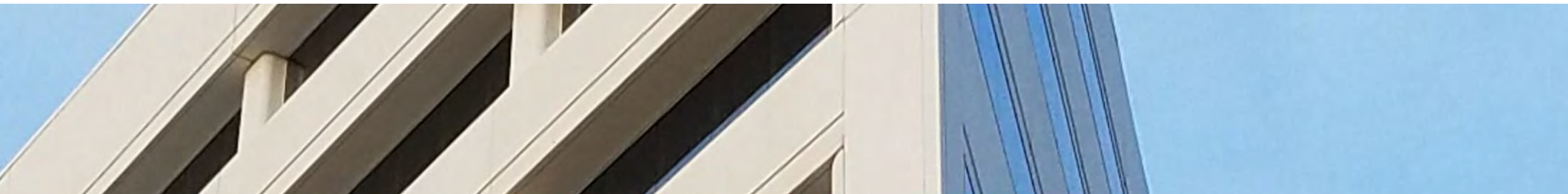




# WILSHIRE



## Fourth Quarter 2020 and 2020 Annual Report

*As of December 31, 2020*

# IMRF Performance Highlights

As of December 31, 2020

- The Illinois Municipal Retirement Fund (“IMRF”) ended December 2020 with a market value of \$49.9 billion, up for the quarter by approximately \$4.7 billion. During 2020, total fund assets rose \$5.2 billion, net of benefit payments.
- For the quarter, IMRF outperformed its benchmark +11.47% versus +8.89%. The Fund’s 4<sup>th</sup> Quarter return ranks at the 15<sup>th</sup> percentile relative to peers. In calendar year 2020, IMRF outperformed its benchmark +14.79% versus 13.16%, and ranks in the top quintile relative to peers (14<sup>th</sup> percentile).
  - Longer term, IMRF’s peer rankings are at or above the top quintile relative to peers. The Fund’s 10-year return of +8.95% ranks at the 14<sup>th</sup> percentile.
- The Domestic Equity composite (+16.98%)outperformed the Russell 3000 benchmark (+14.68%) for the quarter, while ranking in the top quartile of peers (24<sup>th</sup> percentile). Year-to-date, the Domestic Equity composite outpaced the benchmark +21.86% versus +20.89%, due largely to strong investment manager performance. The Portfolio’s Small Cap bias benefited relative returns during the 4<sup>th</sup> Quarter, but provided a modest headwind for much of 2020 as Large Cap stocks outperformed Small Cap stocks.
  - During calendar year 2020, Domestic Equity composite ranked in the top quartile of peers (21<sup>st</sup> percentile).
- The International Equity composite (+18.19%) outperformed the MSCI ACWI ex-US benchmark (+17.01%) for the quarter. Investment manager outperformance and the portfolio’s allocation to small cap added relative value during the quarter. The International Equity composite also outperformed the benchmark during 2020, returning +13.08% versus +10.65%.
  - Relative to peers, the International Equity composite ranked near the top quartile during the quarter, and above median in 2020 - 26<sup>th</sup> percentile and 46<sup>th</sup> percentile, respectively.
- The Fixed Income composite (+1.68%) continued to benefit from a strong credit environment during the quarter and outperformed the Bloomberg Barclays U.S. Aggregate Index (+0.67%). During 2020, the Fixed Income composite outperformed the benchmark +7.75% versus +7.51%.
  - Fixed Income composite ranked near median relative to peers for the quarter (54<sup>th</sup> percentile) and ranked 73<sup>rd</sup> percentile during 2020.
- As of December quarter end, Domestic Equity was 6.0% over its target. The current Statement of Investment Policy states that when actual allocations of the asset classes differ by more than four percentage points from their policy target, a recommendation for rebalancing will be made to the Board of Trustees. The Interim Chief Investment Officer and Consultant do not recommend any rebalancing at this time.

# ASSET CLASS PERFORMANCE

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

Data sources: Bloomberg

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

# MARKET COMMENTARY

## U.S. Equity

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

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

## Non-U.S. Equity

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

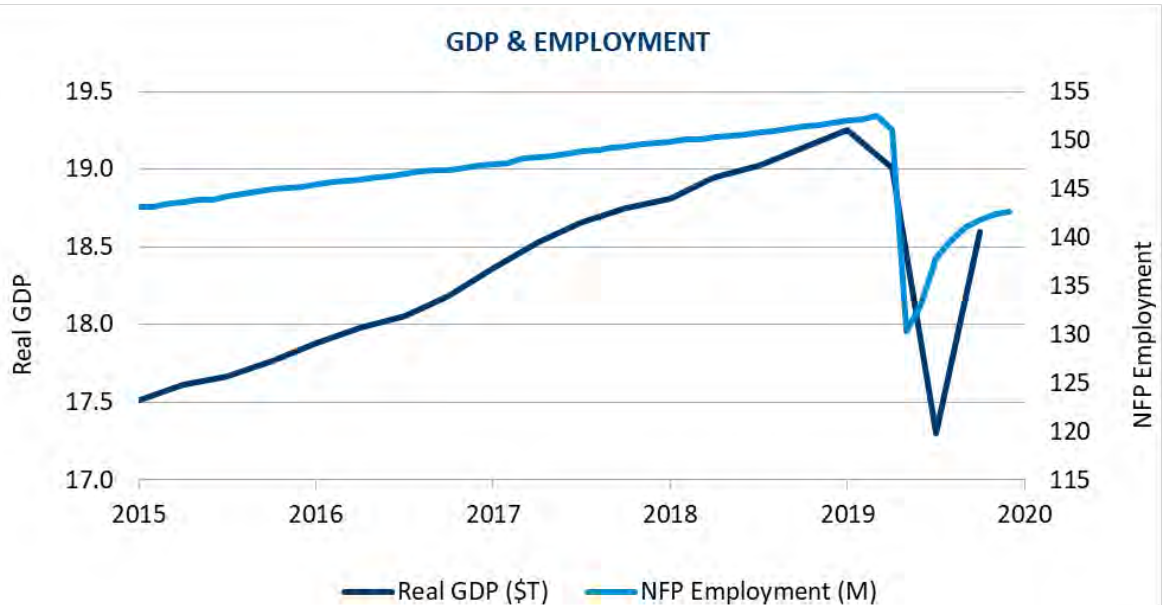
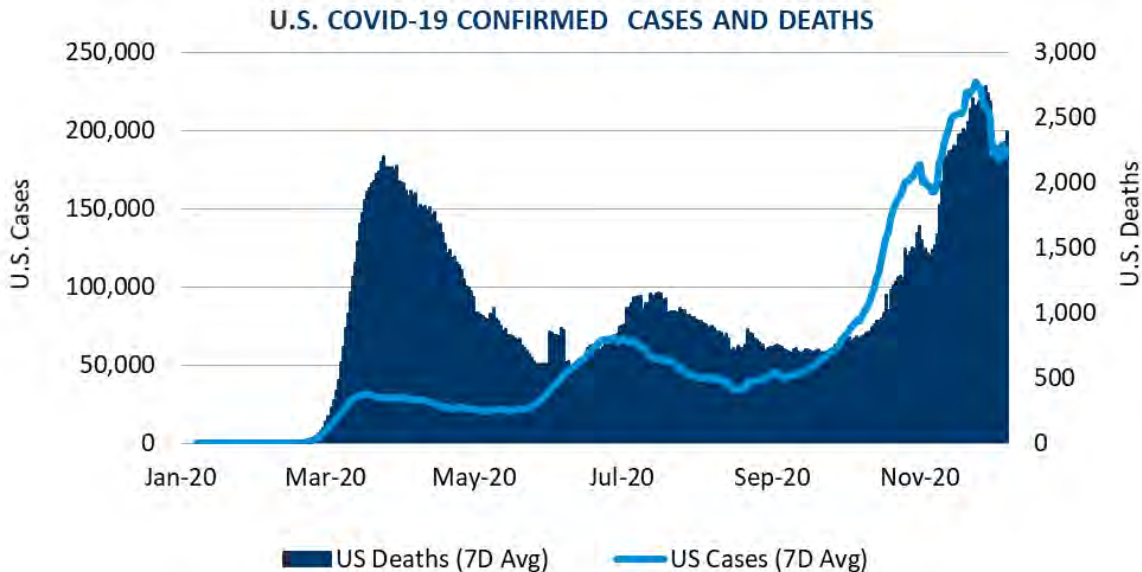
## Fixed Income

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

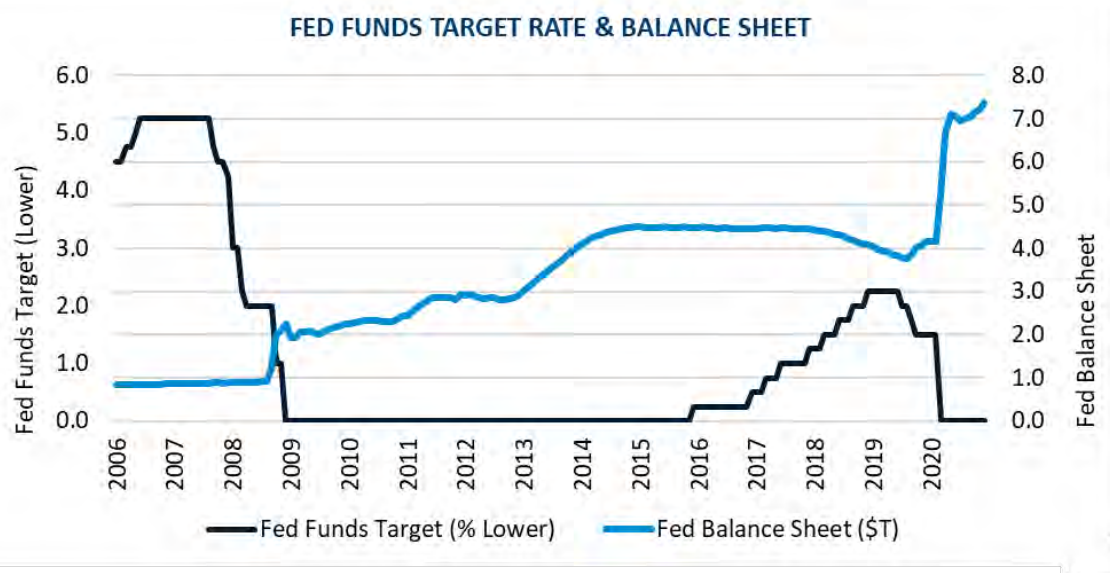
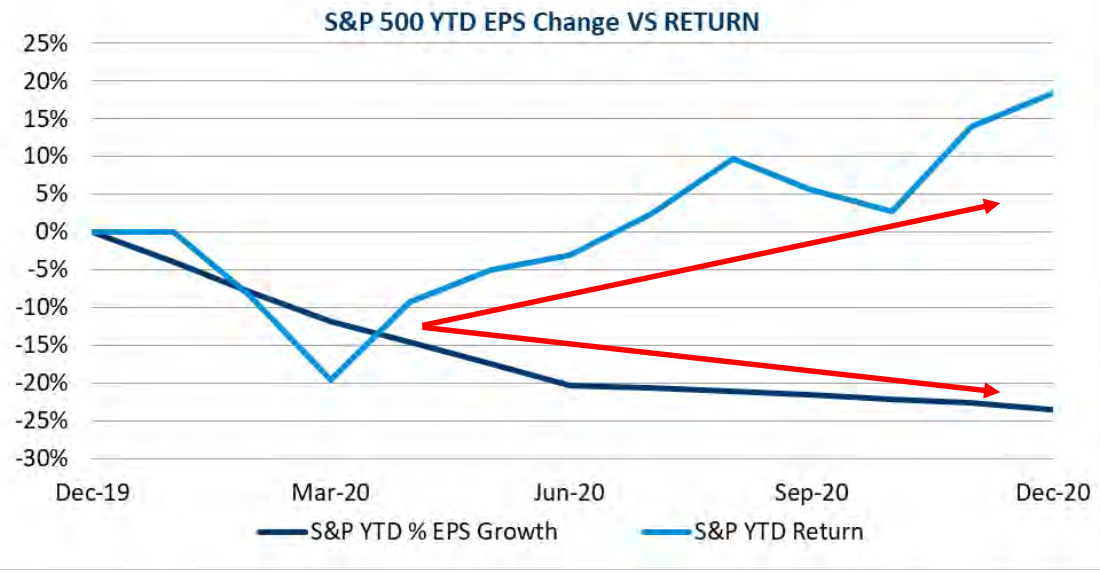
# December 2020 ASSET CLASS ASSUMPTIONS

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

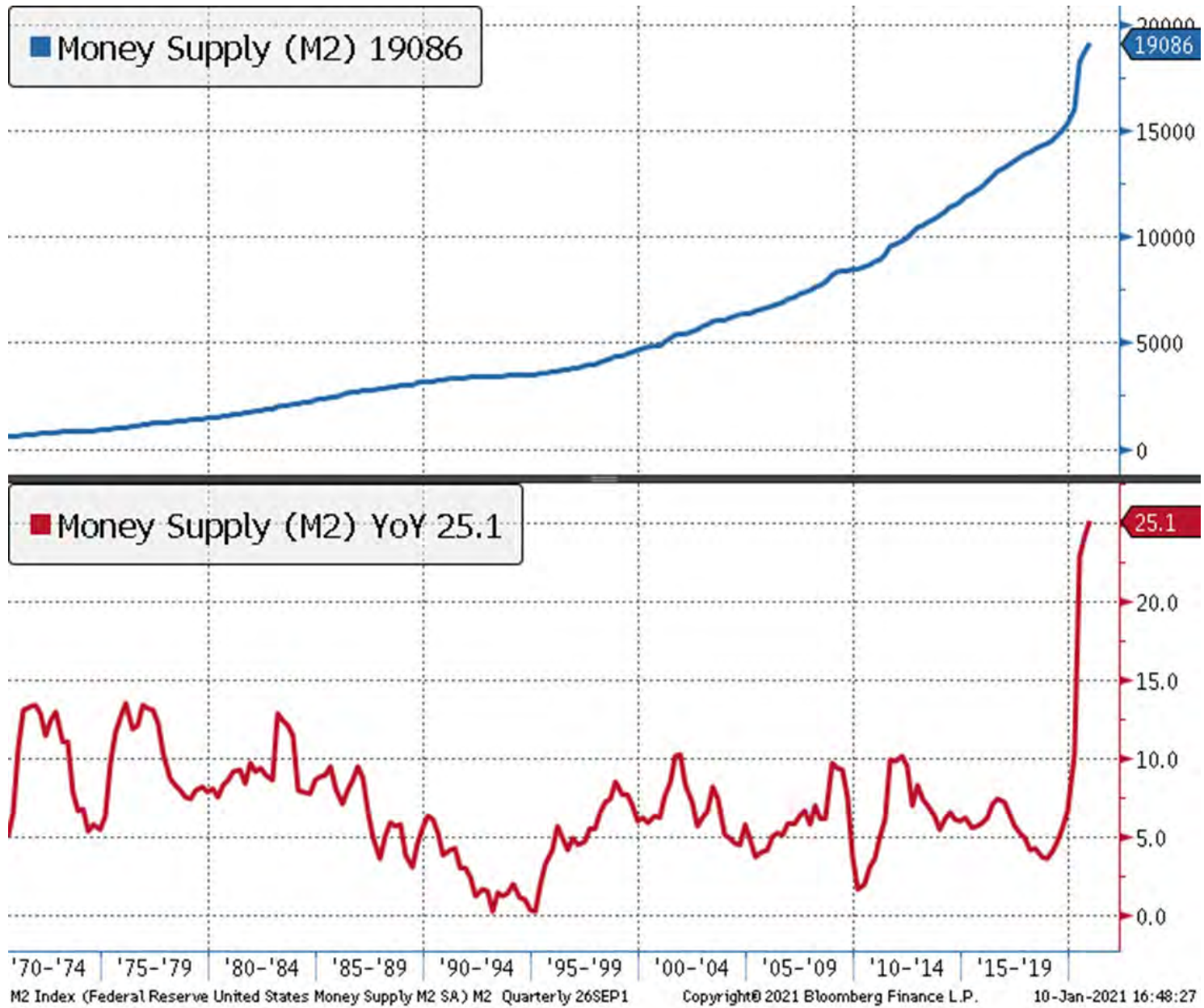
# 2020 “Turn the Page”



# 2020 ECONOMIC & MARKET DIVERGENCE

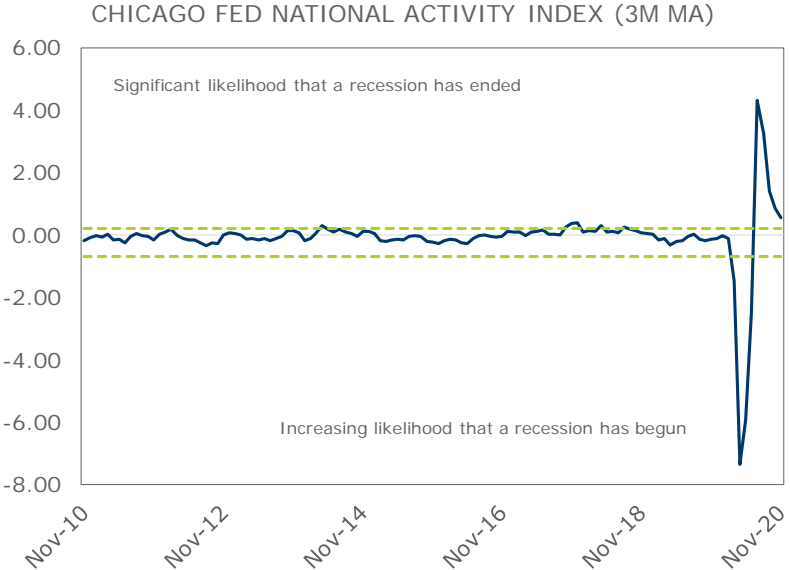


# MONEY SUPPLY(M2) GROWTH

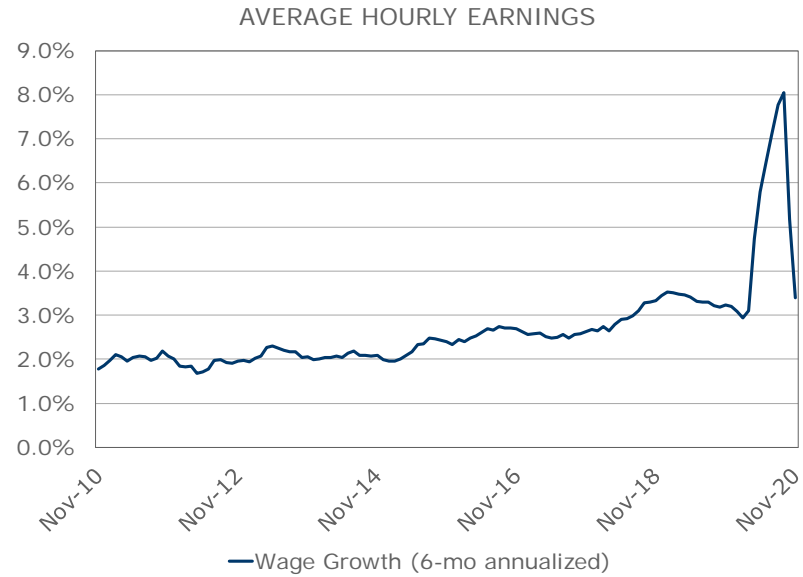
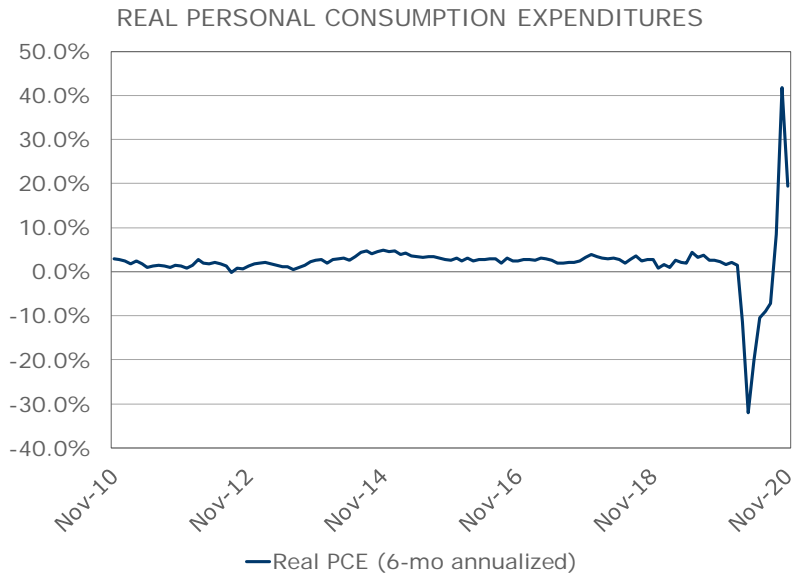
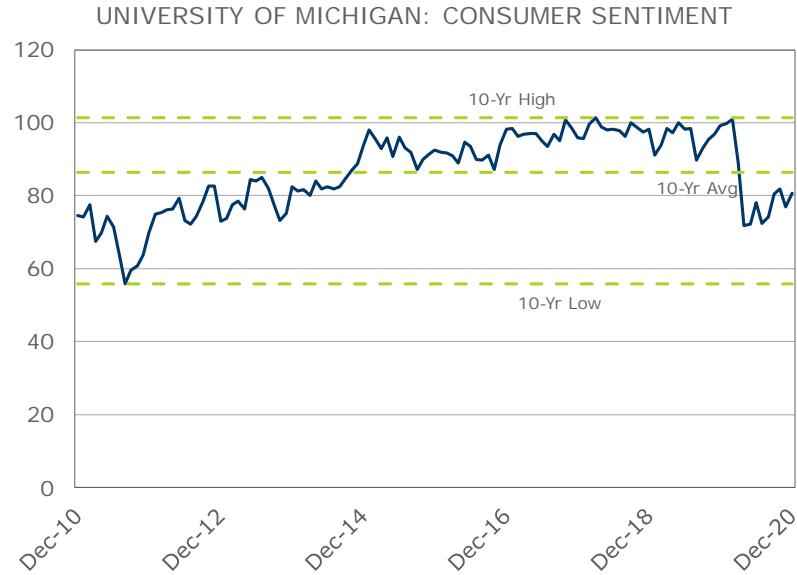




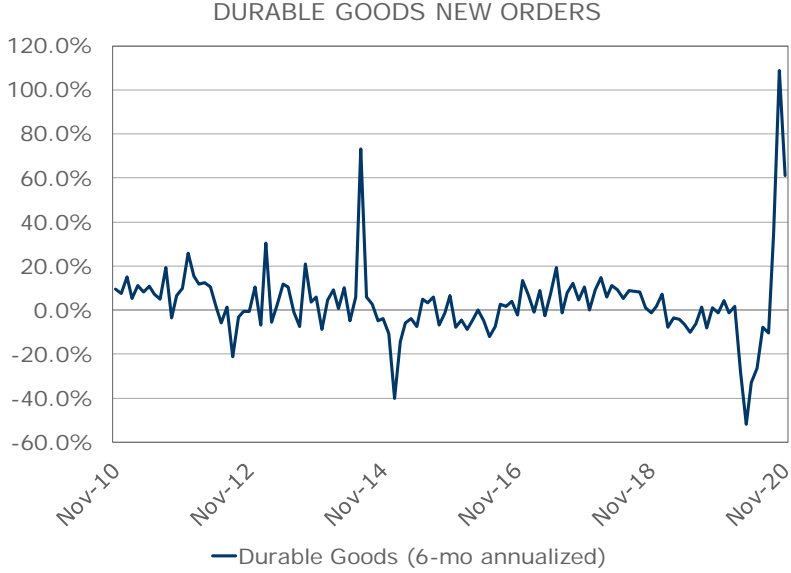
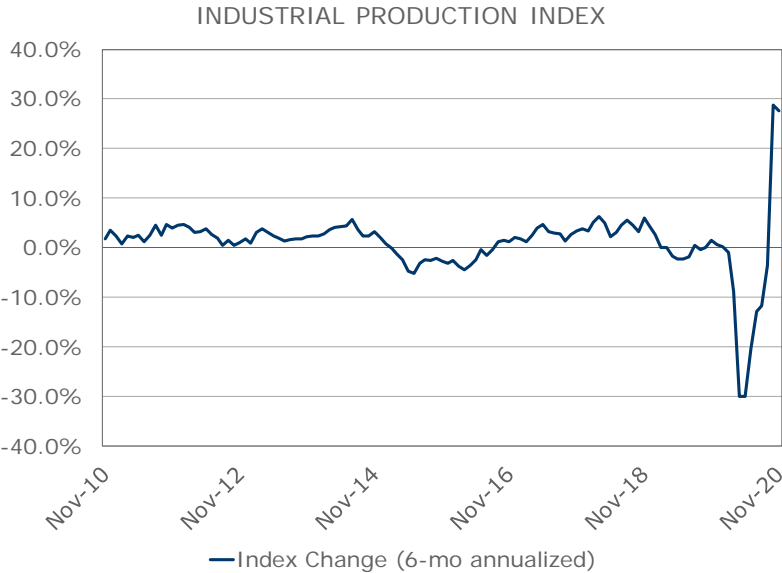
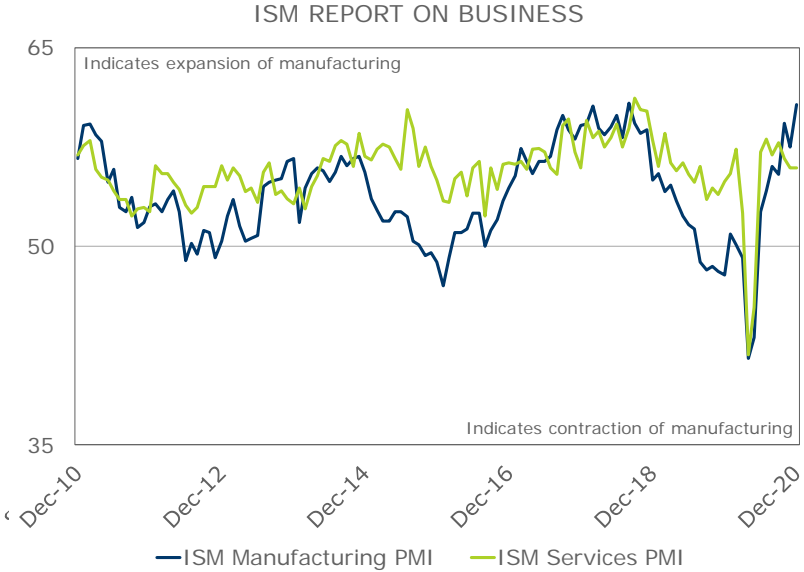
# ECONOMIC GROWTH



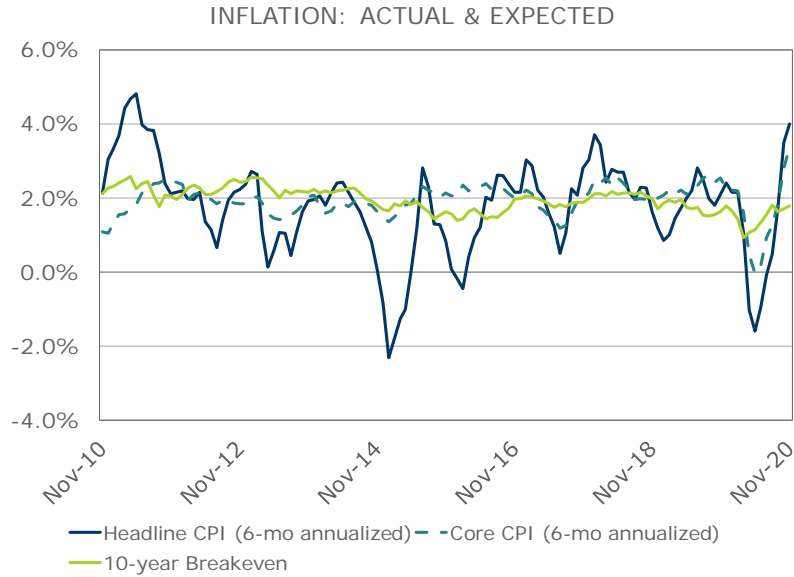
# CONSUMER ACTIVITY



# BUSINESS ACTIVITY



# INFLATION AND EMPLOYMENT

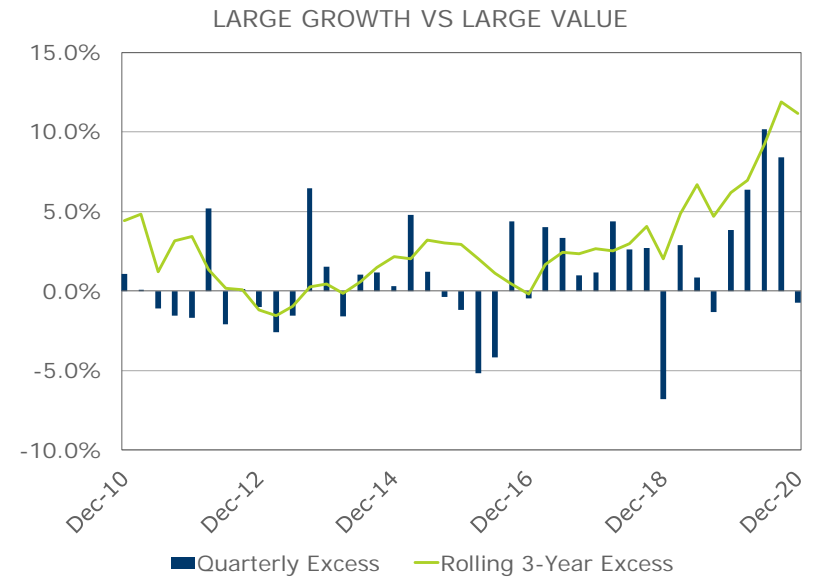
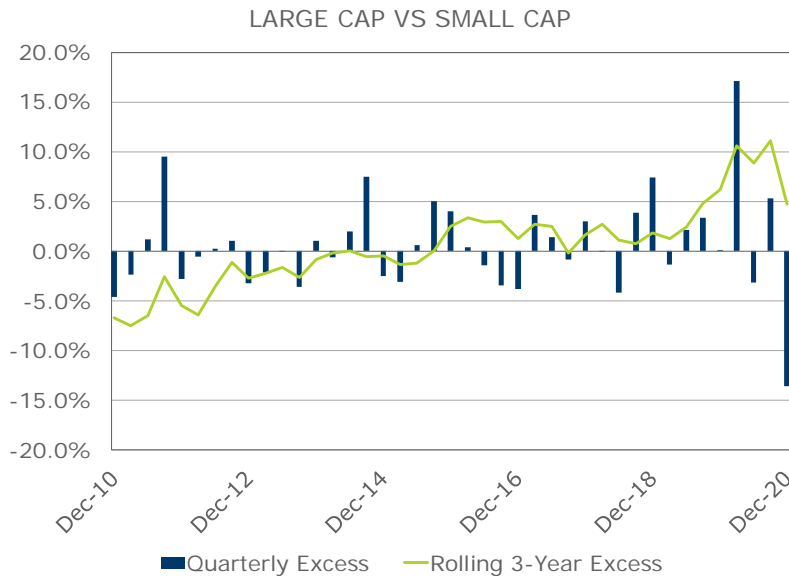
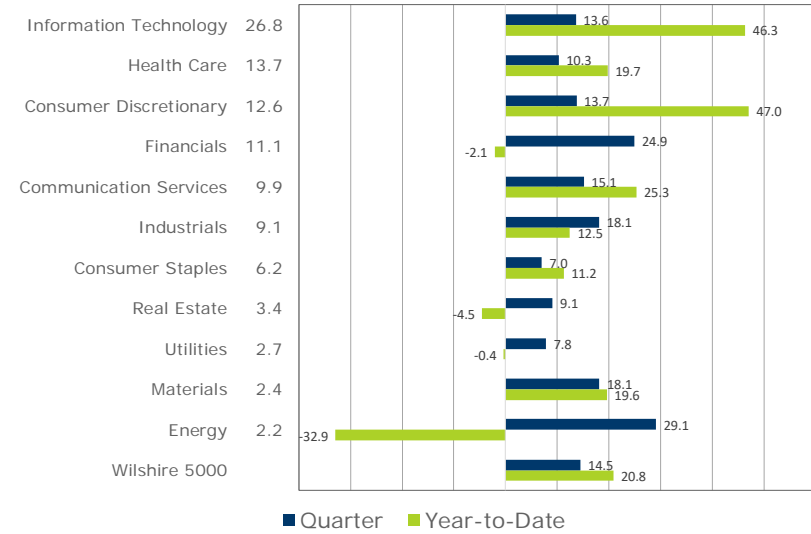


