basis. Allocations to approved Investment Managers and Funds will be determined or adjusted by the Chief Investment Officer in accordance Section VI. Allocations and adjustments are subject to any maximum allocation amounts established by the Board.

Investment Managers will adhere to investment guidelines established by Investment Staff, as well as all applicable laws and policies. The Chief Investment Officer is authorized to establish and amend investment guidelines as needed.

It is a goal of the Board to increase the utilization of Ohio-qualified Investment Managers when an Ohio-qualified Investment Manager offers quality, services and safety comparable to other Investment Managers available to the Board, and the use of such Investment Manager is consistent with the Board's fiduciary duties.

The Board will require that a list of Ohio-qualified Investment Managers and their investment products be maintained, and that public notice be given to Ohio-qualified Investment Managers of Investment Manager searches and search criteria.

SERS will give equal consideration to minority owned and controlled firms, and firms owned and controlled by women.

#### L. Co-investments

The Board authorizes the Chief Investment Officer to approve co-investments in a single investment within a Fund investment previously approved by the Investment Committee. A single co-investment is limited to \$10 million. Such approvals shall be reported to the Investment Committee with supporting investment memoranda. The Chief Investment Officer may present the co-investment to the Investment Committee for approval on a discretionary basis.

#### M. Collective Investment Funds

To the extent SERS' assets are invested in a group trust described in IRS Revenue Ruling 81-100, the instruments governing such trusts, as they may be amended from time to time, are hereby incorporated by reference and made part of the SIP as if fully set forth herein.

#### N. Approved Brokers

Brokers (or broker/dealers) who may provide execution of securities transactions for SERS will be evaluated on the basis of financial soundness, underwriting capabilities, research services, execution costs, and any other capabilities necessary in the execution of such transactions. Investment Managers who use such brokers will use their good faith judgment to ensure that said brokers will perform in the best interest of the Total Fund.

It is a goal of the Board to increase its utilization of Ohio-qualified brokers for the execution of domestic equity and domestic fixed income trades when an Ohio-qualified broker offers quality, services, and safety comparable to other brokers available to the Board or its Investment Managers, and the use of such broker is consistent with the Board's fiduciary duties.

SERS will give equal consideration to minority owned and controlled firms, and firms owned and controlled by women.

#### O. Soft Dollars

SERS allows investment managers to enter into limited soft dollar trading arrangements as governed by the "safe harbor" provision of Section 28(e) of the Securities and Exchange Act of 1934, and guided by the CFA Institute Soft Dollar Standards. SERS does not support any new soft dollar arrangements outside of these noted provisions.

#### P. Securities Litigation

SERS will follow the securities litigation policy and procedures as approved by the Board in setting out a course of action that best represents the interests of SERS' participants and beneficiaries.

#### Q. Other

The strategies listed herein are not meant to constrain the Chief Investment Officer from managing the investment program in a prudent manner. The Chief Investment Officer may develop additional investment strategies as needed and will discuss such additional strategies with the Board prior to implementation.

### IX. Performance

#### A. Performance Measurement Standard

Performance evaluation for the Total Fund will focus on total return, on an accrual accounting basis, including realized and unrealized capital gains and losses, and income. Valuations are to be made at least on a quarterly basis, and period returns are to be geometrically linked. Private market asset returns may be reported one quarter in arrears. Cash and cash equivalents will be included in the portfolio's return. Performance will be calculated on a gross-of-fee and net-of-fee basis.

#### B. Performance Benchmark – Total Fund

Performance of the Total Fund relative to benchmarks will be examined monthly, and will be reported for multiple time periods as needed. The Board's Investment Consultant will report performance net-of-fees on a quarterly basis.

The performance benchmark for the Total Fund will be the target-weighted average of the performance benchmark for each asset class and strategy grouping as stated in Section VIII.

In the event of a significant change in policy targets, the Board may approve interim targets for a period to move progressively toward the final target; interim targets may be used for the purpose of calculating the Total Fund policy benchmark in the interim period.

#### C. Performance Benchmarks – Asset Classes and Strategies

The long-term performance benchmark for each asset class is shown below. Performance benchmarks are determined as appropriate for SERS in cooperation with SERS' Investment Consultant. For purposes of this section, long-term refers to rolling three- to five-year periods. Performance in each asset class should meet or exceed the Benchmark measure.

<b>ASSET CLASS</b>	<b>BENCHMARK MEASURE</b>
Global Equities	<u>US Equity: 55% Russell 3000;</u> <u>NUSE Developed Market: 30% MSCI World ex-USA Net Total Return Index (USD);</u> <u>NUSE Emerging Market: 15% MSCI Emerging Markets Net Total Return Index (USD)</u> <u>50% Russell 3000 Index; 50% MSCI ACWI ex USA Index (net dividends)</u>
Global Private Equity	Burgiss All Private Equity benchmark (BAPE) (one quarter in arrears)
Global Fixed Income	Bloomberg Barclays Capital US Aggregate Bond Index
Global Private Credit	LIBOR + 4.5%
Global Real Assets	NCREIF Property Index (one quarter in arrears)
Cash Equivalents	Citigroup 30-day T-Bill Index
<b>STRATEGY</b>	<b>BENCHMARK MEASURE</b>
Opportunistic and Tactical Investments	Bloomberg Barclays Capital US Aggregate Bond Index + 2%

#### D. Performance Benchmarks – Individual Investment Managers

Investment Staff will establish performance benchmarks for each Investment Manager based on its respective style.

### X. Review and Evaluation

The Board will review and evaluate periodic reports on the investment performance of Total Fund assets. Greater emphasis will be placed on three- to five-year results. The intended frequency for review and evaluation, subject to change by the Board, is as follows:

- A. Monthly – Investment Report including Total Fund market value, asset allocation, performance of the Total Fund and each asset class, and the Total Fund's compliance with this SIP.
- B. Quarterly – Summary Investment Report presented by the Investment Consultant, including highlights and commentary about market conditions, investment performance, asset composition and characteristics for each asset class, and relevant manager level information.

### XI. Related Policies and Procedures

A list of related policies and procedures that govern the investment program is attached as Appendix I.

---

## Appendix I - Related Policies

SIP	Number	Document
	INV1-001	Statement of Investment Policy
VIII	INV1-002	Derivatives Policy
VIII	INV1-003	Leverage Policy
VIII	INV1-004	Opportunistic and Tactical Investment Policy
IV	INV1-006	Investment Risk Management Policy
VIII	INV1-007	Securities Lending Policy
VI	INV1-012	Cash Equivalents Portfolio Investment Guidelines Policy
VIII	INV1-014	Cash Equitization Policy
VI	INV1-024	Investment Committee and Investment Approval Policy
VIII	INV1-025	Private Market Co-Investment Policy
VI	INV3-001	Investment Oversight Policy
VIII	BD3-008	Securities Litigation Policy
VIII	EXE6-002	Proxy Voting Policy

---

## Appendix II – Glossary of Terms

**Active Risk** – also known as Tracking Error, describes how a portfolio’s performance is different from its benchmark and is measured by the standard deviation of the differences in returns of the actual portfolio and the benchmark portfolio.

**Active Share** – the Active Share of a fund represents the percent of portfolio holdings that differ from the (declared) benchmark index holdings.

**Actuarial Assumed Rate** – also referred to as the actuarial discount rate. This rate is used to value a pension fund’s liabilities and is also used as a long-term investment return objective.

**Asset and Liability Study** – a study to determine the appropriate level of overall investment risk for a pension plan, based on future liabilities and funding resources. The study helps maximize the probability that the return on plan assets exceeds the growth of plan liabilities.

**Benchmark** – a gauge in the securities market by which investment performance can be measured, such as the Standard & Poor’s 500 Index.

**Bloomberg Barclays Capital US Aggregate Bond Index** – a market capitalization weighted US bond index published by Barclay’s Capital. Most US traded investment grade bonds are represented in the index. SERS’ global fixed income policy benchmark.

**Broker** – an individual or firm authorized to act on behalf of another, such as executing a transaction. The broker does not assume any financial risk in the transaction, as a dealer would.

**Brokerage Commission** – fee paid to a broker for the purchase and sale of securities.

**Broker/dealer** – any individual or firm in the business of buying and selling securities for itself and others. Broker/dealers must register with the SEC. When acting as a broker, a broker/dealer executes orders on behalf of a client. When acting as a dealer, a broker/dealer executes trades for the firm’s own account.

---



Securities bought for the firm's own account may be sold to clients or other firms or become a part of the firm's holdings.

**Burgiss All Private Equity (BAPE)** – The BAPE is comprised of data from more than 5,000 private equity funds contributed by limited partners that are Burgiss clients and use Burgiss' web-based institutional portfolio management platform Private i. The benchmark data is sourced from Burgiss' limited partner clients and includes complete transactional and valuation history between the limited partner and their fund investments. Burgiss publishes a detailed breakdown of the dataset every quarter allowing for increased transparency.

**Cash Securitization** – Cash securitization is a method used to obtain asset-like returns on short-term cash investments in equity, fixed income or other accounts by overlaying the short-term cash investments with relevant futures. Securitization of equity cash is referred to as cash equitization.

**Cash Equivalents** – highly liquid, safe investments with maturities of 397 days or less, which can be easily converted into cash. Examples include Treasury Bills, money market funds, and quality commercial paper. The cash equivalents asset class serves as a liquidity pool for SERS.

**Chapter 3309, Ohio Revised Code** – the Ohio statute governing the School Employees Retirement Board and School Employees Retirement System of Ohio.

**Citigroup 30-day T-Bill Index** – an index that measures the rate of return for 30-day US Treasury Bills, which are considered representative of the performance of short-term money market instruments. The Citigroup 30-day T-Bill index is the policy benchmark for Cash Equivalents.

**Co-investment** – a direct investment in a single asset of a private market Fund, made alongside the Fund's investment in the asset; typically involves more attractive terms and shorter time frames than those of the Fund.

**Collective Investment Fund** – A fund that is operated by a trust or bank and holds commingled (pooled) assets.

**Conflict of Interest** – a direct or indirect pecuniary interest or a relationship (without regard to whether the relationship is personal, private, commercial, or business) and the interest or relationship could diminish the Investment Service Provider's independence of judgment in the performance of its responsibilities to SERS; or bias the Investment Service Provider's evaluation of, or advice with respect to, a transaction or assignment on behalf of SERS.

**Credit Risk** – the possibility that a bond issuer will default by failing to repay principal and interest in a timely manner.

**Currency Hedging** – also known as Currency Management. A technique or strategy used to address foreign exchange fluctuations which affect investment returns on international investments. Currency hedging can be active, passive, or a combination of active and passive. Passive hedging is a strategy to neutralize fluctuations between US and Non-US currencies to a predetermined level. Active hedging is a strategy to manage currency fluctuations in an effort to generate returns.

**Default Risk** – see Credit Risk.

**Derivatives (Derivative Instruments)** – financial instruments (securities or contracts) whose values are derived from underlying financial assets, indices or other instruments. Derivative performance is based on the performance of assets, interest rates, currency exchange rates, and various domestic and foreign indices underlying the instruments. The common forms of derivatives are forward, futures, swap and options contracts.

**Diversification** – spreading a portfolio over many investments to avoid excessive exposure to any one source of risk.

**Due Diligence** – an investigation or audit of a potential or existing investment.

**Equity Investment** – claims held by the residual owners of a firm. May also be referred to as common stock. Investments in real estate and certain private markets classifications may also be considered equity.

**External Management** – the management or investment of fund assets by Investment Managers.

**Fiduciary** – a person, company or association holding assets in trust for a beneficiary. One who can exercise discretionary authority or can control important aspects of a pension plan's management.

**Firm Level** – as used in this SIP, Firm Level refers to an Investment Management Firm and includes all investment products, strategies or styles offered by the firm.

**Fixed Income Investment** – a security issued by a borrower that obligates the issuer to make specified payments to the holder over a specific period. May also be referred to as "debt" or "bonds."

**Foreign Currency Risk** – incurred by investing in foreign countries. Fluctuations in exchange rates between domestic and foreign currencies impact total returns. Impacts may be positive or negative.

**Fund** – Fund means a limited partnership, trust or commingled investment vehicle in which SERS invests or may invest (e.g., hedge fund, private equity fund, or real estate fund).

**Global Equities** – reflects the consolidation of what had been treated by SERS as US equity and Non-US equity asset classes; includes equities of US and non-US origin, equities of various capitalizations (e.g., large cap, small cap, mid cap, etc.), equities from developed, emerging and frontier markets, growth and value equities, and passive and active strategies. Investments in global equities strategies are made in accordance with investment allocation guidelines established and amended as necessary, by mutual agreement between the Chief Investment Officer and the Investment Consultant.

**Global Private Credit** - broadly defined as strategies that provide loans and financing to middle market companies in lieu of bank financing. Strategies can have objectives of either preserving capital, with return coming primarily from current pay coupon and fees or maximizing appreciation of more subordinated loans.

**Guidelines** – refers to an Investment Manager's "Investment Guidelines," established between the Investment Manager and Staff as part of an investment management agreement. Guidelines may be general or specific.

**Hedge Fund** – a private investment partnership or an offshore investment corporation in which the general partner has made a substantial personal investment, and whose offering memorandum allows for the Fund to take both long and short positions, using leverage and derivatives, and invest in many markets. Hedge funds often use strategies involving program trading, selling short, swaps and arbitrage.

**Indexing** – the weighting of investments that are in line with one of the major market indices, such as the Standard & Poor's 500 Index. Also referred to as passive investing.

**Interest Rate Risk** – the risk that an investment's value will change due to a change in the absolute level of interest rates.

**Internal Management** – the management or investment of fund assets by Investment Staff.

**Intrinsic Value Lending** – lending that produces returns based upon the securities loan itself, with little incremental benefit from collateral reinvestments.

**Investment Committee** – a committee comprised of the Chief Investment Officer and Investment Officers from SERS' Investment Department who possess the State Retirement System Investment Officer (SRSIO) license, with clearly defined structure, rules and procedures for reviewing and approving investments in a timely and prudent fashion.

**Investment Consultant** – any consultant hired by the Board or by Staff to advise or assist with the investment program in accordance with this SIP. Board Investment Consultants must be approved by the Board. Staff Investment Consultants shall be approved by the Executive Director.

**Investment Manager** – a manager or potential manager of SERS assets, both public market and private market. Includes, but is not limited to managers of equity, fixed income, private equity, real estate, hedge funds, commodities and cash.

**Investment Program** – the implementation of SERS' investment responsibilities and the Board's SIP by fund fiduciaries.

**Investment Service Provider** – an entity or person, other than a Retirement Board member or SERS employee, who provides investment advice to SERS intended to affect or form a basis for investment or fund management decisions by SERS, including but not limited to (a) Investment Consultants, (b) Investment Managers, (c) agents, (d) broker/dealers, (e) master record keepers, and (f) custodian.

**Investment Staff** – members of the Investment Department of SERS, including the Chief Investment Officer, State Retirement System Investment Officers, and other department personnel.

**Leverage** – in investments, this is the control of a large amount of money by a smaller amount of money, such as buying on margin. In finance, this is the relationship of debt to equity on a company's balance sheet in the form of the debt/equity ratio.

**LIBOR** – The London Interbank Offered Rate (LIBOR) is a benchmark interest rate at which major global banks lend to one another in the international interbank market for short-term loans.

**Liquidity Risk** – the risk that a given security or asset cannot be traded quickly enough in the market to prevent a loss or to make the required profit.

**Long-term** – in the context of SERS' liability and investment horizons, long-term is assumed to be at least 10 years.

**Mandate** – mandate is the macro or high-level strategy employed by a manager. Examples of macro strategies include US versus Non-US; large cap versus small cap; real estate versus private equity; etc.

**Master Record Keeper** – the master accountant used by SERS.

**Modern Portfolio Theory** – a theory about how rational investors can construct portfolios in order to optimize market risk for expected returns, emphasizing that risk is an inherent part of higher reward. According to the theory, it is possible to construct an "efficient frontier" of optimal portfolios offering the maximum possible expected return for a given level of risk. This theory was pioneered by Harry Markowitz in his paper "Portfolio Selection," published in 1952 by the *Journal of Finance*.

**Morgan Stanley Capital International – All Country World Free ex-USA Index (\$Net)** – an equity index representing 44 developed and emerging countries. "Free" indicates the index reflects actual investable opportunities for global investors by taking into account local market restrictions on share ownership by foreigners. "Net" indicates that dividends are reinvested after the deduction of withholding taxes applicable to non-resident institutional investors. The MSCI-ACWI ex-USA Index, net of dividends reinvested is SERS' policy benchmark for Non-US Equities.

**NCREIF Property Index (NPI)** – a quarterly time series composite total rate of return measure of investment performance of a very large pool of individual commercial real estate properties acquired in the private market for investment purposes only. The NCREIF Property Index is a component of SERS' global real estate policy benchmark.

**Opportunistic and Tactical Investments** – Global opportunistic investments are tactical or non-traditional investment opportunities that may be short-term or may not fit within the generally accepted risk/return parameters of specific asset classes or strategy groupings. Such opportunities may involve capitalizing on short-term market dislocations or other such unique situations. Tactical investments may include strategies with dynamic allocations to single assets or across multiple asset types or other innovative approaches.

**Portfolio** – a collection of investments owned, managed, or overseen by an individual or Investment Manager, a board or an organization. Portfolio can mean a manager account or subset thereof (e.g., Goldman Sachs Core Plus account), an asset class (e.g., US equity), or the entire fund (e.g., SERS' Total Fund).

**Private Market Assets** – broadly defined as those assets of alternative mandates utilizing either publicly- or privately-traded securities or other investment instruments. These include, but are not limited to, real assets, private equity, private credit and hedge funds.

**Proxy** – an agent legally authorized to act on behalf of another party. Shareholders not attending a company's annual meeting may choose to vote their shares by proxy by allowing someone else to cast votes on their behalf. Management often encourages shareholders to vote by proxy so that ownership interests are fully represented even if shareholders are unable to attend the company's annual meetings in person.

**Prudent (Prudent Person)** – this phrase generally refers to the prudent person rule which is a legal maxim restricting the discretion in a client's account to investments only in those securities that a prudent person seeking reasonable income and preservation of capital might buy for his or her own investment.

**Rebalancing** – the action of adjusting allocations relative to their targets or ranges to adjust for actual or anticipated market movements.

**Risk** – the chance that an investment's actual return will be different than expected. This includes the possibility of losing some or all of the original investment. It is usually measured by calculating the standard deviation of the historical returns or average returns of a specific investment.

**Risk-Adjusted Return** – a measure of how much risk a Fund or portfolio takes on to earn its returns, usually expressed as a ratio. Usually expressed by a Sharpe Ratio or Information Ratio calculation.

**Russell 3000 Index** – a market-value weighted equity index published by the Frank Russell Company. The index measures the performance of the 3,000 largest US companies in terms of market capitalization. The Russell 3000 Index is SERS' Domestic Equity Policy Benchmark.

**Securities Lending** – the temporary loan of a security from an institutional investor's portfolio to a broker/dealer or dealer bank to support that firm's trading activities. These trading activities include short selling, selling on margin or the satisfaction of some other type of transaction. Loaned securities are generally collateralized, reducing the lender's credit exposure to the borrower. Except for the right to vote proxies, the lender retains entitlement to all the benefits of owning the original securities, including the receipt of dividends and interest.

**Securities Litigation** – refer to SERS' Securities Litigation Policy.

**Soft Dollars** – Soft dollar trading arrangements refer to agreements whereby an investment manager directs transactions to a broker in exchange for brokerage and research services. The research services provided to the investment manager may be either proprietary or originate with a third-party.

**Style** – Style refers to an investment product, strategy or style offered by an Investment Management Firm and reflects how the assets are invested. For example, value versus growth; core versus value added; quantitative versus fundamental; etc.

**Total Fund** – Total Fund refers to SERS' total investment assets.

**Total Return** – the return on an investment, including income from dividends and interest, as well as appreciation or depreciation in the price of the security, over a given time period.

**Tracking Error** – a divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark. Calculated as the standard deviation of the difference in returns between a portfolio and its benchmark.

**Transition Management** – management of the transition of assets from one portfolio to another by a transition manager.

