

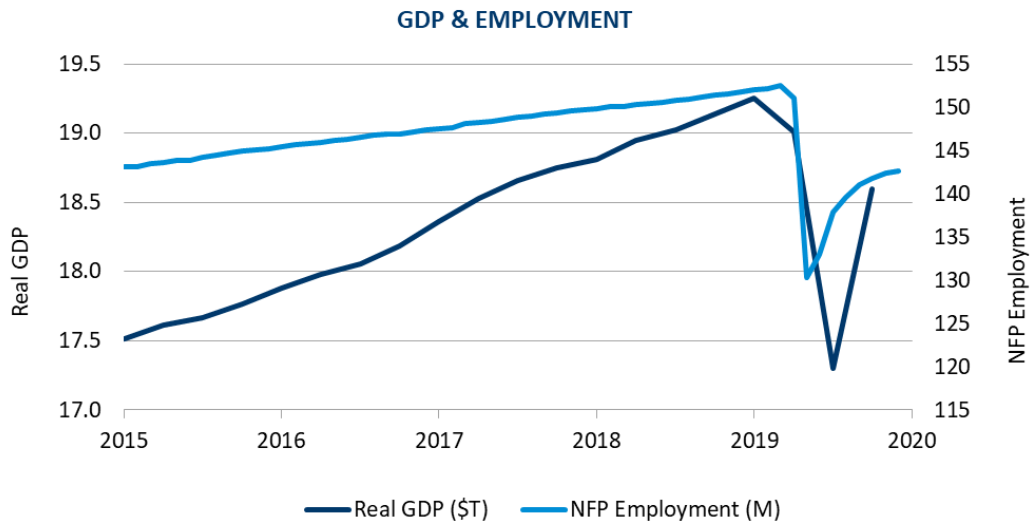
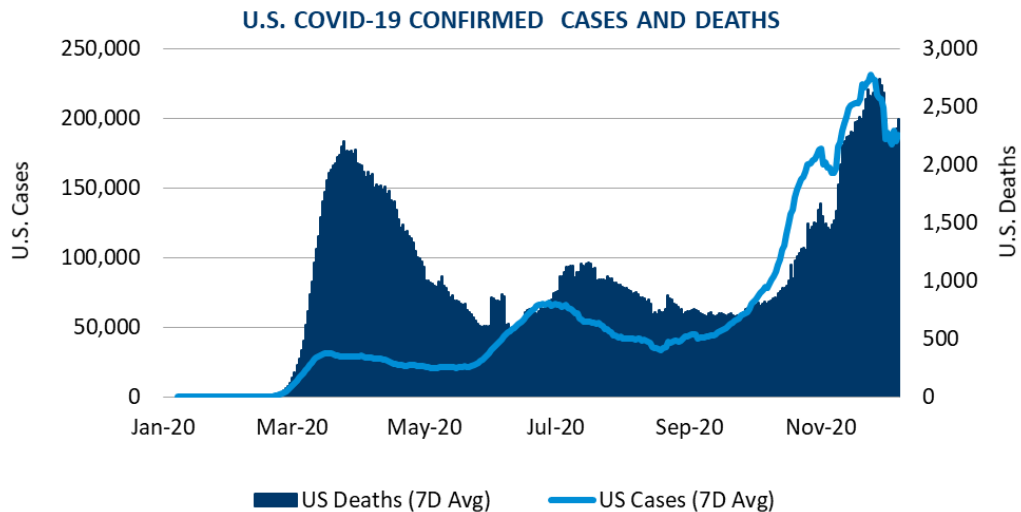
# California Public Employees' Retirement System

Performance Review

Fourth Quarter 2020

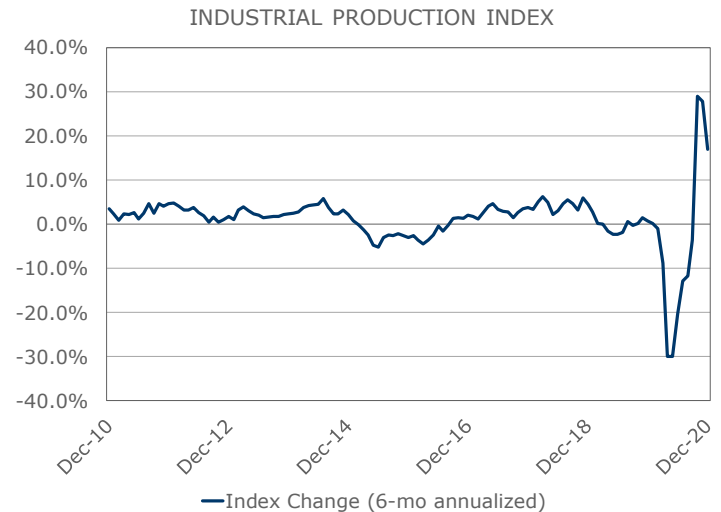
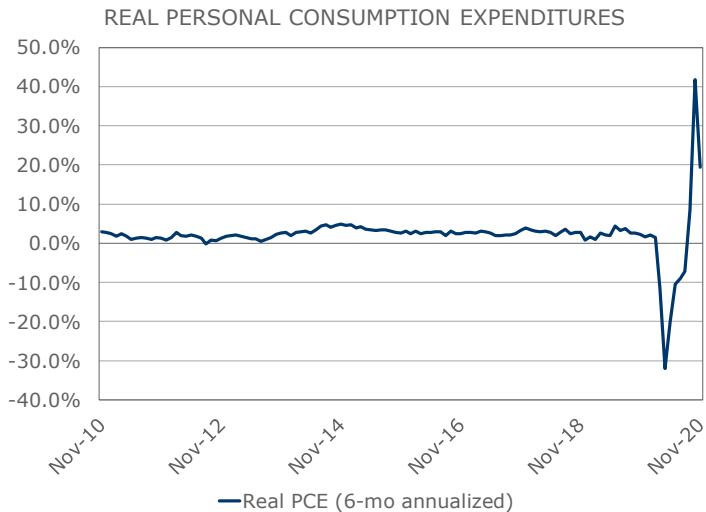
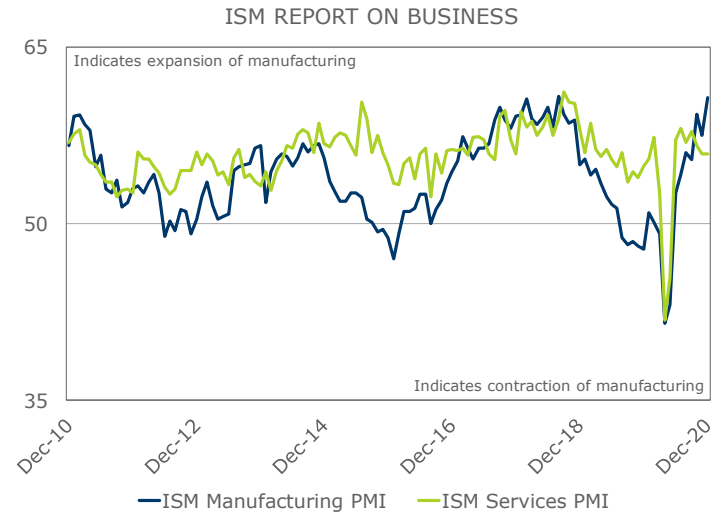
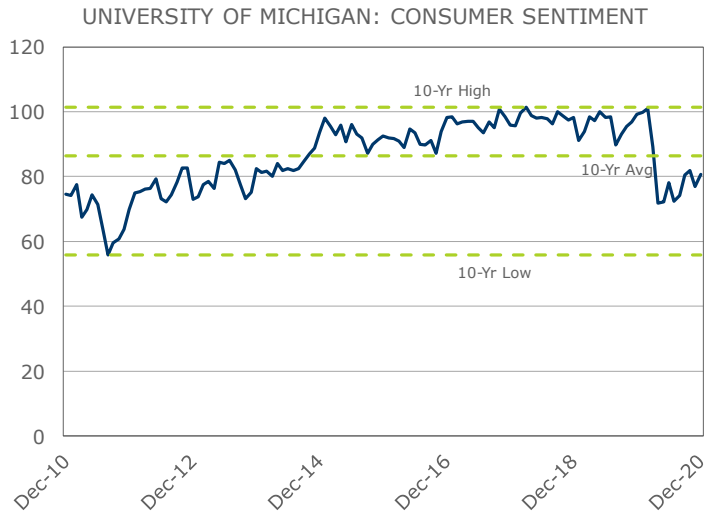
Wilshire

# 2020 “Turn the Page”



Data Source: Bloomberg

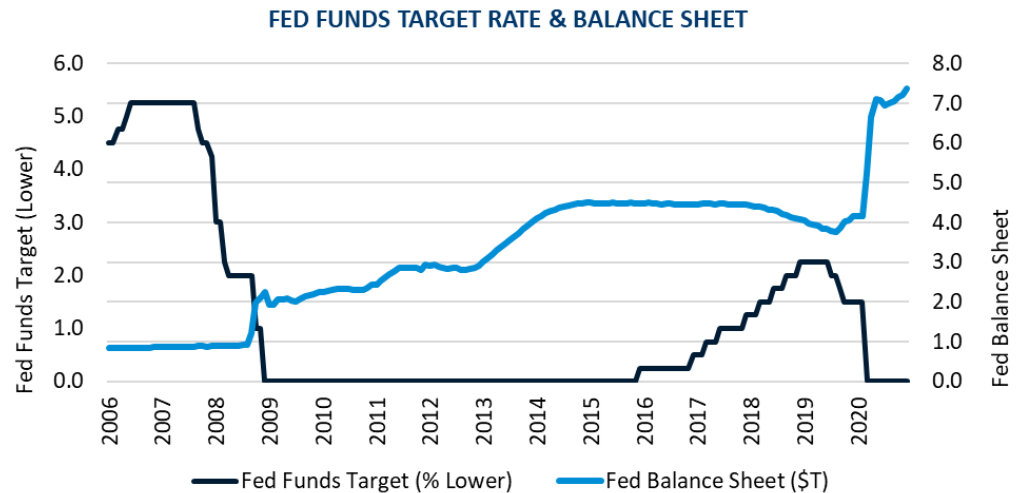
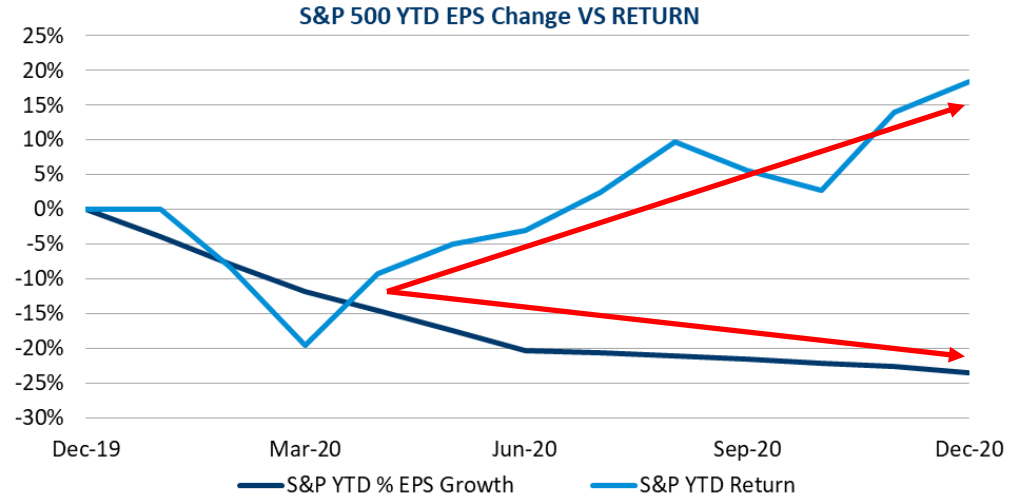
# Consumer and Business Activity



Data Sources: Bloomberg

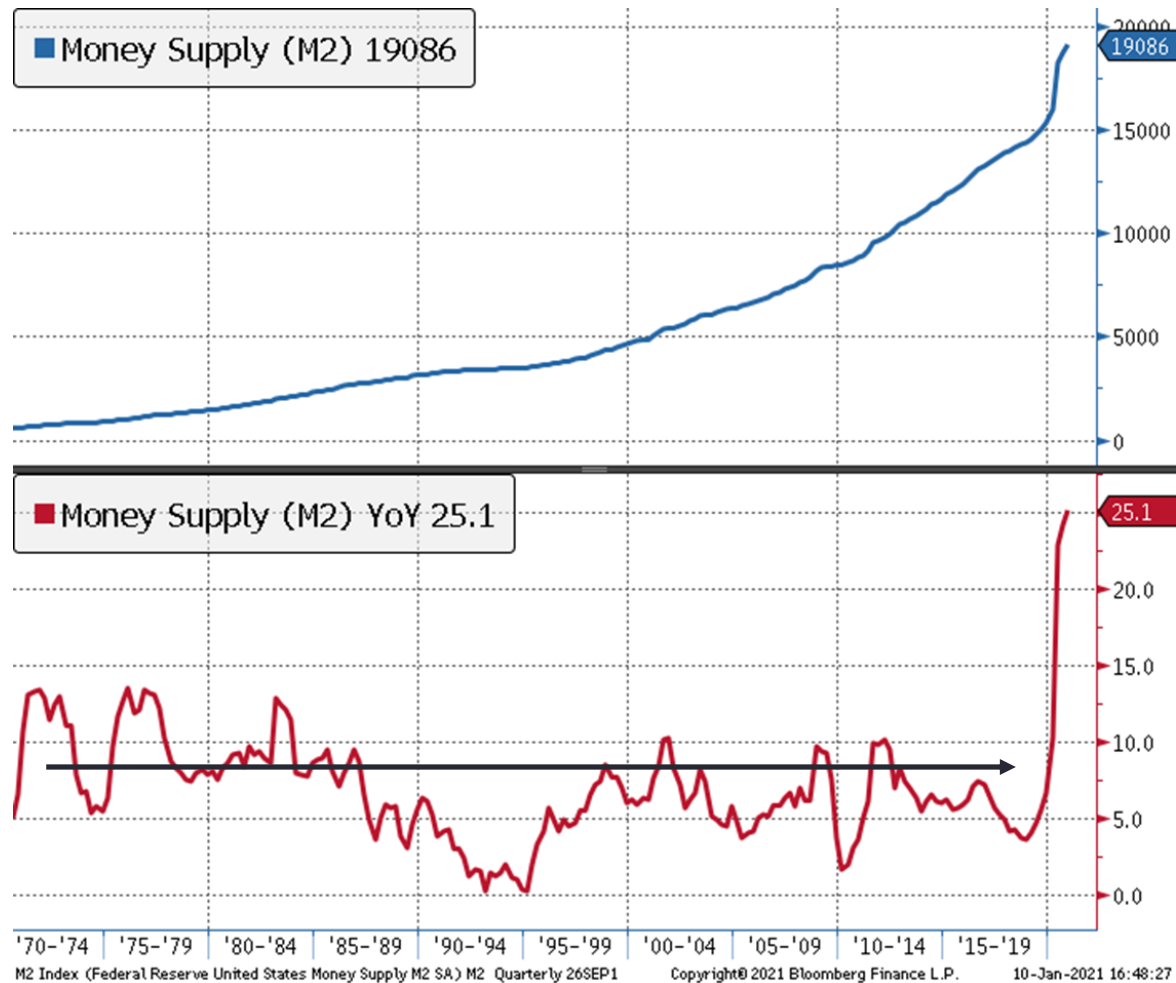
# 2020 Economic & Market Divergence

- 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
- Current expectation for the Fed-funds rate is to remain near zero through 2023



Data Source: Bloomberg

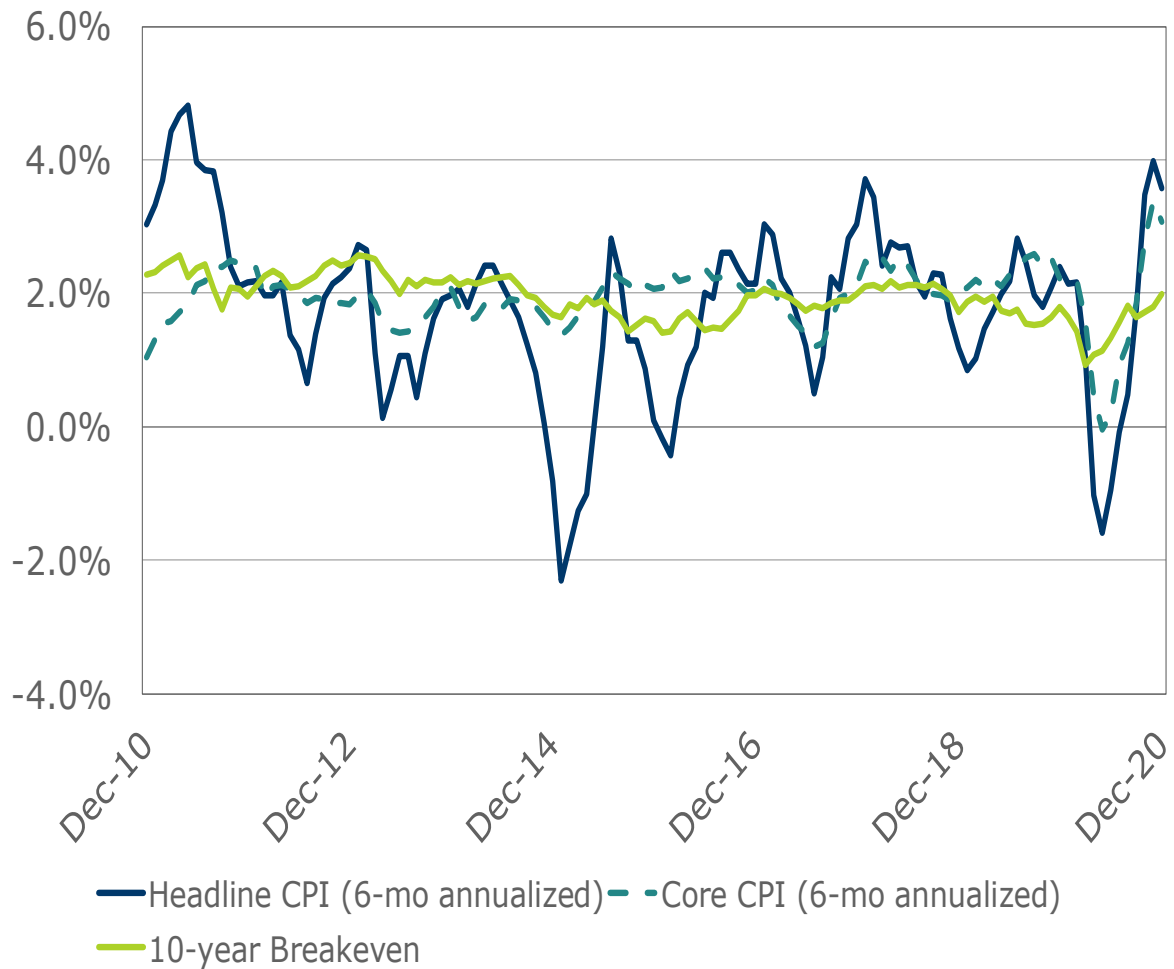
# Money Supply (M2) Growth



Data Source: Bloomberg

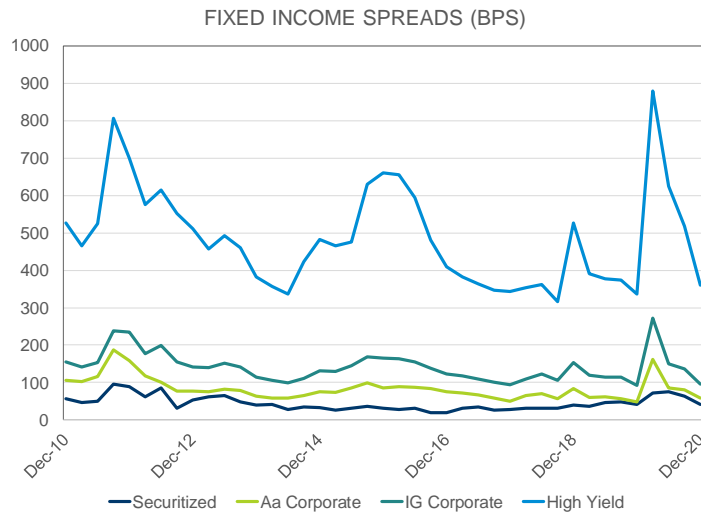
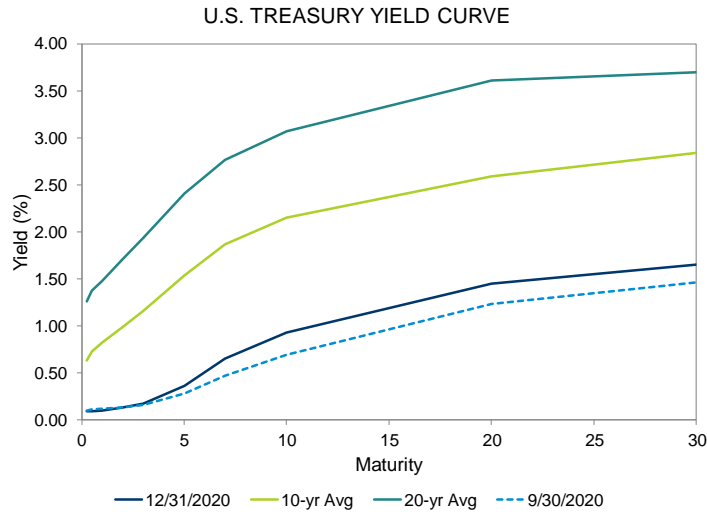
# Inflation

