

QUARTERLY PERFORMANCE REPORT

SAN BERNARDINO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

December 31, 2020

Allan Martin, Partner

Sam Austin, Partner

Michael Malchenko, Sr Client Specialist



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

MARKET ENVIRONMENT UPDATE & OUTLOOK

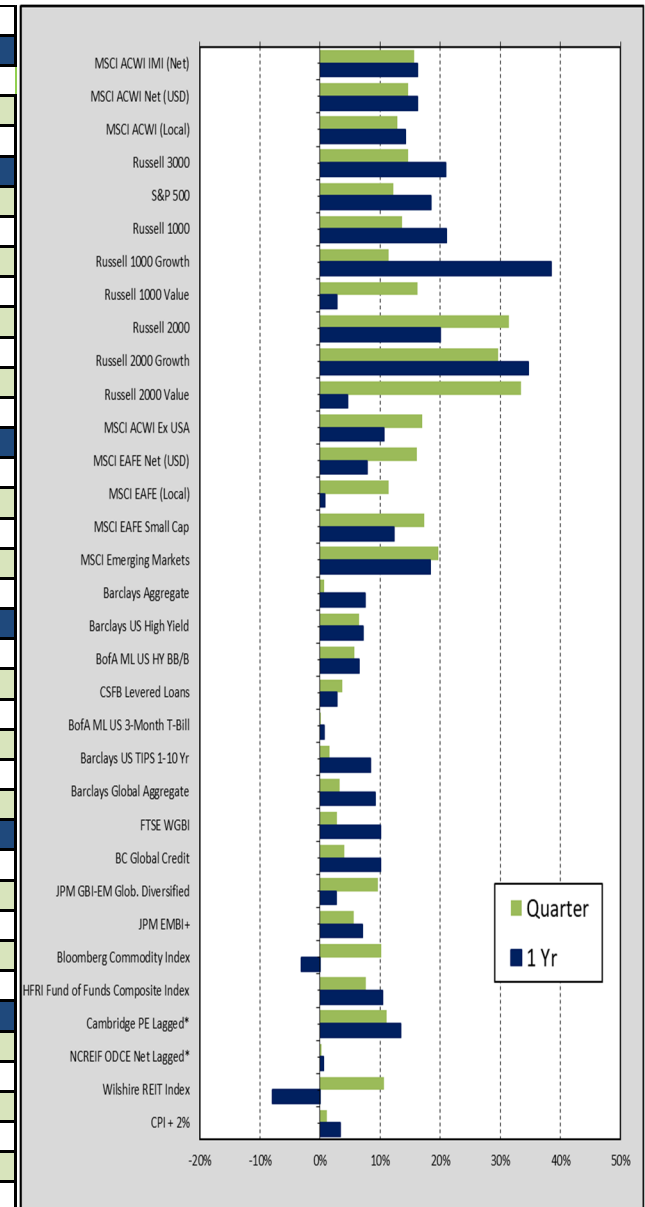
ECONOMIC ENVIRONMENT

- **Q3 Real GDP (third estimate) grew at a rate of +33.4%. In the second quarter, real GDP grew at an annual rate of -31.4%.**
 - Retail sales ended December at +5.5% on a YoY basis. In the same period last year the YoY growth rate was 3.9%.
 - Corporate profits as a percent of GDP increased to 10.0% in Q2, up from 7.98% in Q1 and remain elevated relative to historical levels.
 - The inventory-to-sales ratio ended November down to 1.3 from 1.4 in June. Levels have remained relatively constant since early 2010 with a spike to 1.7 in April 2020.
 - The U.S. trade deficit widened 1.7% (ended October).
- **The unemployment rate was 6.7% in Q4, down from 7.8% in Q3 %; U-6, a broader measure of unemployment, decreased to 11.7% in Q4 from 12.8% in Q3.**
 - The labor force participation rate ended Q4 at 61.5%, up from 61.4% in Q3 after declining to 60.2% in April and is at levels below the 10 year pre-pandemic average of 63.2%.
- **The Case-Shiller Home Price Index (ended November) increased to 232.4 from 226.8 (in September) and remains at levels higher than that of pre-financial crisis levels of 150.9.**
- **Rolling 12-month seasonally-adjusted CPI saw a down-tick to 1.29% in Q4 from 1.41% in Q3; Capacity Utilization increased to 74.5% in Q4 from 72.3% in Q3.**
- **Fed Funds rate remains at a targeted range of 0.00%-to-0.25%. The 10-year Treasury Yield (constant maturity) finished Q4 at 0.9%, up from 0.7% in Q3.**
- **The Fed remains committed to continuing stimulative action as needed to support the US economy. The Fed's balance sheet continues to grow in the wake of the pandemic.**
- **S&P valuations increased in Q4 to 34.04 from 31.21 in Q3 and is higher than the 10-year average of 26.55x.**
 - Cyclically adjusted Shiller PE ratio remains above the long-term average of 16.77x



MARKET ENVIRONMENT – Q4 2020 OVERVIEW

		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Equity Benchmarks						
MSCI ACWI IMI (Net)	World with Small Cap	15.70%	16.25%	9.72%	12.15%	9.09%
MSCI ACWI Net (USD)	World W/O Small Cap	14.68%	16.25%	10.06%	12.26%	9.13%
MSCI ACWI (Local)	World (Local Currency)	12.83%	14.21%	9.81%	11.52%	10.02%
Domestic Equity Benchmarks						
Russell 3000	Domestic All Cap	14.68%	20.89%	14.49%	15.43%	13.79%
S&P 500	Large Core	12.15%	18.40%	14.18%	15.22%	13.88%
Russell 1000	Large Core	13.69%	20.96%	14.82%	15.60%	14.01%
Russell 1000 Growth	Large Growth	11.39%	38.49%	22.99%	21.00%	17.21%
Russell 1000 Value	Large Value	16.25%	2.79%	6.07%	9.74%	10.50%
Russell 2000	Small Core	31.37%	19.96%	10.25%	13.26%	11.20%
Russell 2000 Growth	Small Growth	29.61%	34.63%	16.19%	16.36%	13.48%
Russell 2000 Value	Small Value	33.36%	4.63%	3.72%	9.65%	8.66%
International Equity Benchmarks						
MSCI ACWI Ex USA	World ex-US	17.01%	10.65%	4.88%	8.93%	4.92%
MSCI EAFE Net (USD)	Int'l Developed	16.05%	7.82%	4.28%	7.45%	5.51%
MSCI EAFE (Local)	Int'l Developed (Local Currency)	11.35%	0.84%	2.98%	5.80%	6.82%
MSCI EAFE Small Cap	Small Cap Int'l	17.27%	12.34%	4.85%	9.40%	7.85%
MSCI Emerging Markets	Emerging Equity	19.70%	18.31%	6.17%	12.81%	3.63%
Domestic Fixed Income Benchmarks						
Barclays Aggregate	Core Bonds	0.67%	7.51%	5.34%	4.44%	3.84%
Barclays US High Yield	High Yield	6.45%	7.11%	6.24%	8.59%	6.80%
BofA ML US HY BB/B	High Yield	5.73%	6.45%	6.30%	8.08%	6.65%
CSFB Levered Loans	Bank Loans	3.64%	2.78%	3.99%	5.19%	4.47%
BofA ML US 3-Month T-Bill	Cash	0.03%	0.67%	1.60%	1.20%	0.64%
Barclays US TIPS 1-10 Yr	Inflation	1.60%	8.39%	4.93%	4.13%	2.88%
Global Fixed Income Benchmarks						
Barclays Global Aggregate	Global Core Bonds	3.28%	9.20%	4.85%	4.79%	2.83%
FTSE WGBI	World Gov. Bonds	2.77%	10.11%	4.96%	4.78%	2.32%
BC Global Credit	Global Bonds	4.03%	10.03%	5.67%	5.91%	4.35%
JPM GBI-EM Glob. Diversified	Em. Mkt. Bonds (Local Currency)	9.62%	2.69%	3.01%	6.72%	1.49%
JPM EMBI+	Em. Mkt. Bonds	5.64%	7.05%	4.50%	6.26%	5.64%
Alternative Benchmarks						
Bloomberg Commodity Index	Commodities	10.19%	-3.12%	-2.53%	1.03%	-6.50%
HFRI Fund of Funds Composite Index	Fund of Hedge Funds	7.59%	10.34%	4.71%	4.46%	3.27%
Cambridge PE Lagged*	Private Equity	11.04%	13.37%	13.07%	12.96%	13.56%
NCREIF ODCE Net Lagged*	Real Estate	0.27%	0.51%	4.25%	5.69%	9.26%
Wilshire REIT Index	REIT	10.63%	-7.89%	3.30%	4.25%	8.27%
CPI + 2%	Inflation/Real Assets	1.10%	3.31%	3.87%	3.98%	3.77%



* As of 9/30/2020

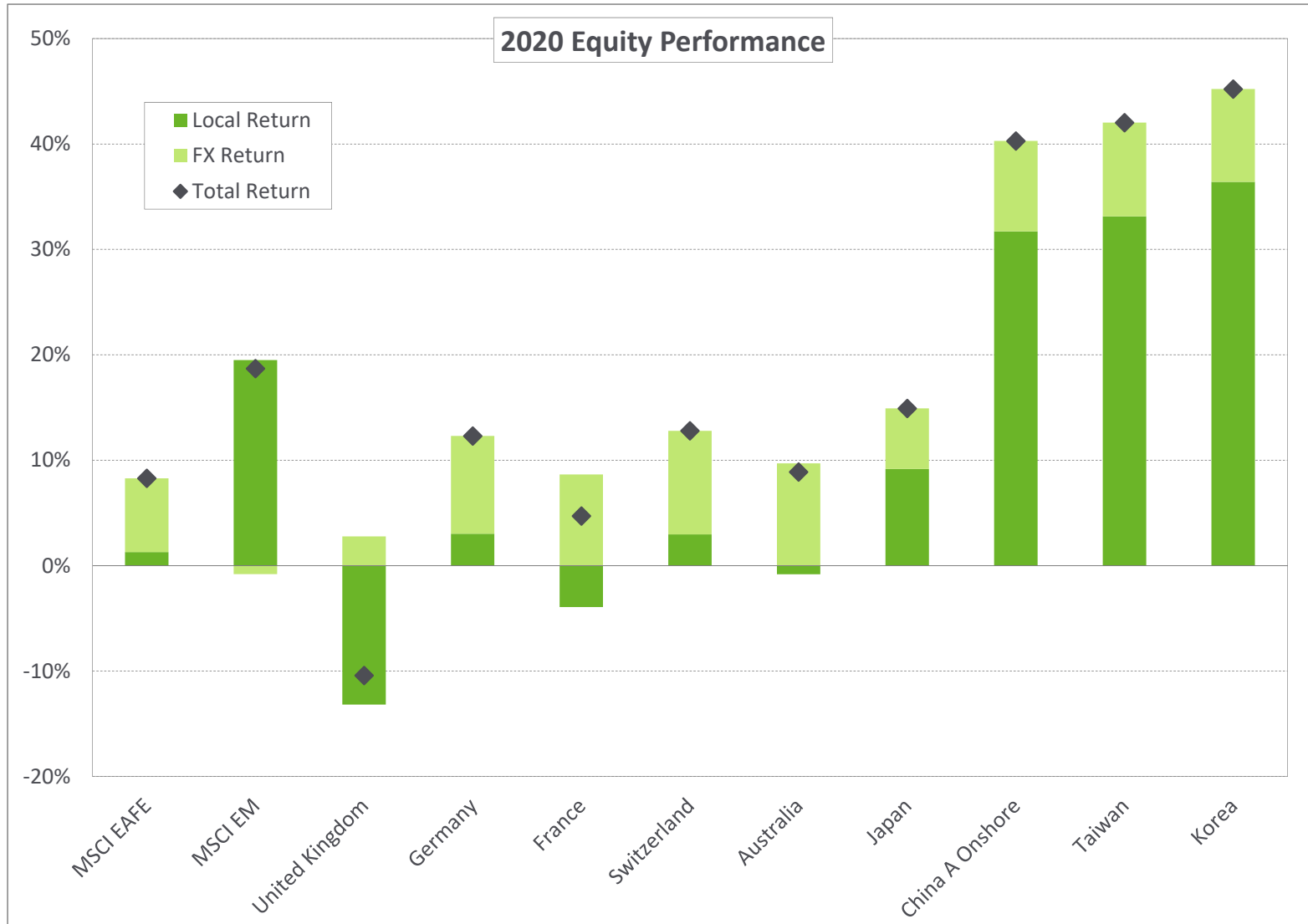
THE WORLD ECONOMY SHRANK IN 2020



Q4 2020 real GDP figure represents IMF forecast for 2020
GDP figures are seasonally adjusted and chained to 2005 dollars
Source: IMF, FactSet



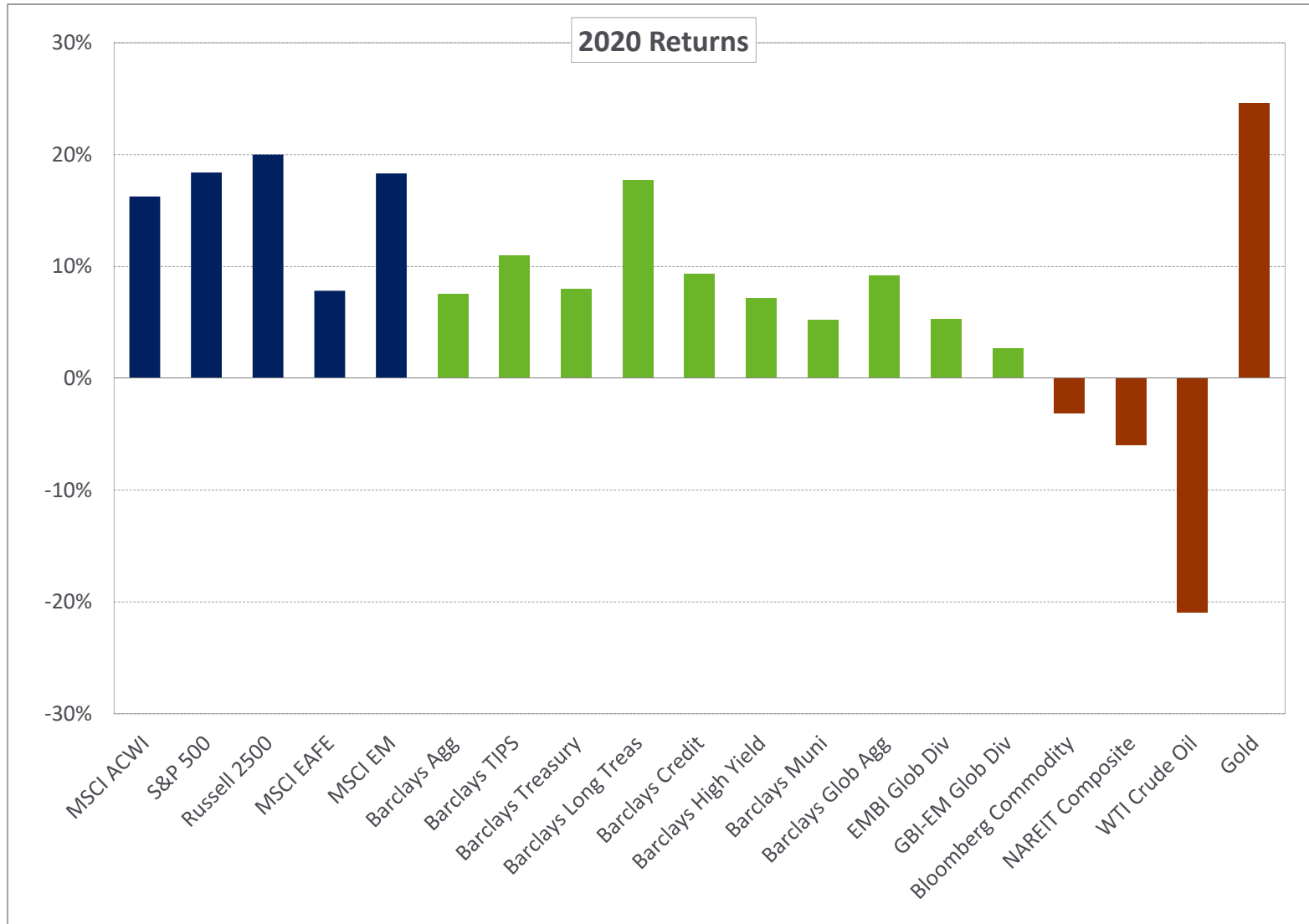
DOLLAR WEAKNESS SUPPORTED NON-US EQUITY



Source: MSCI, FactSet



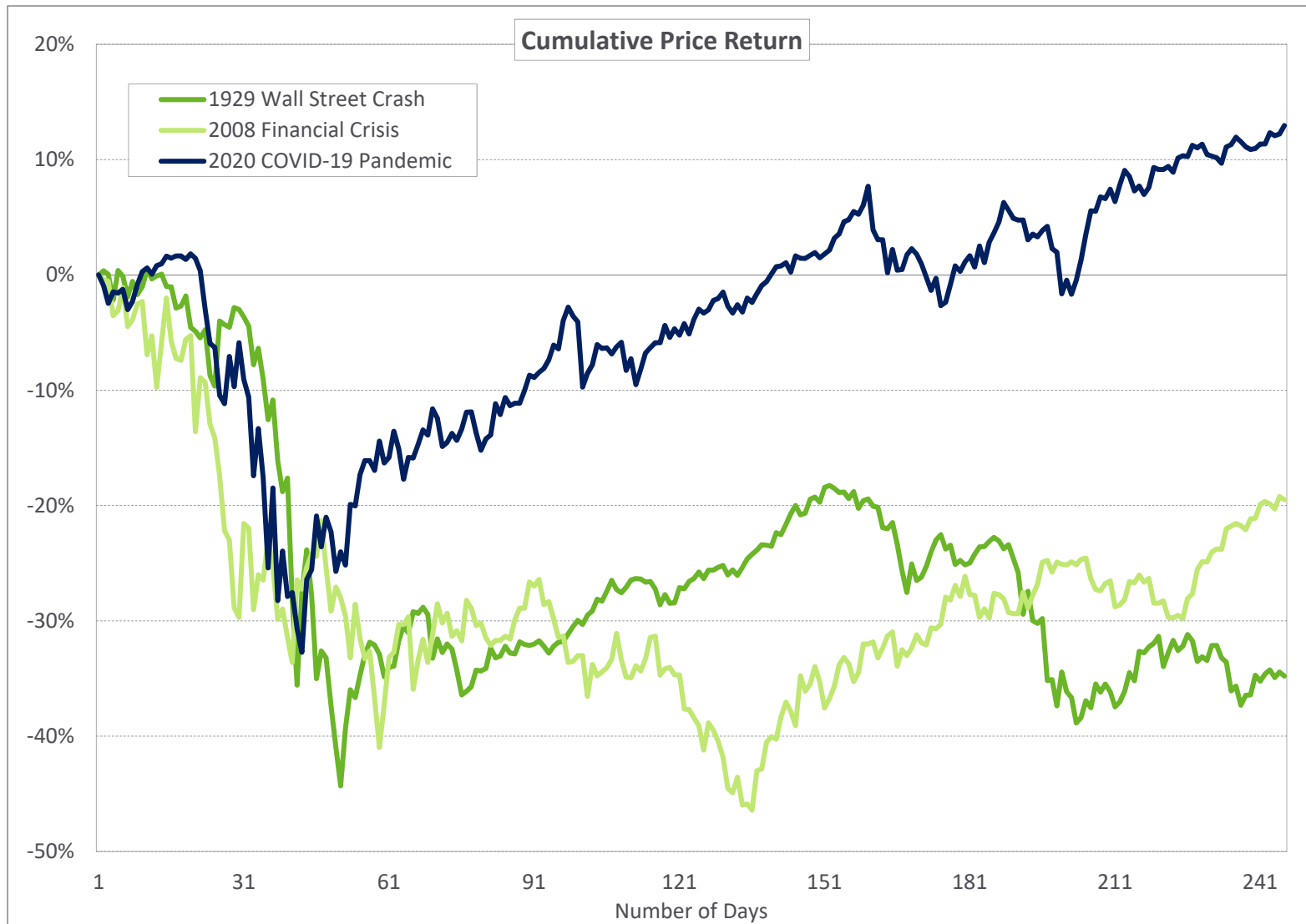
US AND EMERGING EQUITIES OUTPERFORMED



Source: S&P, Russell, MSCI, JPM, Bloomberg, FactSet



THE SHORTEST BEAR MARKET IN HISTORY

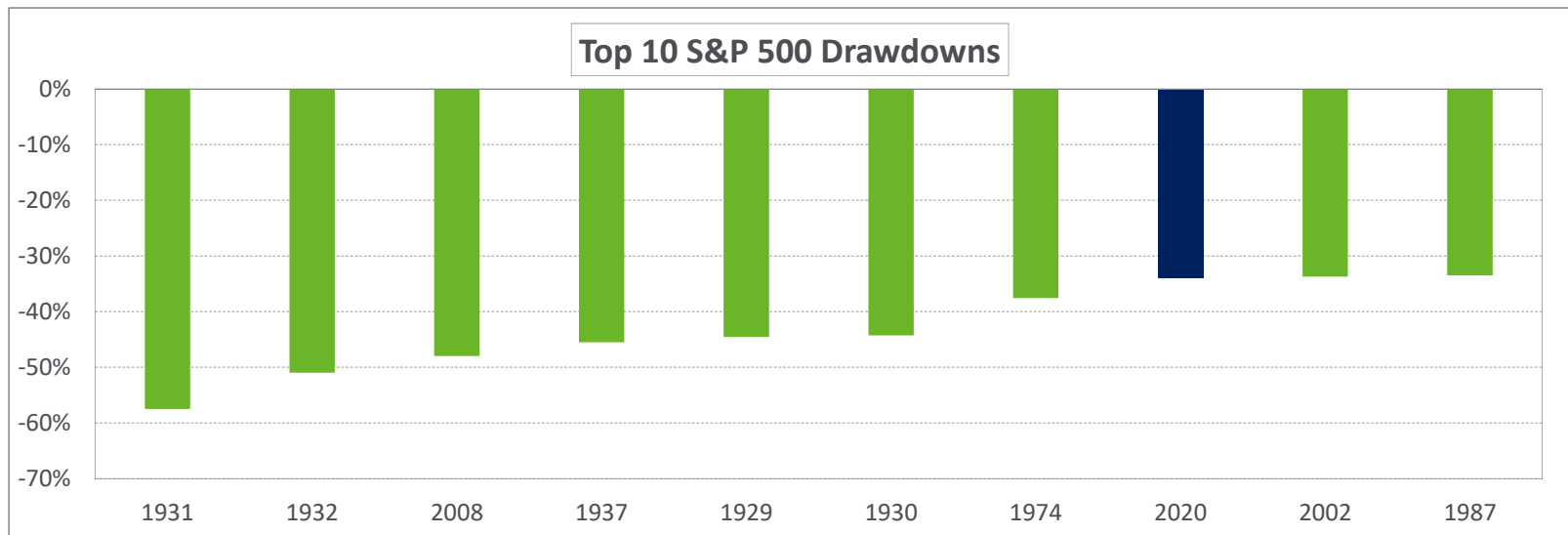
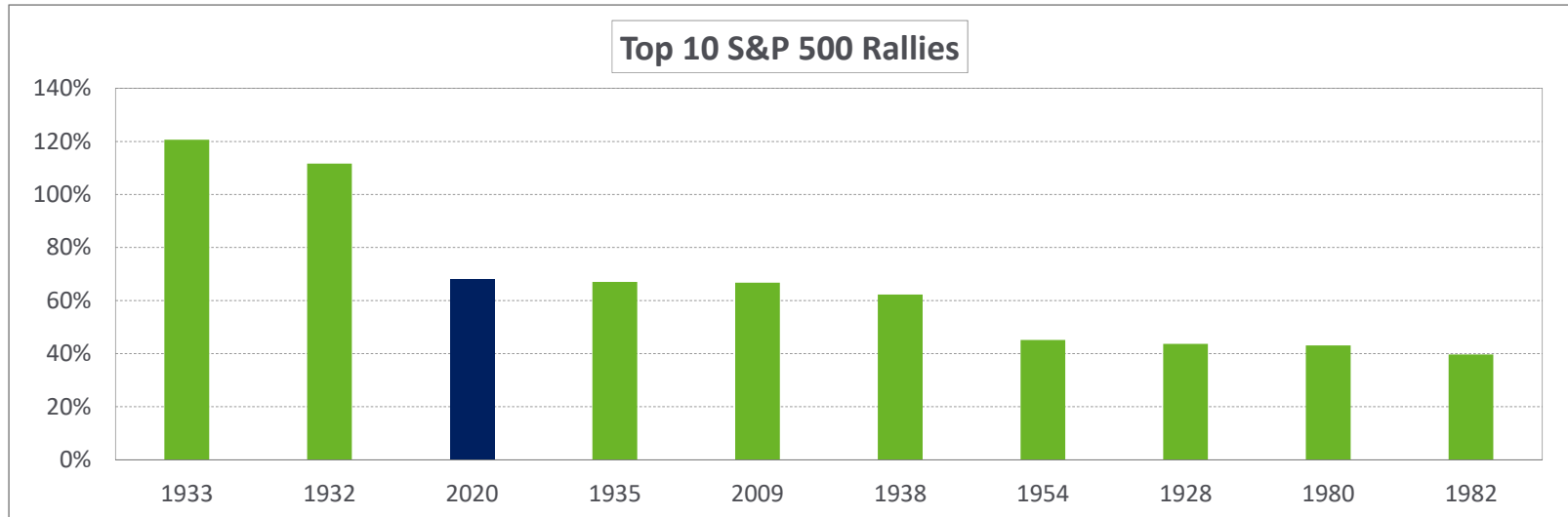


Source: S&P, FactSet

Financial Crisis represents S&P returns from 9/1/2008 – 8/10/2009; Wall Street Crash represents Dow Jones returns from 8/30/1929 – 8/25/1930; COVID-19 represents S&P returns from 1/23/2020 (representing the start of the Wuhan, China lockdown) – 12/31/2020



