



PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS



PERIOD ENDING: SEPTEMBER 30, 2020

Investment Performance Review for

Alameda County Employees' Retirement Association

3rd quarter summary

THE ECONOMIC CLIMATE

- Real GDP contracted at a -9.0% rate year-over-year in Q2 (-31.4% quarterly annualized rate)—likely the most sudden economic recession in American history.
- Europe is experiencing a drastic second wave of COVID-19 which has been sweeping across the continent. The seven-day average daily case growth of the EU and the U.K. combined rose from 4,699 to 48,807 during Q3.
- Election polls and the betting markets are indicating that Joe Biden is leading President Trump materially as we move into the final weeks pre-election. In 2016, the story was largely the same, as Clinton was expected to win up until the day before the election.

PORTFOLIO IMPACTS

- U.S. and emerging markets have recovered most losses year-to-date, while international remain negative. Global equities are now positive for 2020 despite an earnings recession and considerable economic uncertainty.
- U.S. core inflation increased to a more normal level, rising 1.7% year-over-year in August from 1.2% in June. Inflation expectations also normalized. The 10yr U.S. TIPS inflation breakeven rate recovered to 1.6%, from a low of 0.5% on March 19th. The breakeven rate of inflation is now on par with actual year-over-year inflation.

THE INVESTMENT CLIMATE

- The Federal Reserve announced a notable change to its inflation targeting approach, now aiming to achieve “inflation moderately above 2% for some time so that inflation averages 2% over time and longer-term inflation expectations remain well anchored at 2%.” This was a reversal from the prior goal of achieving 2% inflation.
- The Federal Reserve maintained an accommodative tone, and most members of the FOMC held their view that short rates are likely to stay near-zero through 2023—eventually moving to 2.50% over the longer-term.
- According to FactSet, S&P 500 Q3 earnings are expected to be down -20.5%. However, earnings in Q2 beat expectations by 12.5% (-31.6% YoY vs. -44.1%). Another large positive surprise in Q3 would be welcome news to investors.

ASSET ALLOCATION ISSUES

- U.S. equities delivered +8.9% over the quarter, reaching a new high in September before giving back some gains. The S&P 500 is up +5.6% year-to-date, despite an earnings recession and considerable economic uncertainty.
- The U.S. dollar fell -3.5% in Q3, continuing a downward trend since a sudden jump in March on safe-haven buying. The dollar has now completely unwound the gains experienced during the market sell-off.

A more neutral risk positioning may be warranted in the current environment

There seems to be a high degree of uncertainty regarding the future market path

U.S. economics summary

- Real GDP contracted at a -9.0% rate year-over-year in the second quarter (-31.4% quarterly annualized rate)—likely the most sudden economic recession in American history.
 - The Atlanta Fed’s forecast for third quarter growth is -10.7% year-over-year (+33.8% quarterly annualized rate). This projection was based on the expectations that consumption rebounds materially, household investment picks up, businesses begin re-stocking shelves that were allowed to run empty, and supporting fiscal policy.
 - The U.S. labor market partially recovered from the recent shock. Unemployment fell from 14.7% in April to 7.9% in September. A report released in September indicated 60% of temporary business closures during the pandemic were now permanent.
 - Correlation between election results and market performance
- has been weak, and the outcome depends greatly on how the data is sliced and the timing of economic events. The S&P 500 has experienced stronger gains with a Democrat in power, though the results are skewed by extreme events such as the Great Depression.
- The NFIB Small Business Optimism Index recovered to 104.0 in Q3, which was in line with pre-pandemic levels. The survey concluded that half of the jobs lost in March and April have been recouped, but that the pace of recovery has slowed.
 - The median home price increased 11.1% year-over-year in September, according to Realtor.com. U.S. housing supply has reached record tightness. In August, 3.3 months worth of homes were on the market, which was the lowest inventory ever recorded since the government began tracking this data in 1963.

	Most Recent	12 Months Prior
GDP (YoY)	(9.0%) 6/30/20	2.0% 6/30/19
Inflation (CPI YoY, Core)	1.7% 8/31/20	2.4% 8/31/19
Expected Inflation (5yr-5yr forward)	1.7% 9/30/20	1.7% 9/30/19
Fed Funds Target Range	0% – 0.25% 9/30/20	1.75% – 2.00% 9/30/19
10-Year Rate	0.7% 9/30/20	1.7% 9/30/19
U-3 Unemployment	7.9% 9/30/20	3.5% 9/30/19
U-6 Unemployment	12.8% 9/30/20	6.9% 9/30/19

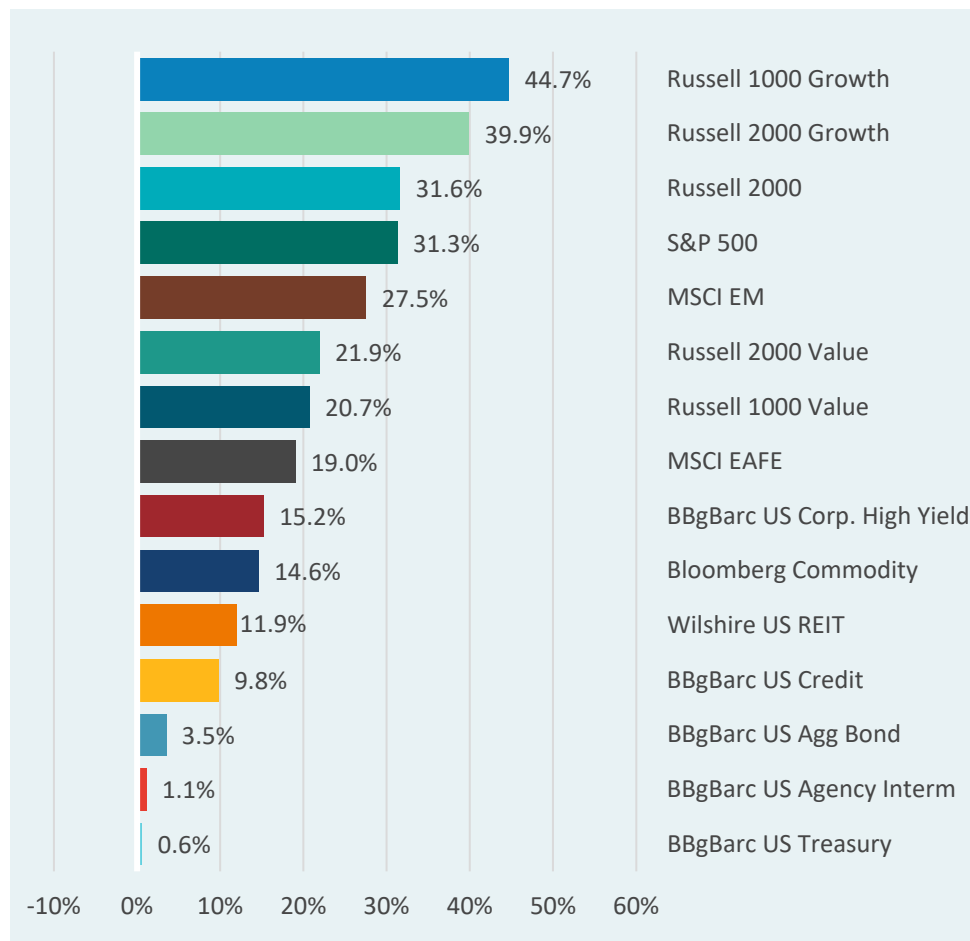
International economics summary

- Growth contracted sharply in international developed economies in Q2. Gross domestic product in the Eurozone contracted -14.7% from the prior year, and Japanese GDP sank -9.9% over the same period, despite the deployment of fiscal support to the tune of roughly 40% of Japan's GDP.
- European officials implemented stricter social distancing controls with hopes of stymying the second wave of COVID-19 sweeping across the continent. The seven-day average daily case growth of the EU27 and the United Kingdom combined rose from 4,699 to 48,807 over the third quarter.
- The IMF revised its global growth projections for 2020 and 2021 from -4.9% and 5.4% to -4.4% and 5.2%, respectively. The IMF's model assumes social distancing controls will continue to act as a drag on growth into 2021, and that local transmission of the virus will be falling everywhere by 2023.
- Inflation remained muted globally in the third quarter, supporting arguments that the pandemic's impact has been more disinflationary than inflationary over the short term. The Eurozone's consumer price index ended the quarter -0.3% below its level from September 2019, though most of the deflationary pressures were supplied by an -8.2% decline in energy prices.
- Eurozone retail sales volumes grew 3.7% from the prior year in August (exp. 2.2%), driven by a sharp surge in online purchases and clothing sales. The vigorous rebound in consumer spending has been attributed to pent-up demand and incomes, which have been largely stable due to furlough schemes. Many analysts expect a "normalization" of retail sales in the fourth quarter, under the assumption that current spending levels are unlikely to be sustainable.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	(9.0%) 6/30/20	1.3% 8/31/20	7.9% 9/30/20
Eurozone	(14.7%) 6/30/20	(0.3%) 9/30/20	8.1% 8/31/20
Japan	(9.9%) 6/30/20	0.2% 9/30/20	3.0% 8/31/20
BRICS Nations	(3.1%) 6/30/20	3.3% 6/30/20	5.3% 6/30/20
Brazil	(11.4%) 6/30/20	2.4% 8/31/20	13.8% 7/31/20
Russia	(8.0%) 6/30/20	3.3% 9/30/20	6.4% 8/31/20
India	(23.9%) 6/30/20	6.7% 8/31/20	8.5% 12/31/17
China	4.9% 9/30/20	2.4% 8/31/20	3.8% 6/30/20

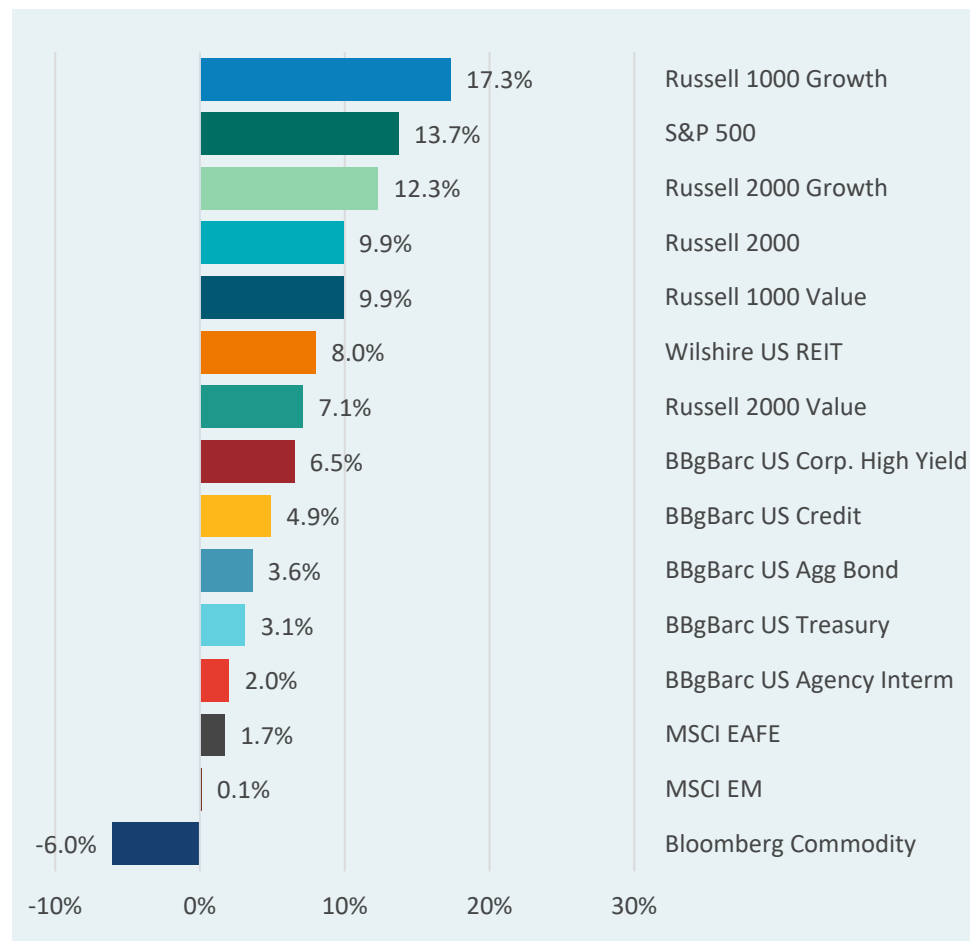
Major asset class returns

SIX MONTHS ENDING SEPTEMBER



Source: Morningstar, as of 9/30/20

TEN YEARS ENDING SEPTEMBER



Source: Morningstar, as of 9/30/20

Total Fund

Manager Allocation Analysis (One Quarter)

Period Ending: September 30, 2020

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Absolute Return ¹	\$700,398,946	-\$75,419,558	\$6,684,962	\$631,664,349
Alta	\$4,213	\$0	\$1,037	\$5,249
Applied Research Investments	\$19,539,901	\$0	\$2,034,532	\$21,574,433
AQR	\$391,970,611	-\$470,647	\$30,769,767	\$422,269,730
Arga Investment Management	\$15,443,486	\$0	\$639,945	\$16,083,431
Baird Advisors	\$614,293,862	\$112,335,296	\$6,610,895	\$733,240,053
Bivium Cash	\$1	\$0	\$0	\$1
BlackRock MSCI World ex-US Index Fd A	\$414,621,299	\$0	\$20,575,254	\$435,196,553
BlackRock Russell 1000 Index Fund	\$1,904,773,094	-\$78,600,000	\$176,866,869	\$2,003,039,963
Brandywine	\$347,171,671	-\$231,538	\$12,585,437	\$359,525,569
Capital Group	\$462,157,600	-\$744,687	\$47,275,202	\$508,688,115
Cash Account	\$62,186,709	\$8,367,221	\$17,886	\$70,571,817
Denali Advisors	\$13,718,958	\$0	\$891,345	\$14,610,303
Dundas Partners	\$18,497,405	\$0	\$1,989,947	\$20,487,352
Global Alpha Capital Management	\$5,753,979	\$0	\$562,825	\$6,316,804
Huber	\$1,765	\$0	\$0	\$1,765
Kennedy	\$95,166,143	-\$177,827	\$3,763,298	\$98,751,614
Loomis Sayles	\$327,603,685	-\$251,289	\$10,036,497	\$337,388,893
Mondrian	\$374,458,267	-\$323,805	\$14,320,693	\$388,455,155
Newton Emerging Mkt	\$247,406,150	\$0	\$53,805,808	\$301,211,958
Next Century-SCG	\$5,440	\$0	\$39	\$5,479
OakBrook	\$696	\$0	\$0	\$696
Private Credit	\$39,054,994	\$7,263,270	\$2,051,166	\$48,369,430
Private Equity	\$564,056,000	\$16,094,398	\$69,333,089	\$649,483,487
Pzena	\$97,754,557	-\$127,018	\$578,381	\$98,205,921
Radin Capital Partners	\$4,900,748	\$0	\$438,192	\$5,338,940
RVX Asset Management	\$3,822,517	\$0	\$347,490	\$4,170,007
Real Assets ¹	\$398,025,937	\$216,358	\$11,014,632	\$409,256,927
Real Estate	\$603,633,633	\$216,820	\$4,282,019	\$608,132,474
Sec. Lending	\$0	-\$135,306	\$135,306	\$0
TCW	\$150,749,338	-\$44,148,891	\$12,903,130	\$119,503,576
Templeton	\$210,206,749	\$0	\$27,926,929	\$238,133,678
Transition Account (Macquarie Capital)	\$278,145	\$0	-\$122,232	\$155,912
William Blair Small Cap Growth	\$120,393,013	-\$217,125	\$12,235,792	\$132,411,680
Total	\$8,208,049,512	-\$56,354,327	\$530,556,132	\$8,682,251,317

¹ Preliminary ending market value

Bivium

Manager Allocation Analysis (One Quarter)

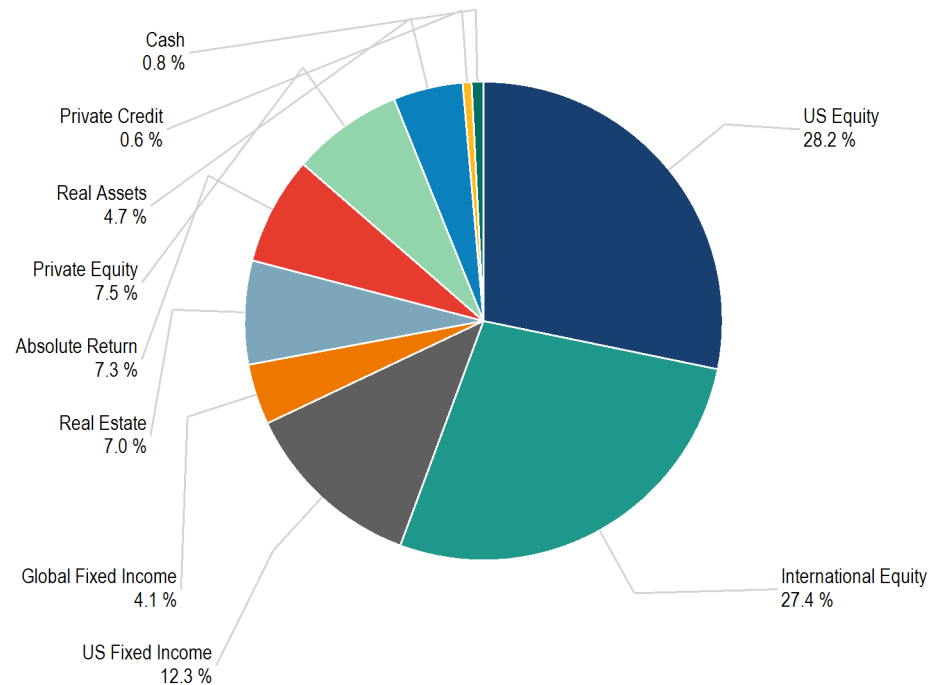
Period Ending: September 30, 2020

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Alta	\$4,213	\$0	\$1,037	\$5,249
Bivium Cash	\$1	\$0	\$0	\$1
Huber	\$1,765	\$0	\$0	\$1,765
OakBrook	\$696	\$0	\$0	\$696
Total	\$6,674	\$0	\$1,037	\$7,711

	Beginning Market Value	Net Cash Flow	Net Investment Change	Ending Market Value
Applied Research Investments	\$19,539,901	\$0	\$2,034,532	\$21,574,433
Arga Investment Management	\$15,443,486	\$0	\$639,945	\$16,083,431
Denali Advisors	\$13,718,958	\$0	\$891,345	\$14,610,303
Dundas Partners	\$18,497,405	\$0	\$1,989,947	\$20,487,352
Global Alpha Capital Management	\$5,753,979	\$0	\$562,825	\$6,316,804
Radin Capital Partners	\$4,900,748	\$0	\$438,192	\$5,338,940
RVX Asset Management	\$3,822,517	\$0	\$347,490	\$4,170,007
Total	\$81,676,994	\$0	\$6,904,276	\$88,581,270

Total Fund Asset Allocation Analysis

Period Ending: September 30, 2020



	Actual	Actual
US Equity	\$2,451,925,945	28.2%
International Equity	\$2,382,692,373	27.4%
US Fixed Income	\$1,070,628,946	12.3%
Global Fixed Income	\$359,525,569	4.1%
Real Estate	\$608,132,474	7.0%
Absolute Return	\$631,664,349	7.3%
Private Equity	\$649,483,487	7.5%
Real Assets	\$409,256,927	4.7%
Private Credit	\$48,369,430	0.6%
Cash	\$70,571,817	0.8%
Total	\$8,682,251,317	100.0%

	Actual	Target
US Equity	28.2%	25.0%
International Equity	27.4%	25.0%
US Fixed Income	12.3%	13.0%
Global Fixed Income	4.1%	3.0%
Real Estate	7.0%	8.0%
Absolute Return	7.3%	9.0%
Private Equity	7.5%	8.0%
Real Assets	4.7%	5.0%
Private Credit	0.6%	4.0%
Cash	0.8%	0.0%
Total	100.0%	100.0%