---

## Related Documents and Information

Statutes: R.C. 3309, Ohio Revised Code

Rules: N/A

Document Links: Purpose, Policy, Procedure, Definitions, Related Documents, Policy History

---

---

## Policy History

This policy supersedes the policy adopted August 2, 1985 and all revised policies dated 7/1/20; 9/17/15; 6/18/15; 12/18/14; 5/01/14; 1/01/14; 7/01/13; 1/19/12; 7/21/11; 7/01/10; 2/01/09; 8/01/08; 2/21/08; 10/01/07; 10/20/05; 9/15/00; 10/23/98; 6/19/98; 12/12/97; 7/25/97; 3/21/97; 12/20/96; 11/22/96; 6/21/96; 4/25/96; 9/15/95; 7/28/95; 6/16/95; 3/17/95; 1/20/95; 10/21/94; 5/20/94; 3/06/92; 4/07/89; 9/04/87; 1/09/87.

---

AMENDED STATEMENT OF  
INVESTMENT POLICY - MOTION  
(tab)

**AMENDMENTS TO THE STATEMENT OF INVESTMENT POLICY**

As discussed during the February 18, 2021 Board meeting, \_\_\_\_\_ moved and \_\_\_\_\_ seconded the motion to approve amendments to the Statement of Investment Policy (SIP), replacing the SIP approved July 1, 2020. Effective February 18, 2021, changes include the revised Global Equities Portfolio Benchmark.

<b>ASSET CLASS</b>	<b>BENCHMARK MEASURE</b>
Global Equities	<i>US Equity</i> : 55% Russell 3000; <i>NUSE Developed Market</i> : 30% MSCI World ex-USA Net Total Return Index (USD); <i>NUSE Emerging Market</i> : 15% MSCI Emerging Markets Net Total Return Index (USD) <del>50% Russell 3000 Index, 50% MSCI ACWI ex-USA Index (net dividends)</del>
Global Private Equity	Burgiss All Private Equity benchmark (BAPE) (one quarter in arrears)
Global Fixed Income	Bloomberg Barclays Capital US Aggregate Bond Index
Global Private Credit	LIBOR + 4.5%
Global Real Assets	NCREIF Property Index (one quarter in arrears)
Cash Equivalents	Citigroup 30-day T-Bill Index
<b>STRATEGY</b>	<b>BENCHMARK MEASURE</b>
Opportunistic and Tactical Investments	Bloomberg Barclays Capital US Aggregate Bond Index + 2%

Upon roll call, the vote was as follows:

<b><u>ROLL CALL:</u></b>	<b><u>YEA</u></b>	<b><u>NAY</u></b>	<b><u>ABSTAIN</u></b>
Barbra Phillips	_____	_____	_____
Jeffrey DeLeone	_____	_____	_____
James Haller	_____	_____	_____
Matthew King	_____	_____	_____
Catherine Moss	_____	_____	_____
James Rossler	_____	_____	_____
Frank Weglarz	_____	_____	_____
Daniel Wilson	_____	_____	_____
Hugh Garside	_____	_____	_____

AMENDED ANNUAL INVESTMENT  
POLICY - GLOBAL EQUITIES  
BENCHMARK CHANGES  
(tab)



**AMENDED FEBRUARY 18, 2021**



School Employees Retirement System of Ohio  
*Serving the People Who Serve Our Schools®*

# 2021

## Annual Investment Plan

For the Year Ended June 30, 2021





**SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO**  
**ANNUAL INVESTMENT PLAN**  
For the year ended June 30, 2021

Prepared by SERS Investment Staff  
300 East Broad Street, Suite 100  
Columbus, Ohio 43215-3746  
[www.ohsers.org](http://www.ohsers.org)  
*Serving the People Who Serve Our Schools®*

# TABLE OF CONTENTS

<b>Executive Summary</b> .....	2
<b>Global Economic Outlook</b> .....	5
<b>Portfolio Strategies</b>	
Global Equities.....	8
Global Private Equity .....	11
Multi-Asset Strategies .....	14
Global Fixed Income .....	16
Private Credit .....	19
Global Real Assets .....	20
Cash Equivalents .....	22
Opportunistic & Tactical .....	23
Overlay Program.....	25
Investment Risk Management and Analytics .....	26
Investment Operations.....	28
<b>Investment Implementation Guidelines</b>	
Global Equities.....	30
Global Private Equity .....	32
Multi-Asset Strategies .....	35
Global Fixed Income .....	36
Private Credit .....	39
Global Real Assets .....	42
Cash Equivalents .....	45
Opportunistic and Tactical .....	46
Overlay Program.....	47
<b>References</b>	
Sources.....	50
Glossary.....	52

# **Executive Summary**

## EXECUTIVE SUMMARY

The Board's Statement of Investment Policy (SIP) requires the Chief Investment Officer prepare and present to the Board for its approval an Annual Investment Plan (Plan). The following document outlines the recommended Plan for Fiscal Year (FY) 2021.

As in prior years, the Plan reviews the economic environment based upon consensus reports from leading sources, SERS' asset allocation target and long-term performance objective for each portfolio, last year's objectives and accomplishments, a review of the market conditions over the last year and objectives for FY2021. Implementation Guidelines for each asset class portfolio are included to provide further details on how each portfolio will be managed in the coming year relative to portfolio construction parameters and risk limits. **This Plan is meant to be a living document subject to adjustment during the year.** If circumstances change or opportunities arise during the year, items will be discussed with the Board which may lead to intra-year changes to the Plan or Strategy Statements.

### **REVIEW OF FY2020 OBJECTIVES AND IMPLEMENTATION**

The general objectives of the Investment Department for FY2020 were as follows:

- *Our major strategic goals remain unchanged. The focus will continue to be on value added performance, risk management, cost effectiveness and maintenance of an investment program that meets or exceeds investment objectives over the long-term.*

Staff added an opportunistic High Yield portfolio within the Global Fixed Income structure. The intent was to start with a nominal allocation and increase the funding as high yield spreads widened, as they normally do in times of market stress, to predetermined levels. During the March/April period spreads widened to hit those targets and the portfolio was funded accordingly.

Staff also approved commitments to new stressed/distressed credit opportunities to take advantage of market dislocations due to the COVID-19 pandemic.

- *Conduct Asset/Liability study with the Board, facilitate approval of a new asset allocation framework and targets in collaboration with the Investment Consultant and Actuaries.*

The Asset/Liability study process began in September 2019 with a presentation to the Board on expected returns for the various asset classes and other inputs for modeling. In subsequent months, Staff and Wilshire presented various asset allocation scenarios including the consideration of Global Private Credit as a new asset class and eliminating the allocation to the MAS (Hedge Funds) portfolio. The Board approved Staff's recommended Asset Allocation in February, 2020. The new allocation is effective July 1, 2020.

- *Continue to develop and engage the Investment team.*

The Investment team is well aligned in terms of goals, focus, processes and collaboration. The Investment Committee process is working well and decisions are contributing to positive performance. Two new Staff members were hired in February, 2020 to fill vacancies.

### **FY2021 OBJECTIVES**

- *Our major strategic goals remain unchanged. The focus will continue to be on value added performance, risk management, cost effectiveness and maintenance of an investment program that meets or exceeds investment objectives over the long-term.*
- *Implement the new asset allocation framework and targets approved by the Board in FY2020.*
- *Conduct a search for a General Investment Consultant as the current agreement will expire June 30, 2021.*
- *Continue to research and invest in opportunities arising from the economic impact of the COVID-19 pandemic.*
- *Explore and implement leverage strategy of the Total Fund not exceeding 5% consistent with the Statement of Investment Policy and Leverage Policy.*
- *Continue to develop and engage the Investment team.*

## EXECUTIVE SUMMARY

### **CONCLUSION**

Staff has been shifting the fund allocations to a more defensive position beginning in early 2019. Equity allocation was reduced and Fixed Income allocation were increased. After a steep decline in March equity markets rebounded somewhat in April, but the path to economic recovery appears uncertain. The bias is to be defensive in the short term until there is clarity about the pickup in economic activity following the gradual opening announced in May. However, staff has already been making new commitments to investments arising from the dislocations in the credit markets.

Staff appreciates the support and guidance received from the Board in FY2020 and looks forward to working with the Board in FY2021 for another successful year.

### **ACKNOWLEDGEMENTS**

SERS is very fortunate to have an experienced and deep Investment Staff. The following individuals contributed to this report.

- Economic Outlook – Farouki Majeed and Hai Yen Le
- Global Equities – Judi Masri and Dustin Matthiessen
- Global Private Equity – Steve Price and Phil Sisson
- Multi Asset Strategies – Judi Masri and Jason Naber
- Global Fixed Income – Jason Naber
- Global Private Credit – Adam Messerschmitt
- Global Real Assets – Nancy Turner and Michael Browning
- Cash Equivalents – Jason Naber
- Opportunistic and Tactical – Farouki Majeed, Phil Sisson, Nancy Turner and Michael Browning
- Overlay Program – Farouki Majeed, Hai Yen Le and Nancy Turner
- Investment Risk Management and Analytics – Hai Yen Le and Michael Browning
- Investment Operations – Terri Martin and Katie Swank

We would appreciate the opportunity to review the Annual Investment Plan with you at the June 2020 Board meeting. If you have any questions or comments before then, please let me know.

Respectfully submitted,



Farouki A. Majeed  
Chief Investment Officer



**Global Economic  
Outlook**

## GLOBAL ECONOMIC OUTLOOK

The global economy performed below par in 2019 at a growth rate of 2.9% while US GDP grew modestly at 2.3%. Economic growth accelerated in the second half of 2019 as trade tensions eased, global trade improved and the Federal Reserve (Fed) as well as other central banks shifted to more accommodative monetary policy. Entering 2020, the global economic outlook was positive with all indicators (PMI) showing upward trends. However, this picture was unexpectedly disrupted by the COVID-19 global pandemic in February as countries around the world including the US adopted containment measures which effectively shuttered economic activity. US unemployment claims reached 30 million by the end of April indicating an unemployment rate of around 18% which is unprecedented since the Great Depression of the 1930s. The US Fed has taken various measures to inject liquidity into the financial system including the purchase of treasuries and mortgage securities, vastly expanding the Fed's balance sheet. The US Government has also stepped in with fiscal packages totaling \$3.0 trillion to protect payrolls, expand unemployment benefits and provide funds to small businesses. These extensive measures may cushion the impact of the economic decline by filling some part of the income shortfall but the path of economic recovery remains uncertain and will cause markets to be volatile well into 2021. Equity markets fell sharply from the mid-February highs resulting in a 20% drawdown for 1Q and have since trended up in April. The US 10 year yield has compressed to 0.6% from 2.0% at the end of 2019 and 3.0% in 2018. Credit markets show a high level of stress with spreads widening to a scale not seen since the financial crisis of 2008. US consumer sentiment has fallen from 101.0 in February to 71.8 in April.

The emergency fiscal spending undertaken by the US government will lead to a spike in deficits and add to the already high level of debt. While current conditions are deflationary, the increase in deficits and debt may cause inflation in the future and debase the value of the US dollar.

Economic forecasts from the Blue Chip Consensus (US) and the International Monetary Fund (IMF) are presented below:

### US Economy:

The Blue Chip consensus economic forecast (April 2020) expects the US to be in a deep recession in the first half of 2020 with a projected GDP annualized growth rate of -3.8% in Q1 and -24.5% in Q2. Then, GDP is expected to recover to 7.4% in Q3 and 7.9% in Q4. Overall the US economy is expected to shrink 4.1% in 2020. The actual GDP for Q1 was -4.8%, higher than expected. The consensus expectation is for positive GDP growth of 3.8% in 2021. The US economic crisis has been strongly supported by highly accommodative monetary policy from the Fed, and a large, broad-based fiscal stimulus package from the government. The Fed aggressively cut the federal funds short-term interest rate to 0.25% from 1.75% in a single stroke and has also engaged in quantitative easing measures.

According to the Blue Chip Economic forecasts, labor markets are expected to deteriorate steeply as the unemployment rate is expected to jump up to 8.8% in 2020 then slightly ease to 7.2% in 2021 (Table 1). Inflation is expected to decline to 0.9% in 2020 and rebound in 2021 to 1.7% closer to the Fed's target of 2.0%. The yield on 10-year US Treasuries is expected to fall an average of 1.0% in 2020 and marginally increase to 1.2% in 2021. Corporate profit growth rate is expected to plunge to -14.6% in 2020 and bounce back to 14.0% in 2021.

Table 1

Period	Unemployment Rate	Inflation Rate CPI	T-Bill 3-Mo.	T-Note 10-Yr.	Corporate Profits
2016	4.9	1.3	0.3	1.8	(0.4)
2017	4.3	2.1	0.9	2.3	(3.0)
2018	3.9	2.4	2.0	2.9	3.4
2019	3.7	1.8	2.1	2.1	0.0
2020 Consensus Forecast	8.8	0.9	0.3	1.0	-14.6
2021 Consensus Forecast	7.2	1.7	0.3	1.2	14.0

Source: Blue Chip Economic Indicators, April 2020



## GLOBAL ECONOMIC OUTLOOK

### World Economy:

Global GDP is projected by the IMF to sharply contract by 3.0% in 2020 (Table 2). The US economy is projected to shrink by 5.9%. The emerging and developing economies are projected to steer the pandemic better than the advanced economies as the former are expected to contract by 1% while the latter by 6.1%. China and India, which are included in the emerging and developing group, are projected to grow at 1.2% and 1.9%, respectively, in 2020. Nevertheless, the global economy is expected to recover strongly in 2021 by 5.8%, which is twice as fast as the 2019 growth rate. The US growth rate in 2021 is projected at 4.7%, the same rate as the Euro area. The emerging and developing economies are expected to recover at a rate of 6.6% in 2021.

Table 2

Annual GDP Growth	2019 (estimated)	2020 (projected)	2021 (projected)
World	2.9	(3.0)	5.8
US	2.3	(5.9)	4.7
Advanced Economies (including US)	1.7	(6.1)	4.5
Emerging and Developing Economies	3.7	(1.0)	6.6

Source: International Monetary Fund World Economic Outlook, April 2020



**Portfolio Strategy**

## PORTFOLIO STRATEGY - Global Equities

### INVESTMENT STRATEGY

SERS invests in equity securities to earn a premium over government treasury bonds, which is compensation for assuming the relatively higher risk inherent in public equity securities. Global equities add diversification, liquidity and inflation protection to the SERS portfolio.

SERS' Statement of Investment Policy sets the Global Equities target allocation as follows:

	Total Fund Target	Permissible Range
Global Equities	45%	35% - 55%

The allocation within Global Equities is as follows (as percentage of Total Fund):

	Target	Permissible Range
US Equity Portfolio	22.5%	15% - 30%
Non US Equity Portfolio	22.5%	15% - 30%

The performance objectives of the Global Equities portfolio are as follows:

- US Equities: Exceed the return on the Russell 3000 Index, net of manager fees. The target excess return is 20 basis points over three-year rolling periods.
- Non-US Equities: Exceed the combined return of on the MSCI All Country World Free, excluding the United States Index (net of dividends reinvested) 66.67% MSCI World ex-USA Net Total Return Index (USD) and 33.33% MSCI Emerging Markets Net Total Return Index (USD), net of manager fees. The target excess return is 50 basis points over three-year rolling periods.
- Global Equities: Exceed the return on the combined US Equity and Non-US Equity composite benchmark composed of 55% Russell 3000 Index, 30% MSCI World ex-USA Net Total Return Index (USD) and 15% MSCI Emerging Markets Net Total Return Index (USD), net of manager fees. The target excess return is 33.5 basis points over three-year rolling periods.

### REVIEW OF FY2020 OBJECTIVES AND IMPLEMENTATION

FY2020 Annual Investment Plan objectives and related activities are as follows:

- *Address underperformance in US Equity by increasing the Portfolio's passive allocation and investigating alternative sources of alpha.*

Five active large cap mandates were terminated in calendar year 2019, moving these allocations to low cost passive management. This increased our US Equity portfolio's passive allocation to 68%, split between two accounts: a Russell 1000 account and a Russell 1000 Growth account. The Russell 1000 Growth account is new, allowing SERS to obtain crucial large cap growth exposure that our active managers were not successfully obtaining. FY2020 US Equity net excess returns through March are now a positive 102 basis points over the benchmark with an average management fee of 14 basis points FYTD.

- *Evaluate proper allocation between active and passive in Non-US portfolio and ensure Portfolio is positioned to generate alpha in line with expectations.*

The Non-US Equity passive allocation was reduced from 30% to 28% during the Fall of 2019 after funding two new active managers. The Non-US Equity passive allocation is appropriately lower than our US Equity passive allocation as SERS Non-US Equity managers have historically produced excess returns over the benchmark. However, the passive allocation helps reduce management fees, provides extra liquidity and reduces risk. Thus, the passive Non-US Equity allocation may be slowly reduced to 25%, but will continue to fulfill an important role in Non-US Equity portfolio management due to lower management fees, liquidity and risk reduction versus active managers.

- *Regularly evaluate and rebalance the Global Equity Portfolio to ensure that country exposure, management mix, capitalization weight, and style orientation is appropriate and make recommendations as necessary.*

## PORTFOLIO STRATEGY - Global Equities

Both the US and Non-US Equity portfolios remained nearly neutral in all primary characteristics over the last year. After the switch to more passive, the US portfolio slightly tilted to a large cap growth bias, overweighting technology. This bias was very helpful to returns in the second half of 2019 as large growth companies returned 36.39% in 2019, the highest equity market return for the calendar year. Even though the US portfolio has a beta of 1.0, many of our remaining active managers provide downside protection, which has provided good excess return during the 1<sup>st</sup> quarter of 2020.

The Non-US Equity's portfolio's main tilt is to small cap, which has helped longer-term net excess returns, despite a shorter term headwind to performance. The portfolio has a slight value bias, although SERS is overweighted technology, which helped 2019 calendar year returns. Finally, our slight underweight to emerging markets has been helpful as developed market returns continue to outpace emerging market returns.

- *Review Investment Manager Agreements (IMAs) and Investment Guidelines on the review schedule and make necessary adjustments as needed.*

The passive IMA was fully renegotiated, adding our new Russell 1000 Growth account. An addition, amendments were added to a US small cap manager and a Non-US emerging market manager.

### CURRENT MARKET CONDITIONS AND OUTLOOK

Cumulative Periods through March 31, 2020	Annualized				
	FYTD	1 Year	3 Year	5 Year	10 Year
Russell - 3000 Index	(12.70)	(9.13)	4.00	5.77	10.15
Russell - 3000 Growth Index	(4.73)	(0.44)	10.54	9.74	12.68
Russell - 3000 Value Index	(20.93)	(18.02)	(2.67)	1.62	7.47
Russell - 1000 Index	(11.77)	(8.03)	4.64	6.22	10.39
Russell - 2000 Index	(25.55)	(23.99)	(4.64)	(0.25)	6.90
MSCI - AC World Index (\$Net)	(14.35)	(11.26)	1.50	2.85	5.87
MSCI - AC World Ex-USA Index (\$Net)	(18.02)	(15.57)	(1.96)	(0.64)	2.19
MSCI - World Ex USA Index (\$Net)	(18.00)	(14.89)	(2.07)	(0.76)	2.43
MSCI - Emerging Markets Index (\$Net)	(18.18)	(17.69)	(1.62)	(0.37)	0.68

Source: Wilshire Compass

Fiscal years begin July 1 and end on June 30

Global equity markets have experienced two tales so far for FY2020. Both US and Non-US equities posted strong returns for calendar year 2019, led by US Large Cap Growth. Along with strong returns, the global equity markets continued to experience low volatility during 2019. These strong returns and low volatility changed in 2020 with the coronavirus pandemic. Global equity markets quickly fell with volatility increasing, reversing 2019 gains. A more detailed summary of calendar year 2019 and first quarter of 2020 follows for both US and Non-US equity markets.

The broad US equity market outperformed international developed and emerging markets in 2019. Strong US market returns were helped by a 2018 market valuation rebound, good profit margins and the Federal Reserve lowering interest rates three times in 2019. The Russell 3000 Index which captures both large and small capitalization stocks, returned 31.02% in 2019, the best return since 2013. Large cap stocks finished the year up 31.43% (Russell 1000 Index), while small cap stocks (Russell 2000 Index) posted a 25.53% return. Continuing a theme from previous years, growth stocks outperformed value stocks in 2019 by 9.59% with the Russell 3000 Growth Index posting a 35.85% return. The best two returning sectors were technology (up 46.73%) and financials (up 32.93%) while energy (up 9.63%) posted the lowest return in US markets.