THE LARGEST EQUITY SWINGS SINCE 1932

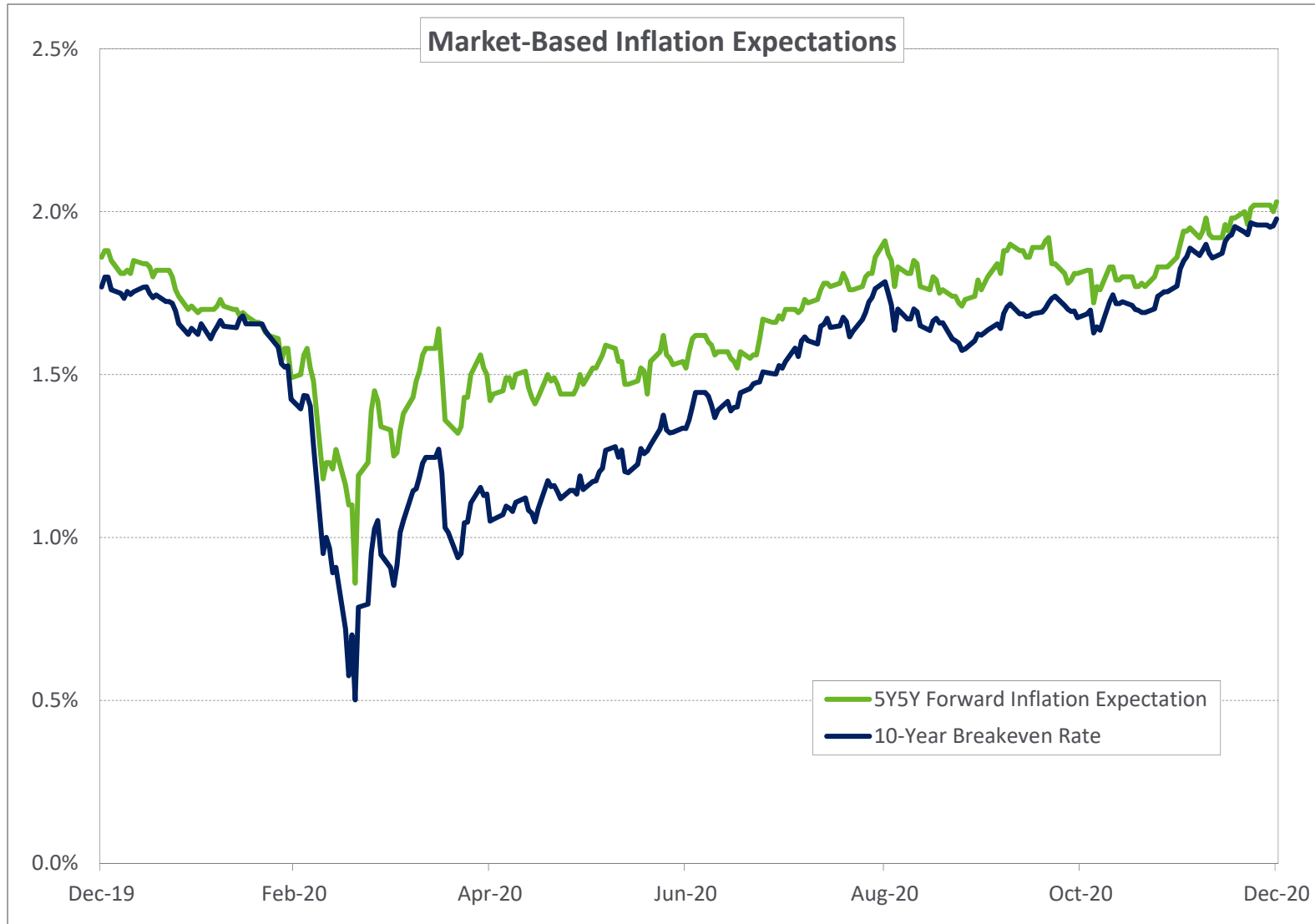


Source: S&P, FactSet

Rallies and drawdowns represent the largest trough-to-peak and peak-to-trough within a calendar year



INFLATION EXPECTATIONS RECOVERED



Source: FactSet



QE PUSHED YIELDS INTO NEGATIVE TERRITORY

Government Bond Yields	6M	1Y	2Y	3Y	5Y	7Y	10Y	15Y	30Y
Germany	-0.7%	-0.7%	-0.7%	-0.8%	-0.7%	-0.7%	-0.6%	-0.4%	-
Netherlands	-	-0.7%	-0.7%	-0.7%	-0.7%	-0.6%	-0.5%	-0.4%	-0.1%
France	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%	-0.6%	-0.3%	-0.2%	0.4%
Austria	-0.6%	-0.7%	-0.7%	-0.7%	-0.7%	-0.6%	-0.4%	-	0.1%
Switzerland	-	-0.8%	-0.8%	-0.8%	-0.7%	-0.6%	-0.5%	-	-0.3%
Belgium	-	-0.7%	-0.7%	-0.7%	-0.7%	-0.6%	-0.4%	-0.2%	0.3%
Japan	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.2%	0.6%
Finland	-0.7%	-0.7%	-0.7%	-0.7%	-	-0.6%	-	-	0.0%
Portugal	-0.9%	-0.8%	-0.7%	-0.5%	-0.4%	-0.2%	0.0%	-	-
Italy	-0.6%	-0.6%	-0.4%	-0.3%	-0.0%	0.2%	0.5%	0.9%	1.4%
United Kingdom	-0.0%	-0.2%	-0.2%	-0.1%	-0.1%	0.0%	0.2%	0.4%	0.7%
Sweden	-0.2%	-	-0.4%	-	-0.2%	-0.2%	0.0%	-	-
Denmark	-	-	-0.6%	-0.6%	-0.6%	-	-0.5%	-	-
Spain	-	-	-0.6%	-0.6%	-0.4%	-0.3%	0.0%	-	0.9%
Australia	-	0.0%	0.1%	0.1%	0.3%	0.6%	1.0%	1.3%	2.0%
Canada	0.1%	0.2%	0.2%	0.3%	0.4%	0.5%	0.7%	-	1.2%
Hong Kong	0.0%	0.1%	0.1%	0.2%	0.3%	0.5%	0.8%	-	-
New Zealand	0.3%	-	0.3%	0.3%	0.4%	0.7%	1.0%	-	-
Norway	0.0%	-	0.3%	-	0.7%	0.7%	0.9%	-	-
Singapore	0.3%	0.4%	0.3%	0.3%	0.5%	0.8%	0.8%	-	1.1%
United States	0.1%	0.1%	0.1%	0.2%	0.4%	0.6%	0.9%	-	1.6%

Source: FactSet



TOTAL FUND PERFORMANCE

NEPC, LLC

TOTAL FUND PERFORMANCE SUMMARY (NET OF FEES)

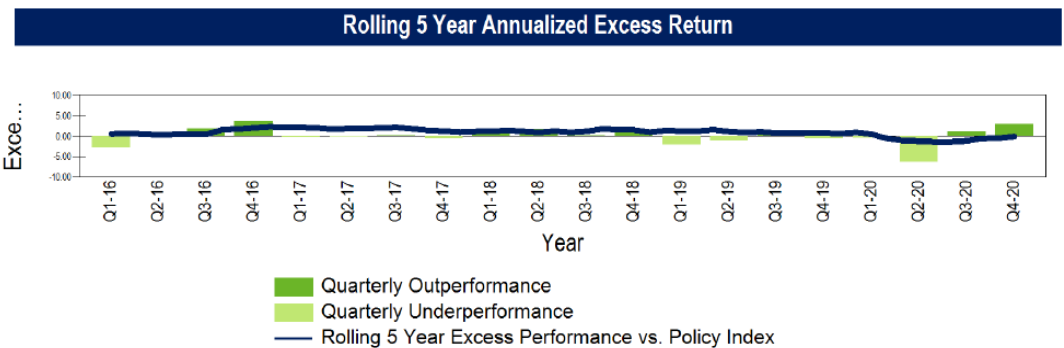
	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank
Total Fund	\$11,978,843,851	11.2%	31	17.8%	15	9.0%	79	7.1%	63	8.6%	74	7.9%	41
<i>Policy Index</i>		8.4%	97	13.7%	92	12.3%	25	7.9%	29	8.7%	65	7.2%	81
<i>S&P 500</i>		12.1%	14	22.2%	1	18.4%	1	14.2%	1	15.2%	1	13.9%	1
<i>BBgBarc US Aggregate TR</i>		0.7%	99	1.3%	99	7.5%	89	5.3%	95	4.4%	99	3.8%	99
<i>60% MSCI ACWI (Net) / 40% FTSE WGBI</i>		9.9%	66	16.6%	36	14.5%	15	8.4%	20	9.5%	24	6.6%	89
<i>InvMetrics Public DB > \$1B Net Median</i>		10.4%		15.5%		10.6%		7.4%		8.8%		7.8%	

In the year ended December 31, 2020 the Fund return of 9.0% ranked in the 79th percentile of Public Funds > \$1 Billion. The Fund's assets totaled \$11.98 billion, up from \$11.07 billion one year ago.

The Fund experienced a net investment gain of \$1.04 billion in the past year including an investment gain of \$1.21 billion in the fourth calendar quarter.

In the three-year period ended December 31, 2020 the Fund return of 7.1% ranked in the 63rd percentile among its peers. The Sharpe Ratio over this period of 0.7 ranks in the 10th percentile.

In the five-year period ended December 31, 2020 the Fund return of 8.6% ranked in the 74th percentile among its peers. On a risk adjusted basis the Fund's Sharpe Ratio ranked in the 1st percentile in its peer group while the Sortino Ratio ranked in the 16th percentile.



3 Years Ending December 31, 2020						
	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	8.3%	1	0.7	10	0.9	22
InvMetrics Public DB > \$1B Net Median	11.2%	--	0.5	--	0.8	--

5 Years Ending December 31, 2020						
	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	6.7%	1	1.1	1	1.2	16
InvMetrics Public DB > \$1B Net Median	9.2%	--	0.8	--	1.0	--

Note: InvestMetrics Public Funds >\$1B Net of Fee universe contains 39 portfolios.



San Bernardino County Employees' Retirement Association

TOTAL FUND PERFORMANCE SUMMARY

Statistics Summary								
1 Year Ending December 31, 2020								
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	9.0%	79	13.6%	11	0.6	60	0.8	54
InvMetrics Public DB > \$1B Net Median	10.6%	--	15.8%	--	0.7	--	0.8	--

Statistics Summary								
3 Years Ending December 31, 2020								
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	7.1%	63	8.3%	1	0.7	10	0.9	22
InvMetrics Public DB > \$1B Net Median	7.4%	--	11.2%	--	0.5	--	0.8	--

Statistics Summary								
5 Years Ending December 31, 2020								
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Sortino Ratio	Sortino Ratio Rank
Total Fund	8.6%	74	6.7%	1	1.1	1	1.2	16
InvMetrics Public DB > \$1B Net Median	8.8%	--	9.2%	--	0.8	--	1.0	--

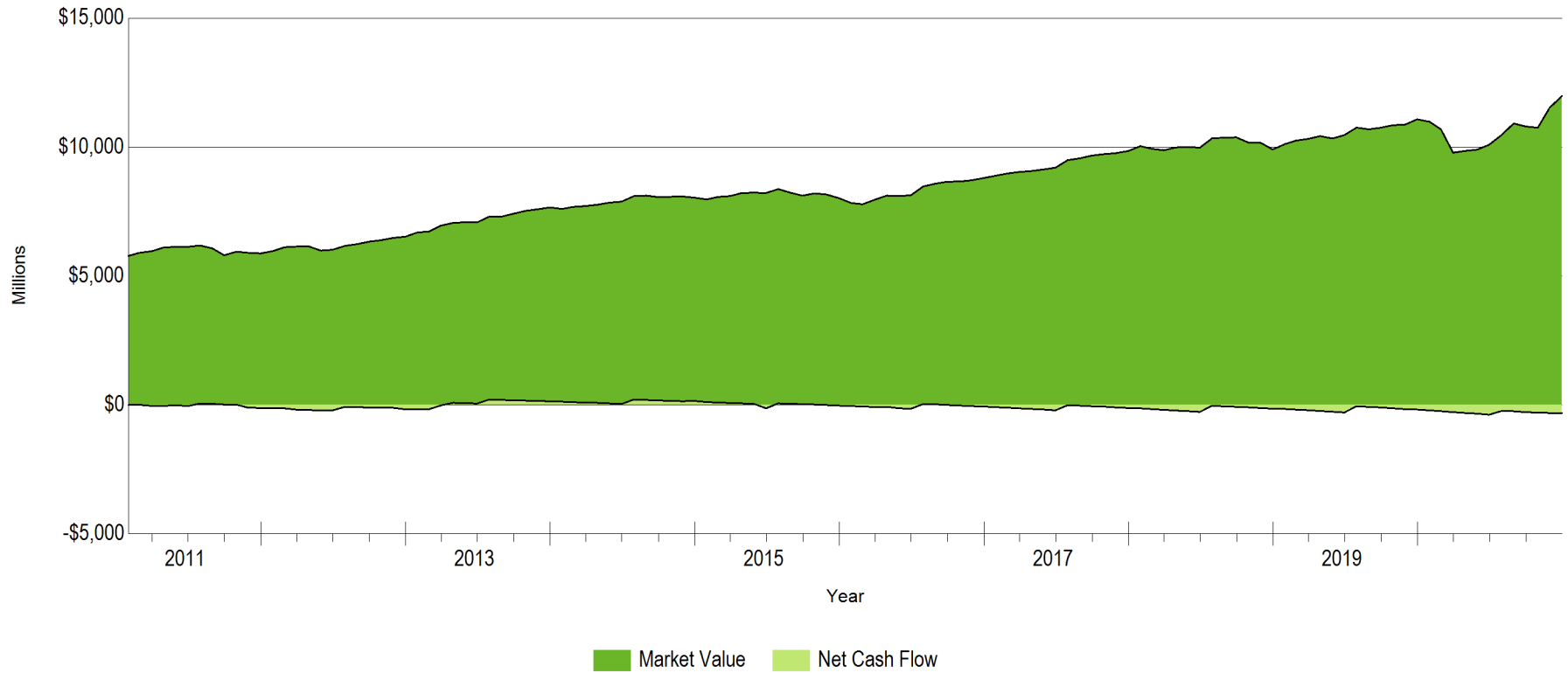
Sortino Ratio requires at least two negative points during the time period in order to calculate



San Bernardino County Employees' Retirement Association

TOTAL FUND ASSET GROWTH SUMMARY

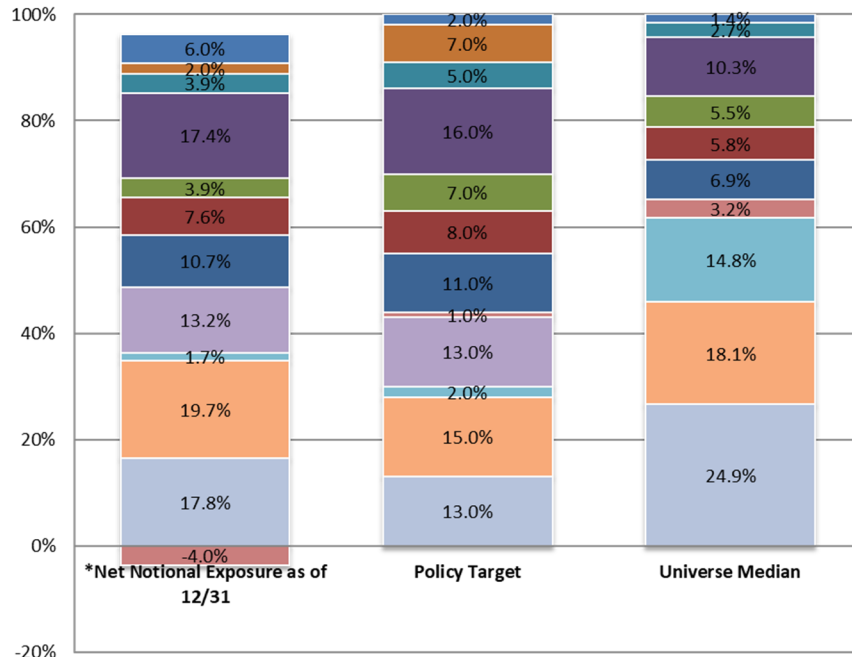
10 Years Ending December 31, 2020



	Last Three Months	Fiscal Year-To-Date	One Year	Five Years	Ten Years
Beginning Market Value	\$10,796,824,612	\$10,087,404,958	\$11,074,080,814	\$8,016,829,561	\$5,701,685,422
Net Cash Flow	-\$28,918,607	\$68,293,283	-\$132,909,820	-\$284,809,477	-\$310,684,323
Net Investment Change	\$1,210,937,846	\$1,823,145,611	\$1,037,672,858	\$4,246,823,767	\$6,587,842,752
Ending Market Value	\$11,978,843,851	\$11,978,843,851	\$11,978,843,851	\$11,978,843,851	\$11,978,843,851



TOTAL FUND PERFORMANCE SUMMARY



	*Net Notional Exposure	*Net Notional Exposure as of 12/31	Policy Target	*Difference	Policy Ranges	Within Range
US Equities	2,136,480	17.8%	13.0%	4.8%	8%-18%	Yes
Int'l Equities	2,365,633	19.7%	15.0%	4.7%	10%-20%	Yes
U.S. Core Fixed Income	204,300	1.7%	2.0%	-0.3%	-3%-7%	Yes
US Credit	1,580,433	13.2%	13.0%	0.2%	8%-18%	Yes
Non-US Core Fixed Income	(479,154)	-4.0%	1.0%	-5.0%	-4%-6%	Yes
Non-US Credit	1,285,420	10.7%	11.0%	-0.3%	6%-16%	Yes
Emerging Market Debt	904,720	7.6%	8.0%	-0.4%	3%-13%	Yes
Real Estate	462,848	3.9%	7.0%	-3.1%	0%-14%	Yes
Private Equity	2,086,984	17.4%	16.0%	1.4%	6%-21%	Yes
Real Assets	469,311	3.9%	5.0%	-1.1%	0%-10%	Yes
Absolute Return	239,433	2.0%	7.0%	-5.0%	0%-12%	Yes
Cash	722,436	6.0%	2.0%	4.0%	0%-10%	Yes
	11,978,844	100.0%	100.0%			

- US Equities
- Int'l Equities
- U.S. Core
- US Credit
- Non-US Core Fixed Income
- Non-US Credit
- Emerging Market Debt
- Real Estate
- Private Equity
- Real Assets
- Absolute Return
- Cash



TOTAL FUND PERFORMANCE SUMMARY

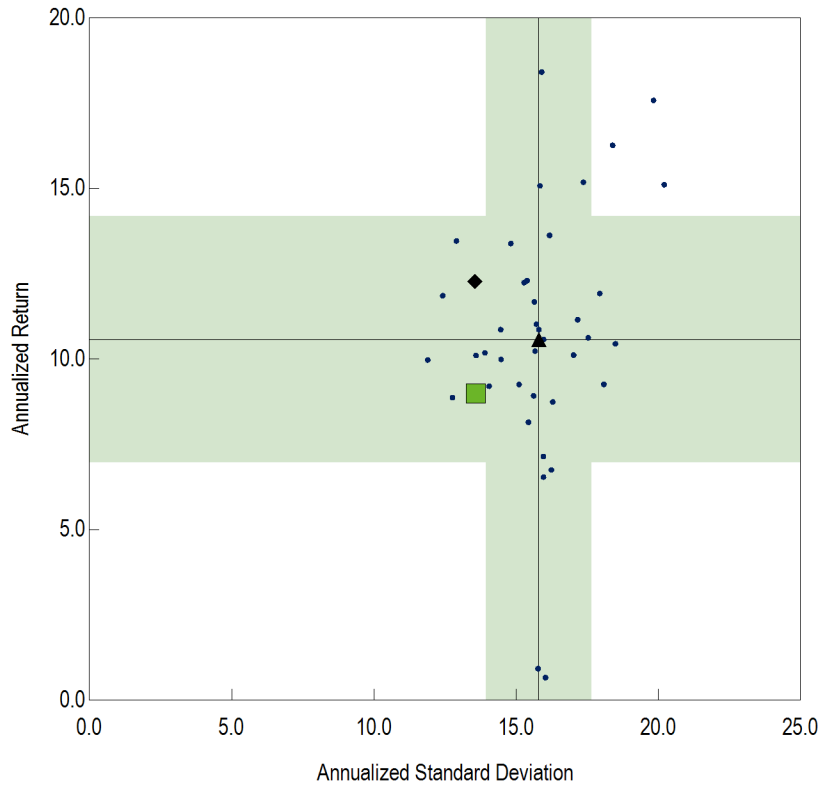
<u>Asset Class</u>	<u>Physical Exposure</u>		<u>Delta Adjusted Synthetic Exposure</u>		<u>Net Position</u>		<u>Overlay Target</u>		<u>Policy Target</u>	
Total Market Value	11,914.8	100.0%	0.0	0.0%	11,914.8	100.0%	11,914.8	100.0%	11,914.8	100.0%
Cash	2,326.6	19.53%	-2,274.6	-19.09%	52.0	0.44%	0.0	0.0%	0.0	0.00%
Cash	2,326.6	19.53%	-2,274.6	-19.09%	52.0	0.44%	0.0	0.0%	0.0	0.00%
Equity	1,820.5	15.28%	2,682.2	22.51%	4,502.6	37.79%	4,501.3	37.78%	4,408.5	37.00%
Emerging Markets	536.3	4.5%	382.0	3.21%	918.3	7.71%	942.8	7.91%	923.4	7.75%
Equity Delta Hedge	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.00%
International Developed	55.0	0.46%	1,388.2	11.65%	1,443.2	12.11%	1,368.6	11.49%	1,340.4	11.25%
US Large Cap	1,228.9	10.31%	429.2	3.6%	1,658.1	13.92%	1,764.0	14.81%	1,727.6	14.50%
US Small Cap	0.2	0.0%	482.7	4.05%	483.0	4.05%	425.8	3.57%	417.0	3.50%
Fixed	3,973.5	33.35%	-407.5	-3.42%	3,565.9	29.93%	3,619.3	30.38%	3,544.7	29.75%
EM High Yield CDX	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.00%
Global ex US Fixed Income	2,374.4	19.93%	-611.8	-5.13%	1,762.5	14.79%	1,824.8	15.32%	1,787.2	15.00%
High Yield	1,259.0	10.57%	0.0	0.0%	1,259.0	10.57%	1,155.7	9.7%	1,131.9	9.50%
US Fixed Income	340.1	2.85%	204.3	1.71%	544.4	4.57%	638.7	5.36%	625.5	5.25%
Other	3,794.3	31.84%	0.0	0.0%	3,794.3	31.84%	3,794.3	31.84%	3,961.7	33.25%
Alternatives	34.3	0.29%	0.0	0.0%	34.3	0.29%	34.3	0.29%	47.7	0.40%
Commodities	308.4	2.59%	0.0	0.0%	308.4	2.59%	308.4	2.59%	309.8	2.60%
Infrastructure	118.2	0.99%	0.0	0.0%	118.2	0.99%	118.2	0.99%	143.0	1.20%
Private Equity	2,020.8	16.96%	0.0	0.0%	2,020.8	16.96%	2,020.8	16.96%	2,049.3	17.20%
Real Estate	472.6	3.97%	0.0	0.0%	472.6	3.97%	472.6	3.97%	571.9	4.80%
Tactical Cash	840.0	7.05%	0.0	0.0%	840.0	7.05%	840.0	7.05%	840.0	7.05%



San Bernardino County Employees' Retirement Association

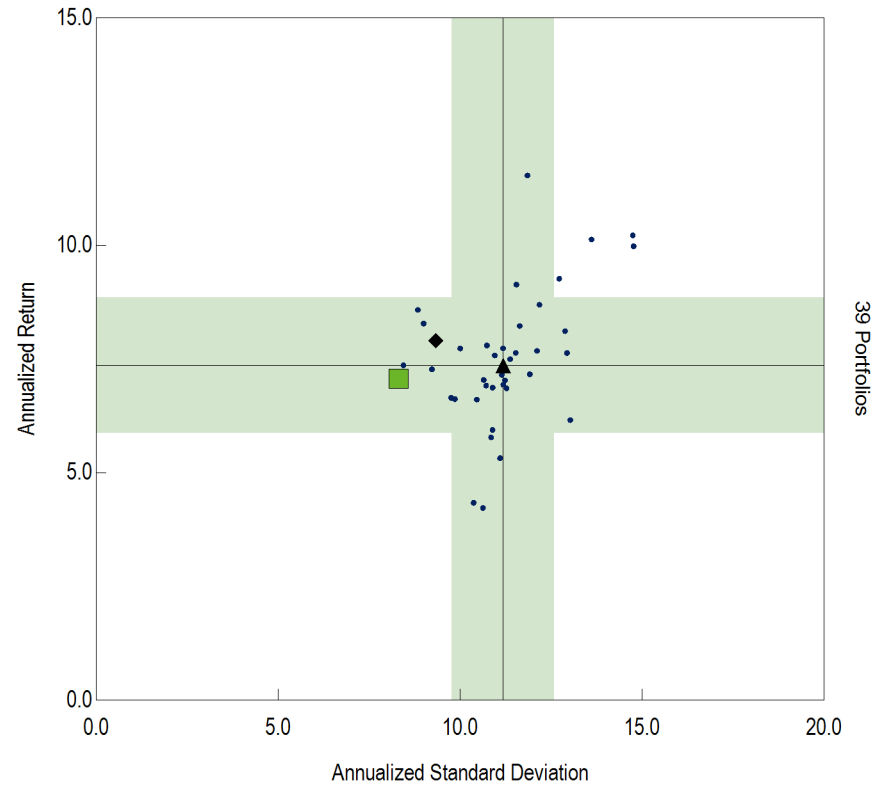
TOTAL FUND RISK/RETURN

1 Year Ending December 31, 2020



- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Net

3 Years Ending December 31, 2020



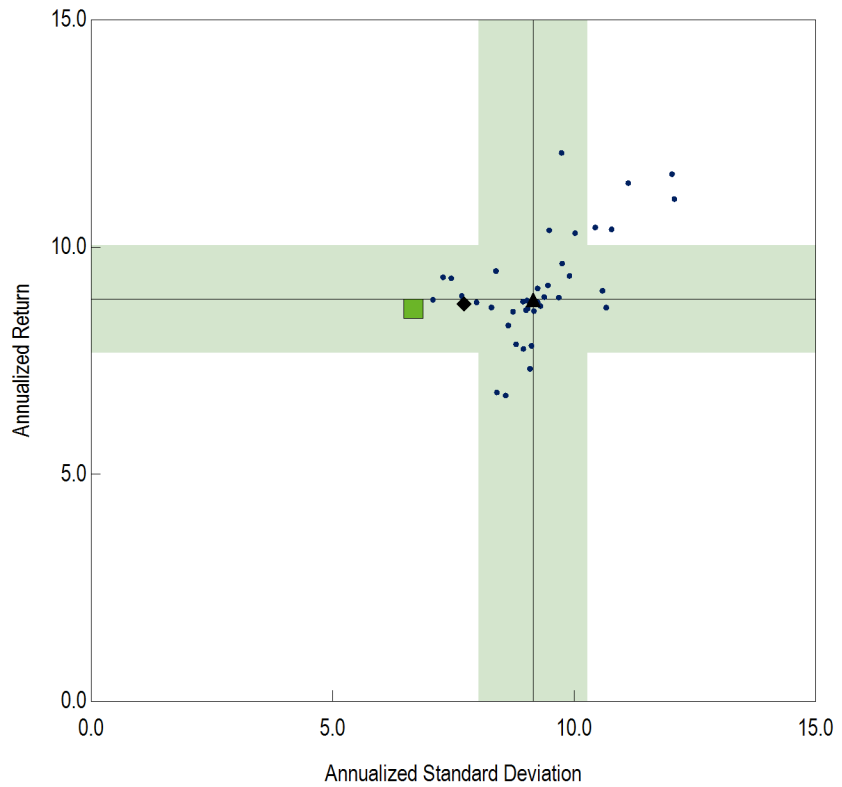
- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Net