INFLATION: ACTUAL & EXPECTED



Data Sources: Bloomberg

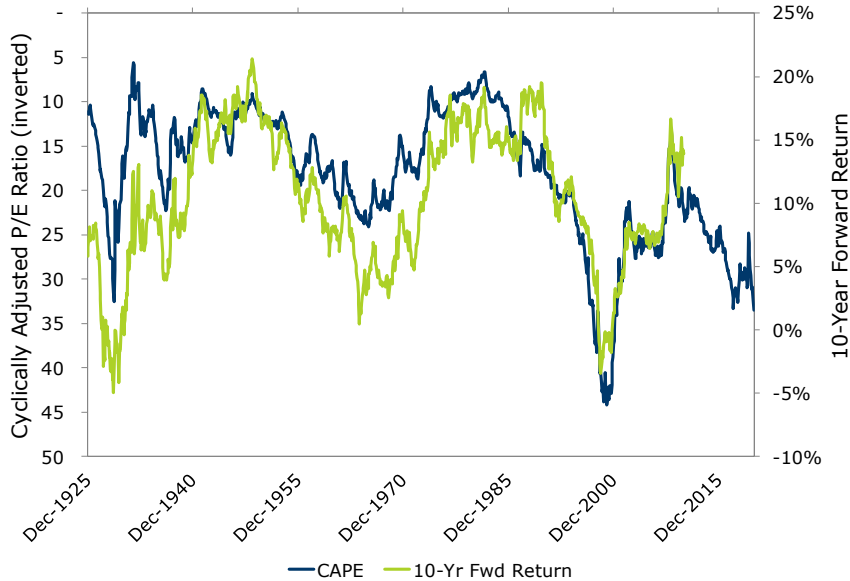
# Fixed Income



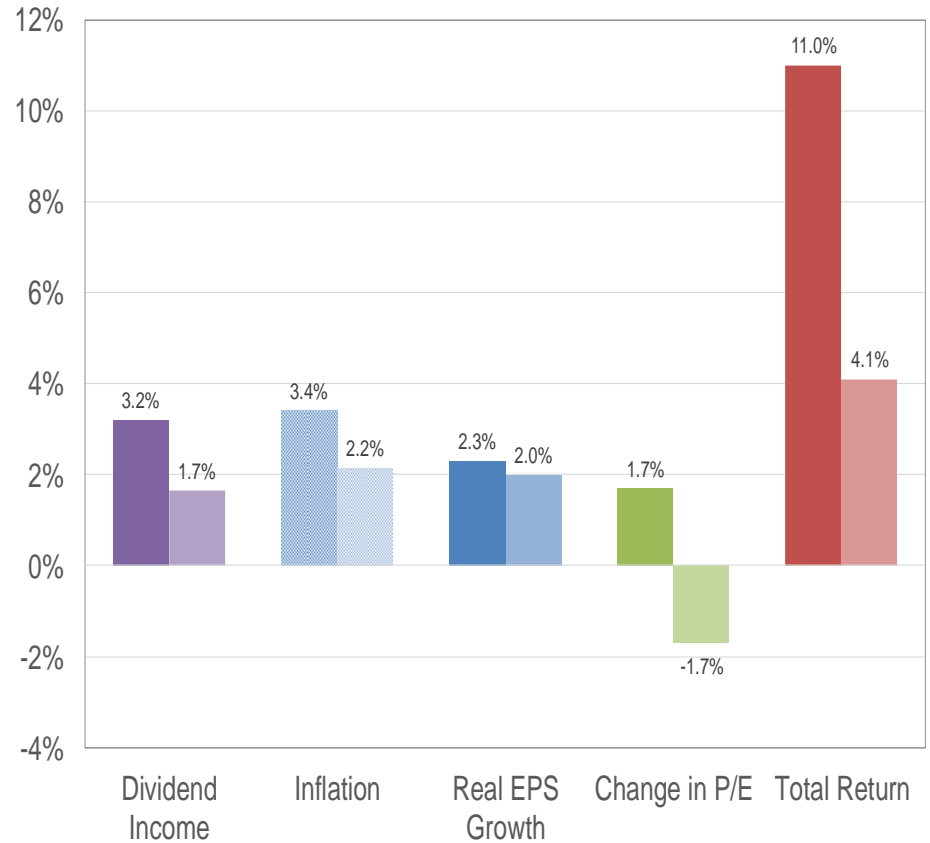
INFLATION & FIXED INCOME		SEP 2020	CHANGE	DEC 2020
<b>INFLATION</b>	10-Year Treasury	0.69	0.24	0.93
	10-Year Real	<u>-0.94</u>	-0.12	<u>-1.06</u>
	Breakeven	1.63	0.36	1.99
	Wilshire ACA	1.80	0.35	2.15
<b>CASH</b>	91-Day T-Bill	0.10	-0.01	0.09
	Yield Forecast in Year 10	1.35	0.30	1.65
	Wilshire ACA	0.55	0.15	0.70
<b>CORE</b>	U.S. Treasury Index	0.48	0.09	0.57
	Yield Forecast in Year 10	1.85	0.20	2.05
	Wilshire ACA	0.20	0.30	0.50
<b>SPREAD</b>	U.S. Corporate Spread	1.35	-0.40	0.95
	Spread Forecast in Year 10	1.64	-0.02	1.62
	Wilshire ACA	1.50	0.00	1.50
	Core Bonds ACA	1.05	0.25	1.30
	High Yield Spread	5.47	-1.60	3.87
	Spread Forecast in Year 10	5.89	-0.05	5.84
	Wilshire ACA	3.45	-0.35	3.10
	<b>DURATION</b>	Long-Term Treasury	1.32	0.19
Yield Forecast in Year 10		2.05	0.12	2.17
Wilshire ACA		0.55	0.35	0.90
Long G/C ACA		1.75	0.00	1.75

# Equity Markets

U.S. EQUITY: ADJUSTED P/E RATIO VS FORWARD RETURN



IGV Components: History (since 1951) vs. Forecast

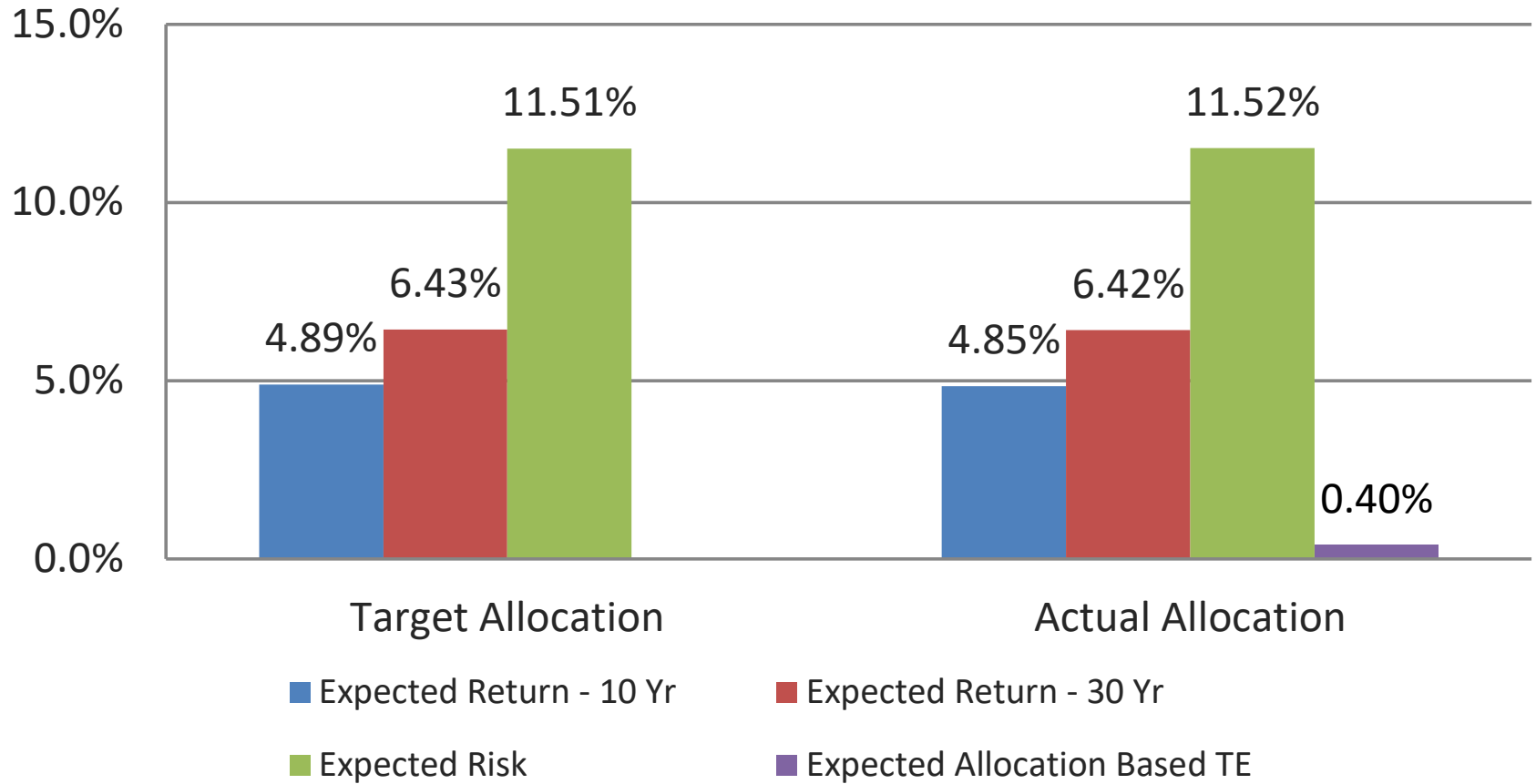


EQUITY: PUBLIC & PRIVATE		SEP 2020	CHANGE	DEC 2020
US EQUITY	DDM	6.00	0.50	6.50
	IGV	5.20	-1.10	4.10
	CAPE	5.25	-1.65	3.60
	Wilshire ACA	5.50	-0.50	5.00
	Global ex-US ACA	6.25	-0.25	6.00
PRIVATE	Cost of Debt - Public	3.10	0.15	3.25
	Cost of Debt - Private	5.45	0.00	5.45
	Wilshire ACA	7.45	-0.50	6.95



# CalPERS Expected Return and Risk Estimates

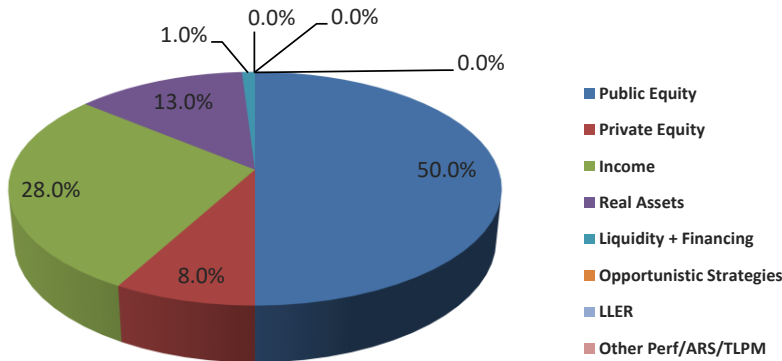
## As of December 31, 2020



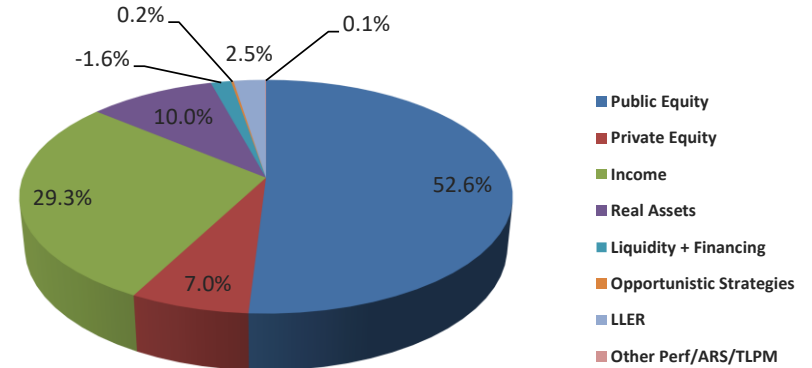
# CalPERS Asset and Risk Allocation

## As of December 31, 2020

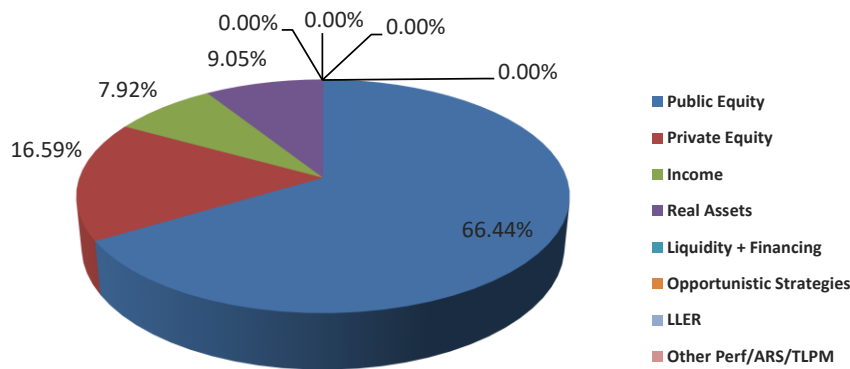
**Target Asset Allocation**



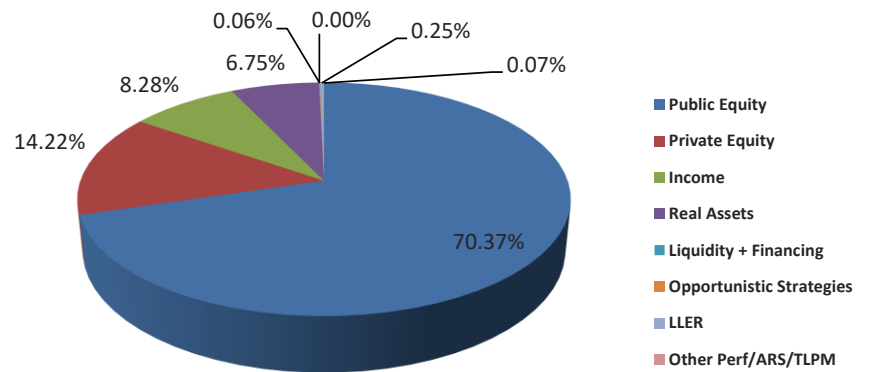
**Actual Asset Allocation**



**Contribution to Total Risk - Target Allocation**

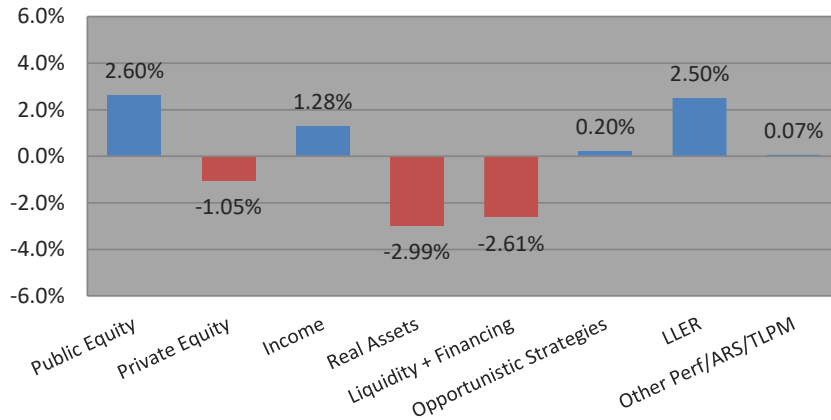


**Contribution to Total Risk - Actual Allocation**

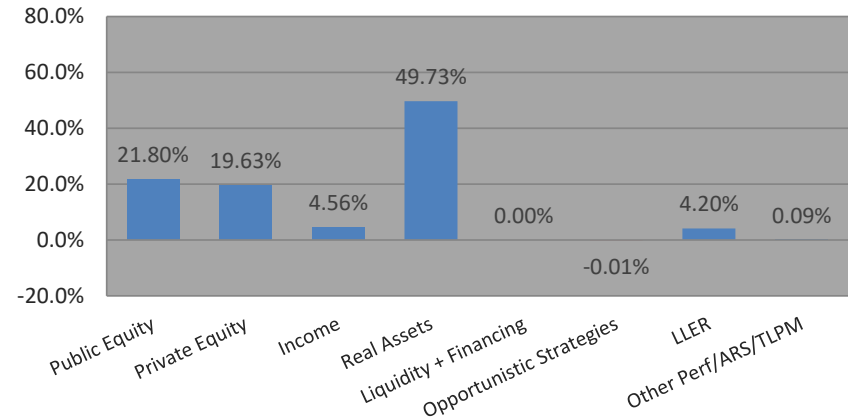


# CalPERS Drivers of Expected Excess Risk As of December 31, 2020

**CalPERS Asset Allocation Variance**



**Contribution to TF Tracking Error**



- This excess risk forecast is based on asset allocation variance only
- Other sources of risk (structural within asset classes, manager/program specific source of tracking error, covariance) are not considered here

# Total Fund – Performance

## As of December 31, 2020

	Asset Value *						VaR (\$Billion)	5-Year Ratios	
	(\$Billion)	Quarter	1-Year	3-Year	5-Year	10-Year		Sharpe	Info
<b>TOTAL FUND</b>	\$ 442.7	8.4%	12.4%	8.4%	9.7%	8.4%	\$ 62.2	1.1	-0.2
<i>Total Fund Policy Benchmark</i>		8.1%	12.4%	8.7%	10.0%	8.5%		1.2	0.0
<i>Actuarial Rate</i>		1.7%	7.0%	7.1%	7.2%	7.4%			
<b>PUBLIC EQUITY</b>	\$ 232.8	13.9%	13.7%	9.2%	12.1%	9.4%	\$ 48.1	0.7	0.1
<i>Public Equity Policy Benchmark</i>		13.8%	13.3%	9.3%	12.1%	9.3%		0.7	0.0
<b>PRIVATE EQUITY</b>	\$ 30.8	10.2%	12.5%	9.2%	10.4%	11.5%	\$ 12.9	1.3	-0.2
<i>Private Equity Policy Benchmark</i>		8.6%	11.7%	9.0%	13.2%	13.2%		0.8	0.0
<b>INCOME</b>	\$ 129.6	1.3%	11.8%	7.4%	6.9%	5.8%	\$ 12.2	1.1	1.8
<i>Income Policy Benchmark</i>		0.9%	11.2%	6.9%	6.3%	5.2%		1.0	0.0
<b>REAL ASSETS</b>	\$ 44.3	0.5%	-0.1%	3.4%	4.9%	8.5%	\$ 6.4	1.4	-0.2
<i>Real Assets Policy Benchmark</i>		0.2%	0.4%	4.1%	5.4%	8.5%		1.5	0.0
<b>LIQUIDITY</b>	\$ 10.3	0.0%	0.5%	1.8%	1.4%	1.3%	\$ 0.1	0.7	4.2
<i>Liquidity Policy Benchmark</i>		0.0%	0.4%	1.4%	1.1%	1.3%		-0.5	0.0
<b>TRUST LEVEL FINANCING</b>	\$ (17.4)	-.%	-.%	-.%	-.%	-.%		N/A	N/A
<b>LLER</b>	\$ 11.1	1.3%	2.0%	3.0%	3.1%	-.%	\$ 0.3	N/A	N/A
<i>LIBOR 1 Month Rate</i>		0.0%	0.4%	1.1%	0.9%	-.%		N/A	N/A
<b>OPPORTUNISTIC STRATEGIES</b>	\$ 0.9	1.2%	-.%	-.%	-.%	-.%	\$ 0.1	N/A	N/A
<i>Custom Opp. Strategies Benchmark</i>		1.7%	-.%	-.%	-.%	-.%		N/A	N/A
<b>TRUST LEVEL PORTFOLIO MGMT **</b>	\$ 0.0	NM	NM	NM	NM	NM	\$ 0.01	N/A	N/A
<b>OTHER PERF ***</b>	\$ 0.2	NM	NM	NM	NM	NM		N/A	N/A
<b>TERMINATED AGENCY POOL</b>	\$ 0.2	0.3%	16.0%	8.4%	7.1%	-.%		N/A	N/A
<b>TOTAL FUND PLUS TAP</b>	\$ 442.9	8.4%	12.4%	8.4%	9.7%	8.4%		N/A	N/A

\* The CalPERS asset values shown include derivative exposure.