Although lower than US equity markets, Non-US markets also posted strong returns in 2019 with developed markets returning 22.49% while emerging markets returned 18.42%. Just like in the US, Non-US equity markets were led by large cap growth stocks with growth posting a 27.34% return versus 15.71% for value. Again, the technology sector (up 41.38%) led the way with communications (up 12.81%) and energy (up 15.74%) posting the lowest returns in Non-US equity.

## **PORTFOLIO STRATEGY - Global Equities**

Non-US markets began their decline in January 2020 with the coronavirus outbreak in China whereas US markets posted new highs in February. That changed with the news of the virus spreading throughout Asia, then to Europe, and finally to the United States in late February. The global equity market sell-off worsened in March due to COVID-19 spreading along with a technical sell-off from levered funds being forced to sell liquid assets to meet increasing margin calls. The broad US market declined (20.90%), Non-US developed markets fell (23.26%) and emerging equities dropped (23.60%) during the first quarter of 2020. Large growth stocks still outperformed value so far in this market decline with the S&P 500 technology sector only declining (11.9%) while energy dropped (50.5%).

Faced with a global pandemic, the global equity market outlook remains uncertain. The world is undoubtedly in a global recession. Analysts are predicting second quarter 2020 GDP to decline anywhere from (9%) to (40%). This uncertainty is compounded as this is the first recession ever caused by a government decree from many world governments, shutting all non-essential business and much consumer activity. On the positive side, the world looks to China whose PMI began a slight rebound in March as business very slowly returned. The world economy was growing and the US consumer was strong pre-virus, so this pent up demand may rebound if COVID-19 can be controlled soon. Many world governments have also implemented rapid and large scope fiscal and monetary policy measures. On the negative side, globalization may never be the same. Companies may add redundancy processes and determine that global supply chains and just-in-time inventory is too risky, adding extra costs for onshore production. Governments may continue travel restrictions and leisure and business travel may never be the same. Oil's 67% decline this year along with a strong US dollar may hurt emerging markets for some time, just as they were rebounding. SERS' equity portfolio may face a difficult calendar year 2020, even as our active managers implement capital preservation strategies.

### **PORTFOLIO STRUCTURE**

At the beginning of SERS' fiscal year, the US portfolio was approximately 2.0% over the policy target, which was kept throughout the fiscal year due to strong US equity returns versus Non-US equity and other asset classes. The Non-US portfolio was kept slightly below its 22.5% policy target for the fiscal year due to better US equity absolute returns. Both portfolios remained nearly neutral versus their benchmarks in regards to size, style, and in the Non-US, geography. A structural overweight to small cap remains in Non-US, though this is less pronounced than in years past. Staff expects to keep the passive allocation near 70% in the US portfolio as active US large cap management net excess performance is difficult to find, particularly in US large cap growth. Non-US passive management will be 25-30% as active management has historically been successful in this portfolio. Both portfolios will continue to be monitored for performance, especially for capital preservation if market drawdowns continue.

### **FY2021 OBJECTIVES**

Staff will focus on the following objectives during FY2021:

- Monitor the portfolio for possible performance enhancement given FY2020 portfolio changes of US active large cap terminations and Non-US equity active manager additions. Compare SERS active managers to peers and conduct any manager searches, if appropriate.
- Ensure the global equity portfolio has appropriate risk and return characteristics given the current equity market decline and volatility pickup.
- Regularly evaluate and rebalance the Global Equity Portfolio to ensure that country exposure, management mix, capitalization weight, and style orientation is appropriate and make recommendations as necessary.
- Review IMAs and Investment Guidelines on the review schedule and make necessary adjustments as needed.

## PORTFOLIO STRATEGY – Global Private Equity

### INVESTMENT STRATEGY

SERS invests in private equity to provide risk adjusted returns in excess of those provided by publicly traded equities.

SERS' Statement of Investment Policy sets the Private Equity target allocation as follows:

	Target	Permissible Range
Global Private Equity	11%	8% - 16%

The performance objective for private equity is to provide returns in excess of the Burgiss All Private Equity Benchmark.

### REVIEW OF FY2020 OBJECTIVES AND IMPLEMENTATION

The FY2020 Annual Investment Plan objectives and related activities are as follows:

- *Manage the private equity portfolio and fiscal year commitments to reflect the investment bias of actively overweighting private equity relative to its target of 10% of the Total Fund, subject to identifying opportunities that meet SERS' investment criteria.*

Staff has been actively working toward this goal and to date nearly \$350 million has been committed to eight private equity investment opportunities. This exceeds the typical investment pacing of \$150 million to \$250 million in private equity commitments per fiscal year that has been the target since the allocation was increased to 10% of the total fund.

- *Review the private equity portfolio strategy and structure and develop a plan to improve risk and return characteristics of the portfolio, achieve fee reductions and optimize manager counts as appropriate.*

To date seven commitments have been made to private equity funds with an average management fee of 1.6%. Additionally, one commitment has been made to a co-investment that has no management fees or carried interest. Together the average management fees for all fiscal year 2020 commitments is 1.4%. These private equity commitments are diversified by investment strategy, sector focus and geography.

- *Actively seek co-investment opportunities where appropriate with current SERS' private equity general partners who meet co-investment criteria, as outlined in the private equity co-investment guidelines.*

Staff reviewed several co-investment opportunities throughout the fiscal year. One opportunity met SERS' criteria and was funded in October 2019. The private equity portfolio has a total of four co-investments totaling approximately \$35 million. The co-investments are in various stages of their lifecycle and are currently generating an IRR of 17% and a 1.6x multiple of invested capital.

- *Research and identify new managers who offer compelling opportunities and return expectations that may replace current managers who no longer meet SERS' investment criteria.*

Staff reviewed over 100 investment offerings during fiscal year 2020. One opportunity met the investment criteria and SERS committed \$50 million to this new manager in September 2019.

### PORTFOLIO COMPOSITION

	Commitments as of March 31, 2020	Target Range
Buyout	79%	75%
Venture Capital	2%	0%
Special Situations	19%	25%
Domestic	74%	75%
International	26%	25%

## PORTFOLIO STRATEGY – Global Private Equity

### CURRENT MARKET CONDITIONS AND OUTLOOK

Despite growing macroeconomic and political uncertainty across all markets globally, the private equity industry marched on during 2019. Private equity firms continued to invest, exit companies, raise capital and generate solid returns while at the same time navigating the challenges of a high valuation environment that raised the bar for investors looking to create value. Many PE firms took advantage of the higher prices and moved toward the exits before any impending recession. Fund-raising continued to be strong but was skewed by larger firms raising capital. Although returns are still attractive, they continue to come under pressure as the industry matures and competition intensifies. Taking a closer look, the total number of platform companies purchased in 2019 came in at around 3,500 transactions globally totaling approximately \$551 billion. Both the value and number of these purchases remained relatively flat from the previous year. The large amount of deal flow is a direct result of the abundance of low-cost debt financing and the estimated \$2.5 trillion of dry powder available across all fund types and all geographies at the end of 2019. The intense competition for assets has led to increased purchase price multiples and made it very difficult for private equity firms to find and purchase companies. Purchase price multiples have risen from 8.5 times earnings in 2008 to an average of 11.5 times earnings in 2019. Nevertheless, the same factors that complicated deal making paved the way for an excellent exit market for private equity funds in 2019. Exits slowed a bit in 2019 to 1,078 exit transactions valued at \$405 billion but was still a solid contributor to the strong six-year stretch of exits that have produced significant levels of distributions for investors. The continued positive momentum for private equity produced an abundant fundraising market and private equity backed funds raised a record \$894 billion in 2019. Buyout funds led the way closing on over \$361 billion of new commitments, however, this total was aided by the number of large and mega buyout funds raised during the year. The level of investment activity at increased purchase valuations and steady uplift in dry powder once again underscores the importance of identifying and backing high quality private equity managers that remain disciplined in their process, due diligence and selection criteria throughout investment cycles.

Nonetheless, as illustrated in the below table private equity continues to generate solid performance over all periods.

Performance for Periods Ended March 31, 2020				
Fund Type	1-Year	3-Years	5-Years	10-Years
SERS Private Equity	15.56	17.32	15.89	15.72
Burgiss Benchmark	8.95	12.13	10.61	13.50

Source: Burgiss All Private Equity Index

Although 2019 was a solid year for private equity, moving into 2020 the picture is less clear. In the near term, the industry could be influenced by a wide range of factors that may include the economic effects of a global pandemic, increased valuations, political uncertainty and global trade implications. Although it is too early to tell what impact these issues may have on the private equity market, in general it is expected that fundraising and exit activity will continue to cool in 2020. Additionally, as was mentioned earlier, the recent strength of the private equity market has resulted in increased price expectations for sellers. As a result, private equity firms on average are currently paying more to acquire new portfolio companies. However, private equity firms with finely tuned strategies and repeatable value-creation models will prosper. Top quartile private equity managers find ways to overcome problems, generate returns for their limited partners and earn the capability to raise additional funds.

With this in mind, the outlook for the SERS private equity portfolio is favorable. Current market conditions reflect positively on the style of investing employed by the general partners that make up the core of the SERS private equity portfolio. Quality investments can be identified in the current market; however, finding these companies requires patience, discipline and the ability to fully understand the operations of the target company. The pandemic's impact on private equity remains to be seen. As prices are clearly depressed for target companies, legislation is threatened to limit "vulture" acquisitions. Cash flow pressure from the global shut-down and uncertainty about resumption of pre-pandemic norms will force the re-evaluation of previously sound business plans. Additionally, value can be created in target companies through hands-on, proactive and experienced management teams. SERS' private equity portfolio is comprised primarily of general partners who have demonstrated their ability to identify, create value and exit companies in all market environments. In an effort to ensure the portfolio is properly positioned for future uncertainty, our goals for the fiscal year include;

## **PORTFOLIO STRATEGY – Global Private Equity**

continuing to identify and invest with operationally focused managers who primarily target the middle market and avoid the competition in the large and mega space, increasing exposure to attractive investments that meet our criteria and offer lower costs through co-investments, and ensuring that we stay on top of market trends and opportunities by continuing to research and seek out managers offering investment strategies that deliver private equity like returns with differentiated and unique strategies. Additionally, as the Total Fund moves into what many believe will be a low return environment we will seek to increase the allocation level of private equity to its new target of 12% in an effort to obtain the benefit of this higher returning assets class to the Total Fund level. This will however take time as private equity is a long-term asset class where manager selection is critical and additional capital takes more time to deploy.

### **FY2021 OBJECTIVES**

Staff will focus on the following objectives during FY2021:

- Manage the private equity portfolio and fiscal year commitments to reflect the increased investment allocation of 12% of the total fund. Seeking to achieve a target of 11% of the Total Fund by the end of fiscal year 2021 and 12% by the end of fiscal year 2022, subject to identifying opportunities that meet SERS' investment criteria.
- Review the private equity portfolio strategy and structure and develop a plan to improve risk and return characteristics of the portfolio, achieve fee reductions and optimize manager counts as appropriate.
- Actively seek co-investment opportunities where appropriate with current SERS' private equity general partners who meet co-investment criteria, as outlined in the private equity co-investment guidelines.
- Research and identify new managers who offer compelling opportunities and return expectations that may replace current managers who no longer meet SERS' investment criteria.



## PORTFOLIO STRATEGY – Multi-Asset Strategies

### **INVESTMENT STRATEGY**

The role of the Multi-Asset Strategies portfolio (MAS) is to generate consistent returns with managed volatility and beta to global equities, resulting in risk diversification and downside protection to the Total Fund.

SERS' Statement of Investment Policy sets the Multi-Asset Strategies target allocation as follows:

	Target	Permissible Range
Multi-Asset Strategies	Interim target of 4% to be reduced to 0% by June 30, 2021	0% – 4%

The performance benchmark for the MAS portfolio is the HFRI Fund of Funds Composite Index plus 1% annually, calculated on a time-weighted basis.

### **REVIEW OF FY2020 OBJECTIVES AND IMPLEMENTATION**

The FY2020 Annual Investment Plan objectives and related activities are as follows:

- *Actively manage the strategy and portfolio allocations, ensuring appropriate risk and return characteristics. Actively seek to improve risk-adjusted returns and fee efficiency by making allocation adjustments, including new strategies and terminations, between managers and sectors.*

During FY2020, four manager terminations were completed along with two new hires. Several manager and sector rebalancings also occurred. Even with Staff attempts to restructure the portfolio, MAS underperformed its benchmark FYTD through February 2020 by (1.35%) with negative excess return through five years.

- *Continue to evaluate the passive hedge fund replication strategy for appropriate performance and risk tracking.*

The passive hedge fund replication strategy had a net excess return of 36 basis points versus its benchmark since its February 2019 inception through February 2020. Staff has contributed a net \$10 million to the strategy during FY2020 due to its successful outperformance and low fee structure.

- *Complete FY2019 manager searches for relative value and tactical trading managers, improving performance and balancing sector underweights.*

The new relative value mandate was funded in December 2019 with an initial \$20 million subscription. The performance through February 2020 was an excess net return of 21 bps over the benchmark. The fund's 75 bps management fee and 20% over 3-month LIBOR hurdle performance fee is much lower than the MAS portfolio average. The new tactical trading mandate was funded in November 2019 with an initial \$20 million subscription. The inception date through February 2020 performance was an excess net return of 21 bps over the benchmark and this mandate has a 90bps management fee with no performance fee, which is also lower than the portfolio average. Both of these mandates are being considered for transfer into the Global Fixed Income portfolio in FY2021 as complements to the existing strategies in that portfolio.

- *Evaluate different fund structures with longer lock ups that offer reduced fees and/or appropriate hurdle rates that can capitalize on developing market opportunities and enhance returns.*

Although our last few hires have had reduced fees and/or performance hurdles rates, no additional different fee structures were negotiated with current managers as the MAS portfolio is being liquidated according to the new asset allocation approved in February 2020.

### **CURRENT MARKET CONDITIONS, OUTLOOK AND PORTFOLIO STRUCTURE**

The MAS asset allocation was eliminated at the February 2020 Board meeting with an effective date of July 1, 2020. Since most of the current 10% MAS allocation is being redirected to private asset classes that take time to implement, an interim asset allocation of 4% will remain for MAS through FY2021. Given that MAS is in liquidation and hedge funds are strategies, not a stand-alone asset class, current market conditions and outlook

## **PORTFOLIO STRATEGY – Multi-Asset Strategies**

are covered in the relevant asset class write-up. The MAS portfolio structure going forward will be comprised of two fund types. First, MAS will contain highly liquid strategies that will be redeemed as cash needs occur in other asset classes. Second, MAS will contain funds with quarterly or longer redemption terms that will be redeemed throughout FY2021 as MAS liquidity becomes available. Staff plans to transfer several high conviction managers in the portfolio to the Global Fixed Income, Private Credit and Opportunistic portfolios on July 1, 2020.

### **FY2021 OBJECTIVES**

- Submit the MAS portfolio manager redemptions and transfers to other portfolios reducing the portfolio from its FY2020 10% allocation down to 4% on July 1, 2020. Redemptions will continue in FY2021 as short-term cash needs dictate, with the MAS allocation being completely liquidated by June 30, 2021.
- Monitor the portfolio to ensure appropriate risk and return during the redemption phase.

## PORTFOLIO STRATEGY - Global Fixed Income

### **INVESTMENT STRATEGY**

SERS invests in fixed income assets for the primary purpose of risk diversification and decreasing the overall risk of the investment plan. Fixed income assets may include sovereign debt securities, global corporates, securitized securities, private placements, convertibles, derivatives and currency.

SERS' Statement of Investment Policy sets the Fixed Income target allocation as follows:

	Target	Permissible Range
Global Fixed Income	19%	12% – 26%

The performance objective for the fixed income portfolio is to exceed the Bloomberg Barclays Capital US Aggregate Bond Index, net of manager fees, by 50 basis points over rolling three-year periods.

### **REVIEW OF FY2020 OBJECTIVES AND IMPLEMENTATION**

The FY2020 Annual Investment Plan objectives and related activities are as follows:

- *Ensure the fixed income portfolio has appropriate risk and return characteristics given that spreads are near ten-year historical highs and volatility is expected to rise.*

Due to the impacts of the coronavirus in Q1 2020, the portfolio underperformed the Bloomberg Barclays US Aggregate by (2.79%) through March 2020 of the current fiscal year. This significant underperformance also led to negative excess returns for three and five years of (0.67%) and (0.09%), respectively. The allocations to emerging market debt and high yield were the most significant detractors due to their higher sensitivity to slowing economic growth. The annualized three-year tracking error in March 2020 rose to 1.7% from 0.8% one year ago. The increase in tracking error was due to portfolio over-weights to investment grade, high yield, structured credit and emerging market debt that all diverged significantly in performance relative to the higher US Treasury exposure of the benchmark.

- *Tactically manage core and core plus allocations to enhance risk and return. Staff has already added to core assets and may continue to add to core due to expected late cycle environment volatility.*

The following allocation changes were implemented:

- In October 2019, \$100 million was contributed from short-term cash. The contributions were split \$65 million to core and \$35 million to core plus.
- In February 2020, \$10 million was contributed to the new high yield dislocation strategy from cash.
- In March 2020, \$155 million in withdrawals were transferred to short-term cash with \$60 million from core and \$95 million from core plus. In addition, \$53 million was added from cash to the high yield dislocation strategy in three separate tranches during the month at attractive high yield spread levels.
- In April 2020, \$10 million was contributed to a core strategy that focuses on structured credit opportunities.

During the fall of 2019, Staff continued to increase the core sector from 51% to 52% and decrease the portfolio underweight relative to the target allocation of 19%. The net withdrawals in March 2020 were transferred to short-term cash to fund other opportunities.

- *Review IMAs and Investment Guidelines making necessary adjustments as needed.*

An IMA for the new high yield dislocation strategy was successfully negotiated in Q1 2020. In Q2, 2020, SERS will be updating the portfolio investment guidelines to create a new sub-sector called Tactical and Diversifying to include return seeking and diversifying strategies including emerging market debt, high yield and fixed income arbitrage strategies.

## **PORTFOLIO STRATEGY - Global Fixed Income**

### **CURRENT MARKET CONDITIONS AND OUTLOOK**

The Bloomberg Barclays Capital US Aggregate Bond Index returned 5.68% for FY2020 through March. US Treasuries were the best performing sector posting a 9.92% return as short-term interest rates declined to the lower bound of 0 – 0.25%. The benchmark 10-year US Treasury yield declined from 2.00% in July 2019 to 0.70% as of March 31, 2020. Residential mortgages returned 4.97% during the same period. Investment grade corporate debt returned 0.48%, as spreads widened drastically in February and March 2020 from coronavirus fears. After posting healthy returns during 2019, the coronavirus also hurt riskier fixed income sectors of emerging market debt local currency with a decline of (4.40%) and high yield, which dropped the most (9.21%) for FY2020 through March.

The Fed lowered rates five times during FY2020. Starting in the second half of 2019, the Fed lowered rates by 25 basis points in July 2019, September 2019 and October 2019 to the range of 1.50% - 1.75% to keep economic growth from stalling. The Fed then held rates steady with two meetings late in the year with no interest rate action. Coronavirus changed everything with the Fed holding two March 2020 emergency meetings, cutting rates to the 0% - 0.25% range. The Fed and the US Congress implemented several monetary and fiscal programs to support the economy after the mandated government shut down of non-essential businesses caused unemployment to skyrocket.

Fixed income spreads widened dramatically in March 2020. Investment grade corporates widened from 100 basis points over US Treasuries to 325 basis points while high yield widened from 370 basis points to over 1,000 basis points. Spreads recovered some in April after the Fed announced additional programs for purchasing corporate and agency mortgage securities.

Now that fixed income markets have repriced, managers are deploying cash and government reserves to buy securitized and corporate securities. For the most part, managers began their purchases buying higher quality credit, as opportunities were so plentiful that there was no reason to take on excess credit risk. The portfolio has a slightly short duration stance as rates are at historic low levels. The current yield on the portfolio is 3.07%, which will generate more gains going forward. Although fixed income markets have quickly rebounded from the March lows, managers are cautious about future opportunities as the impacts from the coronavirus may not be clear until the economy restarts and people go back to work. Corporate defaults remain low, but are expected to go higher as the impact to businesses from the extended shutdown becomes clear. The next year in fixed income is expected to be more volatile than the last few years, but this should provide opportunities for managers to buy securities at cheaper valuations.