San Bernardino County Employees' Retirement Association

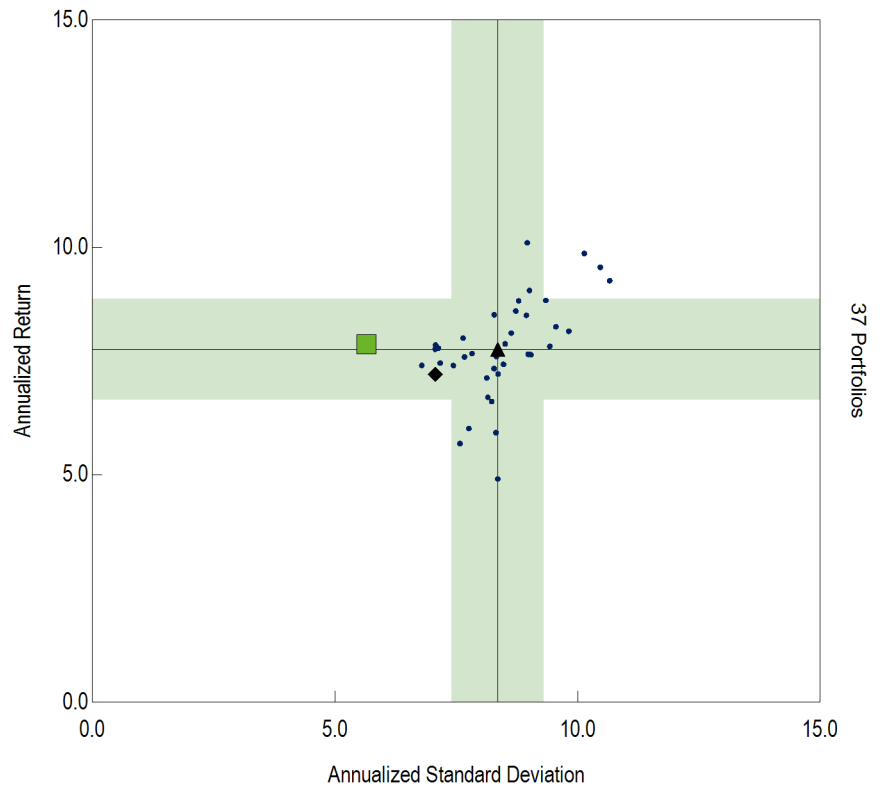
TOTAL FUND RISK/RETURN

5 Years Ending December 31, 2020



- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Net

10 Years Ending December 31, 2020



- Total Fund
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Net

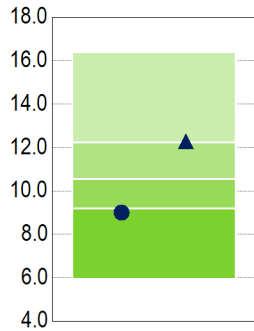


San Bernardino County Employees' Retirement Association

TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

Total Fund vs. InvMetrics Public DB > \$1B Net (USD)
1 Year

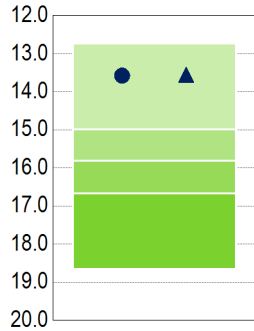
Anlzd Return



● Total Fund	
Value	9.0
Rank	79
▲ Policy Index	
Value	12.3
Rank	25

Universe	
5th %tile	16.4
25th %tile	12.3
Median	10.6
75th %tile	9.2
95th %tile	6.0

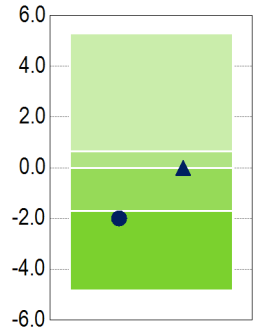
Anlzd Standard Deviation



● Total Fund	
Value	13.6
Rank	11
▲ Policy Index	
Value	13.6
Rank	11

Universe	
5th %tile	12.7
25th %tile	15.0
Median	15.8
75th %tile	16.7
95th %tile	18.6

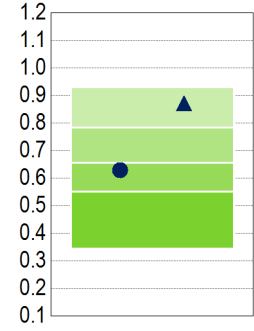
Anlzd Alpha



● Total Fund	
Value	-2.0
Rank	80
▲ Policy Index	
Value	0.0
Rank	51

Universe	
5th %tile	5.3
25th %tile	0.7
Median	0.0
75th %tile	-1.7
95th %tile	-4.8

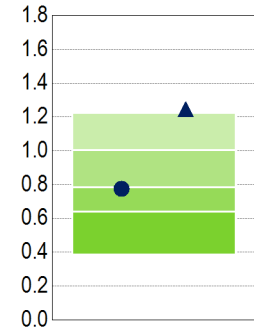
Sharpe Ratio



● Total Fund	
Value	0.6
Rank	60
▲ Policy Index	
Value	0.9
Rank	11

Universe	
5th %tile	0.9
25th %tile	0.8
Median	0.7
75th %tile	0.6
95th %tile	0.3

Sortino Ratio



● Total Fund	
Value	0.8
Rank	54
▲ Policy Index	
Value	1.2
Rank	5

Universe	
5th %tile	1.2
25th %tile	1.0
Median	0.8
75th %tile	0.6
95th %tile	0.4

Sortino Ratio requires at least two negative points during the time period in order to calculate.
Sample size is 39 Portfolios

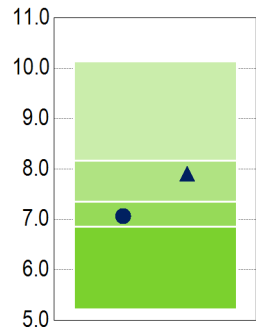


San Bernardino County Employees' Retirement Association

TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

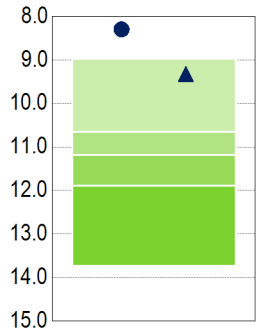
**Total Fund vs. InvMetrics Public DB > \$1B Net (USD)
3 Years**

Anlzd Return



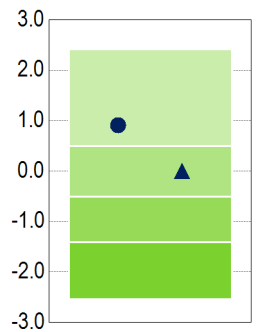
● Total Fund	
Value	7.1
Rank	63
▲ Policy Index	
Value	7.9
Rank	29
Universe	
5th %tile	10.1
25th %tile	8.2
Median	7.4
75th %tile	6.9
95th %tile	5.2

Anlzd Standard Deviation



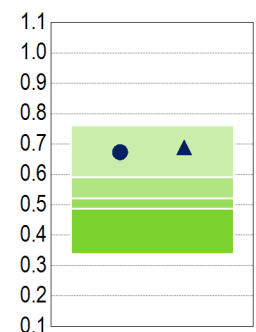
● Total Fund	
Value	8.3
Rank	1
▲ Policy Index	
Value	9.3
Rank	9
Universe	
5th %tile	9.0
25th %tile	10.6
Median	11.2
75th %tile	11.9
95th %tile	13.7

Anlzd Alpha



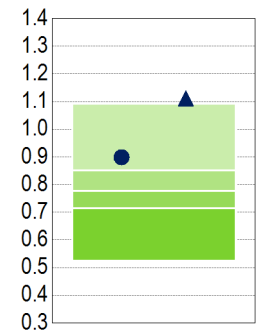
● Total Fund	
Value	0.9
Rank	16
▲ Policy Index	
Value	0.0
Rank	37
Universe	
5th %tile	2.4
25th %tile	0.5
Median	-0.5
75th %tile	-1.4
95th %tile	-2.5

Sharpe Ratio



● Total Fund	
Value	0.7
Rank	10
▲ Policy Index	
Value	0.7
Rank	9
Universe	
5th %tile	0.8
25th %tile	0.6
Median	0.5
75th %tile	0.5
95th %tile	0.3

Sortino Ratio



● Total Fund	
Value	0.9
Rank	22
▲ Policy Index	
Value	1.1
Rank	5
Universe	
5th %tile	1.1
25th %tile	0.9
Median	0.8
75th %tile	0.7
95th %tile	0.5

Sortino Ratio requires at least two negative points during the time period in order to calculate.
Sample size is 39 Portfolios

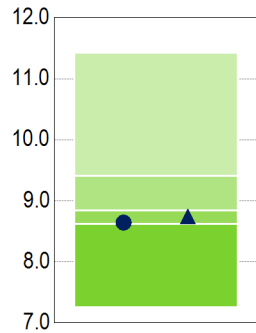


San Bernardino County Employees' Retirement Association

TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

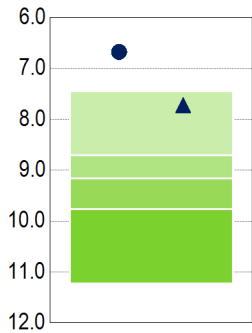
**Total Fund vs. InvMetrics Public DB > \$1B Net (USD)
5 Years**

Anlzd Return



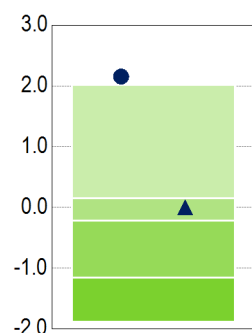
● Total Fund	
Value	8.6
Rank	74
▲ Policy Index	
Value	8.7
Rank	65
Universe	
5th %tile	11.4
25th %tile	9.4
Median	8.8
75th %tile	8.6
95th %tile	7.3

Anlzd Standard Deviation



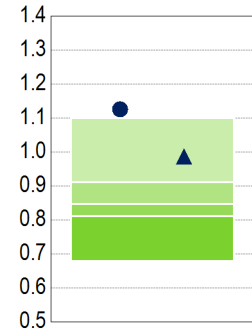
● Total Fund	
Value	6.7
Rank	1
▲ Policy Index	
Value	7.7
Rank	9
Universe	
5th %tile	7.4
25th %tile	8.7
Median	9.2
75th %tile	9.7
95th %tile	11.2

Anlzd Alpha



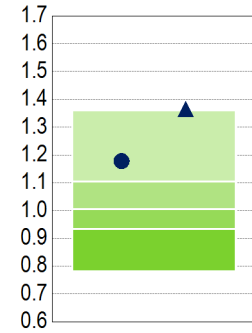
● Total Fund	
Value	2.2
Rank	5
▲ Policy Index	
Value	0.0
Rank	42
Universe	
5th %tile	2.0
25th %tile	0.2
Median	-0.2
75th %tile	-1.1
95th %tile	-1.9

Sharpe Ratio



● Total Fund	
Value	1.1
Rank	1
▲ Policy Index	
Value	1.0
Rank	15
Universe	
5th %tile	1.1
25th %tile	0.9
Median	0.8
75th %tile	0.8
95th %tile	0.7

Sortino Ratio



● Total Fund	
Value	1.2
Rank	16
▲ Policy Index	
Value	1.4
Rank	5
Universe	
5th %tile	1.4
25th %tile	1.1
Median	1.0
75th %tile	0.9
95th %tile	0.8

Sortino Ratio requires at least two negative points during the time period in order to calculate.
Sample size is 39 Portfolios

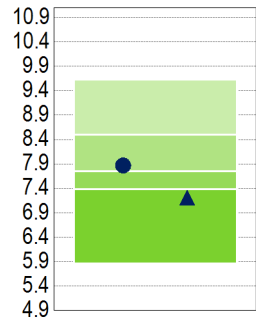


San Bernardino County Employees' Retirement Association

TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

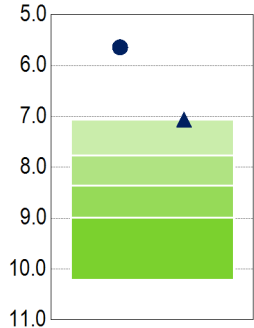
**Total Fund vs. InvMetrics Public DB > \$1B Net (USD)
10 Years**

Anlzd Return



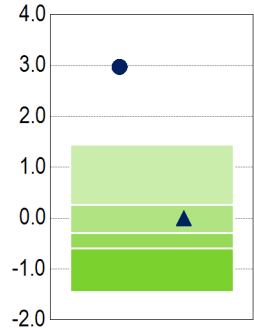
● Total Fund	
Value	7.9
Rank	41
▲ Policy Index	
Value	7.2
Rank	81
Universe	
5th %tile	9.6
25th %tile	8.5
Median	7.8
75th %tile	7.4
95th %tile	5.9

Anlzd Standard Deviation



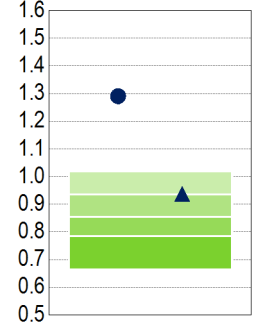
● Total Fund	
Value	5.6
Rank	1
▲ Policy Index	
Value	7.1
Rank	3
Universe	
5th %tile	7.1
25th %tile	7.8
Median	8.4
75th %tile	9.0
95th %tile	10.2

Anlzd Alpha



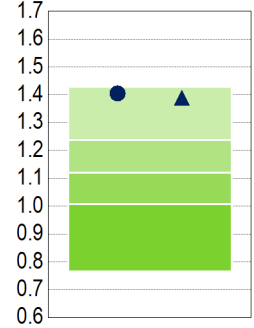
● Total Fund	
Value	3.0
Rank	4
▲ Policy Index	
Value	0.0
Rank	39
Universe	
5th %tile	1.5
25th %tile	0.3
Median	-0.3
75th %tile	-0.6
95th %tile	-1.4

Sharpe Ratio



● Total Fund	
Value	1.3
Rank	1
▲ Policy Index	
Value	0.9
Rank	26
Universe	
5th %tile	1.0
25th %tile	0.9
Median	0.9
75th %tile	0.8
95th %tile	0.7

Sortino Ratio



● Total Fund	
Value	1.4
Rank	7
▲ Policy Index	
Value	1.4
Rank	8
Universe	
5th %tile	1.4
25th %tile	1.2
Median	1.1
75th %tile	1.0
95th %tile	0.8

Sortino Ratio requires at least two negative points during the time period in order to calculate.
Sample size is 39 Portfolios



San Bernardino County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

	1 Years Ending December 31, 2020							
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Tracking Error	Info Ratio	Rank
Domestic Equity With Beta Overlay	17.8%	18.1%	43	29.5%	98	3.7%	-0.7	39
Russell 3000	--	20.9%	11	27.5%	74	0.0%	--	--
International Equity With Beta Overlay	19.7%	7.0%	96	24.5%	12	2.9%	-1.4	99
MSCI ACWI ex USA Gross	--	11.1%	64	25.8%	47	0.0%	--	--
Global Fixed Income With Beta Overlay	29.2%	3.4%	--	12.5%	--	10.9%	-0.5	--
BBgBarc Global Aggregate TR	--	9.2%	--	4.8%	--	0.0%	--	--
U.S. Credit Strategies	13.2%	7.9%	82	13.7%	81	10.2%	0.3	86
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	--	4.5%	99	14.5%	85	0.0%	--	--
Non-U.S. Credit Composite	10.7%	-6.9%	99	14.4%	99	14.0%	-1.3	99
ICE BofA Euro High Yield Constrained TR	--	12.0%	4	19.8%	99	0.0%	--	--
Emerging Markets Debt Composite	8.7%	-1.6%	99	11.2%	5	13.1%	-0.4	90
50% JPM EMBI Global Diversified/50% JPM GBI - EM Global Diversified	--	4.0%	76	16.4%	31	0.0%	--	--
Alpha Pool Composite	14.6%	2.8%	77	12.2%	55	12.2%	-0.1	58
91 Day T-Bill + 3%	--	3.5%	77	0.2%	1	0.0%	--	--

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Private Equity Composite	17.4%	15.0%	21	13.0%	69
CJA Global All PE (Qtr Lag)	--	14.9%	23	17.3%	95
Real Estate Composite	3.9%	3.5%	1	3.3%	57
NCREIF Property Index 1 Qtr. Lag	--	2.0%	8	2.1%	35
Real Assets Composite	3.9%	7.0%	9	19.1%	77
Real Assets Custom Blend	--	1.8%	40	14.6%	61

US Credit and Non-US Credit composites are based on physical assets.



San Bernardino County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

3 Years Ending December 31, 2020								
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Tracking Error	Info Ratio	Rank
Domestic Equity With Beta Overlay	17.8%	12.2%	66	19.6%	56	3.1%	-0.7	39
Russell 3000	--	14.5%	12	19.7%	56	0.0%	--	--
International Equity With Beta Overlay	19.7%	3.6%	86	16.9%	7	2.5%	-0.7	94
MSCI ACWI ex USA Gross	--	5.4%	43	18.2%	25	0.0%	--	--
Global Fixed Income With Beta Overlay	29.2%	3.3%	--	7.6%	--	7.6%	-0.2	--
BBgBarc Global Aggregate TR	--	4.8%	--	4.2%	--	0.0%	--	--
U.S. Credit Strategies	13.2%	6.9%	16	8.1%	81	6.5%	0.3	46
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	--	5.1%	90	8.6%	82	0.0%	--	--
Non-U.S. Credit Composite	10.7%	0.9%	99	8.9%	99	11.4%	-0.3	79
ICE BofA Euro High Yield Constrained TR	--	3.9%	93	13.0%	99	0.0%	--	--
Emerging Markets Debt Composite	8.7%	-0.6%	99	7.0%	3	9.2%	-0.5	92
50% JPM EMBI Global Diversified/50% JPM GBI - EM Global Diversified	--	4.1%	59	11.1%	36	0.0%	--	--
Alpha Pool Composite	14.6%	4.2%	66	7.2%	45	7.2%	-0.1	62
91 Day T-Bill + 3%	--	4.5%	58	0.2%	1	0.0%	--	--

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Private Equity Composite	17.4%	13.9%	30	7.9%	35
CJA Global All PE (Qtr Lag)	--	13.0%	42	11.0%	95
Real Estate Composite	3.9%	6.0%	17	2.4%	42
NCREIF Property Index 1 Qtr. Lag	--	5.1%	29	2.6%	45
Real Assets Composite	3.9%	4.3%	54	12.1%	68
Real Assets Custom Blend	--	1.1%	71	9.1%	58

US Credit and Non-US Credit composites are based on physical assets.



San Bernardino County Employees' Retirement Association

TOTAL FUND RISK STATISTICS

5 Years Ending December 31, 2020								
	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Tracking Error	Info Ratio	Rank
Domestic Equity	10.2%	8.9%	--	13.8%	--	6.5%	-1.0	--
Russell 3000	--	15.4%	--	16.0%	--	0.0%	--	--
International Developed	0.4%	9.9%	42	16.7%	84	12.6%	0.2	48
MSCI EAFE	--	7.4%	66	15.4%	40	0.0%	--	--
International Emerging	4.5%	9.2%	--	16.9%	--	4.2%	-0.8	--
MSCI Emerging Markets	--	12.8%	--	17.6%	--	0.0%	--	--
U.S. Credit Strategies	13.2%	7.4%	8	6.6%	81	5.6%	0.1	11
50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index	--	6.6%	53	6.9%	81	0.0%	--	--
Non-U.S. Credit Composite	10.7%	4.7%	52	7.3%	99	11.0%	-0.3	79
ICE BofA Euro High Yield Constrained TR	--	7.6%	1	11.6%	99	0.0%	--	--
Emerging Markets Debt Composite	8.7%	4.1%	98	6.8%	6	8.1%	-0.4	87
50% JPM EMBI Global Diversified/50% JPM GBI - EM Global Diversified	--	7.0%	61	9.9%	42	0.0%	--	--
Alpha Pool Composite	14.6%	5.9%	19	6.1%	45	6.1%	0.3	28
91 Day T-Bill + 3%	--	4.2%	52	0.2%	1	0.0%	--	--

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Private Equity Composite	17.4%	13.7%	23	6.5%	17
CJA Global All PE (Qtr Lag)	--	12.6%	37	9.1%	93
Real Estate Composite	3.9%	6.5%	29	2.7%	43
NCREIF Property Index 1 Qtr. Lag	--	6.3%	38	2.9%	50
Real Assets Composite	3.9%	4.2%	53	9.6%	43
Real Assets Custom Blend	--	2.7%	81	7.7%	38

Percent of Total equals 87.5% because Beta Overlay is not included as these statistics are not relevant for alternative asset classes.



TOP 10 MANAGERS BY AUM: AS OF DECEMBER 31, 2020

Manager	Market Value	Portfolio %
Total Russell	981,910,395	8.20%
Total Tobam	822,117,197	6.86%
SSGA S&P500 Flagship Fund	813,921,393	6.79%
Total Ares	738,695,766	6.17%
Total Pathway	700,264,087	5.85%
Gramercy Funds Management	640,579,302	5.35%
Total GoldenTree	555,827,084	4.64%
Total Apollo	543,626,318	4.54%
Total Zais	542,541,563	4.53%
Total Alcentra	519,640,559	4.34%
Total	6,859,123,664	57.26%



PUBLIC EQUITY PORTFOLIO

Public Equity Portfolio (28% Target)	US Equities (13% Target)	Large Cap (8%)	Russell Investments (Russell1000 Index) StateStreet Global Advisors S&P500 Buy/Write Call Option Strategy TOBAM Anti-Benchmark US Equity Fund
		Small Cap (2%)	Russell Investments (Russell2000 Index)
		Volatility (3%)	Russell Investments (Russell1000 Index)
	International Equities (15% Target)	Developed Markets (6%)	Russell Investments (MSCI EAFE Index) TOBAM Anti-Benchmark World ex-US Fund
		Emerging Markets (6%)	Mondrian Emerging Markets Equity Fund LP Russell Investments (MSCI EM Index) TOBAM Anti-Benchmark EM Equity Fund
		Volatility (3%)	Russell Investments (MSCI EAFE Index)



San Bernardino County Employees' Retirement Association

GLOBAL EQUITY STRATEGIES - NET

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total Equity	1,817,544,767	15.2	13.6	94	22.9	78	17.4	14	9.9	59	10.3	97	6.0	99
MSCI ACWI			14.7	77	24.0	56	16.3	26	10.1	54	12.3	55	9.1	85
Excess Return			-1.1		-1.1		1.1		-0.2		-2.0		-3.1	
InvMetrics Public DB Total Eq Net Median			15.3		24.3		15.0		10.1		12.3		9.9	
Domestic Equity With Beta Overlay	2,136,479,644	17.8	15.9	48	24.9	50	18.1	43	12.2	66	10.9	99	--	--
Russell 3000			14.7	89	25.2	38	20.9	11	14.5	12	15.4	12	13.8	5
Excess Return			1.2		-0.3		-2.8		-2.3		-4.5			
InvMetrics Public DB US Eq Net Median			15.6		24.9		17.2		12.7		14.2		12.8	
Domestic Equity	1,222,656,797	10.2	11.7	--	20.9	--	18.2	--	12.0	--	8.9	--	5.4	--
Russell 3000			14.7	--	25.2	--	20.9	--	14.5	--	15.4	--	13.8	--
Excess Return			-3.0		-4.3		-2.7		-2.5		-6.5		-8.4	
Tobam AB US Equity	407,547,300	3.4	12.1	80	21.1	80	21.4	37	--	--	--	--	--	--
Russell 3000			14.7	65	25.2	57	20.9	38	14.5	35	15.4	33	13.8	30
Excess Return			-2.6		-4.1		0.5							
eV All US Equity Net Median			18.0		26.5		14.7		10.4		12.7		11.9	
Large Cap Equity	814,860,969	6.8	11.5	84	20.8	82	16.8	46	12.6	42	10.2	69	6.6	98
S&P 500			12.1	79	22.2	74	18.4	43	14.2	36	15.2	34	13.9	30
Excess Return			-0.6		-1.4		-1.6		-1.6		-5.0		-7.3	
eV All US Equity Net Median			18.0		26.5		14.7		10.4		12.7		11.9	
SSgA S&P500	813,921,393	6.8	12.1	79	22.2	74	18.4	43	13.3	40	11.6	58	9.3	81
S&P 500			12.1	79	22.2	74	18.4	43	14.2	36	15.2	34	13.9	30
Excess Return			0.0		0.0		0.0		-0.9		-3.6		-4.6	
eV All US Equity Net Median			18.0		26.5		14.7		10.4		12.7		11.9	
Russell US Large Cap Volatility	939,576	0.0												
Small Cap Equity	248,528	0.0												
Russell US Small Cap Volatility	248,528	0.0												



San Bernardino County Employees' Retirement Association

GLOBAL EQUITY STRATEGIES - NET

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
International Equity With Beta Overlay	2,365,632,813	19.7	14.9	86	20.1	98	7.0	96	3.6	86	8.3	83	--	--
MSCI ACWI ex USA Gross			<u>17.1</u>	55	<u>24.5</u>	74	<u>11.1</u>	64	<u>5.4</u>	43	<u>9.4</u>	41	<u>5.4</u>	62
Excess Return			-2.2		-4.4		-4.1		-1.8		-1.1			
InvMetrics Public DB ex-US Eq Net Median			17.2		25.5		12.1		5.2		9.2		5.8	
International Equity	594,887,970	5.0	17.7	--	27.2	--	14.9	--	5.0	--	11.1	--	5.6	--
MSCI ACWI			<u>14.7</u>	--	<u>24.0</u>	--	<u>16.3</u>	--	<u>10.1</u>	--	<u>12.3</u>	--	<u>9.1</u>	--
Excess Return			3.0		3.2		-1.4		-5.1		-1.2		-3.5	
International Developed	53,390,696	0.4	10.0	93	17.8	92	9.3	47	4.1	68	9.9	42	8.9	33
MSCI EAFE			<u>16.0</u>	72	<u>21.6</u>	88	<u>7.8</u>	65	<u>4.3</u>	67	<u>7.4</u>	66	<u>5.5</u>	58
Excess Return			-6.0		-3.8		1.5		-0.2		2.5		3.4	
InvMetrics Public DB Dev Mkt ex-US Eq Net Median			17.1		23.2		8.9		5.2		8.4		6.9	
Russell International Volatility	16,446	0.0												
Tobam AB World Ex-US Equity	53,374,250	0.4	10.0	95	17.8	93	7.6	76	--	--	--	--	--	--
MSCI ACWI ex USA			<u>17.0</u>	43	<u>24.3</u>	71	<u>10.7</u>	63	<u>4.9</u>	63	<u>8.9</u>	62	<u>4.9</u>	81
Excess Return			-7.0		-6.5		-3.1							
eV All ACWI ex-US Equity Net Median			16.3		27.1		16.8		7.1		10.5		6.9	
International Emerging	541,497,274	4.5	18.5	--	28.2	--	15.4	--	4.7	--	9.2	--	2.2	--
MSCI Emerging Markets			<u>19.7</u>	--	<u>31.1</u>	--	<u>18.3</u>	--	<u>6.2</u>	--	<u>12.8</u>	--	<u>3.6</u>	--
Excess Return			-1.2		-2.9		-2.9		-1.5		-3.6		-1.4	
Mondrian	180,301,627	1.5	20.9	41	35.4	24	15.2	67	5.7	54	9.9	80	3.4	64
MSCI Emerging Markets			<u>19.7</u>	54	<u>31.1</u>	54	<u>18.3</u>	51	<u>6.2</u>	47	<u>12.8</u>	45	<u>3.6</u>	59
Excess Return			1.2		4.3		-3.1		-0.5		-2.9		-0.2	
eV Emg Mkts Equity Net Median			20.0		31.6		18.3		6.0		12.4		4.1	
Tobam	361,195,647	3.0	17.3	80	24.9	91	15.5	66	3.9	71	--	--	--	--
MSCI Emerging Markets			<u>19.7</u>	54	<u>31.1</u>	54	<u>18.3</u>	51	<u>6.2</u>	47	<u>12.8</u>	45	<u>3.6</u>	59
Excess Return			-2.4		-6.2		-2.8		-2.3					
eV Emg Mkts Equity Net Median			20.0		31.6		18.3		6.0		12.4		4.1	