# Wilshire Consulting

## 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 (%)

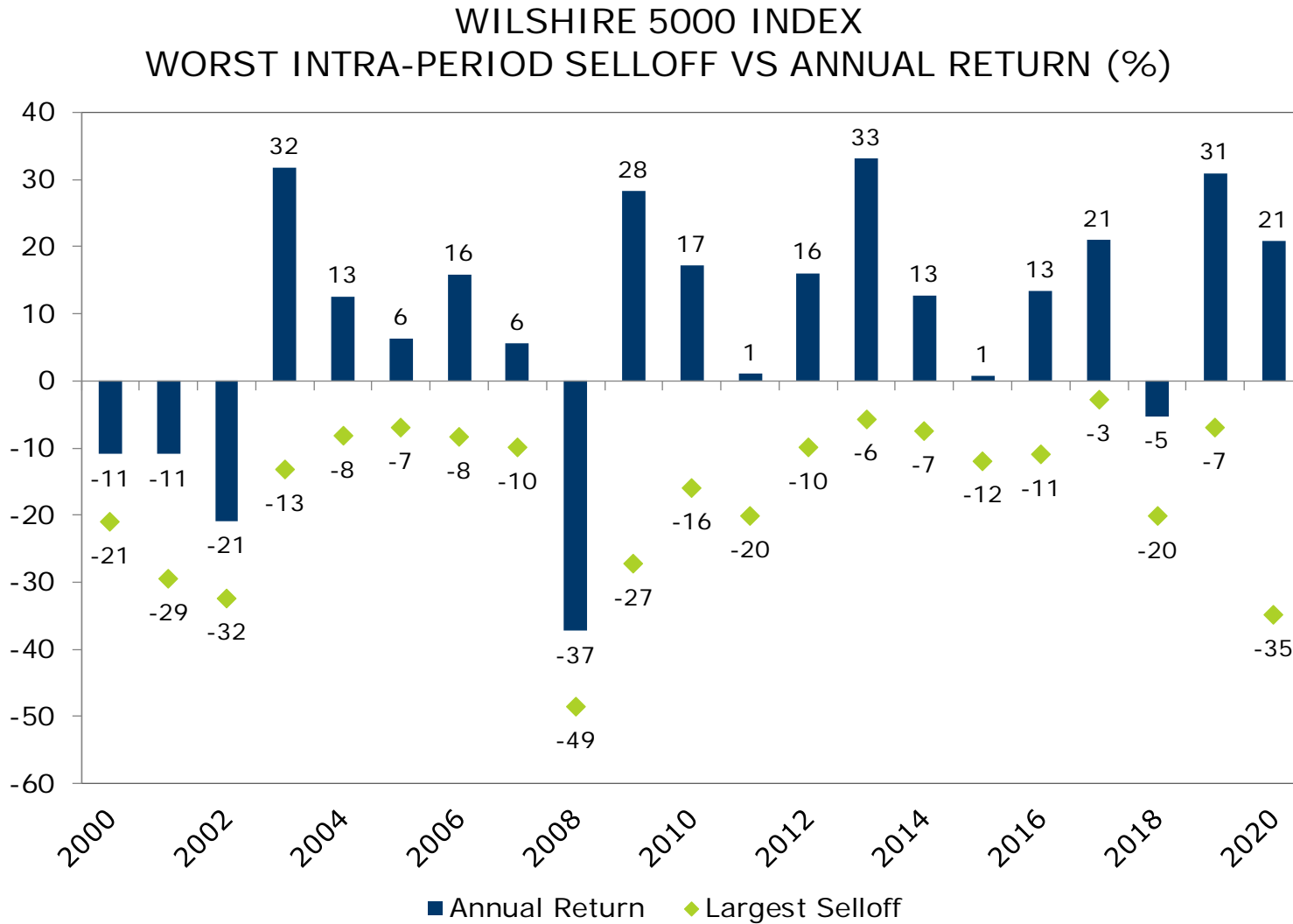


Data sources: Bloomberg, WilshireAtlas

# Wilshire Consulting

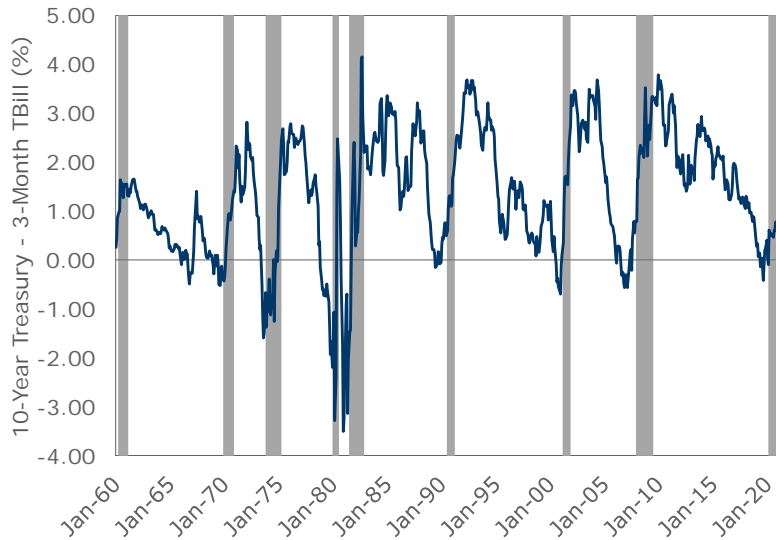
## Annual Returns

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

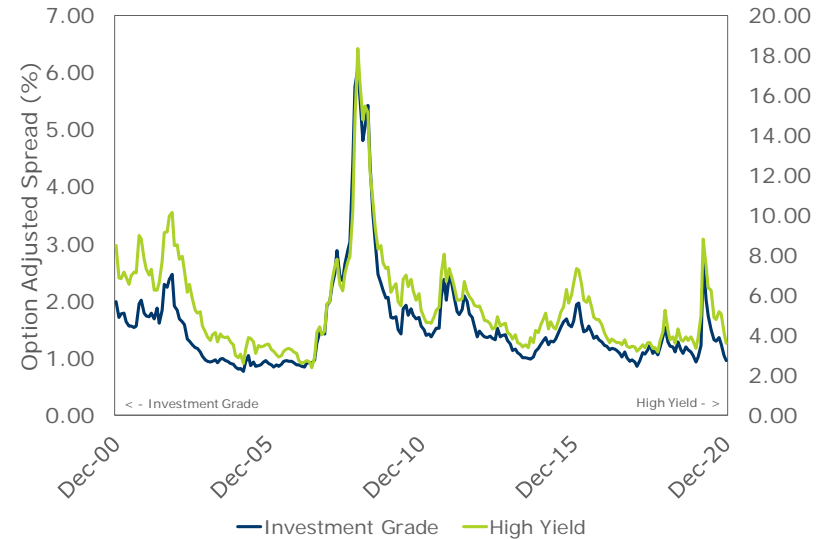


# RISK MONITOR

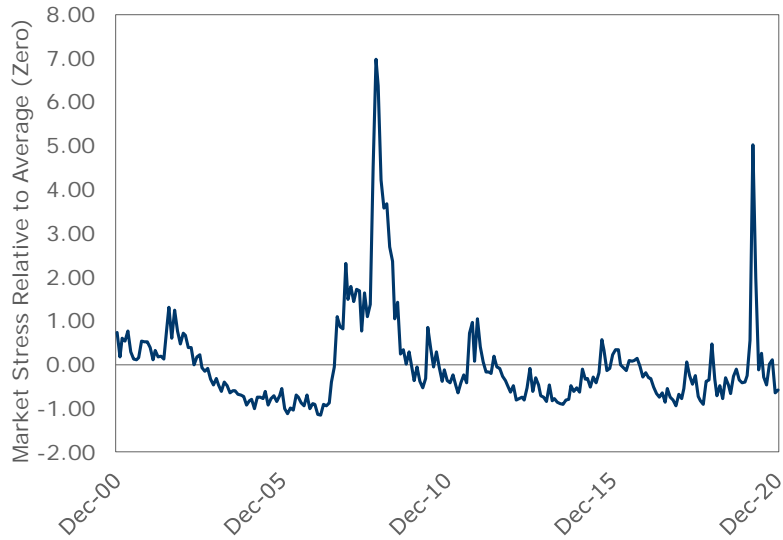
YIELD CURVE SLOPE VS RECESSIONS (IN GRAY)



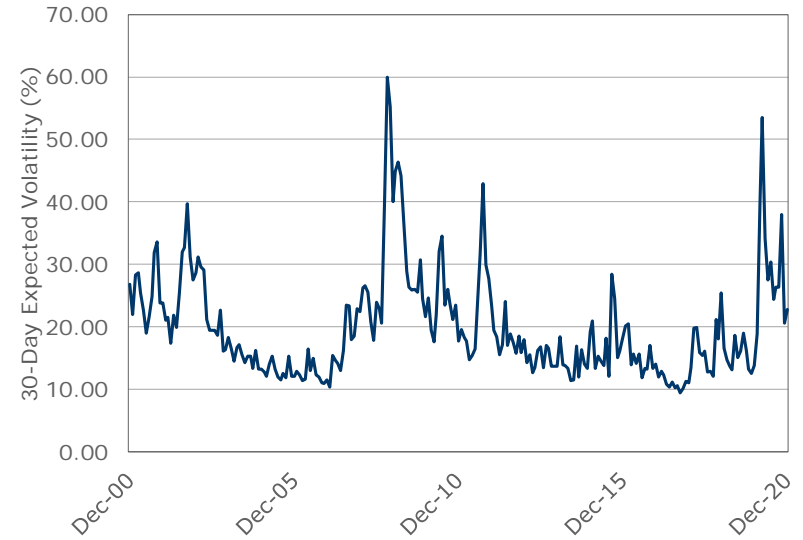
BLOOMBERG BARCLAYS CREDIT INDEXES



ST. LOUIS FED FINANCIAL STRESS INDEX



CBOE VOLATILITY INDEX

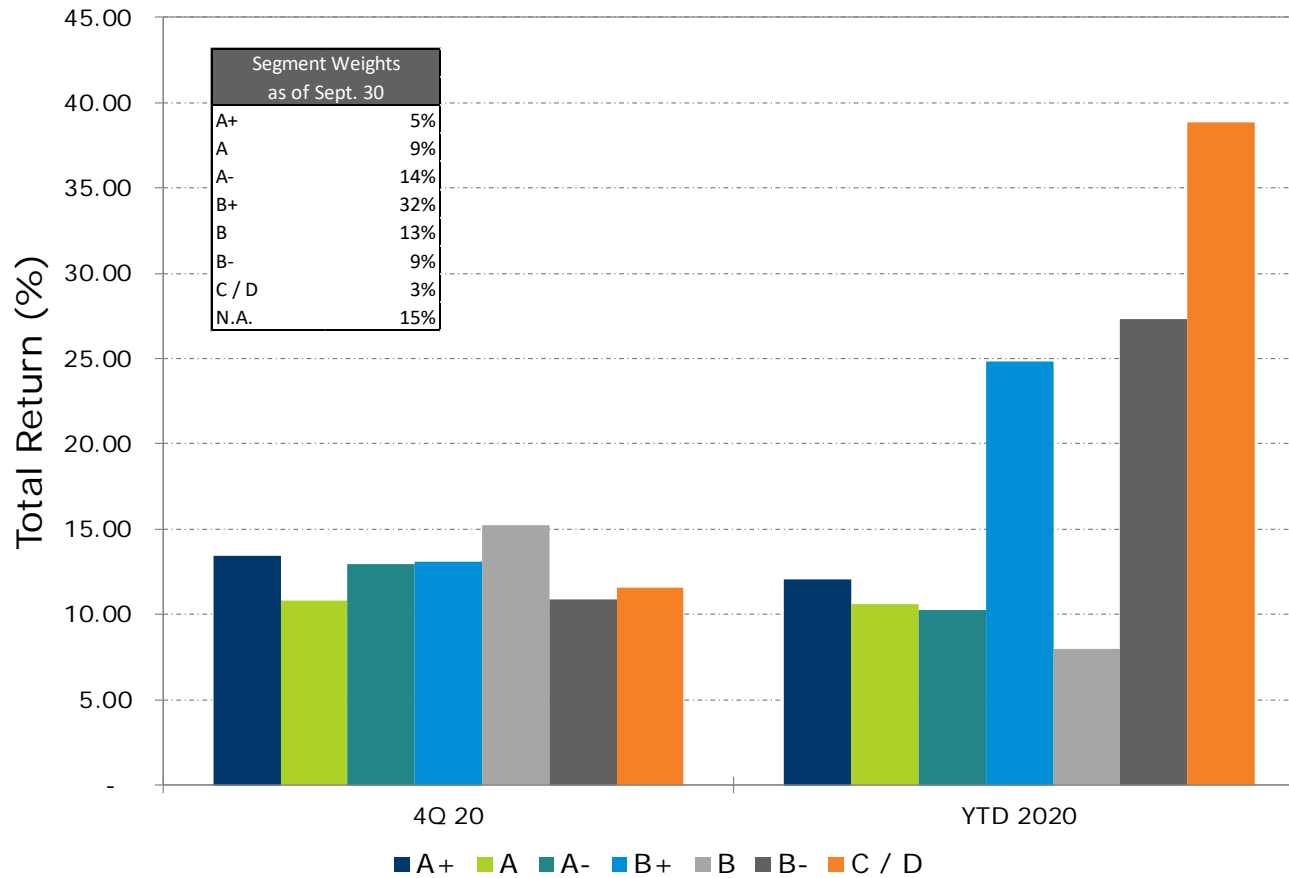


Data sources: Bloomberg

# RETURNS BY QUALITY SEGMENT

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

RETURN BY S&P QUALITY RATING

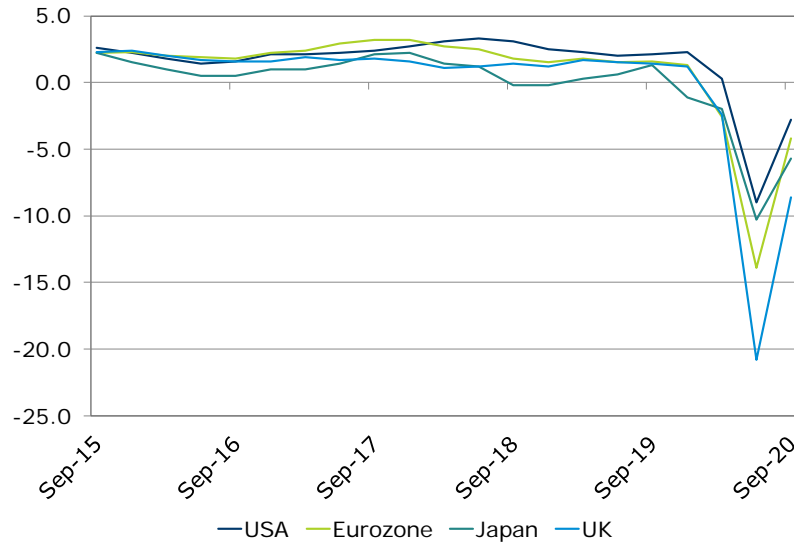


Data sources: Wilshire Atlas

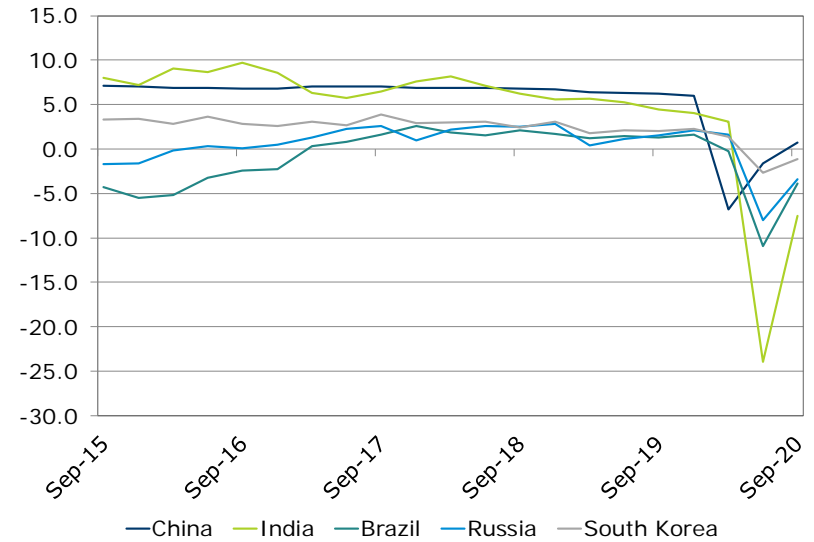


# NON-U.S. GROWTH AND INFLATION

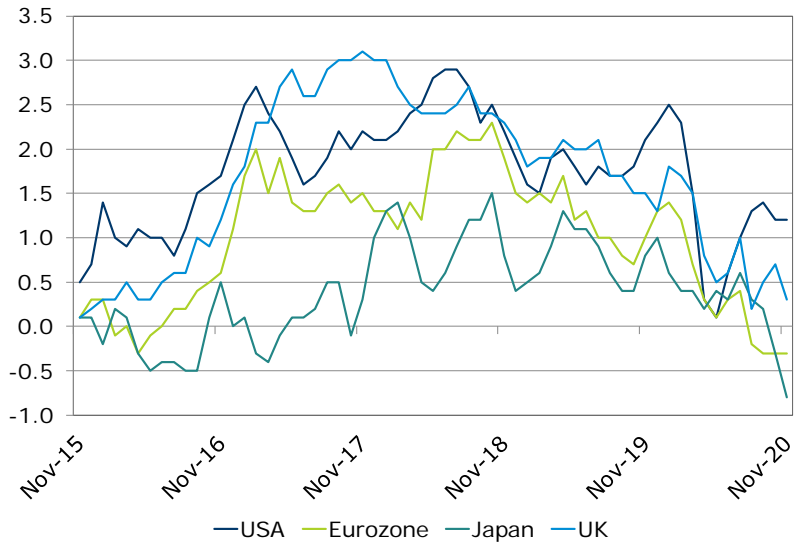
DEVELOPED MARKETS REAL GDP GROWTH YoY (%)



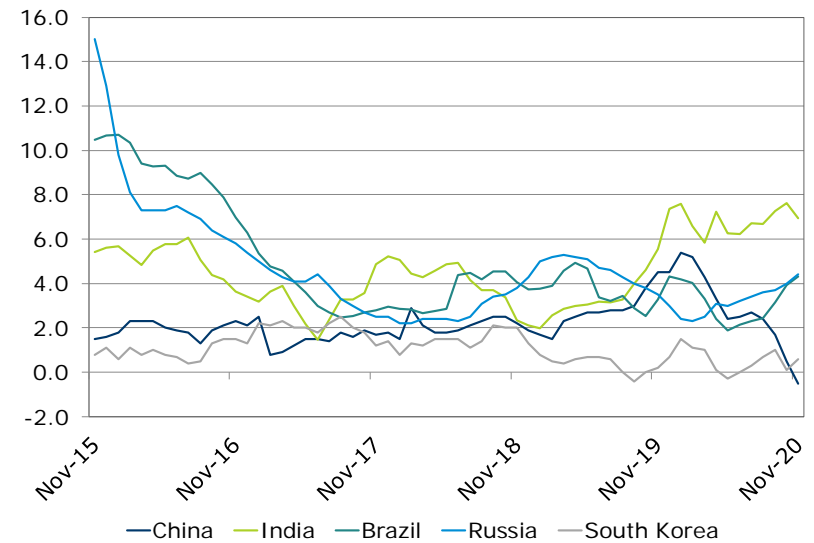
EMERGING MARKETS REAL GDP GROWTH YoY (%)



DEVELOPED MARKETS CPI GROWTH YoY (%)



EMERGING MARKETS CPI GROWTH YoY (%)



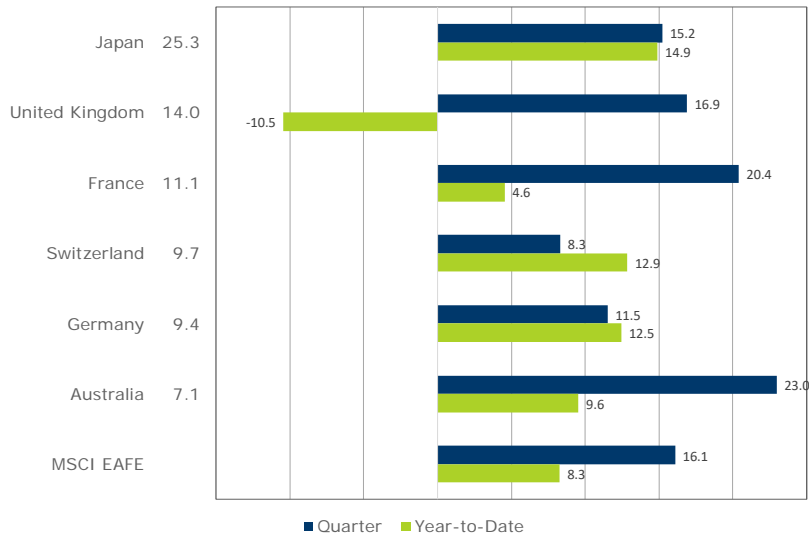
Data sources: Bloomberg

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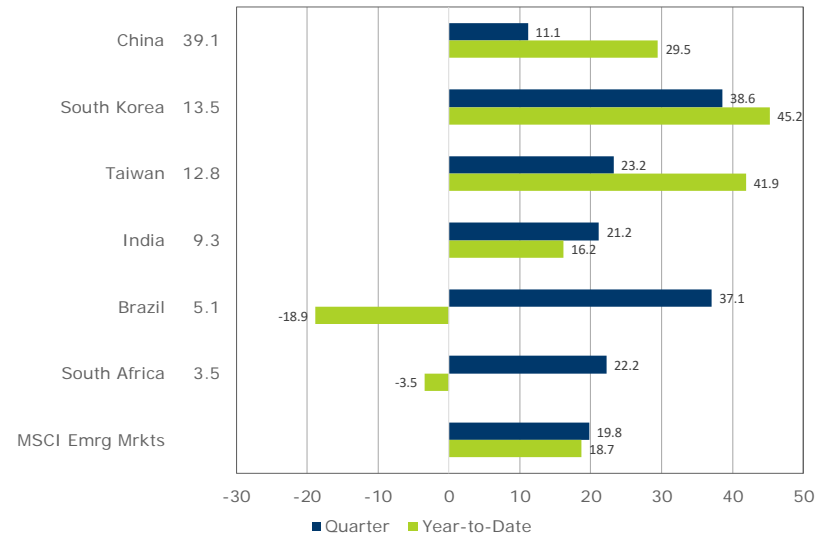
# NON-U.S. EQUITY MARKET

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

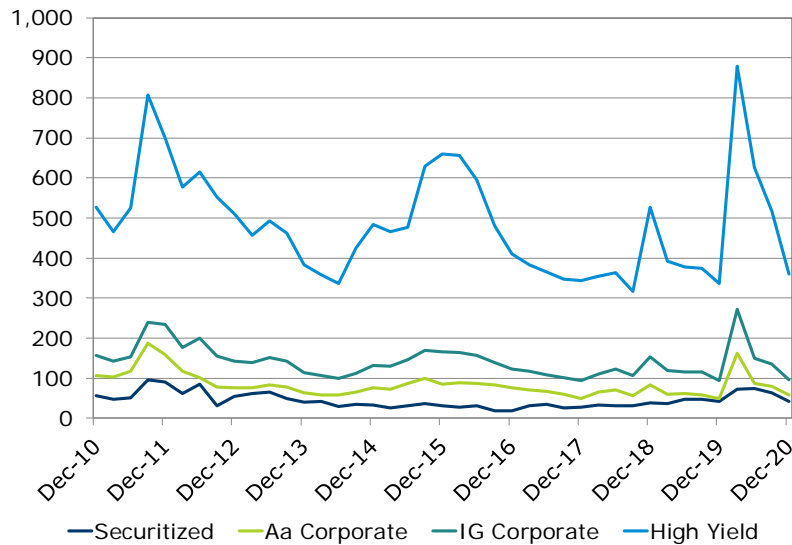
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# U.S. FIXED INCOME

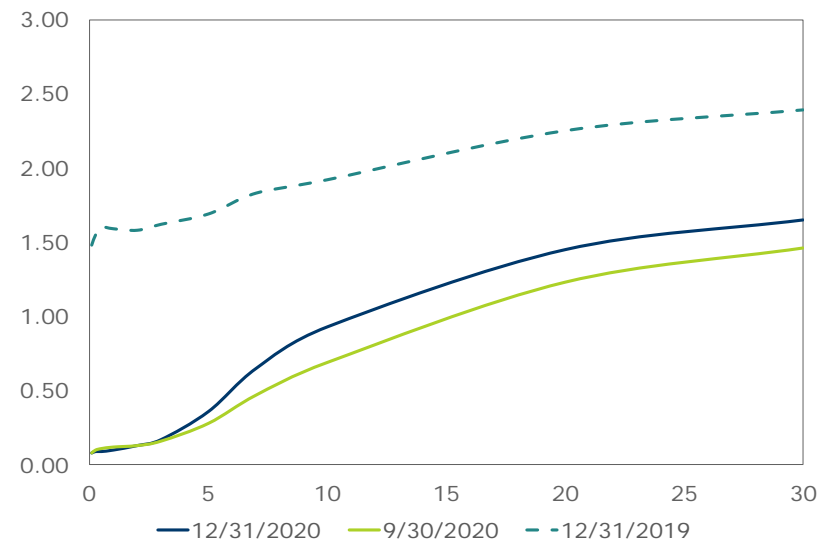
AS OF 12/31/2020	YTW	DUR.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
BLOOMBERG BARCLAYS AGGREGATE	1.1	6.2	0.7	7.5	7.5	5.3	4.4	3.8
BLOOMBERG BARCLAYS TREASURY	0.6	7.2	-0.8	8.0	8.0	5.2	3.8	3.3
BLOOMBERG BARCLAYS GOV'T-REL.	1.1	6.0	0.9	5.9	5.9	5.0	4.4	3.6
BLOOMBERG BARCLAYS SECURITIZED	1.2	2.6	0.3	4.2	4.2	3.8	3.2	3.1
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

FIXED INCOME OPTION ADJUSTED SPREAD (BPS)



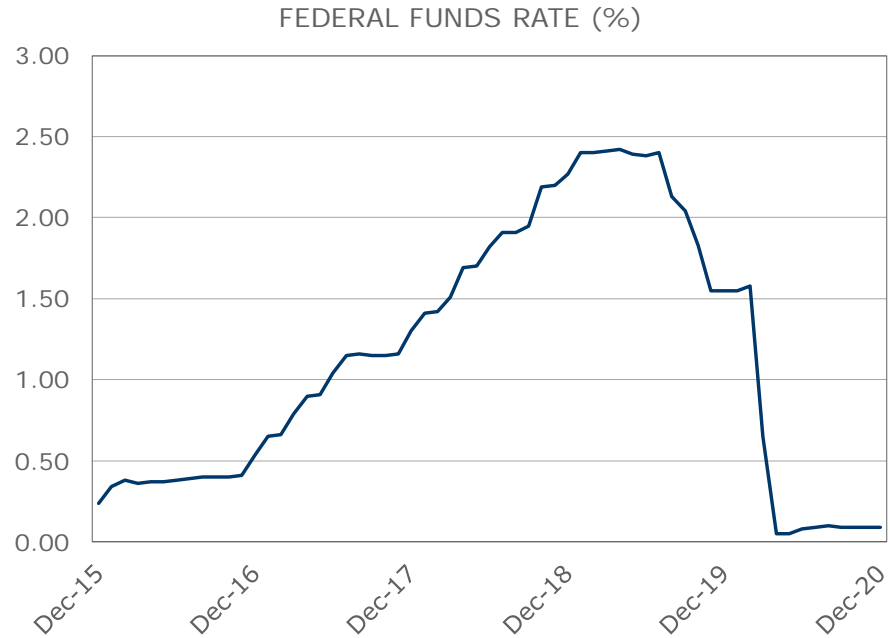
TREASURY YIELD CURVE (%)