### **PORTFOLIO STRUCTURE**

The fixed income portfolio is currently weighted 53% core, 43% core plus, 2% high yield and 2% EMD with a bias towards income producing assets. The portfolio continues to be underweight government assets and overweight credit sectors to earn more yield than the benchmark. Fixed income strategies that produce more income historically produce more return over the long-term, but short-term performance usually suffers as risk elevates and US Treasuries are favored as safe haven assets.

Over the last two years, Staff has been slowly rotating capital from core plus into core fixed income assets as fixed income markets became expensive and markets often take a downturn at the end of an interest rate hiking cycle. By March 2020, the core allocation had increased from 45% in December 2017 to 53% and the underweight to fixed income had decreased from 5% to 2%, better positioning the portfolio for capital preservation. Going forward, the opportunity set for fixed income assets is rich. Investment grade and high yield spreads continue to offer attractive entry points, the Federal Reserve and US Treasury have implemented programs designed to support fixed income markets and the economy, and interest rates are expected to remain low for an extended period of time. Staff intends to cautiously add capital to core plus strategies in FY2021 while being mindful that the full impacts of the coronavirus may not be known for some time. Several high conviction strategies from the MAS portfolio will be moved into a new sector of the portfolio called Tactical and Diversifying on July 1. This sector is intended to increase portfolio performance and diversify the sources of return by investing in alternative fixed income strategies with higher expected outperformance and tracking error relative to the Bloomberg Barclays US Aggregate Index.

## **PORTFOLIO STRATEGY - Global Fixed Income**

### **FY2021 OBJECTIVES**

Staff will focus on the following objectives in FY2021:

- Implement the new fixed income guidelines pertaining to the new Tactical and Diversifying sector ensuring the selected strategies are optimally weighted relative to the expected risk and return objectives.
- Ensure the fixed income portfolio has appropriate risk and return characteristics given the new tactical and diversifying sector manager changes and expected negative economic impacts from coronavirus.
- Review IMAs and Investment Guidelines to make any necessary adjustments.

## PORTFOLIO STRATEGY – Global Private Credit

### **INVESTMENT STRATEGY**

SERS invests in private credit to provide risk adjusted returns in excess of those provided by publicly traded fixed income securities and to generate a consistent stream of income.

SERS' Statement of Investment Policy sets the Global Private Credit target allocation as follows:

	Target	Permissible Range
Global Private Credit	3%	3% - 7%

The target for Global Private Credit during the ramp-up period is set at 3% for fiscal year 2021 and will increase to the policy target allocation of 5% for fiscal year 2022. The performance objective for global private credit is to produce net of fee returns in excess of the 3-month LIBOR + 4.5%.

### **CURRENT MARKET CONDITIONS AND OUTLOOK**

The private credit market continued to grow in 2019 and reached \$812 billion in assets under management, its highest point since the asset class began to take off post the Global Financial Crisis. Investors continued to seek out higher risk adjusted returns relative to traditional fixed income asset classes in what continued to be a relatively low interest rate environment. The continued momentum of private equity deals helped fuel the need for borrowers to access capital in the private markets. However, the number of private credit fund launches decreased marginally in 2019 as investor sentiment about the potential for an economic slowdown dampened capital commitments. The asset class saw dry powder marginally shrink for the first time since 2014 as fund managers struggled to raise capital faster than they could deploy it. Direct lending continued to be the largest sub asset class within the private credit market, accounting for over half of all private credit funds. The ability to structure deals with an acceptable level of covenants continued to be an attractive aspect of private credit in comparison to the growing number of covenant-lite public fixed income issuances, particularly within the syndicated loan market. The continued growth of the private credit asset class and the amount of capital available to invest will require managers to be more diligent in seeking out quality investments.

The rise of the COVID-19 pandemic in the first quarter of 2020 caused global economies to shut down and increased volatility in markets around the world. Investors became sharply concerned about the ability of companies to service their debt and high yield spreads widened to over 1,000 basis points, the highest since the Global Financial Crisis. The primary origination of debt began to slow, while the secondary market remained active as many existing deals began to trade at lower prices. The economic impact of the pandemic is still uncertain and the number of credit downgrades continues to increase. Nonetheless, opportunities still exist within the private credit market, particularly within stressed and distressed sub asset classes, as well as direct lending. During this time of market dislocation, many companies need liquidity and are looking to private lenders for assistance. Private credit managers are seeing a plethora of borrowing needs in the U.S. and Europe from high quality companies across all sectors, but particularly within those sectors directly impacted by the pandemic.

### **FY2021 OBJECTIVES**

Staff will focus on the following objectives in FY2021:

- Increase the private credit allocation towards 5% of the Total Fund by making new investments that fit the SERS' investment policy. Target an allocation to private credit of 3% of the Total Fund by the end of fiscal year 2021 and 5% of the Total Fund by the end of fiscal year 2022, subject to identifying opportunities that fit SERS' investment criteria.
- Build the private credit allocation in line with the implementation guidelines and ensure appropriate risk and return characteristics are present within the new target allocation.
- Make new investments that serve a primary purpose of the private credit allocation to generate consistent income for the Total Fund.

## PORTFOLIO STRATEGY - Global Real Assets

### **INVESTMENT STRATEGY**

The role of SERS' global real assets portfolio is to provide a stable income return from tangible assets, to be a partial inflation hedge over the long term and to provide low correlation to equities.

SERS' Statement of Investment Policy sets the Global Real Assets target allocation as follows:

	Target	Permissible Range
Global Real Assets	16%	14% - 20%

The performance objective for global real assets is to produce net of fee returns in excess of the NCREIF Property Index ("NPI"), one quarter in arrears, over a market cycle, with the income component of the return comprising a significant portion of the total return.

### **REVIEW OF FY2020 OBJECTIVES AND IMPLEMENTATION**

The FY2020 Annual Investment Plan objectives and related activities are as follows:

- *Achieve 15% target allocation to Real Assets with the addition of approximately \$100 million to new managers.*

The allocation to Real Assets ranged between 14.5% and 15.0% during FY2020 with \$126.5 million in commitments made to two managers during the fiscal year. These commitments were made to strategies including infrastructure debt, which is expected to distribute a yield of approximately 7-8% after the end of the investment period, and traditional infrastructure sectors including transportation, energy, and telecommunications. In February 2020, the target allocation to Real Assets increased to 17%, effective July 1, 2020. A two-year plan will be formulated and implemented to reach and maintain the new allocation.

- *Tactically manage real estate and infrastructure allocations to improve returns without increasing risk. During FY2020, infrastructure will slightly exceed its 20% target allocation while private and public real estate will be slightly below its 80% target allocation.*

As of December 31, 2019, real estate was 81% of real assets and infrastructure was 19%. Infrastructure has been beneficial to Real Assets in terms of performance, exceeding the benchmark return by 493 basis points and 708 basis points over the one and three year periods respectively.

- *Actively manage real estate property type exposures to ensure proper weights during late stage property market cycle. The current property type exposures will continue into the next fiscal year, with overweights to industrial and specialty property types such as student and senior housing and corresponding underweights to office and retail.*

Due to changing consumer behaviors around e-commerce, the industrial sector continues to lead all other property sectors while the retail sector continues to suffer. As of December 31 2019, the industrial sector outperformed the benchmark return by 694 basis points and 687 basis points over the one and three year periods. Within Real Assets, the industrial exposure is 11.5% overweight to the benchmark while the retail exposure is 8.5% underweight to the benchmark. Specialty property types remained overweight to the benchmark and included assets such as self-storage and senior housing.

- *Maintain income yield as it will be a significant part of total return going forward.*  
The income return from the Real Assets portfolio is 4.06%, representing nearly half of the total return from Real Assets. Maintaining this yield level is uncertain for the near term and will be harder to maintain given the struggles of many tenants needing rent relief and the possibility of lower income distributions.

### **CURRENT MARKET CONDITIONS AND OUTLOOK**

Returns for real estate properties continued to moderate in 2019 as the current real estate cycle entered its tenth year. SERS' Real Assets portfolio returned 8.76% net of fees in 2019 versus an NPI return of 6.24% gross of fees, producing an excess return of 2.52%. The income return gross of fees during 2019 was 4.06%.

## **PORTFOLIO STRATEGY - Global Real Assets**

In general, 2019 was a strong year for real estate. Real estate returns are driven by demographics, economic growth, interest rates, and property type fundamentals. Strong job growth helped office properties achieve a 2019 vacancy rate that is lower than peak before the global financial crisis in 2008. Rent growth in 2019 of 5.2% for office space was at its fastest pace since 2016 because demand for office space was higher than supply in 2019. Industrial finished 2019 as the best performing property type because of record high asking rent, a vacancy rate of 4.4%, and strong demand for last-mile warehouses. Multifamily properties vacancy level of 4.1% is the lowest rate since 2000. The amount of supply and demand in the near term will be impacted by the severity and duration of the COVID-19 pandemic. Retail continues to struggle because of the growth of e-commerce and changing consumer behaviors. The vacancy rate for retail remains low because of the limited new supply being built.

Valuations for properties remain high and cap rates were low at the end of 2019. SERS' is currently overweight industrial, neutral to multifamily, and underweight office and retail. For diversification, SERS' portfolio also has properties that are not in the benchmark, such as self-storage and senior housing. The coronavirus has significantly impacted the outlook for 2020 real estate returns. Properties will likely see some dislocation and provide a strong buying or recapitalization opportunity for the SERS' real estate managers. Hotels and retail will have an immediate impact from coronavirus while logistics, office, and multifamily will be impacted if the duration of the pandemic is long and the economy enters a period of contraction or slow growth. Returns for Real Assets will mostly be driven by income in 2020 and total returns for the benchmark are expected to be approximately -3%, per an industry consensus forecast.

Infrastructure ended 2019 with an allocation of 19.4% of the Real Assets portfolio with the expectation for a higher allocation in 2020 as capital commitments are called by managers. SERS' exposure to telecommunications, social, and healthcare are more defensive assets with contracted cash flows. The transportation and energy assets in the portfolio are more exposed to economic cycles. The coronavirus will impact the more cyclical assets in 2020.

### **FY2021 OBJECTIVES**

Staff will focus on the following objectives in FY2021:

- Formulate and implement a two-year plan to achieve and maintain a 17% allocation to Real Assets.
- Target demographic-driven real estate investments such as data centers, life science, and medical office versus GDP-driven sectors such as office. These sectors are anticipated to have higher rent growth and more durable income. This would maintain the overweight to the specialty property types within Real Assets.
- Evaluate specific opportunities arising from the impacts of coronavirus and economic slowdown, including opportunistic strategies involving real estate recapitalizations.
- As the infrastructure portfolio has been built out and is at its target allocation, switch focus to actively soliciting co-investment opportunities with existing infrastructure managers.



## **PORTFOLIO STRATEGY - Cash Equivalents**

### **INVESTMENT STRATEGY**

SERS invests in cash equivalents for the purpose of earning market returns on cash held for benefits and expenses and to provide short-term cash needed to fund other asset classes. Cash equivalents are fixed income assets with maturities of less than 270 days and may include US government, asset-backed, corporate and high quality money market-type securities.

SERS' Statement of Investment Policy sets the cash equivalent target allocation as follows:

	<b>Target</b>	<b>Permissible Range</b>
Cash Equivalents	2%	0% – 5%

The performance objective for cash equivalents is to exceed the return on 30-day US Treasury Bills.

### **REVIEW OF FY2020 OBJECTIVES AND IMPLEMENTATION**

The FY2020 Annual Investment Plan objectives and related activities are as follows:

- *Research and monitor commercial paper credits and money market funds.*

Bloomberg is utilized to check the daily commercial paper issuance and short-term market. Staff continues to utilize the Fidelity Investments (Fidelity) money market complex for investing the daily short-term cash. Fidelity offers competitive yields relative to both money market competitors and higher liquidity to the commercial paper market.

- *Evaluate opportunities to improve the cash management system and maintain liquidity requirements.*

The Fidelity institutional money market fund provides the best overall yield for SERS short-term cash investments in FY2020. Staff invests in both Fidelity's US government fund with same day liquidity and the prime fund with a higher yield and next day liquidity. Staff keeps only enough cash in the US government fund to manage the daily cash needs of the portfolio and invests the remainder in the higher yielding prime fund, which earns on average 20 basis points more.

### **CURRENT MARKET CONDITIONS AND OUTLOOK**

The Federal Reserve (Fed) cut interest rates by 25 basis points in July, August and September for a total of 75 basis points, bringing the range to 1.5 – 1.75 % on concerns about falling inflation and global economic growth. In March 2020, the Fed held two emergency meetings that reduced interest rates to the range of 0 – 0.25% and also introduced several other stimulus measures totaling over \$4.5 trillion over the next month in an effort to stabilize the economy from the impact of COVID-19. Based on the Fed's current guidance, interest rates are expected to remain low for an extended period of time and therefore, the yield on short-term cash will also remain low.

### **FY2021 OBJECTIVES**

Staff will focus on the following objectives in FY2021:

- Research and monitor commercial paper issuers and money market funds.
- Evaluate opportunities to improve the cash management process and maintain liquidity needs for the portfolio.

## PORTFOLIO STRATEGY – Opportunistic & Tactical

### INVESTMENT STRATEGY

SERS invests in opportunistic investments for the purpose of earning returns greater than the Bloomberg Barclays US Aggregate Bond Index + 2% for investments that do not fit within the existing asset classes. The investments are defined as tactical or non-traditional investment opportunities. Such investments may involve capitalizing on short-term market dislocations or other unique situations or innovative strategies including tactical allocation.

SERS' Statement of Investment Policy sets the Opportunistic investments target allocation as follows:

	Target	Permissible Range
Opportunistic Investments	0%	0% – 5%

The performance objective for opportunistic investments is to exceed the return of Bloomberg Barclays US Aggregate Bond Index + 2%.

### REVIEW OF FY2020 OBJECTIVES AND IMPLEMENTATION

The FY2020 Annual Investment Plan objectives and related activities are as follows:

- *Search for possible opportunistic investments for the Fund that are expected to exceed the Total Fund return objective, with an emphasis on high-yielding investments. This will be accomplished through the evaluation of markets, strategies and specific funds that offer compelling risk-adjusted returns. Investments that pass initial screening will undergo detailed due diligence prior to staff recommendation.*

As of mid-March, three new investments have been made, totaling \$225 million of commitments. The first commitment is a re-up with a direct lending manager that provides loans to middle market businesses located in the US. The second commitment is a re-up with a direct lending manager that provides loans to large companies primarily located in the US and to European and Asian companies on a selective basis. These investments are attractive because of their high levels of current income and total expected returns of 8% to 10%.

The third commitment is to a fund that will invest in the debt of privately-owned technology companies. The fund is sponsored by a long-tenured private equity manager that has a dedicated team to deploy an opportunistic strategy that can invest in different debt structures, depending on where they identify good risk adjusted returns. This fund will pay a quarterly income distribution and is expected to generate a net return in the mid-teens.

- *Actively manage the liquid portion of the portfolio to improve the risk and return profile of the portfolio.*

Historically, the portfolio has been designed to generate a return greater than the Total Fund Policy Benchmark. Starting in FY 2021 the performance objective will be the Bloomberg Barclays US Aggregate Bond Index + 2%. The liquid portion of the portfolio has not performed in line with expectations. These investments have underperformed relative to their benchmark and have been highly volatile. As a result of the combination of underperformance and high volatility, staff has actively reduced the exposure to these investments this fiscal year.

### CURRENT MARKET CONDITIONS AND OUTLOOK

The opportunistic portfolio has made investments in funds that seek to take advantage of market dislocations or which do not fit within the risk and return objectives of other asset classes. The return objective of the portfolio is to outperform the Total Fund Policy Benchmark. In addition, there is a priority on investments that generate current income. Several themes have arisen in the portfolio including financial deleveraging, distressed assets, structured credit, financial restructuring, private credit, energy and peripheral European market opportunities.

The opportunity set is rapidly changing as a result of COVID-19, which has created an emerging set of investment themes across the financial landscape. The first area of focus is the credit markets, which have experienced an increase in spreads across the spectrum. For example, in March high yield spreads peaked in excess of 1,000 basis points. Historically when spreads have reached this threshold, the subsequent one-year returns of high yield have been greater than 10%. Investment managers are also reporting a lack of liquidity in credit markets, which is creating attractive opportunities in the investment grade space. For example, many

## **PORTFOLIO STRATEGY – Opportunistic & Tactical**

borrowers with refinancings in the next 18 months are looking to refinance existing debt now, even if the cost is substantially higher than it would have been earlier this year. In this environment, borrowers are willing to pay a premium for the certainty of capital.

The energy markets continue to be volatile in 2020 with energy trading at \$20/barrel at the end of March compared to more than \$60 at the beginning of the year. The lower prices have been a result of excess supply after negotiations between Saudi Arabia and Russia broke down earlier in March. Both countries have increased their output in an effort to gain market share. These low prices are hurting producers in the US, who need oil to be in the \$50 to \$60 range to remain profitable. In an effort to cut costs, these producers have reduced their capital expenditures budgets and cut back on their 2020 drilling programs. These reductions have had a significant impact on an already fragile MLP industry, which is down approximately 50% year to date. Staff will continue to closely monitor these markets to manage the existing energy exposure and determine if there are actionable investment opportunities.

### **FY2021 OBJECTIVES**

Staff will focus on the following objectives in FY2021:

- Search for possible opportunistic investments for the Fund that are expected to exceed the Bloomberg Barclays US Aggregate Bond Index + 2%, with an emphasis on high yielding investments. This will be accomplished through the evaluation of markets, strategies and specific funds that offer compelling risk adjusted returns. Investments that pass initial screening will undergo detailed due diligence prior to staff recommendation.
- Actively manage the liquid portion of the portfolio to improve the risk and return profile of the portfolio.

## **PORTFOLIO STRATEGY – Overlay Program**

### **INVESTMENT STRATEGY**

SERS invests in overlay strategies that trade derivatives of the Total Fund's underlying assets and currency exchange rates to enhance the Total Fund portfolio's efficiency. The overlay program includes tactical asset allocation and active currency strategies.

The tactical asset allocation strategy aims to add value to the Total Fund performance through active allocations (long/short) across stocks and bonds thereby exploiting short-term macro market dislocations. The active currency strategies aim to add value and risk diversification to the Total Fund, as well as help manage currency risk by utilizing short-term inefficiency in the foreign exchange markets and low correlation of the strategies to the major asset classes such as US equity and fixed income.

The program is fully tactical; exposures to any overlay strategies in this program are not required by the Statement of Investment Policy.

The overlay program is targeted to add 10 to 20 bps excess return to the Total Fund's performance on a three to five year horizon. Tracking errors of the tactical rebalancing strategy and the currency program are expected in the ranges of 5 to 15 bps and 5 to 8%, respectively.

### **REVIEW OF FY2020 OBJECTIVES AND IMPLEMENTATION**

The FY2020 Annual Investment Plan objectives and related activities are as follows:

- *Actively monitor the Tactical Asset Allocation Strategy to enhance the impacts of the strategy to the Total Fund's performance.*

In September 2019, the Staff adjusted the strategy guideline to allow its exposure per asset class including US Equity, Non-US equity and US Fixed Income, up to 7% from 5% based on its strong track record and conviction in the strategy. Since the inception in December 2014 to June 2019, the program added 0.05% to the Total Fund's annualized return; its risk contribution was 0.01%, which offered an attractive risk adjusted return contribution to the Total Fund's performance over the period. In 2020, the program put on positions in January and closed shortly afterward. In late February and early March when the markets started tumbling, responding to the Coronavirus spread, the program phased in positions. The positions were kept on throughout March and stayed open through the time this report was written. As markets declined sharply in late March, the strategy incurred a substantial loss. As of the end of March, the strategy contributed (0.76%) to the Total Fund's FYTD 2020 return. The risk contribution was 0.25%. The positions are expected to remain open as the markets are expected to recover from the lows.