GLOBAL DEBT STRATEGIES

Global Debt Strategies (35% Target)	US Fixed Income (15% Target)	Core Fixed Income (2%)	Russell Investments (Bloomberg Barclays US Agg. Bond TR Index) Apollo Credit Strategies Fund LP (MCA) Beach Point Select Fund LP GoldenTree Credit Opportunities - Gold Coast X GoldenTree Distressed Debt Fund 2010 GoldenTree Asset Management SMA - Gold Coast X Halcyon Direct Portfolio (MCA) Halcyon Solutions Fund LP (MCA) MacKay Shields High Yield Bond Strategy - Gold Coast III Manulife Asset Management - Gold Coast IV Waterfall - Sutherland REIT Holdings LP (MCA) Waterfall Asset Management SMA (MCA) Waterfall Victoria Fund LP (MCA)
		Credit Strategies/ High Yield Strategies (13%)	Russell Investments (Barclays Global Aggregate ex US Unhedged) Alcentra Clareant European Direct Lending Fund - Kneiff Tower Alcentra Clareant Strategic Credit Fund - Kneiff Tower Alcentra Limited SMA - Kneiff Tower Alcentra Mezzanine III/Alcentra Capital Corp. - Kneiff Tower Alcentra Structured Credit Opportunity Fund III - Kneiff Tower Cairn Capital Limited SMA - Kneiff Tower Cairn European CLO Strategy - Kneiff Tower Cairn Loan Investments - Kneiff Tower Cairn Special Opportunities Credit Fund - Kneiff Tower Cairn Strata Credit Fund - Kneiff Tower Cairn Subordinated Financials Fund II - Kneiff Tower Halcyon European Credit Opportunities Fund Ltd. (MCA) Marathon Asset Management SMA - Gold Coast I Marathon CLO Equity Fund - Gold Coast I Marathon Distressed Debt Fund - Gold Coast I Marathon European Credit Opportunities Fund - Gold Coast I Marathon European Credit Opportunity Fund II - Gold Coast I Marathon European Credit Opportunity Fund III - Gold Coast I Marathon Loan Opportunities Fund - Gold Coast I Marathon Structured Product Strategies Fund - Gold Coast I York Global Credit Income Fund
	Global Fixed Income (20% Target)	International Core (1%)	Ashmore Emerging Markets MCA Gramercy Capital Solutions Fund (MCA) Gramercy Distressed Argentina Fund III Private (MCA) Gramercy Distressed Opportunity Fund II (MCA) Gramercy Distressed Opportunity Fund III (MCA) Gramercy Emerging Markets Debt Allocation Fund (MCA) Gramercy Separate Account (MCA) Gramercy Venezuela Opportunity Fund (MCA) Marathon Global Emerging Markets Fund - Gold Coast I PGIM Emerging Market Debt Opportunities Fund
		International Credit (11%)	
		Emerging Market Debt (8%)	



San Bernardino County Employees' Retirement Association

GLOBAL DEBT STRATEGIES - NET

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Global Fixed Income With Beta Overlay	3,494,122,246	29.2	7.2	--	11.2	--	3.4	--	3.3	--	2.3	--	--	--
<i>BBgBarc Global Aggregate TR</i>			<u>3.3</u>	--	<u>6.0</u>	--	<u>9.2</u>	--	<u>4.8</u>	--	<u>4.8</u>	--	<u>2.8</u>	--
Excess Return			3.9		5.2		-5.8		-1.5		-2.5			
Total Fixed	3,901,638,183	32.6	6.3	2	9.7	2	0.2	99	2.8	99	5.6	28	5.6	1
<i>InvMetrics Public DB Total Fix Inc Net Median</i>			1.2		2.2		7.6		5.1		4.7		4.3	
U.S. Credit Strategies	1,585,382,616	13.2	9.6	3	13.3	15	7.9	82	6.9	16	7.4	8	7.1	1
<i>50% CS Leveraged Loan / 50% ICE BofA US HY BB-B Rated Constrained Index</i>			<u>4.7</u>	42	<u>9.1</u>	31	<u>4.5</u>	99	<u>5.1</u>	90	<u>6.6</u>	53	<u>5.6</u>	34
Excess Return			4.9		4.2		3.4		1.8		0.8		1.5	
<i>ICE BofA US High Yield TR</i>			6.5	21	11.5	19	6.1	93	5.9	70	8.4	2	6.6	1
<i>eV Global Credit Fixed Inc Net Median</i>			4.3		7.8		10.5		6.3		6.7		5.1	
Golden Tree Asset Management	543,118,019	4.5	16.6	1	21.7	1	11.6	31	10.2	1	10.4	1	10.1	1
Beach Point Capital (Formerly Post)	183,659,646	1.5	7.0	13	16.1	5	10.1	57	7.3	7	8.6	1	8.6	1
Golden Tree Distressed Debt	12,709,066	0.1	2.2	94	-28.9	99	-25.5	99	-11.9	99	-5.6	99	4.1	78
Mackay / Gold Coast	128,573,403	1.1	6.4	22	11.3	19	8.0	81	5.9	69	7.3	9	6.4	2
MD SASS Waterfall Victoria	22,582,423	0.2	52.6	--	-28.8	--	-6.2	--	1.9	--	4.4	--	--	--
Russell Interest Rate Hedging	4,949,576	0.0	-2.9	--	-5.8	--	-37.6	--	-34.6	--	-31.9	--	-29.3	--
Stone Tower Credit (Apollo)	117,290,363	1.0	3.0	83	6.4	72	17.8	4	11.1	2	10.4	1	--	--
Gold Coast Capital IV	112,438,514	0.9	4.6	--	6.6	--	2.6	--	4.6	--	4.9	--	--	--
Waterfall Asset Management	56,437,447	0.5	18.6	--	37.1	--	-0.8	--	7.0	--	13.9	--	--	--
Waterfall Victoria	53,015,822	0.4	2.6	--	5.7	--	-1.8	--	6.2	--	7.3	--	--	--
Stone Tower Offshore Credit (Apollo)	350,574,602	2.9	4.7	--	10.6	--	5.6	--	4.4	--	5.7	--	6.9	--
AG Capital	6,720	0.0	-1.7	99	-1.9	99	44.5	1	12.0	1	5.9	81	6.1	5



San Bernardino County Employees' Retirement Association

GLOBAL DEBT STRATEGIES - NET

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Non-U.S. Fixed Income Composite	2,316,255,567	19.3	4.1	6	7.2	6	-4.6	99	0.5	99	4.5	56	4.4	38
<i>BBgBarc Global Aggregate ex US</i>			<u>5.1</u>	2	<u>9.4</u>	2	<u>10.1</u>	8	<u>4.4</u>	87	<u>5.0</u>	39	<u>2.0</u>	99
Excess Return			-1.0		-2.2		-14.7		-3.9		-0.5		2.4	
<i>InvMetrics Public DB Total Fix Inc Net Median</i>			1.2		2.2		7.6		5.1		4.7		4.3	
Non-U.S. Credit Composite	1,278,889,302	10.7	4.8	2	8.2	2	-6.9	99	0.9	99	4.7	52	5.0	15
<i>ICE BofA Euro High Yield Constrained TR</i>			<u>10.0</u>	1	<u>17.9</u>	1	<u>12.0</u>	4	<u>3.9</u>	93	<u>7.6</u>	1	<u>5.4</u>	1
Excess Return			-5.2		-9.7		-18.9		-3.0		-2.9		-0.4	
Marathon/Gold Coast	246,526,800	2.1	3.6	61	5.5	79	5.1	98	8.9	2	8.6	1	6.7	1
Halcyon Asset Management	169,888,032	1.4	0.6	97	-2.0	99	-23.5	99	-5.3	99	0.1	99	--	--
<i>ICE BofA Euro High Yield Constrained TR</i>			<u>10.0</u>	3	<u>17.9</u>	2	<u>12.0</u>	26	<u>3.9</u>	97	<u>7.6</u>	5	<u>5.4</u>	37
Excess Return			-9.4		-19.9		-35.5		-9.2		-7.5			
<i>eV Global Credit Fixed Inc Net Median</i>			4.3		7.8		10.5		6.3		6.7		5.1	
Caim Composite	342,833,910	2.9	2.3	94	8.7	35	-0.4	99	2.2	99	6.1	78	4.3	75
<i>ICE BofA Euro High Yield Constrained TR</i>			<u>10.0</u>	3	<u>17.9</u>	2	<u>12.0</u>	26	<u>3.9</u>	97	<u>7.6</u>	5	<u>5.4</u>	37
Excess Return			-7.7		-9.2		-12.4		-1.7		-1.5		-1.1	
<i>eV Global Credit Fixed Inc Net Median</i>			4.3		7.8		10.5		6.3		6.7		5.1	
Alcentra - KT1	392,345,699	3.3	10.0	--	13.0	--	-10.6	--	0.5	--	5.7	--	--	--
<i>ICE BofA Euro High Yield Constrained TR</i>			<u>10.0</u>	--	<u>17.9</u>	--	<u>12.0</u>	--	<u>3.9</u>	--	<u>7.6</u>	--	<u>5.4</u>	--
Excess Return			0.0		-4.9		-22.6		-3.4		-1.9			
Alcentra SP1 - KT1	4,602,252	0.0	0.6	--	2.3	--	-3.9	--	-28.3	--	--	--	--	--
<i>ICE BofA Euro High Yield Constrained TR</i>			<u>10.0</u>	--	<u>17.9</u>	--	<u>12.0</u>	--	<u>3.9</u>	--	<u>7.6</u>	--	<u>5.4</u>	--
Excess Return			-9.4		-15.6		-15.9		-32.2					
Alcentra SP2 - KT1	18,972,113	0.2	-1.0	--	-15.1	--	-19.5	--	-13.3	--	--	--	--	--
<i>ICE BofA Euro High Yield Constrained TR</i>			<u>10.0</u>	--	<u>17.9</u>	--	<u>12.0</u>	--	<u>3.9</u>	--	<u>7.6</u>	--	<u>5.4</u>	--
Excess Return			-11.0		-33.0		-31.5		-17.2					
Alcentra SP3 - KT1	44,229,323	0.4	9.9	--	40.4	--	-14.1	--	-1.1	--	--	--	--	--
<i>ICE BofA Euro High Yield Constrained TR</i>			<u>10.0</u>	--	<u>17.9</u>	--	<u>12.0</u>	--	<u>3.9</u>	--	<u>7.6</u>	--	<u>5.4</u>	--
Excess Return			-0.1		22.5		-26.1		-5.0					
Alcentra SP4 - KT1	59,491,172	0.5	4.6	--	9.2	--	10.5	--	--	--	--	--	--	--
<i>ICE BofA Euro High Yield Constrained TR</i>			<u>10.0</u>	--	<u>17.9</u>	--	<u>12.0</u>	--	<u>3.9</u>	--	<u>7.6</u>	--	<u>5.4</u>	--
Excess Return			-5.4		-8.7		-1.5							



San Bernardino County Employees' Retirement Association

GLOBAL DEBT STRATEGIES - NET

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Emerging Markets Debt Composite	1,037,366,265	8.7	3.2	99	6.0	96	-1.6	99	-0.6	99	4.1	98	2.8	70
50% JPM EMBI Global Diversified/50% JPM GBI - EM Global Diversified			<u>7.7</u>	50	<u>9.3</u>	77	<u>4.0</u>	76	<u>4.1</u>	59	<u>7.0</u>	61	<u>3.9</u>	64
Excess Return			-4.5		-3.3		-5.6		-4.7		-2.9		-1.1	
eV All Emg Mkts Fixed Inc Net Median			7.7		10.5		6.1		4.4		7.2		4.9	
Ashmore Emerging Markets Liquid Investments	205,197,614	1.7	7.7	50	9.3	77	4.0	76	4.1	59	7.0	61	3.9	64
JP Morgan GBI - EM Global Diversified Index			<u>9.6</u>	19	<u>10.3</u>	56	<u>2.7</u>	83	<u>3.0</u>	79	<u>6.7</u>	64	<u>1.5</u>	80
Excess Return			-1.9		-1.0		1.3		1.1		0.3		2.4	
eV All Emg Mkts Fixed Inc Net Median			7.7		10.5		6.1		4.4		7.2		4.9	
Ashmore Local Currency	78,571,988	0.7	11.9	4	16.4	7	-0.3	99	0.5	99	6.1	43	0.6	99
JP Morgan ELM+ TR USD			<u>6.0</u>	30	<u>7.5</u>	64	<u>1.7</u>	94	<u>1.1</u>	99	<u>3.6</u>	95	<u>0.2</u>	99
Excess Return			5.9		8.9		-2.0		-0.6		2.5		0.4	
JP Morgan EMBI Global Index			5.5	35	7.9	59	5.9	69	4.9	62	6.8	27	6.0	17
eV All Global Fixed Inc Net Median			4.7		8.3		8.0		5.3		5.8		4.3	
Gramercy Funds Management LLC	640,579,302	5.3	-0.3	99	0.5	99	-4.1	99	-2.8	99	1.8	99	--	--
JP Morgan ELM+ TR USD			<u>6.0</u>	82	<u>7.5</u>	91	<u>1.7</u>	91	<u>1.1</u>	97	<u>3.6</u>	99	<u>0.2</u>	99
Excess Return			-6.3		-7.0		-5.8		-3.9		-1.8			
JP Morgan EMBI Global Index			5.5	87	7.9	87	5.9	53	4.9	41	6.8	63	6.0	15
eV All Emg Mkts Fixed Inc Net Median			7.7		10.5		6.1		4.4		7.2		4.9	
PGIM Fixed Income	113,017,360	0.9	6.6	74	20.6	1	5.6	54	4.3	56	8.5	9	--	--
50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified			<u>7.7</u>	50	<u>9.3</u>	77	<u>4.0</u>	76	<u>4.1</u>	59	<u>7.0</u>	61	<u>3.9</u>	64
Excess Return			-1.1		11.3		1.6		0.2		1.5			
JP Morgan EMBI Global Index			5.5	87	7.9	87	5.9	53	4.9	41	6.8	63	6.0	15
eV All Emg Mkts Fixed Inc Net Median			7.7		10.5		6.1		4.4		7.2		4.9	



ABSOLUTE RETURN (ALPHA POOL)

<p>Absolute Return (Alpha Pool) (7% Target)</p>	<p>Core & Credit Strategies (7%)</p> <ul style="list-style-type: none">Apollo Accord Fund (MCA)Apollo Global SMA (MCA)Apollo MicCap Financial Holdings Trust (MCA)Apollo Offshore Credit Fund LTD (MCA)Ares Enhanced Credit Opportunites Master Fund II, LTD (MCA)Birch Grove Credit Strategies FundCorrum Capital Global Credit Opportunities FundCorrum Capital GCO Co-Invest FundStateStreet Global Advisors Short Term Treasury Strategy SMAZais Group SMAZais Opportunity Fund, LTDZais Zephyr A-6, LP
---	---



San Bernardino County Employees' Retirement Association

ALPHA POOL STRATEGIES - NET

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Alpha Pool Composite	1,748,609,941	14.6	8.8	39	13.9	40	2.8	77	4.2	66	5.9	19	5.8	9
<i>91 Day T-Bill + 3%</i>			<u>0.8</u>	96	<u>1.5</u>	99	<u>3.5</u>	77	<u>4.5</u>	58	<u>4.2</u>	52	<u>3.6</u>	44
Excess Return			8.0		12.4		-0.7		-0.3		1.7		2.2	
Alpha Liquidity (Ssga)	206,284,514	1.7	0.0	99	-0.3	99	1.3	96	1.9	98	1.5	99	0.9	99
Apollo Global Management	36,748,373	0.3	8.9	9	19.2	4	29.7	1	22.3	1	22.2	1	--	--
Ares Eco Master Fund II	545,654,788	4.6	7.1	18	13.1	13	8.7	47	5.0	62	--	--	--	--
Birch Grove Credit Strategies	147,028,225	1.2	8.1	12	12.8	14	5.9	70	6.5	15	5.8	49	--	--
Sterling Stamos	245,352,477	2.0	5.5	34	5.3	82	-12.6	99	-0.4	99	2.8	98	2.8	83
Zais	128,118,825	1.1	18.8	1	26.6	1	-1.8	99	-0.8	99	3.1	97	8.6	1
Zais Group Invest Advisors	320,192,743	2.7	15.9	1	21.6	2	5.6	72	4.8	68	10.7	1	--	--
Zais Zephyr A 6 LP	17,220,063	0.1	46.1	1	69.8	1	-9.9	99	7.8	5	--	--	--	--
Zais Zephyr 8	40,028,152	0.3	10.2	6	17.6	6	12.7	16	--	--	--	--	--	--
Zais Zephyr 7	36,981,780	0.3	-2.5	99	13.7	11	--	--	--	--	--	--	--	--



PRIVATE ASSETS

Private Assets (16% Target)	Private Equity	Diversified	Partners Group SMA (MCA) Pathway Capital SMA (MCA) Pathway PE Fund VII LLC SL Capital European Strategic Partners 2004 SL Capital European Strategic Partners 2008
		Buyout Funds	Aurora Equity Partners IV Kayne Partners Fund IV LP (MCA) Partners Group Direct Equity 2016 (MCA) Partners Group Direct Investments 2012 LP (MCA) Partners Group European Buyout 2005 (A) LP (MCA) Waterfall Sentinel Fund (MCA)
		Venture Funds	Industry Ventures Direct LP (MCA) Industry Ventures Fund V LP (MCA) Industry Ventures Fund VI LP (MCA) Industry Ventures MCA Industry Ventures Partnership Holdings II LP (MCA) Industry Ventures Partnership Holdings III LP (MCA) Industry Ventures Partnership Holdings III-A LP (MCA) Industry Ventures Partnership Holdings IV LP (MCA) Industry Ventures Special Opportunities Fund II-A LP (MCA)
		Secondary Funds	Aberdeen Standard Secondary Opportunities Fund IV Industry Ventures Secondary VII LP (MCA) Industry Ventures Secondary VIII LP (MCA) Lexington Capital Partners VI Lexington Capital Partners VII Lexington Middle Market Investors I Lexington Middle Market Investors II Partners Group Secondary 2004 LP (MCA) Partners Group Secondary 2008 LP (MCA) SL Capital Secondary Opportunities Fund I SL Capital Secondary Opportunities Fund II SL Capital Secondary Opportunities Fund III
		Sector Specific Funds	Kayne Anderson Energy Fund VII LP (MCA) Tennenbaum Energy Opportunities Fund LP (MCA)
		Direct Lending	Ares Private Credit Solutions Fund (MCA) Tennenbaum Lending Fund VIII LLC (MCA) Tennenbaum Waterman Fund LP (MCA)
	Private Debt	Mezzanine Funds	Crescent Mezzanine Partners V
		Credit/Distressed/ Opportunistic/ Special Situations	Apollo Private Equity Fund VII Ares European Loan Funding LP (MCA) Ares ICOF II (MCA) Ares ICOF III (MCA) Ares SMA (MCA) Ares Special Situations Fund IV (MCA) Catalyst Fund LP II Crestline Portfolio Financing Fund Kayne Anderson Solutions Fund (MCA) Sigular Guff Distressed Opportunity Fund III LP Tennenbaum Co-Invest (MCA) Tennenbaum Opportunities Fund V LLC (MCA) Tennenbaum Opportunities Fund VI LLC (MCA) Tennenbaum Special Situations Fund IX LLC (MCA)



REAL ESTATE

Real Estate Portfolio (7% Target)	Core Real Estate (3.5%)	Core Real Estate	PRISA II 348 West Hospitality Invesco Real Estate Asia Fund Kayne Anderson Real Estate Debt III (MCA) Marathon Real Estate Debt Fund Pramerica Real Estate Capital VI LP
	Non-Core Real Estate (3.5%)	Enhanced Real Estate/ High Return	Apollo Real Estate Fund II LP (MCA) Bryanston Retail Opportunity Fortress Japan Opportunity Fund II Kayne Anderson Real Estate Partners V LP (MCA) Morgan Stanley RE Fund V International Oaktree RE Opportunities Fund V PRISA III Starwood Global Opportunity Fund VII-A Starwood Opportunity Fund VII Walton Street Real Estate Fund V
		Real Estate Secondaries	Partners Group Real Estate Secondary 2013 A LP (MCA) Partners Group Real Estate Secondary 2017 A LP (MCA)



REAL ASSETS

Real Asset Portfolio (5% Target)	Commodities (2% Target)	Energy Spectrum Partners VI LP Pinnacle Natural Resources LP Pinnacle Physicals & Financing LTD Starwood Energy Infrastructure Fund
	Infrastructure (1% Target)	Fortress Worldwide Transportation & Infrastructure LP Highstar Capital III Kayne Anderson MLP Strategy (MCA)
	Timber (2% Target)	Hancock Timberland VII & VIII LP Timbervest Crossover Partners II LP Timbervest Partners II LP



San Bernardino County Employees' Retirement Association

ALTERNATIVES - NET

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Private Equity Composite	2,086,984,493	17.4	9.7	22	22.3	14	15.0	21	13.9	30	13.7	23	13.2	23
<i>CJA Global All PE (Qtr Lag)</i>			<u>9.9</u>	22	<u>20.5</u>	17	<u>14.9</u>	23	<u>13.0</u>	42	<u>12.6</u>	37	<u>12.8</u>	25
Excess Return			-0.2		1.8		0.1		0.9		1.1		0.4	
<i>Russell 3000</i>			14.7	7	25.2	5	20.9	10	14.5	26	15.4	7	13.8	20
<i>CJA US All PE (1 Qtr Lag)</i>			11.0	19	21.5	16	13.4	30	13.1	41	13.0	28	13.6	21
Real Estate Composite	462,847,740	3.9	1.6	66	2.4	34	3.5	1	6.0	17	6.5	29	8.7	78
<i>NCREIF Property Index 1 Qtr. Lag</i>			<u>0.7</u>	78	<u>-0.3</u>	93	<u>2.0</u>	8	<u>5.1</u>	29	<u>6.3</u>	38	<u>9.4</u>	41
Excess Return			0.9		2.7		1.5		0.9		0.2		-0.7	
<i>InvMetrics Public DB Real Estate Pub+Priv Net Median</i>			1.7		1.7		-0.2		4.7		6.2		9.3	
Real Assets Composite	469,311,196	3.9	10.7	15	15.6	5	7.0	9	4.3	54	4.2	53	3.4	64
<i>Real Assets Custom Blend</i>			<u>7.3</u>	25	<u>14.9</u>	6	<u>1.8</u>	40	<u>1.1</u>	71	<u>2.7</u>	81	<u>-0.6</u>	99
Excess Return			3.4		0.7		5.2		3.2		1.5		4.0	
<i>67% Bloomberg Commodity/ 33% Barclays US TIPS</i>			7.3	25	14.9	6	1.8	40	0.4	72	2.5	83	-3.0	99
Timber	34,261,812	0.3	1.6	--	1.4	--	-1.4	--	-2.3	--	-1.3	--	1.4	--
<i>NCREIF Timberland 1 Qtr. Lag</i>			<u>0.0</u>	--	<u>0.1</u>	--	<u>0.2</u>	--	<u>2.1</u>	--	<u>2.6</u>	--	<u>4.4</u>	--
Excess Return			1.6		1.3		-1.6		-4.4		-3.9		-3.0	
Infrastructure	124,335,735	1.0	37.1	--	43.8	--	3.3	--	-1.3	--	8.1	--	4.2	--
<i>Russell 3000</i>			14.7	--	25.2	--	20.9	--	14.5	--	15.4	--	13.8	--
Excess Return			22.4		18.6		-17.6		-15.8		-7.3		-9.6	
Commodities	310,713,649	2.6	0.4	--	5.4	--	12.3	--	11.2	--	6.6	--	4.6	--
<i>Bloomberg Commodity Index</i>			<u>10.2</u>	--	<u>20.2</u>	--	<u>-3.1</u>	--	<u>-2.5</u>	--	<u>1.0</u>	--	<u>-6.5</u>	--
Excess Return			-9.8		-14.8		15.4		13.7		5.6		11.1	



**APPENDIX:
PRIVATE EQUITY,
REAL ESTATE AND
REAL ASSETS
PERFORMANCE**

NEPC, LLC

REAL ESTATE PERFORMANCE ENDED SEPTEMBER 30, 2020

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Cumulative Distributions	Valuation	IRR
American Realty Advisors	1996	128,009,773	128,009,773	278,446,295	0	6.89%
American Realty Value Add	2006	13,125,215	13,125,215	32,080,321	0	10.92%
Apollo US Real Estate Fund II	2015	20,000,000	14,344,929	4,875,885	13,147,090	8.53%
Beacon Capital Strategic Partners IV, L.P.	2006	38,000,000	38,000,000	31,424,699	0	-3.26%
Beacon Capital Strategic Partners V, L.P.	2007	18,000,000	18,000,000	11,174,695	0	-7.87%
BlackRock Diamond Property Fund	2005	25,000,000	25,000,000	15,233,347	0	-9.31%
Bryanston Real Estate Opportunity Fund II, L.P.	2009	20,000,000	8,589,256	11,847,997	0	10.19%
Bryanston Retail Opportunity Fund, L.P.	2004	20,000,000	8,228,165	22,204,760	8,650,156	70.75%
CBRE Strategic Partners III	2003	10,000,000	10,000,000	12,698,783	0	8.02%
CBRE Strategic Partners IV	2005	40,000,000	40,000,000	2,609,685	0	-27.76%
Fillmore East Fund	2006	25,000,000	31,403,818	20,777,177	0	-9.78%
Fillmore West Fund	2008	20,000,000	19,561,557	21,175,799	0	1.14%
Fortress Japan Opportunity Fund II	2012	21,739,130	2,434,589	23,188,365	3,753,966	25.76%
Invesco Asian Real Estate Partners II (USD), LP	2007	20,000,000	8,412,833	11,465,147	0	7.52%
Invesco High Yield Debt Fund I	2007	20,000,000	20,000,000	8,567,605	0	-35.57%
Invesco Real Estate Asia Fund	2014	51,732,500	51,732,500	13,025,718	66,017,538	7.06%
INVESCO Real Estate Fund I	2005	10,000,000	9,248,390	10,015,656	0	1.54%
Kayne Anderson Real Estate Debt III	2018	20,000,000	19,248,718	4,257,120	16,929,706	9.14%
Kayne Anderson Real Estate Partners V	2017	20,000,000	14,800,000	777,243	16,096,218	9.08%
LaSalle Income & Growth Fund IV	2005	20,000,000	19,469,417	13,482,024	0	-5.51%
North Haven Real Estate Fund V International	2005	27,500,000	27,377,414	32,070,486	1,202,087	6.86%
Oaktree Real Estate Opportunities V	2012	25,000,000	25,000,000	37,933,074	1,935,358	12.94%
Partners Group RE Secondary 2013 (USD) A	2014	65,000,000	49,541,590	24,769,953	43,846,459	10.37%
Partners Group RE Secondary 2017 (USD) A	2017	75,000,000	36,437,810	118,130	41,256,038	7.76%
Pramerica Real Estate Capital VI	2016	24,898,411	21,805,036	6,921,154	12,385,433	-8.37%
Prologis Japan Fund	2005	25,290,819	25,290,819	33,126,118	0	4.81%
Prudential PRISA II	2004	140,000,000	140,000,000	52,891,251	165,736,208	7.15%
Prudential PRISA III	2003	75,000,000	58,845,117	50,178,587	57,831,791	17.35%
RREEF America REIT III	2004	20,000,000	20,539,309	23,658,675	0	3.00%
Square Mile Partners II	2007	19,831,232	19,831,232	5,311,330	0	-19.11%
Square Mile Partners III LP	2008	20,000,000	19,730,190	28,756,613	66,327	11.51%
Starwood Capital Hospitality Fund I-2	2006	30,000,000	30,000,000	27,879,087	2,469,207	0.15%
Starwood Debt Fund II, LP	2008	20,000,000	17,599,882	21,912,511	0	6.45%
Starwood Opportunity Fund VII - A	2006	25,000,000	25,000,000	19,517,190	648,473	-2.33%
Structured Real Estate III, LP (Guggenheim)	2008	20,000,000	20,000,000	16,320,664	0	-4.99%
Tri Continental Capital VII	2005	23,000,000	22,277,928	2,966,809	670,489	-15.34%
Tuckerman Multi-Family Development Fund III	2002	10,000,000	10,219,311	16,939,699	0	26.67%
Walton Street Real Estate Fund IV, LP	2003	10,000,000	9,770,890	15,939,604	69,311	10.73%
Walton Street Real Estate Fund V, LP	2006	40,000,000	40,000,000	26,257,673	3,222,861	-3.33%
Total: San Bernardino		1,256,127,080	1,118,875,687	992,796,932	455,934,716	4.01%