\*\* More detail of the TLPM return can be found in the program section, page 52.

\*\*\* More detail of the OTHER PERF return can be found in the program section, page 54.

# Total Fund – Attribution (Quarter)

## As of December 31, 2020

Asset Class	Actual (%)		Benchmark (%)		Difference (%)		Total Fund Return Contribution (%)		
	Weight *	Return	Weight *	Return	Weight	Return	Actual Allocation	Active Management	Total
<b>Public Equity</b>	52.99	13.91	53.12	13.84	-0.13	0.07	-0.03	0.04	0.01
<b>Public Equity - Cap Weighted</b>	38.02	16.07	38.18	15.97	-0.16	0.10	-0.03	0.04	0.01
<b>Public Equity - Factor Weighted</b>	14.97	8.53	14.94	8.50	0.03	0.03	0.00	0.00	0.00
<b>Private Equity</b>	6.76	10.24	6.55	8.18	0.21	2.06	0.03	0.07	0.10
<b>Income</b>	27.13	1.26	28.88	0.87	-1.75	0.39	0.17	0.07	0.24
<b>Treasury</b>	9.23	-2.08	10.94	-2.49	-1.72	0.41	0.17	0.04	0.21
<b>Spread</b>	14.88	2.64	14.93	2.45	-0.04	0.19	0.00	0.03	0.03
<b>High Yield</b>	3.02	5.59	3.01	5.55	0.01	0.04	0.00	0.00	0.00
<b>Real Assets</b>	10.54	0.52	10.46	0.23	0.07	0.28	-0.01	0.03	0.02
<b>Liquidity</b>	0.81	0.04	0.99	0.02	-0.18	0.02	0.02	0.00	0.02
<b>Opportunistic Strategies</b>	0.15	1.23	0.00	1.72	0.15	-0.49	-0.01	0.00	-0.01
<b>TLPM</b>	0.09	NM**	0.00	15.17	0.09	NM**	0.01	-0.02	-0.01
<b>Other PERF/ARS</b>	1.53	NM***	0.00	0.00	1.53	NM***	-0.12	0.04	-0.08
<b>Monthly Linked Return</b>	<b>100.00</b>	<b>8.41</b>	<b>100.00</b>	<b>8.13</b>			<b>0.06</b>	<b>0.24</b>	<b>0.28</b>
<b>Residual</b>		-0.04		0.00		-0.04			<b>-0.04</b>
<b>Total</b>		<b>8.37</b>		<b>8.13</b>		<b>0.24</b>			<b>0.24</b>

\* Average period weight displayed.

\*\* More detail of the TLPM return can be found in the program section, page 52.

\*\*\* More detail of the OTHER PERF/ARS return can be found in the program section, page 54.

# Total Fund – Attribution (Calendar YTD 2020)

## As of December 31, 2020

Asset Class	Actual (%)		Benchmark (%)		Difference (%)		Total Fund Return Contribution (%)		
	Weight *	Return	Weight *	Return	Weight	Return	Actual Allocation	Active Management	Total
<b>Public Equity</b>	52.04	13.71	52.49	13.33	-0.45	0.38	-0.03	0.17	0.13
<b>Public Equity - Cap Weighted</b>	37.23	17.42	37.48	16.99	-0.26	0.43	0.00	0.15	0.15
<b>Public Equity - Factor Weighted</b>	14.81	4.55	15.01	4.44	-0.20	0.11	-0.04	0.02	-0.02
<b>Private Equity</b>	6.72	12.51	6.66	10.05	0.05	2.46	0.26	-0.48	-0.23
<b>Income</b>	28.54	11.79	28.72	11.15	-0.18	0.64	0.15	0.11	0.26
<b>Treasury</b>	9.81	14.88	10.77	15.04	-0.96	-0.17	0.26	-0.06	0.21
<b>Spread</b>	15.76	9.21	14.95	8.18	0.81	1.03	-0.11	0.17	0.06
<b>High Yield</b>	2.97	5.07	3.00	5.18	-0.03	-0.10	0.00	0.00	0.00
<b>Real Assets</b>	11.17	-0.11	11.15	0.40	0.02	-0.50	0.03	-0.07	-0.04
<b>Liquidity</b>	0.86	0.51	0.98	0.42	-0.12	0.10	0.03	0.00	0.03
<b>Opportunistic Strategies</b>	0.05	NM****	0.00	NM****	0.05	NM****	-0.01	0.00	-0.01
<b>TLPM</b>	0.21	NM**	0.00	17.36	0.21	NM**	0.00	-0.04	-0.04
<b>Other PERF/ARS</b>	0.42	NM***	0.00	0.00	0.42	NM***	-0.13	0.06	-0.07
<b>Monthly Linked Return</b>	<b>100.00</b>	<b>12.36</b>	<b>100.00</b>	<b>12.43</b>	<b>-0.06</b>		<b>0.29</b>	<b>-0.26</b>	<b>-0.06</b>
<b>Residual</b>		0.02		0.00		0.02			<b>0.02</b>
<b>Total</b>		<b>12.38</b>		<b>12.43</b>		<b>-0.04</b>			<b>-0.04</b>

\* Average period weight displayed.

\*\* More detail of the TLPM return can be found in the program section, page 52.

\*\*\* More detail of the OTHER PERF/ARS return can be found in the program section, page 54.

\*\*\*\* Opportunistic Strategies inception date was April 1st, 2020

# Total Fund – Attribution (Fiscal YTD 2021)

## As of December 31, 2020

Asset Class	Actual (%)		Benchmark (%)		Difference (%)		Total Fund Return Contribution (%)		
	Weight *	Return	Weight *	Return	Weight	Return	Actual Allocation	Active Management	Total
<b>Public Equity</b>	53.28	22.20	53.31	22.16	-0.02	0.04	-0.01	0.02	0.01
<b>Public Equity - Cap Weighted</b>	38.29	25.56	38.30	25.46	-0.01	0.11	-0.01	0.04	0.03
<b>Public Equity - Factor Weighted</b>	14.99	13.97	15.00	14.06	-0.01	-0.10	0.00	-0.01	-0.02
<b>Private Equity</b>	6.50	20.38	6.34	30.07	0.16	-9.69	0.11	-0.79	-0.69
<b>Income</b>	27.69	2.74	28.64	2.14	-0.96	0.61	0.20	0.12	0.32
<b>Treasury</b>	9.14	-1.85	10.78	-2.32	-1.65	0.46	0.26	0.05	0.31
<b>Spread</b>	15.55	4.26	14.85	3.85	0.70	0.41	-0.06	0.07	0.01
<b>High Yield</b>	3.00	10.57	3.01	10.40	-0.01	0.17	0.00	0.01	0.00
<b>Real Assets</b>	10.69	-1.26	10.73	-1.61	-0.04	0.35	0.00	0.04	0.04
<b>Liquidity</b>	0.81	0.08	0.98	0.04	-0.17	0.03	0.03	0.00	0.03
<b>Opportunistic Strategies</b>	0.09	2.95	0.00	3.46	0.09	-0.51	-0.01	0.00	-0.01
<b>TLPM</b>	0.14	NM**	0.00	21.27	0.14	NM**	0.01	-0.03	-0.01
<b>Other PERF/ARS</b>	0.79	NM***	0.00	0.00	0.79	NM***	-0.13	0.05	-0.09
<b>Monthly Linked Return</b>	<b>100.00</b>	<b>13.44</b>	<b>100.00</b>	<b>13.86</b>			<b>0.19</b>	<b>-0.59</b>	<b>-0.43</b>
<b>Residual</b>		-0.05		0.00		-0.05			<b>-0.05</b>
<b>Total</b>		<b>13.38</b>		<b>13.86</b>		<b>-0.48</b>			<b>-0.48</b>

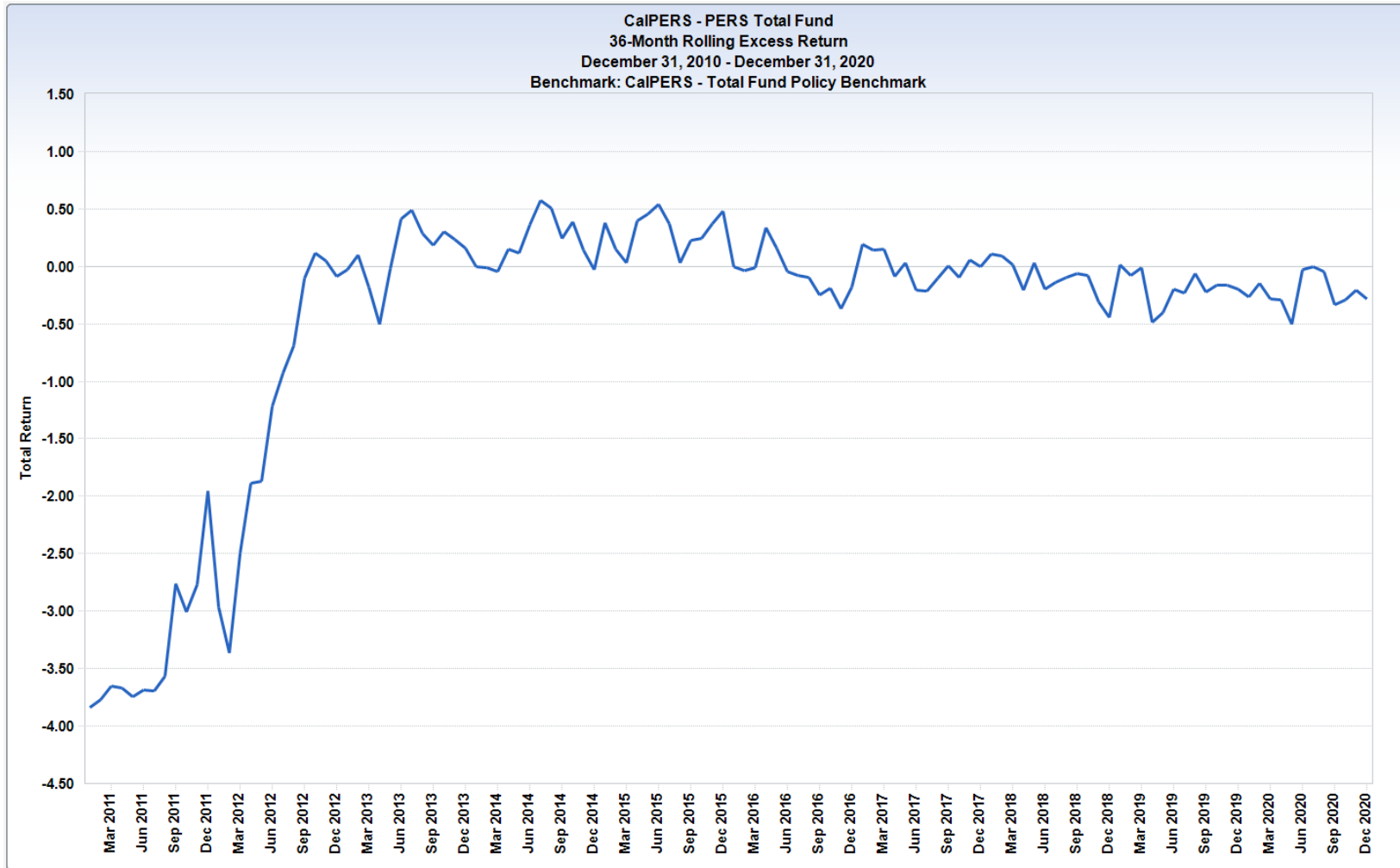
\* Average period weight displayed.

\*\* More detail of the TLPM return can be found in the program section, page 52.

\*\*\* More detail of the OTHER PERF/ARS return can be found in the program section, page 54.

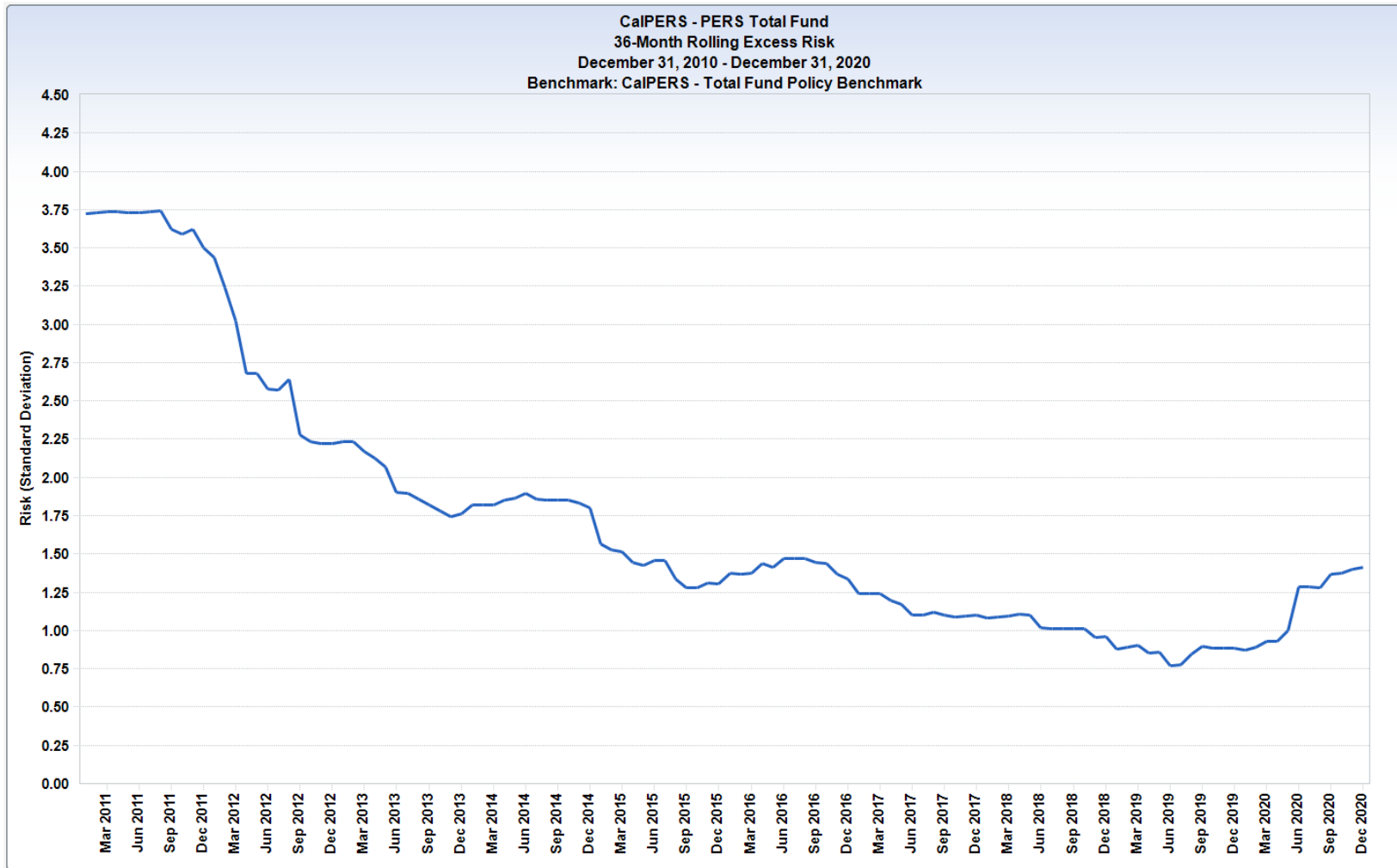
# Total Fund – Rolling Excess Return

## As of December 31, 2020





# Total Fund – Rolling Tracking Error As of December 31, 2020



# Affiliate Investment Programs – Performance

## As of December 31, 2020

	Asset Value					
	(\$Million)	Quarter	1-Year	3-Year	5-Year	10-Year
<b>Judges I</b>	\$ 55.4	0.0%	0.6%	1.7%	1.3%	0.7%
91-Day Treasury Bill		0.0%	0.7%	1.6%	1.2%	0.6%
<b>Judges II</b>	\$ 2,188.2	10.0%	13.2%	8.7%	9.8%	8.2%
Weighted Policy Benchmark		9.9%	12.8%	8.4%	9.5%	8.0%
<b>Legislators' Retirement System</b>	\$ 120.8	5.8%	10.8%	7.4%	7.8%	6.6%
Weighted Policy Benchmark		5.7%	10.5%	7.2%	7.5%	6.4%
<b>Long-Term Care ("LTC")</b>	\$ 5,279.0	5.5%	8.4%	6.3%	6.7%	5.2%
Weighted Policy Benchmark		5.3%	8.6%	6.4%	6.7%	5.2%
<b>CERBT Strategy 1</b>	\$ 11,595.2	11.0%	13.4%	8.7%	10.0%	8.0%
CERBT Strategy 1 Policy Benchmark		11.0%	13.0%	8.4%	9.6%	7.8%
<b>CERBT Strategy 2</b>	\$ 1,673.3	8.3%	12.3%	8.2%	9.0%	--%
CERBT Strategy 2 Policy Benchmark		8.2%	12.0%	8.0%	8.6%	--%
<b>CERBT Strategy 3</b>	\$ 802.2	5.8%	10.8%	7.3%	7.7%	--%
CERBT Strategy 3 Policy Benchmark		5.7%	10.5%	7.2%	7.3%	--%
<b>CEPPT Strategy 1</b>	\$ 15.3	7.9%	11.4%	--%	--%	--%
CEPPT Strategy 1 Policy Benchmark		7.7%	11.5%	--%	--%	--%
<b>CEPPT Strategy 2</b>	\$ 8.0	3.8%	8.7%	--%	--%	--%
CEPPT Strategy 2 Policy Benchmark		3.8%	8.7%	--%	--%	--%
<b>Health Care Fund</b>	\$ 527.0	0.7%	7.6%	5.4%	4.5%	4.1%
Barclays U.S. Aggregate		0.7%	7.5%	5.3%	4.4%	3.8%
<b>Supplemental Contribution Plan</b>	\$ 119.6	NM	NM	NM	NM	NM
CalPERS Custom SCP Plan Index		NM	NM	NM	NM	NM
<b>457 Program</b>	\$ 2,003.0	NM	NM	NM	NM	NM
CalPERS Custom 457 Plan Index		NM	NM	NM	NM	NM

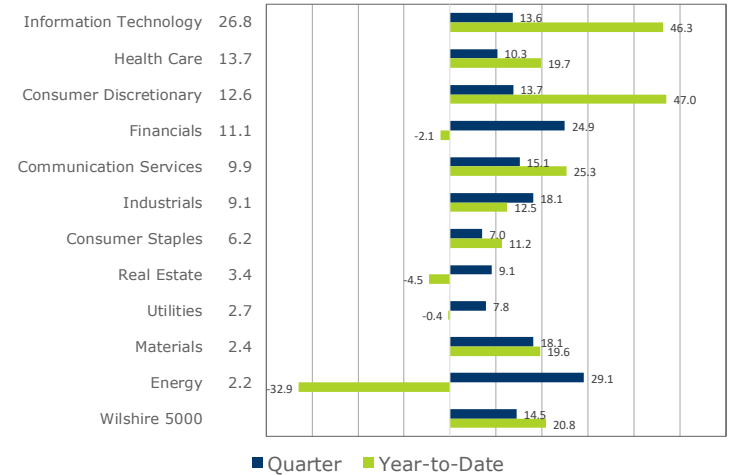
# Appendix 1: CalPERS Performance Detail