Bivium Portfolio Liquidated U.S. Equities and invested in International Equities

Total Fund Performance Summary

Period Ending: September 30, 2020

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Fund (Gross)	6.47	4	18.43	17	6.65	41	6.09	32	8.69	17	7.29	27	8.60	13	9.45	Sep-85
Total Fund (Net)	6.42	4	18.31	18	6.48	43	5.90	38	8.46	22	7.02	32	8.29	22	9.25	
<i>Policy Index ¹</i>	5.99	14	17.64	24	6.81	40	5.72	42	8.85	15	7.59	13	8.70	12	9.71	Sep-85
<i>Allocation Index</i>	6.11	9	17.98	23	6.89	39	5.73	41	8.74	17	7.39	23	8.44	17	--	Sep-85
<i>InvMetrics Public DB > \$1B Gross Median</i>	5.04		15.74		6.22		5.45		7.63		6.60		7.49		8.70	Sep-85
US Equity (Gross)	8.95	25	33.67	19	14.10	24	11.86	13	13.50	21	11.69	26	13.52	17	11.67	Sep-85
US Equity (Net)	8.92	27	33.56	20	13.96	25	11.66	17	13.24	29	11.40	37	13.20	30	--	
<i>Russell 3000</i>	9.21	12	33.26	26	15.00	18	11.65	18	13.69	15	12.11	14	13.48	18	--	Sep-85
<i>InvMetrics All DB US Eq Gross Median</i>	8.19		31.64		10.80		9.83		12.44		10.98		12.55		10.84	Sep-85
BlackRock Russell 1000 Index Fund (Gross)	9.48	29	33.38	24	16.06	30	--	--	--	--	--	--	--	--	12.79	Apr-18
BlackRock Russell 1000 Index Fund (Net)	9.47	29	33.37	24	16.04	30	--	--	--	--	--	--	--	--	12.78	
<i>Russell 1000</i>	9.47	29	33.36	24	16.01	30	--	--	--	--	--	--	--	--	12.74	Apr-18
Large Cap Active Equity (Gross)	5.98	--	34.61	--	9.92	--	9.14	--	11.95	--	10.74	--	12.63	--	7.86	Mar-00
Large Cap Active Equity (Net)	5.85	--	34.19	--	9.45	--	8.61	--	11.46	--	10.29	--	12.17	--	7.42	
<i>Russell 1000</i>	9.47	--	33.36	--	16.01	--	12.38	--	14.09	--	12.54	--	13.76	--	6.24	Mar-00
Pzena (Gross)	0.59	99	22.72	46	-18.78	99	-5.73	99	3.77	98	4.26	97	7.32	98	3.48	Jan-06
Pzena (Net)	0.46	99	22.38	48	-19.10	99	-6.22	99	3.27	99	3.78	99	6.82	99	3.04	
<i>Russell 1000 Value</i>	5.59	44	20.68	63	-5.03	66	2.63	65	7.66	61	7.35	64	9.95	66	6.14	Jan-06
TCW (Gross)	10.42	69	44.09	31	40.41	21	23.71	22	19.40	37	16.68	42	17.02	33	8.90	Jun-99
TCW (Net)	10.28	71	43.62	36	39.80	23	23.15	24	18.94	45	16.26	51	16.61	45	--	
<i>Russell 1000 Growth</i>	13.22	22	44.73	29	37.53	30	21.67	39	20.10	28	17.39	29	17.25	27	--	Jun-99

Total Fund and asset class composites are ranked against InvestorForce universes. Managers are ranked against eVestment Alliance style universes.

Ranking of 1 is a top ranking and a ranking of 100 is a bottom ranking. The InvestorForce Public DB> \$1B Gross universe consists of 91 members with a total market value of \$2.885 Trillion..

Effective 1/1/2017, only traditional asset class (public equity, public fixed income, public real estate) investment management fees will be included in the gross of fee return calculation.

¹ See Policy Index and Benchmark History.

Total Fund Performance Summary

Period Ending: September 30, 2020

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Small Cap Equity (Gross)	3.95	--	24.85	--	-11.75	--	1.07	--	6.39	--	5.43	--	9.95	--	12.54	Jul-85
Small Cap Equity (Net)	3.77	--	24.35	--	-12.64	--	0.11	--	5.44	--	4.51	--	9.00	--	--	--
<i>Russell 2000</i>	<i>4.93</i>	<i>--</i>	<i>31.60</i>	<i>--</i>	<i>0.39</i>	<i>--</i>	<i>1.77</i>	<i>--</i>	<i>8.00</i>	<i>--</i>	<i>6.42</i>	<i>--</i>	<i>9.85</i>	<i>--</i>	<i>--</i>	<i>Jul-85</i>
Kennedy (Gross)	3.95	35	24.85	46	-11.75	41	-4.76	64	4.09	60	4.64	39	8.82	44	8.82	Sep-10
Kennedy (Net)	3.77	37	24.35	48	-12.46	46	-5.61	75	3.20	73	3.77	65	7.95	65	7.95	Sep-10
<i>Russell 2000 Value</i>	<i>2.56</i>	<i>50</i>	<i>21.94</i>	<i>66</i>	<i>-14.88</i>	<i>63</i>	<i>-5.13</i>	<i>69</i>	<i>4.11</i>	<i>60</i>	<i>3.27</i>	<i>74</i>	<i>7.09</i>	<i>88</i>	<i>7.09</i>	<i>Sep-10</i>
William Blair Small Cap Growth (Gross)	10.16	36	43.28	60	--	--	--	--	--	--	--	--	--	--	14.73	Oct-19
William Blair Small Cap Growth (Net)	9.98	39	42.48	64	--	--	--	--	--	--	--	--	--	--	14.09	Oct-19
<i>Russell 2000 Growth</i>	<i>7.16</i>	<i>68</i>	<i>39.93</i>	<i>69</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>12.51</i>	<i>Oct-19</i>
International Equity (Gross)	9.23	14	29.41	31	8.06	34	3.72	24	8.78	19	5.20	21	6.03	23	8.05	Dec-90
International Equity (Net)	9.13	16	29.13	33	7.72	36	3.39	25	8.41	21	4.81	29	5.63	35	--	--
<i>MSCI ACWI ex USA IMI Gross</i> ¹	<i>6.90</i>	<i>62</i>	<i>25.22</i>	<i>72</i>	<i>3.95</i>	<i>64</i>	<i>1.60</i>	<i>49</i>	<i>6.80</i>	<i>47</i>	<i>3.82</i>	<i>58</i>	<i>4.61</i>	<i>72</i>	<i>--</i>	<i>Dec-90</i>
<i>InvMetrics All DB ex-US Eq Gross Median</i>	<i>7.27</i>		<i>27.04</i>		<i>5.33</i>		<i>1.54</i>		<i>6.68</i>		<i>4.07</i>		<i>5.20</i>		<i>6.71</i>	<i>Dec-90</i>
Bivium Intl Equity (Gross)	8.45	44	27.06	52	7.32	54	--	--	--	--	--	--	--	--	7.82	Oct-18
Bivium Intl Equity (Net)	8.36	44	26.82	56	6.89	57	--	--	--	--	--	--	--	--	7.49	Oct-18
<i>MSCI ACWI ex USA Gross</i>	<i>6.36</i>	<i>71</i>	<i>23.69</i>	<i>70</i>	<i>3.45</i>	<i>69</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>5.98</i>	<i>Oct-18</i>
AQR (Gross)	7.85	53	27.27	46	3.69	60	-0.90	88	5.63	79	3.43	77	4.78	80	1.78	Oct-07
AQR (Net)	7.73	54	26.77	50	3.16	62	-1.38	92	5.12	87	2.92	88	4.26	96	1.30	Oct-07
<i>MSCI ACWI ex USA Gross</i>	<i>6.36</i>	<i>69</i>	<i>23.69</i>	<i>68</i>	<i>3.45</i>	<i>60</i>	<i>1.65</i>	<i>57</i>	<i>6.74</i>	<i>54</i>	<i>3.66</i>	<i>69</i>	<i>4.48</i>	<i>95</i>	<i>1.30</i>	<i>Oct-07</i>
BlackRock MSCI World ex-US Index Fd A (Gross)	4.96	74	21.27	72	0.52	69	--	--	--	--	--	--	--	--	4.16	May-19
BlackRock MSCI World ex-US Index Fd A (Net)	4.96	74	21.27	72	0.52	69	--	--	--	--	--	--	--	--	4.16	May-19
<i>MSCI World ex US Gross</i>	<i>5.01</i>	<i>72</i>	<i>21.34</i>	<i>71</i>	<i>0.63</i>	<i>67</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>4.28</i>	<i>May-19</i>
Capital Group (Gross)	10.23	58	33.94	38	18.65	53	9.71	54	13.85	18	7.72	56	7.76	56	8.83	Dec-90
Capital Group (Net)	10.07	59	33.52	40	18.24	59	9.42	56	13.55	23	7.41	59	7.41	58	--	Dec-90
<i>MSCI ACWI ex USA Gross</i>	<i>6.36</i>	<i>98</i>	<i>23.69</i>	<i>99</i>	<i>3.45</i>	<i>99</i>	<i>1.65</i>	<i>98</i>	<i>6.74</i>	<i>98</i>	<i>3.66</i>	<i>99</i>	<i>4.48</i>	<i>99</i>	<i>--</i>	<i>Dec-90</i>
<i>MSCI ACWI ex USA Growth Gross</i>	<i>10.22</i>	<i>58</i>	<i>31.41</i>	<i>52</i>	<i>17.90</i>	<i>61</i>	<i>7.71</i>	<i>69</i>	<i>10.55</i>	<i>75</i>	<i>6.88</i>	<i>70</i>	<i>6.75</i>	<i>86</i>	<i>--</i>	<i>Dec-90</i>

¹ See Policy Index and Benchmark History.

Total Fund Performance Summary

Period Ending: September 30, 2020

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Mondrian (Gross)	3.82	43	15.61	78	-6.43	66	-2.53	54	3.49	78	2.00	46	3.46	52	5.90	Nov-03
Mondrian (Net)	3.74	43	15.40	79	-6.77	70	-2.92	62	3.09	91	1.62	72	3.10	85	5.58	
MSCI ACWI ex USA Gross	6.36	15	23.69	20	3.45	17	1.65	14	6.74	14	3.66	12	4.48	12	6.44	Nov-03
MSCI ACWI ex USA Value Gross	2.43	91	15.74	77	-10.32	95	-4.51	86	2.75	93	0.30	95	2.08	99	5.20	Nov-03
Newton Emerging Mkt (Gross)	21.75	1	54.65	3	42.84	2	--	--	--	--	--	--	--	--	33.21	May-19
Newton Emerging Mkt (Net)	21.65	1	54.52	3	42.64	2	--	--	--	--	--	--	--	--	33.04	
MSCI Emerging Markets Gross	9.70	51	29.65	60	10.91	46	--	--	--	--	--	--	--	--	9.66	May-19
Templeton (Gross)	13.29	22	40.08	47	6.19	74	1.43	62	6.58	75	4.98	73	--	--	5.76	Apr-11
Templeton (Net)	13.14	25	39.67	49	5.56	75	0.80	63	5.91	82	4.29	77	--	--	5.06	
MSCI ACWI ex US Small Cap Gross	10.61	61	36.03	57	7.36	65	1.32	62	7.20	70	4.87	75	--	--	4.08	Apr-11
MSCI ACWI ex US Small Cap Value GD	7.98	92	27.71	91	-3.69	93	-2.89	87	4.89	84	2.92	84	--	--	2.78	Apr-11
Total Fixed Income (Gross)	2.25	24	10.39	12	9.27	17	5.32	36	5.87	20	5.14	21	5.45	17	7.37	Sep-86
Total Fixed Income (Net)	2.20	26	10.26	12	9.05	17	5.11	42	5.67	23	4.93	23	5.23	20	--	
Fixed Income Blend ¹	1.76	46	5.45	73	6.45	50	4.91	49	4.43	60	3.77	65	3.59	80	--	Sep-86
InvMetrics All DB Total Fix Inc Gross Median	1.65		7.11		6.40		4.86		4.82		4.13		4.18		6.91	Sep-86
US Fixed Income (Gross)	1.73	33	8.70	19	9.74	19	6.33	22	5.96	21	5.65	19	5.83	17	7.33	Sep-86
US Fixed Income (Net)	1.68	35	8.60	20	9.56	20	6.16	23	5.79	25	5.47	20	5.65	18	--	
BBgBarc US Aggregate TR	0.62	90	3.53	88	6.98	44	5.24	41	4.18	59	3.97	55	3.63	63	--	Sep-86
InvMetrics All DB US Fix Inc Gross Median	1.34		6.09		6.67		4.96		4.52		4.14		4.11		6.73	Sep-86
Baird Advisors (Gross)	1.07	52	5.84	43	8.46	19	5.99	25	5.20	14	5.10	8	4.98	7	5.40	Oct-01
Baird Advisors (Net)	1.03	55	5.77	44	8.38	23	5.91	31	5.12	18	5.01	9	4.89	9	5.31	
BBgBarc US Aggregate TR	0.62	90	3.53	93	6.98	78	5.24	86	4.18	91	3.97	91	3.63	94	4.52	Oct-01
Loomis Sayles (Gross)	3.06	4	14.50	1	12.33	3	7.03	5	7.42	1	6.70	1	7.37	1	8.42	Dec-00
Loomis Sayles (Net)	2.99	4	14.31	1	11.97	3	6.69	8	7.08	1	6.35	2	7.02	1	8.08	
BBgBarc US Credit BAA TR	2.10	24	13.58	1	6.97	70	6.38	11	6.41	4	5.68	5	5.49	12	6.54	Dec-00

¹ See Policy Index and Benchmark History.

Total Fund Performance Summary

Period Ending: September 30, 2020

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Global Fixed Income (Gross)	3.63	10	15.13	20	7.19	23	2.10	72	5.39	39	3.47	76	4.16	70	7.14	Nov-01
Global Fixed Income (Net)	3.56	24	14.92	21	6.86	27	1.80	78	5.10	59	3.17	77	3.83	82	6.83	
FTSE WGBI TR	2.94	50	5.04	92	6.76	31	4.37	39	3.95	80	2.22	80	1.86	94	4.69	Nov-01
InvMetrics All DB Gbl Fix Inc Gross Median	2.94		11.77		4.73		3.61		5.20		3.95		4.77		5.88	Nov-01
Brandywine (Gross)	3.63	43	15.13	25	7.19	35	2.10	87	5.39	39	3.47	54	4.16	42	7.14	Nov-01
Brandywine (Net)	3.56	45	14.92	27	6.86	39	1.80	90	5.10	44	3.17	60	3.83	49	6.83	
BBgBarc Global Aggregate TR	2.66	69	6.07	85	6.24	45	4.09	56	3.92	78	2.47	76	2.36	82	4.68	Nov-01
FTSE WGBI TR	2.94	62	5.04	91	6.76	40	4.37	48	3.95	77	2.22	79	1.86	89	4.69	Nov-01
Absolute Return (Gross)	1.07	80	2.51	88	-7.48	86	-2.27	83	0.07	78	1.55	73	--	--	1.96	Sep-11
Absolute Return (Net)	1.07	80	2.51	88	-7.48	86	-2.27	83	0.07	78	1.55	73	--	--	1.96	
HFRI Fund of Funds Composite Index	4.26	50	12.44	48	5.72	29	2.88	54	3.09	54	3.06	56	--	--	3.42	Sep-11
InvMetrics All DB Hedge Funds Gross Median	4.18		12.28		2.34		3.14		3.38		3.59		4.24		4.60	Sep-11
Private Equity (Gross)	12.29	--	-2.93	--	1.09	--	10.33	--	10.03	--	13.73	--	12.89	--	3.90	Nov-08
Private Equity (Net)	12.29	--	-2.93	--	1.09	--	10.33	--	10.03	--	13.73	--	12.89	--	3.90	
Thomson Reuters C A Global All PE 1 Qtr Lag	10.62	--	-1.93	--	2.33	--	6.29	--	7.33	--	8.37	--	9.37	--	7.24	Nov-08
Real Assets (Gross)	2.77	--	13.56	--	-8.20	--	-4.53	--	-2.68	--	-6.17	--	--	--	-5.50	Sep-11
Real Assets (Net)	2.71	--	13.49	--	-8.27	--	-4.55	--	-2.69	--	-6.18	--	--	--	-5.51	
Real Asset Blend ¹	2.97	--	19.32	--	-10.54	--	-2.25	--	2.94	--	3.23	--	--	--	3.60	Sep-11
Private Credit (Gross)	4.43	--	15.20	--	--	--	--	--	--	--	--	--	--	--	0.64	Oct-19
Private Credit (Net)	4.43	--	15.20	--	--	--	--	--	--	--	--	--	--	--	0.64	
S&P/LSTA Leveraged Loan Index +175	4.58	--	15.21	--	--	--	--	--	--	--	--	--	--	--	3.14	Oct-19

¹ See Policy Index and Benchmark History.

Total Fund Performance Summary

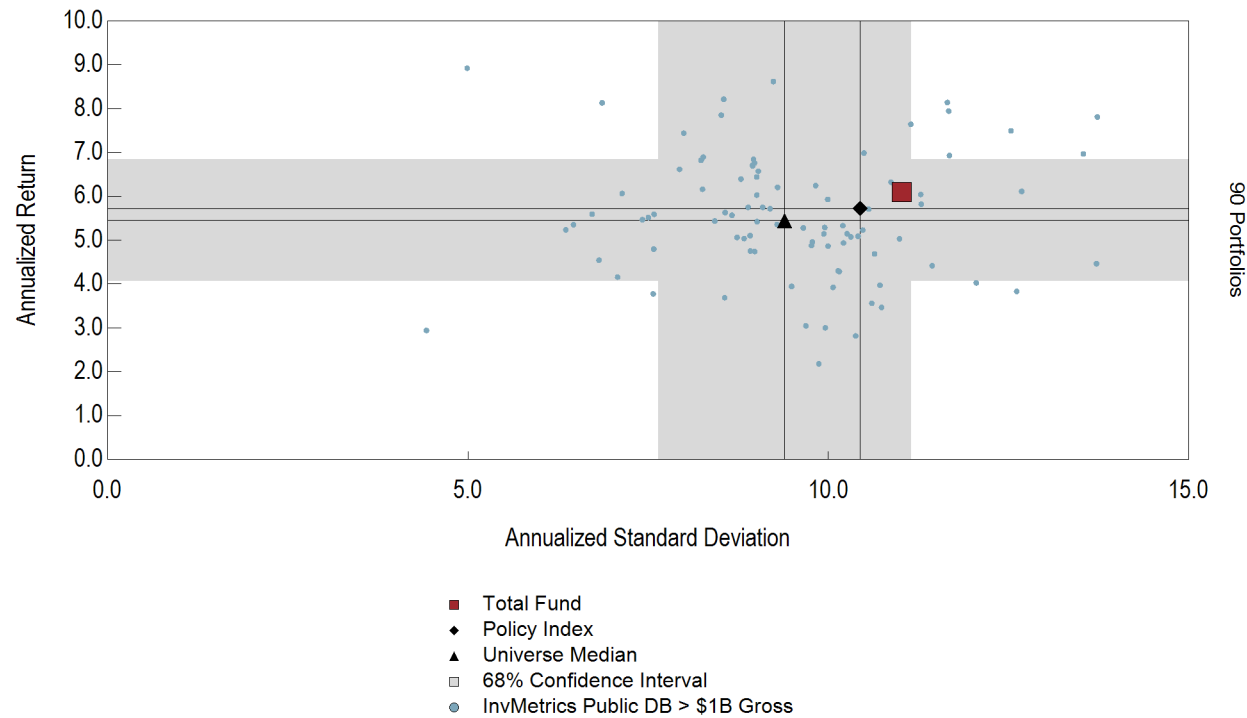
Period Ending: September 30, 2020

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Cash (Gross)	0.04	--	0.16	--	0.90	--	1.38	--	1.10	--	0.80	--	0.59	--	3.08	Sep-85
Cash (Net)	0.04	--	0.16	--	0.90	--	1.38	--	1.10	--	0.80	--	0.59	--	3.08	
91 Day T-Bills	0.02	--	0.05	--	0.82	--	1.58	--	1.13	--	0.82	--	0.59	--	3.18	Sep-85
Real Estate (Gross)	0.71	27	-0.54	43	1.59	38	5.66	30	7.47	21	9.56	19	10.90	21	6.94	Mar-86
Real Estate (Net)	0.71	27	-0.54	43	1.59	38	5.66	30	7.23	27	9.09	30	10.26	40	5.92	
NCREIF-ODCE	0.48	33	-1.08	58	1.39	43	5.18	41	6.64	41	8.60	40	10.27	40	7.10	Mar-86
InvMetrics All DB Real Estate Pub+Priv Gross Median	0.16		-0.84		0.85		4.95		6.40		8.35		9.87		7.32	Mar-86