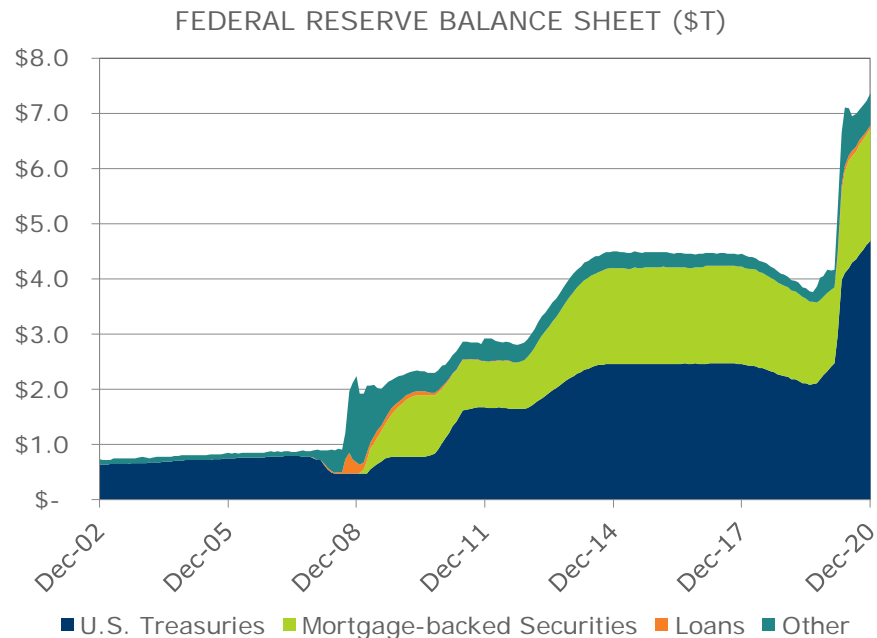
Data sources: Bloomberg

# FEDERAL RESERVE

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



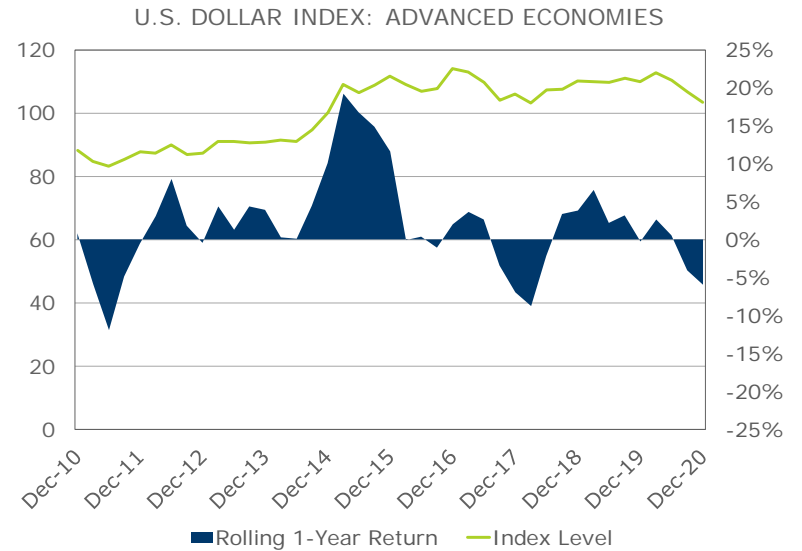
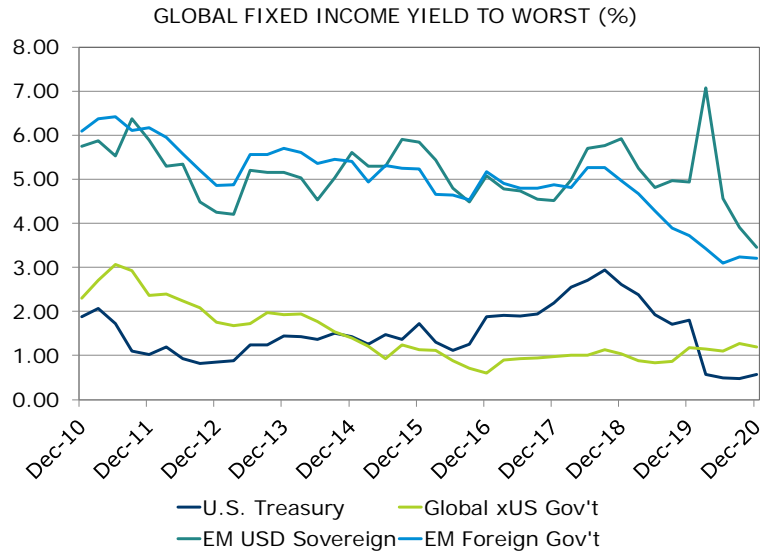
	Announced	Closed	Amount (bil)
QE1	11/25/2008	3/31/2010	\$1,403
QE2	11/3/2010	6/29/2012	\$568
QE3	9/13/2012	10/29/2014	\$1,674
QE4	3/23/2020		\$3,245



# 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

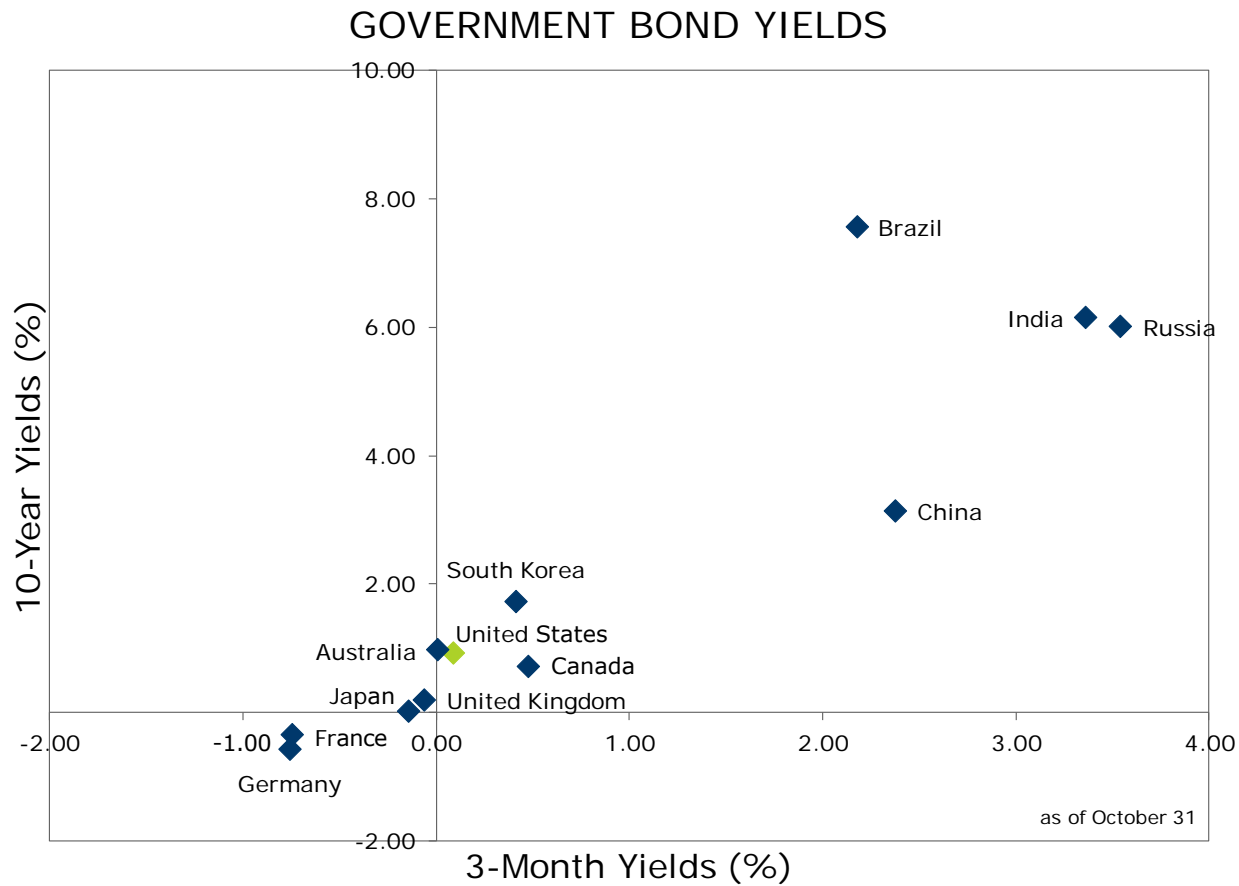
\* Returns are reported in terms of local market investors, which removes currency effects.



Data sources: Bloomberg

# GLOBAL INTEREST RATES

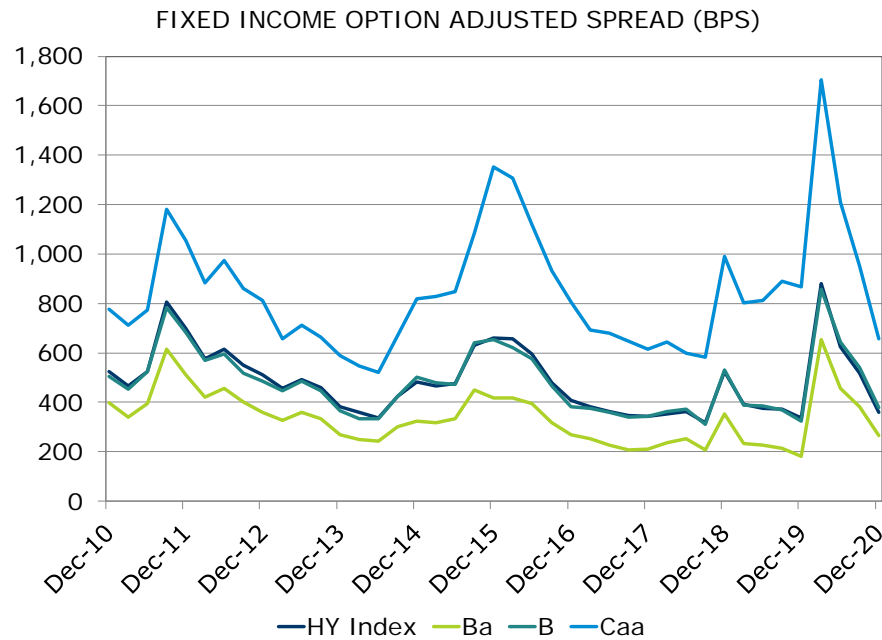
Negative rates found in Germany and France; low but positive rates, and at similar levels, in the U.S. and Australia while the U.K. approaches zero.



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



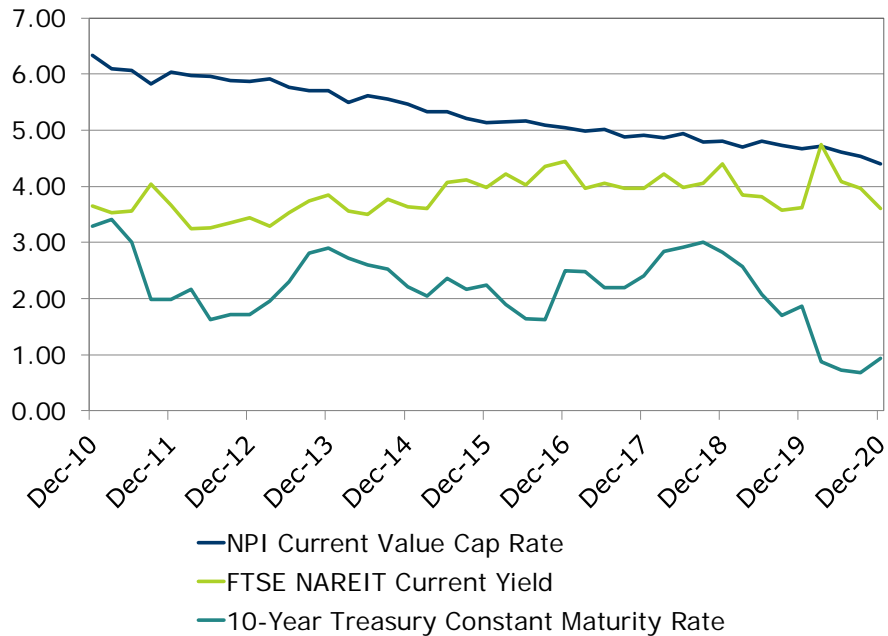
Data sources: Bloomberg

# Wilshire Consulting

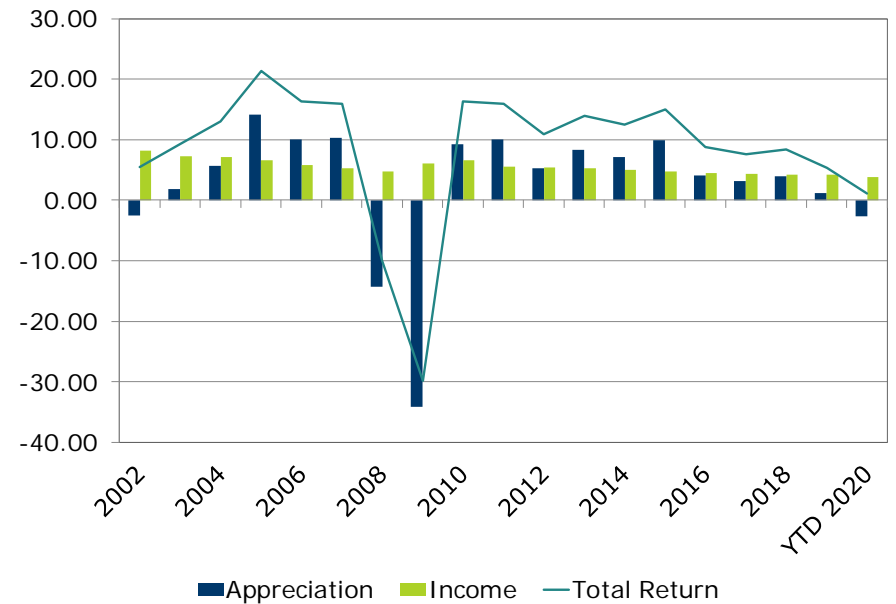
## REAL ASSETS

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

REAL ESTATE VALUATION (%)



NCREIF ODCE FUND INDEX RETURN (%)



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





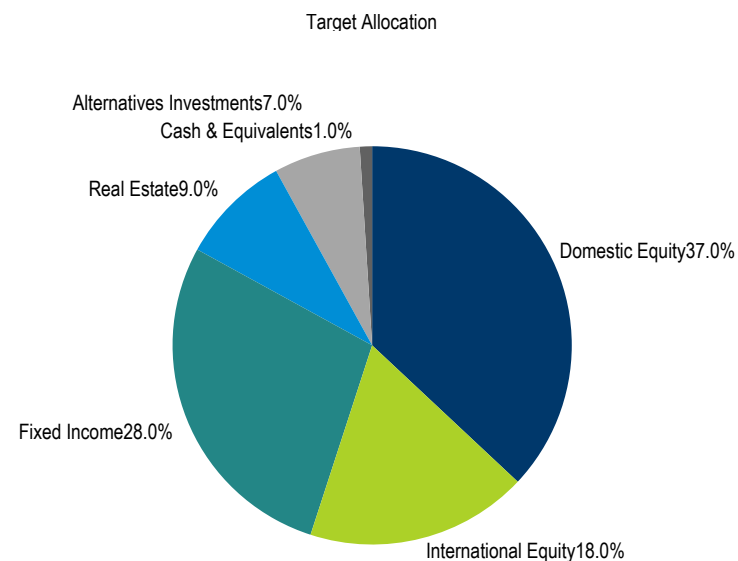
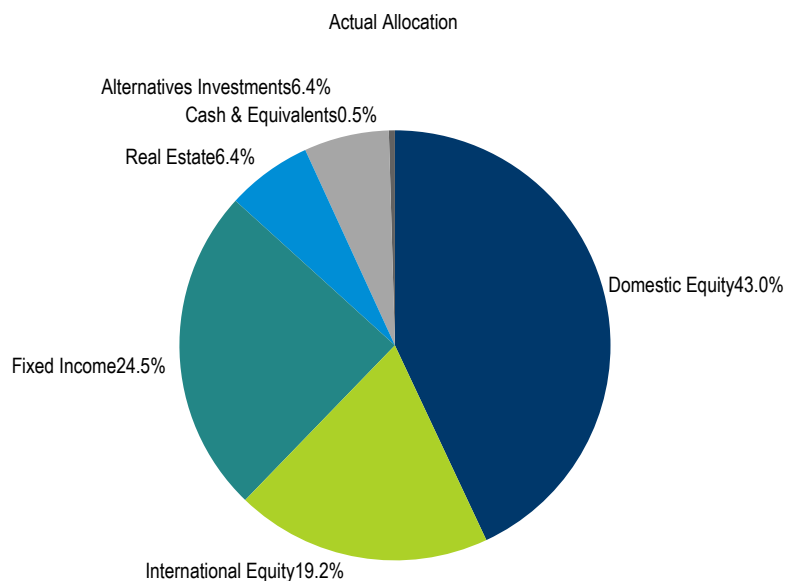
# Total Fund

# Wilshire Consulting

## Asset Allocation

Total Fund

Periods Ended As of December 31, 2020

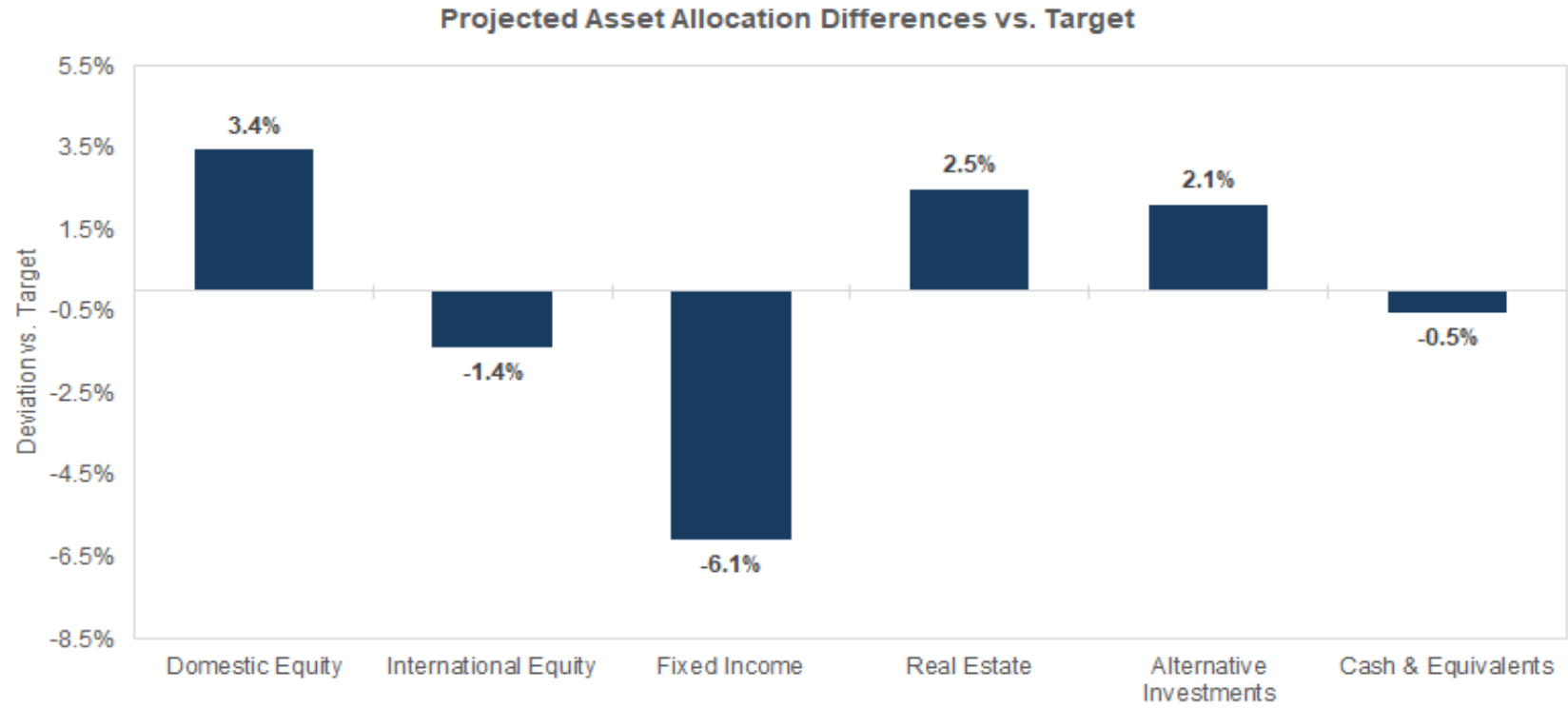


■ Domestic Equity    
 ■ International Equity    
 ■ Fixed Income    
 ■ Real Estate    
 ■ Alternatives Investments    
 ■ Cash & Equivalents

	Actual Allocation \$Millions	Actual Allocation %	Target Allocation %	Differences %	Differences \$Millions
Total Fund	49,882	100.0	100.0	0.0	
Domestic Equity	21,464	43.0	37.0	6.0	3,007
International Equity	9,576	19.2	18.0	1.2	598
Fixed Income	12,227	24.5	28.0	-3.5	-1,740
Real Estate	3,203	6.4	9.0	-2.6	-1,286
Alternatives Investments	3,185	6.4	7.0	-0.6	-307
Cash & Equivalents	226	0.5	1.0	-0.5	-272

# Projected Deviation From Benchmark

Period Ending December 31, 2020



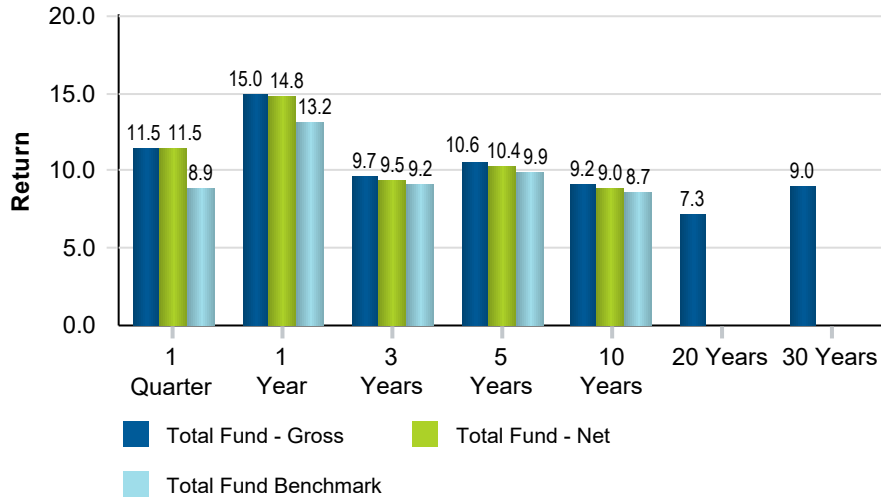
- Includes committed, but unfunded amounts for real estate (\$1,517.1 million) and alternatives (\$2,358.3 million). Assumes real estate and alternatives allocations are fully funded as of month's end.
- Assumes that outstanding commitments are funded equally from the public markets asset classes (one-third from U.S. Equity, one-third from International Equity, and one-third from Fixed Income).

# Composite Performance Summary

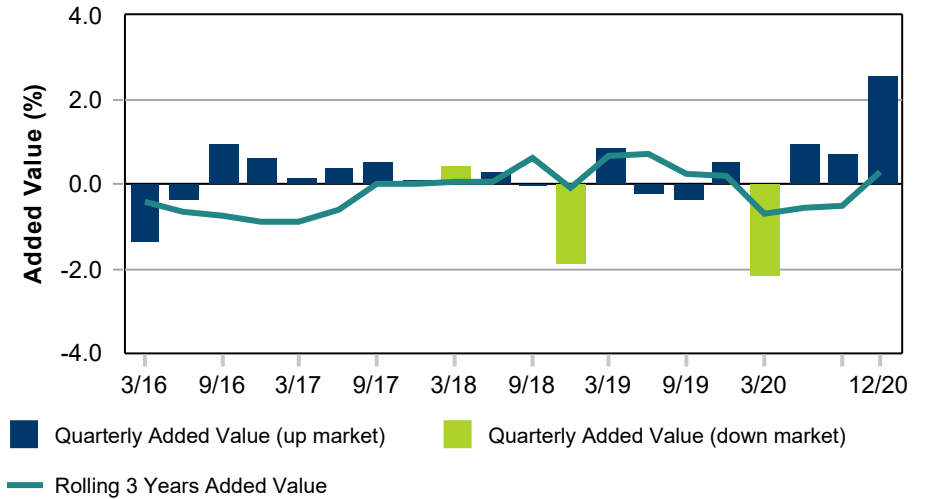
Total Fund

Periods Ended December 31, 2020

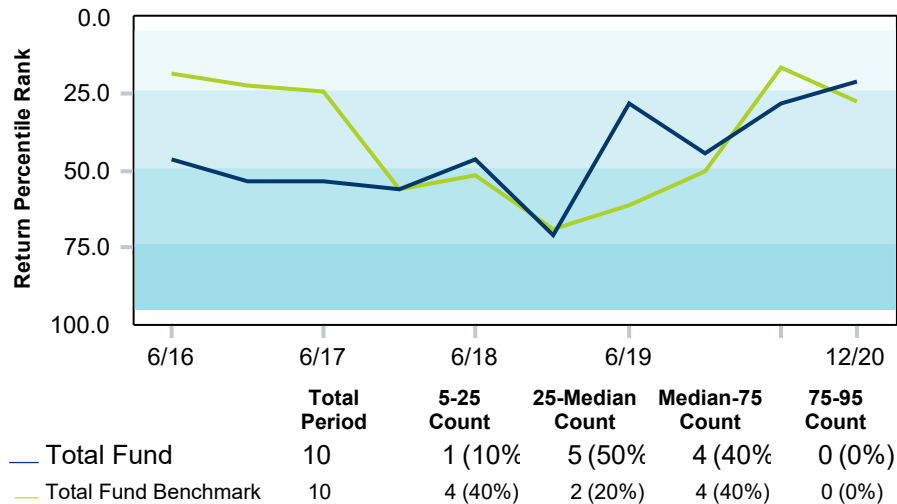
**Comparative Performance**



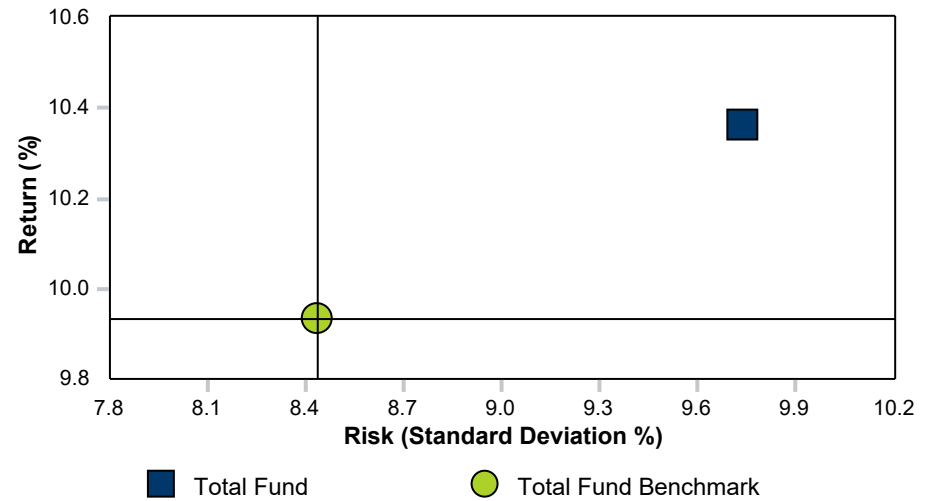
**Added Value History**



**Rolling Percentile Rank : All Public Plans > \$1B - Total Fund**



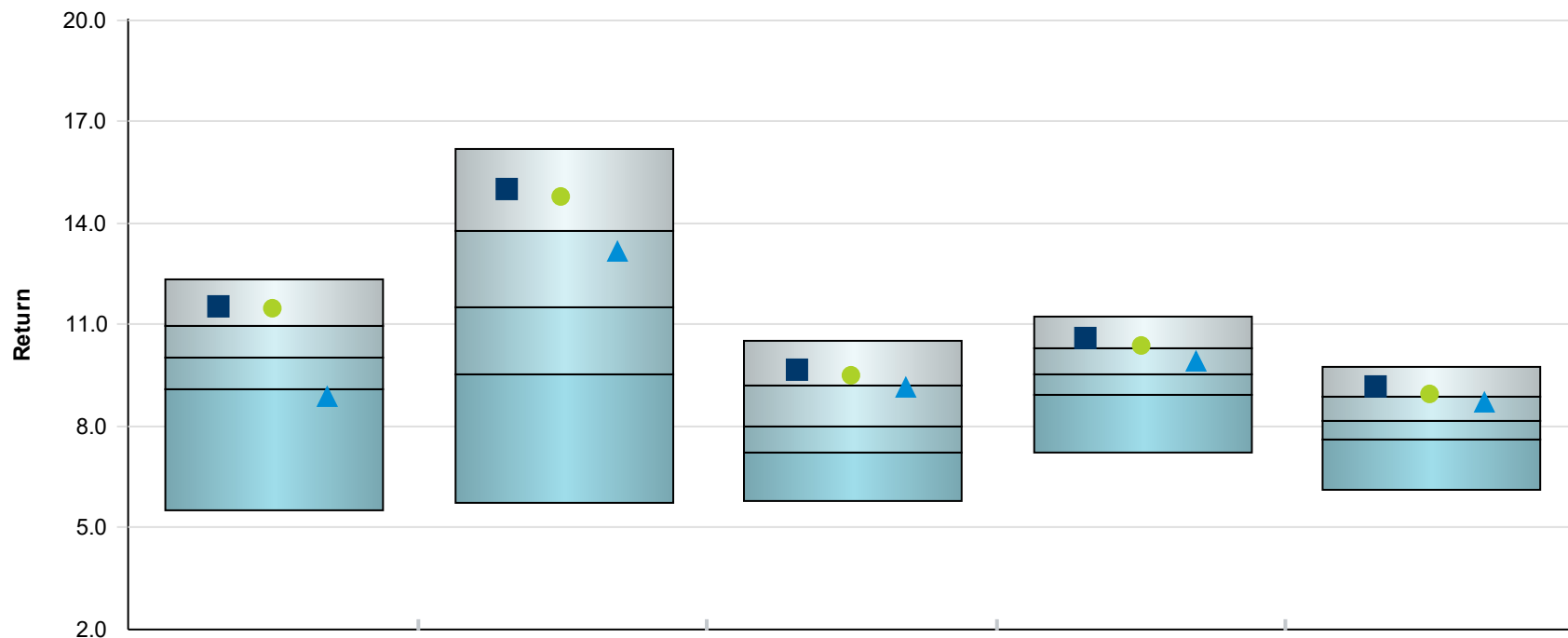
**Risk and Return 01/01/16 - 12/31/20**



# Plan Sponsor Peer Group Analysis

Total Fund vs All Public Plans > \$1B-Total Fund(Gross)

Periods Ended December 31, 2020



	QTD	1 Year	3 Years	5 Years	10 Years
■ Total Fund	11.52 (15)	14.98 (14)	9.67 (16)	10.57 (15)	9.18 (14)
● Total Fund - Net	11.47 (16)	14.79 (15)	9.48 (21)	10.36 (24)	8.95 (22)
▲ Total Fund Benchmark	8.89 (83)	13.16 (30)	9.17 (27)	9.93 (37)	8.70 (32)
5th Percentile	12.33	16.18	10.51	11.23	9.75
1st Quartile	10.98	13.76	9.22	10.31	8.86
Median	10.05	11.53	8.03	9.54	8.17
3rd Quartile	9.12	9.56	7.23	8.95	7.63
95th Percentile	5.54	5.76	5.82	7.22	6.11
Population	179	178	175	172	163

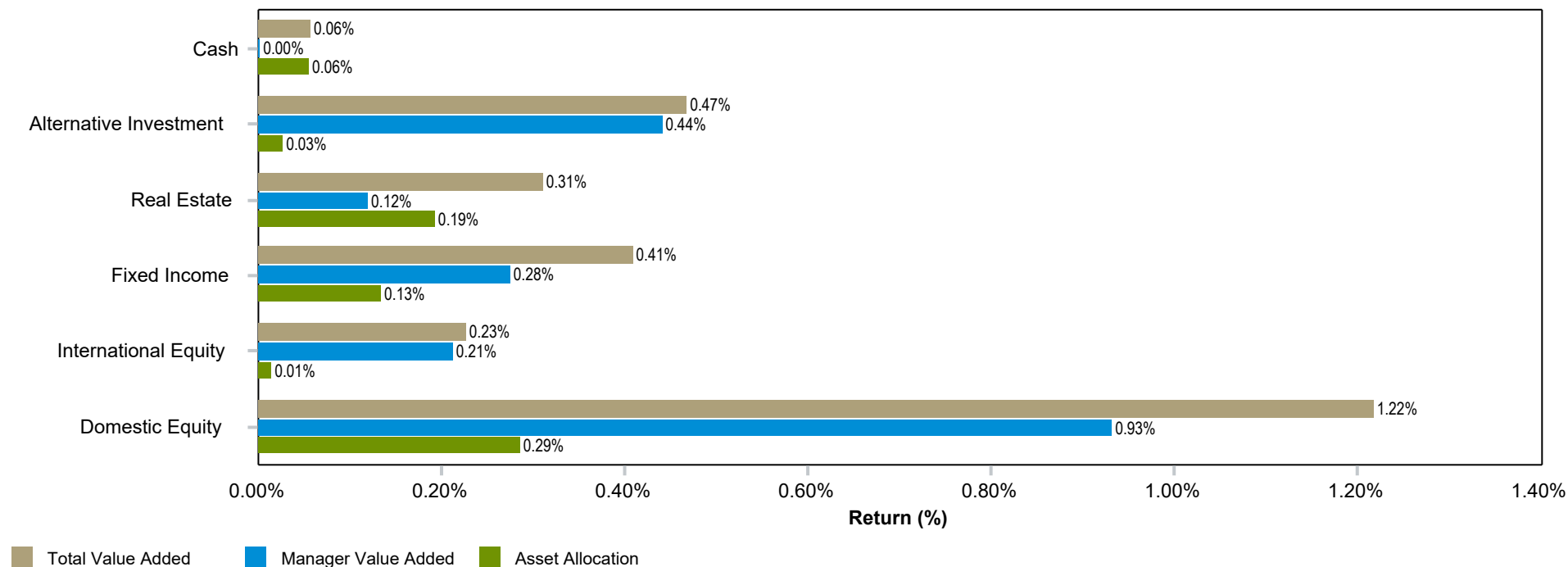
Total Fund Benchmark = 39.0% Russell 3000 Index, 25.0% Blmbg Aggregate, 15.0% MSCI ACWI ex US, 10.0% NCREIF NFI-ODCE Val Wt Nt, 10.0% 9% Annually and 1.0% 3-month Treasury Bill.