Wilshire

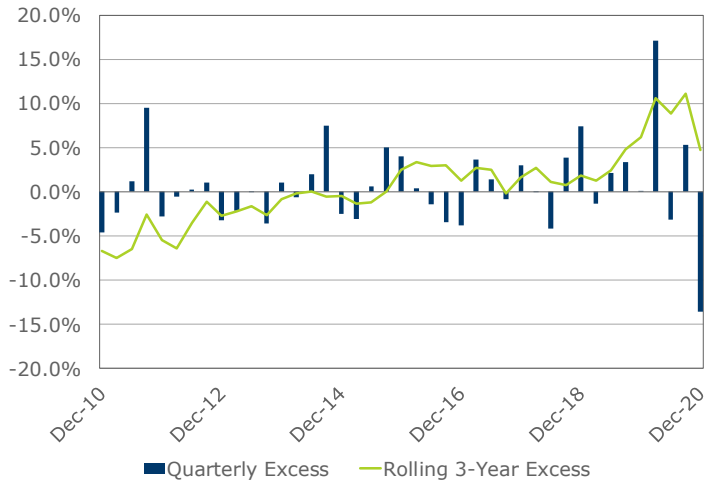
# U.S. Equity Market

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

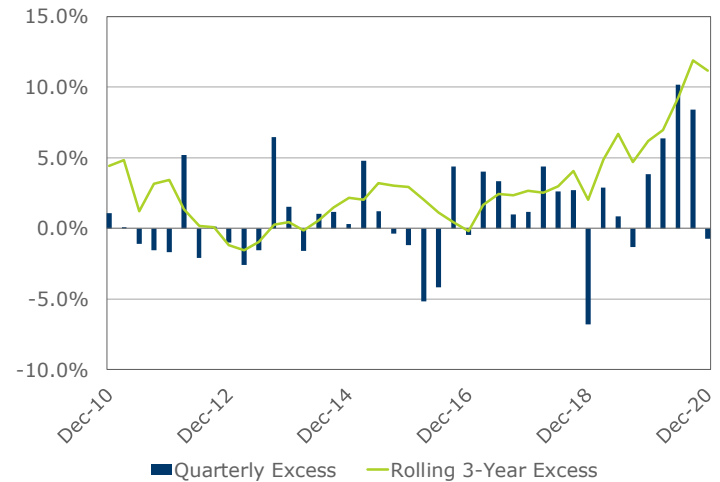
U.S. SECTOR WEIGHT AND RETURN (%)



LARGE CAP VS SMALL CAP



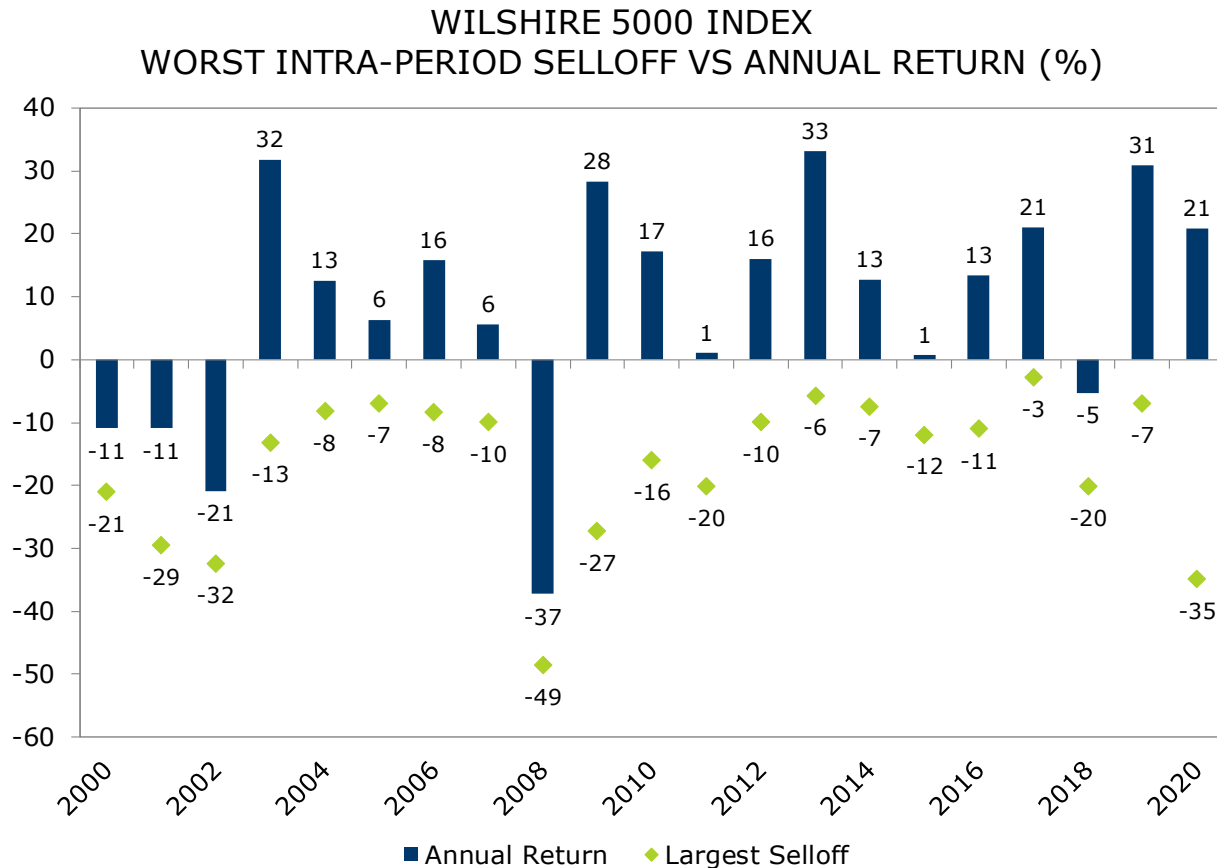
LARGE GROWTH VS LARGE VALUE



Data Sources: Bloomberg, Wilshire Atlas

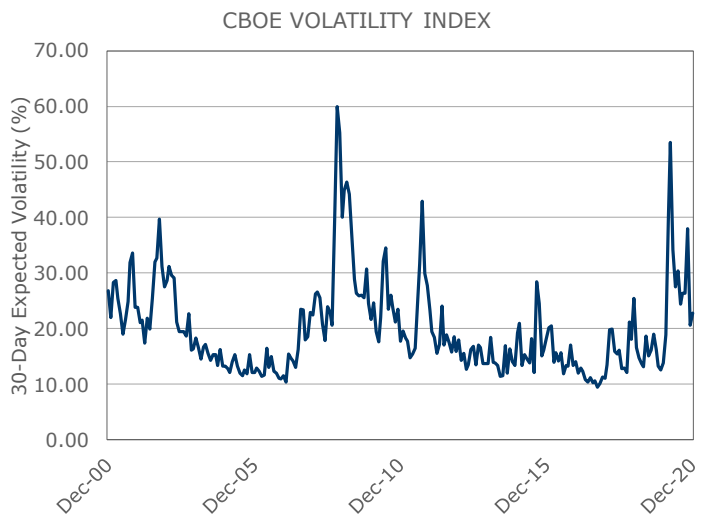
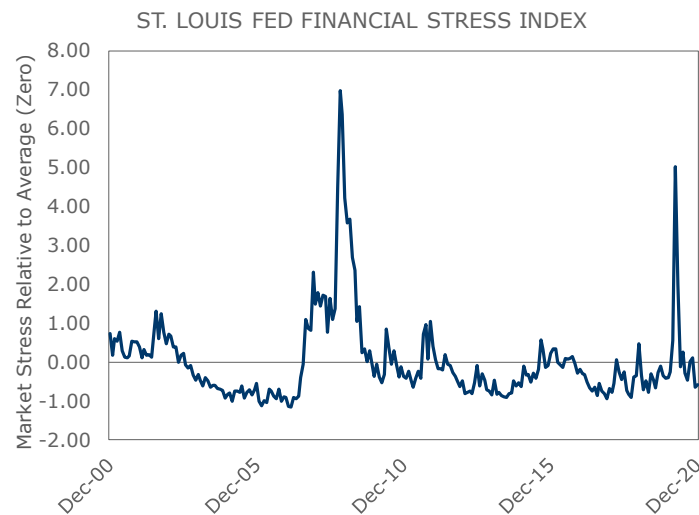
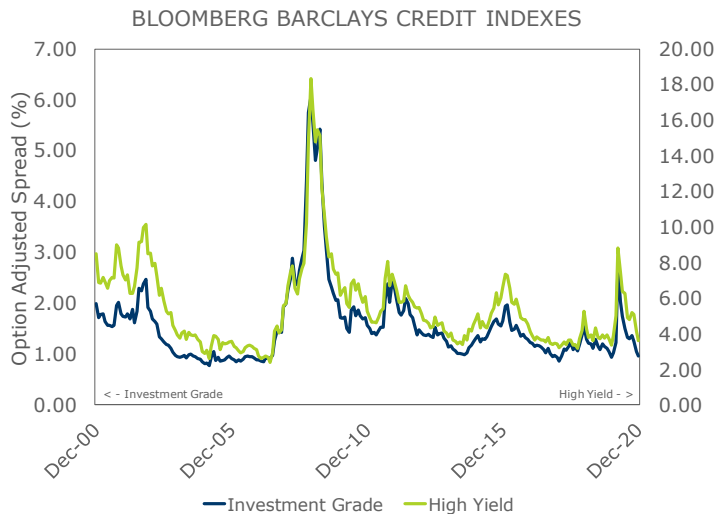
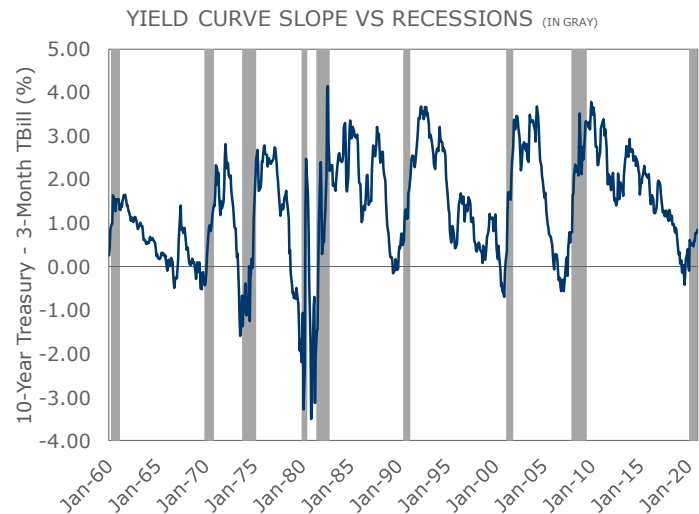
# Annual Returns

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



Data Sources: Wilshire

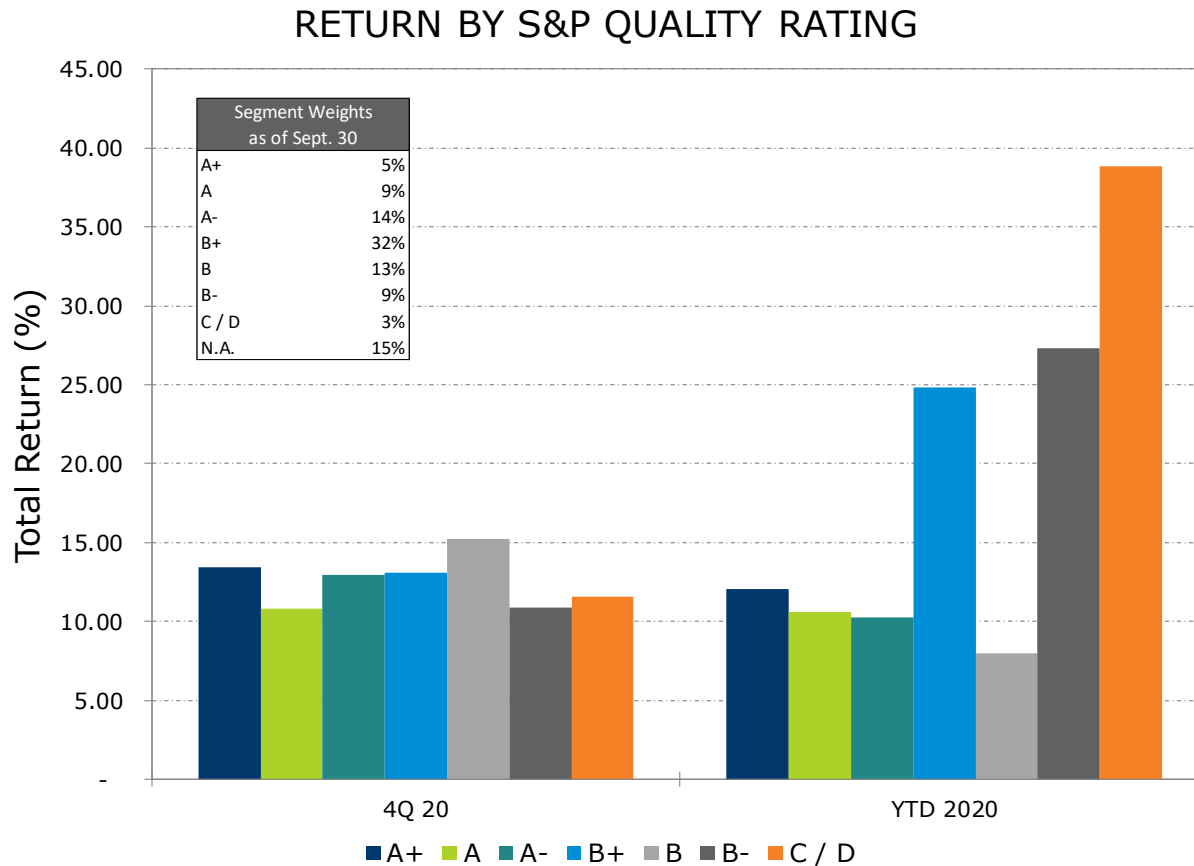
# Risk Monitor



Data Sources: Bloomberg

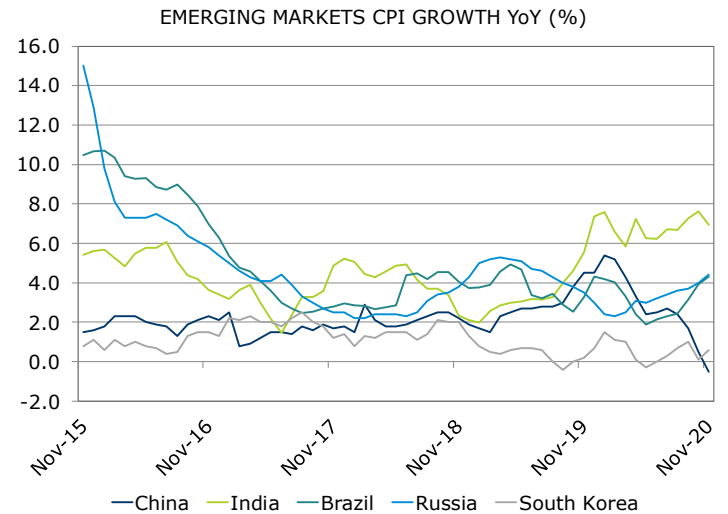
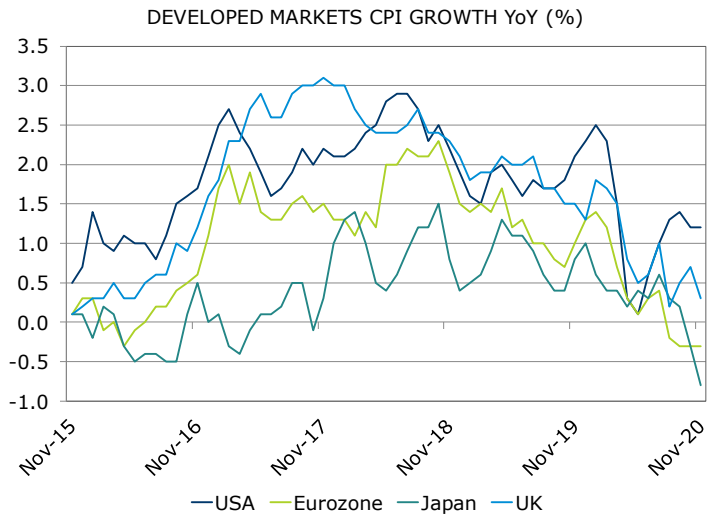
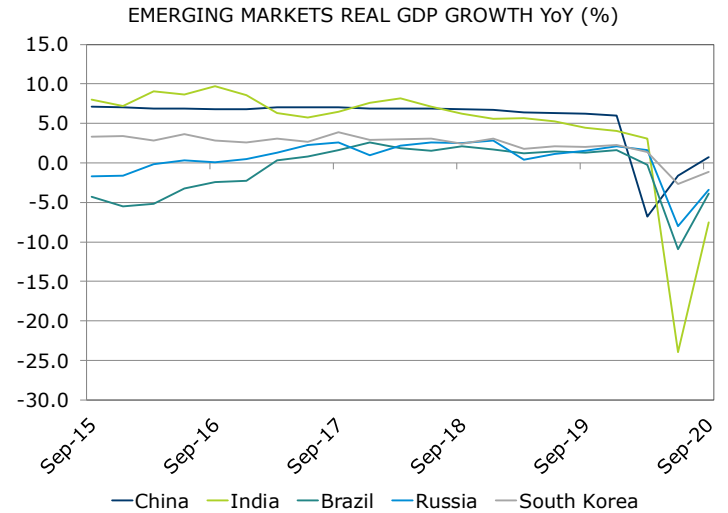
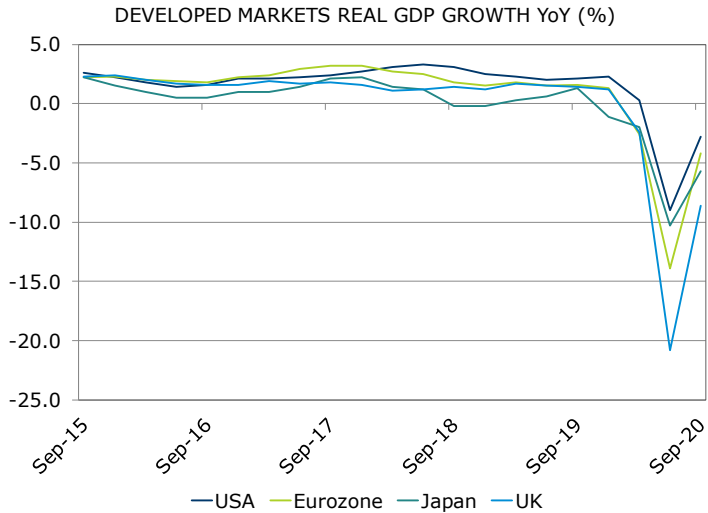
# Returns by Quality Segment