1 See Policy Index and Benchmark History.

Total Fund
Risk vs. Return (3 Years)

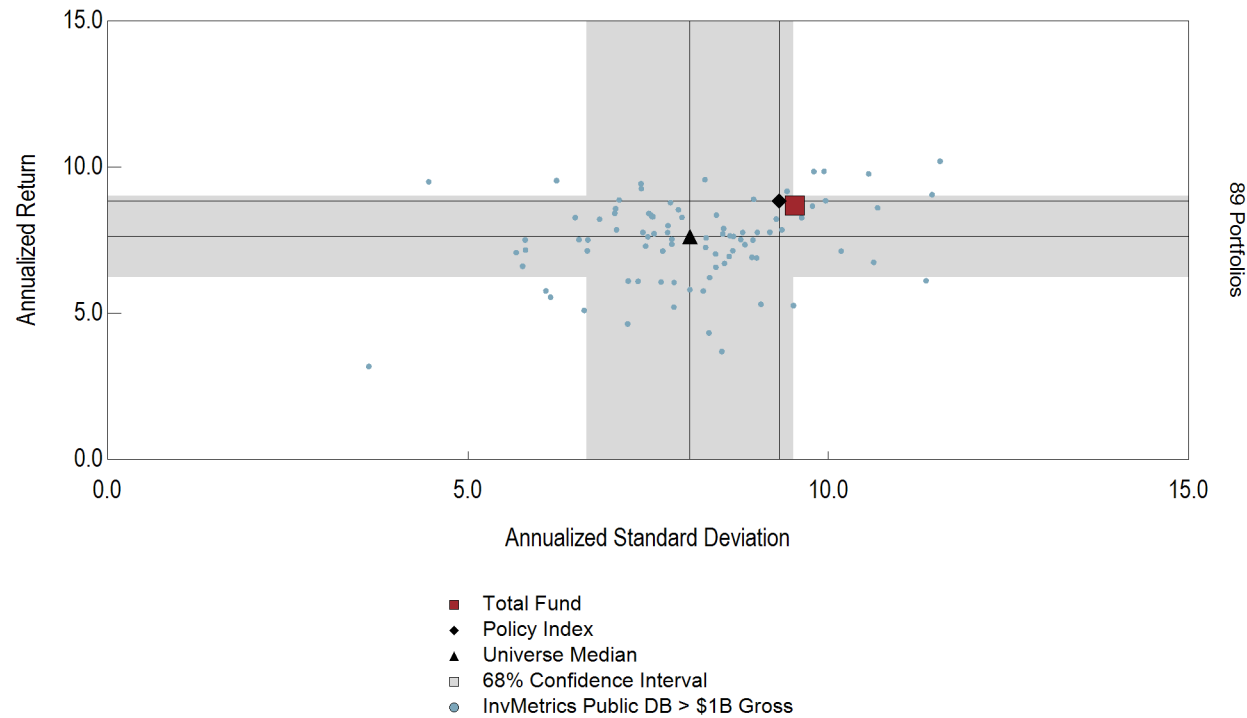
Period Ending: September 30, 2020



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	6.09%	32	11.02%	85	0.41	51	0.20	30	1.86%	68
Policy Index	5.72%	42	10.45%	74	0.40	55	--	--	0.00%	1
Allocation Index	5.74%	41	10.88%	83	0.38	60	0.02	40	0.67%	4
InvMetrics Public DB > \$1B Gross Median	5.45%	--	9.39%	--	0.42	--	-0.25	--	1.30%	--

Total Fund
Risk vs. Return (5 Years)

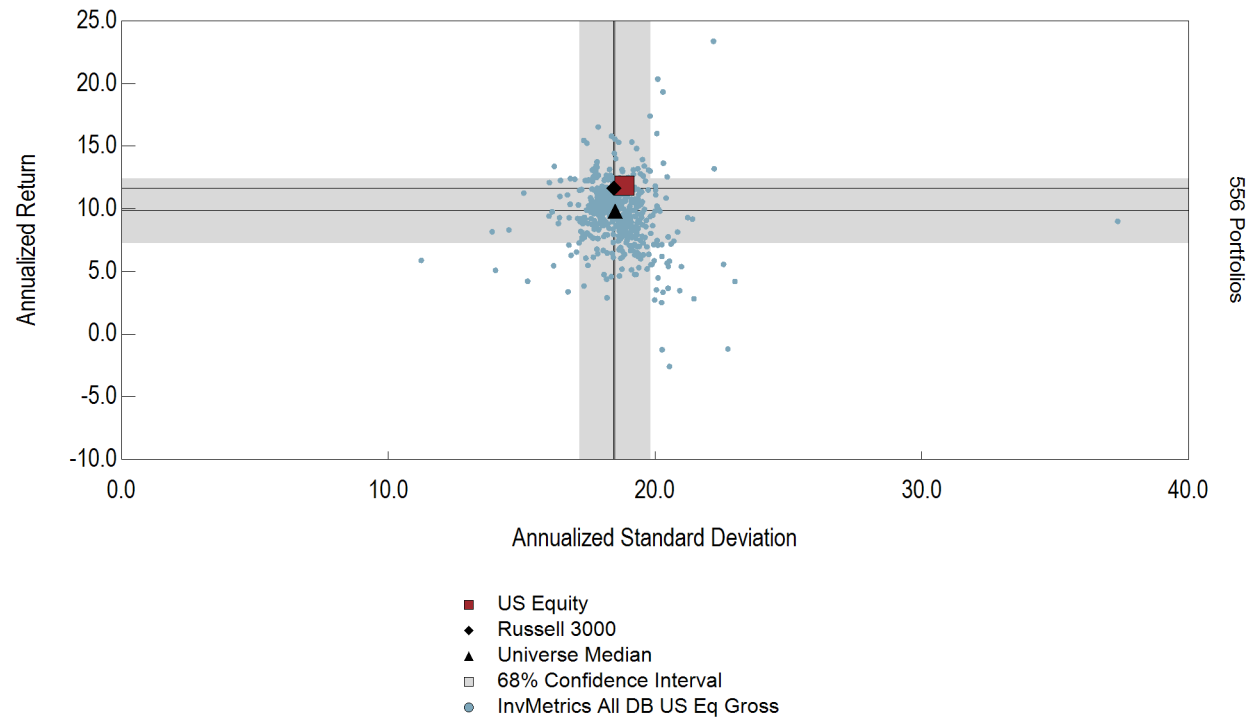
Period Ending: September 30, 2020



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	8.69%	17	9.53%	87	0.79	46	-0.09	59	1.65%	69
Policy Index	8.85%	15	9.32%	83	0.83	41	--	--	0.00%	1
Allocation Index	8.75%	17	9.57%	87	0.80	45	-0.18	64	0.54%	2
InvMetrics Public DB > \$1B Gross Median	7.63%	--	8.08%	--	0.77	--	0.03	--	1.28%	--

US Equity Risk vs. Return (3 Years)

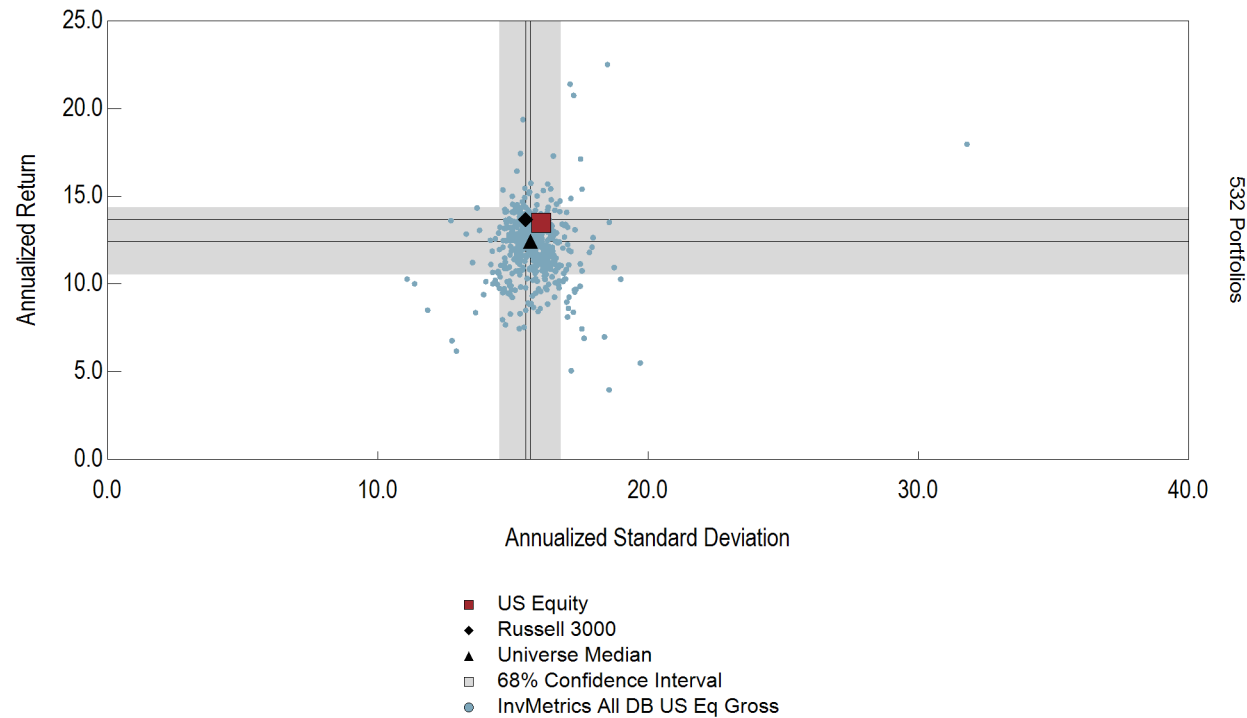
Period Ending: September 30, 2020



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
US Equity	11.86%	13	18.86%	67	0.55	20	0.18	21	1.18%	19
Russell 3000	11.65%	18	18.44%	48	0.55	20	--	--	0.00%	1
InvMetrics All DB US Eq Gross Median	9.83%	--	18.50%	--	0.45	--	-0.82	--	2.06%	--

US Equity Risk vs. Return (5 Years)

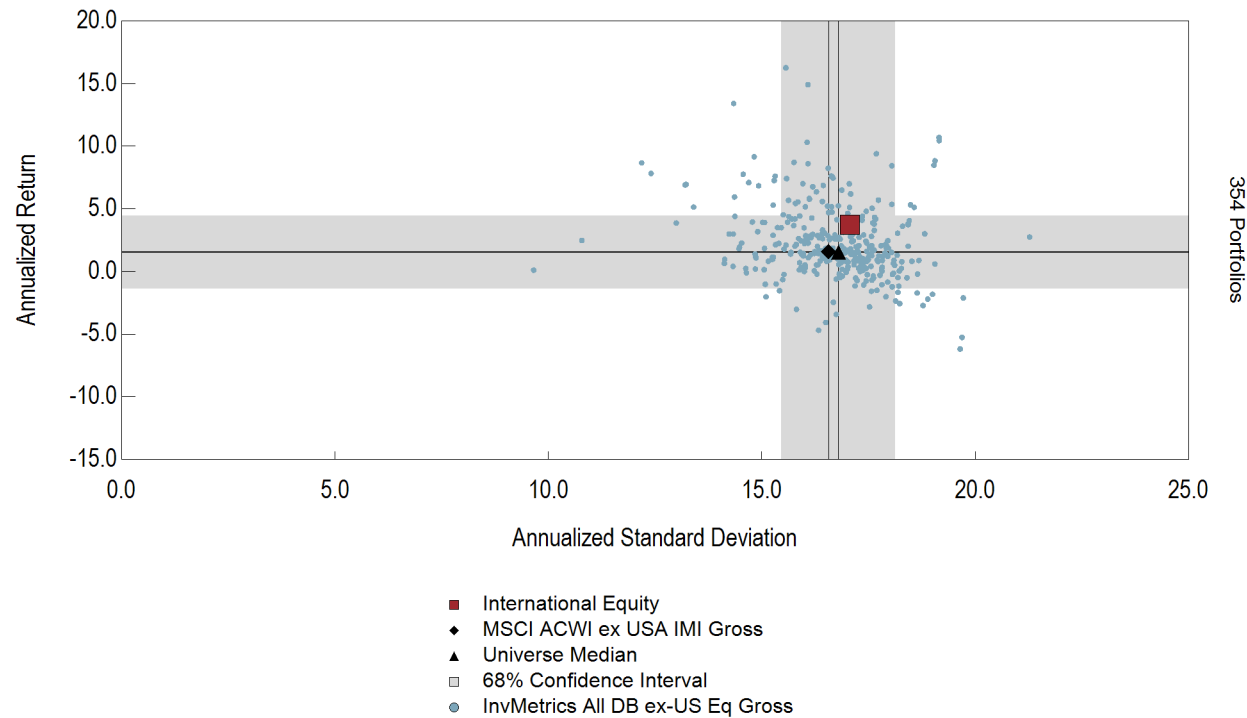
Period Ending: September 30, 2020



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
US Equity	13.50%	21	16.04%	71	0.77	32	-0.11	25	1.70%	37
Russell 3000	13.69%	15	15.47%	40	0.81	18	--	--	0.00%	1
InvMetrics All DB US Eq Gross Median	12.44%	--	15.65%	--	0.72	--	-0.58	--	2.09%	--

International Equity Risk vs. Return (3 Years)

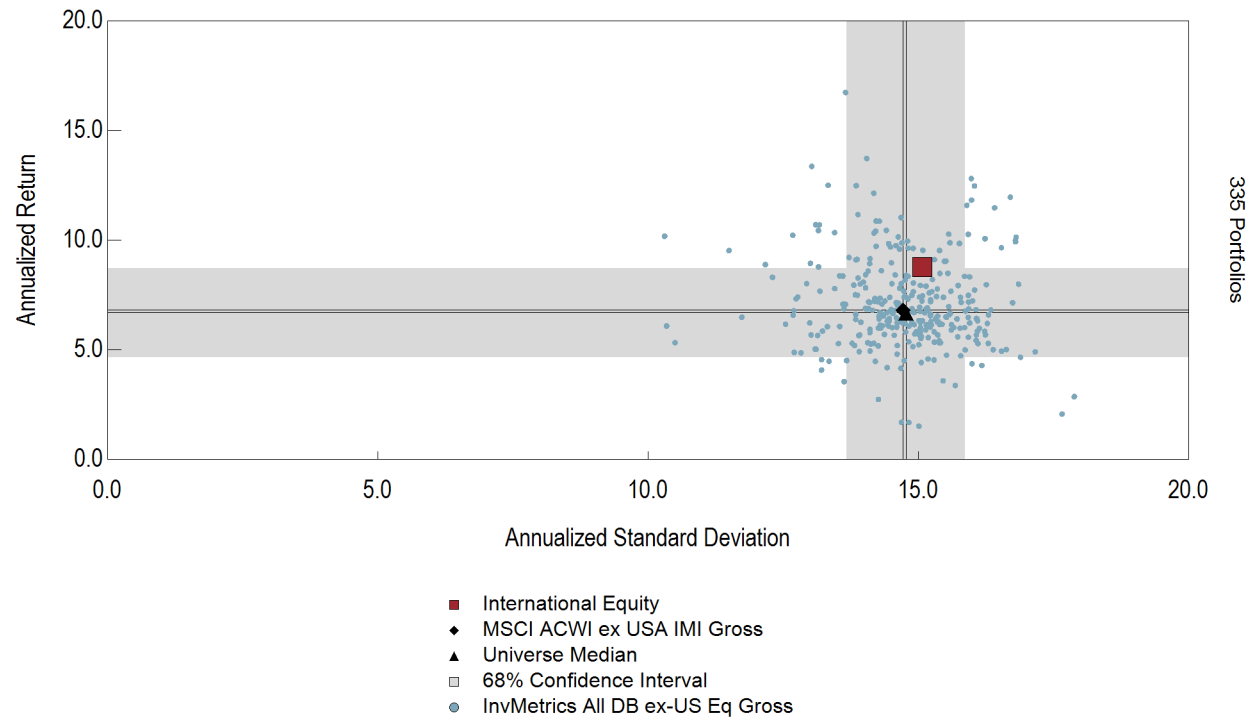
Period Ending: September 30, 2020



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
International Equity	3.72%	24	17.07%	61	0.13	23	1.46	9	1.45%	6
MSCI ACWI ex USA IMI Gross	1.60%	49	16.56%	43	0.00	49	--	--	0.00%	1
InvMetrics All DB ex-US Eq Gross Median	1.54%	--	16.80%	--	0.00	--	0.15	--	2.97%	--

International Equity Risk vs. Return (5 Years)

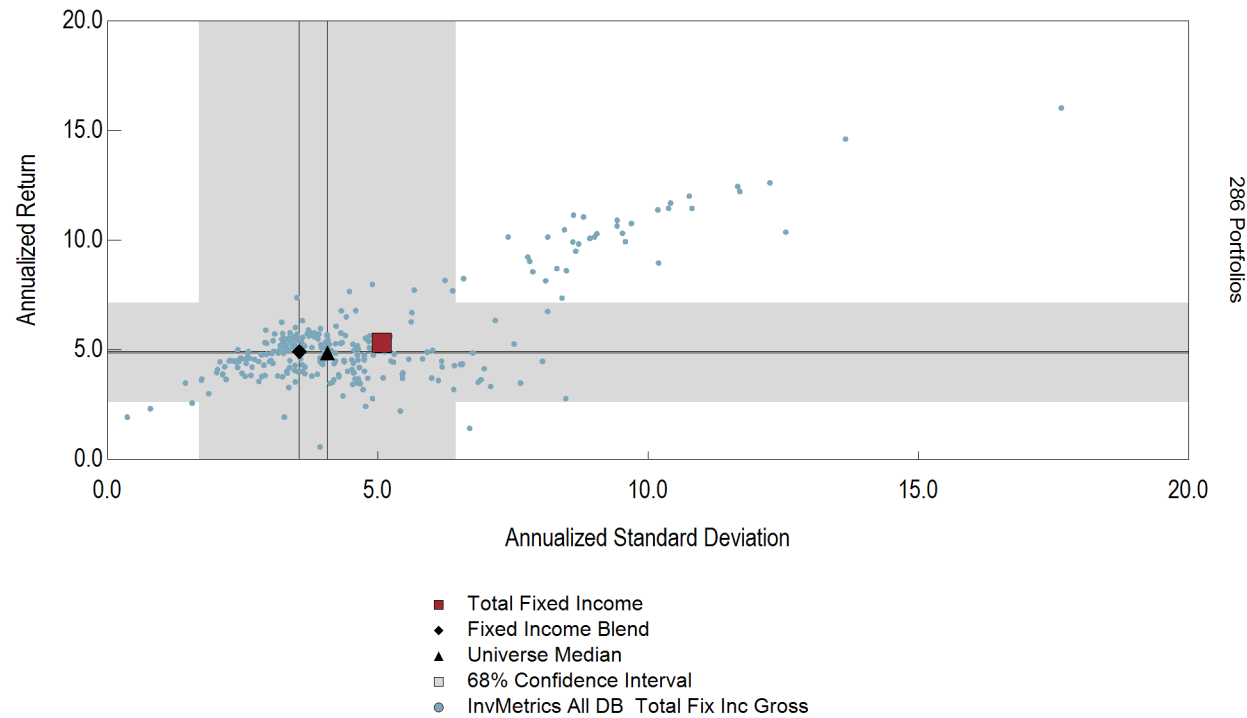
Period Ending: September 30, 2020



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
International Equity	8.78%	19	15.07%	63	0.51	21	1.35	5	1.47%	6
MSCI ACWI ex USA IMI Gross	6.80%	47	14.72%	47	0.38	48	--	--	0.00%	1
InvMetrics All DB ex-US Eq Gross Median	6.68%	--	14.77%	--	0.38	--	0.18	--	3.05%	--