# Total Fund Attribution

Total Fund

1 Quarter Ending December 31, 2020

Relative Attribution by Asset Class



Relative Attribution Effects

	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	42.1	37.0	16.98	14.68	0.93	0.29	1.22
International Equity	18.2	18.0	18.19	17.01	0.21	0.01	0.23
Fixed Income	26.3	28.0	1.68	0.67	0.28	0.13	0.41
Real Estate	6.4	9.0	2.85	1.10	0.12	0.19	0.31
Alternative Investment	6.4	7.0	8.93	2.18	0.44	0.03	0.47
Cash	0.5	1.0	0.29	0.03	0.00	0.06	0.06
<b>Total Fund</b>	<b>100.0</b>	<b>100.0</b>	<b>11.47</b>	<b>8.89</b>	<b>1.98</b>	<b>0.71</b>	<b>2.58</b>

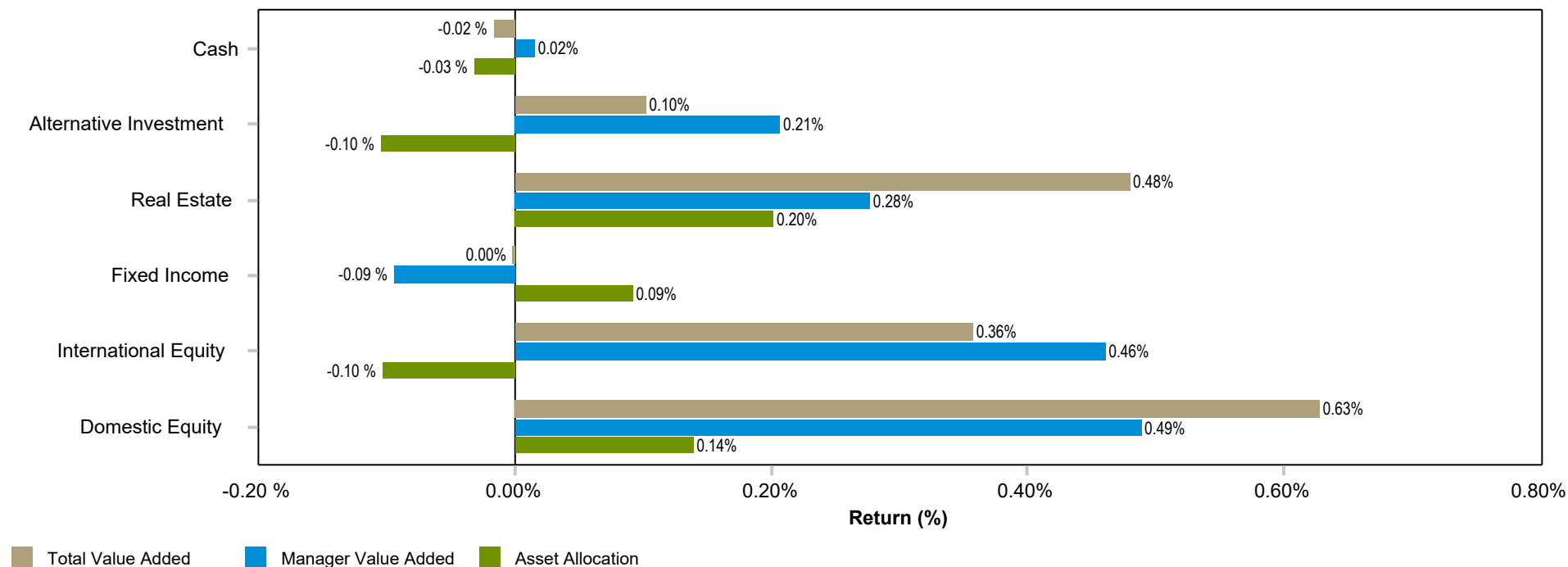
Total Fund Benchmark = 39.0% Russell 3000 Index, 25.0% Blmbg Aggregate, 15.0% MSCI ACWI ex US, 10.0% NCREIF NFI-ODCE Val Wt Nt, 10.0% 9% Annually and 1.0% 3-month Treasury Bill.

# Total Fund Attribution

Total Fund

Year To Date Ending December 31, 2020

Relative Attribution by Asset Class



Relative Attribution Effects

	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	40.2	37.0	21.86	20.89	0.49	0.14	0.63
International Equity	17.9	18.0	13.08	10.65	0.46	-0.10	0.36
Fixed Income	28.3	28.0	7.75	7.51	-0.09	0.09	0.00
Real Estate	6.8	9.0	4.16	0.34	0.28	0.20	0.48
Alternative Investment	6.2	7.0	12.27	9.00	0.21	-0.10	0.10
Cash	0.6	1.0	2.55	0.67	0.02	-0.03	-0.02
<b>Total Fund</b>	<b>100.0</b>	<b>100.0</b>	<b>14.79</b>	<b>13.16</b>	<b>1.35</b>	<b>0.19</b>	<b>1.63</b>

Total Fund Benchmark = 39.0% Russell 3000 Index, 25.0% Blmbg Aggregate, 15.0% MSCI ACWI ex US, 10.0% NCREIF NFI-ODCE Val Wt Nt, 10.0% 9% Annually and 1.0% 3-month Treasury Bill.

# Wilshire Consulting

## Asset Class Returns

Periods Ended December 31, 2020

	Performance (%)								Inception Date
	1 Quarter	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	
<b>Total Fund</b>	<b>11.52</b>	<b>14.98</b>	<b>9.67</b>	<b>10.57</b>	<b>9.18</b>	<b>7.26</b>	<b>9.01</b>	<b>10.02</b>	<b>1/1/1982</b>
Total Fund - Net	11.47	14.79	9.48	10.36	8.95				
Total Fund Benchmark	8.89	13.16	9.17	9.93	8.70				
<b>Domestic Equity</b>	<b>17.02</b>	<b>22.07</b>	<b>14.00</b>	<b>14.87</b>	<b>13.42</b>	<b>8.11</b>	<b>11.45</b>	<b>11.92</b>	<b>1/1/1982</b>
Domestic Equity - Net	16.98	21.86	13.80	14.64	13.17				
Blended Benchmark (U.S. Equity)	14.68	20.89	14.49	15.43	13.78	8.02	10.93		
U.S. Equity IMRF Custom Benchmark	15.37	18.00	12.56	14.22					
<b>International Equity</b>	<b>18.33</b>	<b>13.52</b>	<b>6.45</b>	<b>9.84</b>	<b>6.71</b>	<b>6.44</b>	<b>7.77</b>	<b>8.03</b>	<b>9/1/1986</b>
International Equity - Net	18.19	13.08	6.10	9.47	6.37				
MSCI AC World ex USA (Net)	17.01	10.65	4.88	8.93	4.92	5.23			
International Equity IMRF Custom Benchmark	17.30	11.30	4.97	8.97					
<b>Fixed Income</b>	<b>1.70</b>	<b>7.87</b>	<b>5.62</b>	<b>5.31</b>	<b>4.69</b>	<b>5.55</b>	<b>6.58</b>	<b>8.19</b>	<b>1/1/1982</b>
Fixed Income - Net	1.68	7.75	5.49	5.17	4.54				
Blmbg. Barc. U.S. Aggregate	0.67	7.51	5.34	4.44	3.84	4.83	5.86	7.66	
Fixed Income IMRF Custom Benchmark	1.30	7.29	5.37	4.80					
<b>Real Estate</b>	<b>2.86</b>	<b>4.20</b>	<b>7.43</b>	<b>8.25</b>	<b>10.26</b>	<b>7.61</b>	<b>5.17</b>	<b>5.52</b>	<b>5/1/1985</b>
Blended Benchmark (Real Estate)	1.10	0.34	3.99	5.27	9.07	7.03	7.21	7.48	
<b>Alternatives Investments</b>	<b>8.94</b>	<b>12.31</b>	<b>12.99</b>	<b>11.24</b>	<b>9.78</b>	<b>6.23</b>	<b>11.89</b>	<b>10.90</b>	<b>2/1/1986</b>
Alternatives Investments - Net	8.93	12.27	12.90	11.08	9.54				
Alternatives Custom Benchmark	2.18	9.00	9.00	9.00	9.00	10.76	12.15	12.55	
<b>Private Equity</b>	<b>9.93</b>	<b>14.50</b>	<b>15.85</b>	<b>14.31</b>	<b>12.54</b>	<b>7.54</b>	<b>14.53</b>	<b>13.12</b>	<b>2/1/1986</b>
Alternatives Custom Benchmark	2.18	9.00	9.00	9.00	9.00	10.76	12.15	12.55	
<b>Agriculture</b>	<b>3.14</b>	<b>4.69</b>	<b>-0.37</b>	<b>-1.25</b>	<b>8.22</b>	<b>7.36</b>		<b>6.86</b>	<b>10/1/1997</b>
NCREIF Farmland Index	1.59	3.08	4.87	5.57	10.41	12.07		11.42	

Benchmark definitions on page 30-31.

Real Estate, Private Equity, Agriculture, Timberland, Unlisted Infrastructure returns shown are gross of fees.



# Asset Class Returns

*Periods Ended December 31, 2020*

	Performance (%)								Inception Date
	1 Quarter	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	
<b>Timberland</b>	<b>-0.66</b>	<b>4.51</b>	<b>0.57</b>	<b>0.32</b>	<b>2.71</b>	<b>3.25</b>		<b>7.24</b>	<b>10/1/1992</b>
NCREIF Timberland Index	0.58	0.81	1.77	2.30	4.55	5.68		8.33	
<b>Unlisted Infrastruct</b>	<b>8.43</b>	<b>15.90</b>						<b>12.26</b>	<b>4/1/2018</b>
Alternatives Custom Benchmark	2.18	9.00						9.00	
<b>Cash</b>	<b>0.30</b>	<b>2.56</b>	<b>2.84</b>	<b>2.16</b>	<b>1.18</b>	<b>1.71</b>	<b>3.16</b>	<b>3.78</b>	<b>7/1/1986</b>
90 Day US Treasury Bill	0.03	0.67	1.61	1.18	0.62	1.47	2.62	3.21	

Benchmark definitions on page 30-31.

Real Estate, Private Equity, Agriculture, Timberland, Unlisted Infrastructure returns shown are gross of fees.

# Wilshire Consulting

## Asset Class Returns

Periods Ended December 31, 2020

	Performance (%)										
	YTD	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
<b>Total Fund</b>	<b>14.98</b>	<b>19.77</b>	<b>-4.23</b>	<b>16.02</b>	<b>8.01</b>	<b>0.53</b>	<b>6.15</b>	<b>20.20</b>	<b>13.84</b>	<b>-0.29</b>	<b>13.61</b>
Total Fund - Net	14.79	19.57	-4.40	15.78	7.77	0.29	5.90	19.94	13.58	-0.50	13.37
Total Fund Benchmark	13.16	18.68	-3.12	14.37	7.89	1.37	7.33	15.84	12.19	1.47	12.72
<b>Domestic Equity</b>	<b>22.07</b>	<b>29.23</b>	<b>-6.08</b>	<b>19.83</b>	<b>12.62</b>	<b>0.04</b>	<b>9.81</b>	<b>37.65</b>	<b>17.39</b>	<b>-0.74</b>	<b>18.92</b>
Domestic Equity - Net	21.86	29.00	-6.25	19.59	12.35	-0.22	9.54	37.32	17.09	-0.99	18.62
Blended Benchmark (U.S. Equity)	20.89	31.02	-5.24	21.13	12.74	0.48	12.47	33.47	16.38	1.08	17.49
<b>International Equity</b>	<b>13.52</b>	<b>23.76</b>	<b>-14.13</b>	<b>27.95</b>	<b>3.56</b>	<b>-1.90</b>	<b>-2.80</b>	<b>20.24</b>	<b>19.11</b>	<b>-12.27</b>	<b>12.98</b>
International Equity - Net	13.08	23.39	-14.41	27.52	3.21	-2.23	-3.10	19.87	18.70	-12.50	12.68
MSCI AC World ex USA (Net)	10.65	21.51	-14.20	27.19	4.50	-5.66	-3.87	15.29	16.83	-13.71	11.15
<b>Fixed Income</b>	<b>7.87</b>	<b>9.50</b>	<b>-0.24</b>	<b>4.82</b>	<b>4.87</b>	<b>0.25</b>	<b>5.97</b>	<b>-0.59</b>	<b>7.41</b>	<b>7.60</b>	<b>8.59</b>
Fixed Income - Net	7.75	9.37	-0.39	4.66	4.71	0.10	5.81	-0.75	7.24	7.44	8.43
Blmbg. Barc. U.S. Aggregate	7.51	8.72	0.01	3.54	2.65	0.55	5.97	-2.02	4.21	7.84	6.54
<b>Real Estate</b>	<b>4.20</b>	<b>9.81</b>	<b>8.36</b>	<b>10.03</b>	<b>8.97</b>	<b>12.54</b>	<b>13.02</b>	<b>10.82</b>	<b>12.85</b>	<b>12.29</b>	<b>6.56</b>
Real Estate - Net	4.16	9.76	8.36	10.03	8.97	12.46	13.02	10.82	12.85	12.29	6.56
Blended Benchmark (Real Estate)	0.34	4.39	7.36	6.66	7.79	13.95	11.46	12.90	11.54	15.26	14.11
<b>Alternatives Investments</b>	<b>12.31</b>	<b>9.48</b>	<b>17.32</b>	<b>12.09</b>	<b>5.32</b>	<b>6.90</b>	<b>11.63</b>	<b>12.11</b>	<b>6.24</b>	<b>5.05</b>	<b>9.76</b>
Alternative Investments - Net	12.27	9.43	17.14	11.91	5.00	6.47	11.16	11.86	6.00	4.84	9.50
Alternatives Custom Benchmark	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	10.49
<b>Private Equity</b>	<b>14.50</b>	<b>11.78</b>	<b>21.46</b>	<b>15.61</b>	<b>8.60</b>	<b>8.41</b>	<b>13.72</b>	<b>14.13</b>	<b>5.61</b>	<b>12.33</b>	<b>15.24</b>
Alternatives Custom Benchmark	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	10.49
<b>Agriculture</b>	<b>4.69</b>	<b>-5.82</b>	<b>0.28</b>	<b>-4.58</b>	<b>-0.47</b>	<b>20.18</b>	<b>24.73</b>	<b>25.68</b>	<b>13.55</b>	<b>9.70</b>	<b>2.68</b>
NCREIF Farmland Index	3.08	4.81	6.74	6.19	7.09	10.35	12.63	20.91	18.58	15.16	8.81
<b>Timberland</b>	<b>4.51</b>	<b>1.00</b>	<b>-3.62</b>	<b>4.68</b>	<b>-4.58</b>	<b>4.99</b>	<b>12.83</b>	<b>9.14</b>	<b>-3.59</b>	<b>3.20</b>	<b>3.21</b>
NCREIF Timberland Index	0.81	1.30	3.21	3.63	2.59	4.97	10.48	9.69	7.75	1.57	-0.15
<b>Unlisted Infrastruct</b>	<b>15.90</b>	<b>9.65</b>									
Alternatives Custom Benchmark	9.00	9.00									

Benchmark definitions on page

Private Equity, Agriculture, Timberland, Unlisted Infrastructure returns shown are gross of fees.

# Wilshire Consulting

## Asset Class Returns

*Periods Ended December 31, 2020*

	Performance (%)										
	YTD	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
<b>Cash</b>	<b>2.56</b>	<b>3.59</b>	<b>2.36</b>	<b>1.67</b>	<b>0.63</b>	<b>0.29</b>	<b>0.17</b>	<b>0.11</b>	<b>0.23</b>	<b>0.24</b>	<b>0.26</b>
90 Day US Treasury Bill	0.67	2.28	1.87	0.86	0.25	0.03	0.04	0.05	0.08	0.08	0.13

# Benchmark Definitions

Account Name	From Date	To Date	Benchmark
Domestic Equity Blended	1/1/2015	Present	100% Russell 3000 Index
Benchmark	1/1/1982	12/31/2014	100% Dow Jones US Total Stock Market Index
Real Estate Blended	1/1/2013	Present	100% NCREIF Fund Index-ODCE (VW) (Net)** 100%
Benchmark	1/1/2007	12/31/2012	100% NPI + 1%
	1/1/2005	12/31/2016	100% Consumer Price Index + 5%
Alternatives Custom	7/1/2010	Present	100% Annualized rate of 9.0%
Benchmark	1/1/2004	6/30/2010	100% Annualized rate of 12.0%
	1/1/2003	12/31/2003	100% Annualized rate of 13.0%
	2/1/1986	12/31/2002	100% Annualized rate of 15.0%
U.S. Equity IMRF Custom Benchmark			Blend of the U.S. Equity Style benchmarks returns, dollar weighted by the actual allocation at pervious month end.
International Equity IMRF Custom Benchmark			Blend of the the International Equity Style benchmarks returns, dollar weighted by the actual allocation at previous month end.
Fixed Income IMRF Custom Benchmark			Blend of the the Fixed Income Style benchmarks returns, dollar weighted by the actual allocation at previous month end.

\*\*ODCE returns are updated quarterly.

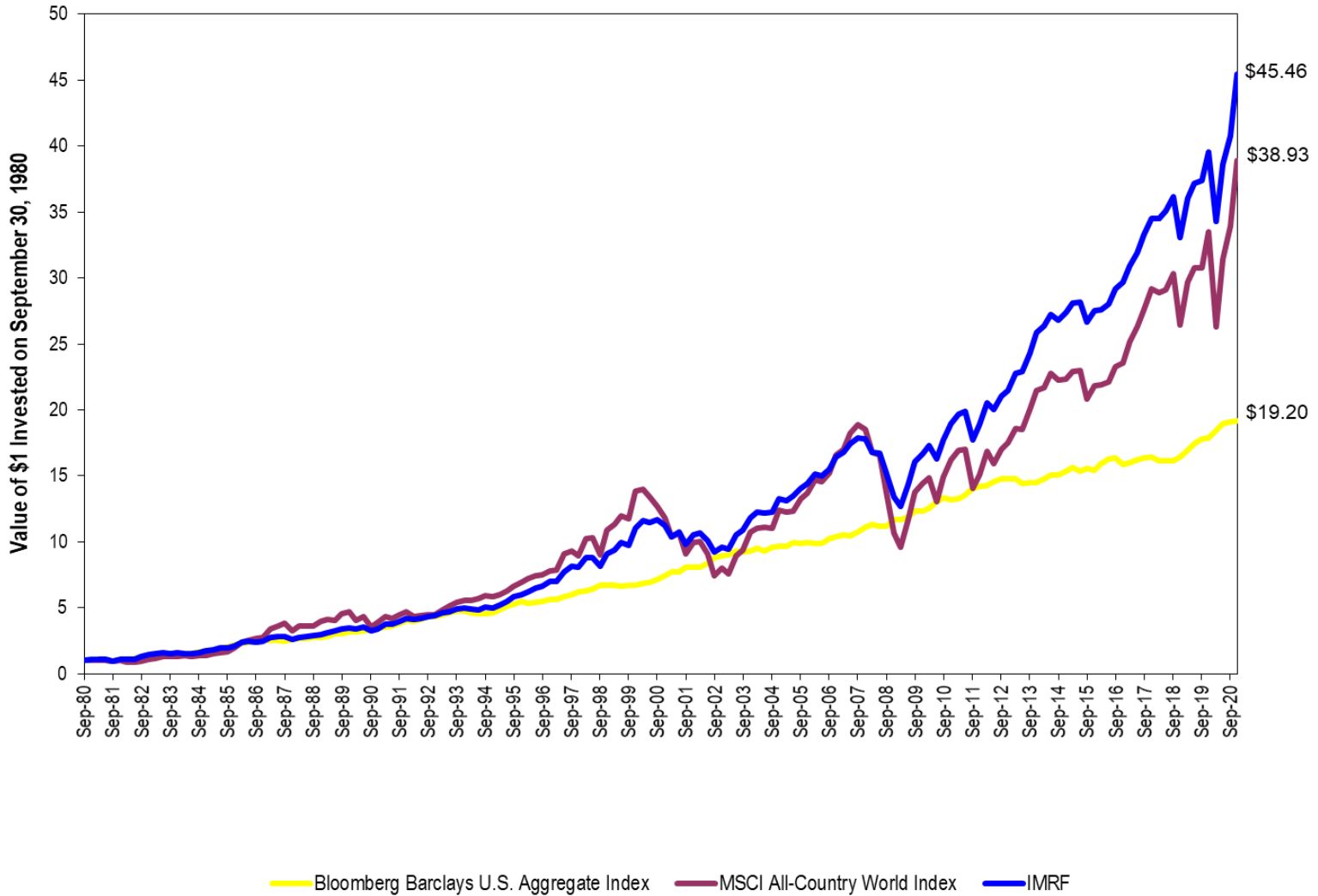
# Benchmark Definitions

Account Name	From Date	To Date	Benchmark
Total Fund Benchmark			<p>The total fund benchmark is a blend of the asset class benchmark returns weighted by the target allocation for each asset class, currently:</p> <p>37% Russell 3000 Index, 28% Blmbg. Barc. U.S. Aggregate, 18% MSCI AC World ex USA (Net), 9% NCREIF Fund Index-ODCE (VW) (Net), 7% Alternatives Custom Benchmark, 1% 90 Day US Treasury Bill.</p>

# Total Fund Growth of a Dollar

Period Ending December 31, 2020

Growth of a Dollar - As of December 31, 2020



# Investment Manager Asset Allocation

Periods Ended December 31, 2020

	Sep-2020		Dec-2020	
	\$	%	\$	%
<b>Domestic Equity</b>	<b>18,895,106,985</b>	<b>41.82</b>	<b>21,463,906,127</b>	<b>43.03</b>
<b>Large Cap Growth</b>	<b>7,889,181,328</b>	<b>17.46</b>	<b>8,609,247,538</b>	<b>17.26</b>
NTGI S&P 500 Growth	2,917,163,969	6.46	3,228,524,751	6.47
Sands Capital	3,241,338,813	7.17	3,452,849,176	6.92
Xponance Russell 1000 G	1,730,678,547	3.83	1,927,873,611	3.86
<b>Large Cap Value</b>	<b>4,386,448,201</b>	<b>9.71</b>	<b>4,054,025,952</b>	<b>8.13</b>
Dodge & Cox	1,224,325,502	2.71	1,461,604,174	2.93
BMO	769,965,276	1.70	74,927,467	0.15
LSV Asset	1,040,464,150	2.30	1,228,327,832	2.46
NTGI S&P 500 Value	1,351,693,275	2.99	1,289,166,479	2.58
<b>Large Cap Pass. Core</b>	<b>2,828,824,944</b>	<b>6.26</b>	<b>2,948,174,624</b>	<b>5.91</b>
NTGI MarketCap Idx.	2,828,824,944	6.26	2,948,174,624	5.91
<b>Factor Diversity Strategies</b>	<b>501,364,933</b>	<b>1.11</b>	<b>1,098,112,816</b>	<b>2.20</b>
U.S. Large Cap FDP-GSAM	501,364,933	1.11	1,098,112,816	2.20
<b>Quantitative Factor Strategies</b>	<b>255,625,949</b>	<b>0.57</b>	<b>1,046,216,386</b>	<b>2.10</b>
Quantitative US Equity - SciBeta	255,625,949	0.57	1,046,216,386	2.10
<b>Small Cap Growth</b>	<b>837,324,603</b>	<b>1.85</b>	<b>1,036,204,380</b>	<b>2.08</b>
Frontier Capital	665,299,875	1.47	865,833,273	1.74
FIAM Small Cap	172,024,728	0.38	170,371,107	0.34
<b>Small Cap Value</b>	<b>1,259,986,862</b>	<b>2.79</b>	<b>1,668,609,553</b>	<b>3.35</b>
Channing	209,645,374	0.46	284,485,075	0.57
DFA Small Cap Val.	466,279,900	1.03	623,763,500	1.25
Inv. Couns. Maryland	584,061,589	1.29	760,360,978	1.52

# Investment Manager Asset Allocation

Periods Ended December 31, 2020

	Sep-2020		Dec-2020	
	\$	%	\$	%
<b>Micro Cap</b>	<b>305,710,884</b>	<b>0.68</b>	<b>319,746,036</b>	<b>0.64</b>
DFA Micro Cap (9-10)	305,710,884	0.68	319,746,036	0.64
<b>Public Real Assets</b>	<b>630,639,281</b>	<b>1.40</b>	<b>683,568,840</b>	<b>1.37</b>
Brookfield	145,053,167	0.32	160,119,864	0.32
Cohen & Steers	485,586,113	1.07	523,448,976	1.05
<b>International Equity</b>	<b>8,186,708,910</b>	<b>18.12</b>	<b>9,576,479,786</b>	<b>19.20</b>
<b>Intl Large Cap Growth</b>	<b>1,389,068,145</b>	<b>3.07</b>	<b>1,671,253,979</b>	<b>3.35</b>
EARNEST Part. Intl	427,644,407	0.95	552,926,812	1.11
William Blair	961,423,737	2.13	1,118,327,167	2.24
<b>Intl Large Cap Value</b>	<b>1,134,626,374</b>	<b>2.51</b>	<b>1,257,629,247</b>	<b>2.52</b>
Brandes Investment	522,640,473	1.16	530,780,045	1.06
Mondrian	496,390,083	1.10	590,987,037	1.18
Lazard	115,595,818	0.26	135,862,165	0.27
<b>Intl Large Cap Core</b>	<b>3,764,605,864</b>	<b>8.33</b>	<b>4,397,530,551</b>	<b>8.82</b>
Arrowstreet Capital	755,361,131	1.67	937,740,929	1.88
Brown Capital	554,706,127	1.23	613,090,514	1.23
GlobeFlex Capital	648,849,468	1.44	751,289,770	1.51
NTGI MSCI EAFE	1,804,662,815	3.99	2,094,370,592	4.20
Progress Intl Equity	903,533	0.00	919,025	0.00
Transition Account	122,790	0.00	119,721	0.00
<b>Intl All Cap Developed</b>	<b>139,424,997</b>	<b>0.31</b>	<b>153,679,137</b>	<b>0.31</b>
Ativo International	139,424,997	0.31	153,679,137	0.31