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



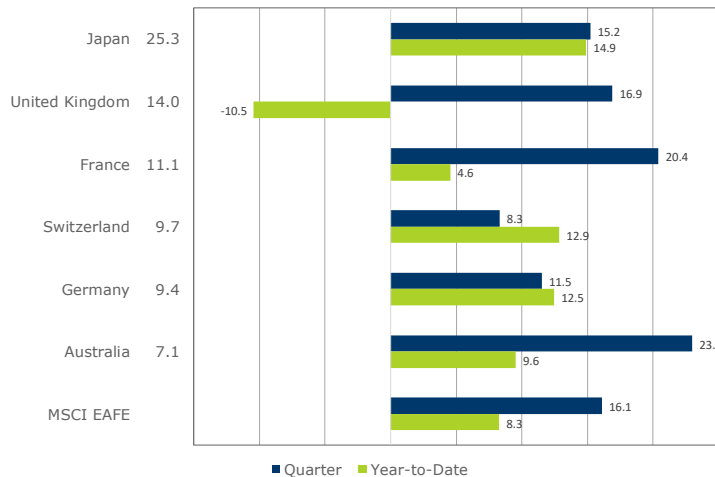
Data Sources: Bloomberg



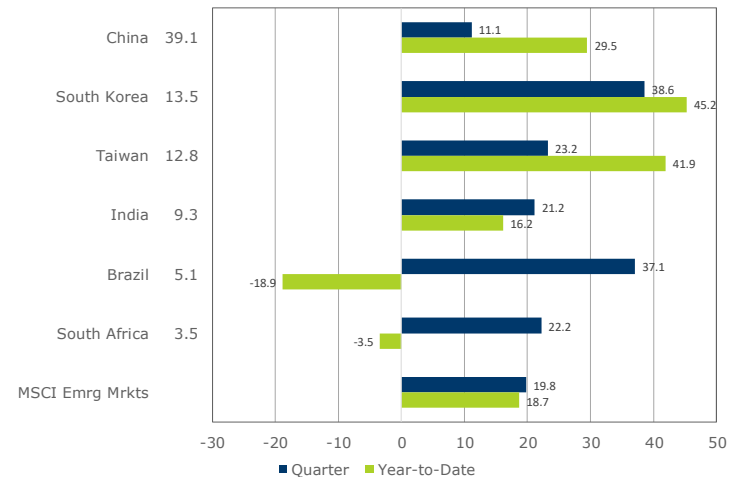
# Non-U.S. Equity Market

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

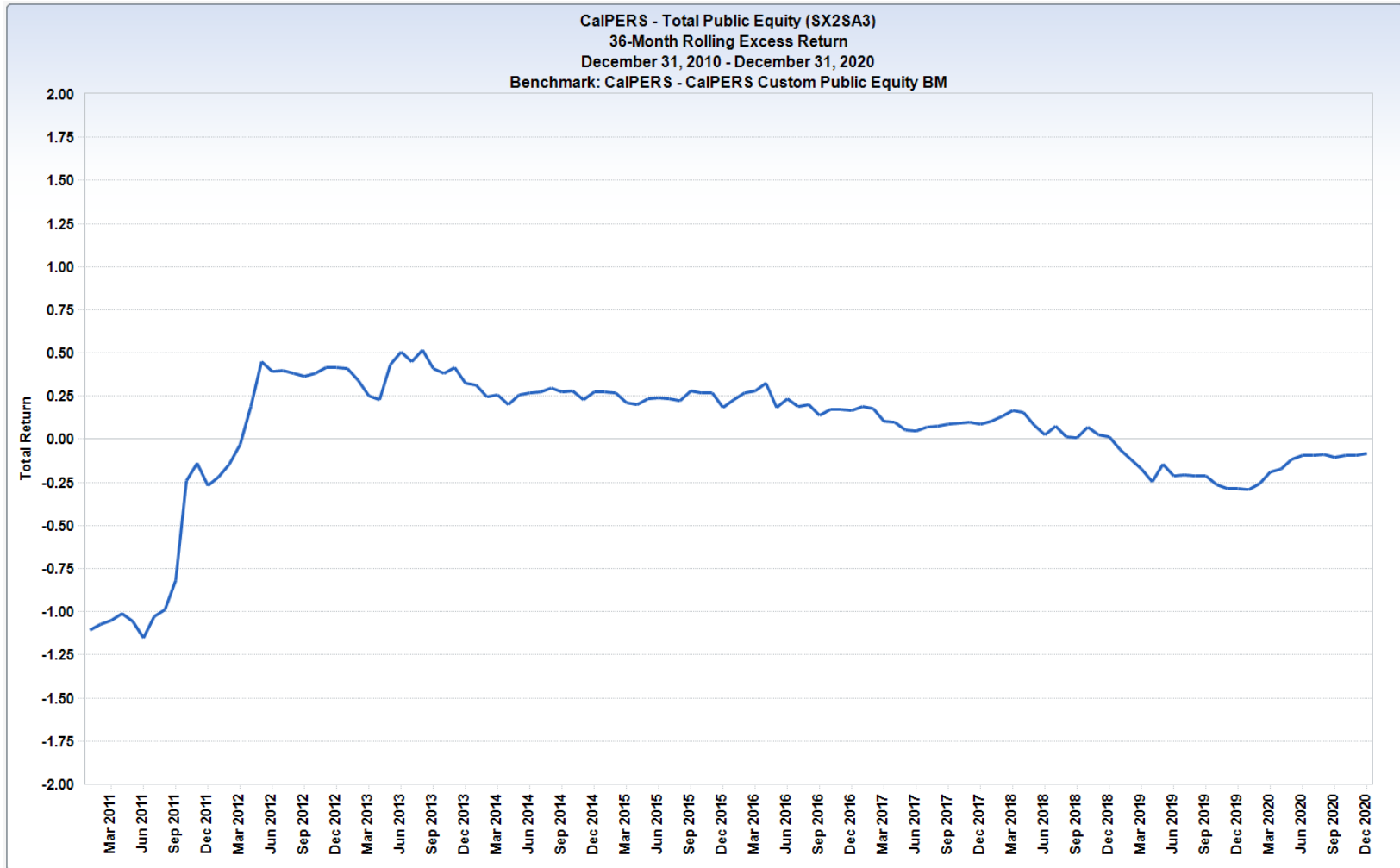
# CalPERS Public Equity – Performance

## As of December 31, 2020

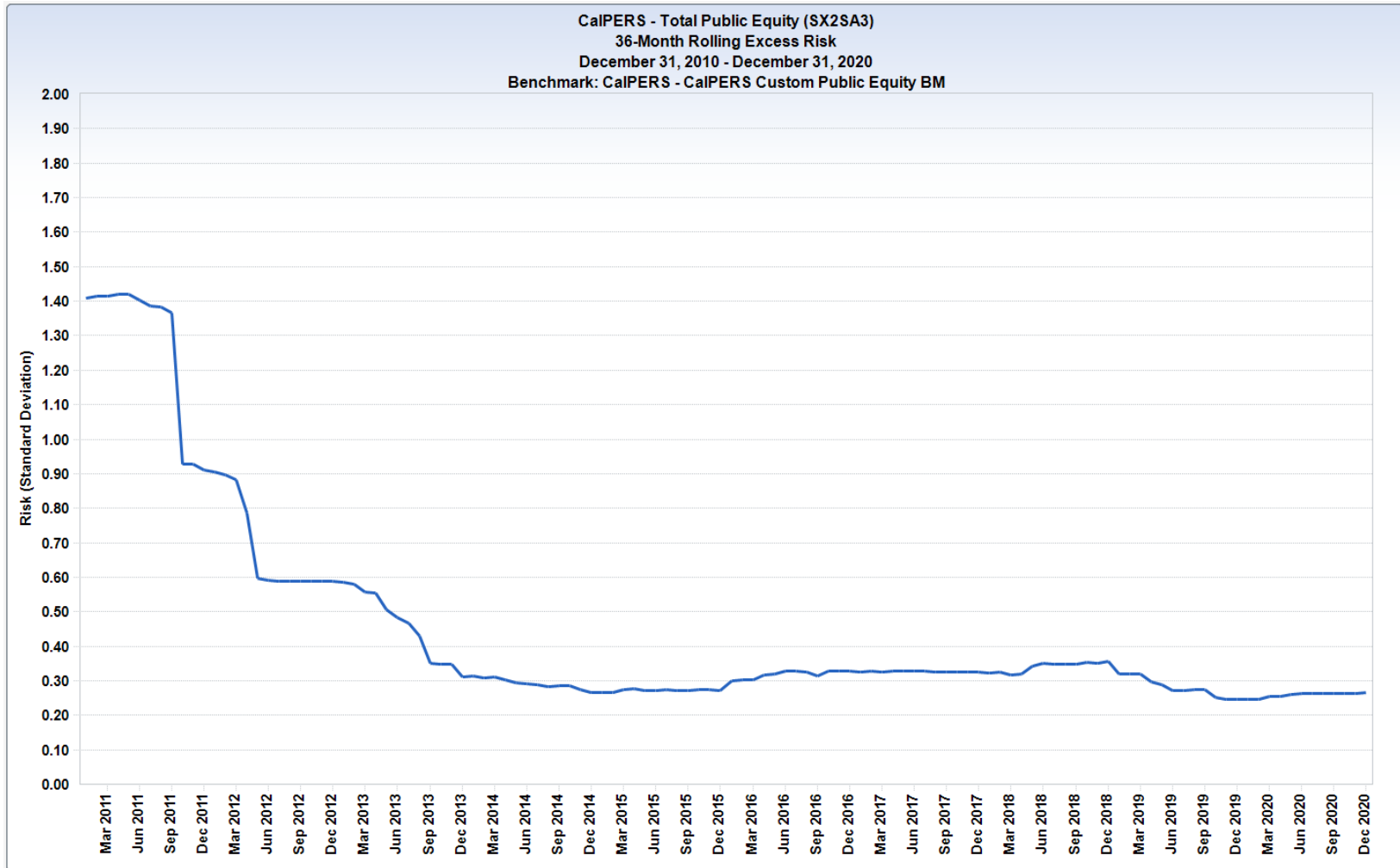
	Asset Value *						VaR	5-Year Ratios	
	(\$Billion)	Quarter	1-Year	3-Year	5-Year	10-Year	(\$Billion)	Sharpe	Info
<b>PUBLIC EQUITY</b>	\$ 232.8	13.9%	13.7%	9.2%	12.1%	9.4%	\$ 48.1	0.7	0.1
<i>Public Equity Policy Benchmark</i>		13.8%	13.3%	9.3%	12.1%	9.3%		0.7	0.0
<b>Public Equity - Cap Weighted</b>	\$ 166.0	16.1%	17.4%	10.3%	12.8%	9.7%	\$ 37.6	0.7	0.1
<i>FTSE Global All Cap Custom Index Net</i>		16.0%	17.0%	10.4%	12.8%	9.6%		0.7	0.0
<b>Public Equity - Factor Weighted</b>	\$ 66.8	8.5%	4.6%	-.-%	-.-%	-.-%	\$ 11.1	N/A	N/A
<i>MSCI ACWI Select Factor Weighted Index</i>		8.5%	4.4%	-.-%	-.-%	-.-%		N/A	N/A

\* The CalPERS asset values shown include derivative exposure.

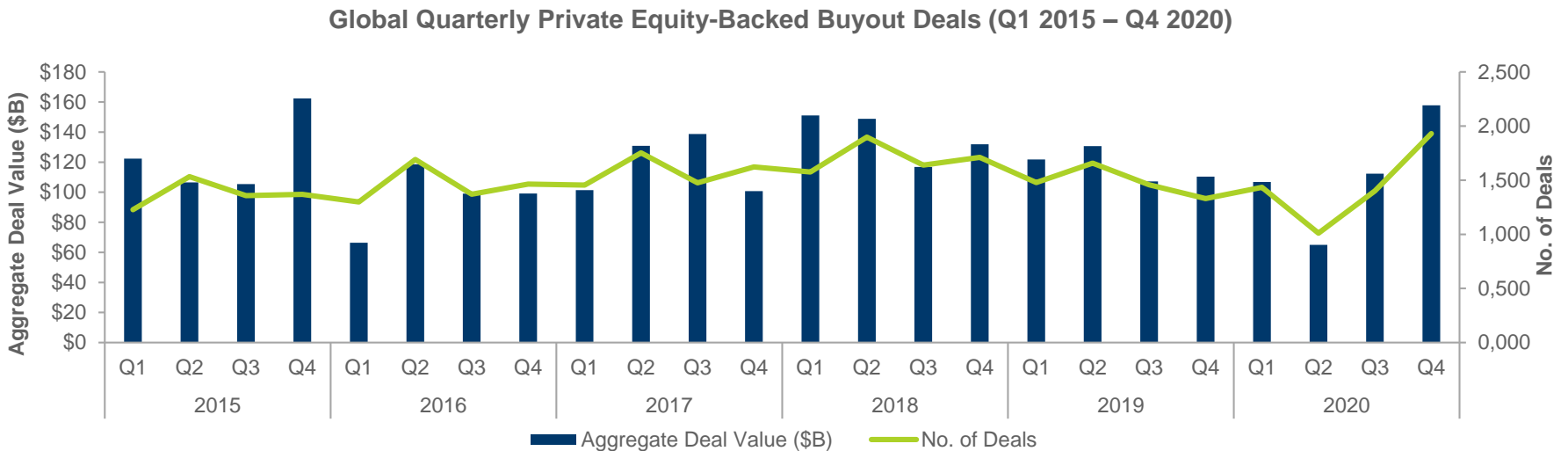
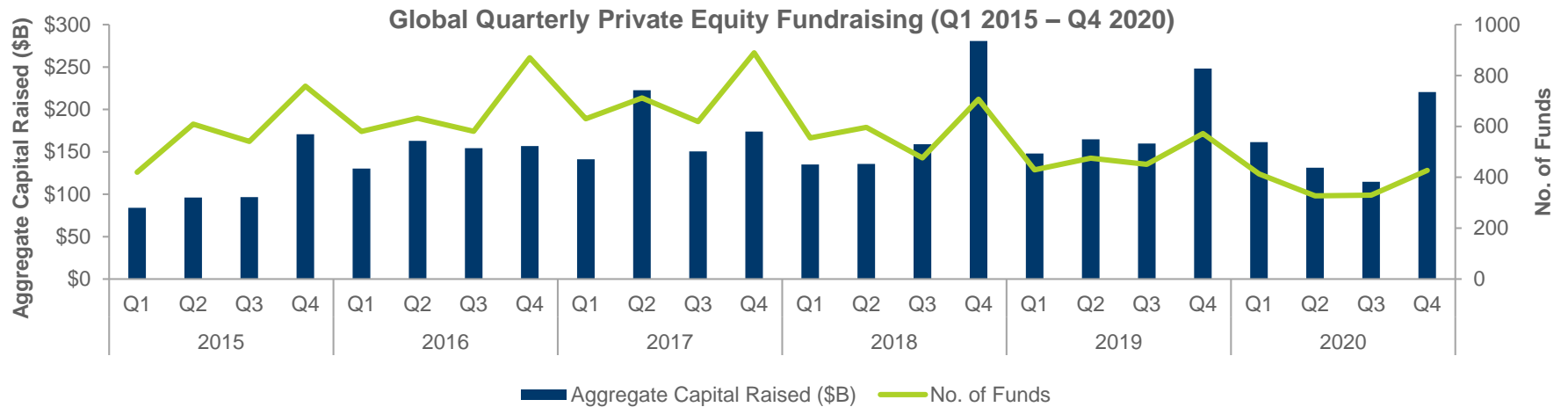
# CalPERS Public Equity – Rolling Excess Return As of December 31, 2020



# CalPERS Public Equity – Rolling Tracking Error As of December 31, 2020



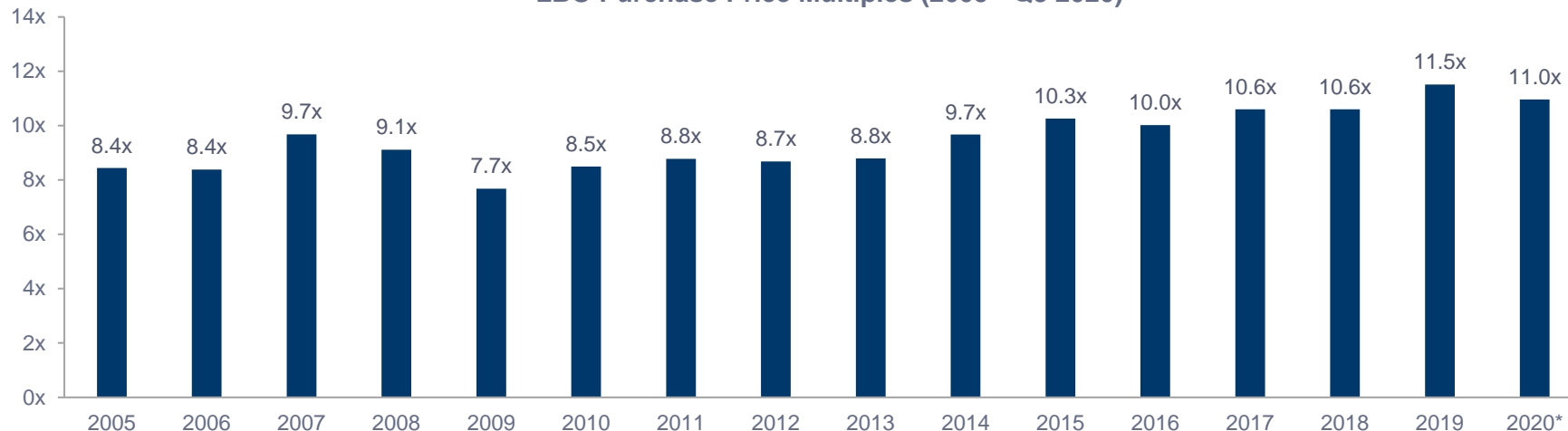
# Private Equity – Fundraising & Investment Activity



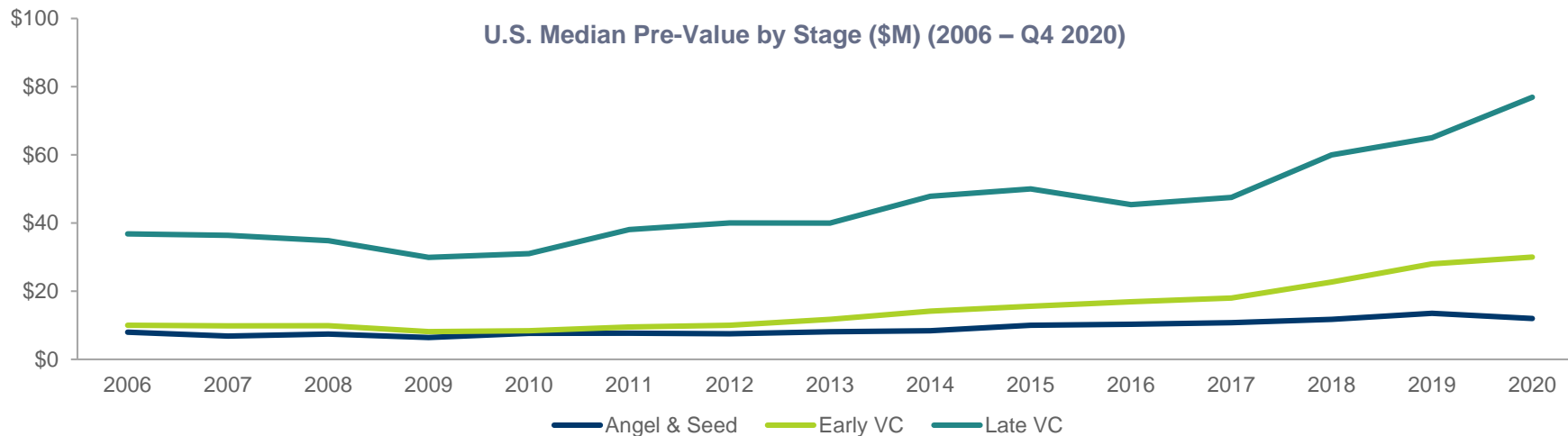
Data Sources: Preqin, as of December 31, 2020

# Private Equity – Pricing & Valuations

LBO Purchase Price Multiples (2005 - Q3 2020)

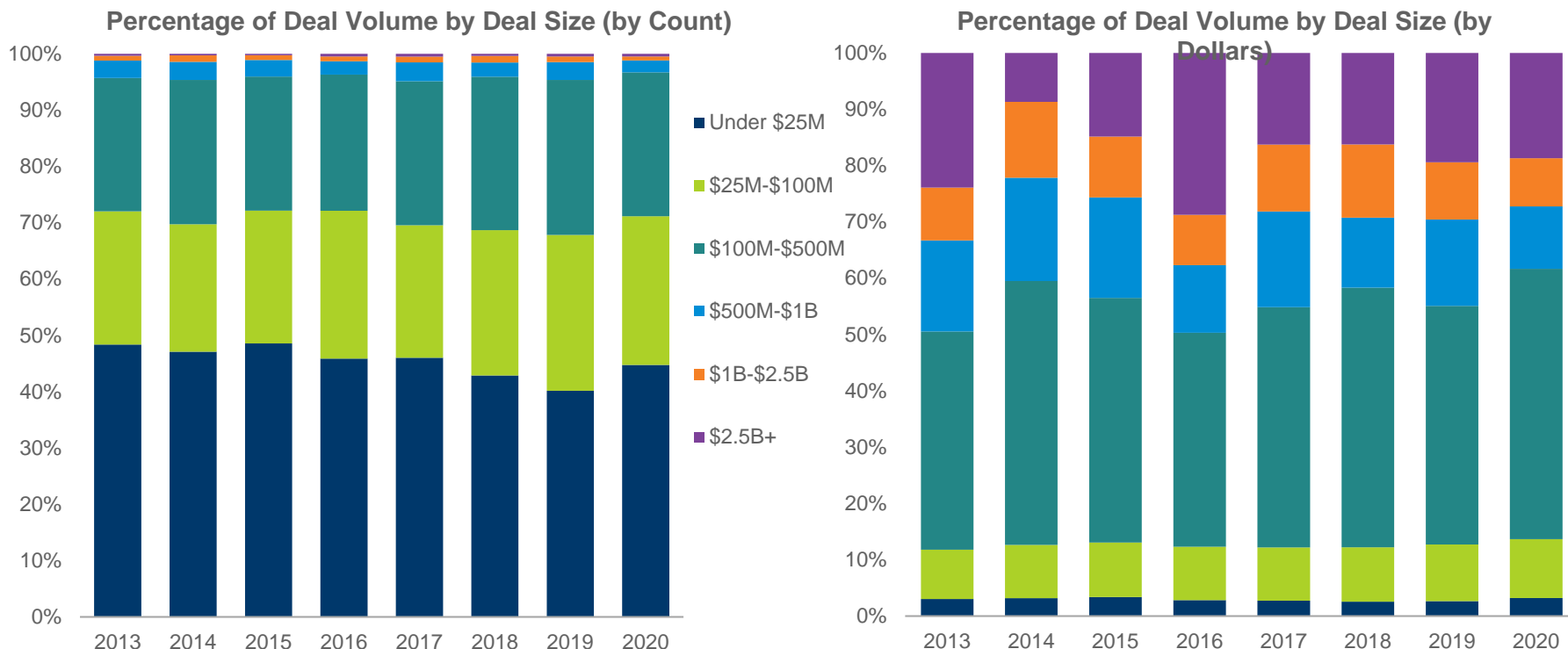


U.S. Median Pre-Value by Stage (\$M) (2006 – Q4 2020)



Data Sources: S&P LBO; PitchBook, as of December 31, 2020.