- *Actively monitor the Active Currency Strategies to improve the program's risk and return characteristics.*

During FY2020, Staff rebalanced the currency portfolio based on managers' performance and Staff's conviction in their strategies. Staff increased the notional allocation to one manager by \$100 million and terminated two other managers. The program added 0.19% to the Total Fund's FYTD 2020 return, lowered the Total Fund's risk by 0.08% through currency risk reduction. As of April 2020, the currency portfolio's notional exposure is \$ 450 million, which is 16.4% of the Non-US Equity portfolio's value vs. 50% maximum limit by the currency program's guideline.

### **Overall Overlay Program:**

The overlay program in aggregate detracted 0.58% from the Total Fund's FYTD 2020, return and added 0.17% to the Total Fund's risk.

### **FY2021 OBJECTIVES**

Staff will focus on the following objectives in FY2021:

- *Actively monitor the Tactical Asset Allocation Strategy to enhance the impacts of the strategy to the Total Fund's performance.*
- *Actively monitor the Active Currency Strategies to improve the program's risk and return characteristics.*

## PORTFOLIO STRATEGY - Investment Risk Management & Analytics

Investment Risk Management and Analytics is responsible for provision and communication of diligent, thorough, timely and forward-looking investment risk analytics and other investment analytics to the Board and Investment Staff.

Equity market volatility was mild in 2019 with an average daily S&P 500 Implied Volatility (VIX) level of 15.5%. As the Coronavirus spread and became an unprecedented global pandemic, crippling major portions of the global economy, the markets experienced a rapid sell-off. The VIX daily average in March, the most volatile month, was 57.74%, almost four times higher than the 2019 average. The VIX fell materially in April, and is expected to normalize in the second half of 2020, but it will likely stay above the historical average. The Total Fund's total risk is expected to increase materially, as will active risk, closer to the 3% limit stated in the Statement of Investment Policy.

### **REVIEW OF FY2020 OBJECTIVES AND IMPLEMENTATION:**

The FY2020 Annual Investment Plan objectives and related activities are as follows:

- *Provide risk forecast and analyses of the Total Fund and asset class portfolios.*

Staff utilized the risk system to generate risk analyses of the Total Fund and asset classes. The risk analyses based on SERS' investment holdings provide forecasted volatility of returns of portfolios. The analyses also provide portfolio risk decomposition by strategies, as well as by factors.

- *Continue to report risk of the Total Fund to the Board on a quarterly basis.*

Staff reported volatility of the Total Fund's returns, providing both total risk and active risk decomposition analysis by asset classes and by major risk factor groups. The total risk decomposition by asset classes focused on their role in the Total Fund. The total risk decomposition by factors focused on cross factor exposures, especially equity factors among the asset class portfolios as the equity factors are the largest risk driver of the Total Fund. The active risk decomposition showed risk contribution from the investment implementation, which is comprised of active allocation among the asset classes and active selection of strategy and securities.

- *Communicate asset class portfolio's risk with asset class investment officer(s) and discuss any potential changes of the portfolio structure on a quarterly basis.*

Staff discussed the risk profile of asset class portfolios with each asset class team. The discussion was focused on i) trend and level of forecast risks, ii) the portfolio's risk structure in terms of manager line-up and factor tilts and iii) the portfolio's sensitivity to market movements. The discussions assisted each asset class team in balancing their portfolio risks and minimizing unintended risk tilts.

- *Provide return attribution analysis of Total Fund and asset classes of the Fund to the Investment Strategy Team.*

Staff reported monthly return attribution analysis of the Total Fund, analyzing effects of active weights on alpha generation of each asset class. The analyses were presented to the Investment Strategy Team.

Staff also delivered to the Investment Strategy Team attribution reports of each asset class portfolio analyzing the contribution of each account within an asset class.

- *Evaluate the existing risk analytics provider's capacity and service quality then consider to extend the current agreement or search for a better provider.*

Staff issued a public Request for Quotation (RFQ) for investment risk analytics tool and service in April and will select the one that offers the highest quality and cost-effective holdings-based investment risk analytics for SERS.

- *Perform other portfolio and market analyses and research as needed.*

## **PORTFOLIO STRATEGY - Investment Risk Management & Analytics**

Staff conducted analyses of the Total Fund liquidity and leverage. Staff also conducted portfolio and market analyses as needed or upon request.

### **FY2021 OBJECTIVES:**

Staff will focus on the following objectives in FY2021:

- Provide risk forecast and analyses of the Total Fund and asset class portfolios.
- Report risk of the Total Fund to the Board on a quarterly basis.
- Communicate asset class portfolio's risk with asset class investment officer(s) and discuss any potential changes of the portfolio structure on a quarterly basis.
- Provide return attribution analysis of the Total Fund and asset classes of the Fund to the Investment Strategy Team.
- Implement a new risk system should SERS select a new provider, ensure a smooth and efficient transition, and develop report packages tailored to fit the investment management needs.
- Perform other portfolio and market analyses and research as needed.

## Investment Operations

The Investment Operations area is responsible for managing administrative activities for the Investment department, assisting the CIO and investment officers, and providing reports and information to Staff and the Board. The objectives for FY2021 remain consistent with those of FY2020 as these three broad categories reflect the primary duties of Investment Operations.

### **REVIEW OF FY2020 OBJECTIVES AND IMPLEMENTATION**

The FY2020 Annual Investment Plan objectives and related activities are as follows:

- *Coordinate, assist and participate in organizational initiatives including Policies, Procedures and Practices; fiscal budget; Subject Matter Experts (SMEs); and Corporate Emergency Preparedness Project (CEPP).*

Investment Operations assisted with the annual review and revisions to the Investment Department Policies, Procedures and Practices and participated in the system-wide Records Management Project. Staff prepared and analyzed the fiscal budget for executive approval as well as participated in and provided feedback in relation to SME and CEPP activities.

- *Perform administrative duties and attend meetings for the Investment Committee, Strategy Team and Board meetings including establishing meeting dates and agendas, organizing and distributing documents to team members, producing reports and taking minutes.*

Operations attended all Investment Committee, Strategy Team and Board meetings. Agendas and documents were prepared and distributed and minutes were taken and distributed in a timely manner. Staff assisted with processing documents associated with hiring, terminating and redeeming of managers.

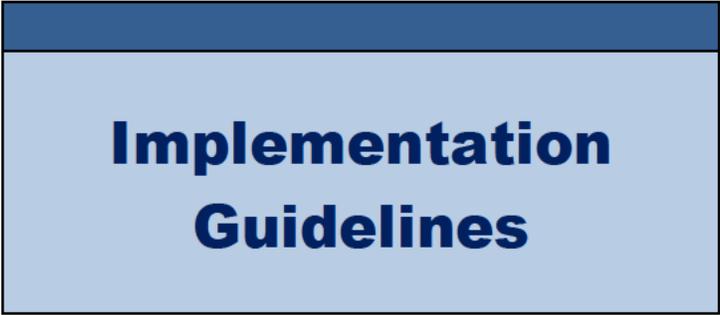
- *Assist with projects for the CIO and Investment officers including revising the Annual Investment Plan, updating the Statement of Investment Policy as needed, new manager searches as needed and aiding with special projects for Staff.*

Operations coordinated revisions to and produced the FY2020 Annual Investment Plan and the amended Statement of Investment Policy, assisted the SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis project, the realignment of Investment Officer duties, and new manager searches throughout the fiscal year.

### **FY2021 OBJECTIVES:**

Staff will focus on the following objectives in FY2021:

- Coordinate, assist and participate in organizational initiatives including Policies, Procedures and Practices; fiscal budget; Subject Matter Experts (SMEs); and Corporate Emergency Preparedness Project (CEPP).
- Perform administrative duties and attend meetings for the Investment Committee, Strategy Team and Board meetings including establishing meeting dates and agendas, organizing and distributing documents to team members, producing reports and taking minutes.
- Assist with projects for the CIO and Investment officers including revising the Annual Investment Plan, updating the Statement of Investment Policy as needed, searches for a new General Investment Consultant and new Investment managers as needed, and aiding with special projects for Staff.



**Implementation  
Guidelines**



## IMPLEMENTATION GUIDELINES - Global Equities

### I. ROLE

The role of Global Equities is to earn the equity risk premium over US Treasury bonds by investing in common stock of publicly-listed companies.

### II. ASSET ALLOCATION

	Total Fund Target	Range	
		Minimum	Maximum
Global Equity	45%	35%	55%
US Equity (USE)	22.5%	15.0%	30.0%
Non-US Equity (NUSE)	22.5%	15.0%	30.0%

The US Equity, Non-US Equity Developed Market and Non-US Equity Emerging Market sub-asset classes have the following targets and ranges within Global Equities above:

	Global Equity Target	Range	
		Minimum	Maximum
US Equity (USE)	55%	50%	60%
Non-US Equity Developed Market	30%	25%	35%
Non-US Equity Emerging Market	15%	10%	20%

### III. BENCHMARK:

The Global Equity benchmark is a composite benchmark comprised of:

US Equity Portfolio	50%	Russell 3000 Index
Non-US Equity Portfolio	50%	MSCI All Country World ex-US Index (\$net)
US Equity Portfolio	55%	Russell 3000 Index
Non-US Equity Developed Market	30%	MSCI World ex-USA Net Total Return Index (USD)
Non-US Equity Emerging Market	15%	MSCI Emerging Markets Net Total Return Index (USD)

### IV. PERFORMANCE OBJECTIVE

The annualized return objective, net of management fees, is as follows:

	Excess Return Target (over 3-year rolling periods)
US Equity Portfolio	20 basis points over USE benchmark
Non-US Equity Portfolio	50 basis points over combined Non-USE 66.67% developed and 33.33% emerging market benchmark
Global Equity Portfolio	33.5 basis points over Global Equity composite benchmark in Section III. Benchmark above

### V. PORTFOLIO DESIGN AND CONSTRUCTION:

The USE and NUSE portfolios are constructed using a multi-manager line-up and a combination of active and passive strategies to deliver risk-adjusted performance relative to their respective benchmarks. Portfolio design will consider risk/return characteristics, manager count and investment management fees.

### VI. PERMISSIBLE INVESTMENTS

Security Type	US Equity Portfolio	Non-US Equity Portfolio
Common Stock	Y	Y
Stock Treated as Common Stock	Y	Y
Cash / Treasuries	Y	Y

## IMPLEMENTATION GUIDELINES - Global Equities

Preferred Stock	Y	Y
Convertible Rights	Y	Y
Warrants	Y	Y
Depository Receipts	Y	Y
REITS	Y	Y
Rule 144a Issues	Y	Y
Private Placement	Y	Y
IPOs	Y	Y
Commingled Funds	Y	Y
Exchange Traded Funds	Y	Y
Futures	Y	Y
Options	Y	Y
Currency Forwards	N	Y
Currency Futures	N	Y
Currency Options	N	Y
Country Funds	N	Y

### VII. RISK MANAGEMENT

Active Risk Target	
US Equity Portfolio	Tracking Error of 1.00% with a range of 0.0% to 1.5%
Non-US Equity Portfolio	Tracking Error of 2.5% within a range of 0% to 4%

US Equity Implementation Guidelines			
	Investment Benchmark	Global Equity Target Allocation	Permissible Range
<del>US Equity Allocation</del>	Russell 3000 Index	<del>22.50%</del>	<del>15.0% - 30.0%</del>
US Equity Allocation	Russell 3000 Index	55%	50% - 60%
Portfolio Structure			
Capitalization			
Large Cap Equity	Russell 1000 Index	Neutral to BM	+/- 5%
Large Cap Active	Manager Specific	20%	15% - 25%
Large Cap Passive	Russell 1000 Index	80%	75% - 85%
Small Cap Equity	Russell 2000 Index	Neutral to BM	+/- 10%
Small Cap Active	Manager Specific	100%	n/a
Style			
Growth	Manager Specific	Neutral to BM	+/- 5%
Value	Manager Specific	Neutral to BM	+/- 5%
Portfolio Risk/Return Characteristics			
Total Expected Excess Return	Russell 3000 Index	0.20%	
Total Expected Tracking Error	Russell 3000 Index	1.00%	0% - 1.5%

Factors such as currency, sector and country limits are manager specific and outlined in each manager's Investment Guidelines. Aggregate portfolio characteristics such as P/E, B/P, yield, size, etc., shall be within a reasonable range of the US equity benchmark.

## IMPLEMENTATION GUIDELINES - Global Equities

Non-US Equity Implementation Guidelines			
	Investment Benchmark	Global Equity Target Allocation	Permissible Range
Non-US Equity Allocation	MSCI All Country World ex-US Index (\$net)	22.50%	15.0% - 30.00%
Non-US Equity Developed Markets	MSCI World ex-USA Net Total Return Index (USD)	30%	25 - 35%
Non-US Equity Emerging Markets	MSCI Emerging Markets Net Total Return Index (USD)	15%	10 - 20%
Broad Market Exposure			
ACW ex-US + Developed Markets Active	Manager Specific	70%	60% - 80%
Developed Markets Passive	MSCI World ex US Index (\$net)	30%	20% - 40%
Emerging Markets Active	MSCI Emerging Markets Index (\$net)	100%	+/- 10%
Portfolio Structure			
Capitalization			
Large Cap Equity	Manager Specific	BM Weight	+/- 10%
Small to Mid-Cap Equity	Manager Specific	BM Weight	+/- 10%
Small Cap Equity	Manager Specific	BM Weight	+/- 10%
Micro Cap Equity	Manager Specific	BM Weight	+/- 5%
Style			
Growth	Manager Specific	Neutral to BM	+/- 10%
Value	Manager Specific	Neutral to BM	+/- 10%
Portfolio Risk/Return Characteristics			
Total Expected Excess Return	MSCI All Country World ex-US Index (\$net)	0.50%	
Total Expected Tracking Error	MSCI All Country World ex-US Index (\$net)	2.50%	0% - 4%

Factors such as currency, sector and country limits are manager specific and outlined in each manager's Investment Guidelines. Aggregate portfolio characteristics such as P/E, B/P, yield, size, etc., shall be within a reasonable range of the Non-US equity benchmark.

## IMPLEMENTATION GUIDELINES – Global Private Equity

### I. ROLE

SERS invests in private equity to provide returns in excess of those provided by publicly-traded equities to compensate for private equity's liquidity and concentration risk.

### II. ASSET ALLOCATION

The private equity target asset allocation is established with periodic asset allocation studies. The most recent asset allocation study authorized an 11% allocation target to private equity with a range of 8% - 16%.

### III. BENCHMARK

Private equity performance is benchmarked to the Burgiss All Private Equity benchmark.

### IV. PERFORMANCE OBJECTIVE

The performance objective for private equity is to provide net returns in excess of the SERS Global Equity portfolio over time periods five years and longer.

### V. PORTFOLIO DESIGN AND CONSTRUCTION

Capital allocation among the various market segments is a critical driver for the long-term success of the private equity portfolio. Capital allocation risk is controlled in a portfolio structure incorporating long-term sub assets target allocations.

Long-term sub-asset target exposure is detailed below:

	Target	Range	
		Minimum	Maximum
Buyout			
Small/Middle	60%	50%	70%
Large/Mega	15%	5%	25%
<b>Total Buyout</b>	<b>75%</b>	<b>55%</b>	<b>95%</b>
Venture Capital	0%	0%	10%
Special Situations	25%	5%	35%
<b>Total</b>	<b>100%</b>		
Domestic	75%	55%	85%
International	25%	15%	45%
<b>Total</b>	<b>100%</b>		
Primary Commitments	100%	80%	100%
Fund of Funds	0%	0%	15%
Co-Investments	0%	0%	10%
<b>Total</b>	<b>100%</b>		

The portfolio is tilted toward buyout investments and does not have a target allocation to venture capital due to higher risk and manager selection issues. Within buyouts, the preference is for small and middle market managers with a significant value creation approach and away from larger firms with a financial engineering approach.

## IMPLEMENTATION GUIDELINES – Global Private Equity

### VI. PERMISSIBLE INVESTMENTS

Investment Structure	
Limited partnership Interests	Y
Discretionary Managers investing in Private Equity Partnerships	Y
Co-Investments	Y
Separate Accounts	Y

Investment Type	
Buyouts	Y
Venture Capital	Y
Special Situations (secondary interests, distressed debt or equity, mezzanine, co-investments, energy, etc.)	Y

#### **Buyout**

##### Net Expected Return 10-15%. Moderate Risk

Capital is typically invested in more established companies, those further along the business life cycle having relatively predictable cash flows and the ability to raise capital along the entire capital structure, including secured and unsecured debt. Buyouts are targeted to represent 75% of the private equity portfolio.

#### **Venture Capital**

##### Net Expected Return: 15-25%. High Risk

Venture capital equity is targeted at companies in the earliest phases of a business life cycle. Companies may be classified as seed, early, middle and late stage and are characterized by their inability to access public equity and other forms of capital such as secured and unsecured debt. These companies have uncertain revenues and a need for cash to build their businesses and are subject to high failure rates. Venture capital is targeted to represent 0% of the portfolio.

#### **Special Situations**

##### Net Expected Return: 10-20%. Moderate Risk

Many private equity opportunities have characteristics of buyout or venture capital but have enough differences as to require separate classification. These investments include energy, distressed debt, mezzanine, opportunity and secondary funds. Special situations is targeted to represent 25% of the portfolio.

#### **Co-Investments**

##### Net Expected Return: 15-20%. Moderate Risk

Co-Investments are direct investment in a single asset of a multi-asset fund, made alongside the Fund's investment in the asset. Typically, co-investments are offered on more attractive economic terms and shorter time frames than those of the Fund. Co-Investments are targeted to represent up to 10% of the portfolio.

### VII. RISK MANAGEMENT

The primary risk management tool in private equity is industry diversification as well as extensive due diligence of prospective investments. Monitoring is managed through a combination of quantitative and qualitative constraints. The following sections identify the most significant risks with private equity investments and the method of control.

#### **Liquidity**

Private equity investments are illiquid and typically have expected holding periods of 10-12 years. Investments are typically held until maturity and selling prior to maturity typically results in a discount to fair market value. Liquidity risk is managed by minimizing the possibility of forced sales that may arise from exceeding maximum exposure limits or lowering asset allocation exposure limits.

## **IMPLEMENTATION GUIDELINES – Global Private Equity**

### **Geography**

Geographic risk is controlled through a long-term international target exposure of 25% by market value.

### **Vintage Risk**

Vintage reflects the year of first capital draw and vintage risk refers to the variability of private equity commitments over time. The investment-pacing model controls the short and long-term private equity commitment amounts and attempts to minimize vintage risk while achieving targeted exposure. Commitments will be dependent on the availability of investments that meet SERS' investment criteria and will not be driven by the target investment pace in any given year.

### **Manager Risk**

Manager risk consists of two elements, managing the exposure within a partnership and controlling the number of general partners in our private equity portfolio. Partnership exposure is controlled by limiting the commitment size within a partnership and the maximum commitment to a partnership will be 25% of a fund's size. The 25% limit does not apply to funds committed to a discretionary manager or a separate account. The maximum market value exposure to a single manager is targeted to be less than 20% of the portfolio. The optimum number of general partners in the portfolio varies with time.

### **Firm Risk**

Firm risk is the exposure to a private equity general partner and is controlled by limiting the maximum commitment to funds operated by a general partner and its affiliates.

### **Currency**

The private equity program accepts the currency risks consistent with the geographic constraints. Private equity partnerships generally do not hedge currency risk and the private equity program will not implement currency hedges.

### **Industry**

Typically, private equity partnerships are permitted to invest in a wide variety of industries. Industry risk is controlled primarily through appropriate diversification across classes and subclasses.

### **Leverage**

General partners invest capital from private equity partnerships throughout the capital structure of firms. The capital markets control the maximum leverage available to the general partners and limited partners control leverage exposure through partnership selection and portfolio construction.

## **IMPLEMENTATION GUIDELINES – Multi-Asset Strategies**

### **I. ROLE**

The role of the Multi-Asset Strategies portfolio (MAS) is to generate consistent returns with constrained volatility and beta to global equities, resulting in risk diversification and downside protection to the Total Fund.

### **II. ASSET ALLOCATION**

The MAS allocation is established with periodic asset allocation studies. The most recent asset allocation approved by the Board in February 2020 eliminated the MAS allocation effective July 1, 2020. However, Staff has requested an interim asset allocation to be approved by the Board setting an interim 4% MAS allocation for FY2021. This interim allocation is needed as private asset classes require implementation time.