Total Fixed Income Risk vs. Return (3 Years)

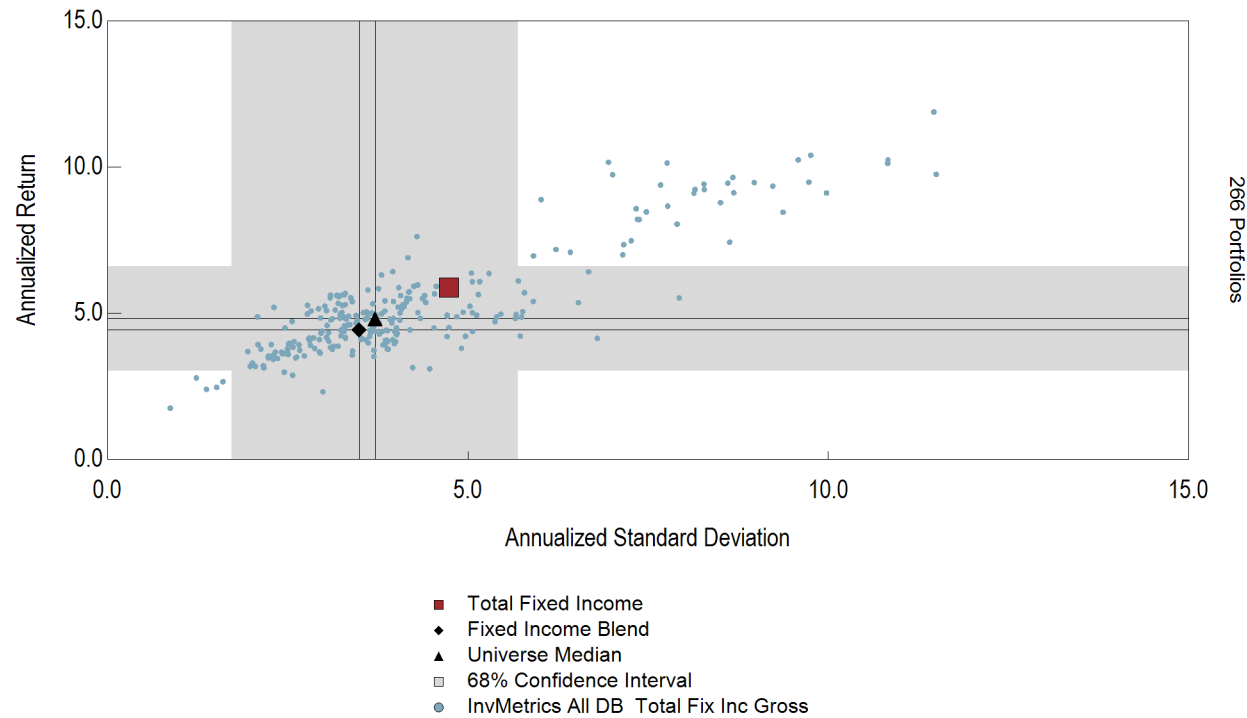
Period Ending: September 30, 2020



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fixed Income	5.32%	36	5.08%	74	0.74	67	0.15	34	2.64%	56
Fixed Income Blend	4.91%	49	3.55%	36	0.94	46	--	--	0.00%	1
InvMetrics All DB Total Fix Inc Gross Median	4.86%	--	4.07%	--	0.91	--	-0.02	--	2.41%	--

Total Fixed Income Risk vs. Return (5 Years)

Period Ending: September 30, 2020



	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fixed Income	5.87%	20	4.73%	76	1.00	45	0.62	17	2.33%	56
Fixed Income Blend	4.43%	60	3.49%	43	0.94	60	--	--	0.00%	1
InvMetrics All DB Total Fix Inc Gross Median	4.82%	--	3.71%	--	0.98	--	0.24	--	2.17%	--

Equity environment

- U.S. equities reached a new high in September before pulling back later in the month. U.S. and emerging markets have recovered most losses year-to-date, while international developed equities remain more negative. Global equities are now positive for 2020 despite an earnings recession and considerable economic uncertainty.
- Emerging market equities outperformed during the quarter (MSCI Emerging Markets +9.6%) followed by domestic equities (S&P 500 +8.9%) and international developed (MSCI EAFE +4.8%).
- According to FactSet, S&P 500 Q3 earnings are expected to be down -20.5%. However, earnings in Q2 beat expectations by 12.5% (-31.6% YoY vs. -44.1%). Another large positive surprise in Q3 would be welcome news to investors. The Cboe VIX Index moderated in June from heightened levels and remained generally rangebound during the third quarter. The VIX ended the month of September at 26, higher than the long-term average of 19.
- The U.S. dollar fell -3.5% in the third quarter, continuing a downward trend since a sudden jump in March on safe-haven buying. The dollar has now completely unwound the gains experienced during the market sell-off.
- U.S. growth stocks beat value stocks in the third quarter, continuing an incredible run of market leadership (Russell 1000 Growth +13.2%, Russell 1000 Value +5.6%), while large cap stocks outperformed small cap stocks (Russell 1000 +9.5%, Russell 2000 +4.9%).

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (S&P 500)	8.9%		15.1%	
US Small Cap (Russell 2000)	4.9%		0.4%	
US Large Value (Russell 1000 Value)	5.6%		(5.0%)	
US Large Growth (Russell 1000 Growth)	13.2%		37.5%	
International Large (MSCI EAFE)	4.8%	1.3%	0.5%	(3.1%)
Eurozone (Euro Stoxx 50)	3.5%	(0.6%)	(1.7%)	(6.8%)
U.K. (FTSE 100)	0.1%	(4.1%)	(13.9%)	(17.0%)
Japan (NIKKEI 225)	6.8%	4.7%	10.9%	10.2%
Emerging Markets (MSCI Emerging Markets)	9.6%	8.5%	10.5%	12.8%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 9/30/20

Domestic equity

U.S. equities delivered +8.9% in Q3, reaching a new high in September before pulling back later in the month. The S&P 500 is up +5.6% year-to-date, despite an earnings recession and considerable economic uncertainty.

Consumer Discretionary (+15.1%) and Materials (+13.3%) sectors led in Q3, with Energy (-19.7%) delivering further underperformance. Information Technology stocks have shown impressive performance year-to-date (+27.5%) and have captured headlines as some company valuations have

reached lofty levels. Large technology names have seen greater volatility recently, and exhibited a quick pullback during the first week of September. Growth stocks continue to be in vogue in the current low-growth environment.

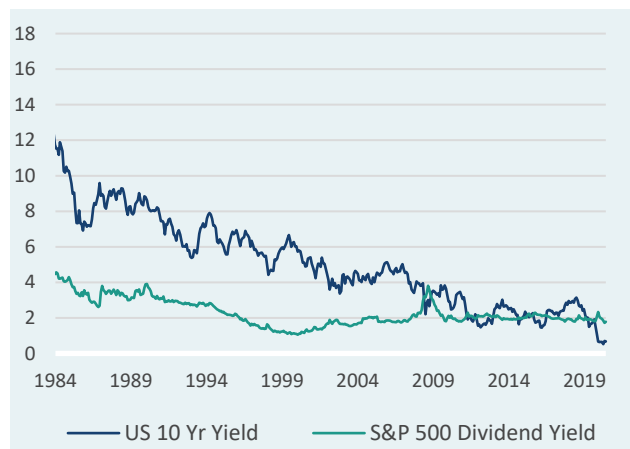
Many investors are justifiably questioning the rationale for such strong risk asset performance, at a time when so much uncertainty exists around public health and the economy, and at a time when some business models may no longer be viable due to COVID-19.

S&P 500



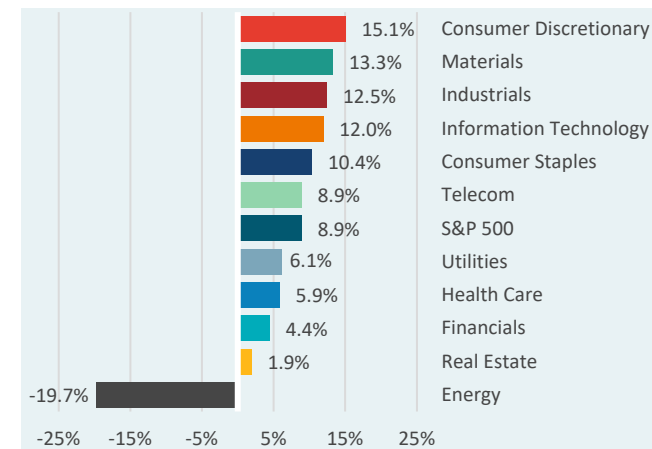
Source: Standard & Poor's, as of 9/30/20

DIVIDEND YIELD VS BOND YIELD



Source: Standard & Poor's, as of 9/30/20

Q3 SECTOR PERFORMANCE



Source: Standard & Poor's, as of 9/30/20

Domestic equity size & style

U.S. growth stocks beat value stocks during Q3, continuing an incredible run of market leadership (Russell 1000 Growth +13.2%, Russell 1000 Value +5.6%), while large cap stocks outperformed small cap stocks (Russell 1000 +9.5%, Russell 2000 +4.9%).

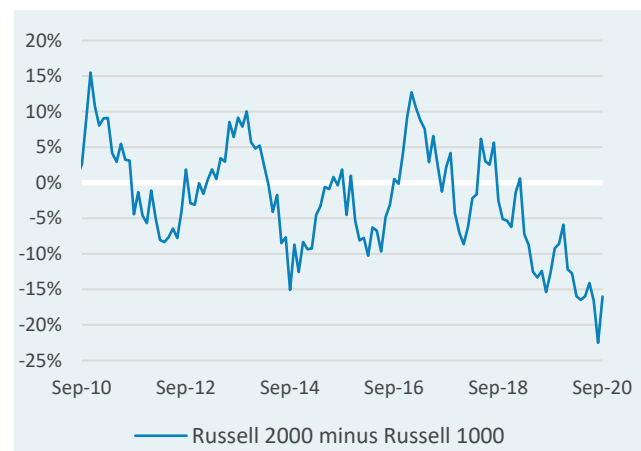
It seems that 2020 has been the perfect storm for value stocks. Commodities sectors were experiencing oversupply leading up to the onset of COVID-19, and the virus greatly accelerated these problems, resulting in a historic crash to prices (the Energy sector contains many value stocks). The Energy sector has delivered -45.2% over the past year. At the same time, the world has been rapidly changing in terms of technological progress, and COVID-19 appears to have accelerated these trends, contributing to extreme

outperformance of the growth-tilted Information Technology sector at +47.2% over the past year.

We recognize that recent value underperformance is anomalous, but we also recognize that much of this price action has been due to global trends that may not necessarily reverse over the short-term. It is very difficult to successfully make short-term bets on style factors, as factors can be incredibly noisy and vulnerable to sector randomness. Value is historically cheap, but a catalyst for a value turnaround is not yet evident. We continue to believe that a buy-and-hold approach to style investing is the best course of action, most of the time, but we are closely watching this space.

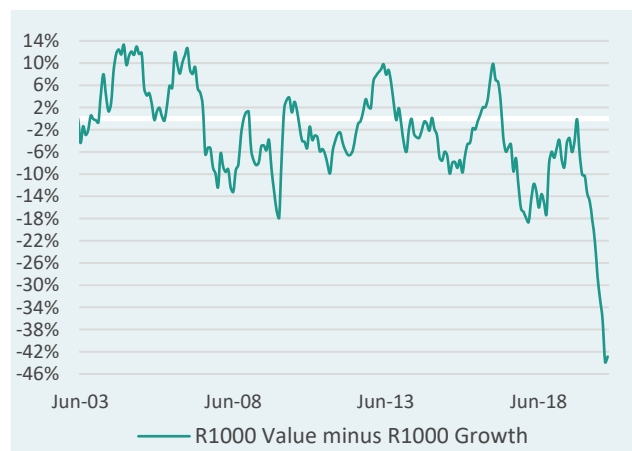
Sector performance has fueled dramatic negative performance of the value premium

SMALL CAP VS LARGE CAP (YOY)



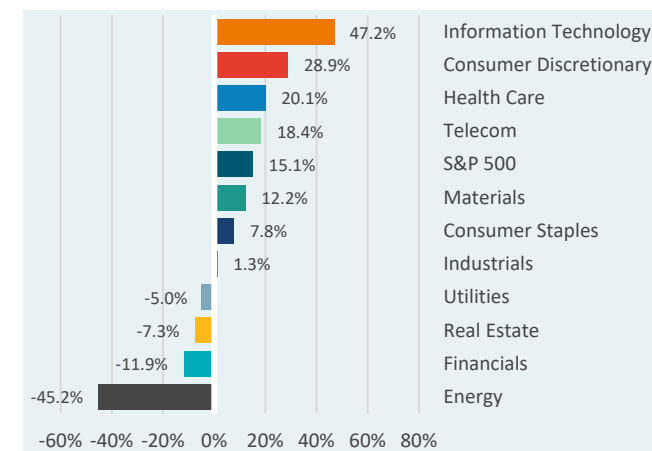
Source: FTSE, as of 9/30/20

VALUE VS GROWTH (YOY)



Source: FTSE, as of 9/30/20

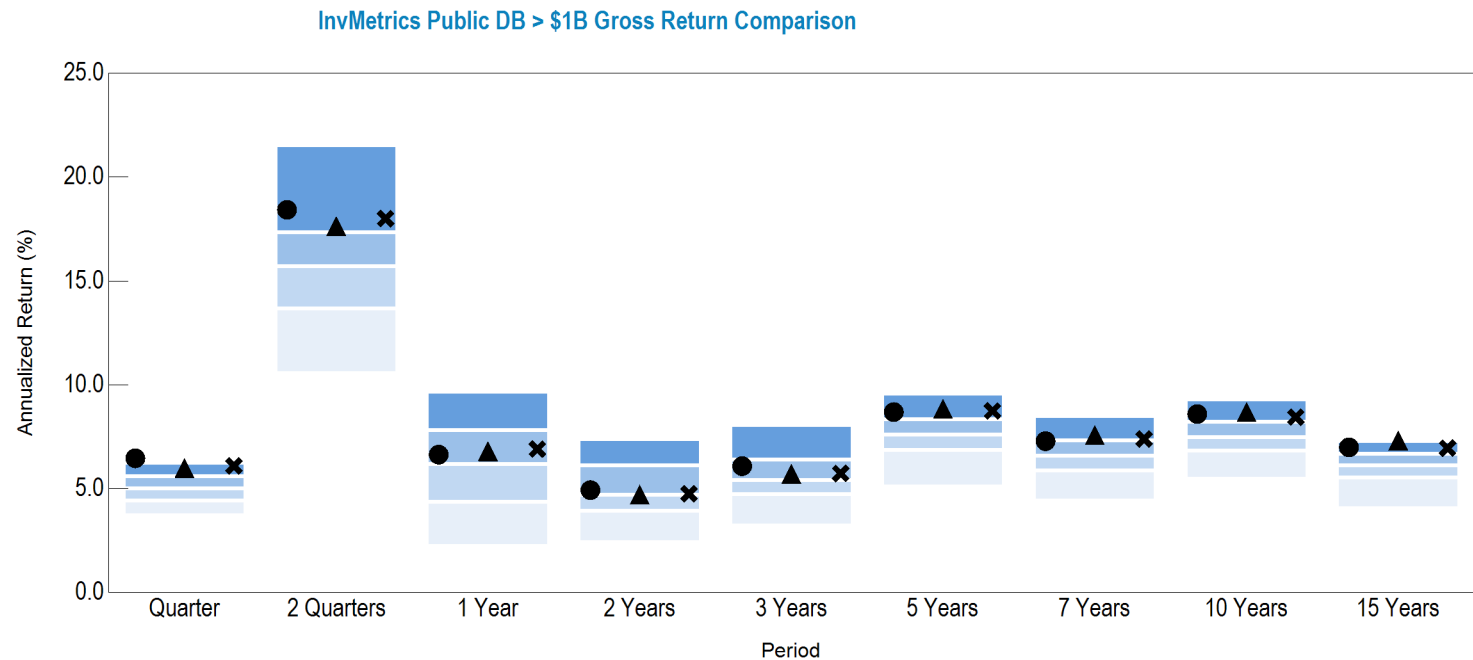
S&P 500 SECTOR PERFORMANCE (1-YEAR)



Source: Standard & Poor's, as of 9/30/20

Total Fund Peer Universe Comparison

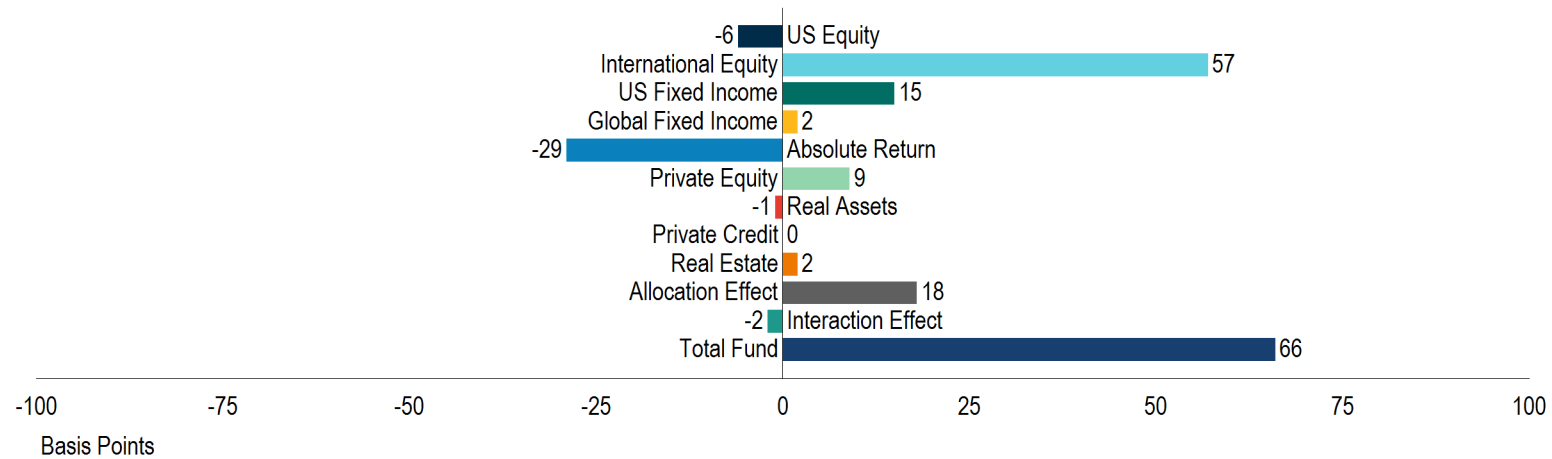
Period Ending: September 30, 2020



	Return (Rank)																																			
5th Percentile	6.25		21.51		9.65		7.38		8.05		9.56		8.49		9.30		7.30																			
25th Percentile	5.63		17.38		7.84		6.13		6.43		8.36		7.34		8.24		6.70																			
Median	5.04		15.74		6.22		4.71		5.45		7.63		6.60		7.49		6.13																			
75th Percentile	4.45		13.68		4.40		3.96		4.76		6.89		5.91		6.87		5.55																			
95th Percentile	3.73		10.58		2.27		2.46		3.24		5.14		4.45		5.49		4.09																			
# of Portfolios	91		91		91		90		90		89		89		85		79																			
● Total Fund	6.47		(4)		18.43		(17)		6.65		(41)		4.93		(47)		6.09		(32)		8.69		(17)		7.29		(27)		8.60		(13)		6.99		(12)	
▲ Policy Index	5.99		(14)		17.64		(24)		6.81		(40)		4.72		(50)		5.72		(42)		8.85		(15)		7.59		(13)		8.70		(12)		7.31		(5)	
✕ Allocation Index	6.10		(9)		18.00		(23)		6.91		(39)		4.76		(50)		5.74		(41)		8.75		(17)		7.39		(23)		8.45		(17)		6.96		(12)	