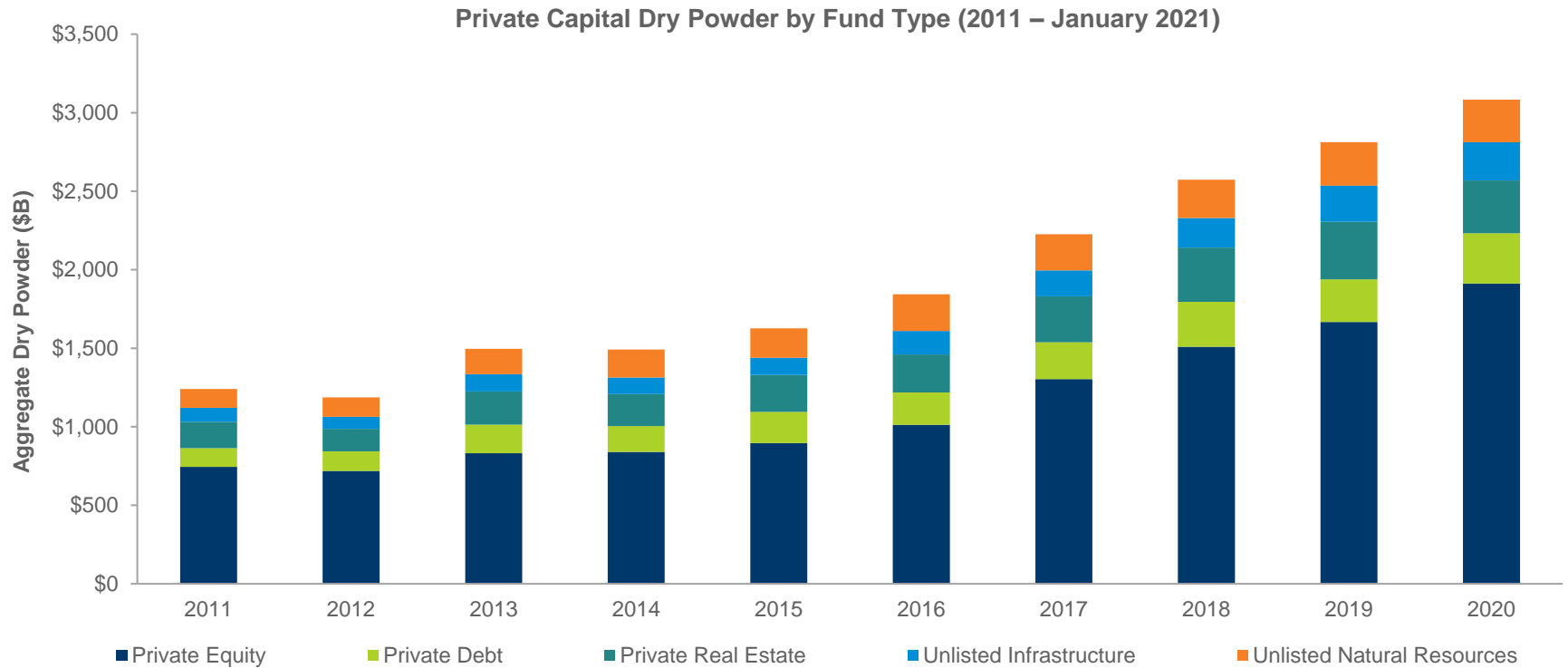
# U.S. Investment Activity by Deal Size



- Deal volume continues to be dominated by lower middle market deals with investment sizes below \$100 million through the fourth quarter of 2020
- However, deals with below \$100 million check sizes comprised only 14% of all deal volume by amount of capital invested in the fourth quarter of 2020

Data Sources: PitchBook, as of December 31, 2020

# Private Capital Dry Powder

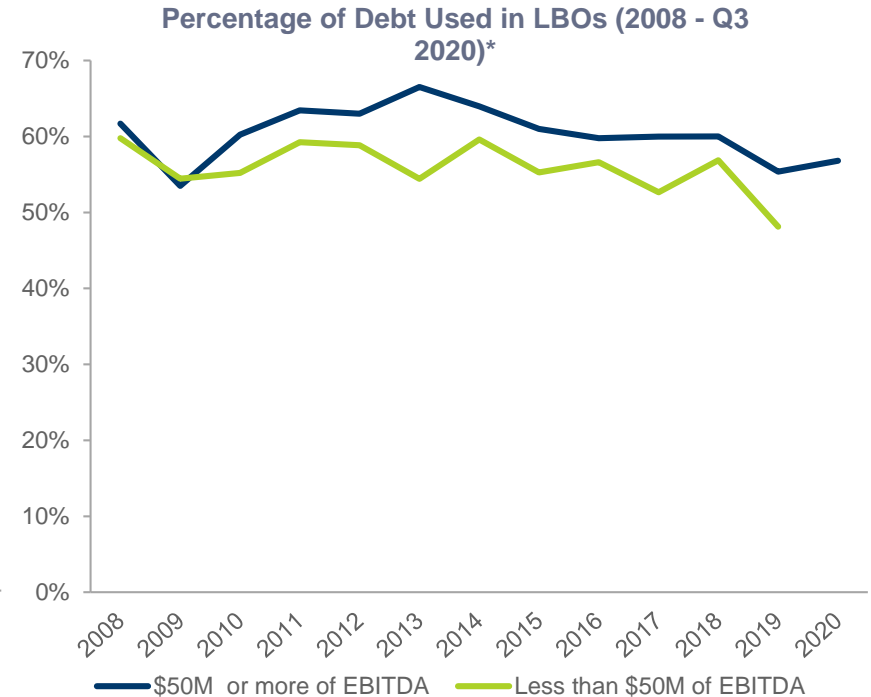


- Global private capital dry powder continues to increase, topping \$3.0 trillion across all fund types
- Private equity comprises just over 60% of total dry power in the market as of January 2021

Data Sources: Preqin, as of January 25, 2021



# Private Equity – U.S. Debt Markets

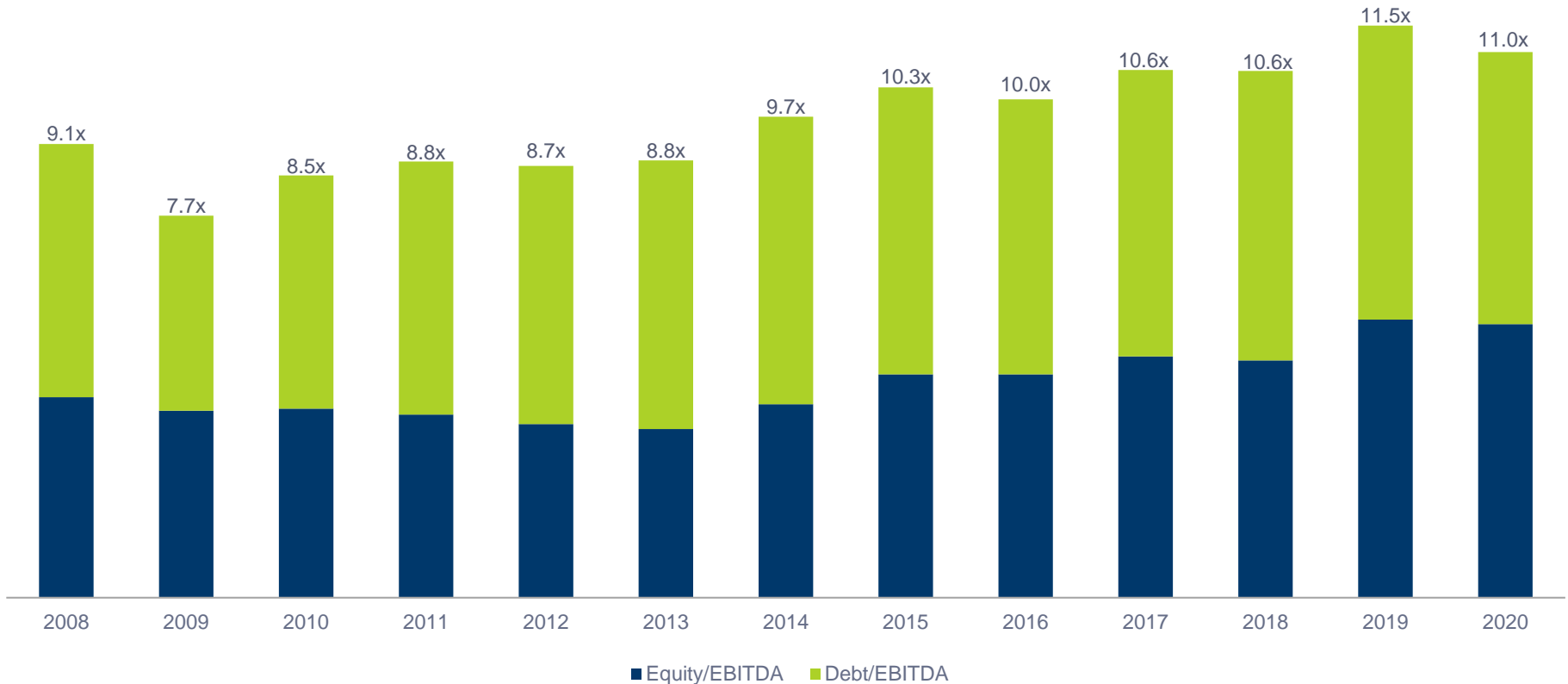


- 2020 has generated approximately \$51 billion in loan volume so far and is on pace to see a slight decrease in loan volume from 2019
- As debt multiples have decreased, the percentage of debt used to finance leveraged buyouts through the third quarter of 2020 has slightly increased from 2019 marks

Data Sources: S&P LBO, \*as of September 30, 2020. "Less than \$50M of EBITDA" data for 2020 not yet available

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

Purchase Price Multiples of U.S. LBO Transactions (2008 - Q3 2020)\*



- Purchase price multiples for U.S. LBOs have slightly decreased through Q3 2020, relative to 2019 levels

Data Sources: S&P LBO, \*as of September 30, 2020

# CalPERS Private Equity – Performance

## As of December 31, 2020

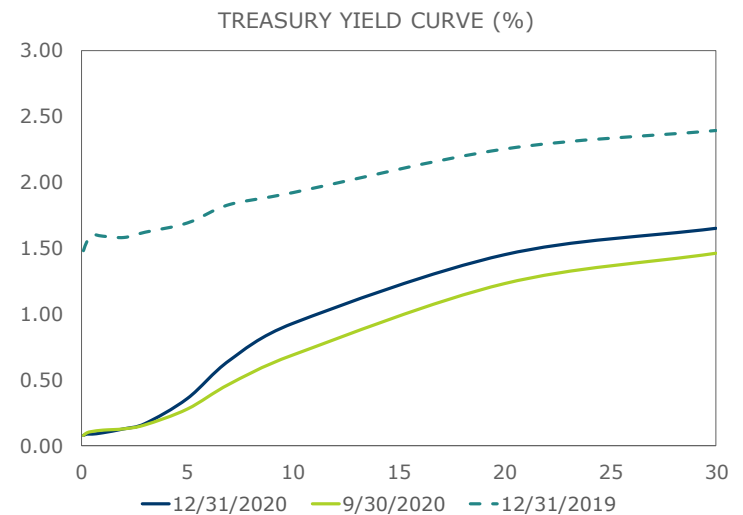
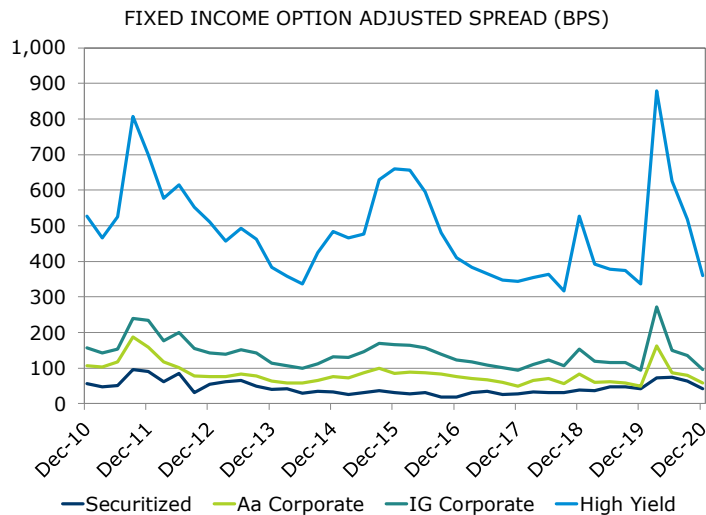
	Asset Value							VaR	5-Year Ratios	
	(\$Billion)	Quarter	1-Year	3-Year	5-Year	10-Year	(\$Billion)	Sharpe	Info	
<b>PRIVATE EQUITY</b>	\$ 30.8	10.2%	12.5%	9.2%	10.4%	11.5%	\$ 12.9	1.3	-0.2	
<i>CalPERS Custom Private Equity Benchmark</i>		8.6%	11.7%	9.0%	13.2%	13.2%		0.8	0.0	

	Asset Value							VaR	5-Year Ratios	
	(\$Billion)	Quarter	1-Year	3-Year	5-Year	10-Year	(\$Billion)	Sharpe	Info	
<b>Private Equity</b>										
Private Equity Partnership Investments	\$ 30.8	10.3%	12.6%	9.3%	10.5%	11.6%		N/A	N/A	
Private Equity Distribution Stock	\$ 0.0	1.6%	-37.4%	5.5%	2.4%	-13.3%		N/A	N/A	

# 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

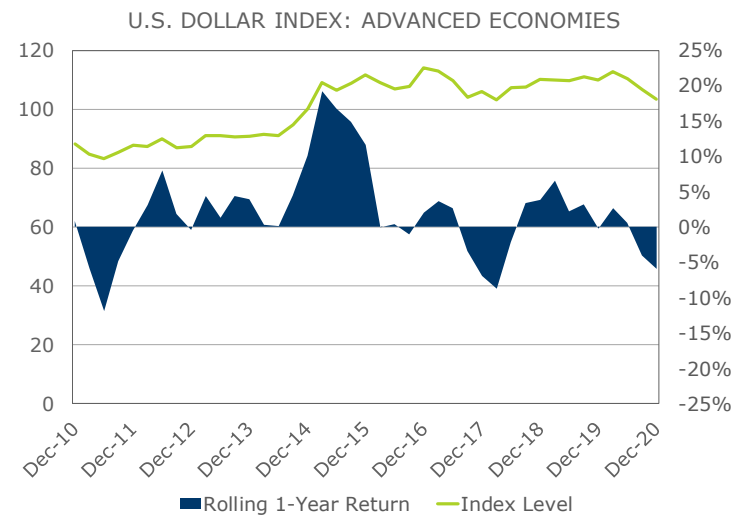
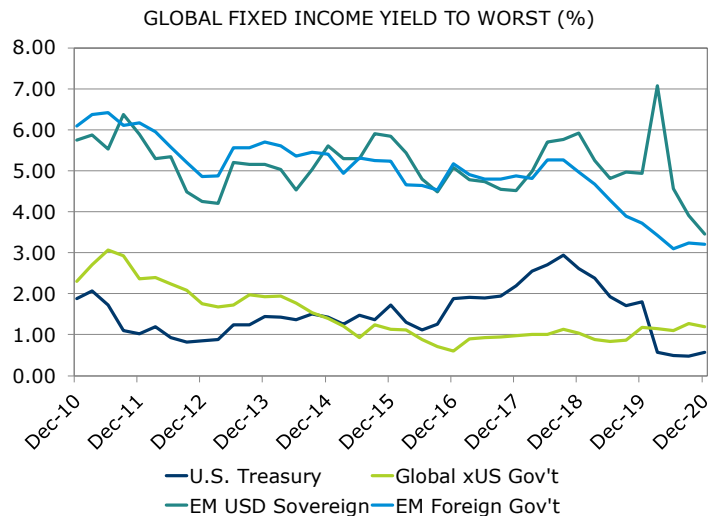


Data Sources: Bloomberg

# 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

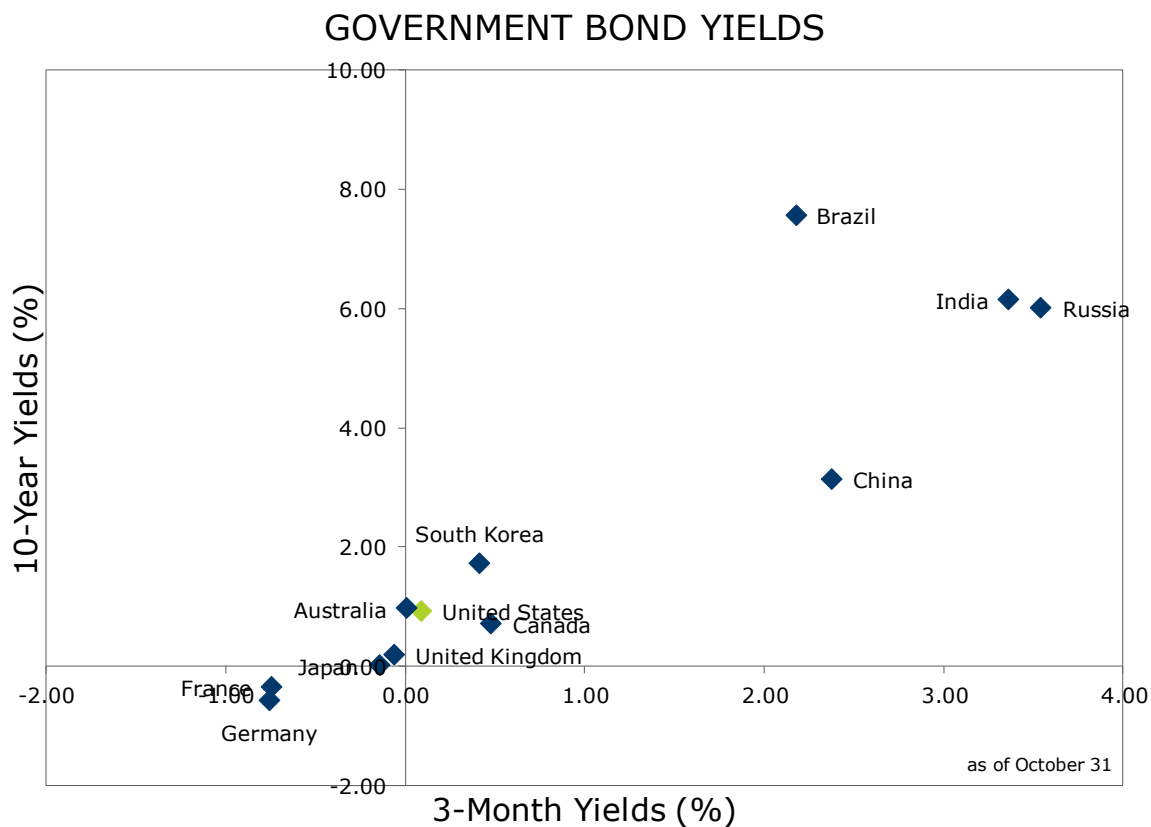
\* Returns are reported in terms of local market investors, which removes currency effects.