### **III. BENCHMARK**

MAS performance is benchmarked to the HFRI Fund of Funds Composite Index plus 1.0% annually and will be calculated on a time-weighted basis.

### **IV. LIQUIDATION GUIDELINES AND PLAN**

The MAS allocation was eliminated at the February 2020 Board meeting with an effective date of July 1, 2020. Since most of the MAS allocation is being moved to private assets that take implementation time, Staff has asked the Board for an interim MAS allocation of 4% through FY2021. The portfolio will be composed of either highly liquid strategies that will be liquidated to fund the cash needs of other asset classes or funds with quarterly or longer redemption terms that will be redeemed throughout FY2021 as liquidity becomes available. The MAS allocation will be completely liquidated by June 30, 2021. The following guidelines no longer pertain to MAS:

- Volatility Objective
- Portfolio Design and Construction
- Investment Styles
- Permissible Investments
- Risk Management

Staff will liquidate the portfolio in an orderly manner, while continuing to monitor the funds for performance, team and firm changes. Liquidations will occur simultaneously with other asset class short-term cash needs so SERS can remain as fully invested as possible.

## IMPLEMENTATION GUIDELINES – Global Fixed Income

### I. ROLE

The primary role of diversified fixed income is to reduce the overall risk of the investment plan. Fixed income securities should provide stable income returns through yield oriented assets. Fixed income provides risk reduction through lower correlations to the investment program.

### II. ASSET ALLOCATION

The global fixed income allocation is established with periodic asset allocation studies. The most recent asset allocation study authorized a 19% market value exposure to global fixed income with a range of 12% - 26%.

### III. BENCHMARK

Global fixed income performance is benchmarked to the Bloomberg Barclays US Aggregate Bond Index for the asset class.

### IV. PERFORMANCE OBJECTIVE

The annualized return objective for the global fixed income portfolio is 50 basis points net of fees above the benchmark over rolling three year periods broken into the following strategies:

Strategy	Expected Excess Return	Tracking Error	Benchmark
Core	20 basis points	N/A	Bloomberg Barclays US Aggregate
Core Plus	60 basis points	N/A	Bloomberg Barclays US Aggregate
Tactical/Diversifying	200 basis points	N/A	Bloomberg Barclays US Aggregate
Total Portfolio	50 basis points	0 – 4%	Bloomberg Barclays US Aggregate

### V. PORTFOLIO DESIGN AND CONSTRUCTION

SERS seeks to obtain broad fixed income market exposure to gain diversification while receiving income. The portfolio is 100% externally managed in active strategies, in broad mandates of core, core plus, tactical and diversifying strategies. Core mandates invest primarily in benchmark type securities. Core sector weightings can deviate from the benchmark, depending on external manager's market views and strategies. Core plus mandates allow investments in all sectors of the Bloomberg Barclays US Aggregate Bond Index along with additional allocations to the extended sectors of high yield, Non-US debt and emerging market debt. The tactical and diversifying sector invests in return seeking or diversification enhancing strategies and can provide high excess returns. The sector invests in emerging market debt, high yield, long/short credit and fixed income relative value arbitrage strategies.

Below are the current sector exposure limits:

Strategy	Range	
	Minimum	Maximum
Core	30%	70%
Core Plus	25%	50%
Tactical & Diversifying	5%	20%



## IMPLEMENTATION GUIDELINES – Global Fixed Income

### VI. PERMISSIBLE INVESTMENTS

Security Type	Core	Core Plus	Tactical & Diversifying
<b><u>Governments:</u></b>			
US Treasuries and Agencies	Y	Y	Y
Sovereigns/Quasi-Sov. in US \$	Y	Y	Y
Sovereigns/Quasi-Sov. in local currency	N	Y	Y
<b><u>Corporates:</u></b>			
US Corporates	Y	Y	Y
Non-US Corporates in US \$	Y	Y	Y
Non-US Corporates in local currency	N	Y	Y
High Yield	N	Y	Y
Bank Loans	N	Y	Y
<b>Mortgages</b>	Y	Y	Y
<b>Municipals</b>	Y	Y	Y
<b><u>Other:</u></b>			
144 (A)s	Y	Y	Y
Commingled Funds	Y	Y	Y
Currency	N	Y	Y
Derivatives	N	Y	Y
Money Markets	Y	Y	Y
Repurchase Agreements	Y	Y	Y

### VII. RISK MANAGEMENT

For strategies held in separate accounts, the following risk factors are controlled through limits specified in each manager's Investment Manager Agreement (IMA) and Investment Guidelines. Duration, sector and credit risk are reviewed on a total portfolio basis quarterly by SERS:

#### **Interest Rate**

Controlled by duration band limits around the benchmark duration.

#### **Yield Curve Risk**

Controlled by duration band limits around the benchmark duration.

#### **Sector Risk**

Riskier sectors like high yield, non-US, non-agency mortgages and CMBS are controlled around set limits with each individual manager. Portfolios are allowed 25% maximum exposure to any one industry.

#### **Credit Risk**

Portfolios must maintain a minimum exposure to investment grade securities. In addition, each manager portfolio has an established average weighted credit quality that must be maintained at all times.

#### **Currency Risk**

Currency is not hedged from the overall portfolio level. Managers who demonstrate skill are allowed to purchase non-US securities on a hedged or unhedged basis or take direct currency positions without owning securities.

#### **Issuer Risk**

Issuer limits are specified in each IMA investment guidelines.

## IMPLEMENTATION GUIDELINES – Global Fixed Income

### **Liquidity Risk**

Accounts have a maximum 144(A) limit without registration rights.

### **Active Risk**

Normal tracking error is expected to be 2-4% over any rolling three-year time horizon. During periods of increased volatility, tracking error should not exceed 5% over any rolling three-year time horizon.

## IMPLEMENTATION GUIDELINES – Private Credit

### I. ROLE

The role of SERS' private credit portfolio is to provide risk adjusted returns in excess of those provided by publicly traded fixed income securities and to generate a consistent stream of income.

### II. ASSET ALLOCATION

SERS' Statement of Investment Policy sets the private credit target allocation at 5%, with a range of 3% to 7%. The target for Global Private Credit during the ramp-up period is set at 3% for fiscal year 2021 and will increase to the policy target allocation of 5% for fiscal year 2022.

### III. BENCHMARK

The private credit benchmark is 3-month LIBOR + 4.5%.

### IV. PERFORMANCE OBJECTIVE

The performance objective of the private credit portfolio is to provide net returns in excess of the SERS Global Fixed Income portfolio over time periods five years and longer, with the income component of the return comprising a significant portion of the total return.

### V. PORTFOLIO DESIGN AND CONSTRUCTION

The private credit portfolio is designed to gain exposure to various aspects of the private credit market with a focus on consistent income generation. It is expected that a greater portion of the private credit portfolio will be allocated to direct lending investments with higher expected yields.

Long-term sub asset target exposure is detailed below:

	Target	Range	
		Minimum	Maximum
Direct Lending	80%	60%	100%
Mezzanine	0%	0%	10%
Stressed/Distressed	10%	0%	15%
Structured Credit/Other	10%	0%	15%
<b>Total</b>	<b>100%</b>		
Domestic	50%	40%	85%
International	50%	15%	60%
<b>Total</b>	<b>100%</b>		
Primary Commitments	100%	80%	100%
Secondaries	0%	0%	10%
Co-Investments	0%	0%	10%
<b>Total</b>	<b>100%</b>		

The portfolio is tilted toward direct lending investments and does not have a target allocation to mezzanine due to the structure of investments typically containing a larger portion of equity and a less guaranteed income component than direct lending.

## IMPLEMENTATION GUIDELINES – Private Credit

### VI. PERMISSIBLE INVESTMENTS

Investment Structure	
Limited partnership Interests	Y
Co-Investments	Y
Separate Accounts	Y

Investment Type	
Direct Lending	Y
Mezzanine	Y
Stressed/Distressed	Y
Structured Credit and Other (specialty finance, etc.)	Y

#### **Direct Lending**

##### Net Expected Return 6-8%, Moderate Risk

Direct Lending represents loans made directly to small to medium size companies; secured by assets/cash flows/contracts, etc. depending on the type of loan. Direct Lending is targeted to represent 80% of the private credit portfolio.

#### **Mezzanine**

##### Net Expected Return: 8-12%, High Risk

Mezzanine debt is subordinated to senior loans and typically is structured as a floating rate loan with an equity component. Mezzanine is targeted to represent 0% of the private credit portfolio.

#### **Stressed/Distressed**

##### Net Expected Return: 12-25%, High Risk

Stressed/Distressed debt represents loans made to companies that are financially stressed and/or are likely to go through restructuring/bankruptcy. These investments typically have longer holding periods where the lender sometimes is seeking to take control of the company. Distressed is targeted to represent 10% of the private credit portfolio.

#### **Structured Credit & Other**

##### Net Expected Return: 5-20%, Moderate to High Risk

Structured credit includes investments in collateralized loan obligation tranches and other asset backed securities. Other private credit investments include specialty financing, non-performing loans, and other investment types that do not fit within the other categories. Structured Credit & Other is targeted to represent 10% of the private credit portfolio.

### VII. RISK MANAGEMENT

The primary risk management tool in private credit is extensive due diligence of prospective investments and diversification. The following sections identify the most significant risks with private credit investments and the method of control.

#### **Credit Risk**

Credit risk is the primary risk associated with the asset class. Thorough due diligence of investments will be completed to ensure the general partners have sufficient measures in place to monitor and assess the risks involved with underlying investments.

#### **Interest Rate Risk**

Interest rate risk is inherent within the private credit portfolio since investments are typically structured as floating rate credit instruments and interest rates will fluctuate over time. The risk is managed by the general partners through the structuring process to ensure appropriate interest rate floors and other measures are in place to manage an acceptable level of interest income.

## IMPLEMENTATION GUIDELINES – Private Credit

### **Liquidity Risk**

Private credit investments are illiquid but have short holding periods than other private security types, with 3 – 5 years being a typical holding period. Investments are typically held until maturity and selling prior to maturity typically results in a discount to fair market value. Liquidity risk is managed through portfolio design by limiting the amount of exposure to more illiquid areas of private credit, such as distressed debt.

### **Geography Risk**

International exposure refers to non-U.S. investments and is limited to 60% of the portfolio.

### **Vintage Risk**

Vintage reflects the year of first capital draw and vintage risk refers to the variability of private credit commitments over time. The investment-pacing model controls the short and long-term private credit commitment amounts and attempts to minimize vintage risk while achieving targeted exposure. Commitments will be dependent on the availability of investments that meet SERS' investment criteria and will not be driven by the target investment pace in any given year.

### **Manager Risk**

Manager risk consists of two elements, managing the exposure within a partnership and controlling the number of general partners in the private credit portfolio. Partnership exposure is controlled by limiting the commitment size within a partnership and the maximum commitment to a partnership will be 25% of a fund's size. The 25% limit does not apply to funds committed to a discretionary manager or a separate account. The maximum market value exposure to a single manager is targeted to be less than 35% of the portfolio. The optimum number of general partners in the portfolio varies with time.

### **Firm Risk**

Firm risk is the exposure to a private credit general partner and is controlled by limiting the maximum commitment to funds operated by a general partner and its affiliates.

### **Currency Risk**

The private credit program does not hedge currency risk and relies upon its external managers to determine if such hedges are appropriate. Currency risk will be managed through geographic exposure limits, as shown above under geographic risks.

### **Industry/Sector Risk**

Typically, private credit partnerships are permitted to invest in a wide variety of industries and sectors. Industry/Sector risk is controlled primarily through appropriate diversification across classes and subclasses.

### **Leverage Risk**

The capital markets control the maximum leverage available to the general partners and limited partners control leverage exposure through partnership selection and portfolio construction. Leverage at an individual fund level is managed through the portfolio construction process.

### **Valuation Risk**

The valuation frequency for private credit is dependent upon the external managers' internal and external valuation policies, which are reviewed during the operational due diligence process.

## IMPLEMENTATION GUIDELINES – Global Real Assets

### I. ROLE

The role of SERS' global real assets portfolio is to provide a stable income return from tangible assets, to be a partial inflation hedge over the long term and to provide low correlation to equities.

### II. ASSET ALLOCATION

SERS' Statement of Investment Policy sets the global real asset target allocation at 16%, with a permissible range of 14% to 20%.

### III. BENCHMARK

The global real assets benchmark is the NCREIF Property Index (NPI), one quarter in arrears.

### IV. PERFORMANCE OBJECTIVE

The performance objective for global real assets is to produce net of fee returns in excess of the benchmark over a market cycle, with the income component of the return comprising a significant portion of the total return.

### V. PORTFOLIO DESIGN AND CONSTRUCTION

The global real assets portfolio is designed to achieve the performance objective, to manage risks and to focus on the overall role of global real assets within the Total Fund. SERS' Global Real Assets Implementation Guidelines set the private market, public market and asset type exposures for global real assets, as shown in the table below.

Strategy	Target	Range	
		Minimum	Maximum
Private Core Real Estate	60%	40%	80%
Private Non-Core Real Estate	15%	5%	25%
Private Infrastructure	20%	10%	30%
Public Market Real Assets	5%	0%	10%

Core real estate investments include substantially leased or fully operational institutional quality properties or projects located in developed markets. The revenue streams from core real estate are generally long duration and comprise a majority of the asset's total return. Core real estate strategies are typically implemented through open-end commingled funds.

Non-core real estate investments include value-added and opportunistic strategies in which properties or projects are re-leased, re-developed, or newly constructed, particularly in developing or transitional markets. This strategy has a higher return expectation, but also comes with greater risk due to the uncertainty of cash flows. Non-core real estate strategies are typically implemented through closed-end commingled funds.

Private infrastructure typically involves the movement of goods, people, water and energy (definition provided by JPMorgan Asset Management). The sectors include but are not limited to transportation, communication, social and regulated assets. Infrastructure revenue streams are typically long-dated, contractual and inflation linked. Private infrastructure is implemented through both open and closed end commingled funds.

## IMPLEMENTATION GUIDELINES – Global Real Assets

Public market real assets are securities of companies whose primary source of revenue comes from the operation of tangible assets, including, but not limited to, real estate (REITs), listed infrastructure, natural resources and master limited partnerships. While more liquid in nature, public market real assets exhibit greater volatility than privately-held real assets. Master limited partnerships, or MLPs, are publicly-traded limited partnerships that derive most of the partnership’s cash flows from infrastructure and natural resource assets. The advantage of an MLP is that it combines the tax benefits of a limited partnership with the liquidity of a publicly-traded company.

### VI. PERMISSIBLE INVESTMENTS

The underlying investments included in the global real asset portfolio generally are tangible assets, have long term investment horizons or holding periods, produce attractive income returns and cash yields and provide a partial inflation hedge over the long term. Permissible investment structures and types are as follows.

Investment Structure and Type	
Limited Partnership Interests	Y
Co-Investments	Y
Separate Accounts	Y
Commingled Funds	Y
Joint Ventures	Y
Private Real Estate Equity and Debt	Y
Real Estate Investment Trusts (REITs)	Y
Private Infrastructure Equity and Debt	Y
Public Infrastructure Securities and MLPs	Y
Natural Resources and Commodities	Y

### VII. RISK MANAGEMENT

Qualitative constraints and quantitative measures are used to manage risk in the global real assets portfolio. The following sections identify the most significant risks with real asset investments and the method of control.

#### Real Estate Life Cycle Risk

Life cycle risk refers to the stage of an investment’s life and generally falls into two categories, operating and non-operating. Operating investments are those that are leased or functioning to a level in which the contractual cash payments are supporting operations. Non-operating investments are those in pre-development, construction, conversion, or in a stage of major releasing. A significant portion of the private market real asset portfolio will be in operating investments in order to achieve global real asset’s role.

	Operating	Non-Operating
Target Exposure	≥85%	≤15%
Current Exposure	94%	6%

#### Real Estate Property Type Risk

Property type risk refers to the level of exposure of the five property type categories in the private market real estate portfolio relative to the NCREIF Property Index. Property type risk will be managed through portfolio design and the use of diversified commingled funds. At least 80% of the private market real estate portfolio will be invested in the four primary property type categories including apartment, industrial, office and retail.

## IMPLEMENTATION GUIDELINES – Global Real Assets

(as of December 31, 2019)	NCREIF Property Index	Private Market Portfolio	Range
Apartment	26%	24%	15% - 40%
Industrial	18%	29%	15% - 40%
Office	35%	26%	20% - 40%
Retail	20%	13%	10% - 30%
<i>Subtotal</i>	99%	92%	80% - 100%
Hotel/Other	1%	8%	5% - 20%
<b>Total</b>	100%	100%	

### Real Estate Geographic Risk

Geographic risk can be broken down into two segments: US regional exposure and non-US exposure. US regional exposure refers to the level of exposure of the four US regions in the private market real estate portfolio relative to the NCREIF Property Index.

(as of December 31, 2019)	NCREIF Property Index	Private Market Portfolio	Range
West	40%	35%	20% - 50%
East	32%	36%	20% - 50%
Midwest	8%	8%	5% - 20%
South	20%	21%	10% - 30%
<b>Total</b>	100%	100%	

### Global Real Assets Geographic Risk

Non-US exposure refers to the level of exposure of non-US investments in the total global real assets portfolio. Non-US exposure will be limited to 20% of the private market portfolio.

### Liquidity Risk

Private market real asset investments are illiquid, with both holding periods and commingled fund terms ranging from 7-10 years or more. Liquidity risk will be managed through target allocations to private and public market real assets as well as through portfolio design.

### Leverage Risk

Private market real assets investments typically are acquired with a combination of equity capital and mortgage financing. The amount of leverage per asset or pool of assets depends on debt availability, property type and asset life cycle. The amount of leverage and financing terms ultimately are the responsibility of SERS' external real asset managers and are governed and constrained by partnership agreements. The leverage maximum for the total private market real assets portfolio is 50% of the gross asset value of the private market real assets portfolio. Leverage risk will be managed through target allocations and portfolio design.

### Currency Risk

The global real assets program does not hedge currency risk and relies upon its external managers to determine if such hedges are appropriate. Currency risk will be managed through geographic exposure limits, as shown above under geographic risks.

### Valuation Risk

The valuation frequency for private market real assets is dependent upon the external managers' internal and external valuation policies, which are reviewed during the operational due diligence process.

### Manager Concentration Risk

A single manager utilizing core strategies shall not constitute more than 25% of the net assets of the global real assets program. For non-core strategies, a single fund commitment shall not constitute more than 7% of the net assets of the global real assets program and a single manager with multiple fund commitments, including co-investments, shall not constitute more than 20% of the net assets of the global real assets program.



## IMPLEMENTATION GUIDELINES – Cash Equivalents

### I. ROLE

Short-term cash should provide liquidity for funding investment capital calls and operational expenses. Cash should be invested in conservative, low risk securities/funds to preserve capital for future expenditures and investments.

### II. ASSET ALLOCATION

The cash allocation is established with periodic asset allocation studies. The most recent asset allocation study authorized a 2% exposure to cash with a range of 0% - 5%.

### III. BENCHMARK

The short-term cash benchmark is the Citigroup 30-day Treasury Bill Index.

### IV. PERFORMANCE OBJECTIVE

The annualized return objective for the short-term portfolio is five basis points net of fees over the benchmark.

### V. PORTFOLIO DESIGN AND CONSTRUCTION

The cash portfolio is designed with preservation of capital in mind. The officer compares daily treasury, commercial paper and money market offerings for new purchases. The cash balance is kept as small as possible to allow for one to three months of expenditures. The average weighted maturity of the portfolio will not exceed 20 days.

Risk is constantly assessed before investment purchases are made in the portfolio. Only top tier commercial paper is purchased. Money market holdings are also reviewed on a regular basis along with choosing a top tier money market provider with a deep credit analyst team and whose short-term investments are important to the organization.

### VI. PERMISSIBLE INVESTMENTS

Security Type	
US Treasury Bills	Y
Commercial Paper rated A-1/P-1 or higher	Y
Money Market Funds rated at least A-1/P-1	Y
Unrated Market Funds comparable to a A-1/P-1 sister fund	Y

### VII. RISK MANAGEMENT

#### Liquidity Risk

The weighted average maturity shall not exceed 20 days. All money market funds must provide daily liquidity.