Total Fund
Performance Attribution (One Quarter)

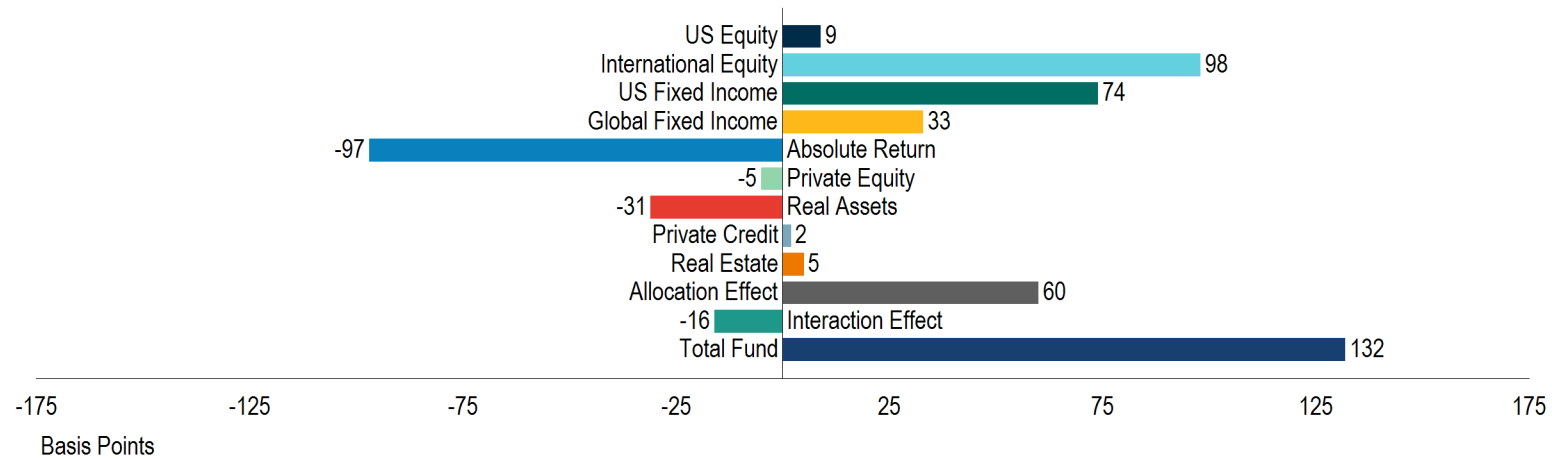
Period Ending: September 30, 2020



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
US Equity	8.95%	9.21%	-0.26%	-0.06%	0.10%	-0.01%	0.03%
International Equity	9.23%	6.90%	2.32%	0.57%	0.01%	0.05%	0.63%
US Fixed Income	1.73%	0.62%	1.11%	0.15%	0.04%	-0.01%	0.17%
Global Fixed Income	3.63%	2.94%	0.69%	0.02%	-0.04%	0.01%	-0.01%
Absolute Return	1.07%	4.26%	-3.19%	-0.29%	0.01%	0.01%	-0.27%
Private Equity	12.29%	10.62%	1.67%	0.09%	-0.02%	-0.06%	0.01%
Real Assets	2.77%	2.97%	-0.20%	-0.01%	0.01%	0.00%	-0.01%
Private Credit	4.43%	4.58%	-0.15%	0.00%	0.05%	0.00%	0.05%
Real Estate	0.71%	0.48%	0.23%	0.02%	0.04%	0.00%	0.05%
Total	6.54%	5.88%	0.66%	0.49%	0.18%	-0.02%	0.66%

Total Fund
Performance Attribution (6 Months)

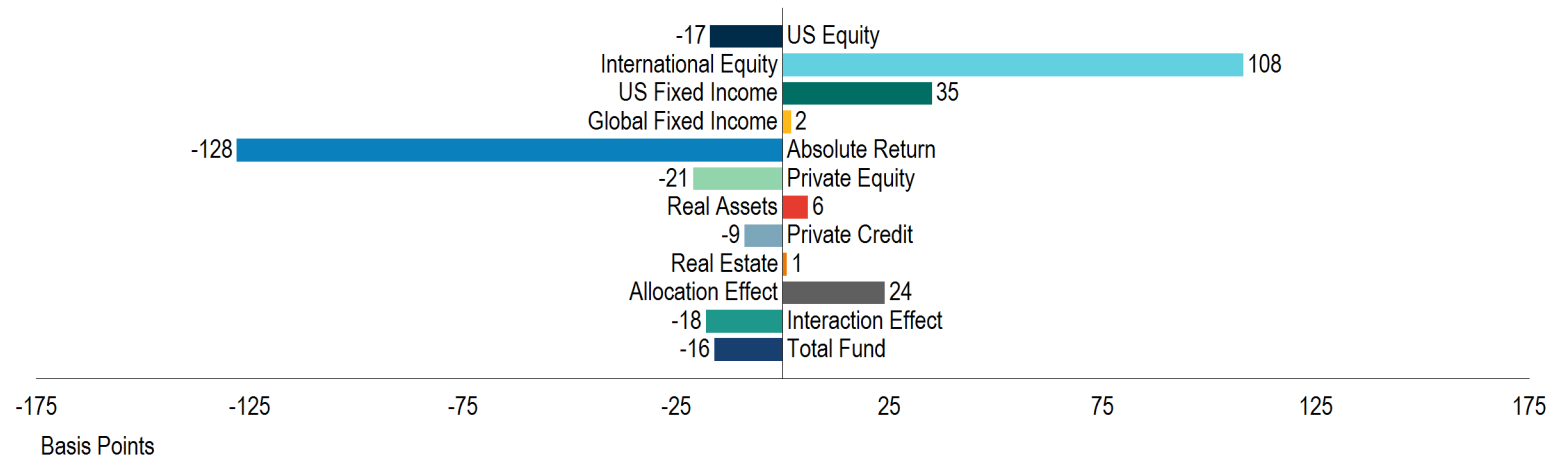
Period Ending: September 30, 2020



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
US Equity	33.67%	33.26%	0.40%	0.09%	0.39%	0.01%	0.49%
International Equity	29.41%	25.22%	4.19%	0.98%	0.07%	0.06%	1.12%
US Fixed Income	8.70%	3.53%	5.17%	0.74%	0.13%	-0.06%	0.81%
Global Fixed Income	15.13%	5.04%	10.09%	0.33%	-0.17%	0.14%	0.30%
Absolute Return	2.51%	12.44%	-9.93%	-0.97%	-0.01%	0.00%	-0.98%
Private Equity	-2.93%	-1.93%	-1.01%	-0.05%	0.08%	-0.30%	-0.27%
Real Assets	13.56%	19.32%	-5.76%	-0.31%	0.00%	0.01%	-0.30%
Private Credit	15.20%	15.21%	-0.02%	0.02%	0.08%	-0.02%	0.08%
Real Estate	-0.54%	-1.08%	0.54%	0.05%	0.03%	0.00%	0.07%
Total	18.67%	17.35%	1.32%	0.88%	0.60%	-0.16%	1.32%

Total Fund
Performance Attribution (One Year)

Period Ending: September 30, 2020



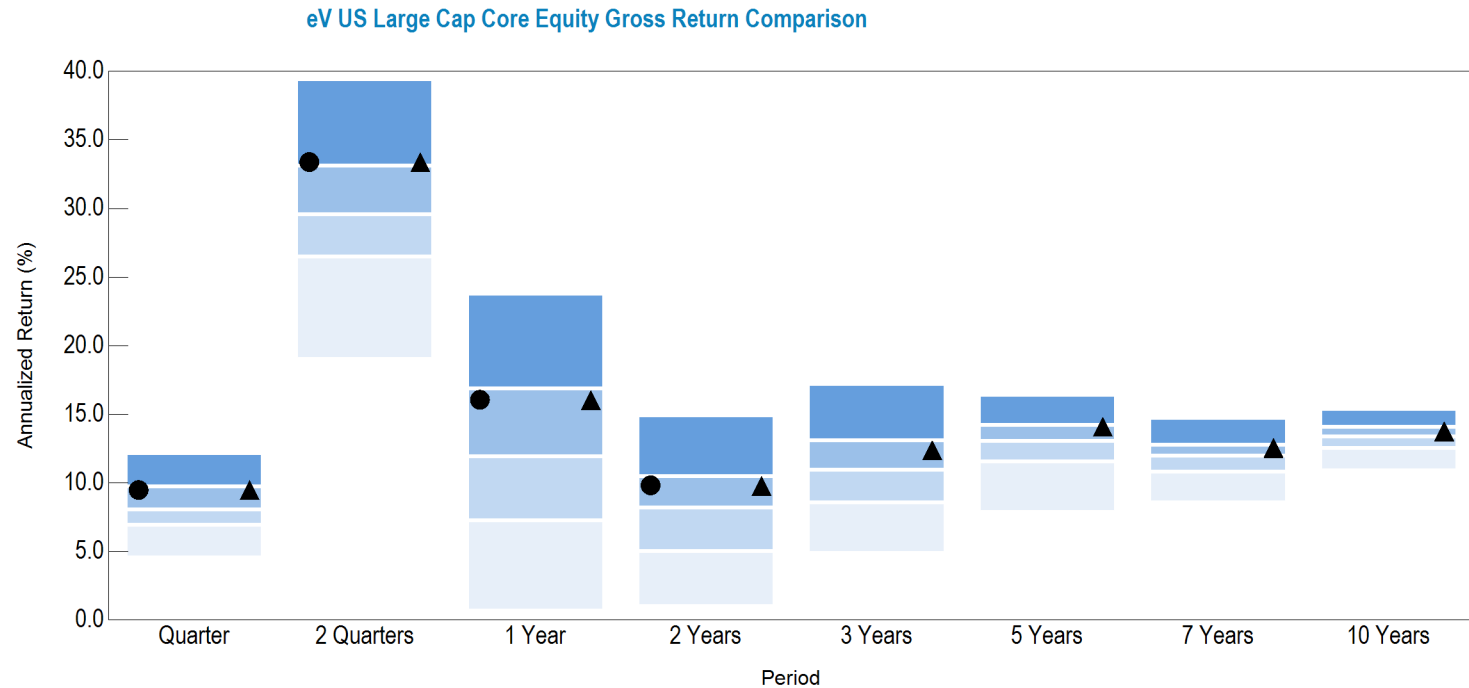
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
US Equity	14.10%	15.00%	-0.90%	-0.17%	0.23%	-0.01%	0.05%
International Equity	8.06%	3.95%	4.11%	1.08%	-0.09%	0.08%	1.07%
US Fixed Income	9.74%	6.98%	2.75%	0.35%	0.07%	-0.06%	0.37%
Global Fixed Income	7.19%	6.76%	0.42%	0.02%	-0.03%	0.02%	0.01%
Absolute Return	-7.48%	5.72%	-13.21%	-1.28%	-0.01%	0.01%	-1.28%
Private Equity	1.09%	2.33%	-1.24%	-0.21%	-0.02%	-0.30%	-0.53%
Real Assets	-8.20%	-10.54%	2.34%	0.06%	0.02%	0.00%	0.08%
Private Credit	0.64%	2.83%	-2.19%	-0.09%	0.15%	0.08%	0.14%
Real Estate	1.59%	1.39%	0.20%	0.01%	-0.08%	0.00%	-0.07%
Total	6.77%	6.93%	-0.16%	-0.22%	0.24%	-0.18%	-0.16%

US Effective Style Map



Large Cap Core Equity Peer Universe Comparison

Period Ending: September 30, 2020



	Return (Rank)															
5th Percentile	12.13		39.38		23.77		14.89		17.17		16.39		14.72		15.36	
25th Percentile	9.75		33.14		16.90		10.54		13.11		14.25		12.79		14.10	
Median	8.07		29.61		11.95		8.24		10.97		13.07		12.00		13.39	
75th Percentile	6.95		26.53		7.29		5.05		8.61		11.58		10.82		12.57	
95th Percentile	4.60		19.08		0.72		1.03		4.93		7.90		8.59		10.94	
# of Portfolios	327		327		327		322		317		289		274		225	
● BlackRock Russell 1000 Index Fund	9.48	(29)	33.38	(24)	16.06	(30)	9.82	(31)	--	(--)	--	(--)	--	(--)	--	(--)
▲ Russell 1000	9.47	(29)	33.36	(24)	16.01	(30)	9.77	(31)	12.38	(34)	14.09	(29)	12.54	(34)	13.76	(38)

BlackRock Russell 1000 Index Fund

Equity Only Summary Statistics

Period Ending: September 30, 2020

Characteristics

	Portfolio	Russell 1000
Number of Holdings	1,016	1,015
Weighted Avg. Market Cap. (\$B)	398.7	398.3
Median Market Cap. (\$B)	10.5	10.4
Price To Earnings	24.4	24.4
Price To Book	4.4	4.5
Price To Sales	2.4	2.5
Return on Equity (%)	3.9	3.9
Yield (%)	1.6	1.6

Top Holdings

APPLE INC	6.0%
MICROSOFT CORP	5.0%
AMAZON.COM INC	4.3%
FACEBOOK INC	2.0%
ALPHABET INC	1.4%
ALPHABET INC	1.4%
BERKSHIRE HATHAWAY INC	1.3%
JOHNSON & JOHNSON	1.3%
PROCTER & GAMBLE CO (THE)	1.1%
VISA INC	1.1%

Best Performers

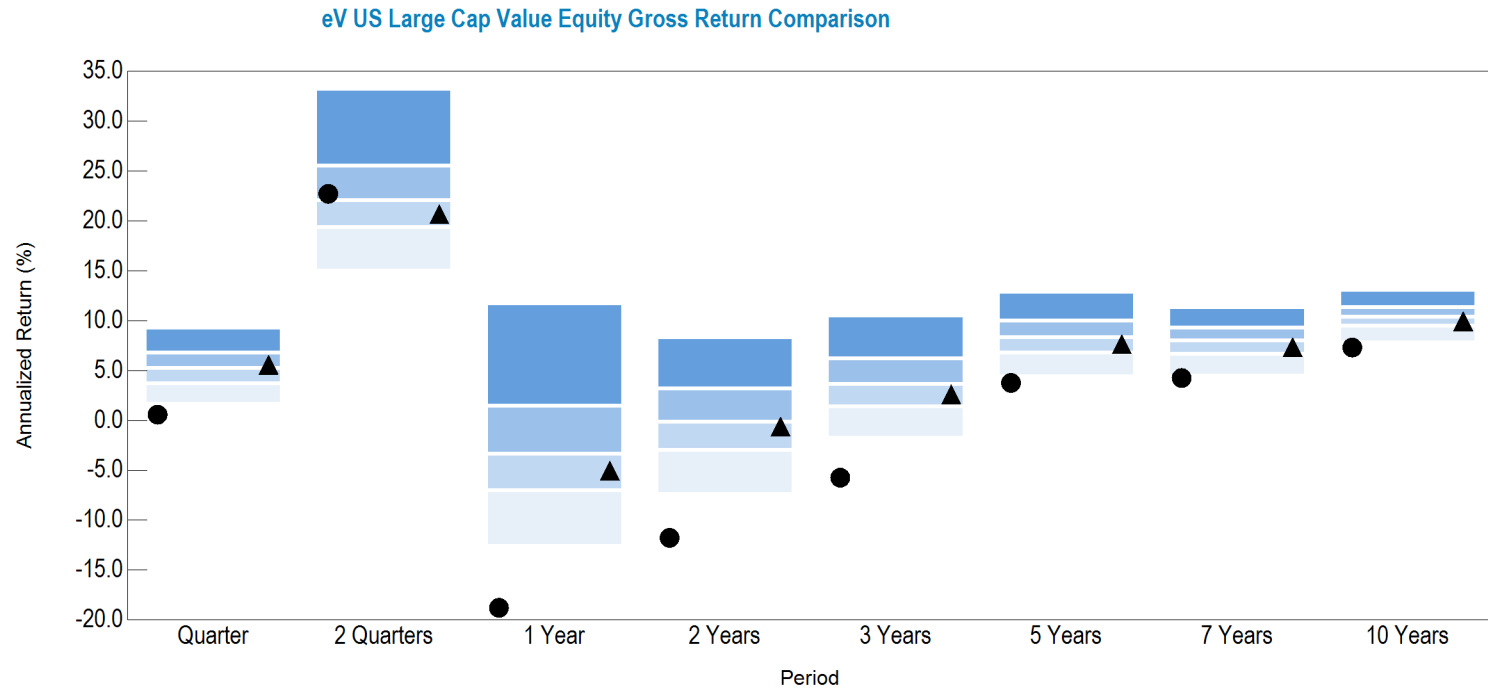
	Return %
IMMUNOMEDICS INC (IMMU)	139.9%
L BRANDS INC (LB)	112.5%
TESLA INC (TSLA)	98.6%
NOVOCURE LTD (NVCR)	87.7%
PINTEREST INC (PINS)	87.2%
LIVONGO HEALTH INC (LVGO)	86.3%
CARVANA CO (CVNA)	85.6%
ZOOM VIDEO COMMUNICATIONS INC (ZM)	85.4%
FEDEX CORP. (FDX)	79.9%
ZILLOW GROUP INC (ZG)	76.7%

Worst Performers

	Return %
OCCIDENTAL PETROLEUM CORP (OXY)	-45.2%
COTY INC (COTY)	-39.6%
BIOMARIN PHARMACEUTICAL INC (BMRN)	-38.3%
REATA PHARMACEUTICALS INC (RETA)	-37.6%
MURPHY OIL CORP (MUR)	-34.8%
AGIOS PHARMACEUTICALS INC (AGIO)	-34.6%
MARATHON OIL CORP (MRO)	-33.2%
KIRBY CORP (KEX)	-32.5%
HOLLYFRONTIER CORP (HFC)	-31.6%
ALTERYX INC (AYX)	-30.9%

Large Cap Value Equity Peer Universe Comparison

Period Ending: September 30, 2020



	Return (Rank)							
5th Percentile	9.28	33.19	11.70	8.30	10.50	12.90	11.37	13.07
25th Percentile	6.84	25.56	1.52	3.25	6.27	10.07	9.36	11.38
Median	5.31	22.10	-3.28	-0.06	3.68	8.36	8.04	10.46
75th Percentile	3.77	19.44	-6.95	-2.91	1.42	6.85	6.70	9.51
95th Percentile	1.71	15.08	-12.51	-7.31	-1.71	4.49	4.54	7.85
# of Portfolios	326	326	326	324	320	309	299	263
● Pzena	0.59 (99)	22.72 (46)	-18.78 (99)	-11.77 (99)	-5.73 (99)	3.77 (98)	4.26 (97)	7.32 (98)
▲ Russell 1000 Value	5.59 (44)	20.68 (63)	-5.03 (66)	-0.62 (55)	2.63 (65)	7.66 (61)	7.35 (64)	9.95 (66)

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	39	850
Weighted Avg. Market Cap. (\$B)	38.7	115.4
Median Market Cap. (\$B)	18.7	9.1
Price To Earnings	11.3	18.7
Price To Book	1.9	2.6
Price To Sales	0.5	1.7
Return on Equity (%)	4.7	1.7
Yield (%)	2.4	2.5
Beta	1.4	1.0

Top Holdings

AMERICAN INTERNATIONAL GROUP INC	4.6%
CAPITAL ONE FINANCIAL CORP.	4.6%
FORD MOTOR CO	4.4%
GENERAL ELECTRIC CO	4.4%
CITIGROUP INC	4.0%
DOW INC	3.8%
WELLS FARGO & CO	3.8%
LEAR CORP	3.4%
WABTEC CORP	3.4%
MCKESSON CORP	3.3%