Data Sources: Bloomberg

# Global Interest Rates

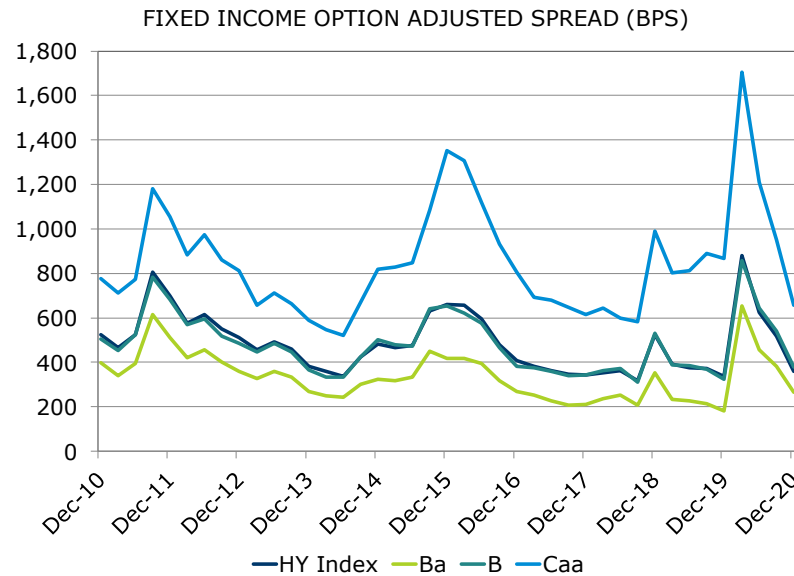
**Negative rates found in Germany and France; low but positive rates, and at similar levels, in the U.S. and Australia while the U.K. approaches zero**



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

# CalPERS Income – Performance

## As of December 31, 2020

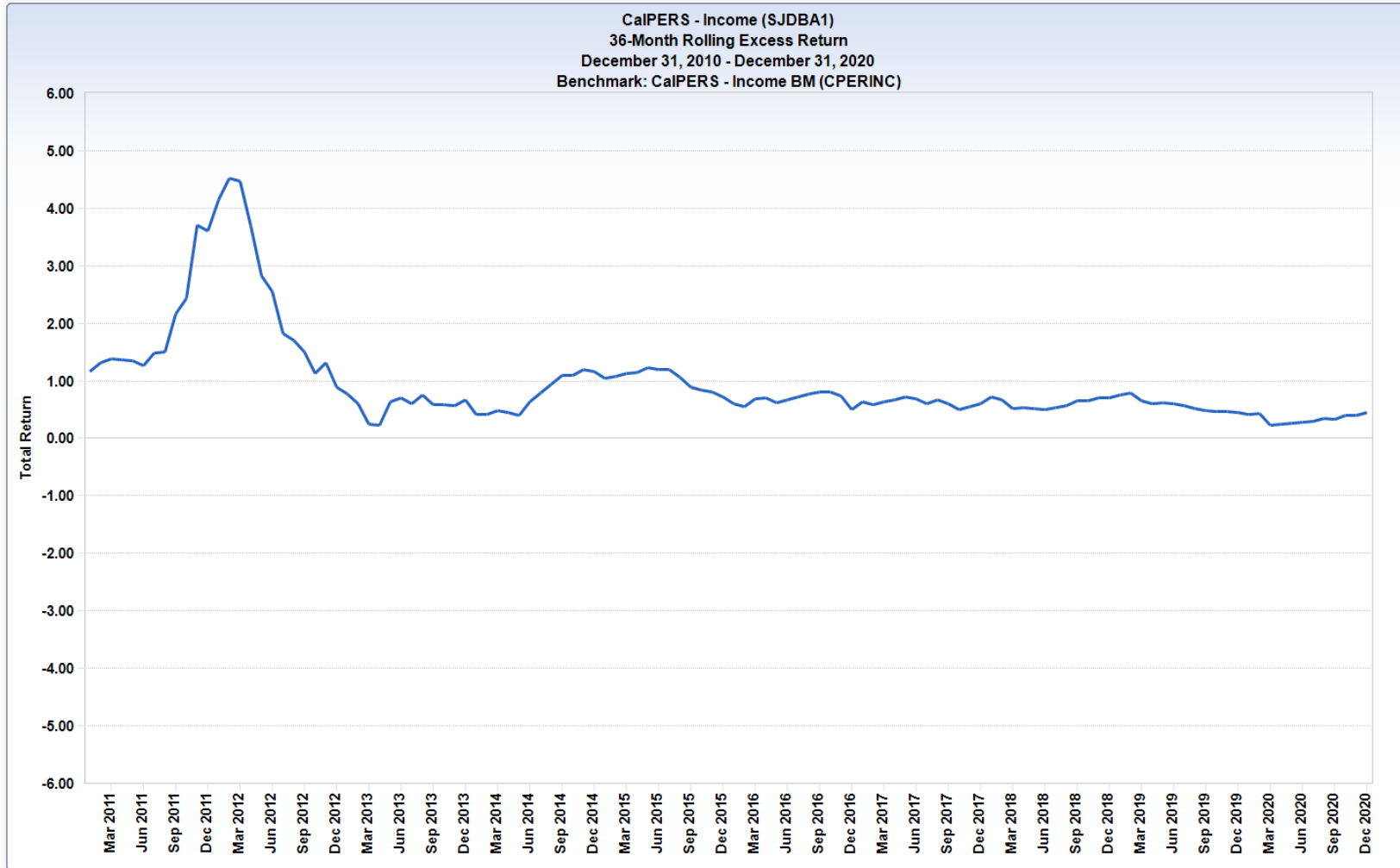
	Asset Value *						VaR	5-Year Ratios	
	(\$Billion)	Quarter	1-Year	3-Year	5-Year	10-Year	(\$Billion)	Sharpe	Info
<b>INCOME</b>	\$ 129.6	1.3%	11.8%	7.4%	6.9%	5.8%	\$ 12.2	1.1	1.8
<i>Income Policy Benchmark</i>		0.9%	11.2%	6.9%	6.3%	5.2%		1.0	0.0
<b>Spread</b>	\$ 66.0	2.6%	9.2%	-.-%	-.-%	-.-%	\$ 5.3	N/A	N/A
<i>BBG Barc Custom Global Long Spread Index</i>		2.5%	8.2%	-.-%	-.-%	-.-%		N/A	N/A
<b>Treasury</b>	\$ 43.7	-2.1%	14.9%	8.4%	6.7%	6.1%	\$ 6.1	N/A	N/A
<b>Total Fund Income</b>	\$ 6.6	1.1%	-.-%	-.-%	-.-%	-.-%	\$ 0.9	N/A	N/A
<i>CalPERS Custom Treasury Benchmark</i>		-2.5%	15.0%	8.4%	6.6%	6.2%		N/A	N/A
<b>High Yield</b>	\$ 13.2	5.6%	5.1%	-.-%	-.-%	-.-%	\$ 1.8	N/A	N/A
<i>BBG Barclays US High Yield BB/B Liquid Index</i>		5.6%	5.2%	-.-%	-.-%	-.-%		N/A	N/A

\* The CalPERS asset values shown include derivative exposure.



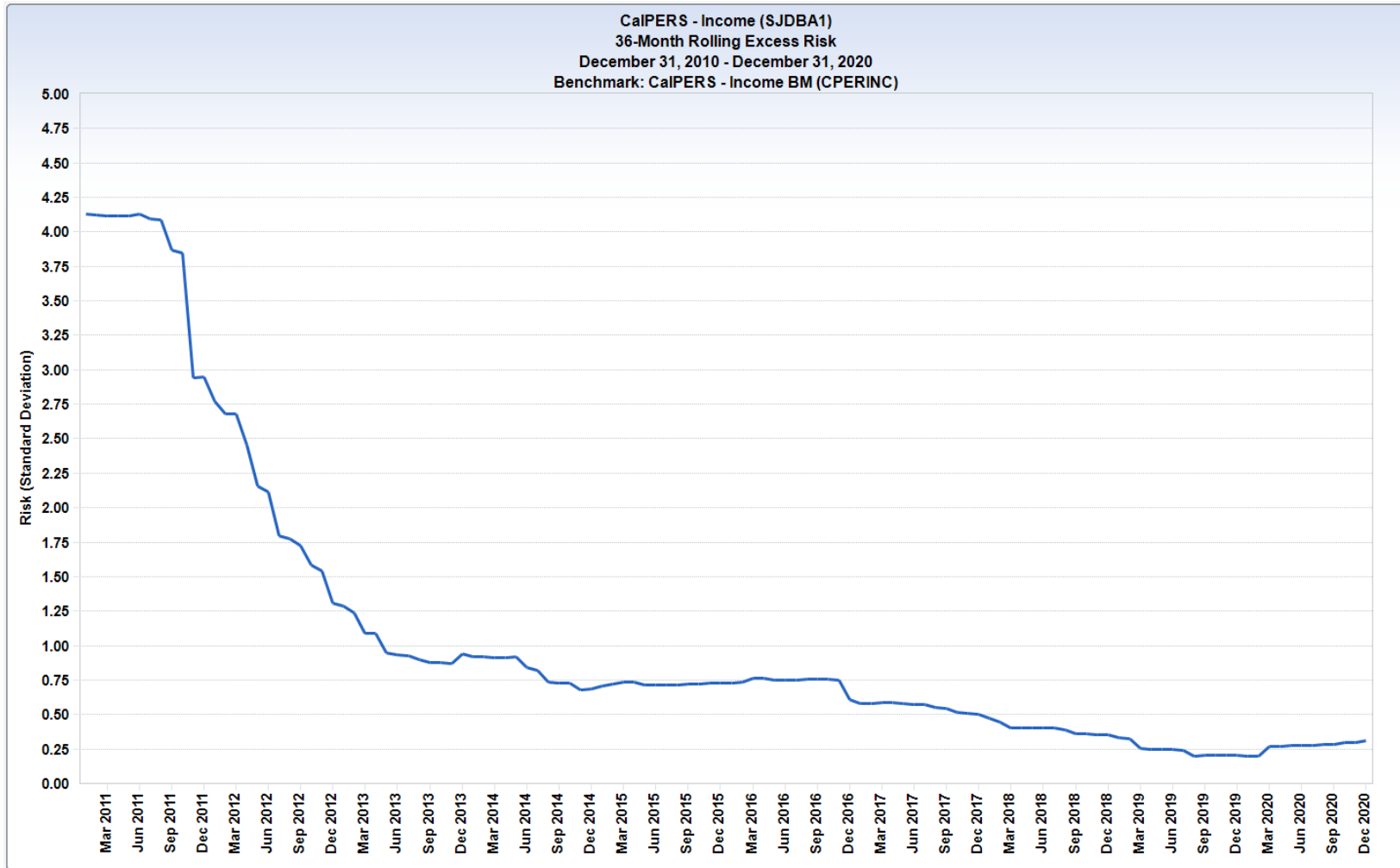
# CalPERS Income – Rolling Excess Return

## As of December 31, 2020



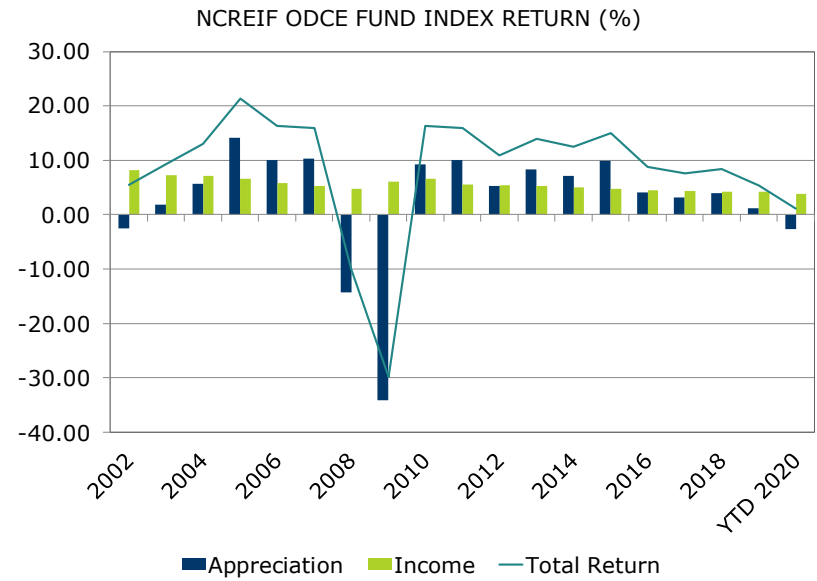
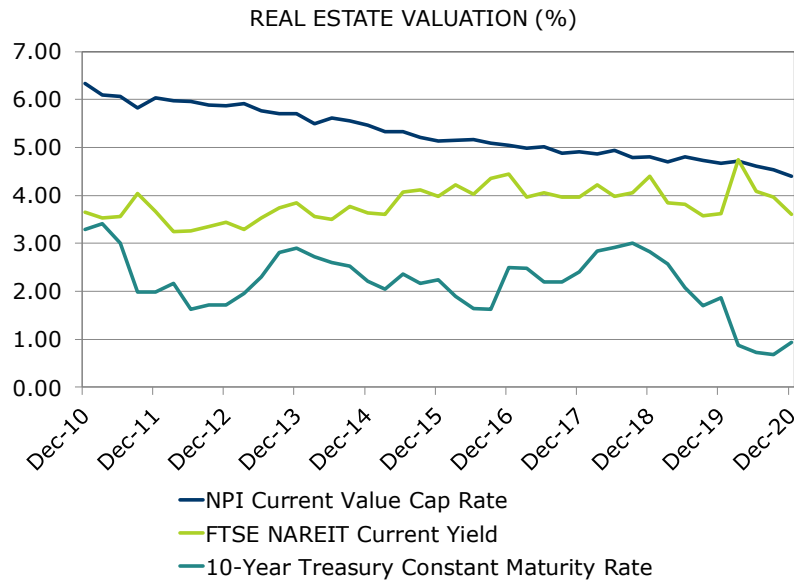
# CalPERS Income – Rolling Tracking Error

## As of December 31, 2020



# 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.



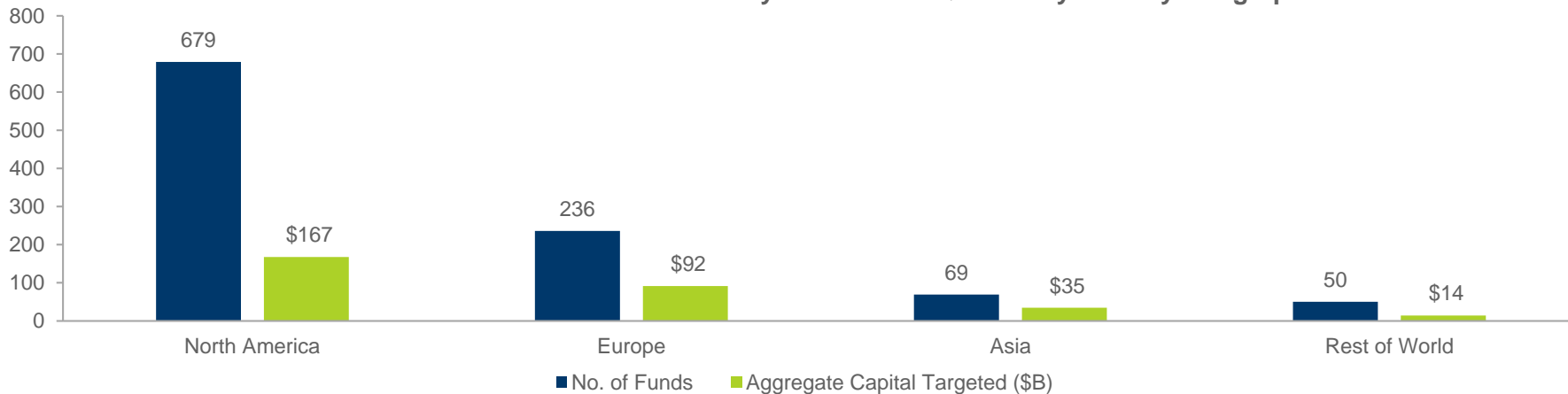
Data Sources: Bloomberg, National Council of Real Estate Investment Fiduciaries

# Private Real Estate – Fundraising Activity

Global Quarterly Closed-End Private Real Estate Fundraising (Q1 2015 – Q4 2020)



Closed-End Private Real Estate Funds Actively in Market in Q4 2020 by Primary Geographic Focus



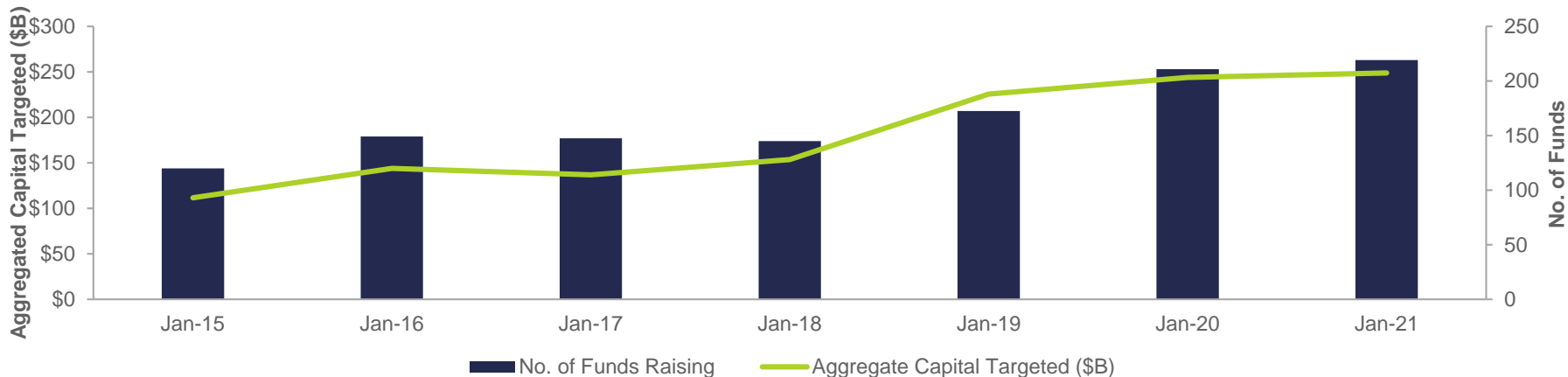
Data Sources: Prequin as of December 31, 2020

# Unlisted Infrastructure – Fundraising & Investment Activity

Global Quarterly Unlisted Infrastructure Fundraising (Q1 2015 – Q4 2020)



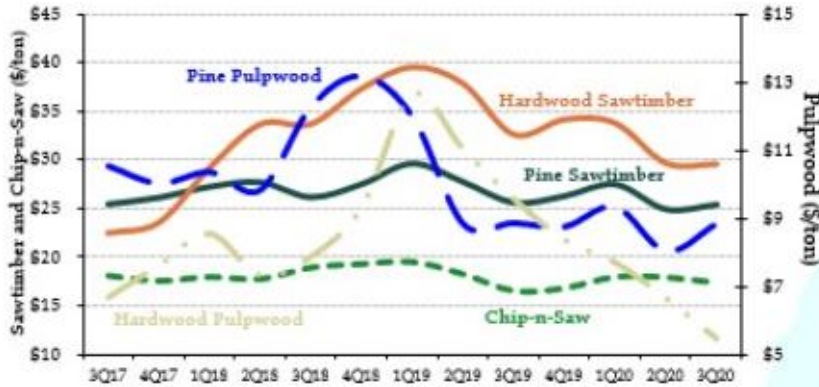
Unlisted Infrastructure Funds in Market Over Time (January 2015 – January 2021)