#### Credit Risk

A commercial paper issuer must be on the approved credit list or approved by the Chief Investment Officer before purchasing. Market and issuer news are reviewed daily by the Senior Investment Officer – Global Fixed Income. Money market funds must regularly send a holdings report to SERS, where it is reviewed on a regular basis.

#### Issuer Risk

Single issuer commercial paper investments are limited to \$20 million. Related entity commercial paper investments are limited to the lower of 30% of the short-term account or \$40 million. Overnight commercial paper issuer maturities are limited to \$50 million.

## IMPLEMENTATION GUIDELINES – Opportunistic and Tactical

### I. ROLE

The role of SERS' opportunistic portfolio is to earn a return above the Bloomberg Barclays US Aggregate Bond Index + 2% by investing in assets and strategies that do not fit within the existing asset classes. The investments are defined as tactical or non-traditional investment opportunities.

### II. ASSET ALLOCATION

SERS' Statement of Investment Policy sets the opportunistic target allocation at 0%, with a range of 0% to 5%.

### III. BENCHMARK

The opportunistic benchmark is the Bloomberg Barclays US Aggregate Bond Index + 2%.

### IV. PERFORMANCE OBJECTIVE

The performance objective of the opportunistic portfolio is to earn a net of fee return in excess of the Bloomberg Barclays US Aggregate Bond Index + 2% , with a meaningful component of the total return coming from current income.

### V. PORTFOLIO DESIGN AND CONSTRUCTION

The opportunistic portfolio may consist of a wide variety of investment types, structures and strategies targeting cash yield as well as price appreciation. Investment strategies include separate accounts, commingled funds, ETFs, co-investments and derivatives.

### VI. PERMISSIBLE INVESTMENTS

Permissible investments include, but are not limited to, common stock, preferred stock, debt securities, currencies, commodities, etc.

### VII. RISK MANAGEMENT

#### **Leverage**

Leverage will be prudent for the given strategy and consistent with the fund's offering memorandum.

#### **Liquidity**

Liquidity will be monitored regularly to ensure the portfolio can be traded or rebalanced within a reasonable timeframe. Liquidity risk will be managed through target allocations to private and public market assets as well as through portfolio design.

#### **Currency**

The opportunistic portfolio does not directly hedge foreign currency risk and relies upon its external managers to determine if such hedges are appropriate.

## **IMPLEMENTATION GUIDELINES – Overlay Program**

### **I. ROLE**

SERS invests in overlay strategies that trade derivatives of the Total Fund's underlying asset exposures and currency exchange rates to enhance Total Fund portfolio's efficiency. The overlay program includes i) tactical asset allocation rebalance, and ii) active currency strategies.

The tactical asset allocation strategy aims to add value to the Total Fund performance through long and short positions based on short-term relative attractiveness of assets.

The active currency strategies aim to add value to the Total Fund on a risk-adjusted basis by employing long and short positions in various currency pairs based on relative attractiveness of the currencies. The strategies are expected to have low correlation to the major asset classes such as US equity and fixed income.

### **II. ASSET ALLOCATION**

The target allocation of the tactical asset allocation and currency program is 0% since long and short positions net out.

The tactical asset allocation program's notional exposure limit is +/-7% of the Total Fund to each of the following assets: US fixed income, US equity and Non-US equity. Since the tactical asset allocation positions are employed for short periods, the notional exposures are not subject to the policy asset allocation ranges set forth in the Statement of Investment Policy; however, the active risk contribution by the overlay program as a whole is subjected to the overall guideline on active risk for the management of the Total Fund specified in the Risk Management Policy.

The notional value of the active currency program is capped at 50% of the Non-US equity portfolio's value.

### **III. BENCHMARK**

The benchmark for the tactical asset allocation and currency overlay program is 0% since net exposure is 0%.

### **IV. PERFORMANCE OBJECTIVE**

The overlay program is expected to add 5 to 10 bps of excess return to the Total Fund's performance on a three to five year horizon.

### **V. PORTFOLIO DESIGN AND CONSTRUCTION**

The mandates are unfunded. The overlay strategies buy (long) or sell (short) futures or forwards contracts to get exposures to desired markets in order to exploit shifts in relative valuation of assets and currencies.

The tactical Rebalancing strategy's net exposures, sum of long and short positions, are valued at zero on the initiating position time. Active currency strategies can go either net long or net short US dollar. Both tactical rebalancing and active currency aggregate portfolios are constructed to have no dependency on any single risk factor.

### **VI. PERMISSIBLE INVESTMENTS**

Tactical asset allocation: equity futures and fixed income futures.

Currency overlay: currency forwards, currency futures, gold forwards, gold futures, limited currency options.

## IMPLEMENTATION GUIDELINES – Overlay Program

### VII. RISK MANAGEMENT

#### Counter-party risk management:

- Futures and exchange traded options are traded at exchanges thus having default risk only to the clearinghouse while having no credit risk to trade counterparties.
- Forward contracts and over-the-counter options entail default risk of the counterparties. Counterparty risk of these contracts is managed through ISDA (International Swaps and Derivatives Association) and EMIR (European Market Infrastructure Regulation) umbrella agreements with managers.

#### Volatility management:

- The tactical asset allocation program's tracking error range is 5 to 15 bps.
- All active currency strategies have targeted tracking error equal to or less than 8%; the aggregate active currency program's tracking error is expected to be in the range of 5 to 8%.



**Sources**

## SOURCES

### **Economic Outlook:**

Blue Chip Economic Indicators, April 2020

International Monetary Fund World Economic Outlook, April 2020

### **Global Equities:**

BCA. "COVID-19: The US Is Now Clearly The Pandemic Epicenter." March 31, 2020.

BCA. "Global Investment Strategy: Some Thoughts on the Current Crisis." April 3, 2020

Bloomberg. <<http://www.bloomberg.com/>>.

FTSE Russell US Indices. <<https://www.ftserussell.com/products/indices/russell-us>>.

PIMCO. "Economic Outlook: From Hurting to Healing." April 8, 2020.

### **Global Fixed Income:**

Bloomberg. <<http://www.bloomberg.com/>>.

Federal Reserve. <<http://www.federalreserve.gov/>>.

Western Asset Management Company. "Federal Reserve Outlook for 2020" John L. Bellows, Western Asset Management Company. January 8, 2020.

### **Global Private Credit**

Pitchbook. <<http://www.pitchbook.com/>>.

Preqin. <<http://www.preqin.com/>>.

S&P Dow Jones Indices. <<https://us.spindices.com/>>.

### **Global Private Equity:**

Bain and Company. "Global Private Equity Report 2020." March 2020.

National Venture Capital Association. <<http://www.nvca.org/>>.

Pitchbook. <<http://www.pitchbook.com/>>.

Preqin. <<http://www.preqin.com/>>.

Preqin. "2020 Preqin Global Private Equity & Venture Capital Report."

### **Global Real Assets:**

CBRE Research. <<https://www.cbre.us/research-and-reports>>

NCREIF Benchmark. <<https://www.ncreif.org>>

PREA Consensus Survey March 31, 2020

### **Opportunistic and Tactical:**

Preqin. <<http://www.preqin.com/>>.

U.S. Energy Information Administration. <<https://www.eia.gov/>>.

### **Cash Equivalents:**

Western Asset Management Company. "Federal Reserve Outlook for 2020" John L. Bellows, Western Asset Management Company. January 8, 2020.

## **Glossary**

**Active Risk** - also known as Tracking Error, describes how a portfolio's performance is different from its benchmark; and is measured by the standard deviation of the differences in returns of the actual portfolio and the benchmark portfolio.

**Alpha** – the premium an investment portfolio earns above a certain benchmark (such as the Standard & Poor's 500 Index). A positive alpha indicates the investor earned a return in excess of the index return.

**Asset Allocation** – the practice of allocating a certain percentage of a portfolio between different types of investment assets, such as stocks, bonds, real estate, cash, etc. By diversifying among asset classes it is expected to create a favorable risk/reward ratio for the portfolio.

**Bloomberg Barclays US Aggregate Bond Index** – a market capitalization weighted US bond index published by Bloomberg LLC. Most US traded investment grade bonds are represented in the index. The Bloomberg Barclays US Aggregate Bond Index is SERS' global fixed income policy benchmark.

**Basis Point** – one hundredth of one percent. For example, an addition of 40 basis points to a yield of 7.50 percent would increase the yield to 7.90 percent. Basis points are normally used when quoting yields or returns, alpha, or fees paid to investment managers.

**Benchmark** – a measurement or standard that serves as a point of reference by which portfolio performance is measured. Benchmarks must meet standard criteria.

**Burgiss All Private Equity (BAPE)** – BAPE is comprised of data from more than 5,000 private equity funds contributed by limited partners that are Burgiss clients and use Burgiss' web-based institutional portfolio management platform Private i. The benchmark data is sourced from Burgiss' limited partner clients and includes complete transactional and valuation history between the limited partner and their fund investments. Burgiss publishes a detailed breakdown of the dataset every quarter allowing for increased transparency.

**Citigroup 30-day T-Bill Index** – an index that measures the rate of return for 30-day US Treasury Bills, which are considered representative of the performance of short-term money market instruments. The Citigroup 30-day T-Bill index is SERS' policy benchmark for Cash Equivalents.

**Co-investment** – a direct investment in a single asset of a multi-asset Fund, made alongside the Fund's investment in the asset; typically involves terms that are more attractive terms and shorter time frames than those of the Fund.

**Derivatives (Derivative Instruments)** – financial instruments (securities or contracts) whose values are derived from underlying financial assets, indices or other instruments. Derivative performance is based on the performance of assets, interest rates, currency exchange rates and various domestic and foreign indices underlying the instruments. The common forms of derivatives are forward, futures, swap and options contracts.

**Diversification** – the method of reducing risk by distributing investment assets among a variety of investment securities which have different risk/ reward ratios.

**Due Diligence** – an investigation or audit of a potential or existing investment.

**Equity Investment** – claims held by the residual owners of a firm. May also be referred to as common stock. Investments in Real Estate and certain Private Markets classifications may also be considered equity.

**Fixed Income Investment** – a security issued by a borrower that obligates the issuer to make specified payments to the holder over a specific period. May also be referred to as "debt" or "bonds."

**Fund** – fund means a limited partnership, trust or commingled investment vehicle in which SERS invests or may invest (e.g., hedge fund, private equity fund, or real estate fund).

**Global Equities** – reflects the consolidation of what had been treated by SERS as US Equity and Non-US Equity asset classes; includes equities of US and non-US origin, equities of various capitalizations (e.g., large cap, small cap, mid cap, etc.), equities from developed, emerging and frontier markets, growth and value



equities and passive and active strategies. Investments in Global Equities strategies are made in accordance with established investment guidelines, and amended as necessary, by mutual agreement between the Chief Investment Officer and the Investment Consultant.

**Guidelines** – refers to an Investment Manager’s “Investment Guidelines,” established between the Investment Manager and Staff as part in an investment management agreement. Guidelines may be general or specific.

**Hedge Fund** – a private investment partnership or an offshore investment corporation in which the general partner has made a substantial personal investment and whose offering memorandum allows for the Fund to take both long and short positions, using leverage and derivatives and invest in many markets. Hedge funds often use strategies involving program trading, selling short, swaps and arbitrage.

**HFRI Fund of Funds Composite Index** – published by Hedge Fund Research, Inc., the HFRI Fund of Funds Composite Index is an equally weighted index of funds of hedge funds, offshore and onshore. Funds in the index must have at least \$50 million under management or must have been trading actively for at least 12 months.

**Investment Committee** – a committee comprised of the Chief investment Officer and Investment Officers from SERS’ Investment Department who possess the Ohio State Retirement System Investment Officer (SRSIO) license, with clearly defined structure, rules and procedures for reviewing and approving investments in a timely and prudent fashion.

**Investment Consultant** – any consultant hired by the Board or by Staff to advise or assist with the Investment Program in accordance with the Statement of Investment Policy. Board investment consultants must be approved by the Board. Staff investment consultants shall be approved by the Executive Director.

**Investment Manager** – a manager or potential manager of SERS assets, both public market and private market. Includes, but is not limited to managers of equity, fixed income, private equity, real estate, hedge funds, commodities and cash.

**Investment Staff** – members of the investment department of SERS, including the Chief Investment Officer, Investment Officers and other department personnel.

**Leverage** – in investments, this is the control of a large amount of money by a smaller amount of money, such as buying on margin. In finance, this is the relationship of debt to equity on a company’s balance sheet in the form of the debt/equity ratio.

**LIBOR** – London Interbank Offered Rate, the interest rate that is commonly used as the benchmark reference rate for lenders. The 3-month LIBOR is the reference rate utilized by Staff.

**Long a futures contract or a forward contract** – buying exposure to the underlying assets of the contract without actually owing those assets. When the underlying assets deliver a positive return, the long position gains; when the underlying assets deliver a negative return, the reverse is true.

**Morgan Stanley Capital International – All Country World Free ex-USA Index (\$Net)** – an equity index representing 44 developed and emerging countries. “Free” indicates the index reflects actual investable opportunities for global investors by taking into account local market restrictions on share ownership by foreigners. “Net” indicates that dividends are reinvested after the deduction of withholding taxes applicable to non-resident institutional investors. The MSCI-ACWI ex-USA Index, net of dividends reinvested is SERS’ policy benchmark for Non-US Equities.

**Multi-Asset Strategies** – active investment strategies that aim to generate absolute returns with managed volatility, using all types of investable securities (equities, bonds, commodities, currencies, derivatives, etc.). These strategies typically apply non-traditional portfolio management techniques including, but not restricted to shorting securities, leverage, arbitrage and creating synthetic exposures using financial instruments. In addition, funds in this portfolio may tactically allocate across asset classes and/or geographical regions depending upon the relative attractiveness of the respective asset classes. Generally, multi-asset strategies have low to medium correlation with global equities and much lower volatility.

**NCREIF Property Index (NPI)** – a quarterly time series composite total rate of return measure of investment performance of a very large pool of individual commercial real estate properties acquired in the private market for investment purposes only. The NCREIF Property Index is a component of SERS' Global Real Estate Policy Benchmark.

**Opportunistic and Tactical Investments** – global opportunistic investments are tactical or non-traditional investment opportunities that may be short-term or may not fit within the generally accepted risk/return parameters of specific asset classes or strategy groupings. Such opportunities may involve capitalizing on short-term market dislocations or other such unique situations. Tactical investments may include strategies with dynamic allocations to single assets or across multiple asset types or other innovative approaches.

**Options contract** - a form of financial derivatives. In an options contract, two parties (buyer and seller) agree that the buyer, who pays an option premium to the seller, has the right to exercise an option whether or not to buy or sell a particular asset at a specified price at a specified future date.

**Portfolio** – a collection of investments owned, managed, or overseen by an individual or investment manager, a board or an organization. Portfolio can mean a manager account or subset thereof (e.g., Goldman Sachs Core Plus account), an asset class (e.g., US Equity), or the entire fund (e.g., SERS' Total Fund).

**Rebalancing** – adjusting asset class or portfolio allocations relative to their targets or ranges to adjust for actual or anticipated market movements.

**Russell 3000 Index** – a market-value weighted equity index published by the Frank Russell Company. The index measures the performance of the 3,000 largest US companies in terms of market capitalization. The Russell 3000 Index is SERS' Domestic Equity Policy Benchmark.

**Secondaries** – pre-existing investor capital commitments to private funds that are purchased in the secondary market.

**Short a futures contract or forward contract** – selling exposure to the underlying assets of the contract without transferring the ownership of those assets to the buyers. When the underlying assets deliver a positive return, the short position loses; when the underlying assets deliver a negative return, the reverse is true.

**Style** – style refers to an investment product, strategy or style offered by an Investment Management Firm and reflects how the assets are invested. For example, value versus growth; core versus value added; quantitative versus fundamental; etc.

**Total Fund** – refers to SERS' total investment assets.

**Tracking Error** – otherwise known as active risk (see Active Risk).

**SCHOOL EMPLOYEES RETIREMENT SYSTEM OF OHIO**

300 E. BROAD ST., SUITE 100, COLUMBUS, OHIO 43215-3746  
614-222-5853 • Toll-Free 800-878-5853 • [www.ohsers.org](http://www.ohsers.org)

***Serving the People Who Serve Our Schools***®



AMENDMENTS TO FY2021  
INVESTMENT PLAN - MOTION  
(tab)

**AMENDMENTS TO FY2021 ANNUAL INVESTMENT PLAN**

As discussed during the February 18, 2021 Board meeting, \_\_\_\_\_ moved and \_\_\_\_\_ seconded the motion to approve amendments to the FY2021 Annual Investment Plan, replacing the FY2021 Annual Investment Plan originally approved June 18, 2020. Effective February 18, 2021, changes include amendments to the Global Equities Portfolio Performance Objectives and Implementation Guidelines.

Upon roll call, the vote was as follows:

<b><u>ROLL CALL:</u></b>	<b><u>YEA</u></b>	<b><u>NAY</u></b>	<b><u>ABSTAIN</u></b>
Barbra Phillips	_____	_____	_____
Jeffrey DeLeone	_____	_____	_____
James Haller	_____	_____	_____
Matthew King	_____	_____	_____
Catherine Moss	_____	_____	_____
James Rossler	_____	_____	_____
Frank Weglarz	_____	_____	_____
Daniel Wilson	_____	_____	_____
Hugh Garside	_____	_____	_____

SUMMARY OF  
INVESTMENT  
TRANSACTIONS  
NOVEMBER 2020  
MOTION  
(tab)

**SUMMARY OF INVESTMENT TRANSACTIONS**

\_\_\_\_\_ moved and \_\_\_\_\_ seconded that the following summary of investment transactions made in compliance with the Ohio Revised Code Section 3309.15 during the period of **November 1, 2020** through **November 30, 2020** hereby be approved. A detailed list of these transactions can be found in the Board Agenda mailed prior to the February 2021 Retirement Board Meeting.

A. PURCHASES

Asset Class	Approximate Cost (in millions)
US Equities	\$ 16.2
Non-US Equities	193.9
Fixed Income	334.1
Multi-Asset Strategies	n/a
Private Equity Capital Calls	25.5
Real Asset Capital Calls	4.0
Opportunistic	n/a
Global Private Credit	5.4
Cash Equivalents	171.0

B. SALES

Asset Class	Approximate Net Proceeds (in millions)	Approximate Gain/(Loss) (in millions)
US Equities	\$22.6	\$ 1.3
Non-US Equities	142.3	30.7
Fixed Income	315.0	4.4
Multi-Asset Strategies	n/a	n/a
Private Equity distributions	14.4	n/a
Real Asset distributions	11.9	n/a
Opportunistic	n/a	n/a
Global Private Credit	n/a	n/a
Cash Equivalents	215.0	n/a

Upon roll call, the vote was as follows:

<b><u>ROLL CALL:</u></b>	<b><u>YEA</u></b>	<b><u>NAY</u></b>	<b><u>ABSTAIN</u></b>
Barbra Phillips	_____	_____	_____
Jeffrey DeLeone	_____	_____	_____
James Haller	_____	_____	_____
Matthew King	_____	_____	_____
Catherine Moss	_____	_____	_____
James Rossler	_____	_____	_____
Frank Weglarz	_____	_____	_____
Daniel Wilson	_____	_____	_____
Hugh Garside	_____	_____	_____

SUMMARY OF INVESTMENT  
TRANSACTIONS  
DECEMBER 2020  
MOTION  
(tab)



**SUMMARY OF INVESTMENT TRANSACTIONS**

\_\_\_\_\_ moved and \_\_\_\_\_ seconded that the following summary of investment transactions made in compliance with the Ohio Revised Code Section 3309.15 during the period of December 1, 2020 through December 31, 2020 hereby be approved. A detailed list of these transactions can be found in the Board Agenda mailed prior to the February 2021 Retirement Board Meeting.