Note: All metrics are calculated since inception

* Denotes cash adjusted



REAL ASSETS PERFORMANCE ENDED SEPTEMBER 30, 2020

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Cumulative Distributions	Valuation	TVPI Ratio	IRR
Fortress Transportation Infrastructure LLC	2015	45,403,354	45,403,354	16,745,828	34,693,510	1.13	-31.25%
Hancock Timberland VII	2005	90,000,000	90,000,000	101,142,900	0	1.12	1.02%
Hancock Timberland VIII	2006	40,000,000	40,000,000	8,271,925	31,568,514	1.00	-0.04%
Highstar Capital III, L.P.	2007	60,000,000	59,119,119	62,905,543	414,302	1.07	0.87%
Timbervest Crossover Partners II, L.P.	2008	30,000,000	30,000,000	16,274,831	12,133,386	0.95	-0.78%
Timbervest Partners II, L.P.	2007	50,000,000	50,000,000	47,875,000	4,559,905	1.05	0.49%
Total: San Bernardino		315,403,354	314,522,473	253,216,027	83,369,617	1.07	-0.47%

Note: All metrics are calculated since inception

** Denotes cash adjusted*



PRIVATE EQUITY PERFORMANCE ENDED SEPTEMBER 30, 2020

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Cumulative Distributions	Valuation	TVPI Ratio	IRR
Adams Street SBCERA	2020	50,000,000	9,700,000	0	9,700,000	1.00	0.00%
Apollo Accord Fund, LP	2017	30,000,000	7,500,000	8,310,474	0	1.11	7.44%
Apollo European Principal Finance Fund (Feeder), LP	2009	54,121,170	46,434,825	69,228,391	250,982	1.50	11.81%
Apollo Investment Fund VII, L.P.	2008	10,000,000	8,782,319	16,013,358	941,963	1.93	22.42%
Apollo PCPL Webb V	2010	4,844,398	4,844,398	5,196,757	0	1.07	6.04%
Apollo PCPL Webb VIII	2010	4,734,303	4,734,303	12,146,258	0	2.57	46.47%
ARES European Loan Opp Fund	2015	15,000,000	8,413,136	7,613,498	0	0.90	-6.02%
Ares Special Situations Fund IV, LP	2015	50,000,000	47,686,469	332,617	46,606,573	0.98	-0.47%
Aurora Equity Partners III, L.P.	2005	25,000,000	23,544,536	41,738,196	0	1.67	13.61%
Aurora Equity Partners IV, L.P.	2012	20,000,000	17,262,661	30,861,074	9,684,597	2.04	18.62%
Aurora Resurgence Fund, L.P.	2008	15,000,000	5,653,009	10,350,965	0	1.82	17.60%
BNY Mellon - Alcentra Mezzanine III	2012	25,000,000	23,254,658	26,736,979	0	1.15	12.73%
Catalyst Fund II, L.P.	2007	10,000,000	10,356,944	4,259,103	18,358,035	2.17	8.98%
Crestline Portfolio Financing Fund	2018	50,000,000	28,409,246	1,837,918	32,039,208	1.19	11.74%
DRI II, L.P.	2009	20,000,000	19,917,669	26,302,807	0	1.33	19.64%
European Strategic Partners 2004	2004	241,568,159	221,308,426	276,628,908	4,546,615	1.27	3.99%
European Strategic Partners 2008	2010	31,498,421	29,168,898	31,667,068	11,002,088	1.45	8.63%
Industry Ventures Direct II, LP	2019	50,000,000	8,865,515	0	7,850,611	0.89	-15.06%
Industry Ventures Direct, LP	2016	25,000,000	21,094,952	1,917,517	27,386,723	1.39	15.75%
Industry Ventures Fund V	2008	10,000,000	9,500,000	27,196,010	245,825	2.89	29.32%
Industry Ventures Fund VI	2011	20,000,000	18,400,000	20,400,016	4,510,141	1.35	8.00%
Industry Ventures Partnership Holdings Fund II, L.P.	2012	25,000,000	23,500,000	26,489,746	49,715,177	3.24	22.45%
Industry Ventures Partnership Holdings Fund III, L.P.	2013	25,000,000	23,277,042	20,754,764	40,251,759	2.62	24.13%
Industry Ventures Partnership Holdings Fund III-A, L.P.	2014	12,500,000	11,034,493	5,890,545	5,980,983	1.08	1.96%
Industry Ventures Partnership Holdings IV, LP	2016	25,000,000	18,825,000	1,255,046	25,853,743	1.44	17.38%
Industry Ventures Partnership Holdings V, LP	2018	25,000,000	10,750,000	158,849	12,019,985	1.13	17.37%
Industry Ventures Secondary VII, L.P.	2013	25,000,000	22,500,000	22,500,000	16,071,445	1.71	15.13%
Industry Ventures Secondary VIII	2017	25,000,000	19,375,000	5,570,778	28,559,833	1.76	48.41%
Industry Ventures Special Opportunities II-A	2016	12,500,000	1,530,722	745,354	2,341,701	2.02	48.66%
Industry Ventures Tech Buyout LP	2018	50,000,000	9,361,745	0	8,995,405	0.96	-4.13%
Kayne Anderson Energy Fund VII, L.P.	2017	10,000,000	8,214,431	215,495	2,638,966	0.35	-31.22%
Kayne Anderson FRG	2020	30,000,000	30,000,000	1,473,926	34,962,298	1.21	22.88%

Note: All metrics are calculated since inception

* Denotes Cash adjusted value



PRIVATE EQUITY PERFORMANCE ENDED SEPTEMBER 30, 2020

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Cumulative Distributions	Valuation	TVPI Ratio	IRR
Kayne Anderson Private Energy Income Fund II, L.P.	2018	20,000,000	3,880,000	1,251,472	5,714,746	1.80	43.25%
Kayne CLO Partners II, LP	2020	50,000,000	24,616,563	1,321,157	26,379,651	1.13	13.80%
Kayne Flywheel Co-investment LLC	2018	8,000,000	6,400,000	1,714,970	10,782,328	1.95	48.56%
Kayne Partners Fund IV (QP), LP	2017	20,000,000	15,676,366	0	21,023,048	1.33	17.04%
Kayne Renewable Opportunities Partners (TE), LP	2019	100,000,000	15,625,011	0	16,063,379	1.03	1.85%
Kayne SBCERA (D.I.)	2018	45,000,000	40,660,422	23,293,477	22,292,179	1.12	13.73%
Kayne SBCERA MLP	2017	130,000,000	126,225,037	1,257,331	82,148,908	0.66	-14.48%
Kayne Solutions Fund LP	2018	20,000,000	7,513,180	5,229,373	6,992,872	1.62	37.79%
Lexington Capital Partners VI-B	2006	25,000,000	24,591,319	33,409,259	1,556,726	1.42	6.85%
Lexington Capital Partners VII (Offshore)	2011	25,000,000	20,409,757	27,626,909	4,959,151	1.59	14.42%
Lexington Middle Market I	2005	25,000,000	24,771,942	38,152,128	2,161,553	1.63	11.40%
Lexington Middle Market II - Offshore	2008	10,000,000	9,773,736	13,958,783	2,849,979	1.71	14.15%
NB Secondary Opportunities I, LP	2005	20,000,000	18,500,843	24,330,105	0	1.32	6.49%
NB Secondary Opportunities II, LP	2008	20,000,000	17,080,642	26,888,038	0	1.54	14.40%
Partners Group Access 773, L.P.	2019	9,127,941	0	0		0.00	N/A
Partners Group MCA	2004	800,000,000	778,744,041	615,463,164	482,714,982	1.41	8.03%
Pathway Private Equity Fund VII, L.P.	2004	904,500,000	854,330,415	1,223,699,974	339,113,146	1.83	11.33%
Pathway SBCERA MCA	2014	250,000,000	208,670,065	21,289,500	386,312,695	1.95	21.55%
Siguler Guff DOF II	2006	30,000,000	30,000,000	42,440,278	0	1.42	8.64%
Siguler Guff DOF III	2008	10,000,000	9,700,000	14,171,478	1,750,269	1.64	10.74%
SL Capital SOF I LP	2014	25,000,000	21,255,777	21,108,913	7,680,611	1.35	10.33%
SL Capital SOF III LP	2017	25,000,000	16,546,726	2,169,942	21,011,479	1.40	23.60%
TCP Direct Lending Fund VIII-L, LLC	2016	40,000,000	37,669,103	5,621,686	37,142,855	1.13	6.40%
TCW/Crescent Mezzanine IV, L.P.	2006	40,000,000	39,590,976	45,049,090	0	1.14	3.03%
TCW/Crescent Mezzanine V, L.P.	2008	20,000,000	20,291,044	26,182,895	914,343	1.34	9.41%
Tennenbaum Energy Opportunities Fund, LP	2016	20,000,000	10,218,623	6,078,949	8,457,992	1.42	10.42%
Tennenbaum Opportunities Fund V, L.P.	2007	10,000,000	10,000,000	11,971,906	1,396,649	1.34	4.40%
Tennenbaum Opportunities Fund VI, L.P.	2011	20,000,000	9,501,887	11,286,373	5,329,758	1.75	7.24%
Tennenbaum Special Situations Fund IX	2015	50,000,000	42,506,916	15,145,636	46,457,513	1.45	13.35%
Tennenbaum Waterman Fund, LP	2012	70,000,000	70,000,000	55,127,234	64,942,436	1.72	10.75%
Waterfall Sentinel Co-Investments	2019	30,000,000	16,710,053	0	11,841,797	0.71	-21.10%
Waterfall Sentinel Fund	2019	30,000,000	18,645,942	133,991	15,937,181	0.86	-11.98%
Total: San Bernardino		3,928,394,392	3,303,306,782	3,019,166,427	2,034,442,882	1.53	7.98%



Note: All metrics are calculated since inception. * Denotes Cash adjusted value

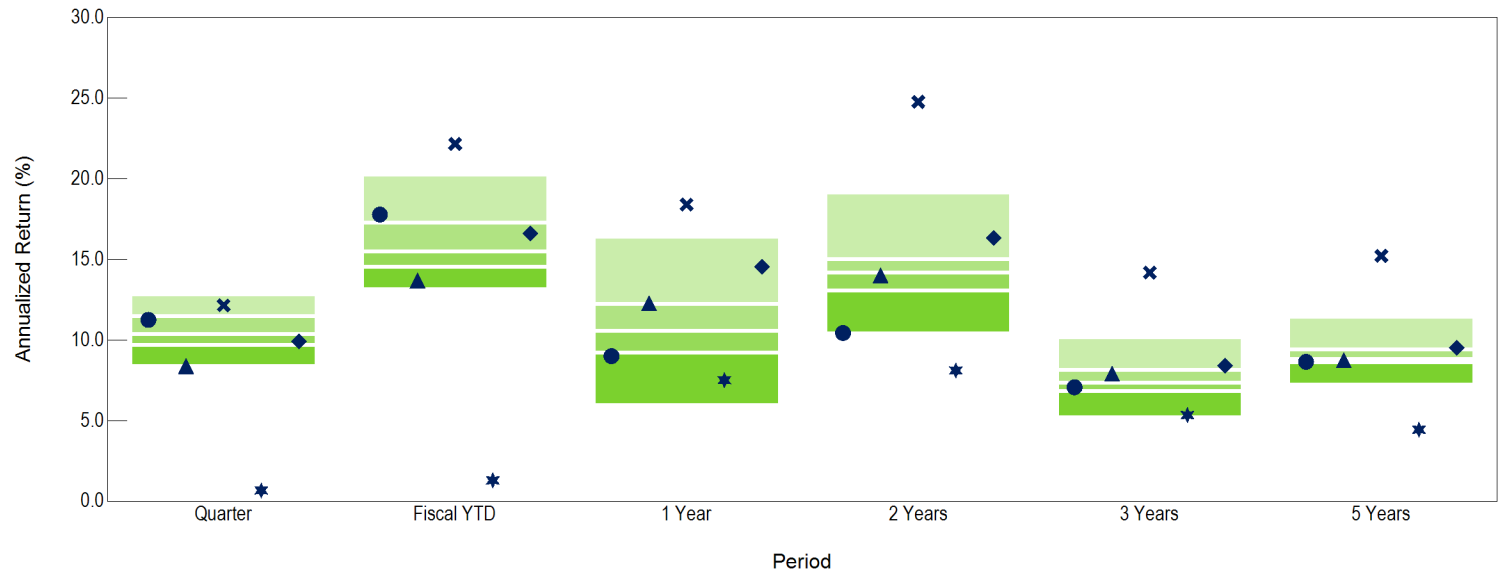
APPENDIX MARKET OUTLOOK

NEPC, LLC

San Bernardino County Employees' Retirement Association

TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

Total Fund vs. InvMetrics Public DB > \$1B Net



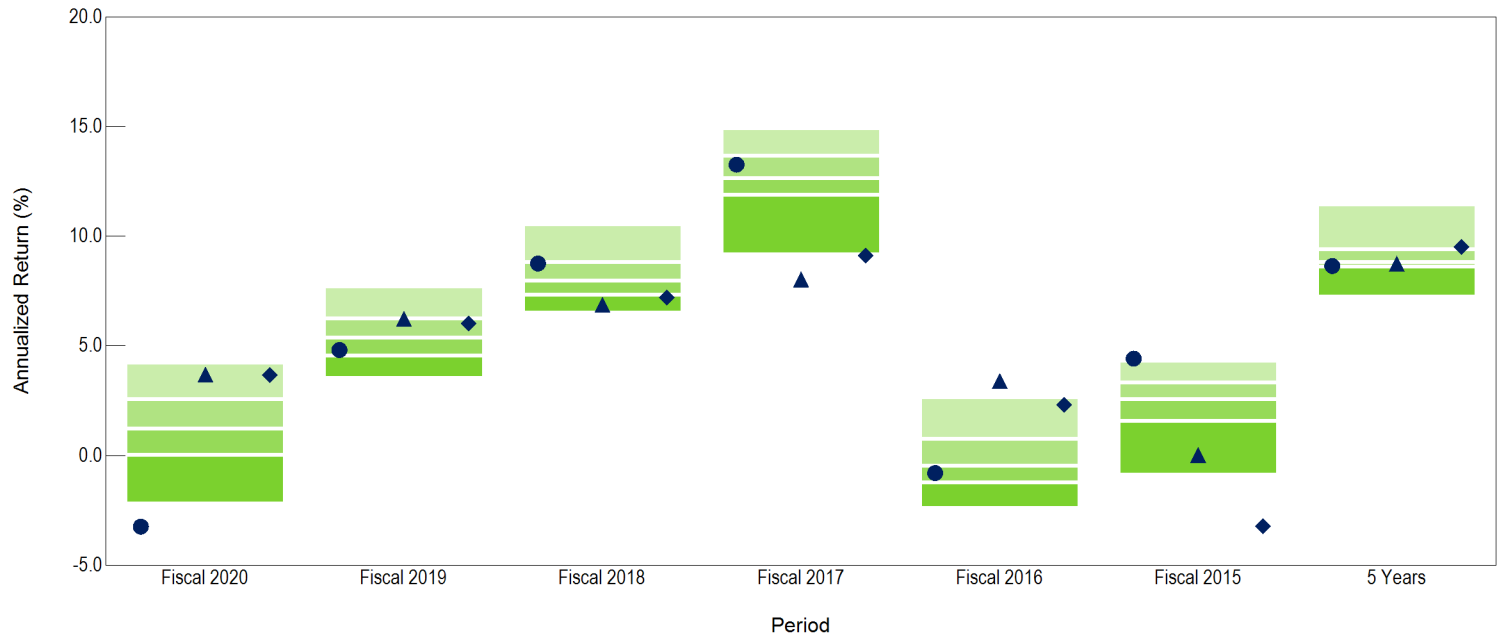
	Return (Rank)											
5th Percentile	12.8		20.2		16.4		19.1		10.1		11.4	
25th Percentile	11.5		17.3		12.3		15.0		8.2		9.4	
Median	10.4		15.5		10.6		14.2		7.4		8.8	
75th Percentile	9.7		14.6		9.2		13.1		6.9		8.6	
95th Percentile	8.4		13.2		6.0		10.4		5.2		7.3	
# of Portfolios	39		39		39		39		39		39	
● Total Fund	11.2	(31)	17.8	(15)	9.0	(79)	10.4	(95)	7.1	(63)	8.6	(74)
▲ Policy Index	8.4	(97)	13.7	(92)	12.3	(25)	14.0	(54)	7.9	(29)	8.7	(65)
× S&P 500	12.1	(14)	22.2	(1)	18.4	(1)	24.8	(1)	14.2	(1)	15.2	(1)
* BBgBarc US Aggregate TR	0.7	(99)	1.3	(99)	7.5	(89)	8.1	(98)	5.3	(95)	4.4	(99)
◆ 60% MSCI ACWI (Net) / 40% FTSE WGBI	9.9	(66)	16.6	(36)	14.5	(15)	16.3	(15)	8.4	(20)	9.5	(24)



San Bernardino County Employees' Retirement Association

TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

Total Fund vs. InvMetrics Public DB > \$1B Net



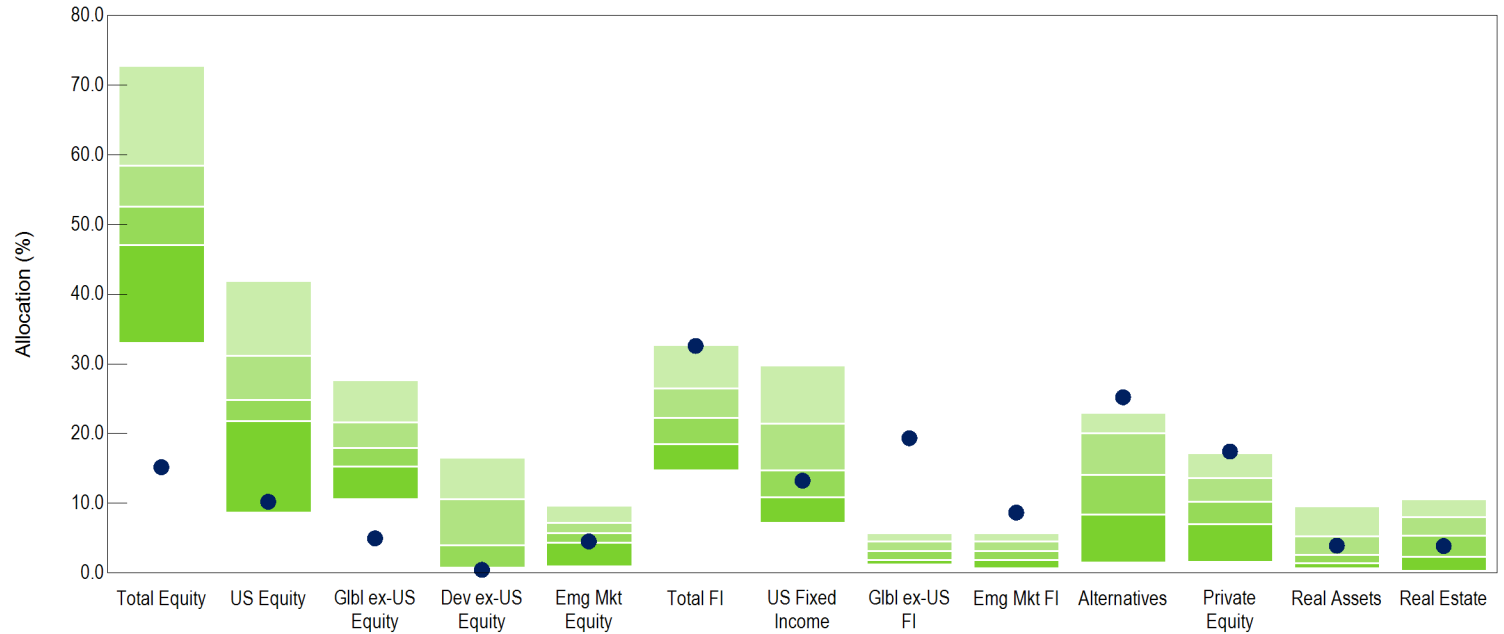
	Return (Rank)													
5th Percentile	4.2		7.7		10.5		14.9		2.7		4.3		11.4	
25th Percentile	2.6		6.3		8.8		13.7		0.8		3.3		9.4	
Median	1.3		5.4		8.0		12.7		-0.5		2.6		8.8	
75th Percentile	0.0		4.6		7.3		11.9		-1.2		1.6		8.6	
95th Percentile	-2.2		3.5		6.5		9.2		-2.4		-0.9		7.3	
# of Portfolios	71		77		51		65		55		53		39	
● Total Fund	-3.2	(98)	4.8	(69)	8.8	(29)	13.3	(33)	-0.8	(66)	4.4	(2)	8.6	(74)
▲ Policy Index	3.7	(14)	6.2	(27)	6.9	(91)	8.0	(96)	3.4	(1)	0.0	(93)	8.7	(65)
◆ 60% MSCI ACWI (Net) / 40% FTSE WGBI	3.7	(14)	6.0	(31)	7.2	(79)	9.1	(96)	2.3	(8)	-3.2	(99)	9.5	(24)



San Bernardino County Employees' Retirement Association

TOTAL FUND ALLOCATIONS VS. PEER UNIVERSE

Total Plan Allocation vs. InvMetrics Public DB > \$1B Net



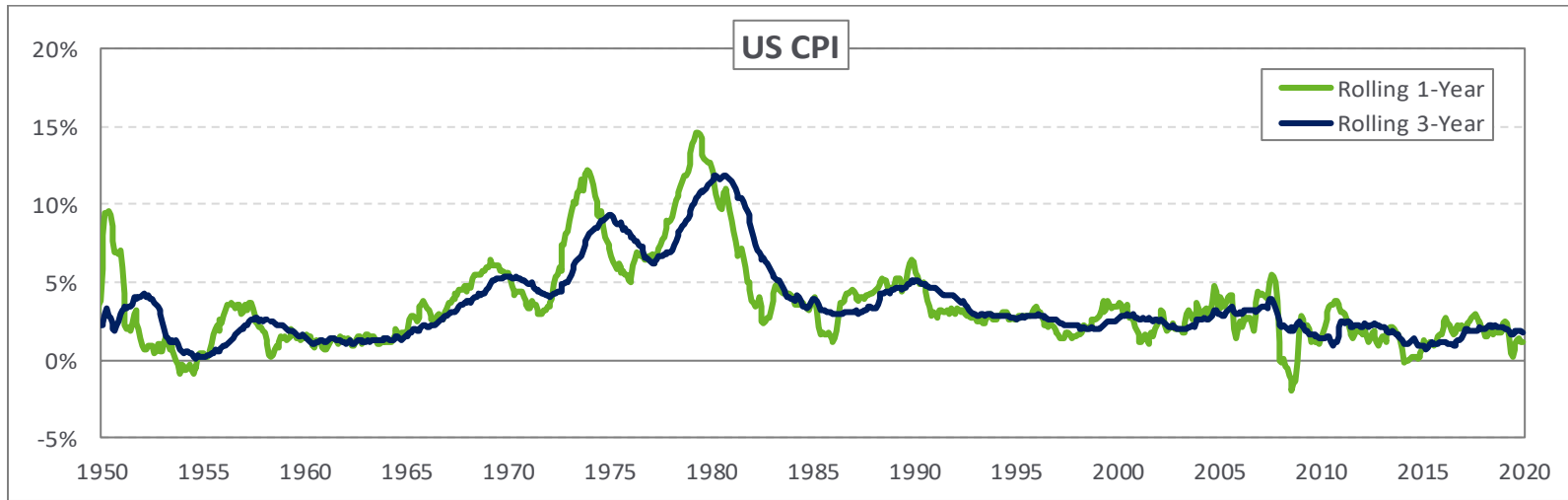
	Allocation (Rank)													
5th Percentile	72.7	41.9	27.7	16.6	9.7	32.7	29.7	5.7	5.7	23.0	17.2	9.6	10.6	--
25th Percentile	58.5	31.2	21.7	10.7	7.3	26.5	21.5	4.6	4.6	20.1	13.7	5.4	8.1	--
Median	52.6	24.9	18.1	4.1	5.8	22.4	14.8	3.2	3.2	14.1	10.3	2.7	5.5	--
75th Percentile	47.2	21.9	15.4	0.8	4.4	18.6	11.0	2.0	2.0	8.4	7.1	1.5	2.4	--
95th Percentile	33.1	8.7	10.7	0.7	1.1	14.8	7.3	1.3	0.8	1.6	1.7	0.7	0.4	--
# of Portfolios	30	21	27	15	23	30	21	14	14	28	25	12	27	--
● Total Fund	15.2 (99)	10.2 (95)	5.0 (99)	0.4 (99)	4.5 (71)	32.6 (6)	13.2 (69)	19.3 (1)	8.7 (1)	25.2 (4)	17.4 (5)	3.9 (35)	3.9 (62)	--