# Investment Manager Asset Allocation

*Periods Ended December 31, 2020*

	Sep-2020		Dec-2020	
	\$	%	\$	%
<b>International Small Cap</b>	<b>548,486,170</b>	<b>1.21</b>	<b>638,774,927</b>	<b>1.28</b>
Franklin Templeton	199,320,049	0.44	228,057,930	0.46
William Blair IntSC	349,166,120	0.77	410,716,996	0.82
<b>Emerging Mkt Equity</b>	<b>1,210,497,361</b>	<b>2.68</b>	<b>1,457,611,946</b>	<b>2.92</b>
Genesis Asset Mngrs.	1,210,497,361	2.68	1,457,611,946	2.92

# Investment Manager Asset Allocation

Periods Ended December 31, 2020

	Sep-2020		Dec-2020	
	\$	%	\$	%
<b>Fixed Income</b>	<b>12,086,120,629</b>	<b>26.75</b>	<b>12,227,353,235</b>	<b>24.51</b>
<b>Domestic Fixed Core</b>	<b>3,800,625,773</b>	<b>8.41</b>	<b>3,808,794,036</b>	<b>7.64</b>
Brandes FI Core	384,746,925	0.85	383,313,604	0.77
EARNEST Partners	1,047,701,590	2.32	1,046,710,291	2.10
Xponance Yield Advantage Agg.	1,117,920,778	2.47	1,125,966,650	2.26
Garcia Hamilton	1,118,905,764	2.48	1,119,856,879	2.24
Ramirez Asset Management	131,350,717	0.29	132,946,611	0.27
<b>Domestic Fixed Passive Core</b>	<b>3,787,148,175</b>	<b>8.38</b>	<b>3,813,613,446</b>	<b>7.65</b>
NTGI Blmbg Agg.	1,932,771,883	4.28	1,946,269,369	3.90
BlackRock US Debt I	1,854,376,292	4.10	1,867,344,078	3.74
<b>Domestic Fixed Core Plus</b>	<b>2,954,042,528</b>	<b>6.54</b>	<b>3,002,040,647</b>	<b>6.02</b>
LM Capital Group FI	974,155,367	2.16	986,159,372	1.98
Progress Inv. FI	3,700	0.00	3,800	0.00
BMO - TCH	663,844,479	1.47	671,046,103	1.35
Western Asset	1,133,291,450	2.51	1,158,645,034	2.32
Longfellow Core Plus	182,747,532	0.40	186,186,338	0.37
<b>Bank Loans</b>	<b>541,293,227</b>	<b>1.20</b>	<b>559,830,899</b>	<b>1.12</b>
Barings Global Loan Fund	541,293,227	1.20	559,830,899	1.12
<b>Emerging Markets Debt</b>	<b>216,885,366</b>	<b>0.48</b>	<b>237,699,989</b>	<b>0.48</b>
Standish-Mellon EMD	216,885,366	0.48	237,699,989	0.48
<b>High Yield</b>	<b>786,125,560</b>	<b>1.74</b>	<b>805,374,217</b>	<b>1.61</b>
MacKay Shields	786,097,017	1.74	805,330,405	1.61
FIAM High Yield	28,543	0.00	43,812	0.00

# Investment Manager Asset Allocation

Periods Ended December 31, 2020

	Sep-2020		Dec-2020	
	\$	%	\$	%
<b>Real Estate</b>	<b>2,931,690,651</b>	<b>6.49</b>	<b>3,203,259,355</b>	<b>6.42</b>
<b>Real Estate Core Cmp</b>	<b>1,560,907,617</b>	<b>3.45</b>	<b>1,762,237,868</b>	<b>3.53</b>
TA Assoc. Buckhead	586,042,640	1.30	602,288,923	1.21
Barings Euro Core Property	134,213,306	0.30	142,142,517	0.28
Blackstone Property Euro	141,602,089	0.31	151,742,349	0.30
INVESCO Core Real Estate	203,018,548	0.45	204,127,320	0.41
INVESCO European real estate	58,327,483	0.13	64,860,847	0.13
AEW Core Property Tr	232,592,669	0.51	234,802,268	0.47
CBRE Core Partners	205,110,882	0.45	212,273,644	0.43
JPM Strategic Property Fund		0.00	150,000,000	0.30
<b>RE Non-Core Cmp</b>	<b>1,370,783,034</b>	<b>3.03</b>	<b>1,441,021,487</b>	<b>2.89</b>
Artemis MWBE Spruce	220,088,526	0.49	222,427,276	0.45
Franklin T. EMREFF	5,378,057	0.01	6,569,896	0.01
Security Capital	53,065,585	0.12	56,889,276	0.11
Dune II	19,935,889	0.04	19,434,746	0.04
Non-Core Real Estate Funds	921,381,607	2.04	928,593,002	1.86
Non-Core Intl Real Estate	150,739,511	0.33	206,974,024	0.41
Rockwood Fund VIII	61,273	0.00	10,993	0.00
Almanac ARS V	132,586	0.00	122,274	0.00
<b>Alternatives Investments</b>	<b>2,813,944,850</b>	<b>6.23</b>	<b>3,185,071,765</b>	<b>6.39</b>
<b>Absolute Return</b>	<b>262,168</b>	<b>0.00</b>	<b>178,877</b>	<b>0.00</b>
Aurora Investment	262,168	0.00	178,877	0.00

# Investment Manager Asset Allocation

Periods Ended December 31, 2020

	Sep-2020		Dec-2020	
	\$	%	\$	%
<b>Private Equity</b>	<b>2,327,565,327</b>	<b>5.15</b>	<b>2,677,935,501</b>	<b>5.37</b>
<b>Abbott S/A Comp.</b>	<b>382,260,962</b>	<b>0.85</b>	<b>395,861,433</b>	<b>0.79</b>
Muller Monroe MPEFF	4,707,209	0.01	3,777,402	0.01
<b>Pantheon S/A Comp.</b>	<b>247,341,852</b>	<b>0.55</b>	<b>287,747,121</b>	<b>0.58</b>
Private Equity Fund - Domestic	1,324,410,427	2.93	1,570,645,561	3.15
Private Equity Fund - International	348,049,166	0.77	387,317,574	0.78
Oakbrook Opportunities Fund	20,795,710	0.05	32,586,410	0.07
<b>Private Credit</b>	<b>143,598,103</b>	<b>0.32</b>	<b>156,369,215</b>	<b>0.31</b>
Private Credit Fund - Domestic	143,598,103	0.32	156,369,215	0.31
<b>Agriculture</b>	<b>210,733,027</b>	<b>0.47</b>	<b>217,350,363</b>	<b>0.44</b>
Premiere Partners IV	210,733,027	0.47	217,350,363	0.44
<b>Timberland</b>	<b>76,694,130</b>	<b>0.17</b>	<b>75,287,900</b>	<b>0.15</b>
Forest Investment	76,694,130	0.17	75,287,900	0.15
<b>Unlisted Infrastructure</b>	<b>55,092,095</b>	<b>0.12</b>	<b>57,949,909</b>	<b>0.12</b>
Unlisted Infrastructure Funds	55,092,095	0.12	57,949,909	0.12
<b>Cash &amp; Equivalents</b>	<b>265,617,801</b>	<b>0.59</b>	<b>226,342,503</b>	<b>0.45</b>
<b>Total Fund</b>	<b>45,179,189,826</b>	<b>100.00</b>	<b>49,882,412,771</b>	<b>100.00</b>



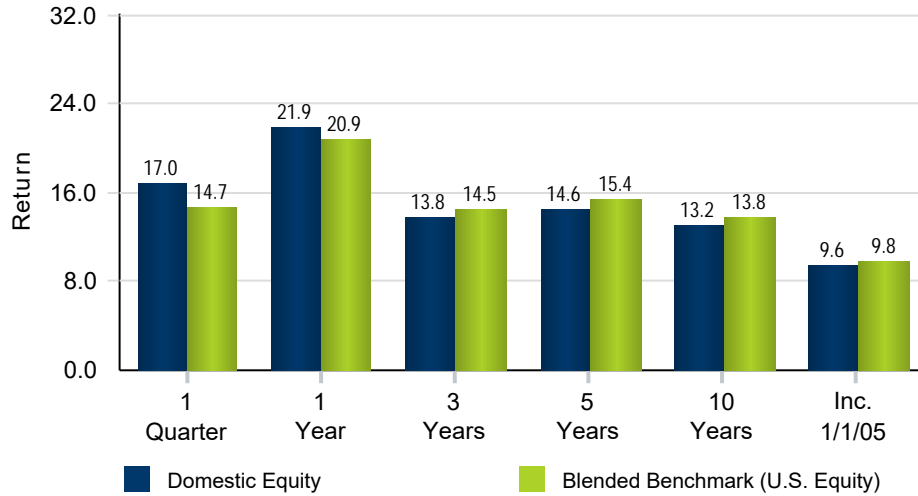
# Domestic Equity

# Composite Performance Summary

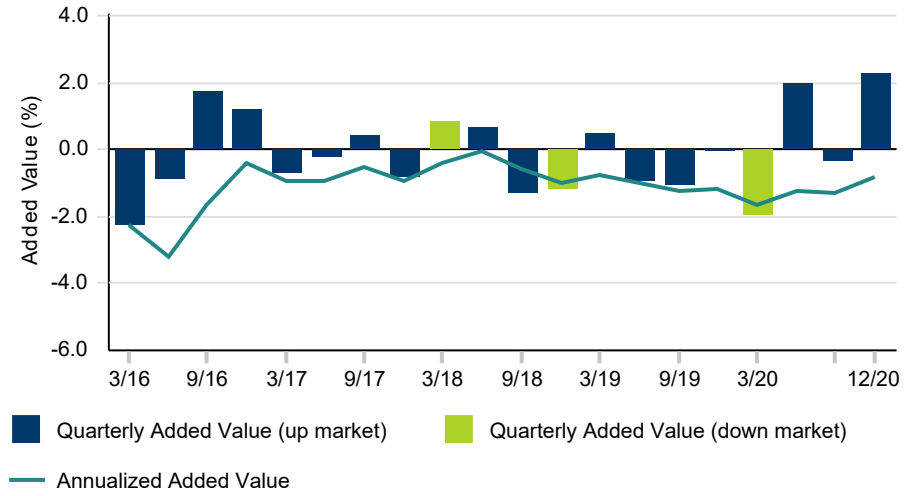
Domestic Equity

Periods Ended December 31, 2020

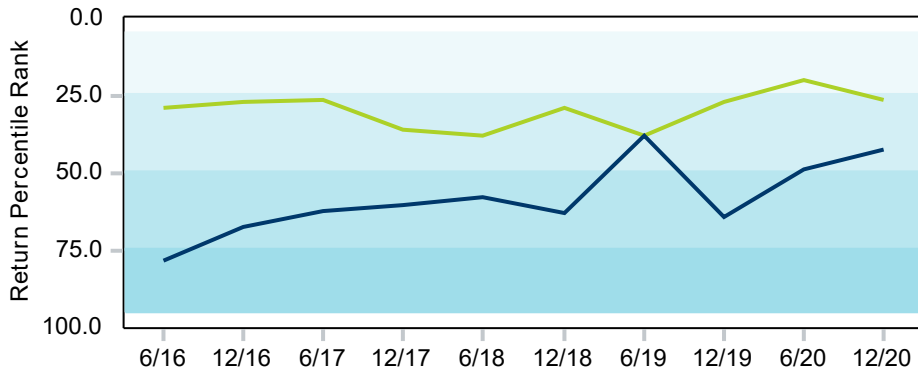
Comparative Performance



Added Value History

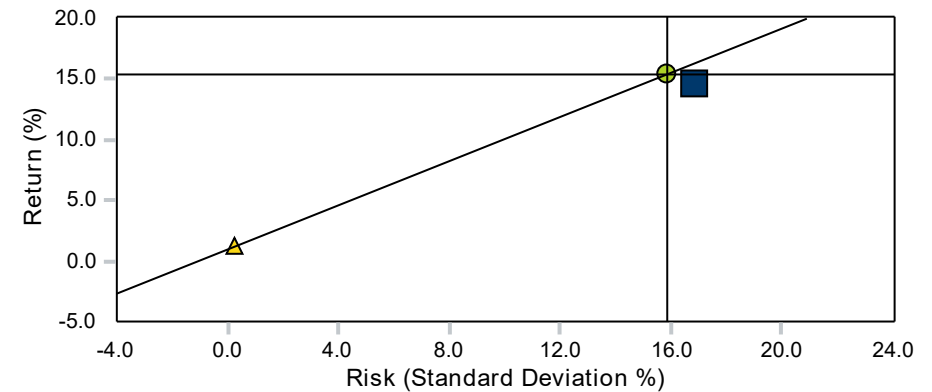


Rolling Percentile Rank: All Public Plans > \$1B-US Equity Segment



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Domestic Equity	10	0 (0%)	3 (30%)	6 (60%)	1 (10%)
Benchmark	10	1 (10%)	9 (90%)	0 (0%)	0 (0%)

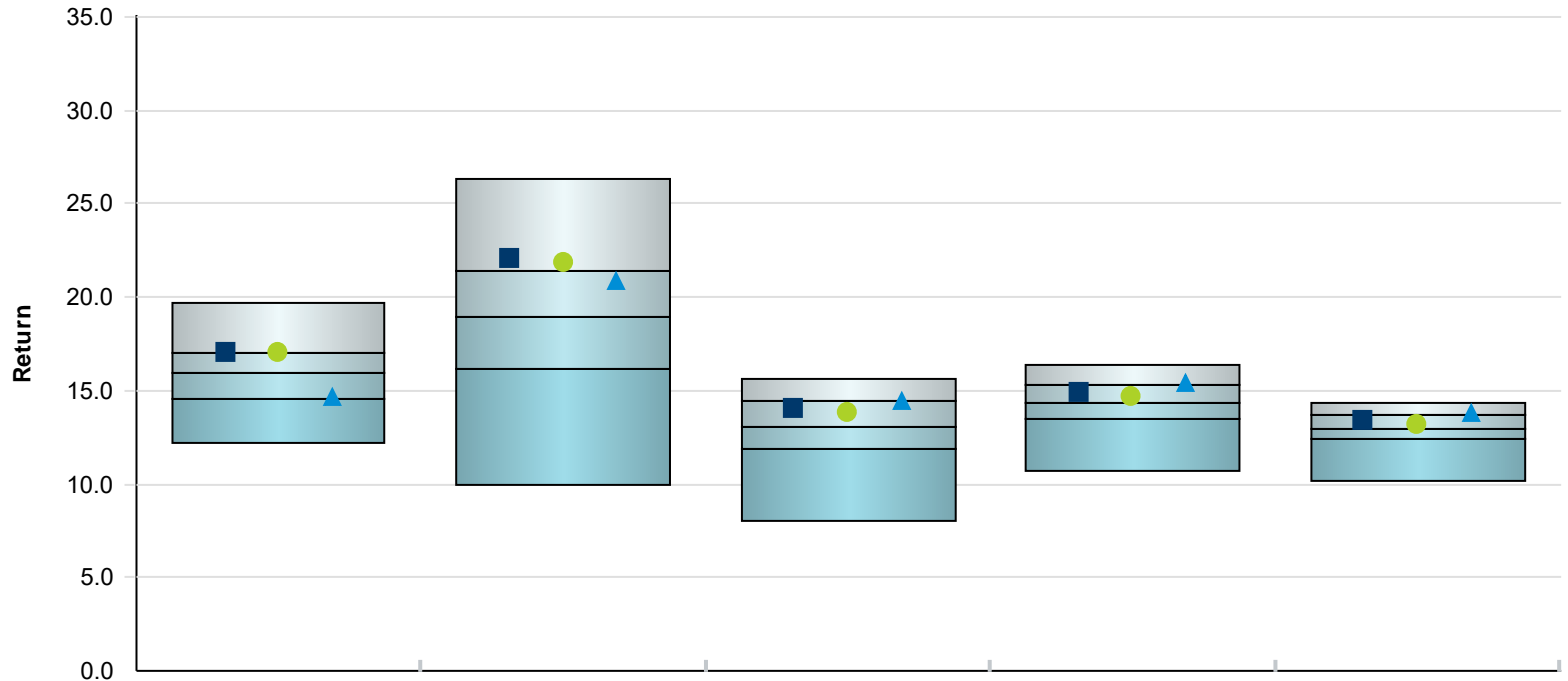
Risk and Return 01/1/16 - 12/31/20



- Domestic Equity (Blue square)
- Blended Benchmark (U.S. Equity) (Green circle)
- 90 Day US Treasury Bill (Yellow triangle)

# Plan Sponsor Peer Group Analysis

Domestic Equity vs All Public Plans > \$1B-US Equity Segment(Gross)  
 Periods Ended December 31, 2020



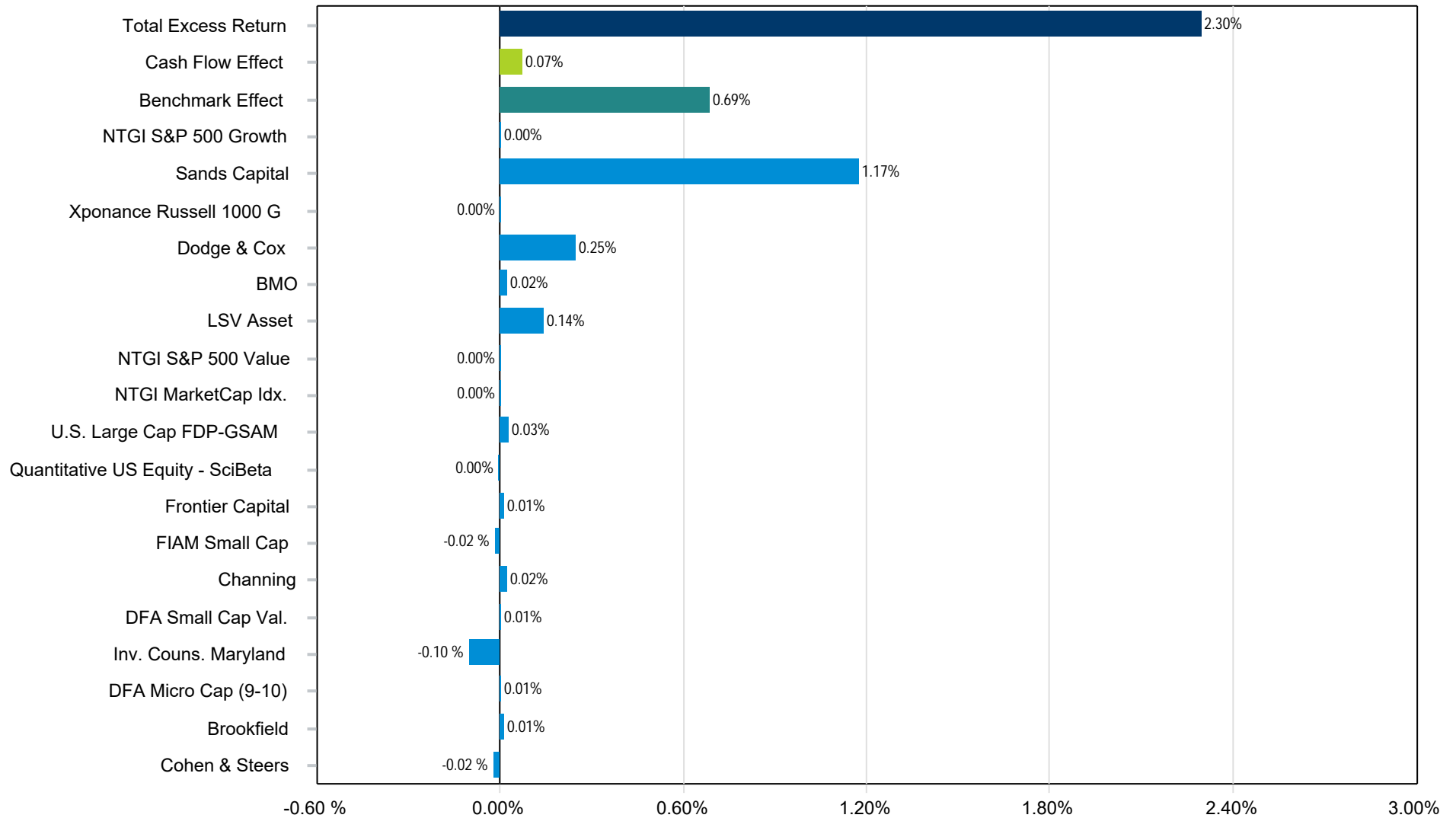
	QTD	1 Year	3 Years	5 Years	10 Years
■ Domestic Equity	17.02 (24)	22.07 (21)	14.00 (37)	14.87 (34)	13.42 (38)
● Domestic Equity - Net	16.98 (26)	21.86 (22)	13.80 (42)	14.64 (43)	13.17 (44)
▲ Blended Benchmark (U.S. Equity)	14.68 (74)	20.89 (29)	14.49 (26)	15.43 (23)	13.78 (25)
5th Percentile	19.68	26.36	15.62	16.42	14.33
1st Quartile	16.99	21.45	14.50	15.26	13.75
Median	15.90	18.92	13.04	14.37	13.00
3rd Quartile	14.59	16.14	11.92	13.54	12.41
95th Percentile	12.25	10.00	8.00	10.68	10.15
Population	59	55	50	48	32

# Asset Class Attribution

Domestic Equity

Periods Ended 1 Quarter Ending December 31, 2020

1 Quarter



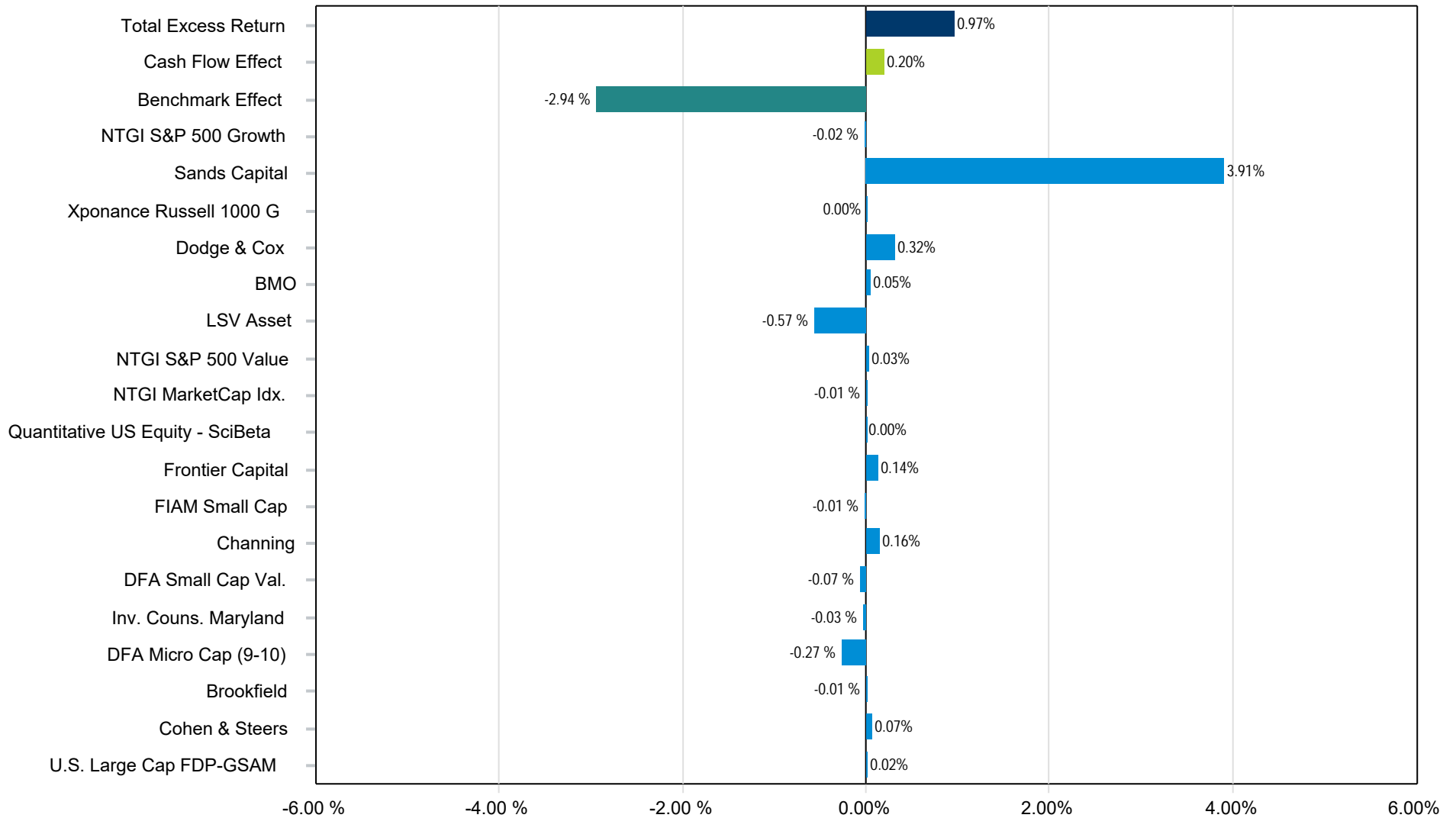


# Asset Class Attribution

## Domestic Equity

Periods Ended Year To Date Ending December 31, 2020

Year To Date



# Wilshire Consulting Performance

Domestic Equity  
Periods Ended December 31, 2020

	Market Value \$	Performance (%)						
		1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Domestic Equity</b>	<b>21,463,906,127</b>	<b>17.02 (24)</b>	<b>22.07 (21)</b>	<b>14.00 (37)</b>	<b>14.87 (34)</b>	<b>13.42 (38)</b>	<b>11.92</b>	<b>1/1/1982</b>
Domestic Equity - Net		16.98 (26)	21.86 (22)	13.80 (42)	14.64 (43)	13.17 (44)		
Blended Benchmark (U.S. Equity)		14.68 (74)	20.89 (29)	14.49 (26)	15.43 (23)	13.78 (25)		
Russell 3000 Index		14.68 (74)	20.89 (29)	14.49 (26)	15.43 (23)	13.79 (25)	11.82	
<b>Large Cap Equity</b>	<b>16,709,560,931</b>	<b>15.21 (16)</b>	<b>25.14 (3)</b>	<b>15.51 (7)</b>	<b>15.90 (7)</b>	<b>14.27 (5)</b>	<b>11.68 (36)</b>	<b>1/1/1982</b>
Large Cap Equity - Net		15.19 (16)	25.03 (3)	15.41 (7)	15.78 (8)	14.12 (6)		
Russell 1000 Index		13.69 (31)	20.96 (15)	14.82 (12)	15.60 (10)	14.01 (7)	11.96 (26)	
<b>Large Cap Growth</b>	<b>8,609,247,538</b>	<b>13.93 (27)</b>	<b>48.58 (16)</b>	<b>26.89 (12)</b>	<b>21.68 (17)</b>	<b>17.42 (17)</b>	<b>12.86 (18)</b>	<b>1/1/1982</b>
Large Cap Growth - Net		13.91 (27)	48.46 (16)	26.77 (13)	21.55 (17)	17.26 (19)		
LCG Blended Benchmark*		11.39 (59)	38.49 (35)	22.99 (35)	21.00 (21)	17.21 (20)		
Russell 1000 Growth Index		11.39 (59)	38.49 (35)	22.99 (35)	21.00 (21)	17.21 (20)	11.95 (39)	
NTGI S&P 500 Growth	3,228,524,751	10.67 (68)	33.32 (57)	20.45 (56)	18.94 (47)	16.48 (31)	9.43 (37)	8/1/2001
NTGI S&P 500 Growth - Net		10.67 (68)	33.32 (57)	20.44 (56)	18.94 (47)	16.47 (31)		
S&P 500 Growth		10.66 (68)	33.47 (57)	20.51 (55)	18.98 (46)	16.49 (31)	9.40 (38)	
Xponance Russell 1000 G	1,927,873,611	11.39 (59)	38.48 (35)				22.83 (29)	10/1/2018
Xponance Russell 1000 G - Net		11.39 (59)	38.45 (35)				22.81 (29)	
Russell 1000 Growth Index		11.39 (59)	38.49 (35)				22.85 (29)	
Sands Capital	3,452,849,176	18.22 (5)	71.06 (5)	34.78 (4)	25.39 (5)	20.46 (3)	15.24 (2)	11/1/2003
Sands Capital - Net		18.16 (6)	70.73 (5)	34.50 (4)	25.12 (6)	20.19 (4)		
LCG Blended Benchmark*		11.39 (59)	38.49 (35)	22.99 (35)	21.00 (21)	17.21 (20)	11.84 (29)	
Russell 1000 Growth Index		11.39 (59)	38.49 (35)	22.99 (35)	21.00 (21)	17.21 (20)	11.89 (28)	
<b>Large Cap Value</b>	<b>4,054,025,952</b>	<b>17.56 (32)</b>	<b>2.52 (53)</b>	<b>5.40 (56)</b>	<b>10.17 (32)</b>	<b>11.33 (12)</b>	<b>10.22 (76)</b>	<b>10/1/1982</b>
Large Cap Value - Net		17.52 (32)	2.38 (54)	5.24 (59)	9.99 (35)	11.15 (16)		
LCV Blended Benchmark**		16.25 (41)	2.80 (49)	6.07 (45)	9.74 (41)	10.50 (31)		
Russell 1000 Value Index		16.25 (41)	2.80 (49)	6.07 (45)	9.74 (41)	10.50 (31)	11.68 (2)	

\* The LCG Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Growth Index.

\*\* The LCV Blended Benchmark is currently the Russell 1000 Value Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Value Index.

\*\*\* Public Real Assets benchmark is 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index.