Best Performers

	Return %
GILDAN ACTIVEWEAR INC (GIL)	27.0%
PVH CORP (PVH)	24.1%
COGNIZANT TECHNOLOGY SOLUTIONS CORP (CTSH)	22.6%
DOW INC (DOW)	17.2%
STANLEY BLACK & DECKER INC (SWK)	16.9%
CAPITAL ONE FINANCIAL CORP. (COF)	15.0%
TEXTRON INC (TXT)	9.7%
NEWELL BRANDS INC (NWL)	9.6%
FORD MOTOR CO (F)	9.5%
AXIS CAPITAL HOLDINGS LTD (AXS)	8.6%

Worst Performers

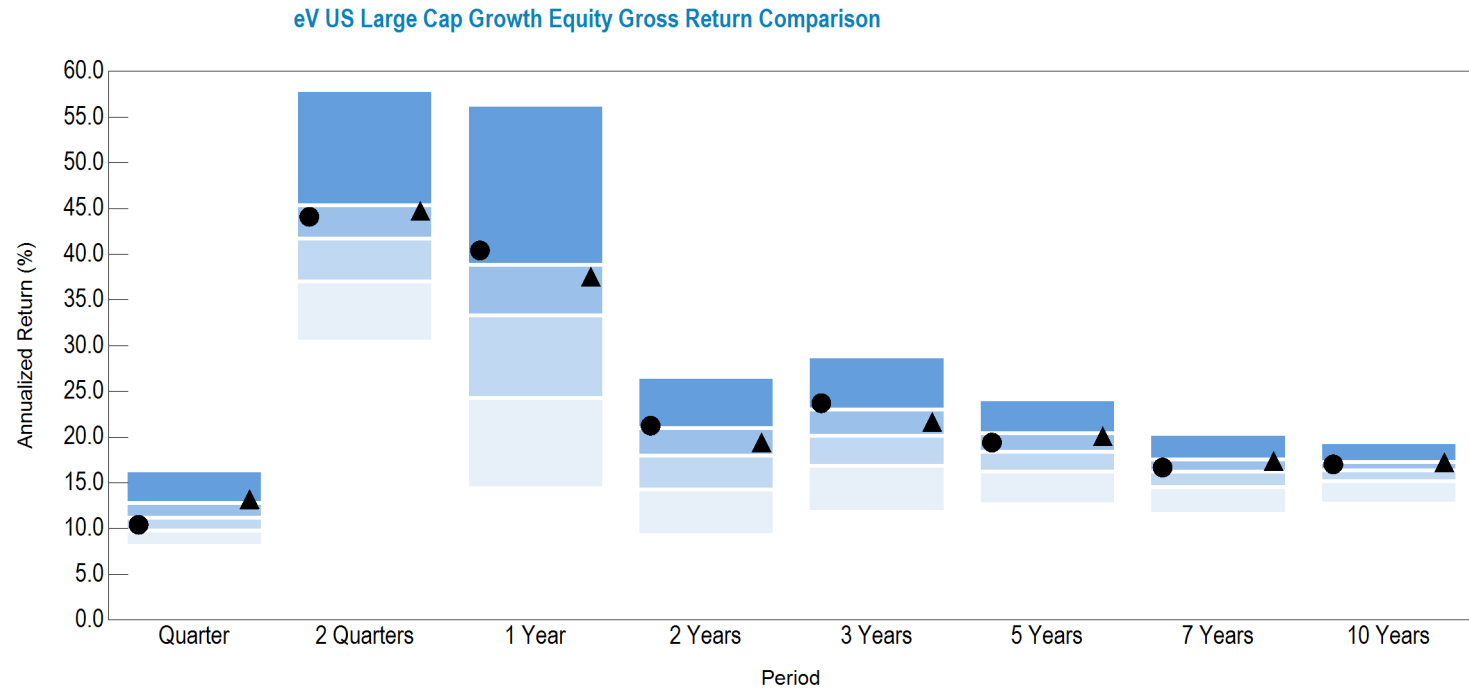
	Return %
NATIONAL OILWELL VARCO INC (NOV)	-26.0%
ROYAL DUTCH SHELL PLC (RDSA)	-22.2%
EXXON MOBIL CORP (XOM)	-21.7%
CENOVUS ENERGY INC (CVE)	-16.7%
CITIGROUP INC (C)	-14.8%
BAKER HUGHES A GE CO (BKR)	-12.7%
AMERICAN INTERNATIONAL GROUP INC (AIG)	-10.8%
CARDINAL HEALTH INC (CAH)	-9.1%
GENERAL ELECTRIC CO (GE)	-8.6%
WELLS FARGO & CO (WFC)	-7.8%

Pzena Performance Attribution vs. Russell 1000 Value

	Attribution Effects						Returns		Sector Weights		
	Total	Selection	Allocation		Interaction	Portfolio	Benchmark	Portfolio	Benchmark		
	Effects	Effect	Effect		Effects						
Energy	-1.16%	0.21%	-1.64%		0.26%	-15.57%	-19.63%	11.76%	5.28%		
Materials	0.09%	0.24%	-0.08%		-0.07%	17.19%	11.96%	3.29%	4.54%		
Industrials	-1.01%	-1.05%	-0.09%		0.14%	3.01%	11.45%	10.86%	12.50%		
Consumer Discretionary	-0.15%	-0.47%	1.02%		-0.71%	8.72%	15.44%	17.53%	7.02%		
Consumer Staples	-0.29%	--	-0.29%		--	--	9.32%	0.00%	8.07%		
Health Care	-0.98%	-1.79%	-0.16%		0.97%	-5.31%	7.81%	6.30%	13.65%		
Financials	-2.33%	-0.95%	-0.38%		-1.00%	-1.30%	3.76%	38.49%	18.73%		
Information Technology	0.87%	1.07%	0.31%		-0.52%	9.82%	-0.53%	5.36%	10.35%		
Communication Services	-0.31%	-0.93%	-0.24%		0.87%	-1.46%	8.41%	0.68%	9.45%		
Utilities	-0.32%	-0.59%	0.00%		0.27%	-4.75%	5.83%	3.01%	5.60%		
Real Estate	0.19%	--	0.19%		--	--	1.73%	0.00%	4.81%		
Cash	-0.15%	0.00%	-0.15%		0.00%	0.02%	--	2.73%	0.00%		
Portfolio	-5.57%	=	-4.27%	+	-1.52%	+	0.22%	0.13%	5.69%	100.00%	100.00%

Large Cap Growth Equity Peer Universe Comparison

Period Ending: September 30, 2020



	Return (Rank)															
5th Percentile	16.36		57.95		56.31		26.53		28.76		24.13		20.31		19.40	
25th Percentile	12.85		45.38		38.87		20.99		23.04		20.44		17.63		17.31	
Median	11.21		41.72		33.34		17.99		20.15		18.42		16.27		16.42	
75th Percentile	9.82		37.07		24.30		14.32		16.87		16.30		14.60		15.22	
95th Percentile	8.15		30.44		14.43		9.36		11.88		12.71		11.67		12.77	
# of Portfolios	252		252		252		251		246		231		226		209	
● TCW	10.42	(69)	44.09	(31)	40.41	(21)	21.26	(23)	23.71	(22)	19.40	(37)	16.68	(42)	17.02	(33)
▲ Russell 1000 Growth	13.22	(22)	44.73	(29)	37.53	(30)	19.43	(36)	21.67	(39)	20.10	(28)	17.39	(29)	17.25	(27)

Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	33	447
Weighted Avg. Market Cap. (\$B)	326.2	652.3
Median Market Cap. (\$B)	72.9	13.8
Price To Earnings	47.2	33.4
Price To Book	10.2	9.6
Price To Sales	7.6	4.2
Return on Equity (%)	14.3	6.5
Yield (%)	0.4	0.8
Beta	1.0	1.0

Top Holdings

AMAZON.COM INC	8.0%
ADOBE INC	6.8%
SERVICENOW INC	6.6%
SALESFORCE.COM INC	5.3%
FACEBOOK INC	5.1%
PAYPAL HOLDINGS INC	5.1%
ALPHABET INC	5.0%
VISA INC	4.9%
AMERICAN TOWER CORP	4.6%
NVIDIA CORPORATION	4.5%

Best Performers

	Return %
NVIDIA CORPORATION (NVDA)	42.5%
SALESFORCE.COM INC (CRM)	34.2%
XYLEM INC (XYL)	29.9%
TRADE DESK INC (THE) (TTD)	27.6%
ZOETIS INC (ZTS)	20.8%
SERVICENOW INC (NOW)	19.7%
ALIGN TECHNOLOGY INC (ALGN)	19.3%
COSTCO WHOLESALE CORP (COST)	17.3%
FACEBOOK INC (FB)	15.3%
MASTERCARD INC (MA)	14.5%

Worst Performers

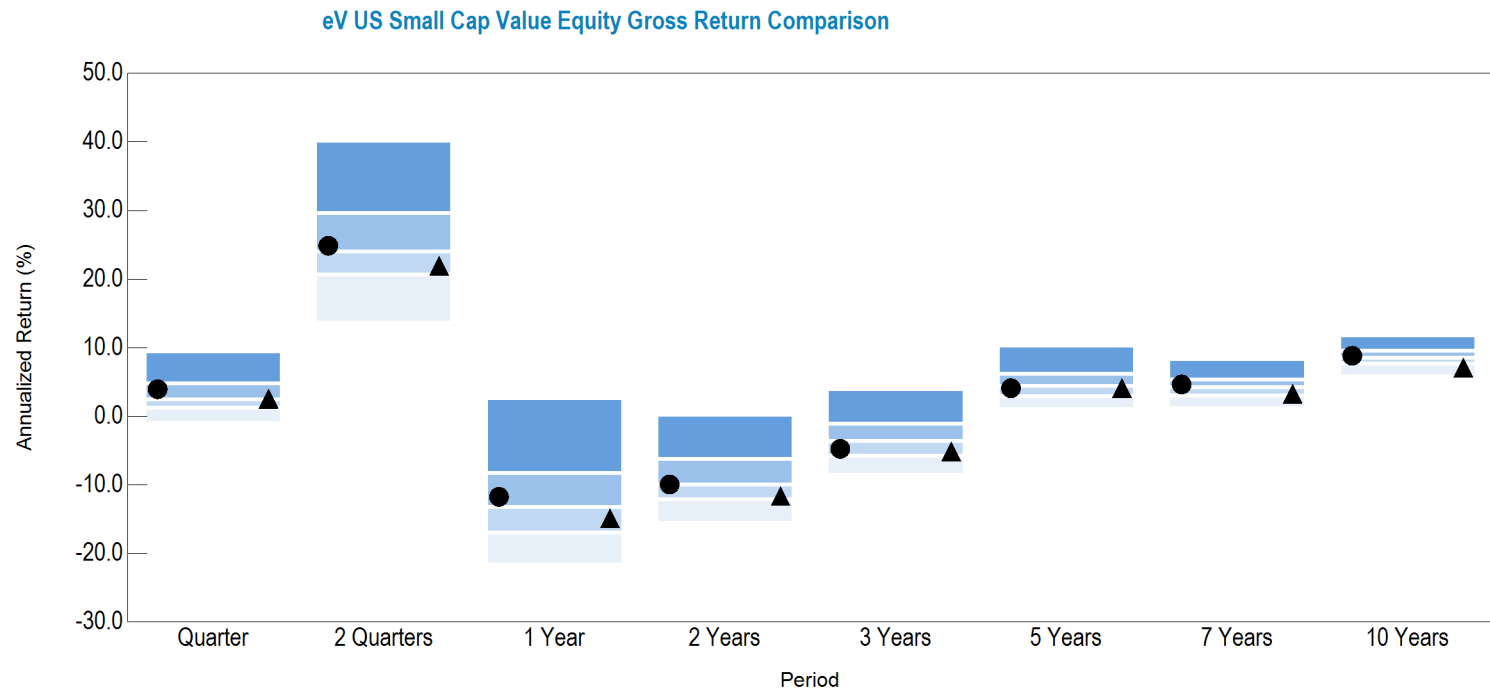
	Return %
BIOMARIN PHARMACEUTICAL INC (BMRN)	-38.3%
ILLUMINA INC (ILMN)	-16.5%
CHUBB LTD (CB)	-7.7%
AMERICAN TOWER CORP (AMT)	-6.1%
SPLUNK INC (SPLK)	-5.3%
TRANSUNION (TRU)	-3.3%
ASML HOLDING NV (ASML)	0.3%
VISA INC (V)	3.7%
ALPHABET INC (GOOG)	4.0%
IHS MARKIT LTD (INFO)	4.2%

TCW Performance Attribution vs. Russell 1000 Growth

	Attribution Effects						Returns		Sector Weights		
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.01%	--	0.01%	--	--	-4.04%	0.00%	0.08%			
Materials	-0.01%	--	-0.01%	--	--	15.03%	0.00%	0.82%			
Industrials	-0.42%	-0.25%	0.01%	-0.18%	8.06%	13.40%	7.94%	4.63%			
Consumer Discretionary	-1.16%	-1.17%	-0.31%	0.32%	13.08%	20.65%	11.28%	15.47%			
Consumer Staples	0.14%	0.25%	0.03%	-0.13%	17.33%	12.20%	2.25%	4.84%			
Health Care	-0.18%	-0.66%	0.31%	0.18%	1.24%	5.65%	11.01%	15.04%			
Financials	-0.27%	-0.04%	-0.18%	-0.05%	4.32%	6.38%	4.67%	2.10%			
Information Technology	0.54%	0.64%	-0.05%	-0.04%	16.50%	15.05%	40.79%	43.80%			
Communication Services	-0.02%	-0.07%	0.04%	0.01%	9.40%	10.05%	9.84%	11.13%			
Utilities	0.00%	--	0.00%	--	--	-4.75%	0.00%	0.02%			
Real Estate	-0.90%	-0.04%	-0.74%	-0.11%	-0.81%	1.05%	8.17%	2.07%			
Cash	-0.54%	0.00%	-0.54%	0.00%	0.02%	--	4.05%	0.00%			
Portfolio	-2.81%	=	-1.35%	+	-1.44%	+	-0.02%	10.43%	13.24%	100.00%	100.00%

Small Cap Value Equity Peer Universe Comparison

Period Ending: September 30, 2020



	Return (Rank)							
5th Percentile	9.40	40.15	2.65	0.20	3.92	10.28	8.28	11.80
25th Percentile	4.84	29.71	-8.19	-6.14	-1.08	6.21	5.38	9.58
Median	2.52	24.11	-13.12	-9.86	-3.59	4.47	4.28	8.56
75th Percentile	1.28	20.72	-16.91	-12.09	-5.71	3.01	3.10	7.77
95th Percentile	-0.97	13.67	-21.60	-15.50	-8.47	1.13	1.23	5.90
# of Portfolios	221	221	221	218	214	208	199	186
● Kennedy	3.95 (35)	24.85 (46)	-11.75 (41)	-9.95 (52)	-4.76 (64)	4.09 (60)	4.64 (39)	8.82 (44)
▲ Russell 2000 Value	2.56 (50)	21.94 (66)	-14.88 (63)	-11.63 (71)	-5.13 (69)	4.11 (60)	3.27 (74)	7.09 (88)

Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	279	1,459
Weighted Avg. Market Cap. (\$B)	2.2	1.9
Median Market Cap. (\$B)	1.3	0.5
Price To Earnings	16.2	13.9
Price To Book	2.1	1.8
Price To Sales	1.0	0.7
Return on Equity (%)	0.5	-0.2
Yield (%)	1.6	2.2
Beta	1.0	1.0

Top Holdings

BMC STOCK HOLDINGS INC	1.1%
CASELLA WASTE SYSTEMS INC	1.0%
RENEWABLE ENERGY GROUP INC	0.9%
SCRIPPS (E.W.) CO (THE)	0.9%
COOPER TIRE & RUBBER CO	0.9%
FIRST INTERSTATE BANCSYSTEM INC	0.8%
REXFORD INDUSTRIAL REALTY INC	0.8%
PENNYMAC FINANCIAL SERVICES INC	0.8%
BLACK HILLS CORP	0.8%
INSTALLED BUILDING PRODUCTS INC	0.8%

Best Performers

	Return %
PACIFIC ETHANOL INC (PEIX)	929.7%
RENEWABLE ENERGY GROUP INC (REGI)	115.6%
YRC WORLDWIDE INC (YRCW)	111.9%
SURGERY PARTNERS INC (SGRY)	89.3%
SITIME CORP (SITM)	77.2%
BMC STOCK HOLDINGS INC (BMCH)	70.4%
ASPEN AEROGELS INC (ASPN)	66.4%
VIRTUSA CORP (VRTU)	51.4%
LITHIA MOTORS INC. (LAD)	50.8%
ARCH COAL INC (ARCH)	49.5%

Worst Performers

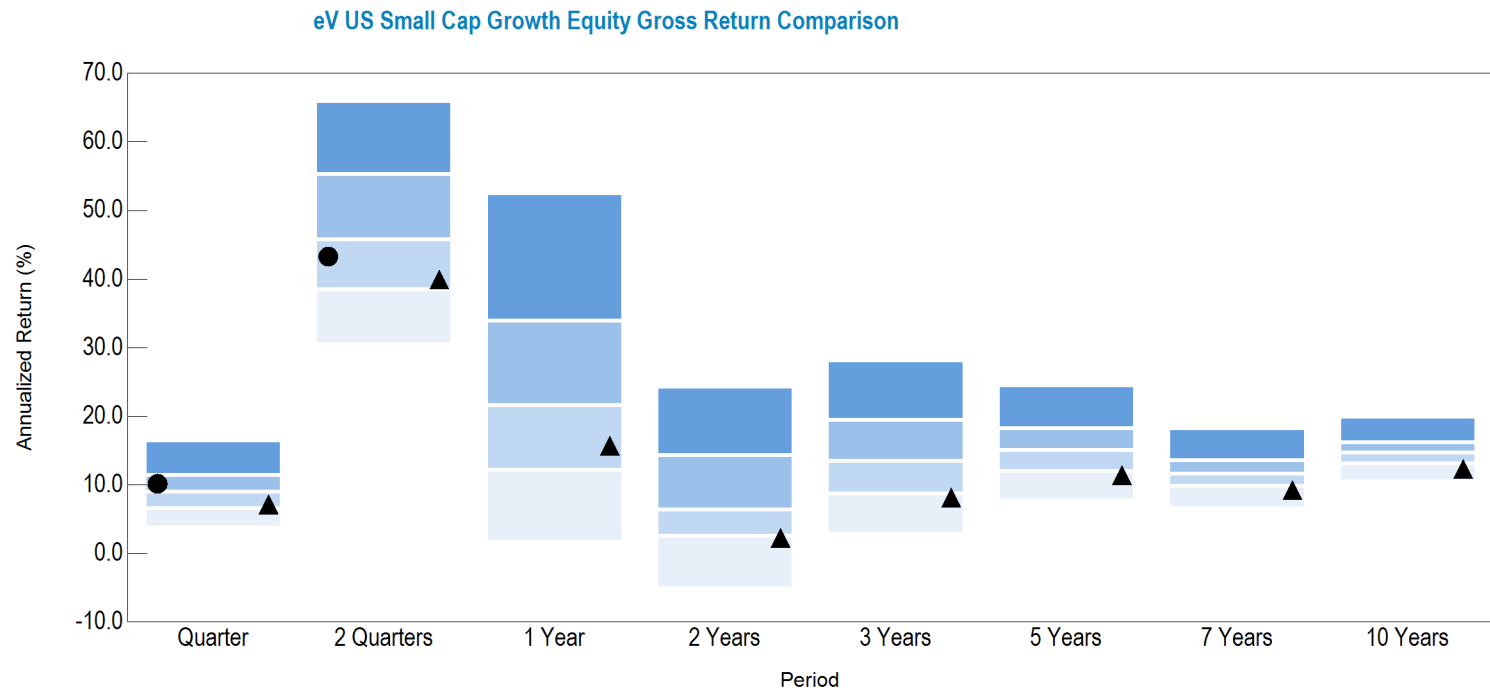
	Return %
RECRO PHARMA INC (REPH)	-53.8%
PBF ENERGY INC (PBF)	-44.4%
APREA THERAPEUTICS INC (APRE)	-38.0%
REATA PHARMACEUTICALS INC (RETA)	-37.6%
PIXELWORKS INC (PXLW)	-36.5%
DELEK US HOLDINGS INC (DK)	-34.8%
KIRBY CORP (KEX)	-32.5%
NEOPHOTONICS CORP (NPTN)	-31.4%
SCHOLASTIC CORP (SCHL)	-29.4%
AEHR TEST SYSTEMS (AEHR)	-28.9%