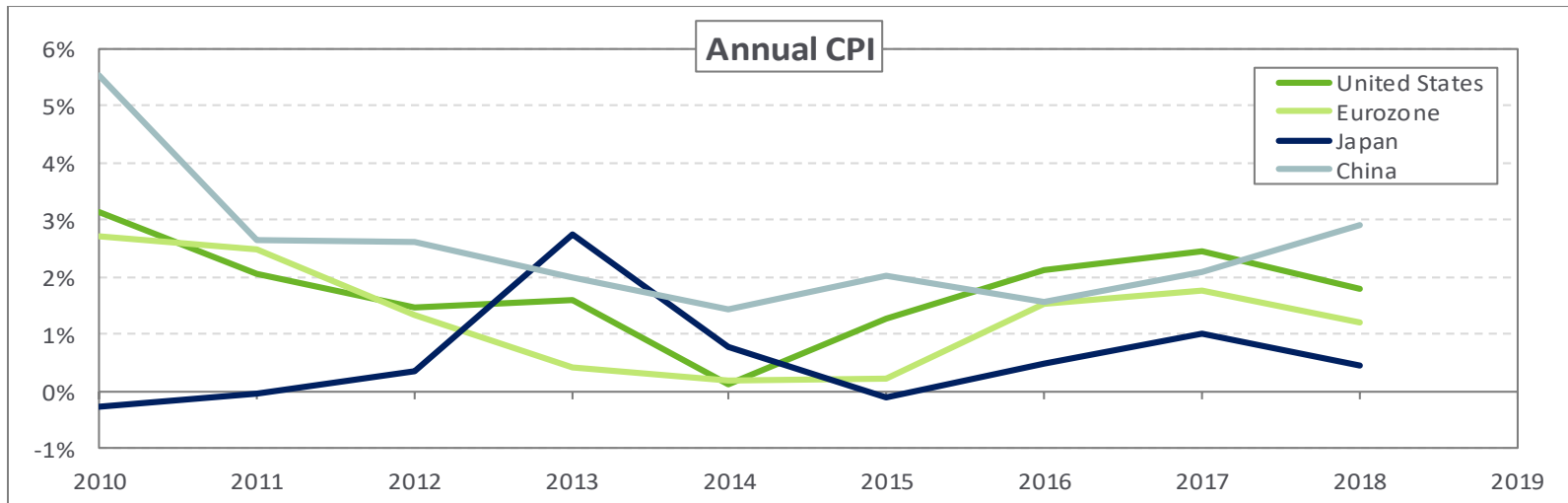
MACRO

NEPC, LLC

INFLATION



Source: Bureau of Labor Statistics, FactSet



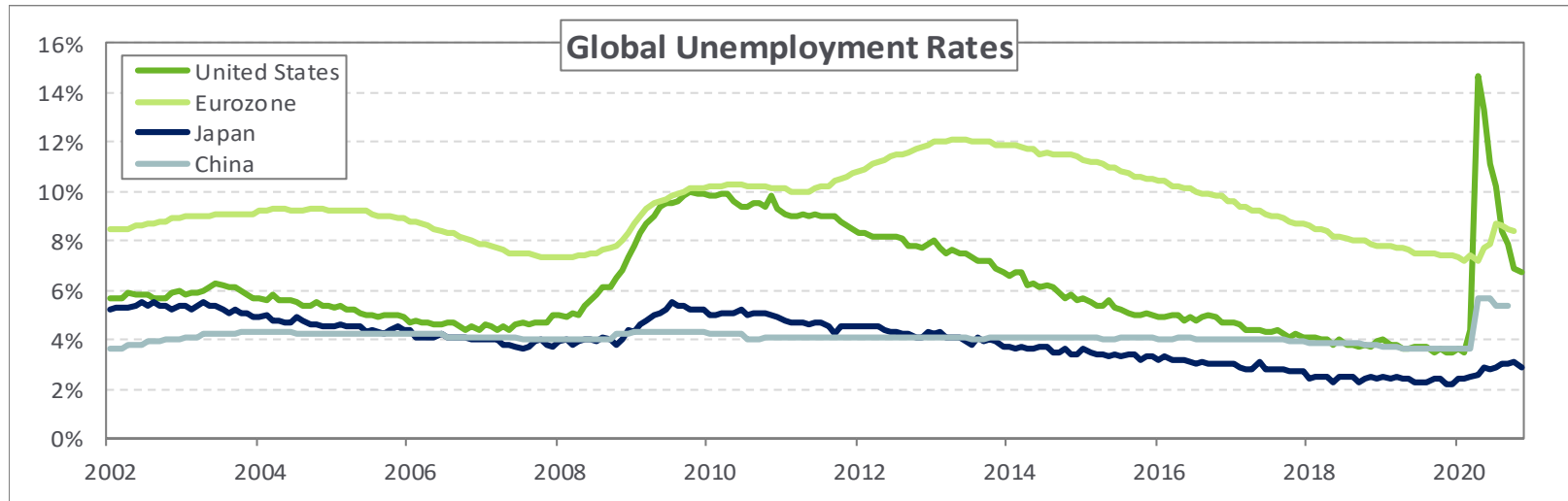
Source: FactSet



UNEMPLOYMENT



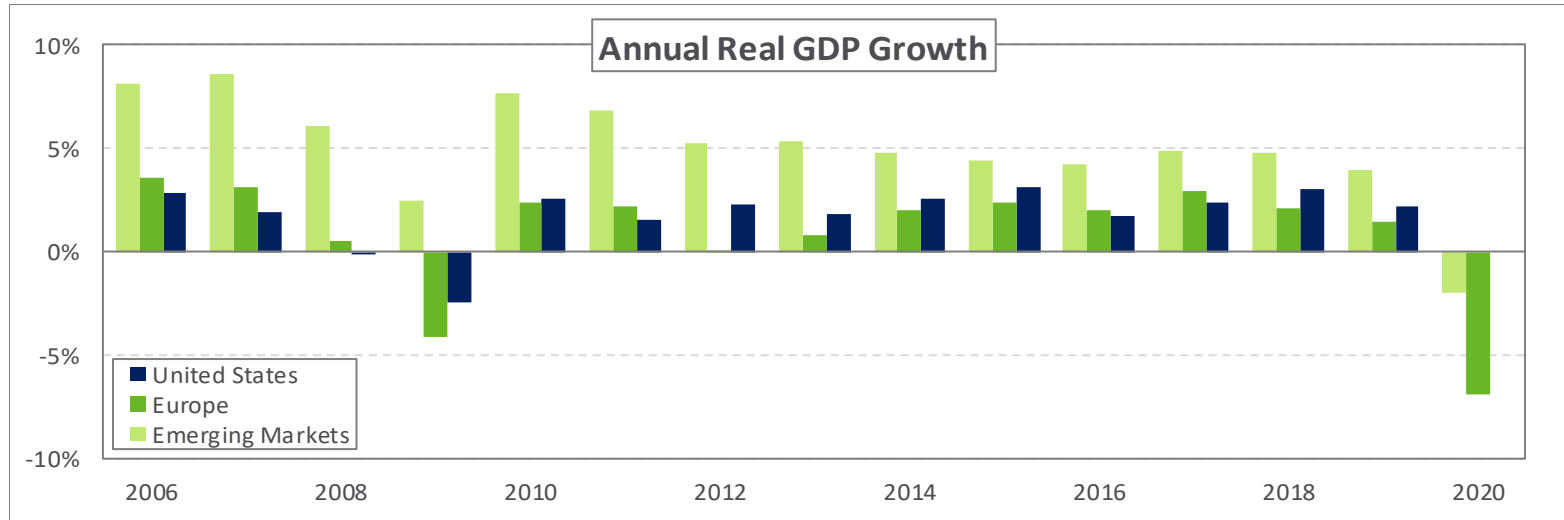
Source: FactSet



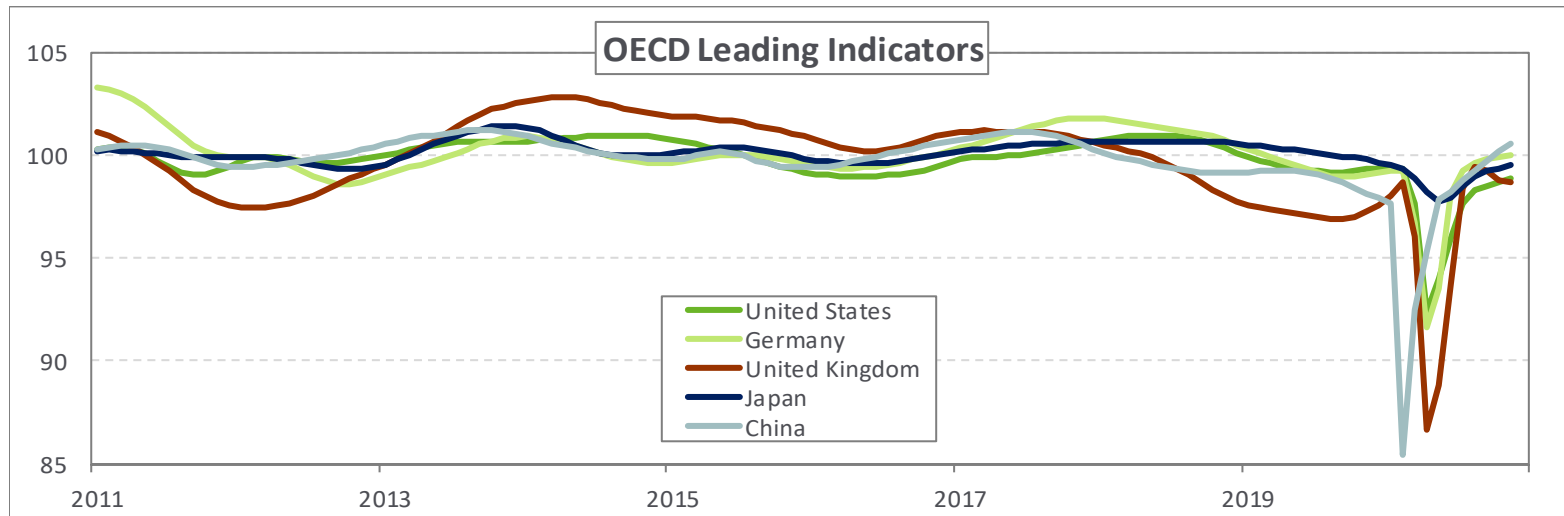
Source: FactSet



ECONOMIC INDICATORS



Source: Bureau of Economic Analysis, Oxford Economics, FactSet



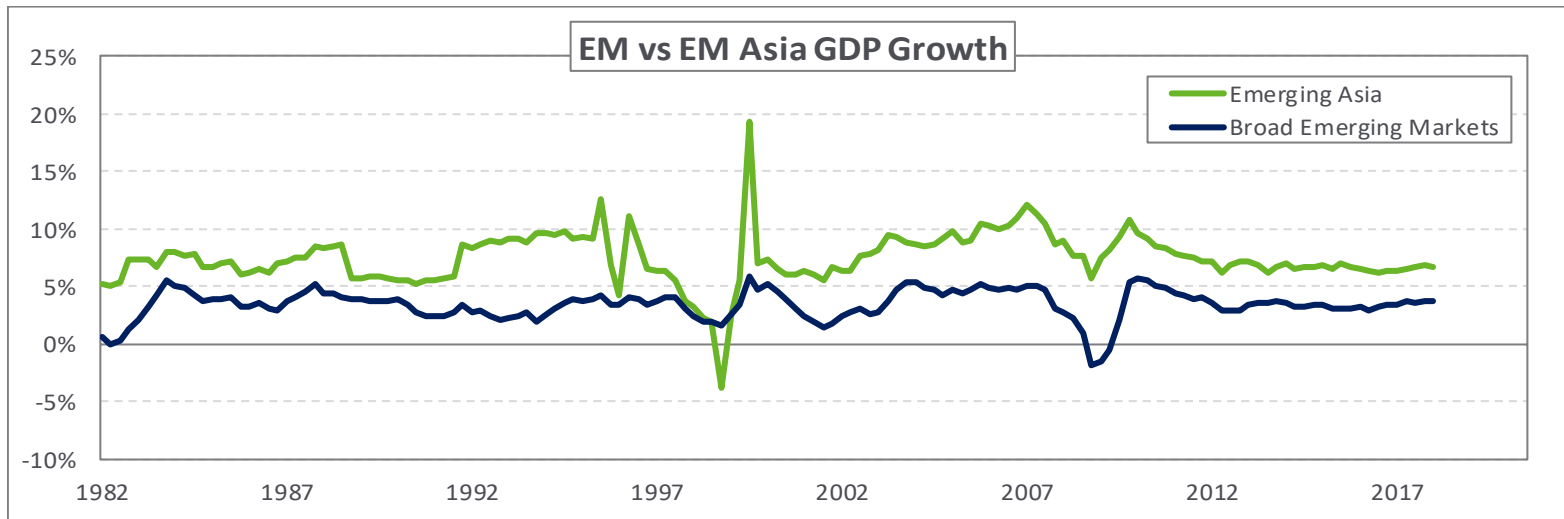
Source: OECD, FactSet



GROSS DOMESTIC PRODUCT



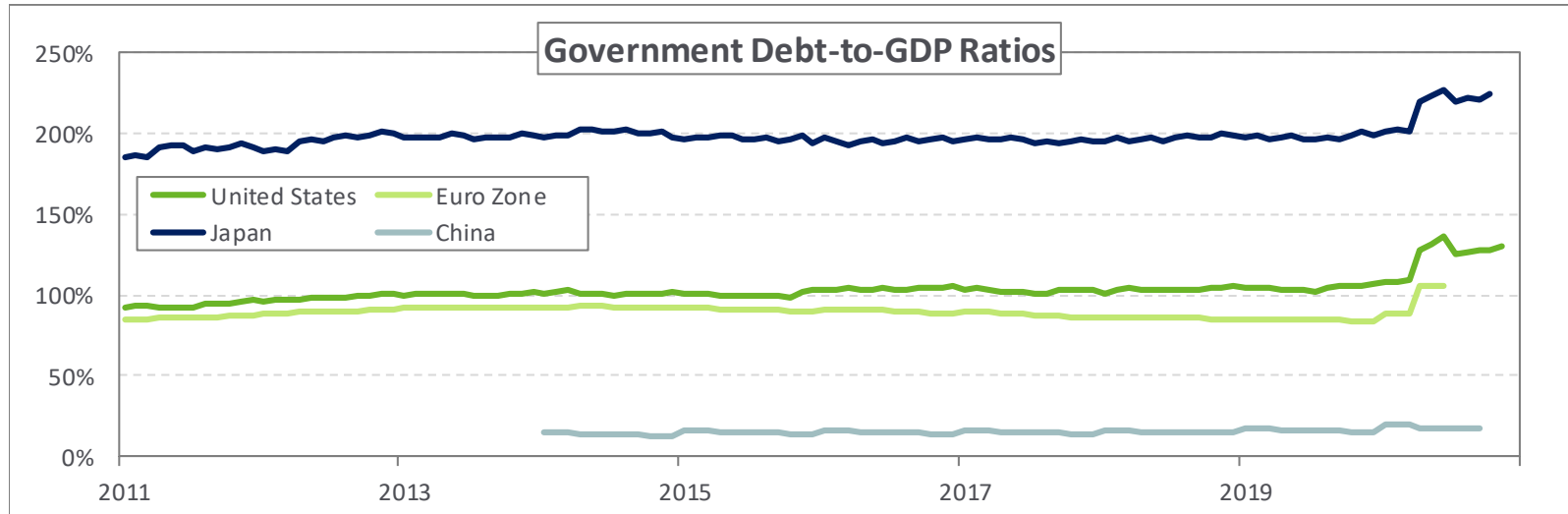
Source: Bureau of Economic Analysis, FactSet



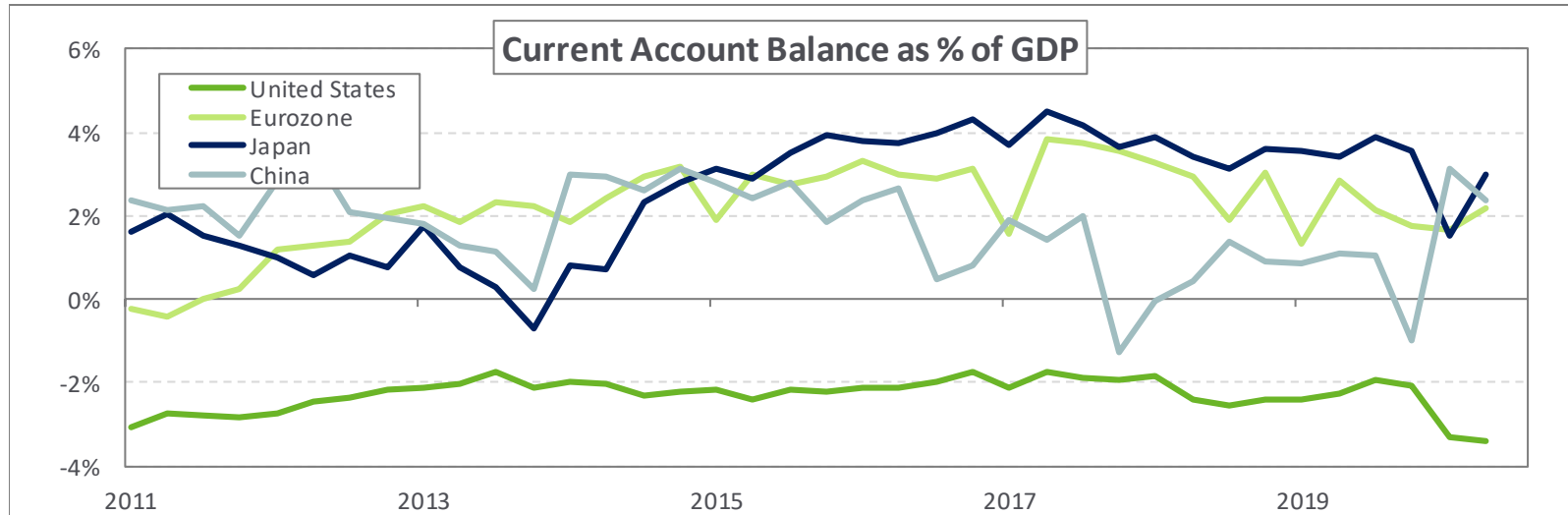
Source: IMF, FactSet



GROSS DOMESTIC PRODUCT METRICS



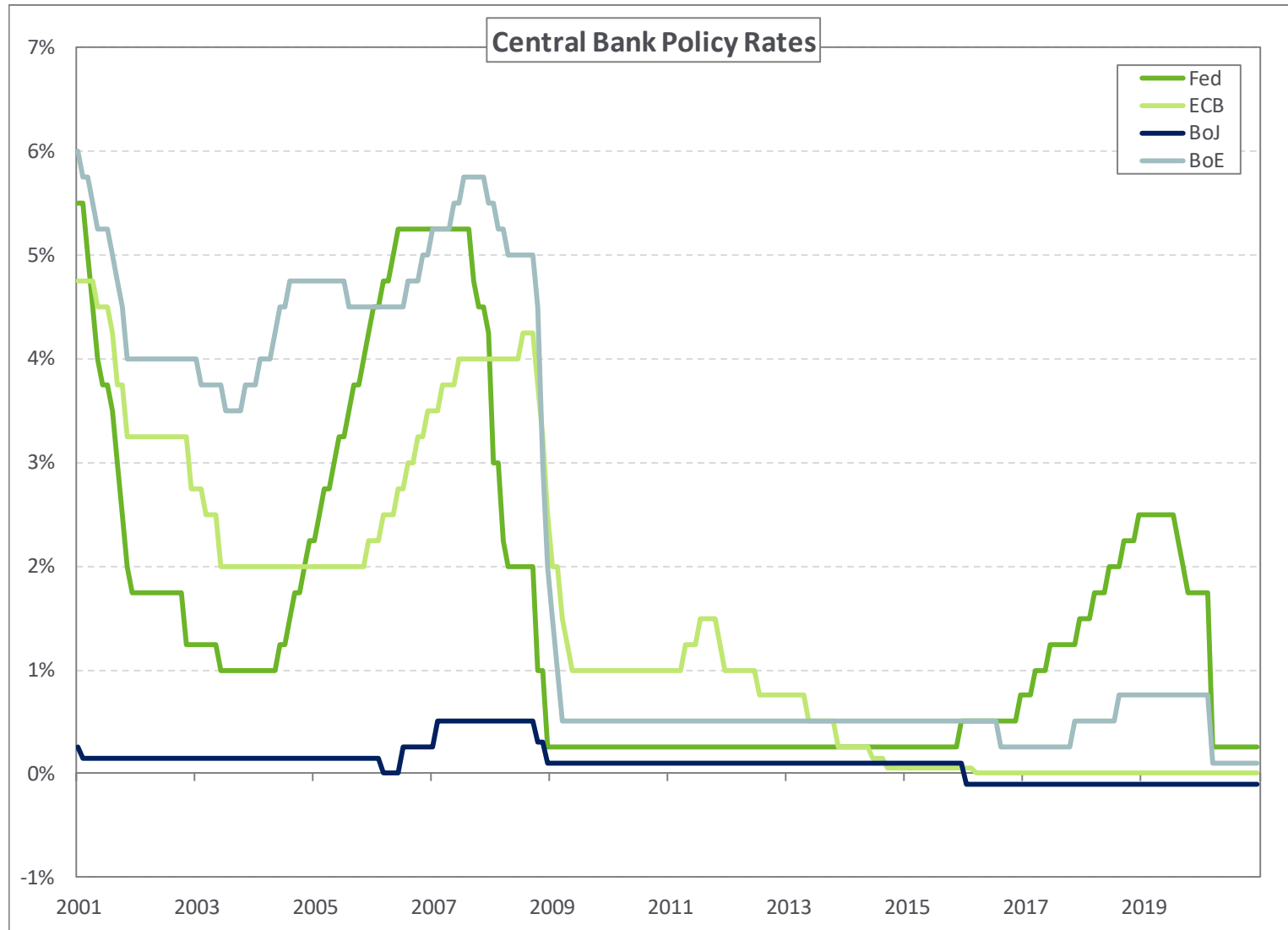
Source: IMF, FactSet



Source: FactSet



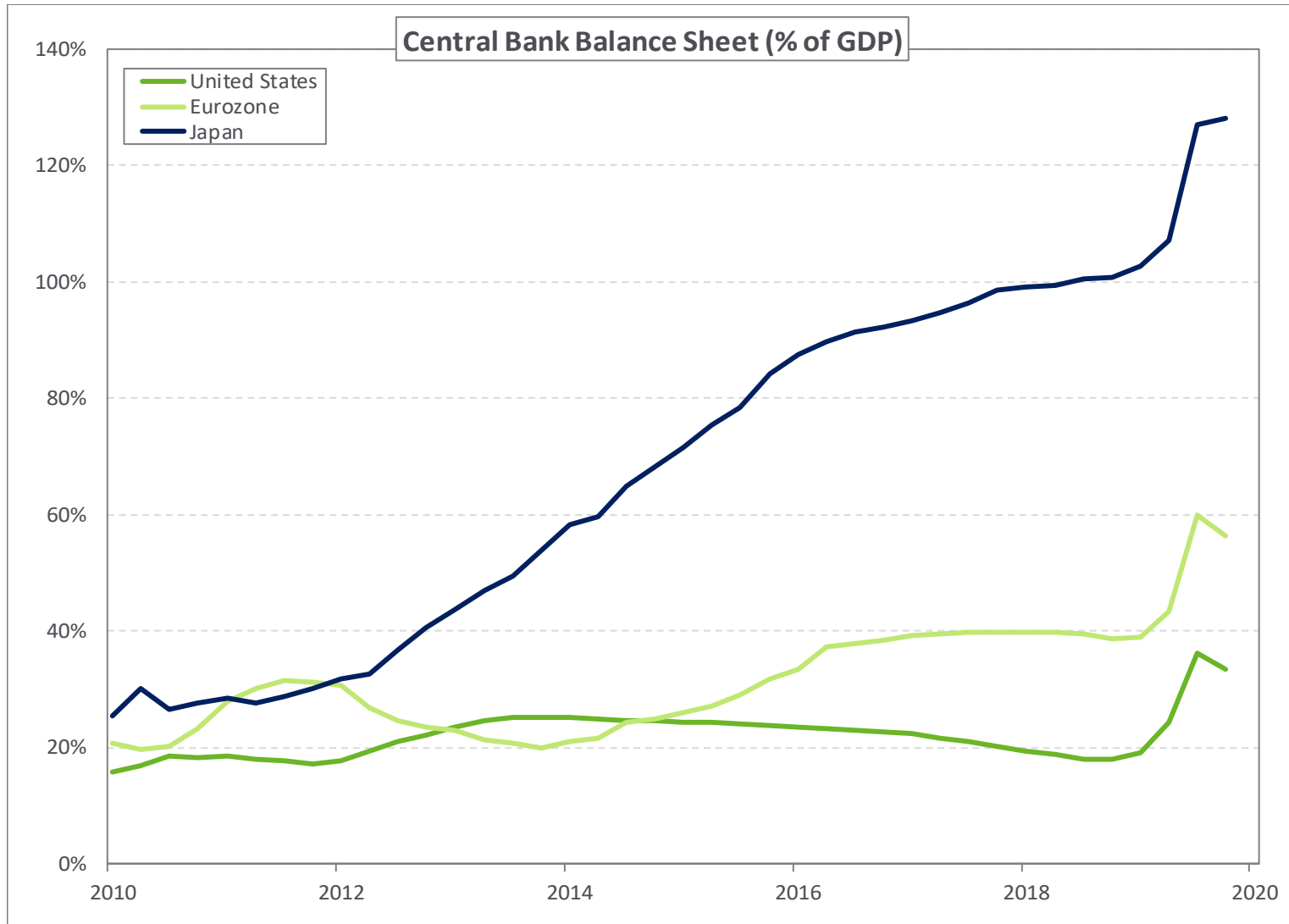
CENTRAL BANK RATES



Source: Federal Reserve, ECB, Bank of Japan, Bank of England, FactSet



CENTRAL BANK BALANCE SHEETS



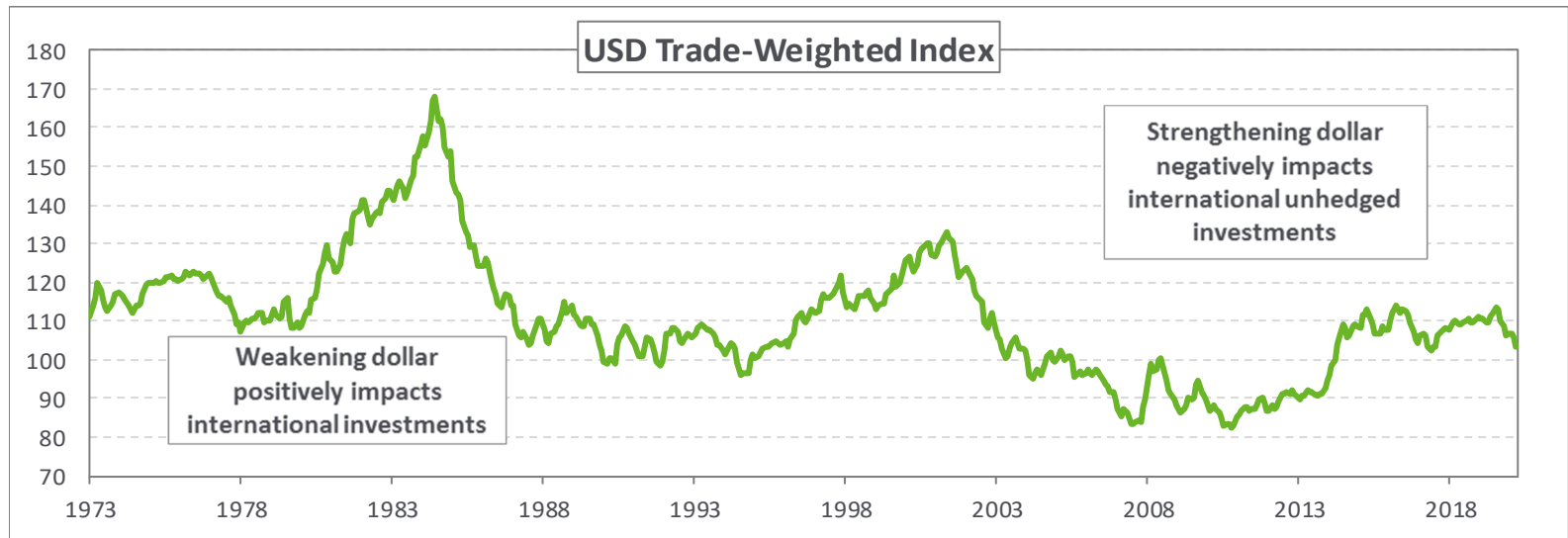
Source: FactSet



CURRENCIES

Currencies	% Change Relative to USD			
	Spot	1 Month	YTD	1 Year
Euro	1.22	2.3%	0.0%	9.0%
British Pound	1.37	2.4%	0.0%	3.2%
Japanese Yen	103.25	1.0%	0.0%	5.3%
Swiss Franc	0.88	2.4%	0.0%	9.5%
Australian Dollar	0.77	4.7%	0.0%	9.8%
Chinese Yuan	6.54	0.6%	0.0%	6.5%
Brazilian Real	5.19	3.7%	0.0%	-22.6%
Russian Ruble	73.96	3.4%	0.0%	-16.0%
Indian Rupee	73.07	1.4%	0.0%	-2.3%
Mexican Peso	19.93	1.2%	0.0%	-5.2%
South African Rand	14.69	5.4%	0.0%	-4.8%