# Wilshire Consulting Performance

## Domestic Equity

Periods Ended December 31, 2020

	Market Value \$	Performance (%)						
		1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Dodge & Cox	1,461,604,174	20.10 (16)	7.11 (16)	7.42 (21)	12.26 (6)	12.21 (3)	9.62 (6)	9/1/2003
Dodge & Cox - Net		20.03 (16)	6.88 (17)	7.19 (24)	12.02 (8)	11.97 (3)		
LCV Blended Benchmark**		16.25 (41)	2.80 (49)	6.07 (45)	9.74 (41)	10.50 (31)	8.30 (39)	
Russell 1000 Value Index		16.25 (41)	2.80 (49)	6.07 (45)	9.74 (41)	10.50 (31)	8.45 (32)	
BMO	74,927,467	16.90 (37)	4.13 (34)	3.82 (79)	8.83 (65)	11.06 (18)	7.93 (8)	2/1/2001
BMO - Net		16.87 (37)	4.09 (34)	3.65 (81)	8.63 (69)	10.84 (21)		
LCV Blended Benchmark**		16.25 (41)	2.80 (49)	6.07 (45)	9.74 (41)	10.50 (31)	5.90 (69)	
Russell 1000 Value Index		16.25 (41)	2.80 (49)	6.07 (45)	9.74 (41)	10.50 (31)	6.83 (36)	
LSV Asset	1,228,327,832	18.95 (21)	-1.68 (86)	3.39 (83)	9.19 (56)	11.27 (13)	10.42 (5)	2/1/2003
LSV Asset - Net		18.86 (22)	-1.93 (88)	3.14 (85)	8.93 (63)	11.00 (19)		
LCV Blended Benchmark**		16.25 (41)	2.80 (49)	6.07 (45)	9.74 (41)	10.50 (31)	9.15 (33)	
Russell 1000 Value Index		16.25 (41)	2.80 (49)	6.07 (45)	9.74 (41)	10.50 (31)	9.16 (33)	
NTGI S&P 500 Value	1,289,166,479	14.46 (63)	1.61 (61)	6.89 (29)	10.63 (23)	10.83 (21)	6.11 (63)	8/1/1999
NTGI S&P 500 Value - Net		14.46 (63)	1.60 (61)	6.88 (29)	10.62 (23)	10.82 (22)		
S&P 500 Value		14.49 (63)	1.36 (64)	6.78 (31)	10.52 (25)	10.74 (23)	6.08 (65)	
Large Cap Pass. Core	2,948,174,624	14.75 (17)	20.75 (29)	14.43 (38)	15.43 (32)	13.81 (41)	11.54 (71)	1/1/1985
Large Cap Pass. Core - Net		14.75 (17)	20.75 (29)	14.42 (38)	15.42 (32)	13.81 (41)		
Dow Jones US Total Stock Market Index		14.76 (17)	20.79 (29)	14.41 (38)	15.36 (33)	13.74 (43)		
NTGI MarketCap Idx.	2,948,174,624	14.75 (17)	20.75 (29)	14.43 (38)	15.43 (32)	13.81 (41)	11.32 (69)	2/1/1985
NTGI MarketCap Idx. - Net		14.75 (17)	20.75 (29)	14.42 (38)	15.42 (32)	13.81 (41)		
Dow Jones US Total Stock Market Index		14.76 (17)	20.79 (29)	14.41 (38)	15.36 (33)	13.74 (43)		
Factor Diversity Strategies	1,098,112,816	14.83					13.78	8/18/2020

\* The LCV Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Growth Index.

\*\* The LCV Blended Benchmark is currently the Russell 1000 Value Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Value Index.

\*\*\* Public Real Assets benchmark is 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index.

# Wilshire Consulting Performance

## Domestic Equity

Periods Ended December 31, 2020

	Market Value \$	Performance (%)						
		1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
U.S. Large Cap FDP-GSAM	1,098,112,816	14.83					13.78	8/18/2020
U.S. Large Cap FDP-GSAM - Net		14.81					13.74	
Solactive GBS U.S. 1000 Index		13.87					13.52	
GSAM Active Beta US. Large Cap FDC Index		14.69					13.63	
<b>Quantitative Factor Strategies</b>	<b>1,046,216,386</b>	<b>12.28</b>	<b>8.86</b>				<b>11.04</b>	<b>9/17/2019</b>
Quantitative US Equity - SciBeta	1,046,216,386	12.28	8.86				11.04	9/17/2019
Quantitative US Equity - SciBeta - Net		12.20	8.37				10.67	
SciBeta US Hi-Fctr-Intst Div Multi-Beta Multi-Strat Index		12.54	8.32				10.36	

\* The LCG Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Growth Index.

\*\* The LCV Blended Benchmark is currently the Russell 1000 Value Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Value Index.

\*\*\* Public Real Assets benchmark is 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index.

# Wilshire Consulting Performance

Domestic Equity  
Periods Ended December 31, 2020

	Market Value \$	Performance (%)						
		1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Small Cap</b>	<b>3,024,559,969</b>	<b>31.61 (27)</b>	<b>15.02 (48)</b>	<b>9.34 (45)</b>	<b>11.68 (57)</b>	<b>10.90 (61)</b>	<b>12.22 (50)</b>	<b>7/1/1988</b>
Small Cap Composite - Net		31.48 (28)	14.32 (50)	8.76 (47)	11.08 (62)	10.31 (68)		
Russell 2000 Index		31.37 (30)	19.96 (38)	10.25 (42)	13.26 (43)	11.20 (55)	9.79 (93)	
<b>Small Cap Growth</b>	<b>1,036,204,380</b>	<b>29.99 (19)</b>	<b>35.29 (54)</b>	<b>19.59 (43)</b>	<b>16.23 (64)</b>	<b>13.73 (55)</b>	<b>13.69 (3)</b>	<b>7/1/1988</b>
Small Cap Growth - Net		29.86 (20)	34.14 (58)	18.88 (47)	15.59 (70)	13.10 (66)		
Russell 2000 Growth Index		29.61 (23)	34.63 (56)	16.20 (60)	16.36 (62)	13.48 (59)	8.98 (100)	
Frontier Capital	865,833,273	30.14 (18)	40.17 (39)	24.48 (26)	20.35 (29)	14.52 (40)	14.10 (1)	8/1/1988
Frontier Capital - Net		29.99 (19)	38.68 (43)	23.51 (28)	19.51 (35)	13.80 (54)		
Russell 2000 Growth Index		29.61 (23)	34.63 (56)	16.20 (60)	16.36 (62)	13.48 (59)	9.07 (99)	
FIAM Small Cap	170,371,107	29.39 (27)	19.16 (90)	13.15 (75)	11.90 (94)	12.59 (73)	13.73 (4)	8/1/1988
FIAM Small Cap - Net		29.39 (27)	19.02 (90)	12.84 (76)	11.50 (95)	12.07 (79)		
Russell 2000 Index		31.37 (11)	19.96 (89)	10.25 (89)	13.26 (85)	11.20 (90)	9.85 (86)	
Russell 2000 Growth Index		29.61 (23)	34.63 (56)	16.20 (60)	16.36 (62)	13.48 (59)	9.07 (99)	
<b>Small Cap Value</b>	<b>1,668,609,553</b>	<b>32.43 (48)</b>	<b>6.10 (27)</b>	<b>4.06 (23)</b>	<b>9.95 (18)</b>	<b>9.71 (11)</b>	<b>11.55 (1)</b>	<b>9/1/1989</b>
Small Cap Value - Net		32.30 (49)	5.55 (31)	3.53 (28)	9.37 (26)	9.17 (19)		
Russell 2000 Value Index		33.36 (34)	4.63 (39)	3.72 (27)	9.65 (22)	8.66 (33)	9.86 (46)	
Channing	284,485,075	35.70 (14)	17.43 (5)	7.27 (5)	11.48 (6)		11.07 (2)	7/1/2011
Channing - Net		35.55 (14)	16.85 (5)	6.73 (8)	10.92 (9)		10.48 (4)	
Russell 2000 Value Index		33.36 (34)	4.63 (39)	3.72 (27)	9.65 (22)		8.71 (30)	
DFA Small Cap Val.	623,763,500	33.77 (28)	3.47 (52)	1.66 (62)	7.87 (53)	8.91 (24)	11.46 (1)	2/1/1996
DFA Small Cap Val. - Net		33.63 (31)	2.98 (57)	1.16 (71)	7.32 (66)	8.38 (42)		
Russell 2000 Value Index		33.36 (34)	4.63 (39)	3.72 (27)	9.65 (22)	8.66 (33)	9.34 (63)	

\* The LCG Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Growth Index.

\*\* The LCV Blended Benchmark is currently the Russell 1000 Value Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Value Index.

\*\*\* Public Real Assets benchmark is 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index.

# Wilshire Consulting Performance

## Domestic Equity

Periods Ended December 31, 2020

	Market Value \$	Performance (%)						
		1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Inv. Couns. Maryland	760,360,978	30.19 (62)	4.50 (41)	5.00 (17)	11.60 (6)	10.51 (3)	11.23 (8)	5/1/1999
Inv. Couns. Maryland - Net		30.07 (63)	3.91 (47)	4.45 (19)	10.99 (9)	9.99 (8)		
Russell 2000 Value Index		33.36 (34)	4.63 (39)	3.72 (27)	9.65 (22)	8.66 (33)	8.88 (68)	
<b>Micro Cap</b>	<b>319,746,036</b>	<b>31.90 (25)</b>	<b>9.23 (66)</b>	<b>5.26 (70)</b>	<b>8.95 (84)</b>	<b>9.03 (88)</b>	<b>11.40 (88)</b>	<b>7/1/1984</b>
Micro Cap - Net	319,746,036	31.72 (27)	8.68 (67)	4.71 (73)	8.33 (89)	8.35 (93)		8/1/1987
Russell Microcap Index		31.39 (30)	20.96 (35)	8.78 (47)	11.89 (54)	10.55 (66)		
DFA Micro Cap (9-10)		31.90 (25)	9.23 (66)	5.82 (67)	11.10 (62)	11.04 (58)	11.06 (64)	
DFA Micro Cap (9-10) - Net		31.72 (27)	8.68 (67)	5.29 (70)	10.54 (67)	10.49 (67)		
Russell 2000 Index		31.37 (30)	19.96 (38)	10.25 (42)	13.26 (43)	11.20 (55)	9.20 (89)	
Russell 2000 Value Index		33.36 (17)	4.63 (79)	3.72 (79)	9.65 (76)	8.66 (92)	9.68 (86)	
<b>Public Real Assets</b>	<b>683,568,840</b>	<b>8.39</b>	<b>-3.73</b>	<b>5.68</b>			<b>5.66</b>	<b>8/1/2017</b>
Public Real Assets - Net	160,119,864	8.28	-4.12	5.21			5.22	8/1/2017
Public Real Assets Benchmark***		8.45	-5.87	3.76			3.64	
Brookfield		10.39	-9.16	2.45			2.02	
Brookfield - Net		10.24	-9.66	1.90			1.51	
Dow Jones Brookfield Global Infrastructure Composi		8.38	-9.51	1.55			1.26	
Cohen & Steers	523,448,976	7.80	-1.31	7.14			7.35	8/1/2017
Cohen & Steers - Net		7.70	-1.68	6.70			6.94	
FTSE GLOBAL CORE INFRASTRUCTURE 50/50 INDEX (Net)		8.47	-4.06	4.85			4.81	

\* The LCG Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Growth Index.

\*\* The LCV Blended Benchmark is currently the Russell 1000 Value Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Value Index.

\*\*\* Public Real Assets benchmark is 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index.



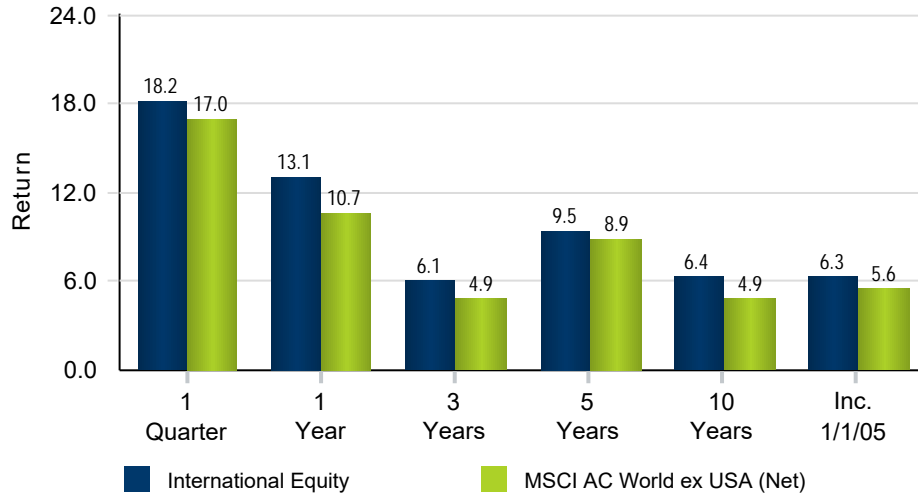
# International Equity

# Composite Performance Summary

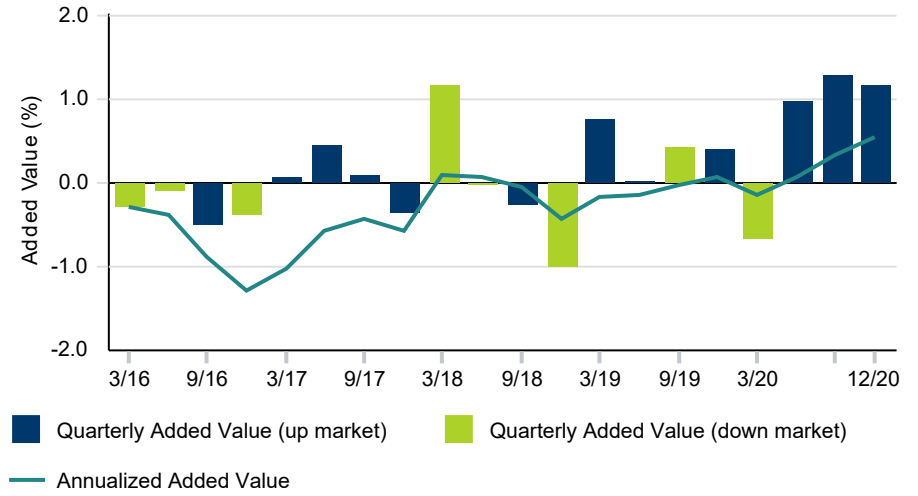
International Equity

Periods Ended December 31, 2020

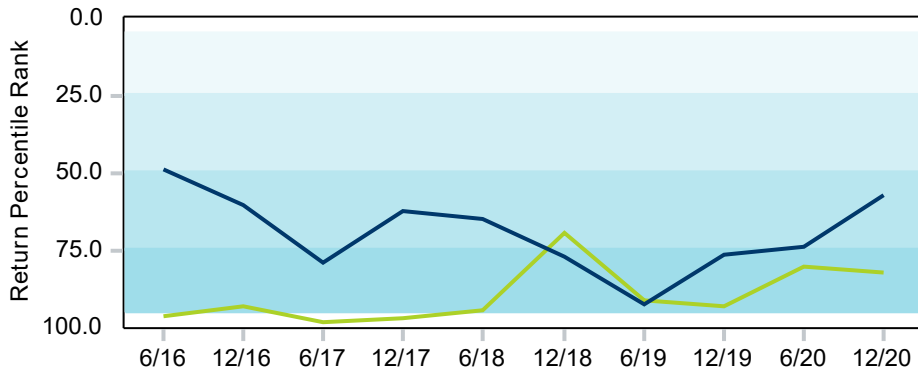
Comparative Performance



Added Value History

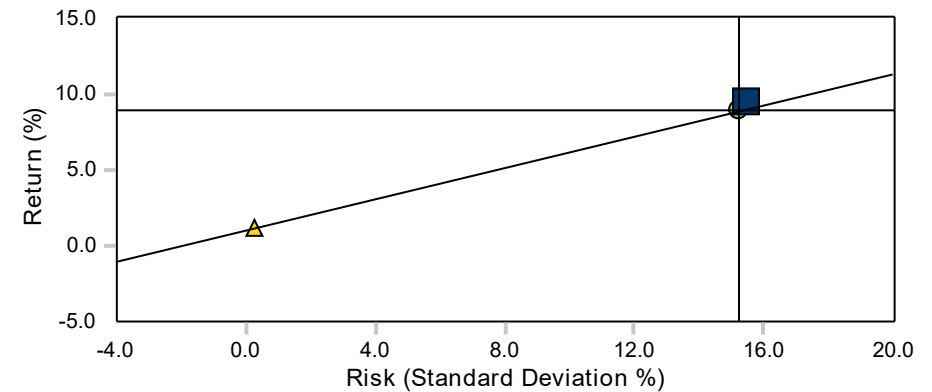


Rolling Percentile Rank: All Public Plans > \$1B-Intl. Equity Segment



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
International Equity	10	0 (0%)	1 (10%)	5 (50%)	4 (40%)
Benchmark	10	0 (0%)	0 (0%)	1 (10%)	9 (90%)

Risk and Return 01/1/16 - 12/31/20



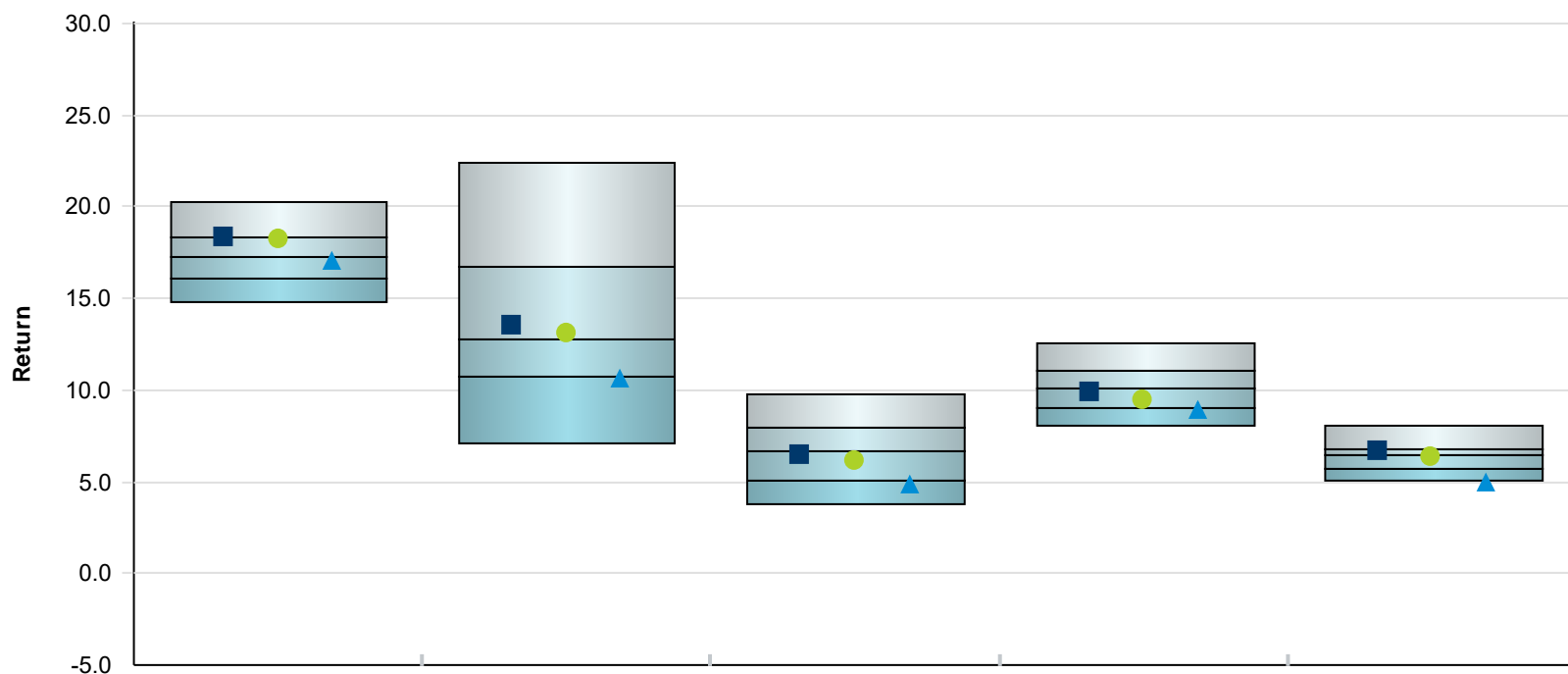
International Equity	MSCI AC World ex USA (Net)
90 Day US Treasury Bill	



# Plan Sponsor Peer Group Analysis

International Equity vs All Public Plans > \$1B-Intl. Equity Segment(Gross)

Periods Ended December 31, 2020



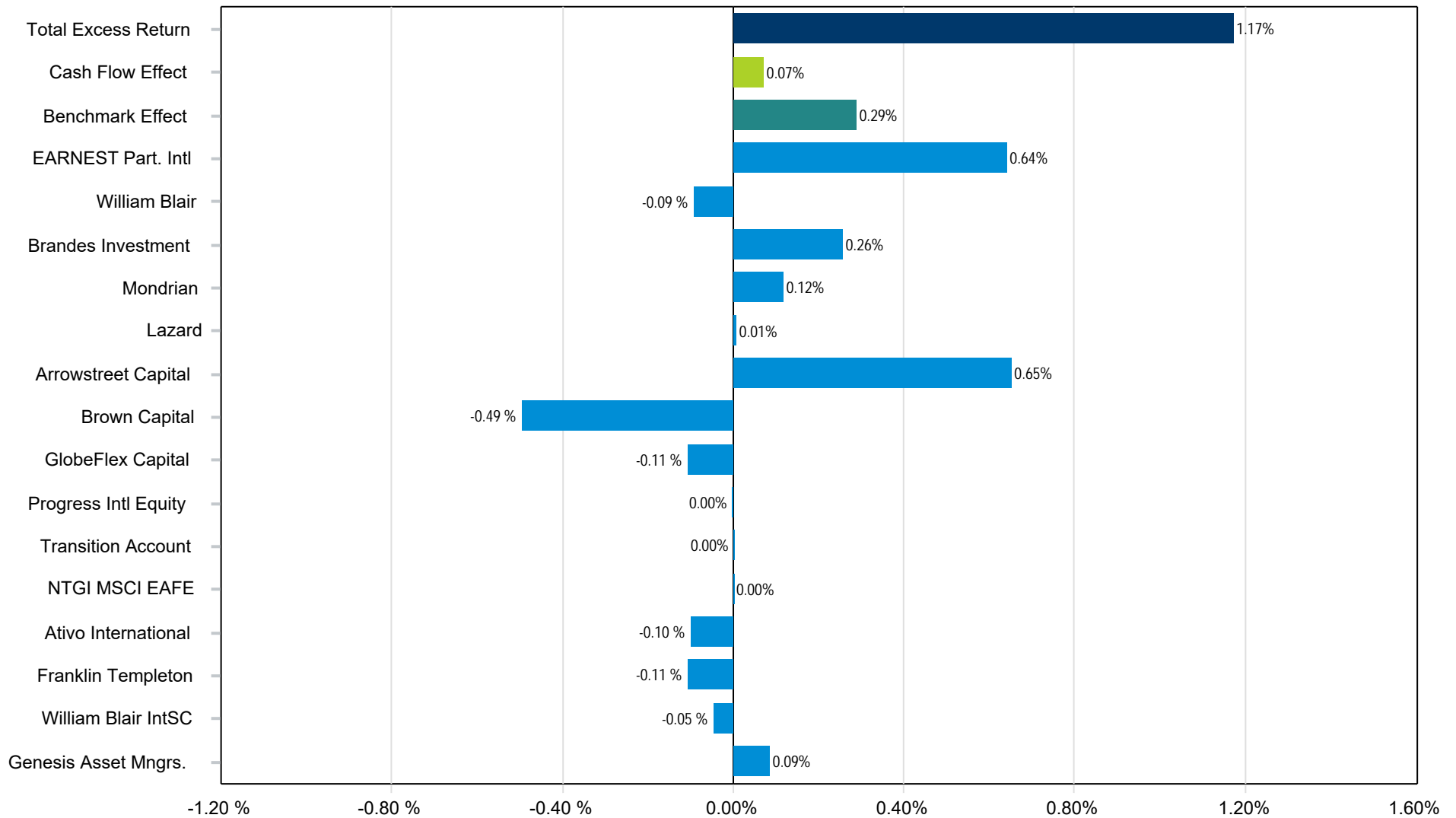
	QTD	1 Year	3 Years	5 Years	10 Years
■ International Equity	18.33 (26)	13.52 (46)	6.45 (52)	9.84 (60)	6.71 (32)
● International Equity - Net	18.19 (30)	13.08 (47)	6.10 (57)	9.47 (68)	6.37 (54)
▲ MSCI AC World ex USA (Net)	17.01 (65)	10.65 (76)	4.88 (82)	8.93 (79)	4.92 (97)
5th Percentile	20.24	22.44	9.74	12.50	8.07
1st Quartile	18.35	16.75	8.00	11.04	6.82
Median	17.31	12.76	6.66	10.12	6.43
3rd Quartile	16.12	10.72	5.09	9.04	5.70
95th Percentile	14.81	7.12	3.74	8.10	5.02
Population	60	58	53	52	33

# Asset Class Attribution

International Equity

Periods Ended 1 Quarter Ending December 31, 2020

1 Quarter

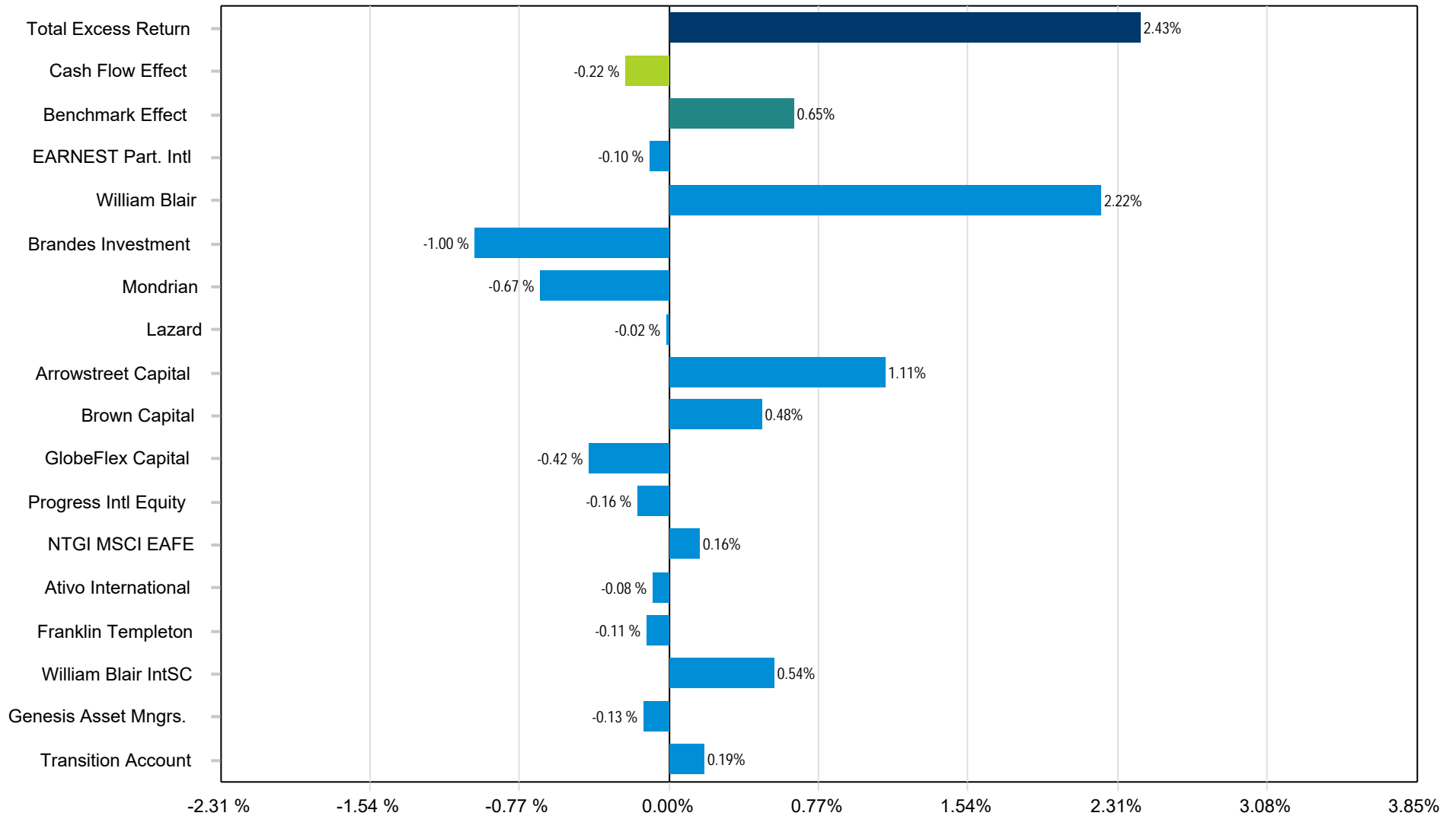


# Asset Class Attribution

International Equity

Periods Ended Year To Date Ending December 31, 2020

Year To Date



# Wilshire Consulting Performance

International Equity  
Periods Ended December 31, 2020

	Market Value \$	Performance (%)						Inception Date
		1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	
<b>International Equity</b>	<b>9,576,479,786</b>	<b>18.33 (26)</b>	<b>13.52 (46)</b>	<b>6.45 (52)</b>	<b>9.84 (60)</b>	<b>6.71 (32)</b>	<b>8.03</b>	<b>9/1/1986</b>
International Equity - Net		18.19 (30)	13.08 (47)	6.10 (57)	9.47 (68)	6.37 (54)		
MSCI AC World ex USA (Net)		17.01 (65)	10.65 (76)	4.88 (82)	8.93 (79)	4.92 (97)		
<b>Intl Large Cap Equity</b>	<b>7,326,413,776</b>	<b>18.24 (30)</b>	<b>12.18 (55)</b>	<b>5.93 (56)</b>	<b>9.20 (52)</b>	<b>6.61 (57)</b>	<b>7.97 (100)</b>	<b>9/1/1986</b>
Intl LargeCap Equity - Net		18.10 (30)	11.83 (56)	5.65 (61)	8.90 (57)	6.33 (61)		
MSCI AC World ex USA (Net)		17.01 (42)	10.65 (59)	4.88 (68)	8.93 (57)	4.92 (87)		
<b>Intl Large Cap Grwth</b>	<b>1,671,253,979</b>	<b>20.32 (7)</b>	<b>24.34 (38)</b>	<b>9.70 (57)</b>	<b>12.09 (49)</b>	<b>7.58 (69)</b>	<b>9.41 (47)</b>	<b>9/1/2002</b>
Intl Large Cap Grwth - Net		20.21 (8)	23.95 (39)	9.42 (60)	11.79 (53)	7.24 (74)		
MSCI AC World ex USA (Net)		17.01 (24)	10.65 (86)	4.88 (88)	8.93 (78)	4.92 (100)	7.67 (99)	
<b>EARNEST Part. Intl</b>	<b>552,926,812</b>	<b>29.30 (1)</b>	<b>9.77 (87)</b>	<b>3.95 (92)</b>	<b>9.42 (73)</b>	<b>5.29 (100)</b>	<b>9.18 (37)</b>	<b>10/1/2004</b>
EARNEST Part. Intl - Net		29.17 (1)	9.48 (88)	3.75 (93)	9.21 (76)	5.00 (100)		
MSCI AC World ex USA (Net)		17.01 (24)	10.65 (86)	4.88 (88)	8.93 (78)	4.92 (100)	6.43 (100)	
MSCI AC World ex USA Growth (Net)		13.92 (66)	22.20 (44)	10.02 (55)	11.97 (50)	6.94 (75)	7.80 (73)	
<b>William Blair</b>	<b>1,118,327,167</b>	<b>16.32 (35)</b>	<b>33.53 (15)</b>	<b>13.55 (18)</b>	<b>13.64 (31)</b>	<b>9.43 (31)</b>	<b>11.10 (25)</b>	<b>10/1/2002</b>
William Blair - Net		16.23 (36)	33.08 (16)	13.16 (23)	13.24 (37)	9.03 (39)		
MSCI AC World ex USA (Net)		17.01 (24)	10.65 (86)	4.88 (88)	8.93 (78)	4.92 (100)	8.37 (98)	
MSCI AC World ex USA Growth (Net)		13.92 (66)	22.20 (44)	10.02 (55)	11.97 (50)	6.94 (75)	9.14 (76)	
<b>Intl Large Cap Val.</b>	<b>1,257,629,247</b>	<b>19.83 (39)</b>	<b>0.49 (76)</b>	<b>1.98 (61)</b>	<b>6.32 (67)</b>	<b>4.72 (81)</b>	<b>8.43 (27)</b>	<b>10/1/1995</b>
Intl Large Cap Val. - Net		19.74 (41)	0.18 (77)	1.65 (65)	5.96 (70)	4.36 (85)		
MSCI AC World ex USA (Net)		17.01 (65)	10.65 (28)	4.88 (39)	8.93 (32)	4.92 (74)	5.60 (100)	
<b>Brandes Investment</b>	<b>530,780,045</b>	<b>21.11 (30)</b>	<b>-2.16 (87)</b>	<b>1.03 (69)</b>	<b>5.51 (79)</b>	<b>4.60 (82)</b>	<b>8.44 (27)</b>	<b>1/1/1996</b>
Brandes Investment - Net		21.04 (30)	-2.37 (87)	0.81 (72)	5.27 (83)	4.36 (85)		
MSCI AC World ex USA (Net)		17.01 (65)	10.65 (28)	4.88 (39)	8.93 (32)	4.92 (74)	5.51 (100)	
MSCI AC World ex USA Value		20.51 (34)	-0.21 (78)	0.19 (82)	6.34 (67)	3.37 (96)		

\* Custom benchmark is calculated as a weighted average of each funds respective benchmark until 12/2017. After 12/2017 the benchmark is MSCI ACWI ex US - Net.