Kennedy Performance Attribution vs. Russell 2000 Value

	Attribution Effects						Returns		Sector Weights		
	Total	Selection	Allocation		Interaction	Portfolio	Benchmark	Portfolio	Benchmark		
	Effects	Effect	Effect		Effects						
Energy	0.86%	1.05%	0.20%		-0.39%	13.51%	-9.91%	2.79%	4.46%		
Materials	-0.12%	-0.10%	-0.02%		0.01%	4.49%	6.45%	4.98%	5.52%		
Industrials	0.60%	0.55%	0.03%		0.02%	10.48%	7.08%	16.77%	16.12%		
Consumer Discretionary	-0.45%	-0.36%	-0.11%		0.02%	17.20%	20.48%	10.39%	11.01%		
Consumer Staples	-0.01%	-0.01%	0.00%		0.00%	6.98%	7.12%	3.53%	3.54%		
Health Care	-0.34%	-0.34%	-0.05%		0.05%	2.45%	7.81%	5.33%	6.27%		
Financials	0.30%	-0.10%	0.38%		0.02%	-4.30%	-3.96%	22.89%	28.88%		
Information Technology	0.21%	0.17%	-0.16%		0.20%	2.83%	0.11%	13.49%	6.21%		
Communication Services	0.19%	0.26%	0.04%		-0.11%	9.63%	-1.19%	1.41%	2.44%		
Utilities	0.06%	0.06%	0.00%		0.00%	-4.79%	-5.89%	4.99%	5.01%		
Real Estate	0.63%	0.64%	0.04%		-0.05%	3.49%	-2.63%	9.69%	10.52%		
Cash	-0.09%	0.00%	-0.09%		0.00%	0.02%	--	3.74%	0.00%		
Portfolio	1.84%	=	1.82%	+	0.26%	+	-0.24%	4.15%	2.31%	100.00%	100.00%

Small Cap Growth Equity Peer Universe Comparison

Period Ending: September 30, 2020



	Return (Rank)															
5th Percentile	16.45		65.92		52.48		24.28		28.08		24.50		18.26		19.86	
25th Percentile	11.50		55.37		33.96		14.35		19.52		18.27		13.62		16.30	
Median	9.09		45.80		21.68		6.44		13.56		15.15		11.68		14.75	
75th Percentile	6.61		38.55		12.20		2.63		8.83		12.03		9.88		13.15	
95th Percentile	3.86		30.54		1.67		-5.05		2.89		7.73		6.62		10.54	
# of Portfolios	156		156		156		156		155		149		140		136	
● William Blair Small Cap Growth	10.16	(36)	43.28	(60)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)
▲ Russell 2000 Growth	7.16	(68)	39.93	(69)	15.71	(67)	2.26	(77)	8.18	(79)	11.42	(79)	9.22	(83)	12.34	(89)

William Blair Small Cap Growth Equity Only Summary Statistics

Period Ending: September 30, 2020

Characteristics

	Portfolio	Russell 2000 Growth
Number of Holdings	3,716	1,099
Weighted Avg. Market Cap. (\$B)	218.7	3.0
Median Market Cap. (\$B)	9.1	0.9
Price To Earnings	21.9	25.9
Price To Book	3.6	4.7
Price To Sales	1.6	2.2
Return on Equity (%)	6.6	-1.6
Yield (%)	1.8	0.5

Top Holdings

BWX TECHNOLOGIES INC	2.2%
BOOT BARN HOLDINGS INC	2.0%
QUINSTREET INC	1.9%
ENCOMPASS HEALTH CORP	1.8%
NATIONAL VISION HOLDINGS INC	1.8%
CASELLA WASTE SYSTEMS INC	1.8%
DARLING INGREDIENTS INC	1.7%
IRHYTHM TECHNOLOGIES INC	1.7%
AARONS HOLDINGS COMPANY INC	1.7%
FIRSTSERVICE CORP	1.6%

Best Performers

	Return %
IRHYTHM TECHNOLOGIES INC (IRTC)	105.5%
SITIME CORP (SITM)	77.2%
SOLAREGE TECHNOLOGIES INC (SEDG)	71.7%
OPEN LENDING CORP (LPRO)	68.9%
TWIST BIOSCIENCE CORP (TWST)	67.7%
QUINSTREET INC (QNST)	51.4%
LITHIA MOTORS INC. (LAD)	50.8%
DARLING INGREDIENTS INC (DAR)	46.3%
RITCHIE BROS AUCTIONEERS INC (RBA)	45.6%
HORIZON THERAPEUTICS PUBLIC LTD CO (HZNP)	39.8%

Worst Performers

	Return %
TABULA RASA HEALTHCARE INC (TRHC)	-25.5%
ROGERS CORP. (ROG)	-21.3%
AERIE PHARMACEUTICALS INC (AERI)	-20.3%
BLUE BIRD CORP (BLBD)	-18.9%
PERSPECTA INC (PRSP)	-16.0%
ALBANY INTERNATIONAL CORP. (AIN)	-15.4%
FIRSTCASH INC (FCFS)	-14.8%
LIGAND PHARMACEUTICALS INC (LGND)	-14.8%
ALARM.COM HOLDINGS INC (ALRM)	-14.8%
HEALTHEQUITY INC (HQY)	-12.4%

William Blair Small Cap Growth Performance Attribution vs. Russell 2000 Growth

	Attribution Effects						Returns		Sector Weights		
	Total	Selection	Allocation		Interaction	Portfolio	Benchmark	Portfolio	Benchmark		
	Effects	Effect	Effect	Effects							
Energy	-0.12%	0.00%	-0.15%		0.02%	-3.84%	-6.09%	1.28%	0.17%		
Materials	0.12%	0.32%	0.01%		-0.20%	18.13%	6.58%	0.99%	2.68%		
Industrials	-2.36%	-1.85%	0.66%		-1.17%	0.94%	15.15%	21.29%	13.05%		
Consumer Discretionary	0.12%	0.52%	-0.28%		-0.12%	21.20%	17.12%	9.88%	12.70%		
Consumer Staples	0.51%	0.60%	-0.01%		-0.08%	28.62%	9.79%	2.79%	3.19%		
Health Care	3.02%	3.56%	0.19%		-0.74%	14.81%	4.45%	27.27%	34.37%		
Financials	0.10%	0.10%	-0.02%		0.02%	7.25%	4.84%	5.08%	4.28%		
Information Technology	1.04%	1.02%	-0.10%		0.12%	7.77%	2.95%	23.68%	21.18%		
Communication Services	0.93%	1.39%	0.09%		-0.56%	51.43%	-1.34%	1.59%	2.64%		
Utilities	0.22%	--	0.22%		--	--	-4.36%	0.00%	1.88%		
Real Estate	0.45%	0.51%	0.00%		-0.06%	19.91%	6.70%	3.37%	3.85%		
Cash	-0.20%	0.00%	-0.20%		0.00%	0.02%	--	2.80%	0.00%		
Portfolio	3.82%	=	6.17%	+	0.41%	+	-2.76%	10.96%	7.13%	100.00%	100.00%

International developed equity

International equities continued to recover through Q3, though the MSCI EAFE Index (+4.8%) materially lagged the MSCI Emerging Markets Index (+9.6%) and the S&P 500 Index (+8.9%). Dollar weakness coinciding with the risk recovery through the summer was a major theme and dampened the underperformance of international developed equities relative to U.S. equities in U.S. dollar terms. The three largest currency exposures embedded in the MSCI EAFE Index—the euro (32%), the yen (26%), and the pound sterling (13%)—appreciated +4.4%, +2.2%, and +4.6% relative to the greenback over the course of the quarter.

In the second quarter, MSCI EAFE Index revenues dropped nearly -20%, and earnings dropped nearly -60%, pushing certain valuation metrics including price/earnings ratios to historic highs. Moving into Q3 earnings season, analysts are anticipating a historic turnaround in corporate profits, which could help bring valuations back to more normal levels.

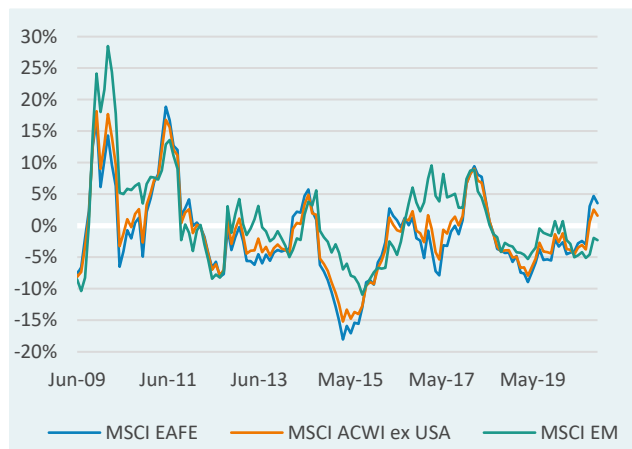
The MSCI EAFE Growth Index returned +8.4% over the third quarter, outpacing the MSCI EAFE Value Index (+1.2%) in U.S. dollar terms, extending its outperformance over the year-to-date to a staggering +23.6%.

INTERNATIONAL DEVELOPED EQUITIES



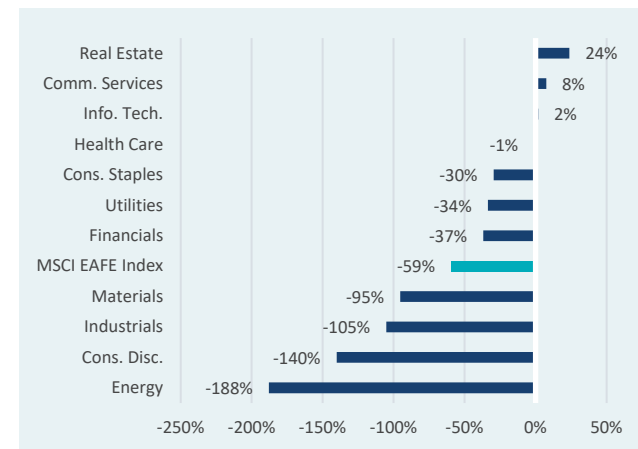
Source: MSCI, as of 9/30/20

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 9/30/20

Q2 2020 EARNINGS GROWTH – MSCI EAFE INDEX



Source: MSCI, Bloomberg, as of 9/30/20

Emerging market equity

Emerging market equities (MSCI EM +9.6%) outperformed U.S. (S&P 500 +8.9%) and international developed equities (MSCI EAFE +4.8%) over the quarter. Looking across the emerging market complex, Latin American equities underperformed (MSCI EM Latin American -1.3%) which was a continuation of a longer-term trend. Latin American stocks have drastically underperformed over the previous 10-year period (MSCI EM Latin America -5.7%, MSCI EM +2.5%).

Inflation remained subdued relative to longer-term averages, due in large part to energy prices remaining under pressure. The Emerging Markets Citi Inflation Surprise Index rose from

-28.8 to -6.6 over the quarter, implying that the magnitude of inflation data misses lessened between June and September.

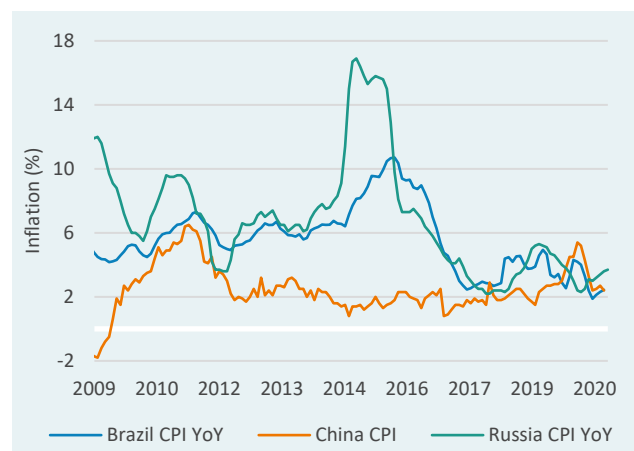
Emerging market currencies broadly appreciated relative to the U.S. dollar, and Asian currencies outperformed. The offshore Chinese renminbi rallied 4.2% versus the greenback to ¥6.78, its strongest level since mid-2019. Part of the rally in the yuan has been attributed to FTSE Russell's recent decision to add Chinese government bonds to its World Government Bond Index. This change would take effect in 2021, and would likely result in increased foreign capital inflows.

EMERGING MARKET EQUITY



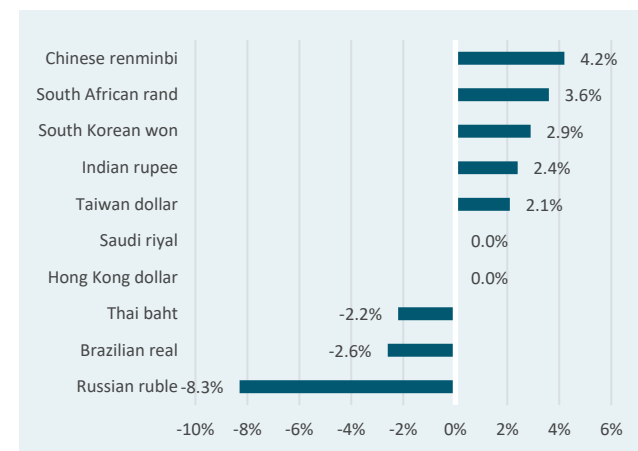
Source: MSCI, as of 9/30/20

INFLATION (YOY)