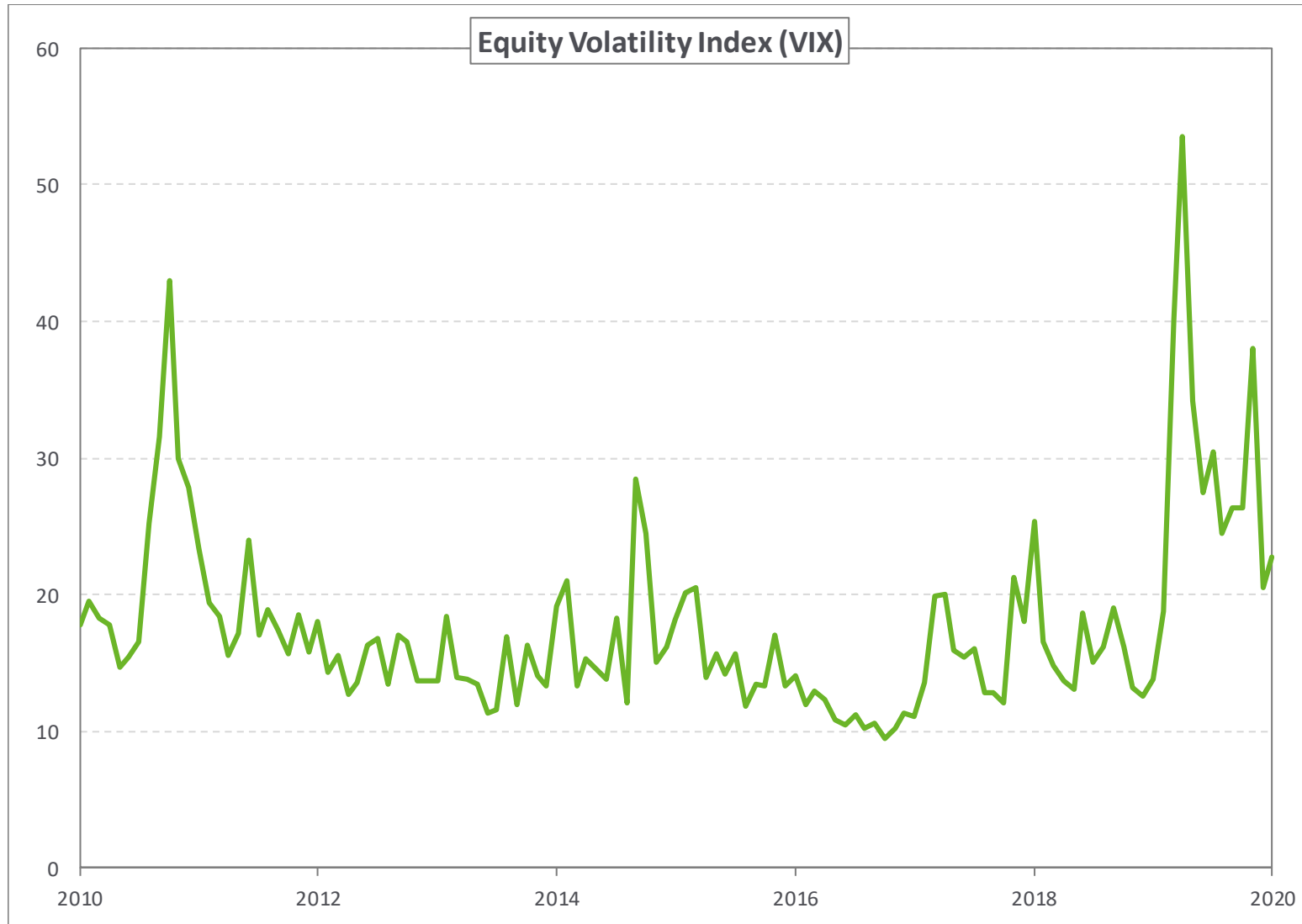
Source: FactSet



Source: FactSet



VOLATILITY



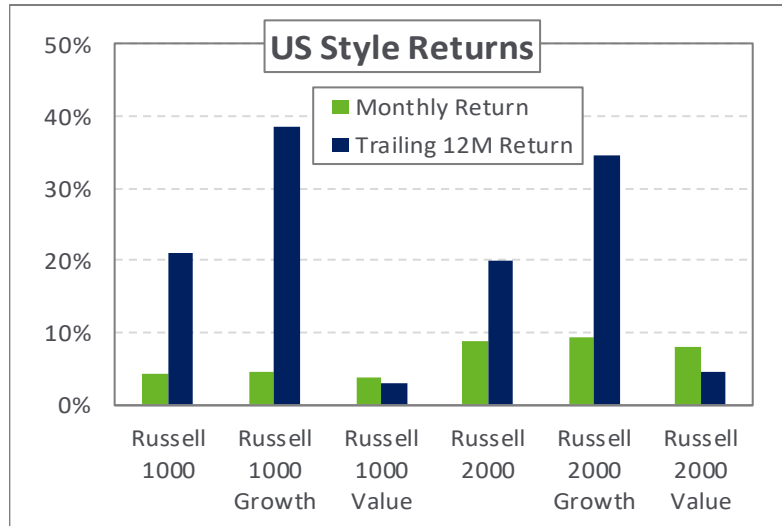
Source: CBOE, FactSet



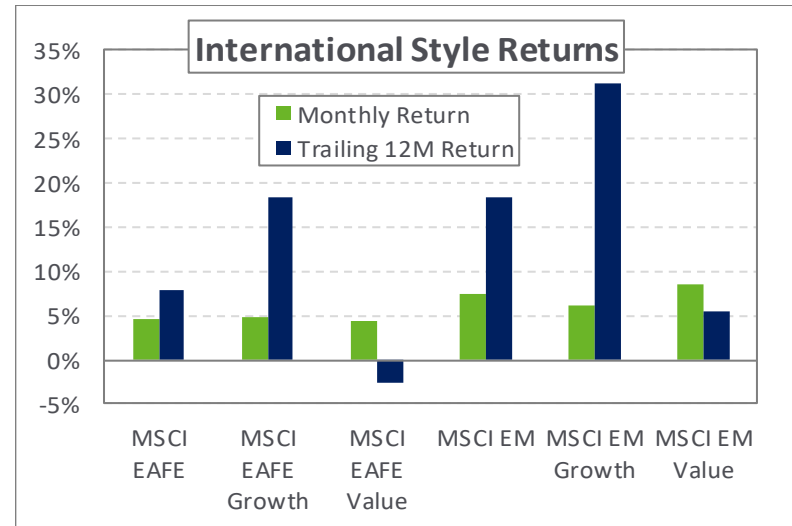
EQUITY

NEPC, LLC

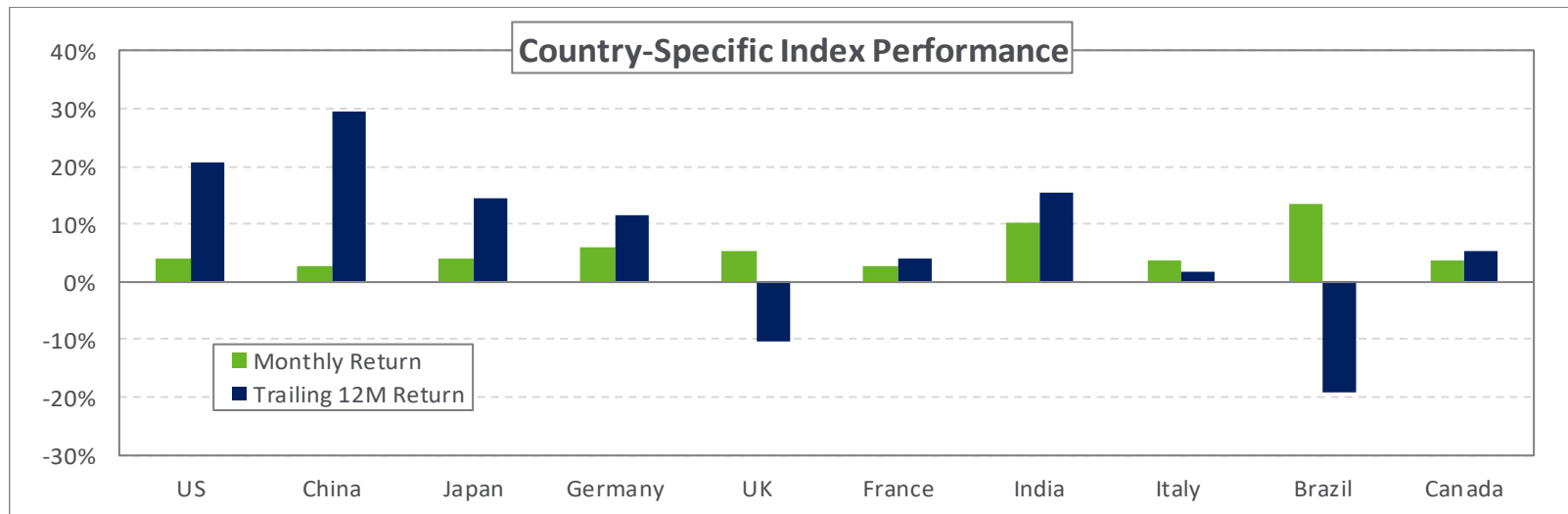
EQUITY INDEX PERFORMANCE



Source: Russell, FactSet



Source: MSCI, FactSet



Source: MSCI, FactSet
Represents returns in USD



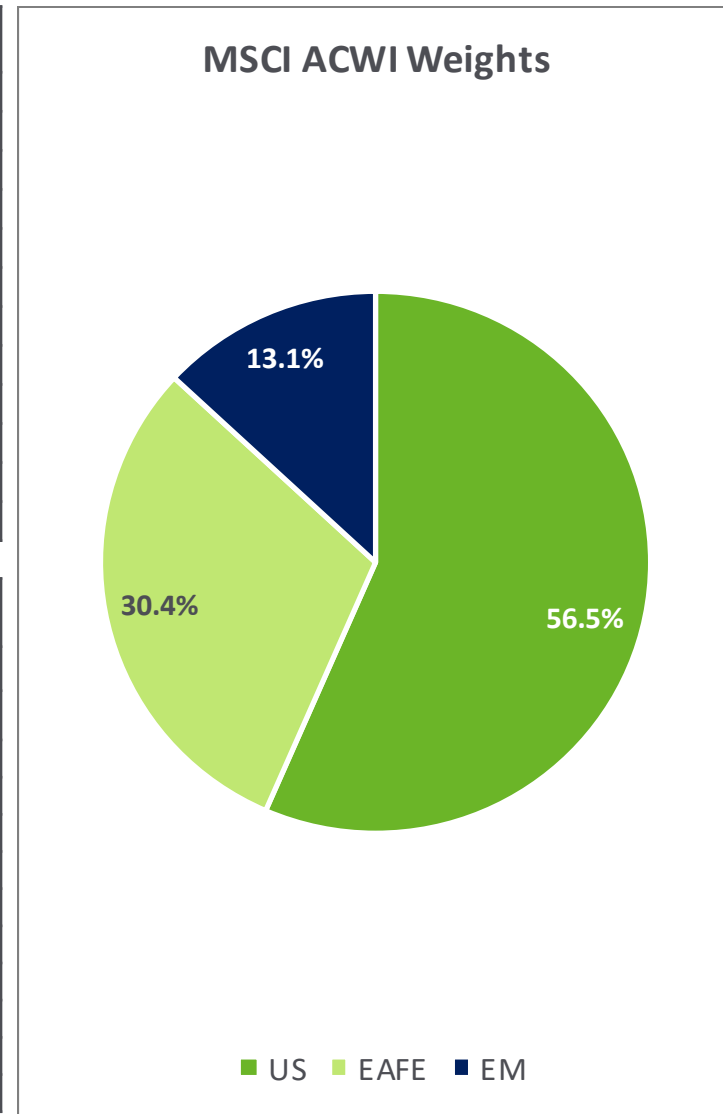
INDEX COMPOSITION

	MTD	QTD	YTD	Index Weight
S&P 500	3.8%	12.1%	18.4%	100.0%
Communication Services	0.3%	1.5%	2.7%	10.8%
Consumer Discretionary	0.3%	0.9%	4.0%	12.7%
Consumer Staples	0.1%	0.4%	0.5%	6.5%
Energy	0.1%	0.6%	-1.8%	2.3%
Financials	0.6%	2.3%	-1.5%	10.4%
Health Care	0.5%	1.1%	2.1%	13.5%
Industrials	0.1%	1.3%	0.6%	8.4%
Information Technology	1.6%	3.2%	12.1%	27.6%
Materials	0.1%	0.4%	0.6%	2.6%
Real Estate	0.0%	0.1%	-0.4%	2.4%
Utilities	0.0%	0.2%	-0.3%	2.8%

Source: S&P, FactSet

	MTD	QTD	YTD	Index Weight
MSCI ACWI	4.6%	14.7%	16.3%	100.0%
Communication Services	0.3%	1.4%	2.4%	9.3%
Consumer Discretionary	0.6%	1.9%	4.8%	13.0%
Consumer Staples	0.2%	0.6%	0.5%	7.4%
Energy	0.1%	0.7%	-1.9%	3.0%
Financials	0.7%	3.1%	-2.5%	13.5%
Health Care	0.4%	0.9%	2.3%	11.9%
Industrials	0.3%	1.6%	0.8%	9.7%
Information Technology	1.5%	3.1%	9.6%	21.9%
Materials	0.3%	0.9%	1.1%	4.9%
Real Estate	0.0%	0.2%	-0.6%	2.6%
Utilities	0.1%	0.3%	-0.1%	3.0%