\*\* Genesis is NOF NAV commingled fund.

# Wilshire Consulting Performance

## International Equity

Periods Ended December 31, 2020

	Market Value \$	Performance (%)						Inception Date
		1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	
<b>Mondrian</b>	<b>590,987,037</b>	<b>19.06 (45)</b>	<b>1.49 (72)</b>	<b>2.45 (52)</b>	<b>6.79 (62)</b>		<b>5.59 (76)</b>	<b>4/1/2012</b>
Mondrian - Net		18.93 (45)	1.06 (73)	1.99 (61)	6.28 (67)		5.09 (88)	
MSCI AC World ex USA (Net)		17.01 (65)	10.65 (28)	4.88 (39)	8.93 (32)		6.14 (68)	
MSCI AC World ex USA Value		20.51 (34)	-0.21 (78)	0.19 (82)	6.34 (67)		4.26 (96)	
<b>Lazard</b>	<b>135,862,165</b>	<b>17.53 (60)</b>	<b>9.83 (34)</b>	<b>4.99 (37)</b>	<b>8.24 (43)</b>		<b>7.21 (41)</b>	<b>4/1/2012</b>
Lazard - Net		17.46 (60)	9.55 (34)	4.72 (40)	7.88 (46)		6.71 (56)	
MSCI AC World ex USA (Net)		17.01 (65)	10.65 (28)	4.88 (39)	8.93 (32)		6.14 (68)	
MSCI AC World ex USA Value		20.51 (34)	-0.21 (78)	0.19 (82)	6.34 (67)		4.26 (96)	
<b>Intl Large Cap Active Core</b>	<b>2,303,159,959</b>	<b>17.51 (21)</b>	<b>15.10 (33)</b>	<b>6.88 (33)</b>	<b>10.46 (27)</b>	<b>8.05 (15)</b>	<b>5.99 (16)</b>	<b>2/1/2008</b>
Intl Large Cap Active Core - Net		17.21 (24)	14.37 (35)	6.35 (42)	9.90 (32)	7.50 (29)		
MSCI AC World ex USA (Net)		17.01 (26)	10.65 (52)	4.88 (59)	8.93 (48)	4.92 (98)	3.36 (91)	
<b>Arrowstreet Capital</b>	<b>937,740,929</b>	<b>24.15 (1)</b>	<b>23.62 (10)</b>	<b>10.32 (15)</b>	<b>13.00 (10)</b>	<b>9.12 (3)</b>	<b>6.84 (2)</b>	<b>3/1/2008</b>
Arrowstreet Capital - Net		24.01 (1)	23.05 (11)	9.81 (17)	12.48 (11)	8.61 (9)	6.35 (8)	
MSCI AC World ex USA (Net)		17.01 (26)	10.65 (52)	4.88 (59)	8.93 (48)	4.92 (98)	3.16 (93)	
<b>Brown Capital</b>	<b>613,090,514</b>	<b>10.53 (95)</b>	<b>24.89 (8)</b>	<b>10.95 (14)</b>	<b>10.43 (27)</b>	<b>9.47 (2)</b>	<b>9.07 (1)</b>	<b>10/1/2004</b>
Brown Capital - Net		9.79 (97)	23.83 (10)	10.44 (15)	9.67 (35)	8.65 (9)		
MSCI AC World ex USA (Net)		17.01 (26)	10.65 (52)	4.88 (59)	8.93 (48)	4.92 (98)	6.43 (88)	
<b>GlobeFlex Capital</b>	<b>751,289,770</b>	<b>15.79 (44)</b>	<b>5.25 (86)</b>	<b>1.18 (95)</b>	<b>7.70 (65)</b>	<b>6.40 (63)</b>	<b>5.09 (68)</b>	<b>3/1/2006</b>
GlobeFlex Capital - Net		15.68 (47)	4.80 (88)	0.76 (96)	7.27 (74)	5.97 (81)	4.64 (86)	
MSCI AC World ex USA (Net)		17.01 (26)	10.65 (52)	4.88 (59)	8.93 (48)	4.92 (98)	4.49 (89)	
<b>Progress Intl Equity*</b>	<b>919,025</b>							
Progress Intl Equity - Net								

\* Custom benchmark is calculated as a weighted average of each funds respective benchmark until 12/2017. After 12/2017 the benchmark is MSCI ACWI ex US - Net.

\*\* Genesis is NOF NAV commingled fund.

# Wilshire Consulting Performance

## International Equity

Periods Ended December 31, 2020

	Market Value \$	Performance (%)						Inception Date
		1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	
<b>Intl Large Cap Passive Core</b>	<b>2,094,370,592</b>	<b>16.05 (38)</b>	<b>8.43 (64)</b>	<b>4.79 (61)</b>	<b>7.87 (63)</b>	<b>5.93 (82)</b>	<b>4.26 (98)</b>	<b>2/1/2000</b>
Intl Large Cap Passive Core - Net		16.05 (38)	8.42 (64)	4.78 (62)	7.86 (64)	5.92 (82)		
MSCI EAFE Index (Net)		16.05 (38)	7.82 (69)	4.28 (66)	7.45 (69)	5.51 (92)	3.87 (100)	
<b>NTGI MSCI EAFE</b>	<b>2,094,370,592</b>	<b>16.05 (38)</b>	<b>8.43 (64)</b>	<b>4.79 (61)</b>	<b>7.87 (63)</b>	<b>5.93 (82)</b>	<b>4.25 (98)</b>	<b>2/1/2000</b>
NTGI MSCI EAFE - Net		16.05 (38)	8.42 (64)	4.78 (62)	7.86 (64)	5.92 (82)		
MSCI EAFE Index (Net)		16.05 (38)	7.82 (69)	4.28 (66)	7.45 (69)	5.51 (92)	3.87 (100)	
<b>Intl All Cap Developed</b>	<b>153,679,137</b>	<b>10.22 (93)</b>	<b>3.38 (82)</b>				<b>9.55 (73)</b>	<b>2/1/2019</b>
Intl All Cap Developed - Net		10.09 (94)	2.88 (83)				9.08 (74)	
MSCI EAFE + Canada (Net)		15.85 (55)	7.59 (67)				11.41 (65)	
<b>Ativo International</b>	<b>153,679,137</b>	<b>10.22 (93)</b>	<b>3.38 (82)</b>				<b>9.55 (73)</b>	<b>2/1/2019</b>
Ativo International - Net		10.09 (94)	2.88 (83)				9.08 (74)	
MSCI EAFE + Canada (Net)		15.85 (55)	7.59 (67)				11.41 (65)	
<b>Intl Small Cap Eqty</b>	<b>638,774,927</b>	<b>16.46 (57)</b>	<b>22.59 (26)</b>	<b>8.20 (32)</b>	<b>10.93 (47)</b>	<b>8.88 (52)</b>	<b>6.33 (99)</b>	<b>12/1/2005</b>
Intl Small Cap Eqty - Net		16.25 (59)	21.67 (27)	7.39 (39)	10.11 (55)	8.07 (69)		
MSCI AC World ex USA Small Cap (Net)		18.56 (35)	14.24 (53)	4.59 (58)	9.37 (59)	5.95 (95)	6.84 (94)	
Custom Benchmark (Intl Small Cap)		18.56 (35)	14.24 (53)	4.59 (58)	9.37 (59)	6.28 (93)	6.16 (99)	
<b>Franklin Templeton</b>	<b>228,057,930</b>	<b>14.42 (74)</b>	<b>10.27 (69)</b>	<b>4.06 (60)</b>	<b>8.88 (64)</b>		<b>7.14 (84)</b>	<b>8/1/2011</b>
Franklin Templeton - Net		14.21 (79)	9.45 (72)	3.28 (70)	8.08 (80)		6.37 (90)	
MSCI AC World ex USA Small Cap (Net)		18.56 (35)	14.24 (53)	4.59 (58)	9.37 (59)		6.16 (94)	
<b>William Blair IntSC</b>	<b>410,716,996</b>	<b>17.63 (48)</b>	<b>30.70 (17)</b>	<b>10.79 (24)</b>	<b>12.08 (30)</b>	<b>9.89 (30)</b>	<b>11.70 (37)</b>	<b>9/1/2010</b>
William Blair IntSC - Net		17.42 (51)	29.71 (18)	9.95 (25)	11.23 (39)	9.04 (51)	10.85 (47)	
MSCI AC World ex USA Small Cap (Net)		18.56 (35)	14.24 (53)	4.59 (58)	9.37 (59)	5.95 (95)	8.02 (94)	
Custom Benchmark (Intl Small Cap)		18.56 (35)	14.24 (53)	4.59 (58)	9.37 (59)	6.28 (93)	8.31 (92)	

\* Custom benchmark is calculated as a weighted average of each funds respective benchmark until 12/2017. After 12/2017 the benchmark is MSCI ACWI ex US - Net.

\*\* Genesis is NOF NAV commingled fund.

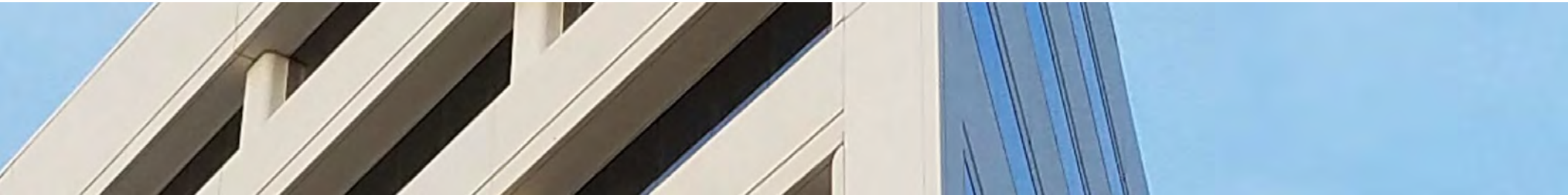
# Wilshire Consulting Performance

International Equity  
Periods Ended December 31, 2020

	Market Value \$	Performance (%)						Inception Date
		1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	
<b>Emerging Mkt Equity</b>	<b>1,457,611,946</b>	<b>20.58 (38)</b>	<b>18.13 (55)</b>	<b>9.17 (35)</b>	<b>14.60 (36)</b>	<b>5.86 (42)</b>	<b>9.55 (37)</b>	<b>2/1/1992</b>
Emerging Mkt Equity - Net		20.41 (39)	17.40 (59)	8.54 (39)	13.93 (43)	5.25 (48)		
MSCI Emerging Markets Index		19.77 (45)	18.69 (51)	6.56 (52)	13.22 (47)	4.00 (68)	7.57 (99)	
<b>Genesis Asset Mngrs.**</b>	<b>1,457,611,946</b>	<b>20.58 (38)</b>	<b>18.13 (55)</b>	<b>9.17 (35)</b>	<b>14.60 (36)</b>	<b>5.86 (42)</b>	<b>11.87 (20)</b>	<b>5/1/2004</b>
Genesis Asset Mngrs. - Net		20.41 (39)	17.40 (59)	8.54 (39)	13.93 (43)	5.25 (48)		
MSCI Emerging Markets Index		19.77 (45)	18.69 (51)	6.56 (52)	13.22 (47)	4.00 (68)	9.60 (76)	

\* Custom benchmark is calculated as a weighted average of each funds respective benchmark until 12/2017. After 12/2017 the benchmark is MSCI ACWI ex US - Net.

\*\* Genesis is NOF NAV commingled fund.



# Fixed Income

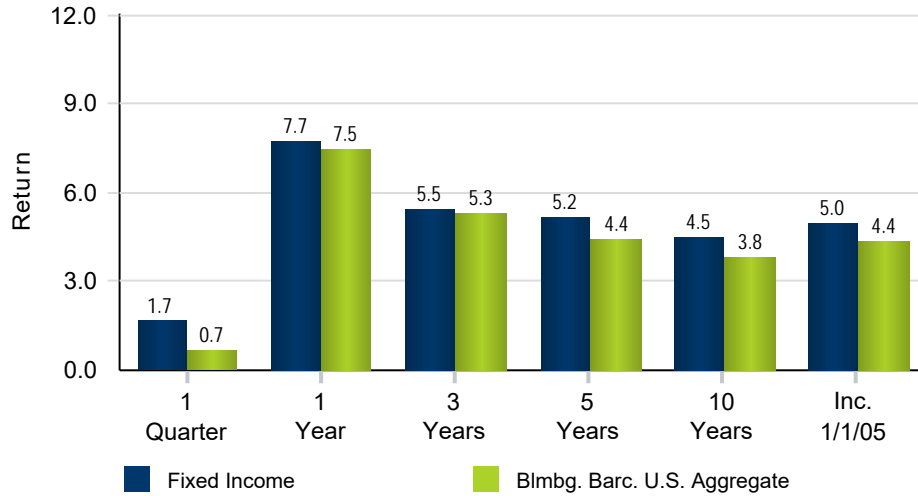


# Composite Performance Summary

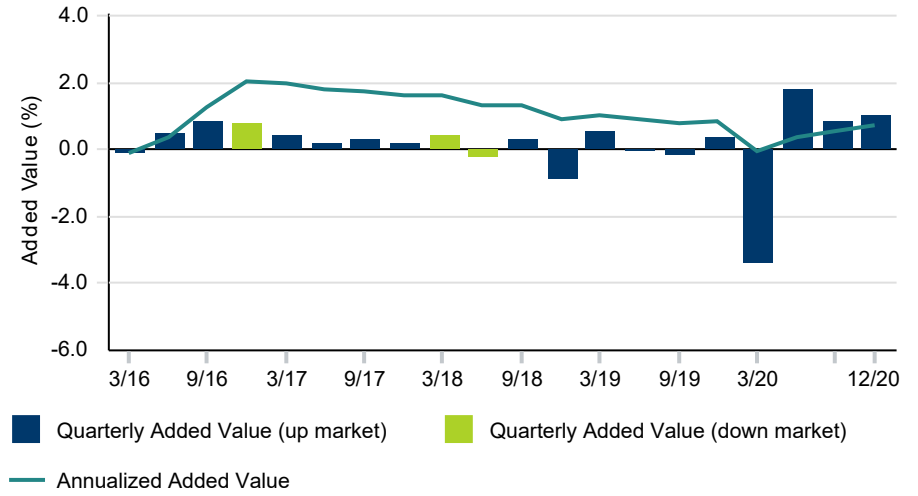
Fixed Income

Periods Ended December 31, 2020

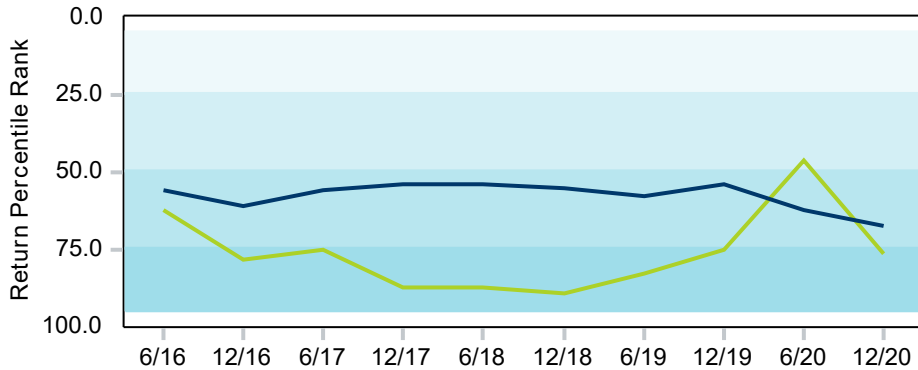
Comparative Performance



Added Value History

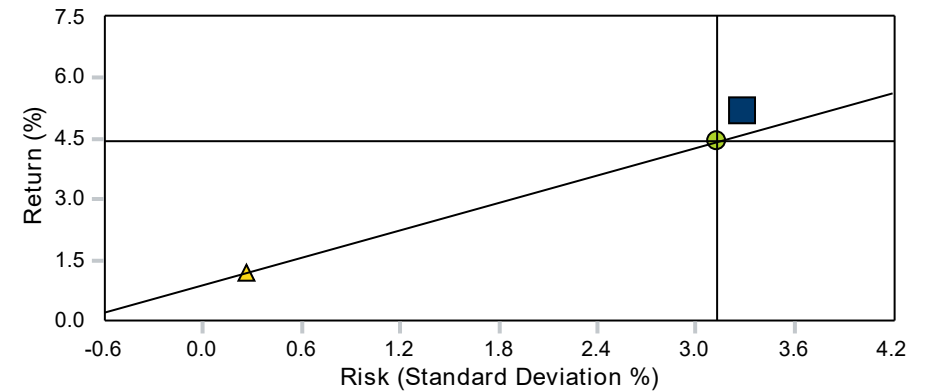


Rolling Percentile Rank: All Public Plans > \$1B-US Fixed Income Segment



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Fixed Income	10	0 (0%)	0 (0%)	10 (100%)	0 (0%)
Benchmark	10	0 (0%)	1 (10%)	3 (30%)	6 (60%)

Risk and Return 01/1/16 - 12/31/20

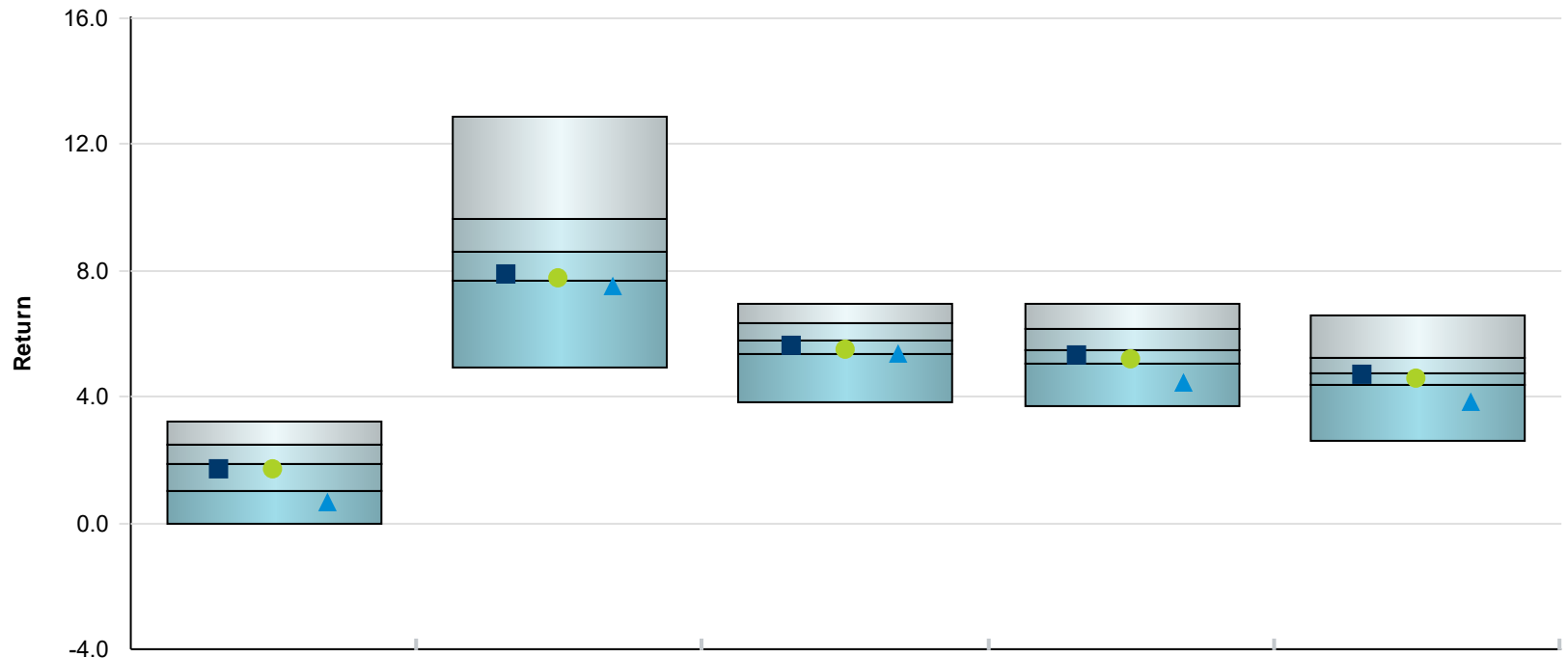


- Fixed Income
- Blmbg. Barc. U.S. Aggregate
- 90 Day US Treasury Bill

# Plan Sponsor Peer Group Analysis

Fixed Income vs All Public Plans > \$1B-US Fixed Income Segment(Gross)

Periods Ended December 31, 2020



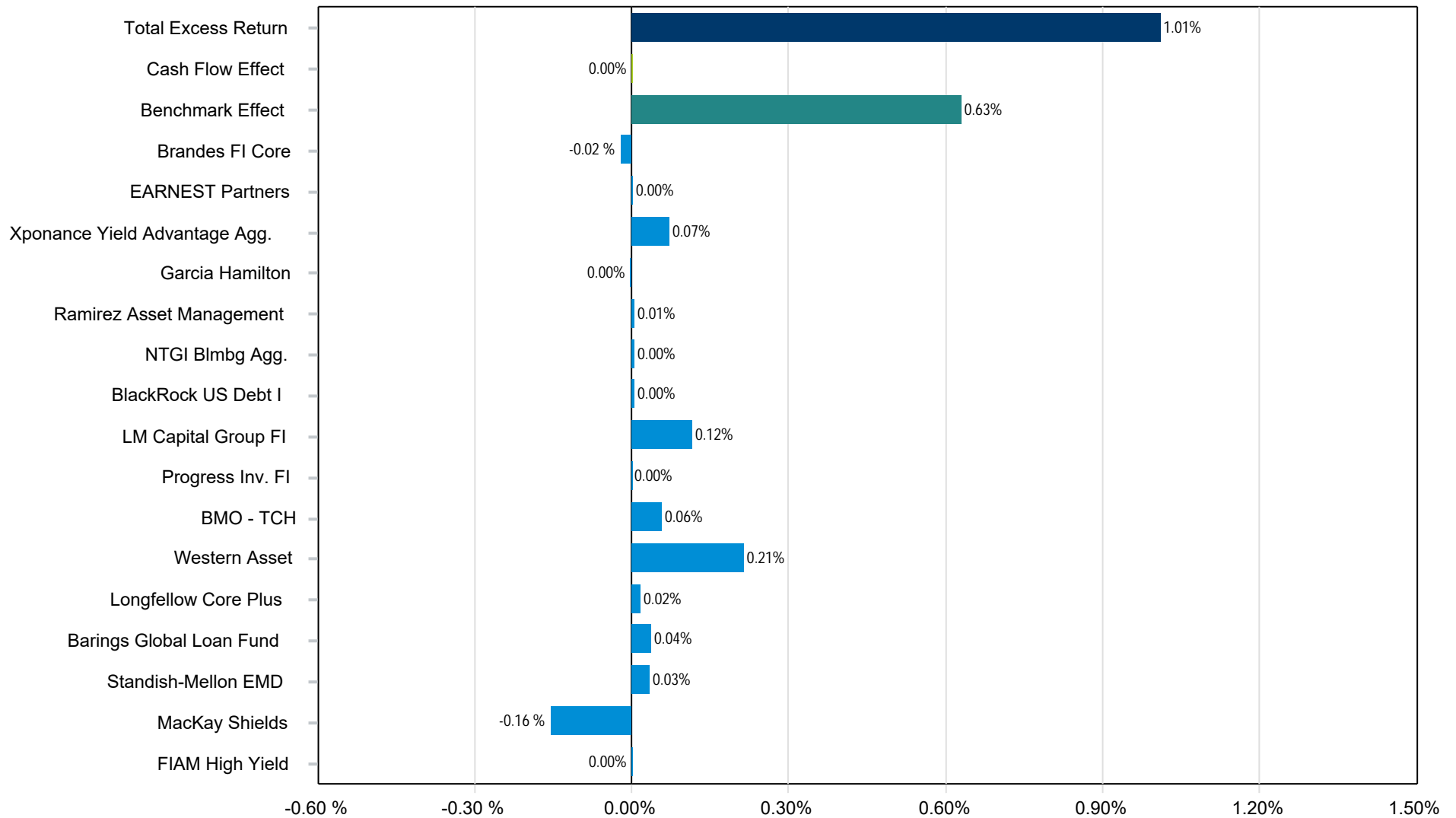
	QTD	1 Year	3 Years	5 Years	10 Years
■ Fixed Income	1.70 (54)	7.87 (73)	5.62 (63)	5.31 (64)	4.69 (52)
● Fixed Income - Net	1.68 (54)	7.75 (75)	5.49 (67)	5.17 (70)	4.54 (62)
▲ Blmbg. Barc. U.S. Aggregate	0.67 (85)	7.51 (77)	5.34 (76)	4.44 (91)	3.84 (85)
5th Percentile	3.20	12.86	6.92	6.93	6.59
1st Quartile	2.48	9.66	6.31	6.16	5.24
Median	1.89	8.58	5.79	5.50	4.72
3rd Quartile	1.00	7.69	5.35	5.04	4.36
95th Percentile	0.00	4.94	3.83	3.70	2.60
Population	63	59	54	52	36