Data Sources: Prequin as of December 31, 2020

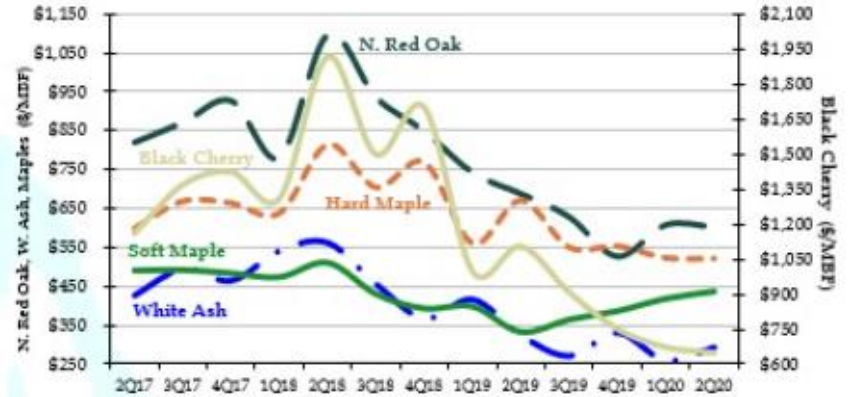
# Timber Investments

**Southeastern Timber Prices**



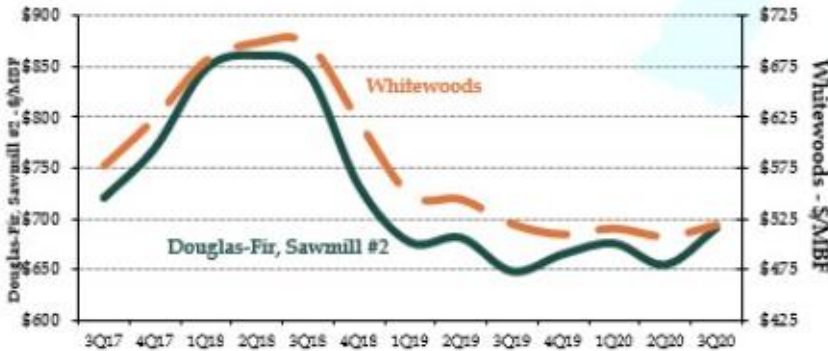
Source: Forest2Market®

**Northeastern Hardwood Timber Prices**



Source: Pennsylvania Woodlands Timber Market Report - Northwest Region

**Pacific Northwest Timber Prices**



Source: Fastmarkets RISI - Log Lines®

**Pulp and Paper**



Source: Fastmarkets RISI

Data Sources: Forest Investment Associates

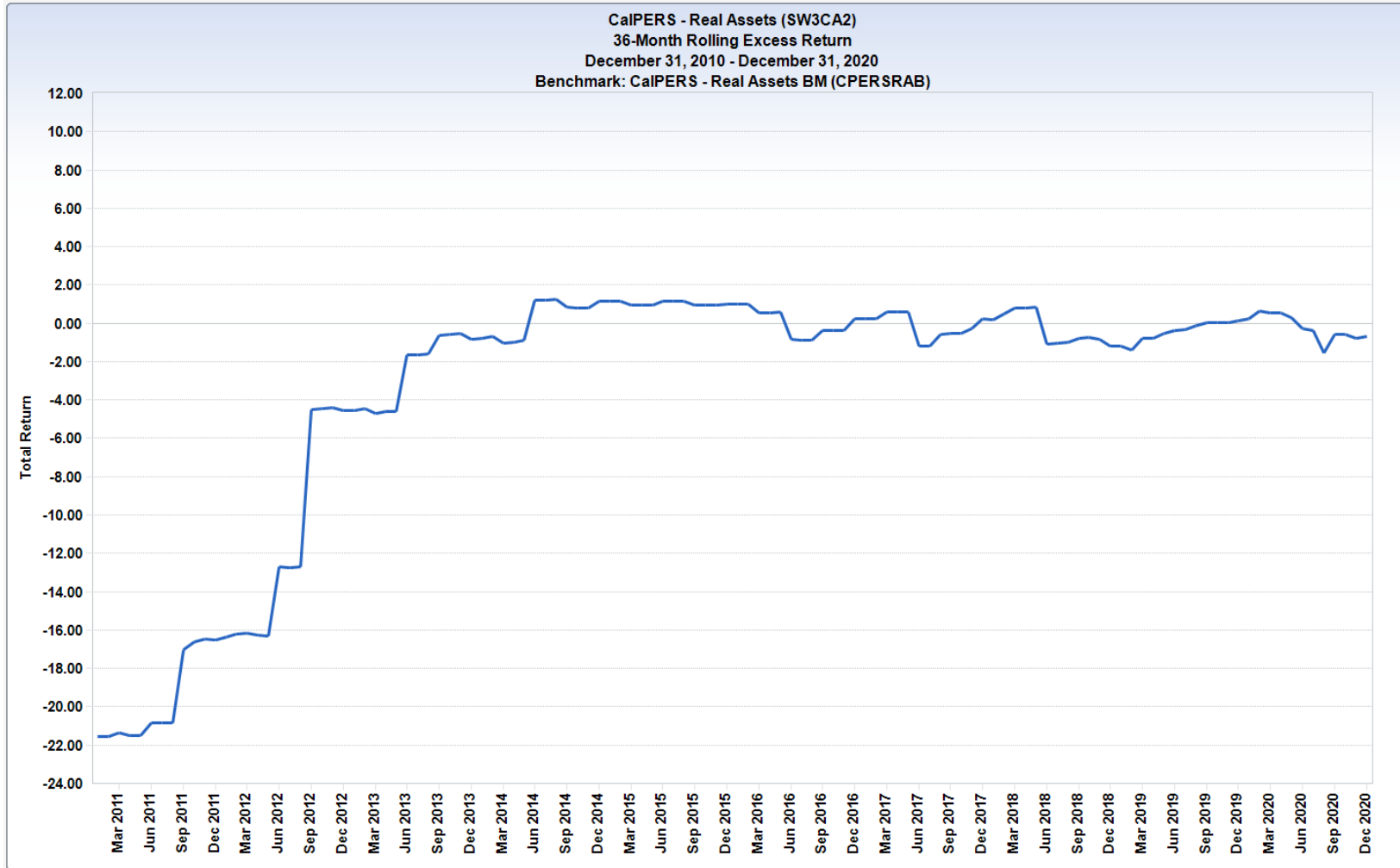
# CalPERS Real Assets – Performance

## As of December 31, 2020

	Asset Value							VaR (\$Billion)	5-Year Ratios	
	(\$Billion)	Quarter	1-Year	3-Year	5-Year	10-Year	Sharpe		Info	
<b>REAL ASSETS</b>	\$ 44.3	0.5%	-0.1%	3.4%	4.9%	8.5%	\$ 6.4	1.4	-0.2	
<i>Real Assets Policy Benchmark</i>		0.2%	0.4%	4.1%	5.4%	8.5%		1.5	0.0	
<b>Real Estate</b>	\$ 37.3	0.6%	0.0%	3.4%	5.0%	9.1%	\$ 5.4	1.4	-0.3	
<i>CalPERS Custom Real Estate Benchmark</i>		0.2%	0.4%	4.2%	5.6%	9.2%		1.5	0.0	
<b>Infrastructure</b>	\$ 5.8	-0.1%	-0.4%	6.0%	8.8%	13.8%	\$ 0.8	1.2	0.6	
<i>CalPERS Custom Infrastructure Benchmark</i>		0.2%	0.4%	3.9%	4.7%	5.4%		1.8	0.0	
<b>Forestland</b>	\$ 1.3	0.2%	-1.0%	-3.0%	-3.6%	-2.4%	\$ 0.2	-0.7	-1.0	
<i>CalPERS Custom Forestland Benchmark</i>		0.2%	0.4%	3.7%	3.5%	4.9%		1.1	0.0	

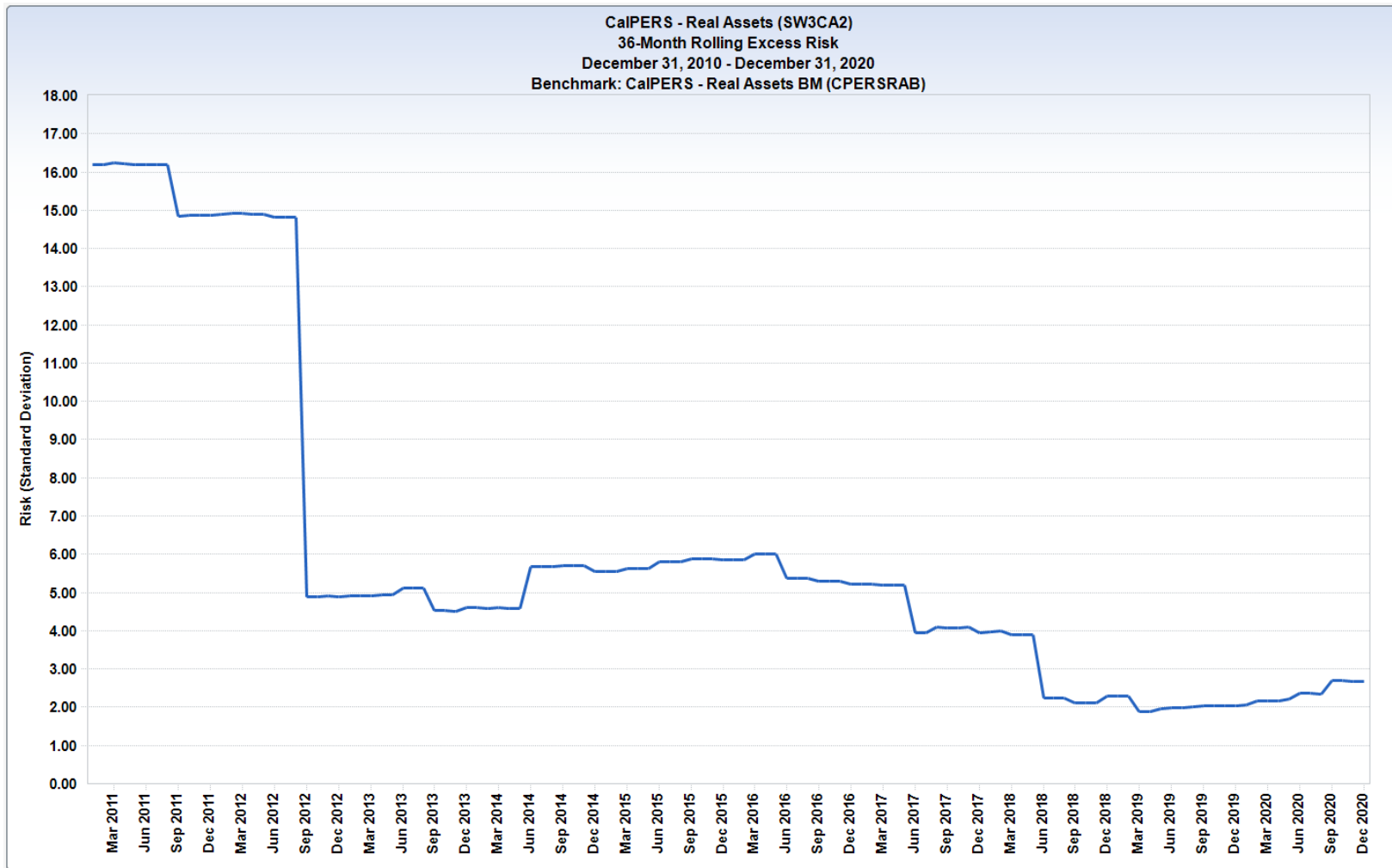
# CalPERS Real Assets – Rolling Excess Return

## As of December 31, 2020





# CalPERS Real Assets – Rolling Tracking Error As of December 31, 2020



# CalPERS Liquidity – Performance

## As of December 31, 2020

	Asset Value							VaR	5-Year Ratios	
	(\$Billion)	Quarter	1-Year	3-Year	5-Year	10-Year	(\$Billion)		Sharpe	Info
<b>LIQUIDITY</b>	\$ 10.3	0.0%	0.5%	1.8%	1.4%	1.3%	\$ 0.1	0.7	4.2	
<i>Liquidity Policy Benchmark</i>		0.0%	0.4%	1.4%	1.1%	1.3%		-0.5	0.0	
<b>Internal Short Term Cash Portfolio</b>	\$ 10.3	0.0%	0.5%	1.8%	1.4%	0.8%	\$ 0.1	0.7	4.2	
<i>CalPERS Short Term Benchmark</i>		0.0%	0.4%	1.4%	1.2%	0.6%		-0.5	0.0	
<b>Trust Level Financing</b>	\$ (17.4)	--%	--%	--%	--%	--%		N/A	N/A	

# Opportunistic Strategies – Performance

## As of December 31, 2020

	Asset Value							VaR (\$Billion)	5-Year Ratios		
	(\$Billion)	Quarter	1-Year	3-Year	5-Year	10-Year	Sharpe		Info		
<b>OPPORTUNISTIC STRATEGIES</b>	\$	0.9	1.2%	--%	--%	--%	--%	\$	0.1	N/A	N/A
<i>Custom Opportunistic Strategies Benchmark</i>			1.2%	--%	--%	--%	--%			N/A	N/A
<b>CaIPERS PIMCO DISCO III</b>	\$	0.2	4.5%	--%	--%	--%	--%			N/A	N/A
<i>SSA Custom Absolute 7%</i>			1.7%	--%	--%	--%	--%			N/A	N/A
<b>Sixth St Partners-Fundamental Strategy</b>	\$	0.0	1.2%	--%	--%	--%	--%			N/A	N/A
<i>SSA Custom Absolute 7%</i>			1.7%	--%	--%	--%	--%			N/A	N/A
<b>Sixth St Partners-TAO</b>	\$	0.2	3.1%	--%	--%	--%	--%			N/A	N/A
<i>SSA Custom Absolute 7%</i>			1.7%	--%	--%	--%	--%			N/A	N/A
<b>Oaktree Strategic Lending</b>	\$	0.1	1.9%	--%	--%	--%	--%			N/A	N/A
<i>SSA Custom Absolute 7%</i>			1.7%	--%	--%	--%	--%			N/A	N/A
<b>West Street Strategic Solution Fund</b>	\$	0.3	0.1%	--%	--%	--%	--%			N/A	N/A
<i>SSA Custom Absolute 7%</i>			1.7%	--%	--%	--%	--%			N/A	N/A
<b>West Street Co-Invest II</b>	\$	0.0	0.1%	--%	--%	--%	--%			N/A	N/A
<i>SSA Custom Absolute 7%</i>			1.7%	--%	--%	--%	--%			N/A	N/A
<b>Blackstone RE Debt Stat IV-Parallel</b>	\$	0.1	--%	--%	--%	--%	--%			N/A	N/A
<i>SSA Custom Absolute 7%</i>			--%	--%	--%	--%	--%			N/A	N/A
<b>West Street Co-Invest, L.P.</b>	\$	0.1	--%	--%	--%	--%	--%			N/A	N/A
<i>SSA Custom Absolute 7%</i>			--%	--%	--%	--%	--%			N/A	N/A

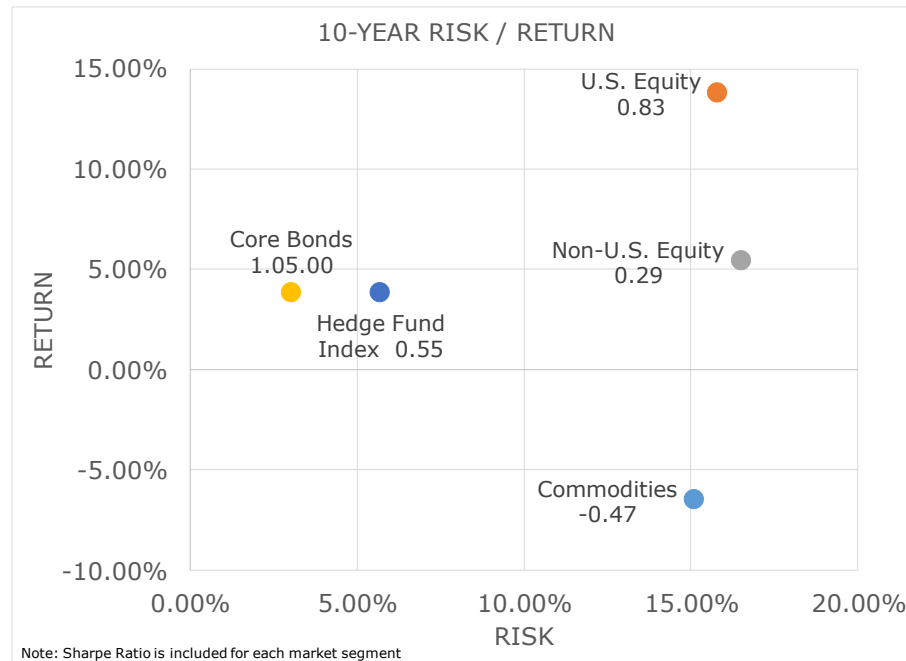
# Trust Level Portfolio Management – Performance

## As of December 31, 2020

	Asset Value						VaR	5-Year Ratios	
	(\$Billion)	Quarter	1-Year	3-Year	5-Year	10-Year	(\$Billion)	Sharpe	Info
<b>TRUST LEVEL PORTFOLIO MGMT</b>	\$ 0.04	NM	NM	NM	NM	NM	\$ 0.0	N/A	N/A
<i>CalPERS Reference Portfolio Benchmark</i>		11.1%	13.2%	9.1%	10.1%	8.2%		N/A	N/A
<b>External Multi-Asset Class</b>	\$ 0.02	-.-%	-.-%	-.-%	-.-%	-.-%		N/A	N/A
<i>CalPERS Reference Portfolio Benchmark</i>		-.-%	-.-%	-.-%	-.-%	-.-%		N/A	N/A
<b>PE Premium Replication</b>	\$ 0.02	2.5%	2.5%	-.-%	-.-%	-.-%		N/A	N/A
<i>CalPERS STIF</i>		0.0%	0.6%	-.-%	-.-%	-.-%		N/A	N/A
<b>TLPM Transition</b>	\$ 0.00	-.-%	-.-%	-.-%	-.-%	-.-%		N/A	N/A

# Hedge Fund Performance

AS OF 12/31/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
DJ CS HEDGE FUND INDEX	6.4	6.4	6.4	4.0	4.1	3.8
EVENT DRIVEN	10.4	7.0	7.0	3.6	3.9	3.0
GLOBAL MACRO	6.0	6.5	6.5	5.5	4.4	4.1
LONG/SHORT EQUITY	7.6	7.9	7.9	4.9	4.8	5.0
MULTI-STRATEGY	5.0	5.6	5.6	3.9	4.6	5.7
WILSHIRE 5000	14.5	20.8	20.8	14.5	15.5	13.8
MSCI ACWI EX-US (\$G)	17.1	11.1	11.1	5.4	9.4	5.4
BLOOMBERG BARCLAYS AGGREGATE	0.7	7.5	7.5	5.3	4.4	3.8
BLOOMBERG COMMODITY INDEX	10.2	-3.1	-3.1	-2.5	1.0	-6.5



Data Sources: Bloomberg

# Other Perf – Performance

## As of December 31, 2020

	Asset Value						VaR (\$Billion)	5-Year Ratios	
	(\$Billion)	Quarter	1-Year	3-Year	5-Year	10-Year		Sharpe	Info
<b>OTHER PERF</b>	\$ 0.2	NM	NM	NM	NM	NM	\$ -	N/A	N/A
<b>Absolute Return Strategies</b>	\$ 0.2	7.3%	59.1%	10.1%	5.8%	4.6%		0.2	0.0
<i>Total ARS Program Blended Benchmark</i>		1.3%	6.9%	7.3%	6.7%	6.0%		9.2	0.0

# LLER – Performance

## As of December 31, 2020

	Asset Value							VaR (\$Billion)	5-Year Ratios	
	(\$Billion)	Quarter	1-Year	3-Year	5-Year	10-Year	Sharpe		Info	
<b>LLER</b>	\$ 11.1	1.3%	2.0%	3.0%	3.1%	-.-%	\$ 0.3	N/A	N/A	
<i>LIBOR 1 Month Rate</i>		0.0%	0.4%	1.1%	0.9%	-.-%		N/A	N/A	
<b>Enhanced Return</b>	\$ 9.6	1.2%	2.2%	3.0%	3.2%	-.-%		N/A	N/A	
<b>Direct Lending Financing</b>	\$ 1.2	1.8%	1.1%	-.-%	-.-%	-.-%		N/A	N/A	
<b>Senior Lending in Private Cre Debt</b>	\$ 0.2	0.6%	2.5%	-.-%	-.-%	-.-%		N/A	N/A	
<i>LIBOR 1 Month + 20 Basis Points</i>		0.1%	0.6%	1.3%	1.1%	-.-%		N/A	N/A	
<b>Federated Trade Finance</b>	\$ 0.0	NM	NM	-.-%	-.-%	-.-%		N/A	N/A	
<i>LIBOR 3 Month + 150 Basis Points</i>		0.4%	2.1%	-.-%	-.-%	-.-%		N/A	N/A	
<b>Asset Based Lending</b>	\$ 0.0	NM	NM	-.-%	-.-%	-.-%		N/A	N/A	
<i>LIBOR 1 Month Rate</i>		0.0%	0.4%	-.-%	-.-%	-.-%		N/A	N/A	

# 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



# Appendix 2: Asset Assumptions Matrix

# 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			
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