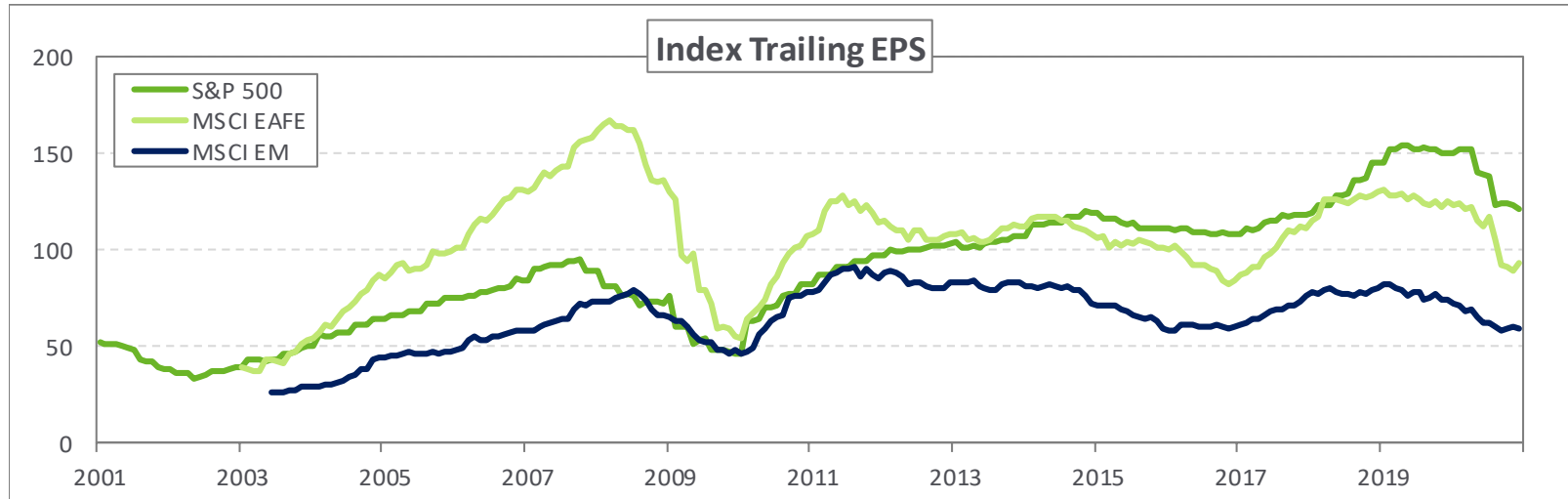
Source: MSCI, FactSet



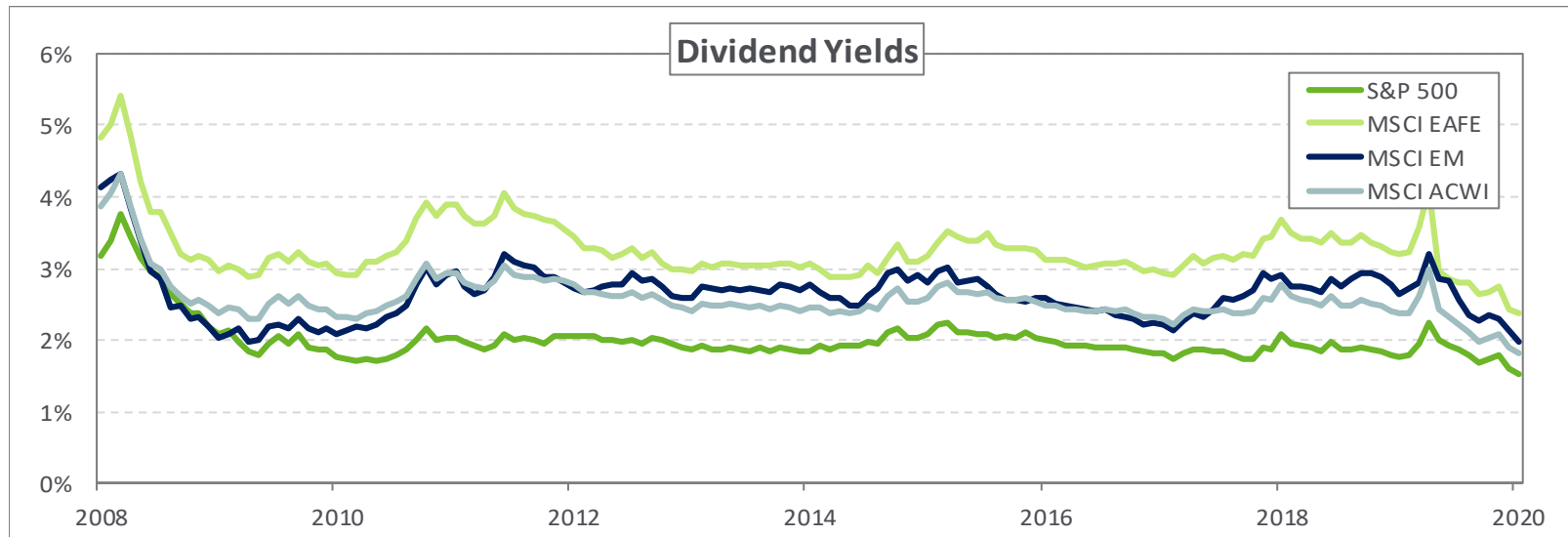
Source: MSCI, FactSet



EARNINGS & YIELDS



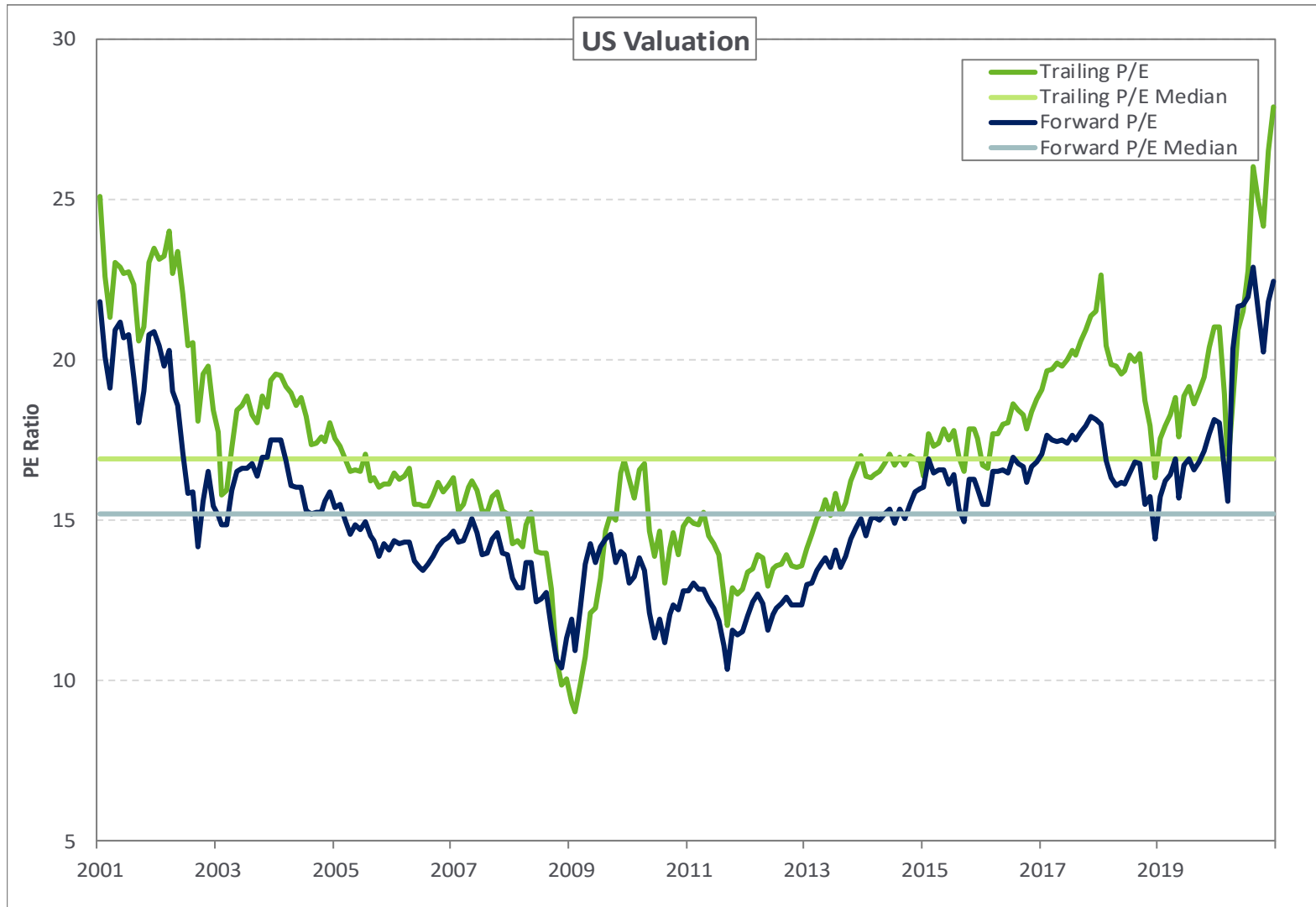
Source: FactSet



Source: FactSet



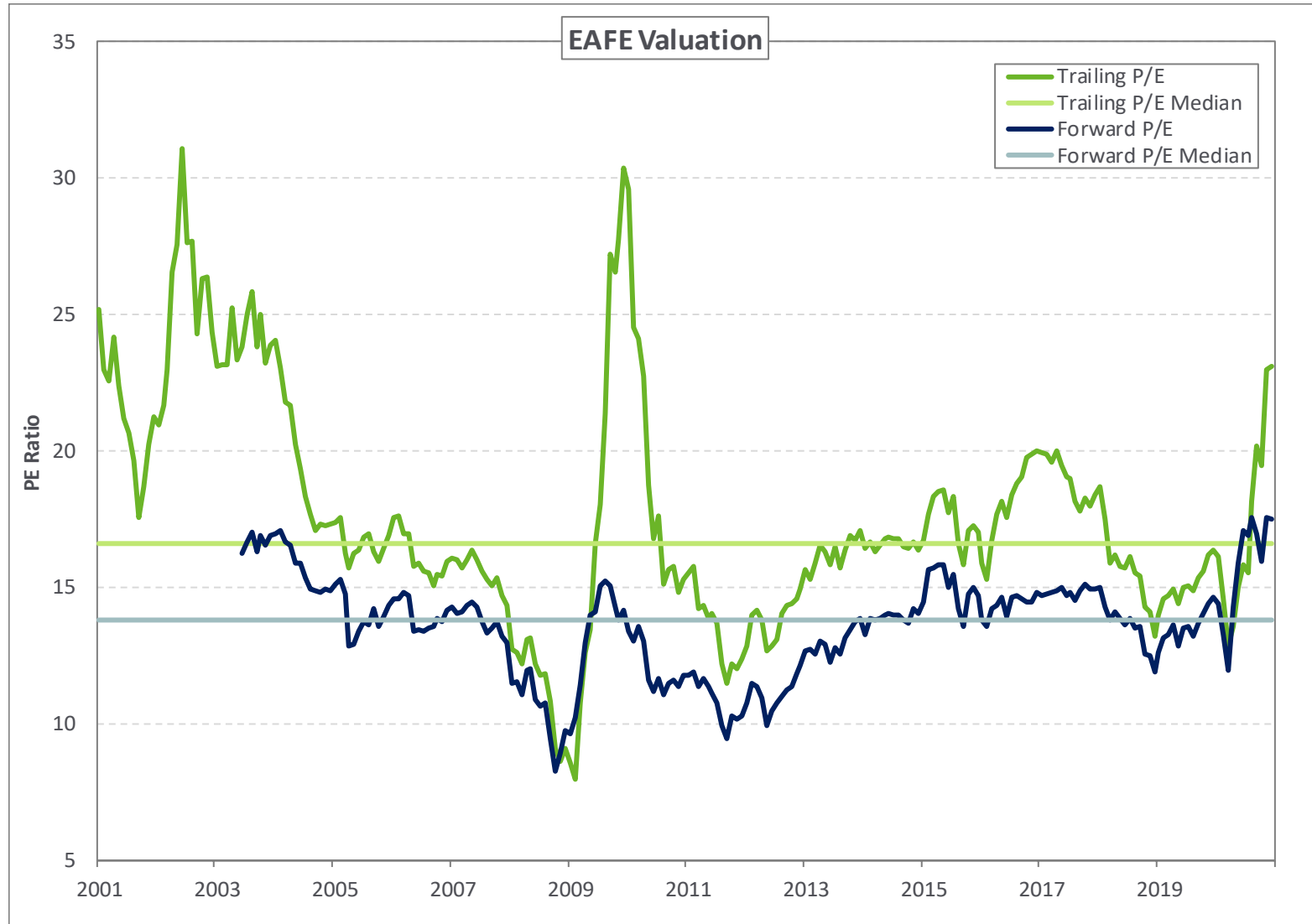
US EQUITY VALUATIONS



Source: S&P, FactSet



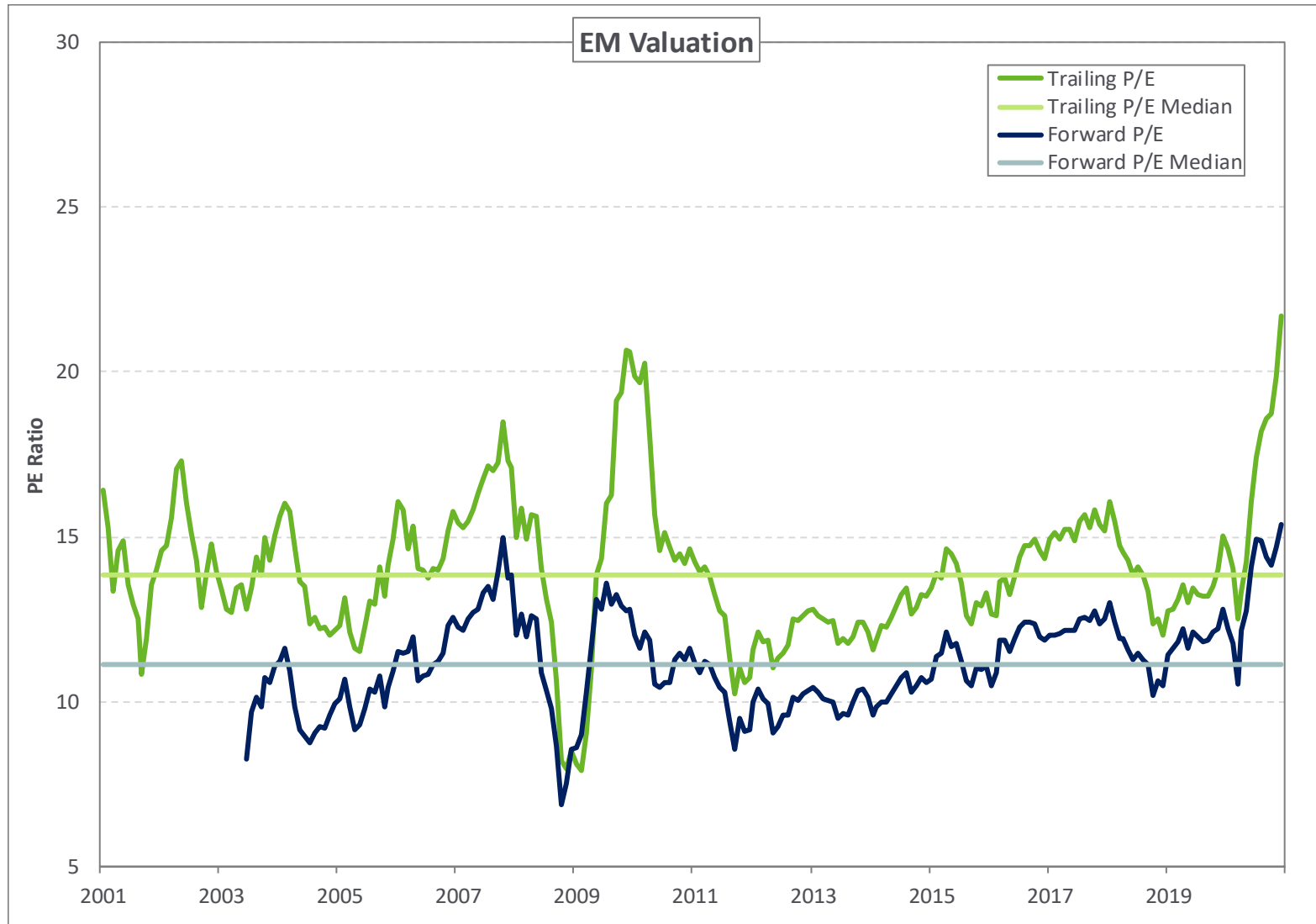
EAFE EQUITY VALUATIONS



Source: MSCI, FactSet



EM EQUITY VALUATIONS



Source: MSCI, FactSet



CREDIT

NEPC, LLC

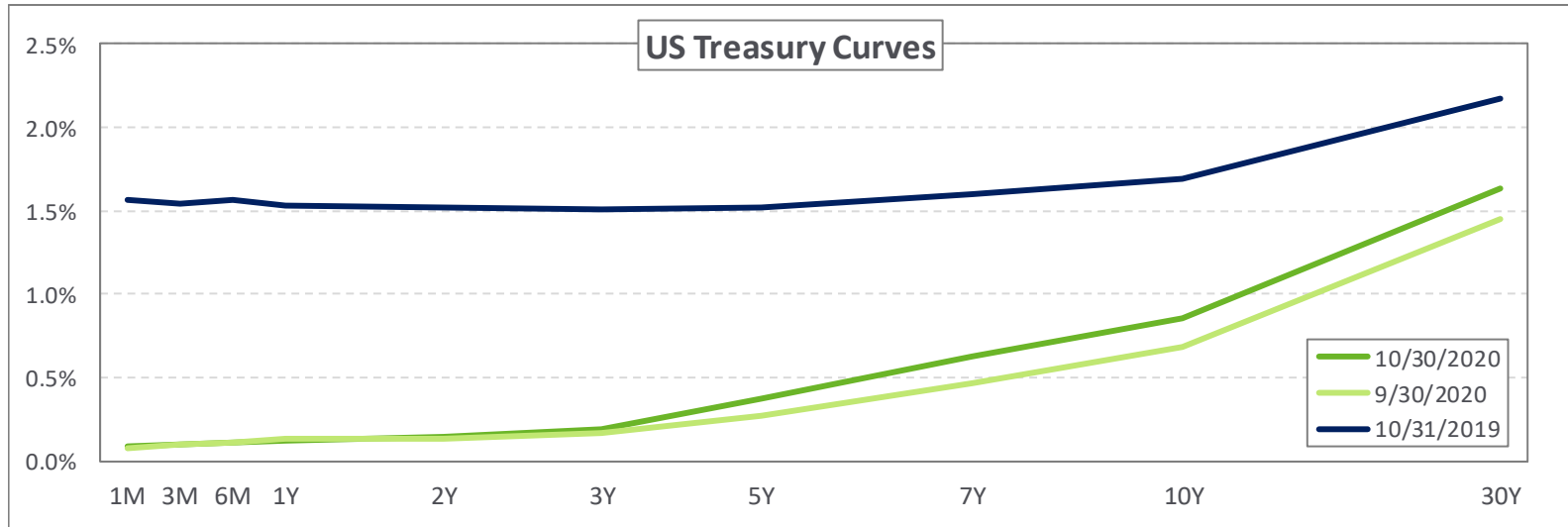
FIXED INCOME CHARACTERISTICS

	Averages			Total Returns (%)		
	Yield to Worst	Spread (bps)	Duration (Years)	1-Month	YTD	1-Year
Barclays Aggregate	1.12%	42	6.2	0.1%	7.4%	7.4%
Barclays Treasury	0.57%	-	7.2	-0.2%	7.9%	7.9%
Barclays Agency	0.48%	10	3.7	0.1%	5.4%	5.4%
Barclays MBS	1.25%	39	2.3	0.2%	3.8%	3.8%
Barclays ABS	0.45%	33	2.1	0.2%	4.5%	4.5%
Barclays CMBS	1.02%	49	5.8	0.4%	8.9%	8.9%
Barclays Corp IG	1.74%	96	8.8	0.4%	9.8%	9.8%
Barclays Muni	1.07%	-	5.2	0.6%	5.2%	5.2%
Barclays HY Muni	3.82%	-	7.3	1.9%	4.9%	4.9%
Barclays TIPS	0.69%	-	3.4	1.1%	10.9%	10.9%
Barclays HY	4.18%	360	3.6	1.9%	7.1%	7.1%
Barclays Global Agg	0.83%	37	7.4	1.3%	9.1%	9.1%
JPM EMBI Glob Div	-	350	8.1	1.9%	5.2%	5.2%
JPM GBI - EM	4.30%	-	5.6	3.5%	2.7%	2.7%

Source: Barclays, JP Morgan, FactSet



TREASURIES



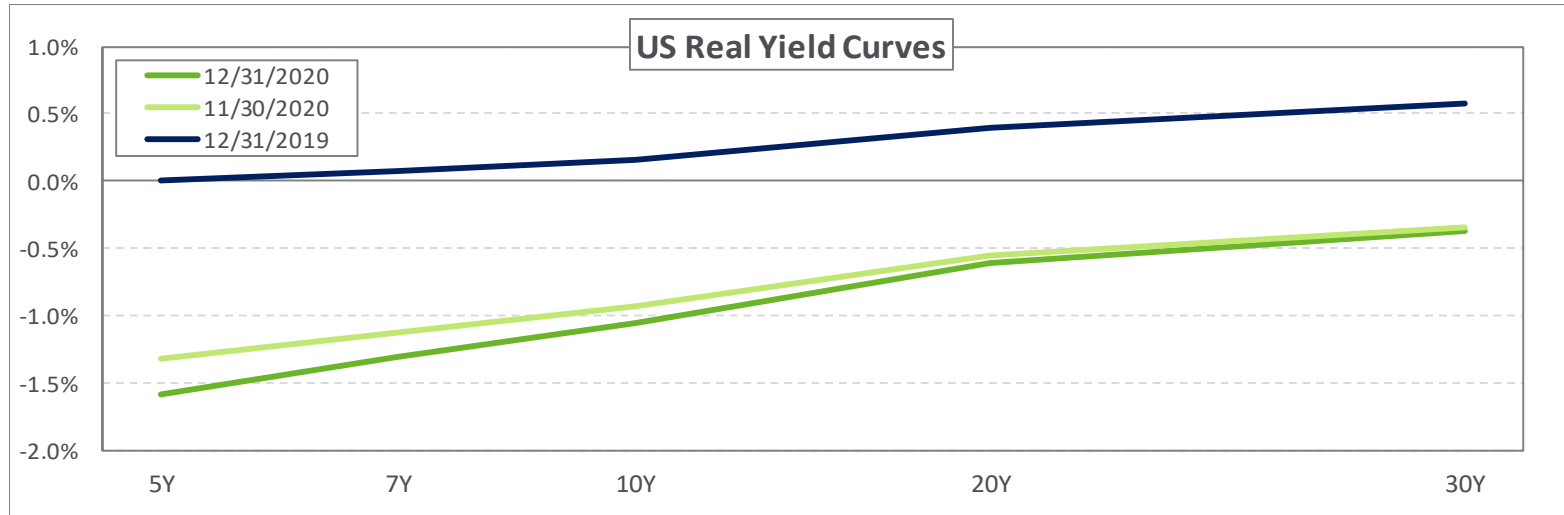
Source: FactSet

	Yield (%)			Total Return (%)	
	Current	1 Month Ago	12 Months Ago	1 Month	12 Months
3M Treasury	0.08%	0.09%	1.55%	0.01%	0.67%
6M Treasury	0.09%	0.10%	1.59%	0.02%	1.05%
2Y Treasury	0.12%	0.14%	1.57%	0.07%	3.03%
5Y Treasury	0.36%	0.36%	1.69%	0.09%	7.20%
10Y Treasury	0.92%	0.84%	1.92%	-0.58%	10.58%
30Y Treasury	1.65%	1.58%	2.39%	-1.51%	18.65%

Source: FactSet



REAL YIELDS



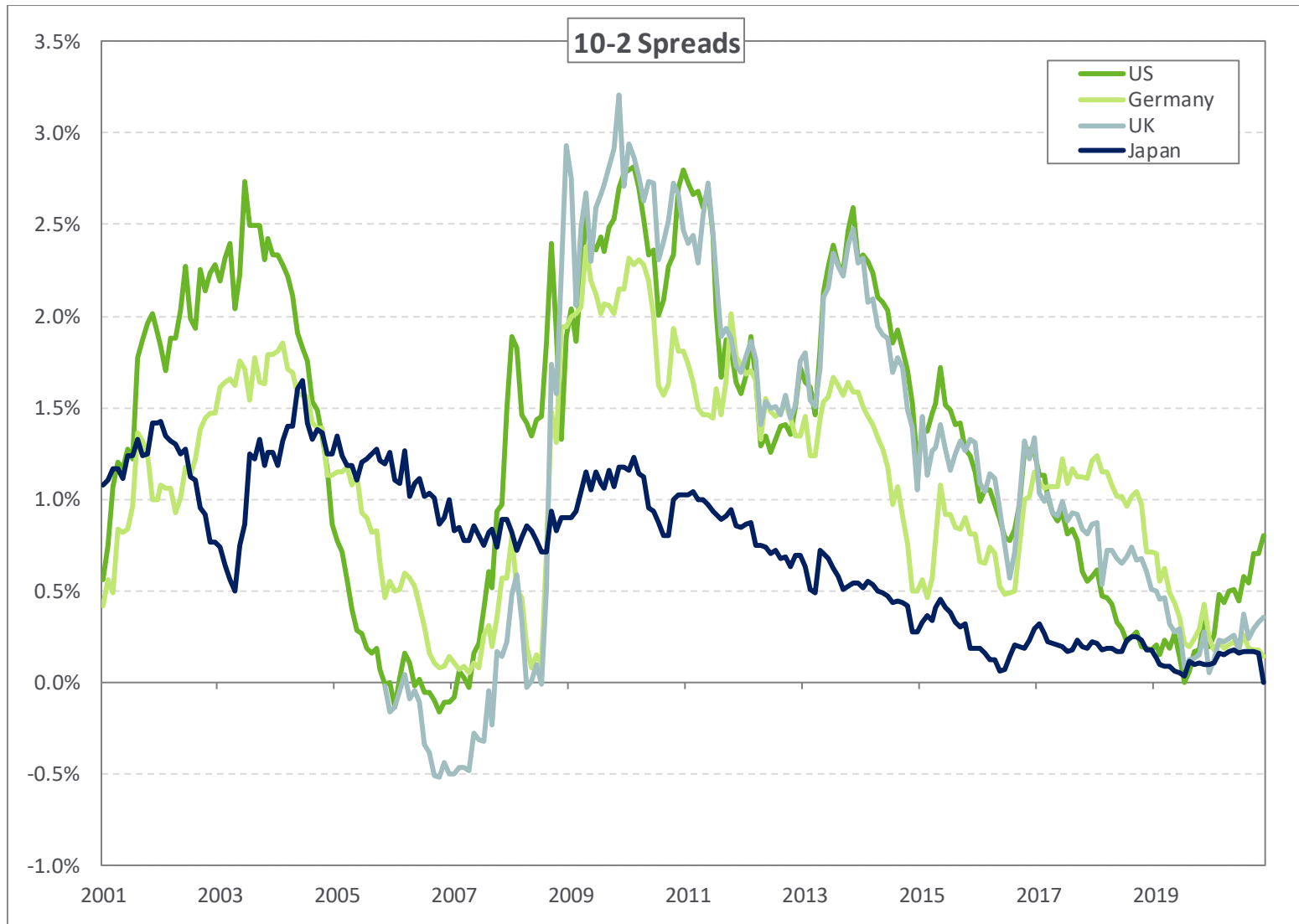
Source: FactSet

	Real Rates			Breakeven Rates	
	Current	1 Month Ago	12 Months Ago	Current	12 Months
5-Year	-1.59%	-1.32%	0.01%	1.95%	0.01%
7-Year	-1.31%	-1.13%	0.07%	1.96%	0.07%
10-Year	-1.06%	-0.93%	0.15%	1.98%	0.15%
30-Year	-0.37%	-0.35%	0.58%	2.02%	0.58%

Source: FactSet



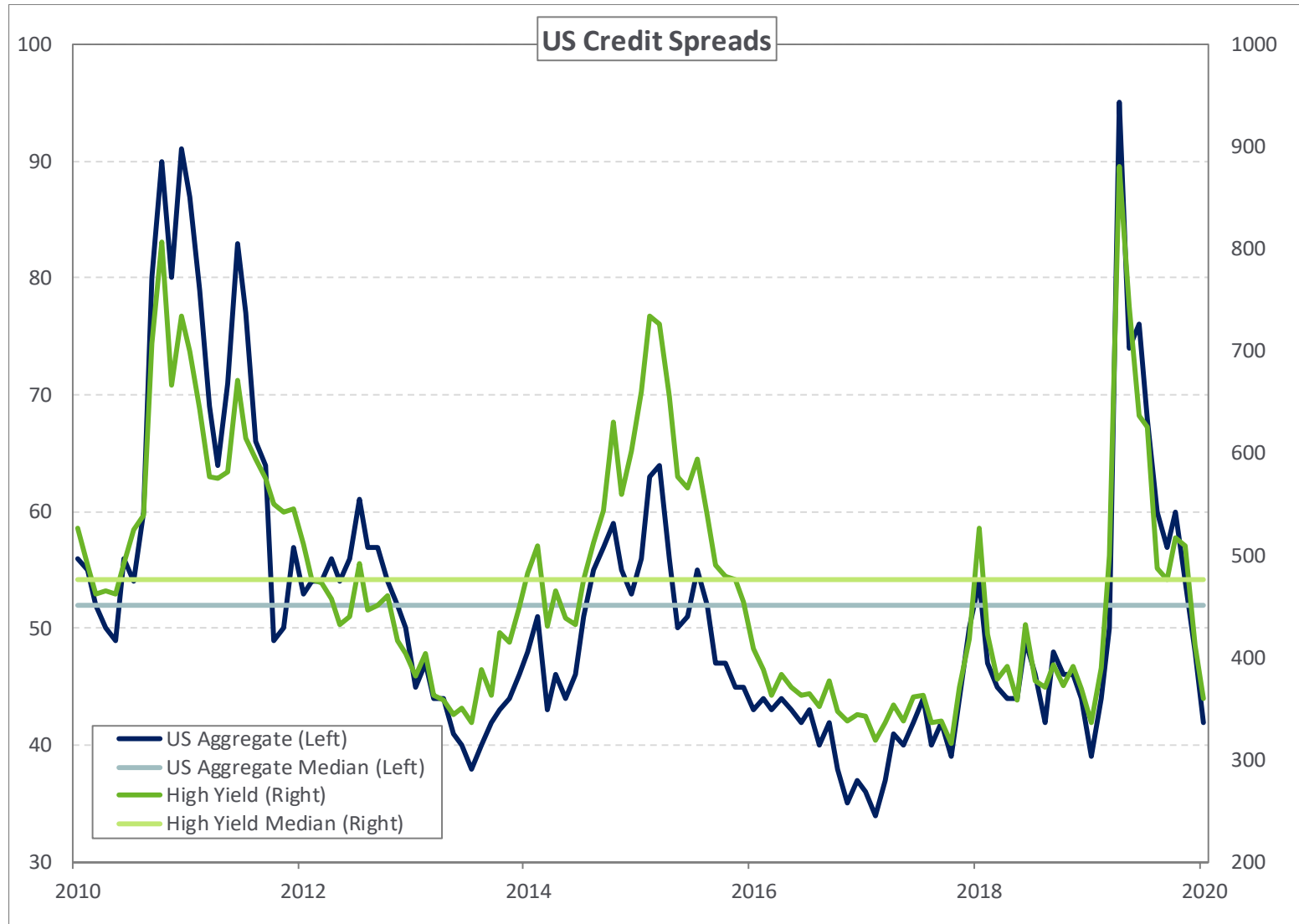
NOMINAL YIELDS



Source: FactSet



CREDIT SPREADS



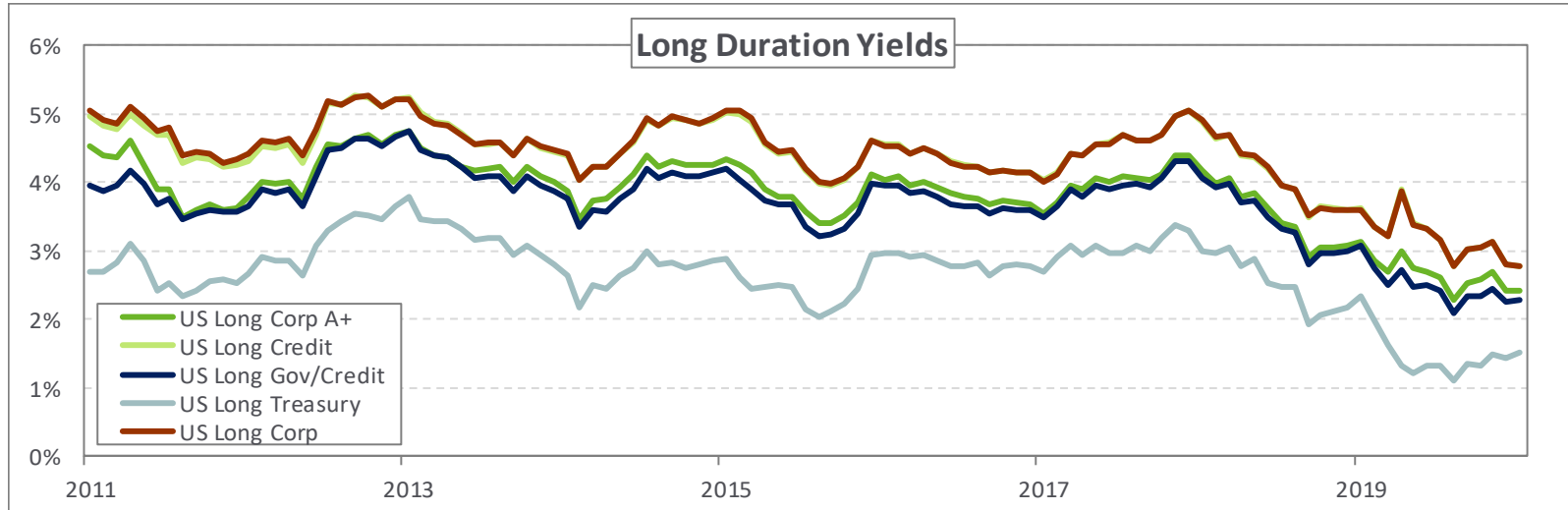
Source: Barclays, FactSet



LONG DURATION

Index	Current	1 Month Ago	12 Months Ago	Duration
Barclays Long Treasury	1.5%	1.4%	2.3%	19.2
Barclays 20+ STRIPS	1.6%	1.6%	2.4%	27.0
Barclays Long Credit	2.8%	2.8%	3.6%	15.3
Barclays Long Gov/Credit	2.3%	2.3%	3.1%	16.8
Barclays Long Corp A+	2.5%	2.5%	3.3%	16.1

Source: Barclays, FactSet



Source: Barclays, FactSet



REAL ASSETS

NEPC, LLC

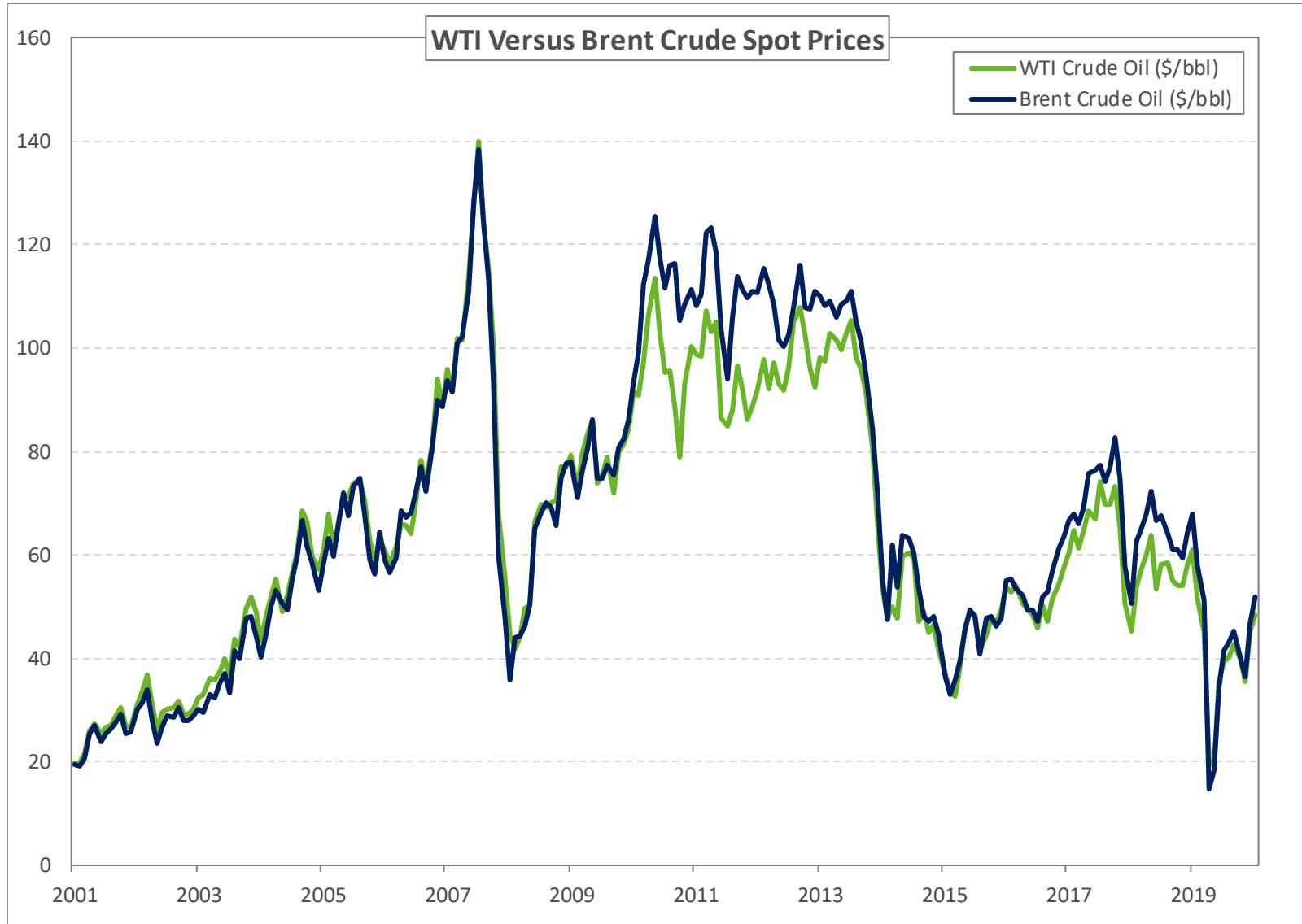
REAL ASSETS INDEX PERFORMANCE

Index	1 Month	3 Month	YTD	1 Year	3 Year	5 Year
Bloomberg Commodity Index	5.0%	10.2%	-3.1%	-3.1%	-2.5%	1.0%
Bloomberg Sub Agriculture Index	10.4%	21.4%	16.3%	16.3%	1.9%	-0.8%
Coffee	4.0%	12.8%	-9.4%	-9.4%	-9.2%	-9.1%
Corn	13.6%	25.2%	12.8%	12.8%	0.7%	-4.1%
Cotton	8.3%	15.7%	9.9%	9.9%	-1.6%	3.5%
Soybean	11.7%	27.4%	31.9%	31.9%	5.1%	4.1%
Soybean Oil	13.6%	28.4%	15.8%	15.8%	3.9%	2.3%
Sugar	6.8%	14.7%	10.5%	10.5%	-5.9%	-5.2%
Wheat	9.5%	9.4%	10.2%	10.2%	7.6%	-3.7%
Bloomberg Sub Energy	-0.7%	2.2%	-42.5%	-42.5%	-17.5%	-9.0%
Brent Crude	8.0%	19.4%	-31.3%	-31.3%	-7.5%	2.5%
Heating Oil	7.6%	25.6%	-38.0%	-38.0%	-13.4%	-0.1%
Natural Gas	-12.9%	-18.8%	-41.7%	-41.7%	-28.5%	-23.8%
Unleaded Gas	11.9%	21.0%	-30.7%	-30.7%	-10.5%	-4.7%
WTI Crude Oil	6.5%	18.2%	-50.4%	-50.4%	-19.1%	-9.9%
Bloomberg Sub Industrial Metals	0.3%	14.2%	16.2%	16.2%	0.1%	9.2%
Aluminum	-3.6%	12.0%	3.9%	3.9%	-6.0%	3.6%
Copper	2.4%	15.8%	23.1%	23.1%	1.4%	9.2%
Nickel	3.5%	14.1%	16.5%	16.5%	8.9%	12.6%
Zinc	-1.7%	13.6%	18.4%	18.4%	-2.7%	13.4%
Bloomberg Sub Precious Metals	8.8%	2.4%	25.4%	25.4%	11.9%	11.2%
Gold	6.4%	-0.4%	20.8%	20.8%	11.5%	11.0%
Silver	16.9%	11.8%	42.1%	42.1%	13.3%	11.9%
Bloomberg Sub Livestock	2.1%	2.4%	-23.3%	-23.3%	-10.8%	-6.6%
Lean Hogs	2.5%	8.7%	-31.3%	-31.3%	-20.9%	-13.2%
Live Cattle	1.9%	-0.4%	-17.8%	-17.8%	-5.2%	-2.9%

Source: Bloomberg, FactSet
 Bloomberg subindex total return indices reflects the return of the underlying one month commodity futures price movements



OIL MARKETS



Source: FactSet



INFORMATION DISCLAIMER

Past performance is no guarantee of future results.

The goal of this report is to provide a basis for monitoring financial markets. The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.

Information on market indices was provided by sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.

All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.

This report is provided as a management aid for the client's internal use only. This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.



Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may be preliminary and subject to change.
- This report is provided as a management aid for the client's internal use only. Information contained in this report does not constitute a recommendation by NEPC.
- This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.