# Asset Class Attribution

Fixed Income

Periods Ended 1 Quarter Ending December 31, 2020

1 Quarter

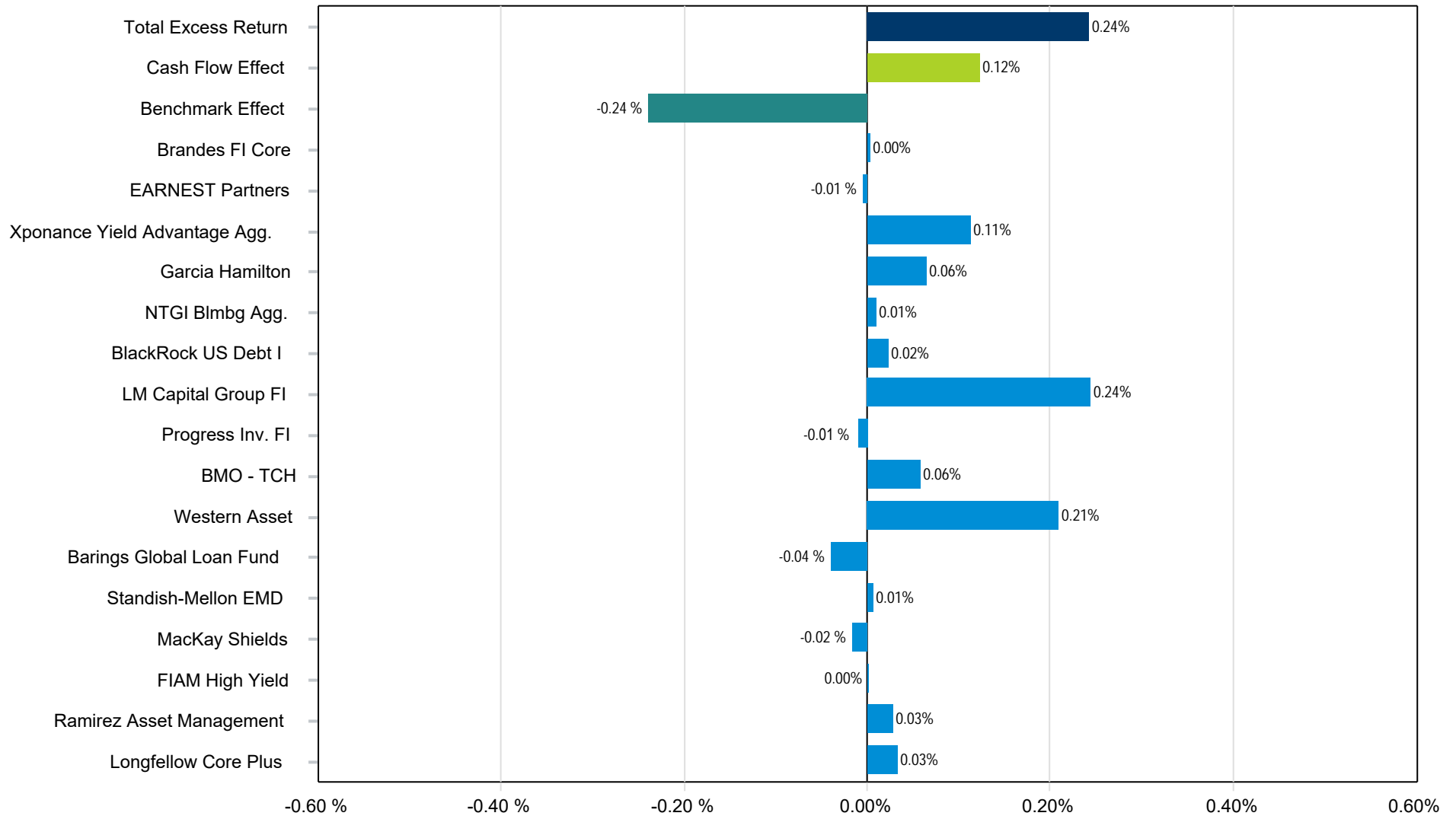


# Asset Class Attribution

Fixed Income

Periods Ended Year To Date Ending December 31, 2020

Year To Date



# Wilshire Consulting Performance

## Fixed Income

Periods Ended December 31, 2020

	Market Value \$	Performance (%)						Inception Date
		1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	
<b>Fixed Income</b>	<b>12,227,353,235</b>	<b>1.70 (54)</b>	<b>7.87 (73)</b>	<b>5.62 (63)</b>	<b>5.31 (64)</b>	<b>4.69 (52)</b>	<b>8.19</b>	<b>1/1/1982</b>
Fixed Income - Net		1.68 (54)	7.75 (75)	5.49 (67)	5.17 (70)	4.54 (62)		
Blmbg. Barc. U.S. Aggregate		0.67 (85)	7.51 (77)	5.34 (76)	4.44 (91)	3.84 (85)	7.66	
<b>Active Fixed Core</b>	<b>3,808,794,036</b>	<b>0.87 (66)</b>	<b>8.25 (61)</b>	<b>5.51 (75)</b>	<b>4.78 (68)</b>	<b>4.38 (53)</b>	<b>4.76 (92)</b>	<b>4/1/2001</b>
Active Fixed Core - Net		0.84 (69)	8.15 (62)	5.41 (84)	4.66 (72)	4.22 (67)		
Blmbg. Barc. U.S. Aggregate		0.67 (83)	7.51 (89)	5.34 (92)	4.44 (92)	3.84 (93)	4.74 (94)	
<b>Brandes FI Core</b>	<b>383,313,604</b>	<b>0.03 (97)</b>	<b>7.63 (81)</b>	<b>5.05 (99)</b>			<b>3.78 (97)</b>	<b>3/1/2016</b>
Brandes FI Core - Net		0.03 (97)	7.63 (81)	5.05 (99)			3.78 (97)	
Blmbg. Barc. U.S. Aggregate		0.67 (83)	7.51 (89)	5.34 (92)			4.14 (90)	
<b>EARNEST Partners</b>	<b>1,046,710,291</b>	<b>0.71 (76)</b>	<b>7.54 (87)</b>	<b>5.44 (81)</b>	<b>4.52 (83)</b>	<b>4.38 (52)</b>	<b>4.79 (59)</b>	<b>5/1/2005</b>
EARNEST Partners - Net		0.68 (83)	7.40 (92)	5.31 (94)	4.37 (94)	4.20 (68)	4.59 (80)	
Blmbg. Barc. U.S. Aggregate		0.67 (83)	7.51 (89)	5.34 (92)	4.44 (92)	3.84 (93)	4.40 (93)	
<b>Xponance Yield Advantage Agg.</b>	<b>1,125,966,650</b>	<b>1.48 (28)</b>	<b>8.79 (42)</b>	<b>5.54 (73)</b>	<b>5.04 (51)</b>	<b>4.33 (55)</b>	<b>4.64 (72)</b>	<b>6/1/2005</b>
Xponance Yield Advantage Agg. - Net		1.44 (30)	8.65 (49)	5.40 (86)	4.89 (61)	4.17 (70)	4.46 (86)	
Blmbg. Barc. U.S. Aggregate		0.67 (83)	7.51 (89)	5.34 (92)	4.44 (92)	3.84 (93)	4.35 (93)	
<b>Garcia Hamilton</b>	<b>1,119,856,879</b>	<b>0.66 (86)</b>	<b>8.28 (61)</b>	<b>5.57 (72)</b>	<b>4.79 (68)</b>		<b>4.30 (59)</b>	<b>6/1/2015</b>
Garcia Hamilton - Net		0.64 (88)	8.19 (61)	5.48 (76)	4.69 (72)		4.21 (68)	
Blmbg. Barc. U.S. Aggregate		0.67 (83)	7.51 (89)	5.34 (92)	4.44 (92)		3.88 (94)	
<b>Ramirez Asset Management</b>	<b>132,946,611</b>	<b>1.22 (40)</b>					<b>6.22 (16)</b>	<b>5/1/2020</b>
Ramirez Asset Management - Net		1.17 (47)					6.14 (16)	
Blmbg. Barc. U.S. Aggregate		0.67 (83)					2.40 (89)	
<b>Pass. Core Fixed Income</b>	<b>3,813,613,446</b>	<b>0.70 (77)</b>	<b>7.62 (81)</b>	<b>5.42 (84)</b>	<b>4.51 (84)</b>	<b>3.89 (87)</b>	<b>5.98 (96)</b>	<b>1/1/1990</b>
Pass. Core Fixed Income - Net		0.70 (78)	7.62 (82)	5.41 (85)	4.50 (84)	3.88 (88)		
Blmbg. Barc. U.S. Aggregate		0.67 (83)	7.51 (89)	5.34 (92)	4.44 (92)	3.84 (93)	5.96 (97)	

Taplin, Canada, Habacht switched from core to core plus effective 10/01/2010.

\* Custom Benchmark is Credit Suisse US Leveraged Loan Index and the Credit Suisse Western European Leveraged Loan Index, weighted by the portfolio's market value to each sector.

\*\* Custom Benchmark is 50% JPM GBI-EM Index, 25% JPM EMBI Global Index and 25% JPM Corporate EMBI Diversified Index.

# Wilshire Consulting Performance

Fixed Income

Periods Ended December 31, 2020

	Market Value \$	Performance (%)						Inception Date
		1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	
<b>BlackRock US Debt I</b>	<b>1,867,344,078</b>	<b>0.70 (77)</b>	<b>7.67 (79)</b>	<b>5.44 (81)</b>	<b>4.55 (80)</b>		<b>4.05 (83)</b>	<b>10/1/2013</b>
BlackRock US Debt I - Net		0.70 (78)	7.66 (79)	5.44 (81)	4.54 (80)		4.05 (83)	
Blmbg. Barc. U.S. Aggregate		0.67 (83)	7.51 (89)	5.34 (92)	4.44 (92)		3.92 (94)	
<b>NTGI Blmbg Agg.</b>	<b>1,946,269,369</b>	<b>0.70 (78)</b>	<b>7.58 (84)</b>	<b>5.39 (87)</b>	<b>4.47 (88)</b>	<b>3.87 (88)</b>	<b>6.03 (96)</b>	<b>2/1/1990</b>
NTGI Blmbg Agg. - Net		0.70 (78)	7.57 (85)	5.39 (88)	4.46 (90)	3.86 (90)	6.03 (96)	
Blmbg. Barc. U.S. Aggregate		0.67 (83)	7.51 (89)	5.34 (92)	4.44 (92)	3.84 (93)	6.02 (96)	
<b>Core Plus Fixed Income</b>	<b>3,002,040,647</b>	<b>2.35 (33)</b>	<b>9.80 (29)</b>	<b>6.29 (45)</b>	<b>5.70 (47)</b>	<b>4.96 (46)</b>	<b>8.10 (100)</b>	<b>1/1/1982</b>
Core Plus Fixed Income - Net		2.31 (35)	9.60 (34)	6.10 (56)	5.51 (54)	4.77 (58)	8.10 (100)	
Blmbg. Barc. U.S. Aggregate		0.67 (96)	7.51 (86)	5.34 (88)	4.44 (95)	3.84 (95)	7.66 (100)	
<b>LM Capital Group FI</b>	<b>986,159,372</b>	<b>2.14 (44)</b>	<b>10.68 (16)</b>	<b>6.21 (49)</b>	<b>5.35 (62)</b>	<b>4.73 (62)</b>	<b>5.25 (59)</b>	<b>5/1/2005</b>
LM Capital Group FI - Net		2.10 (46)	10.50 (17)	6.05 (61)	5.18 (72)	4.56 (74)	5.08 (73)	
Blmbg. Barc. U.S. Aggregate		0.67 (96)	7.51 (86)	5.34 (88)	4.44 (95)	3.84 (95)	4.40 (97)	
<b>Progress Inv. FI</b>	<b>3,800</b>							
Progress Inv. FI - Net								
<b>BMO - TCH</b>	<b>671,046,103</b>	<b>1.73 (60)</b>	<b>8.58 (65)</b>	<b>5.71 (78)</b>	<b>6.01 (33)</b>	<b>5.13 (35)</b>	<b>5.26 (57)</b>	<b>5/1/2005</b>
BMO - TCH - Net		1.69 (62)	8.43 (73)	5.55 (84)	5.87 (37)	4.99 (44)	5.13 (70)	
Blmbg. Barc. U.S. Aggregate		0.67 (96)	7.51 (86)	5.34 (88)	4.44 (95)	3.84 (95)	4.40 (97)	
<b>Western Asset</b>	<b>1,158,645,034</b>	<b>2.98 (23)</b>	<b>9.73 (29)</b>	<b>6.71 (19)</b>	<b>6.32 (23)</b>	<b>5.46 (23)</b>	<b>5.77 (32)</b>	<b>11/1/2001</b>
Western Asset - Net		2.94 (24)	9.59 (34)	6.58 (24)	6.18 (25)	5.32 (26)	5.77 (32)	
Blmbg. Barc. U.S. Aggregate		0.67 (96)	7.51 (86)	5.34 (88)	4.44 (95)	3.84 (95)	4.50 (98)	
<b>Longfellow Core Plus</b>	<b>186,186,338</b>	<b>1.88 (55)</b>					<b>5.62 (63)</b>	<b>5/1/2020</b>
Longfellow Core Plus - Net		1.83 (57)					5.53 (64)	
Blmbg. Barc. U.S. Aggregate		0.67 (96)					2.40 (100)	

Taplin, Canada, Habacht switched from core to core plus effective 10/01/2010.

\* Custom Benchmark is Credit Suisse US Leveraged Loan Index and the Credit Suisse Western European Leveraged Loan Index, weighted by the portfolio's market value to each sector.

\*\* Custom Benchmark is 50% JPM GBI-EM Index, 25% JPM EMBI Global Index and 25% JPM Corporate EMBI Diversified Index.

# Wilshire Consulting

## Performance

Fixed Income

Periods Ended December 31, 2020

	Market Value \$	Performance (%)						
		1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Bank Loans</b>	<b>559,830,899</b>	<b>4.50 (12)</b>	<b>1.88 (68)</b>	<b>3.71 (59)</b>	<b>5.40 (25)</b>		<b>4.26 (23)</b>	<b>8/1/2014</b>
Bank Loans - Net		4.50 (12)	1.88 (68)	3.47 (68)	5.01 (48)		3.82 (56)	
Barings Custom Benchmark		3.68 (29)	3.01 (32)	4.23 (31)	5.32 (33)		4.07 (35)	
<b>Barings Global Loan Fund</b>	<b>559,830,899</b>	<b>4.50 (12)</b>	<b>1.88 (68)</b>	<b>3.71 (59)</b>	<b>5.40 (25)</b>		<b>4.26 (23)</b>	<b>8/1/2014</b>
Barings Global Loan Fund - Net		4.50 (12)	1.88 (68)	3.47 (68)	5.01 (48)		3.82 (56)	
Barings Custom Benchmark*		3.68 (29)	3.01 (32)	4.23 (31)	5.32 (33)		4.07 (35)	
<b>Emerging Markets Debt</b>	<b>237,699,989</b>	<b>9.62 (22)</b>	<b>5.38 (66)</b>	<b>4.14 (74)</b>	<b>7.56 (60)</b>		<b>3.82 (62)</b>	<b>8/1/2014</b>
Emerging Markets Debt - Net		9.52 (23)	5.02 (70)	3.78 (78)	7.19 (72)		3.47 (64)	
Custom Benchmark (EMD)		7.56 (60)	5.00 (70)	4.48 (67)	7.09 (75)		3.19 (69)	
<b>Standish-Mellon EMD</b>	<b>237,699,989</b>	<b>9.62 (22)</b>	<b>5.38 (66)</b>	<b>4.14 (74)</b>	<b>7.56 (60)</b>		<b>3.82 (62)</b>	<b>8/1/2014</b>
Standish EM MRK - Net		9.52 (23)	5.02 (70)	3.78 (78)	7.19 (72)		3.47 (64)	
Custom Benchmark**		7.56 (60)	5.00 (70)	4.48 (67)	7.09 (75)		3.19 (69)	
<b>High Yield</b>	<b>805,374,217</b>	<b>4.08 (93)</b>	<b>6.76 (38)</b>	<b>6.72 (17)</b>	<b>8.70 (19)</b>	<b>7.13 (23)</b>	<b>9.48 (1)</b>	<b>4/1/1986</b>
High Yield - Net		4.00 (93)	6.42 (47)	6.36 (33)	8.33 (41)	6.75 (48)		
ICE BofAML US High Yield, Cash Pay Index		6.45 (46)	6.21 (54)	5.90 (52)	8.41 (37)	6.61 (60)	8.26 (53)	
<b>Mackay Shields</b>	<b>805,330,405</b>	<b>4.08 (93)</b>	<b>6.78 (38)</b>	<b>6.72 (17)</b>	<b>8.88 (14)</b>	<b>7.38 (12)</b>	<b>8.78 (8)</b>	<b>11/1/2000</b>
Mackay Shields - Net		4.00 (93)	6.43 (47)	6.37 (33)	8.51 (30)	7.01 (30)		
ICE BofAML US High Yield, Cash Pay Index		6.45 (46)	6.21 (54)	5.90 (52)	8.41 (37)	6.61 (60)	7.54 (63)	

Taplin, Canada, Habacht switched from core to core plus effective 10/01/2010.

\* Custom Benchmark is Credit Suisse US Leveraged Loan Index and the Credit Suisse Western European Leveraged Loan Index, weighted by the portfolio's market value to each sector.

\*\* Custom Benchmark is 50% JPM GBI-EM Index, 25% JPM EMBI Global Index and 25% JPM Corporate EMBI Diversified Index.

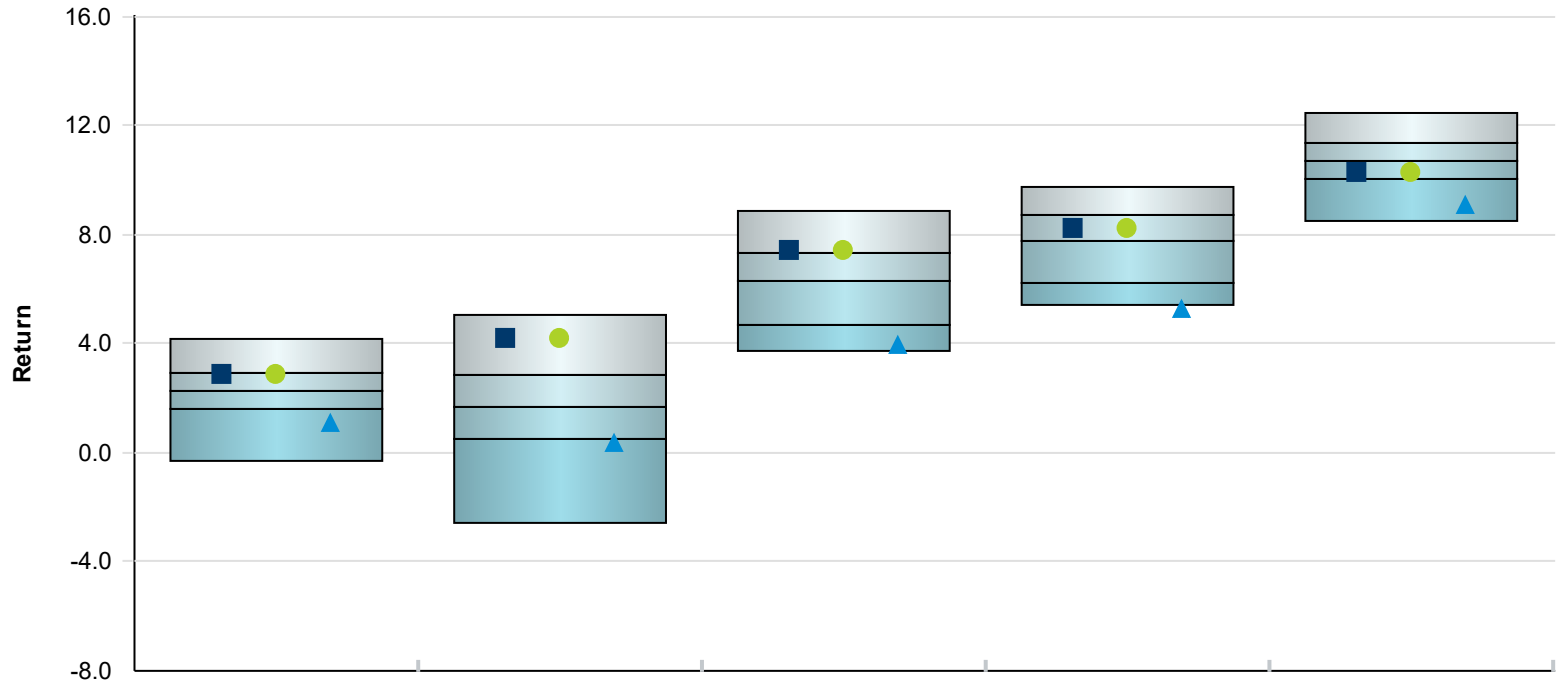


# Real Estate



# Plan Sponsor Peer Group Analysis

Real Estate vs All Public Plans > \$1B-Real Estate Segment(Gross)  
 Periods Ended December 31, 2020



	QTD	1 Year	3 Years	5 Years	10 Years
■ Real Estate	2.86 (27)	4.20 (9)	7.43 (20)	8.25 (47)	10.26 (74)
● Real Estate - Net	2.85 (27)	4.16 (9)	7.40 (21)	8.23 (48)	10.24 (74)
▲ Blended Benchmark (Real Estate)	1.10 (81)	0.34 (76)	3.99 (93)	5.27 (97)	9.07 (84)
5th Percentile	4.20	5.06	8.92	9.79	12.50
1st Quartile	2.92	2.84	7.32	8.72	11.38
Median	2.24	1.66	6.30	7.75	10.70
3rd Quartile	1.61	0.53	4.73	6.23	10.04
95th Percentile	-0.31	-2.58	3.77	5.41	8.55
Population	44	36	25	21	12

# Asset Allocation & Performance

## Real Estate

Periods Ended December 31, 2020

	Market Value \$	Performance (%)						Inception Date
		1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	
<b>Real Estate</b>	<b>3,203,259,355</b>	<b>2.86</b>	<b>4.20</b>	<b>7.43</b>	<b>8.25</b>	<b>10.26</b>	<b>5.52</b>	<b>5/1/1985</b>
Real Estate - Net		2.85	4.16	7.40	8.23	10.24		
Blended Benchmark (Real Estate)		1.10	0.34	3.99	5.27	9.07	7.48	
<b>Real Estate Core Cmp</b>	<b>1,762,237,868</b>	<b>3.66</b>	<b>7.57</b>	<b>9.15</b>	<b>8.98</b>	<b>10.48</b>	<b>7.46</b>	<b>4/1/1999</b>
<b>TA Assoc. Buckhead</b>	<b>602,288,923</b>	<b>3.45</b>	<b>10.30</b>	<b>13.44</b>	<b>12.14</b>	<b>12.05</b>	<b>10.78</b>	<b>8/1/1995</b>
Blended Benchmark (Real Estate)		1.10	0.34	3.99	5.27	9.07	7.11	
<b>Barings Euro Core Property</b>	<b>142,142,517</b>	<b>5.91</b>	<b>11.95</b>	<b>16.61</b>			<b>17.13</b>	<b>3/1/2017</b>
Blended Benchmark (Real Estate)		1.10	0.34	3.99			4.58	
<b>Blackstone Property Euro</b>	<b>151,742,349</b>	<b>7.16</b>	<b>16.11</b>	<b>8.22</b>			<b>8.24</b>	<b>12/1/2017</b>
Blended Benchmark (Real Estate)		1.10	0.34	3.99			4.09	
<b>INVESCO Core Real Estate</b>	<b>204,127,320</b>	<b>1.17</b>	<b>-0.91</b>	<b>3.59</b>	<b>5.29</b>		<b>8.27</b>	<b>4/1/2011</b>
Blended Benchmark (Real Estate)		1.10	0.34	3.99	5.27		8.92	
<b>INVESCO European real estate</b>	<b>64,860,847</b>	<b>11.20</b>	<b>13.94</b>				<b>3.15</b>	<b>4/1/2018</b>
Blended Benchmark (Real Estate)		1.10	0.34				3.62	
<b>AEW Core Property Tr</b>	<b>234,802,268</b>	<b>1.83</b>	<b>1.60</b>	<b>4.27</b>	<b>5.04</b>		<b>7.44</b>	<b>10/1/2013</b>
Blended Benchmark (Real Estate)		1.10	0.34	3.99	5.27		7.51	
<b>CBRE Core Partners</b>	<b>212,273,644</b>	<b>3.49</b>	<b>5.75</b>	<b>6.94</b>	<b>8.05</b>		<b>9.09</b>	<b>12/1/2013</b>
Blended Benchmark (Real Estate)		1.10	0.34	3.99	5.27		7.40	
<b>JPM Strategic Property Fund</b>	<b>150,000,000</b>							<b>1/1/2021</b>
Blended Benchmark (Real Estate)								
<b>RE Non-Core Cmp</b>	<b>1,441,021,487</b>	<b>1.95</b>	<b>0.51</b>	<b>5.49</b>	<b>7.45</b>	<b>10.05</b>	<b>10.68</b>	<b>1/1/2010</b>

Returns are time-weighted and are reported net of fee for all real estate managers.

The Blended Benchmark (Real Estate) is currently the NCREIF ODCE VW Net Index. Prior to January 1, 2013, it was the NCREIF Property Index + 1%. Returns prior to January, 2007, reflect those of the Consumer Price Index + 5%.

# Asset Allocation & Performance

## Real Estate

Periods Ended December 31, 2020

	Market Value \$	Performance (%)						Inception Date
		1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	
<b>Artemis MWBE Spruce</b> Blended Benchmark (Real Estate)	<b>222,427,276</b>	<b>0.32</b> 1.10	<b>8.18</b> 0.34	<b>5.99</b> 3.99			<b>3.80</b> 5.03	<b>6/1/2016</b>
<b>Franklin T. EMREFF</b> Blended Benchmark (Real Estate)	<b>6,569,896</b>	<b>22.16</b> 1.10	<b>-36.61</b> 0.34	<b>-7.40</b> 3.99	<b>1.34</b> 5.27		<b>4.99</b> 8.59	<b>9/1/2011</b>
<b>Security Capital</b> Blended Benchmark (Real Estate)	<b>56,889,276</b>	<b>8.34</b> 1.10	<b>4.35</b> 0.34	<b>8.21</b> 3.99	<b>6.56</b> 5.27	<b>6.70</b> 9.07	<b>10.99</b> 7.07	<b>11/1/1997</b>
<b>Dune II</b> Blended Benchmark (Real Estate)	<b>19,434,746</b>	<b>-2.51</b> 1.10	<b>-11.59</b> 0.34	<b>0.15</b> 3.99	<b>4.29</b> 5.27	<b>11.47</b> 9.07	<b>4.84</b> 7.41	<b>2/1/2009</b>
<b>Non-Core Real Estate Funds</b> Blended Benchmark (Real Estate)	<b>928,593,002</b>	<b>1.53</b> 1.10	<b>-1.73</b> 0.34	<b>5.83</b> 3.99	<b>8.08</b> 5.27		<b>9.66</b> 8.54	<b>10/1/2011</b>
<b>Rockwood Fund VIII</b>	<b>10,993</b>							
<b>Almanac ARS V</b>	<b>122,274</b>							
<b>Non-Core Intl Real Estate</b> Blended Benchmark (Real Estate)	<b>206,974,024</b>	<b>4.10</b> 1.10	<b>5.35</b> 0.34	<b>1.20</b> 3.99	<b>0.92</b> 5.27		<b>-1.54</b> 7.05	<b>8/1/2014</b>

Returns are time-weighted and are reported net of fee for all real estate managers.

The Blended Benchmark (Real Estate) is currently the NCREIF ODCE VW Net Index. Prior to January 1, 2013, it was the NCREIF Property Index + 1%. Returns prior to January, 2007, reflect those of the Consumer Price Index + 5%.



# Alternative Investments

# Asset Allocation & Performance

Alternatives Investments

Periods Ended December 31, 2020

	Allocation	Performance (%)						
	Market Value \$	1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Alternatives Investments</b>	<b>3,185,071,765</b>	<b>8.94</b>	<b>12.31</b>	<b>12.99</b>	<b>11.24</b>	<b>9.78</b>	<b>10.90</b>	<b>2/1/1986</b>
Alternatives Custom Benchmark		2.18	9.00	9.00	9.00	9.00	12.55	
<b>Absolute Return</b>	<b>178,877</b>	<b>-23.90</b>	<b>-57.38</b>	<b>-29.78</b>	<b>-13.19</b>	<b>-5.28</b>	<b>-0.38</b>	<b>1/1/2002</b>
<b>Aurora Investment</b>	<b>178,877</b>	<b>-23.90</b>						<b>11/1/2001</b>
<b>Private Equity</b>	<b>2,677,935,501</b>	<b>9.93</b>	<b>14.50</b>	<b>15.85</b>	<b>14.31</b>	<b>12.54</b>	<b>13.12</b>	<b>2/1/1986</b>
Alternatives Custom Benchmark		2.18	9.00	9.00	9.00	9.00	12.55	
<b>Abbott S/A Comp.</b>	<b>395,861,433</b>	<b>8.06</b>	<b>16.51</b>	<b>15.58</b>	<b>15.12</b>	<b>12.81</b>	<b>13.93</b>	<b>6/1/1987</b>
<b>Muller Monroe MPEFF</b>	<b>3,777,402</b>	<b>3.93</b>	<b>1.44</b>	<b>1.45</b>	<b>3.92</b>	<b>8.47</b>	<b>5.10</b>	<b>5/1/2008</b>
<b>Pantheon S/A Comp.</b>	<b>287,747,121</b>	<b>21.10</b>	<b>17.67</b>	<b>15.94</b>	<b>14.94</b>	<b>12.90</b>	<b>10.43</b>	<b>10/1/2000</b>
<b>Private Equity Fund - Domestic</b>	<b>1,570,645,561</b>	<b>9.17</b>	<b>17.83</b>	<b>18.93</b>	<b>15.45</b>		<b>12.41</b>	<b>6/1/2012</b>
<b>Private Equity Fund - International</b>	<b>387,317,574</b>	<b>7.77</b>	<b>1.66</b>	<b>7.87</b>	<b>4.17</b>		<b>-8.32</b>	<b>7/1/2015</b>
<b>Oakbrook Opportunities Fund</b>	<b>32,586,410</b>	<b>10.49</b>	<b>2.07</b>				<b>-5.91</b>	<b>6/1/2019</b>
<b>Private Credit</b>	<b>156,369,215</b>	<b>6.40</b>	<b>-5.36</b>				<b>-2.69</b>	<b>10/1/2019</b>
<b>Private Credit Fund - Domestic</b>	<b>156,369,215</b>	<b>6.40</b>	<b>-5.36</b>				<b>-2.69</b>	<b>10/1/2019</b>
<b>Agriculture</b>	<b>217,350,363</b>	<b>3.14</b>	<b>4.69</b>	<b>-0.37</b>	<b>-1.25</b>	<b>8.22</b>	<b>6.86</b>	<b>10/1/1997</b>
NCREIF Farmland Index		1.59	3.08	4.87	5.57	10.41	11.42	
<b>Premiere Partners IV</b>	<b>217,350,363</b>	<b>3.14</b>	<b>4.69</b>	<b>-0.37</b>	<b>-1.25</b>		<b>2.12</b>	<b>3/1/2015</b>
<b>Timberland</b>	<b>75,287,900</b>	<b>-0.66</b>	<b>4.51</b>	<b>0.57</b>	<b>0.32</b>	<b>2.71</b>	<b>7.24</b>	<b>10/1/1992</b>
Blended Benchmark (Real Estate)		1.10	0.34	3.99	5.27	9.07	7.17	

Returns are time-weighted and are reported net of fee for all real estate managers. The Alternatives Custom Benchmark is based on an annualized return of 9%. Prior to July 1, 2010, it was based on an annual return of 12%. Prior to 2004, it was based on an annualized return of 13%. Prior to 2003, it was based on an annual return of 15%.

# Asset Allocation & Performance

Alternatives Investments

Periods Ended December 31, 2020

	Allocation	Performance (%)						
	Market Value \$	1 Quarter	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Forest Investment</b>	<b>75,287,900</b>	<b>-0.66</b>	<b>4.51</b>	<b>0.57</b>	<b>0.32</b>	<b>3.07</b>	<b>7.40</b>	<b>10/1/1992</b>
Alternatives Custom Benchmark (Timberland)		0.58	0.81	1.77	2.30	5.89		
<b>Unlisted Infrastructure</b>	<b>57,949,909</b>	<b>8.43</b>	<b>15.90</b>				<b>12.26</b>	<b>4/1/2018</b>
Alternatives Custom Benchmark		2.18	9.00				9.00	
<b>Unlisted Infrastructure Funds</b>	<b>57,949,909</b>	<b>8.43</b>	<b>15.90</b>				<b>12.26</b>	<b>4/1/2018</b>
Alternatives Custom Benchmark		2.18	9.00				9.00	

Returns are time-weighted and are reported net of fee for all real estate managers. The Alternatives Custom Benchmark is based on an annualized return of 9%. Prior to July 1, 2010, it was based on an annual return of 12%. Prior to 2004, it was based on an annualized return of 13%. Prior to 2003, it was based on an annual return of 15%.

Wilshire Consulting

# Manager Watch List

Period Ending December 31, 2020



There are currently no investment managers on the  
Manager Watch List as of December 31, 2020