A. PURCHASES

Asset Class	Approximate Cost (in millions)
US Equities	\$ 24.0
Non-US Equities	234.2
Fixed Income	293.5
Multi-Asset Strategies	2.8
Private Equity Capital Calls	54.8
Real Asset Capital Calls	97.0
Opportunistic	10.3
Global Private Credit	29.0
Cash Equivalents	332.9

B. SALES

Asset Class	Approximate Net Proceeds (in millions)	Approximate Gain/(Loss) (in millions)
US Equities	\$20.1	\$ 6.1
Non-US Equities	188.9	43.1
Fixed Income	282.7	3.9
Multi-Asset Strategies	48.8	(3.4)
Private Equity distributions	42.2	n/a
Real Asset distributions	4.7	n/a
Opportunistic	n/a	n/a
Global Private Credit	n/a	n/a
Cash Equivalents	408.8	n/a

Upon roll call, the vote was as follows:

<b><u>ROLL CALL:</u></b>	<b><u>YEA</u></b>	<b><u>NAY</u></b>	<b><u>ABSTAIN</u></b>
Barbra Phillips	_____	_____	_____
Jeffrey DeLeone	_____	_____	_____
James Haller	_____	_____	_____
Matthew King	_____	_____	_____
Catherine Moss	_____	_____	_____
James Rossler	_____	_____	_____
Frank Weglarz	_____	_____	_____
Daniel Wilson	_____	_____	_____
Hugh Garside	_____	_____	_____

# Executive Director's Report

**STATE LEGISLATION BOARD REPORT**  
**133<sup>rd</sup> General Assembly**  
**(Prepared by Chris Collins as of February 5, 2021)**

---

**HB46 STATE GOVT EXPENDITURE DATABASE** Dave Greenspan (R- Westlake) - To require the Treasurer of State to establish the Ohio State Government Expenditure Database

Current Status: 12/17/2020 PASSED BY SENATE; Vote 32-0

---

**HB514 BROADCAST RETIREMENT BOARD MEETINGS** Brigid Kelly (D - Cincinnati) Haraz Ghanbari (R – Perrysburg) - To require the state retirement systems to publicly broadcast board meetings.

Current Status: 12/01/2020 House Financial Institutions, (First Hearing)

---

**HB515 RETIREMENT SYSTEMS - FINANCIAL DISCLOSURES** Brigid Kelly (D - Cincinnati) Haraz Ghanbari (R – Perrysburg) - To require the boards of the state retirement systems to disclose certain financial information regarding alternative investments.

Current Status: 12/01/2020 House Financial Institutions, (First Hearing)

---

**HB516 FORMER STATE RETIREMENT PERSONNEL** Brigid Kelly (D - Cincinnati) Haraz Ghanbari (R – Perrysburg) Regarding the prohibition against the state retirement systems doing business with a former state retirement system employee, officer, or board member.

Current Status: 12/01/2020 House Financial Institutions, (First Hearing)

---

**HB308 POST-TRAUMATIC STRESS FUND** Tom Patton (R-Strongsville) To provide compensation and benefits to first responders with post-traumatic stress disorder and to study the financial and administrative requirements for that fund.

Current Status: 01/09/2021 SIGNED BY GOVERNOR; eff. 90 days

---

**HB442 OCCUPATIONAL REGULATIONS** Bill Roemer (R-Richfield) and Thomas West (D-Canton) Requires pupil services personnel to register with the Department of Education, rather than hold a separate license from the State Board of Education as under prior law. The change applies to school speech language pathologists, audiologists, school nurses, physical therapists, occupational therapists, and social workers, who are licensed by their respective professional boards.

Current Status: 01/07/2021 SIGNED BY GOVERNOR; eff. 90 days

---

**Legislation for the 134th Ohio General Assembly will be forthcoming.**

**FEDERAL LEGISLATION BOARD REPORT**  
**117<sup>th</sup> United States Congress**  
**(Prepared by Chris Collins as of February 5, 2021)**

---

**H.R. 82**

SPONSOR: Rep. Rodney Davis (R-IL)

LAST ACTIONS: House - 01/04/2021 Referred to the House Committee on Ways and Means.

CAPTION: Social Security Fairness Act of 2021

COMMENT: Repeals the GPO and WEP. 47 co-sponsors; four Ohioans

---

**H.R.328**

SPONSOR: Rep. Peter DeFazio (D-OR)

LAST ACTION: House - 01/15/2021 Referred to the House Committee on Ways and Means.

CAPTION: To amend the Internal Revenue Code of 1986 to impose a tax on certain trading transactions.

COMMENT: 13 co-sponsors; one Ohioan

---

BOARD USE OF TECHNOLOGY  
POLICY AMENDMENT - MOTION  
(tab)

# Memo

To: Retirement Board  
From: Joe Marotta, General Counsel and Joe Bell, Chief Risk Officer  
CC: Richard Stensrud  
Date: February 5, 2021  
Re: Proposed Amendments for Board Member Use of Technology Policy

---

At this month's Board meeting, we will present proposed amendments to the Board Member Use of Technology Policy for the Board's consideration. The proposed amendments are as follows:

- If a Board member suspects their device has been compromised or stolen, to report that information to SERS' IT Help Desk;
- Recommend that Board members not access SERS systems and confidential information via public Wi-Fi;
- Cleaned-up definition of "Computers" and added definition of "Public Wi-Fi."

Should you have any questions in advance of the meeting, please contact Joe M. at 614-340-2699 or Joe B. at 614-222-5892.

**BOARD MEMBER USE OF TECHNOLOGY POLICY AMENDMENTS**

\_\_\_\_\_ moved and \_\_\_\_\_ seconded to amend the Board Member Use of Technology Policy as presented on February 18, 2021.

Upon roll call, the vote was as follows:

<b><u>ROLL CALL:</u></b>	<b><u>YEA</u></b>	<b><u>NAY</u></b>	<b><u>ABSTAIN</u></b>
Barbra Phillips	_____	_____	_____
Jeffrey DeLeone	_____	_____	_____
James Haller	_____	_____	_____
Matthew King	_____	_____	_____
Catherine Moss	_____	_____	_____
James Rossler	_____	_____	_____
Frank Weglarz	_____	_____	_____
Daniel Wilson	_____	_____	_____
Hugh Garside	_____	_____	_____

EXTENSION OF AGREEMENT  
FOR VOCATIONAL  
CONSULTING SERVICES -  
MOTION  
(tab)



# Memo

**To:** Retirement Board

**From:** Holly Cox

**cc:** Richard Stensrud, Karen Roggenkamp, John Grumney

**Date:** February 5, 2021

**Re:** **Board Resolution – Addendum to Agreement for Consulting Services**

---

SERS entered into an Agreement for Consulting Services with Vocational Expert, Kimberly Wickert, on December 28, 2015. The Vocational Expert's role is to support SERS' disability program by advising on vocational issues, including if benefit recipients are candidates for vocational rehabilitation, and if they are capable of performing "any occupation" in consideration of their physical and mental limitations.

The duration of this agreement was 60 months. SERS staff would like to extend this agreement through June 30, 2021. In accordance with SERS' policy, we will be issuing a new Request for Proposal (RFP) for a Vocational Expert. The Board's approval to extend the agreement is being requested because the Vocational Expert is a Board-appointed position. Extending the current Agreement will allow Ms. Wickert to continue serving the Board in this role until a candidate is selected following the issuance of the new RFP.

**ADDENDUM TO AGREEMENT FOR CONSULTING SERVICES**

It was moved by \_\_\_\_\_ and seconded by \_\_\_\_\_ to extend the duration of the agreement for Consulting Services with Vocational Expert Kimberly Wickert to June 30, 2021.

Upon roll call, the vote was as follows:

<b><u>ROLL CALL:</u></b>	<b><u>YEA</u></b>	<b><u>NAY</u></b>	<b><u>ABSTAIN</u></b>
Barbra Phillips	_____	_____	_____
Jeffrey DeLeone	_____	_____	_____
James Haller	_____	_____	_____
Matthew King	_____	_____	_____
Catherine Moss	_____	_____	_____
James Rossler	_____	_____	_____
Frank Weglarz	_____	_____	_____
Daniel Wilson	_____	_____	_____
Hugh Garside	_____	_____	_____

# MEMBER APPEAL

DOUGLAS MANGEN APPEAL -  
MOTIONS  
(tab)

**DOUGLAS MANGEN APPEAL - AFFIRM FINAL STAFF DETERMINATION**

\_\_\_\_\_ moved and \_\_\_\_\_ seconded to affirm the Final Staff Determination to not accept contributions on the increased earnings reported to SERS for the period beginning March 16, 2020 through the present.

Upon roll call, the vote was as follows:

<b><u>ROLL CALL:</u></b>	<b><u>YEA</u></b>	<b><u>NAY</u></b>	<b><u>ABSTAIN</u></b>
Barbra Phillips	_____	_____	_____
Jeffrey DeLeone	_____	_____	_____
James Haller	_____	_____	_____
Matthew King	_____	_____	_____
Catherine Moss	_____	_____	_____
James Rossler	_____	_____	_____
Frank Weglarz	_____	_____	_____
Daniel Wilson	_____	_____	_____
Hugh Garside	_____	_____	_____

**DOUGLAS MANGEN APPEAL - REVERSE FINAL STAFF DETERMINATION**

\_\_\_\_\_ moved and \_\_\_\_\_ seconded to reverse the Final Staff Determination to not accept contributions on the increased earnings reported to SERS for the period beginning March 16, 2020 through the present.

Upon roll call, the vote was as follows:

<b><u>ROLL CALL:</u></b>	<b><u>YEA</u></b>	<b><u>NAY</u></b>	<b><u>ABSTAIN</u></b>
Barbra Phillips	_____	_____	_____
Jeffrey DeLeone	_____	_____	_____
James Haller	_____	_____	_____
Matthew King	_____	_____	_____
Catherine Moss	_____	_____	_____
James Rossler	_____	_____	_____
Frank Weglarz	_____	_____	_____
Daniel Wilson	_____	_____	_____
Hugh Garside	_____	_____	_____

APPROVAL TO NEGOTIATE  
DENTAL SERVICES CONTRACT -  
MOTION  
(tab)

# Memo

**To:** SERS Board  
**From:** Christi Pepe, Health Care Director  
**CC:** Richard Stensrud, Executive Director, Karen Roggenkamp, Deputy Executive Director, Joe Marotta, SERS General Counsel  
**Date:** February 18, 2021  
**Re:** Contract for Dental Services

---

This memo outlines staff's recommendation that SERS enter into a new contract with Delta Dental to provide dental benefits and administration to eligible SERS benefit recipients.

SERS has offered a dental benefit since 2000. The current contract with Delta Dental began January 1, 2018 and terminates December 31, 2021. For the period 2017 to current, SERS dental plan enrollment increased by 21%, from 32,300 to over 40,800. Enrollee satisfaction with the benefit and with Delta Dental has been high. Delta Dental held rate increases over the current contract period to 2.5%, and offered a premium reduction due to low dental utilization during the 2020 COVID-19 pandemic.

SERS staff published a Request for Proposals (RFP) in November 2020 to invite proposals for the provision of dental benefits to SERS enrollees. The RFP intended to assess and contract for the highest available enrollee benefit and service value. Five responses were received and compared. Delta Dental offered lower-than-current pricing for maintenance of the current benefit package. All submitters proposed the current benefits package, varying on cost, network access and customer service results. Delta demonstrated the highest value among submitters when considering service, cost, benefits and provider access combined. The closest alternative proposal considered was slightly lower in price, but lower in service and specialty provider access. Staff fully considered this alternative because of the price opportunity, but calculated a high disruption rate- nearly 40% of current dental plan enrollees would be required to change dental providers if this vendor was selected.

Based on review of all proposals received, staff believes that a contract with Delta Dental will continue to support the needs and will provide the best value for SERS benefit recipients.

A resolution to authorize staff to negotiate a contract with Delta Dental is included in the Board packet.



**APPROVAL TO NEGOTIATE DENTAL SERVICES CONTRACT**

\_\_\_\_\_ moved and \_\_\_\_\_ seconded approval to authorize staff to negotiate a new contract with Delta Dental in order to provide dental services benefits and administration to eligible SERS participants. The contract shall be for a term of three years beginning January 1, 2022 with two optional one-year extensions. The Executive Director or Deputy Executive Director shall have the authority to execute any documents necessary to secure these services, subject to documentation satisfactory to legal counsel.

Upon roll call, the vote was as follows:

<b><u>ROLL CALL:</u></b>	<b><u>YEA</u></b>	<b><u>NAY</u></b>	<b><u>ABSTAIN</u></b>
Barbra Phillips	_____	_____	_____
Jeffrey DeLeone	_____	_____	_____
James Haller	_____	_____	_____
Matthew King	_____	_____	_____
Catherine Moss	_____	_____	_____
James Rossler	_____	_____	_____
Frank Weglarz	_____	_____	_____
Daniel Wilson	_____	_____	_____
Hugh Garside	_____	_____	_____

APPROVAL TO NEGOTIATE  
VISION SERVICES CONTRACT -  
MOTION  
(tab)

# Memo

**To:** SERS Board  
**From:** Christi Pepe, Health Care Director  
**CC:** Richard Stensrud, Executive Director, Karen Roggenkamp, Deputy Executive Director, Joe Marotta, SERS General Counsel  
**Date:** February 18, 2021  
**Re:** Contract for Vision Services

---

This memo outlines staff's recommendation that SERS enter into a new contract with Vision Services Plan (VSP) to provide vision benefits and administration to eligible SERS benefit recipients.

SERS has offered a vision benefit with VSP since 2014. The current contract with VSP began January 1, 2018 and terminates December 31, 2021. For the period 2018 to 2020, SERS vision plan enrollment increased by 21%, from 24,000 to over 30,000. Enrollee satisfaction with the benefit and with VSP has been high and enrollment has increased each year.

SERS staff published a Request for Proposals (RFP) in November 2020 to invite proposals for the provision of vision benefits to SERS enrollees. The RFP intended to assess and contract for the highest available enrollee benefit and service value. Four responses were received and compared. VSP offered lower-than-current pricing and proposed an increase to the frame allowance benefit amount. VSP demonstrated the highest value among all submissions in service, benefits and cost.

Based on review of all proposals received, staff believes that a contract with VSP will continue to support the needs and will provide value for SERS benefit recipients.

A resolution to authorize staff to negotiate a contract with VSP is included in the Board packet.

**APPROVAL TO NEGOTIATE VISION SERVICES CONTRACT**

\_\_\_\_\_ moved and \_\_\_\_\_ seconded approval to authorize staff to negotiate a new contract with Vision Services Plan (VSP) in order to provide vision services benefits and administration to eligible SERS participants. The contract shall be for a term of three years beginning January 1, 2022 with two optional one-year extensions. The Executive Director or Deputy Executive Director shall have the authority to execute any documents necessary to secure these services, subject to documentation satisfactory to legal counsel.

Upon roll call, the vote was as follows:

<b><u>ROLL CALL:</u></b>	<b><u>YEA</u></b>	<b><u>NAY</u></b>	<b><u>ABSTAIN</u></b>
Barbra Phillips	_____	_____	_____
Jeffrey DeLeone	_____	_____	_____
James Haller	_____	_____	_____
Matthew King	_____	_____	_____
Catherine Moss	_____	_____	_____
James Rossler	_____	_____	_____
Frank Weglarz	_____	_____	_____
Daniel Wilson	_____	_____	_____
Hugh Garside	_____	_____	_____

APPROVAL TO NEGOTIATE  
WRAPAROUND HRA ADMINISTRATION  
CONTRACT -  
MOTION  
(tab)

# Memo

**To:** SERS Board  
**From:** Christi Pepe, Health Care Director  
**CC:** Richard Stensrud, Executive Director, Karen Roggenkamp, Deputy Executive Director, Joe Marotta, SERS General Counsel  
**Date:** February 18, 2021  
**Re:** Contract for Wraparound HRA and Medicaid eligibility administration

---

This memo outlines staff's recommendation that SERS enter into a new contract with HealthScope Benefits to provide services to SERS retirees.

The current contract with HealthScope Benefits began January 1, 2017 and terminates December 31, 2021. SERS staff published a Request for Information (RFI) in October 2020 to evaluate whether any other vendor provides the unique set of services SERS requires. Administration of the Marketplace Wraparound HRA plan requires traditional third party administration (TPA) of HRA benefits and claims, but also requires federal marketplace certified application counselors to evaluate and implement enrollment in federal Marketplace plans and Medicaid.

The RFI process provided an opportunity for SERS to identify other qualified applicants. HealthScope Benefits responded to the RFI documenting their current services to SERS enrollees. A second respondent also replied, documenting TPA capabilities, but did not document provision of Marketplace certified application counseling which is critical to administration of the SERS benefit. SERS legal and executive departments reviewed the RFI process results and concluded that HealthScope Benefits qualifies as a single source vendor.

Staff believes that a contract with HealthScope Benefits will support SERS benefit recipients who are required to confirm Medicaid eligibility and who elect to pursue enrollment in the SERS Marketplace Wraparound HRA .

A resolution to authorize staff to negotiate a contract with HealthScope Benefits is included in the Board packet.

**APPROVAL TO NEGOTIATE WRAPAROUND HRA AND MEDICAID ELIGIBILITY CONTRACT**

\_\_\_\_\_ moved and \_\_\_\_\_ seconded approval to authorize staff to negotiate a new contract with HealthScope Benefits in order to provide SERS Wraparound HRA and Medicaid eligibility administration to SERS non-Medicare eligible health care plan participants. The contract extension shall be for a term of three years, with two optional one-year extensions beginning January 1, 2022. The Executive Director or Deputy Executive Director shall have the authority to execute any documents necessary to secure these services, subject to documentation satisfactory to legal counsel.

Upon roll call, the vote was as follows:

<b><u>ROLL CALL:</u></b>	<b><u>YEA</u></b>	<b><u>NAY</u></b>	<b><u>ABSTAIN</u></b>
Barbra Phillips	_____	_____	_____
Jeffrey DeLeone	_____	_____	_____
James Haller	_____	_____	_____
Matthew King	_____	_____	_____
Catherine Moss	_____	_____	_____
James Rossler	_____	_____	_____
Frank Weglarz	_____	_____	_____
Daniel Wilson	_____	_____	_____
Hugh Garside	_____	_____	_____

CALENDAR DATES FOR  
FUTURE MEETINGS  
(tab)



**CALENDAR DATES FOR FUTURE BOARD MEETINGS**

**CALENDAR DATES FOR 2021**

**AUDIT COMMITTEE MEETINGS**

March 17 - 2:30 p.m. (Weds.)

**COMPENSATION COMMITTEE MEETINGS**

March 18 - 7:30 a.m. (Thurs.)

**BOARD MEETINGS**

March 18 and 19 (Thurs. and Fri.)

---

**CALENDAR DATES FOR 2021**

**AUDIT COMMITTEE MEETINGS**

March 17 - 2:30 p.m. (Weds.)  
June 16 - 2:30 p.m. (Weds.)  
September 15 - 2:30 p.m. (Weds.)  
December 15 - 2:30 p.m. (Weds.)

**COMPENSATION COMMITTEE MEETINGS**

March 18 - 7:30 a.m. (Thurs.)  
June 17 - 7:30 a.m. (Thurs.)  
September 16 - 7:30 a.m. (Thurs.)  
December 16 - 7:30 a.m. (Thurs.)

**BOARD MEETINGS**

March 18 and 19 (Thurs. and Fri.)  
April 15 and 16 (Thurs. and Fri.)  
May 20 and 21 (Thurs. and Fri.)  
June 17 and 18 (Thurs. and Fri.)  
July 15 and 16 (Thurs. and Fri.)  
September 16 and 17 (Thurs. and Fri.)  
October 21 and 22 (Thurs. and Fri.)  
November 18 and 19 (Thurs. and Fri.)  
December 16 and 17 (Thurs. and Fri.)

**\*\*NOTE: The above dates are *tentative*.**

CONTINUED OR NEW BUSINESS  
(tab)

**CONTINUED OR NEW BUSINESS**

**Board Information Requested**

**BOARD INFORMATION REQUESTS AND FOLLOW-UP ITEMS**

1. 

---

---
2. 

---

---
3. 

---

---
4. 

---

---
5. 

---

---
6. 

---

---
7. 

---

---
8. 

---

---
9. 

---

---
10. 

---

---

ADJOURNMENT  
(tab)

**ADJOURNMENT(R)**

\_\_\_\_\_ moved that the Board adjourn to meet on Thursday, March 18, 2021 for their regularly scheduled meeting.

The meeting adjourned at \_\_\_\_\_ p.m.

\_\_\_\_\_  
Hugh Garside, Jr.

\_\_\_\_\_  
Richard Stensrud, Secretary