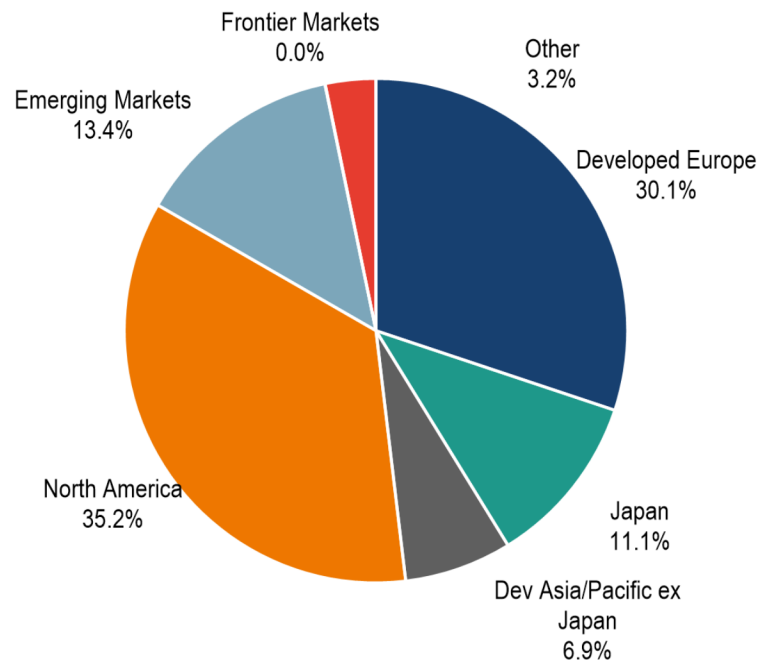
Source: Bloomberg, as of 9/30/20

Q3 CURRENCY PERFORMANCE – MSCI EM INDEX

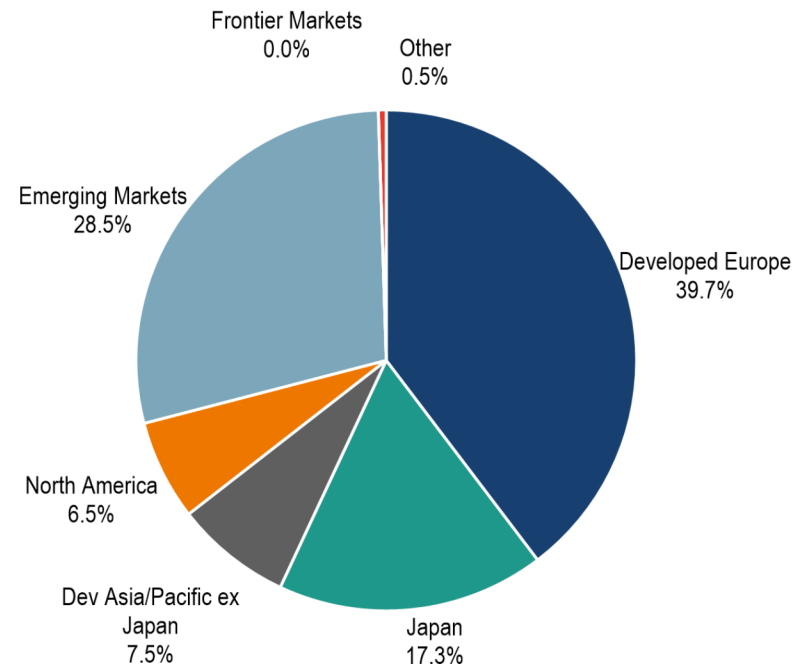


Source: Bloomberg, as of 9/30/20

International Equity

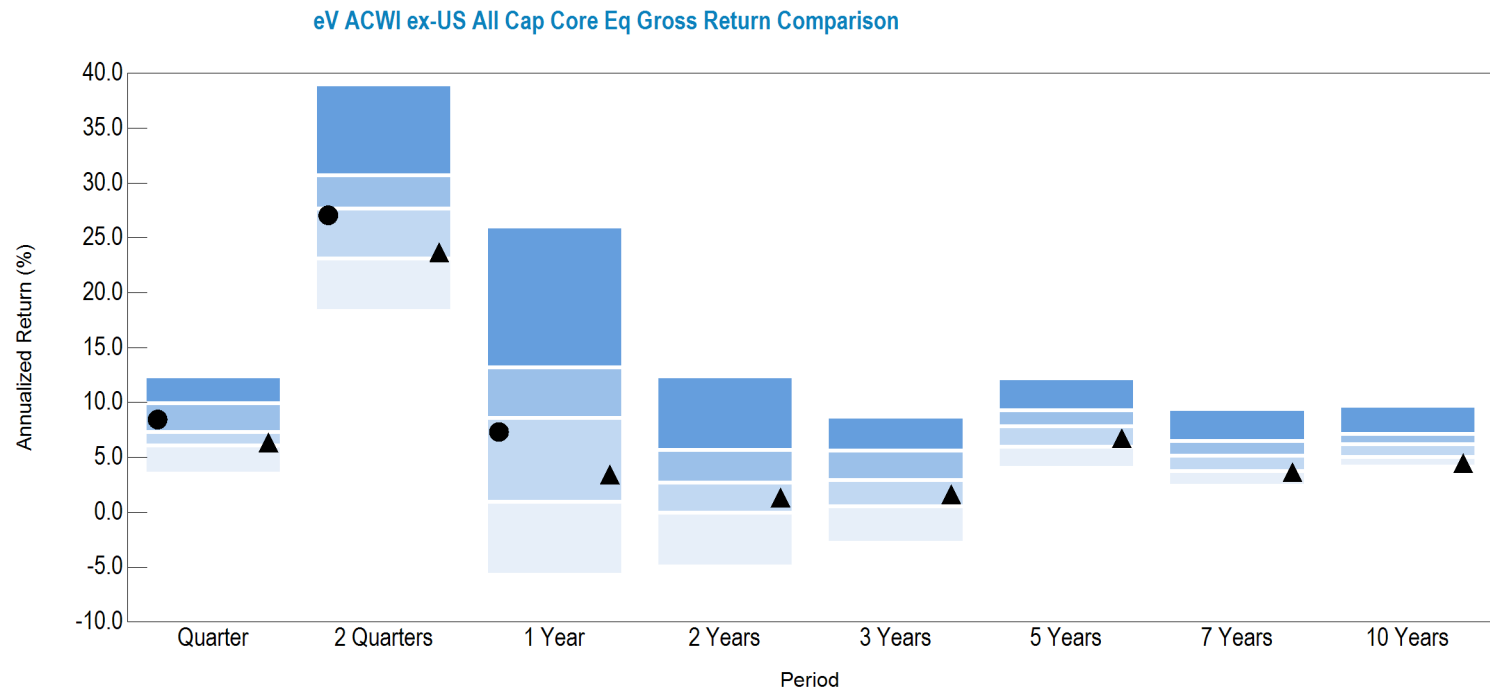


MSCI ACWI ex US IMI



ACWI ex-US Large Cap Core Equity Peer Universe Comparison

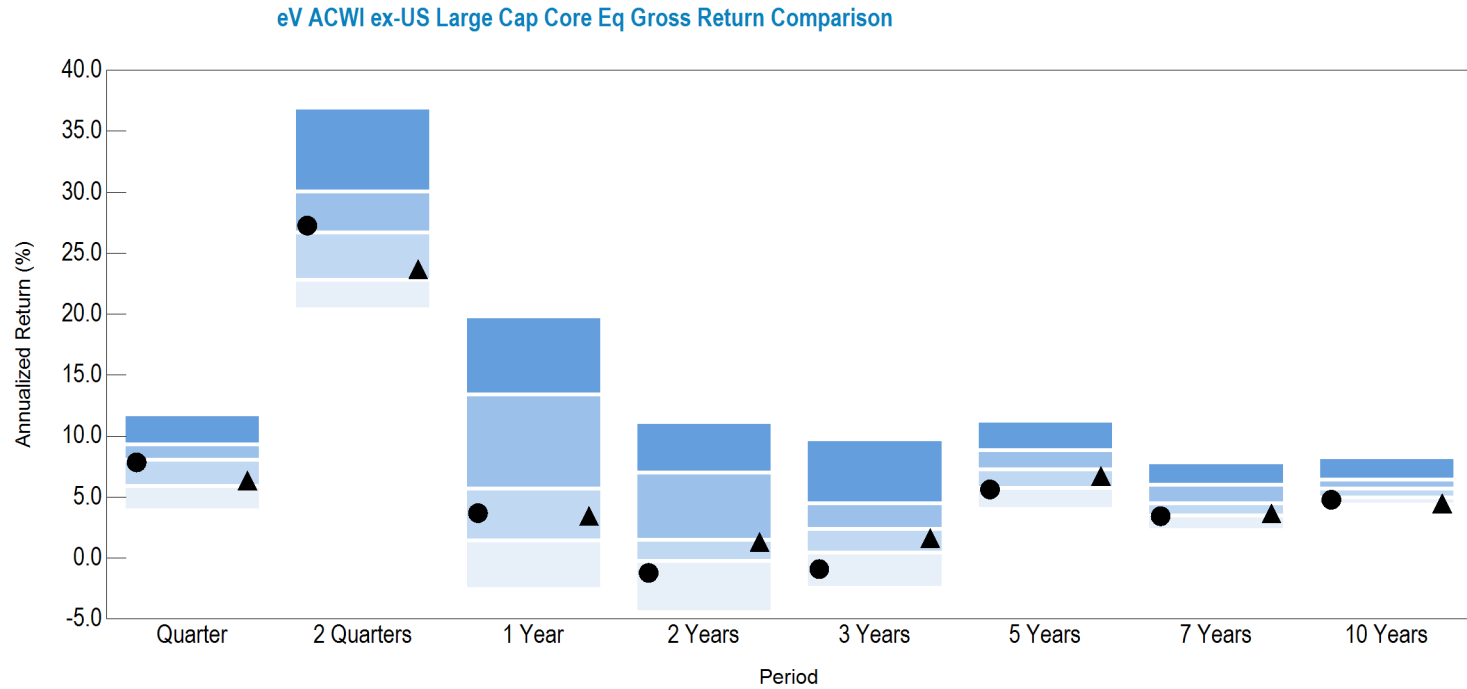
Period Ending: September 30, 2020



	Return (Rank)															
5th Percentile	12.36	38.97	26.02	12.38	8.68	12.19	9.37	9.70								
25th Percentile	9.98	30.76	13.25	5.73	5.65	9.35	6.55	7.16								
Median	7.35	27.68	8.63	2.76	2.97	7.88	5.18	6.24								
75th Percentile	6.11	23.18	1.01	0.01	0.56	6.02	3.78	5.08								
95th Percentile	3.56	18.40	-5.67	-4.91	-2.75	4.10	2.46	4.22								
# of Portfolios	51	51	51	50	49	45	43	33								
● Bivium Intl Equity	8.45	(44)	27.06	(52)	7.32	(54)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)
▲ MSCI ACWI ex USA Gross	6.36	(71)	23.69	(70)	3.45	(69)	1.34	(63)	1.64	(63)	6.74	(64)	3.66	(79)	4.48	(86)

ACWI ex-US Large Cap Core Equity Peer Universe Comparison

Period Ending: September 30, 2020



	Return (Rank)							
5th Percentile	11.76	36.93	19.78	11.16	9.73	11.25	7.80	8.23
25th Percentile	9.32	30.08	13.46	7.04	4.52	8.88	6.02	6.46
Median	8.08	26.75	5.75	1.54	2.43	7.29	4.52	5.75
75th Percentile	5.92	22.83	1.47	-0.18	0.49	5.77	3.52	5.01
95th Percentile	3.93	20.43	-2.51	-4.43	-2.44	4.06	2.31	4.42
# of Portfolios	61	61	61	60	60	56	48	39
● AQR	7.85 (53)	27.27 (46)	3.69 (60)	-1.22 (84)	-0.90 (88)	5.63 (79)	3.43 (77)	4.78 (80)
▲ MSCI ACWI ex USA Gross	6.36 (69)	23.69 (68)	3.45 (60)	1.34 (51)	1.64 (57)	6.74 (54)	3.66 (69)	4.48 (95)

Characteristics

	Portfolio	MSCI ACWI ex USA IMI Gross
Number of Holdings	1,771	6,427
Weighted Avg. Market Cap. (\$B)	62.7	84.8
Median Market Cap. (\$B)	10.6	1.7
Price To Earnings	19.2	16.6
Price To Book	2.9	2.8
Price To Sales	1.2	1.1
Return on Equity (%)	9.6	9.8
Yield (%)	2.2	2.6
Beta	1.0	1.0

Top Holdings

ROCHE HOLDING AG	2.9%
NOVARTIS AG	2.0%
NINTENDO CO LTD	1.7%
ASML HOLDING NV	1.7%
BAYER	1.5%
NOVO NORDISK 'B'	1.4%
FRESENIUS MEDICAL CARE AG & CO KGAA	1.4%
KONINKLIJKE AHOLD DELHAIZE NV	1.4%
AVIVA PLC	1.3%
NESTLE SA, CHAM UND VEVEY	1.3%

Best Performers

	Return %
INVESTMENTS AB KINNEVIK	54.5%
RITCHIE BROS AUCTIONEERS INC (RBA.)	46.4%
SHIMAMURA CORP	45.0%
PACIFIC CENTURY PREMIUM DEVELOPMENTS LTD	43.0%
NTT DOCOMO INC	40.5%
KINGFISHER PLC	40.3%
KION GROUP GMBH	39.4%
NELES OYJ	38.5%
GVC HOLDINGS PLC	37.4%
AFTERPAY LTD	36.2%

Worst Performers

	Return %
WIRECARD AG	-85.9%
IMPERIAL OIL LTD (IMO.)	-24.7%
REPSOL SA	-23.3%
BP PLC	-22.4%
ORIGIN ENERGY LTD	-22.1%
ROYAL DUTCH SHELL PLC	-21.0%
TAYLOR WIMPEY PLC	-20.6%
TOSHIBA CORP	-20.2%
SOCIETE GENERALE GROUP	-20.2%
BANCO BILBAO VIZCAYA ARGENTARIA SA (BBVA)	-19.2%

AQR Performance Attribution vs. MSCI ACWI ex USA Gross

	Attribution Effects							Returns		Sector Weights		
	Total Effects		Selection Effect		Allocation Effect		Interaction Effects		Portfolio	Benchmark	Portfolio	Benchmark
Energy	0.04%		-0.41%		0.24%		0.20%		-14.32%	-7.48%	3.55%	4.81%
Materials	0.45%		0.04%		0.18%		0.22%		12.20%	10.94%	11.46%	7.58%
Industrials	-0.01%		-0.16%		0.15%		0.01%		8.20%	9.83%	14.70%	11.38%
Consumer Discretionary	-0.77%		-0.53%		-0.49%		0.25%		14.01%	16.42%	8.25%	12.54%
Consumer Staples	0.08%		0.16%		0.08%		-0.16%		6.17%	4.59%	6.51%	9.92%
Health Care	-0.29%		-0.15%		-0.29%		0.15%		1.66%	2.84%	17.82%	10.64%
Financials	0.64%		0.43%		0.36%		-0.15%		3.22%	-0.10%	11.68%	18.17%
Information Technology	-0.59%		-0.75%		0.19%		-0.03%		7.18%	13.41%	13.95%	10.98%
Communication Services	0.24%		0.31%		0.07%		-0.14%		8.33%	3.37%	4.13%	7.53%
Utilities	0.11%		0.07%		0.00%		0.03%		5.08%	1.89%	3.41%	3.51%
Real Estate	-0.06%		-0.04%		-0.03%		0.00%		0.08%	1.50%	3.46%	2.76%
Cash	0.00%		--		--		--		--	--	0.00%	0.00%
Unclassified	0.01%		-0.01%		0.00%		0.01%		5.56%	6.23%	1.08%	0.18%
Portfolio	-0.15%	=	-1.01%	+	0.46%	+	0.41%	6.10%	6.24%	100.00%	100.00%	

AQR
Equity Performance Attribution

Period Ending: September 30, 2020

AQR Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
Europe									
Austria	--	-4.78%	0.00%	0.11%	--	0.01%	0.00%	--	0.01%
Belgium	3.42%	0.40%	1.26%	0.62%	0.02%	-0.05%	0.03%	0.02%	0.02%
Czech Republic*	--	-4.84%	0.00%	0.03%	--	0.00%	0.00%	--	0.00%
Denmark	17.20%	15.42%	2.23%	1.56%	0.03%	0.05%	0.04%	0.01%	0.12%
Finland	3.38%	12.45%	1.29%	0.67%	-0.06%	0.03%	0.02%	-0.05%	-0.06%
France	3.76%	2.82%	8.36%	7.25%	0.07%	-0.06%	0.05%	0.01%	0.07%
Germany	10.69%	10.68%	4.90%	3.61%	-0.01%	0.03%	0.07%	0.00%	0.09%
Greece*	--	3.43%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Hungary*	--	-9.08%	0.00%	0.07%	--	0.01%	0.00%	--	0.01%
Ireland	--	12.40%	0.00%	0.38%	--	-0.02%	-0.01%	--	-0.03%
Italy	-1.18%	1.51%	1.88%	1.52%	-0.04%	-0.02%	0.01%	-0.01%	-0.06%
Netherlands	3.18%	5.90%	4.47%	2.88%	-0.08%	-0.03%	0.07%	-0.04%	-0.09%
Norway	--	8.42%	0.00%	0.35%	--	0.00%	-0.01%	--	-0.02%
Poland*	--	-0.86%	0.00%	0.21%	--	0.01%	0.00%	--	0.01%
Portugal	--	-2.24%	0.00%	0.11%	--	0.01%	0.00%	--	0.01%
Russia*	--	-4.98%	0.00%	0.93%	--	0.01%	0.07%	--	0.08%
Spain	0.35%	-3.88%	2.71%	1.61%	0.07%	-0.13%	0.05%	0.04%	0.03%
Sweden	18.02%	14.28%	3.21%	2.04%	0.07%	0.07%	0.05%	0.04%	0.24%
Switzerland	6.05%	5.21%	9.60%	6.87%	0.06%	-0.05%	0.09%	0.02%	0.12%
United Kingdom	3.40%	-0.40%	10.49%	9.39%	0.34%	-0.09%	0.06%	0.04%	0.35%

AQR
Equity Performance Attribution

Period Ending: September 30, 2020

AQR Performance Attribution vs. MSCI ACWI ex USA Gross

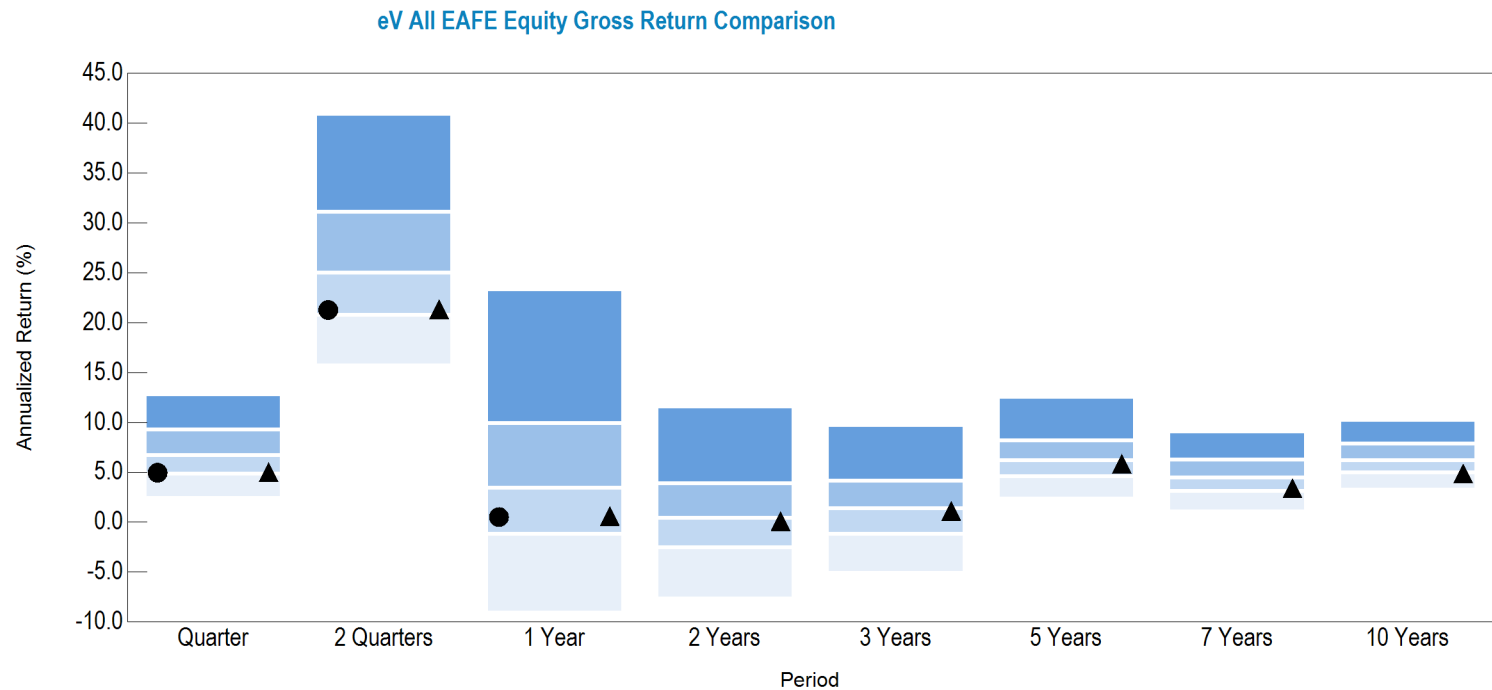
	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
AsiaPacific									
Australia	7.58%	2.53%	5.08%	4.49%	0.22%	-0.03%	0.03%	0.03%	0.25%
China*	--	12.36%	0.00%	11.99%	--	-0.97%	-0.06%	--	-1.03%
Hong Kong	-5.20%	1.55%	3.75%	2.24%	-0.15%	-0.03%	0.00%	-0.10%	-0.29%
India*	--	15.19%	0.00%	2.36%	--	-0.20%	-0.07%	--	-0.27%
Indonesia*	--	-5.65%	0.00%	0.43%	--	0.03%	0.01%	--	0.04%
Japan	6.05%	7.04%	20.53%	16.92%	-0.16%	0.04%	0.08%	-0.04%	-0.08%
Korea*	--	13.22%	0.00%	3.42%	--	-0.21%	-0.11%	--	-0.32%
Malaysia*	--	3.96%	0.00%	0.52%	--	0.02%	-0.02%	--	0.00%
New Zealand	--	-0.87%	0.00%	0.22%	--	0.02%	-0.01%	--	0.01%
Pakistan*	--	12.55%	0.00%	0.01%	--	0.00%	0.00%	--	0.00%
Philippines*	--	-2.71%	0.00%	0.25%	--	0.02%	-0.01%	--	0.02%
Singapore	8.53%	-1.06%	1.00%	0.74%	0.07%	-0.02%	0.01%	0.02%	0.08%
Taiwan*	--	16.73%	0.00%	3.62%	--	-0.40%	-0.07%	--	-0.47%
Thailand*	--	-13.80%	0.00%	0.67%	--	0.10%	0.01%	--	0.12%
Americas									
Argentina*	--	6.67%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Brazil*	--	-2.86%	0.00%	1.52%	--	0.06%	0.04%	--	0.10%
Canada	7.61%	6.51%	8.35%	6.67%	0.09%	0.01%	0.02%	0.02%	0.14%
Chile*	--	-3.97%	0.00%	0.17%	--	0.02%	-0.01%	--	0.01%
Colombia*	--	-1.00%	0.00%	0.05%	--	0.00%	0.00%	--	0.00%
Mexico*	--	4.45%	0.00%	0.51%	--	0.02%	-0.02%	--	0.00%
Peru*	--	3.54%	0.00%	0.07%	--	0.00%	0.00%	--	0.00%

AQR
Equity Performance Attribution

Period Ending: September 30, 2020

AQR Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
Other									
Egypt*	--	4.60%	0.00%	0.03%	--	0.00%	0.00%	--	0.00%
Israel	--	-2.00%	0.00%	0.42%	--	0.03%	0.00%	--	0.02%
Qatar*	--	7.45%	0.00%	0.24%	--	-0.01%	0.00%	--	-0.01%
Saudi Arabia*	--	9.47%	0.00%	0.78%	--	-0.04%	0.00%	--	-0.04%
South Africa*	--	3.41%	0.00%	1.08%	--	0.05%	-0.04%	--	0.00%
Turkey*	--	-15.76%	0.00%	0.13%	--	0.01%	0.01%	--	0.03%
United Arab Emirates*	--	6.34%	0.00%	0.15%	--	0.00%	0.00%	--	0.00%
Totals									
Americas	7.61%	4.55%	8.35%	9.03%	0.23%	0.00%	0.03%	-0.02%	0.25%
Europe	5.86%	4.16%	50.41%	40.25%	0.53%	-0.34%	0.58%	0.13%	0.90%
Asia/Pacific	5.00%	8.62%	30.36%	47.86%	-1.93%	-0.53%	-0.20%	0.71%	-1.96%
Other	--	3.90%	0.00%	2.85%	--	0.03%	-0.03%	--	0.00%
Cash	0.02%	--	10.88%	0.00%	0.00%	-0.40%	0.00%	0.00%	-0.40%
Unclassified	--	--	0.00%	0.00%	--	0.00%	0.00%	--	0.00%
Total	5.11%	6.32%	100.00%	100.00%	-1.17%	-1.24%	0.37%	0.82%	-1.21%
Totals									
Developed	5.73%	4.93%	89.12%	70.66%	0.53%	-0.38%	0.65%	0.14%	0.94%
Emerging*	--	9.67%	0.00%	29.34%	--	-1.47%	-0.28%	--	-1.74%
Cash	0.02%	--	10.88%	0.00%	0.00%	-0.40%	0.00%	0.00%	-0.40%



	Return (Rank)															
5th Percentile	12.81		40.92		23.31		11.57		9.72		12.56		9.07		10.26	
25th Percentile	9.35		31.18		9.97		3.97		4.20		8.25		6.34		7.92	
Median	6.74		25.04		3.51		0.47		1.44		6.29		4.50		6.28	
75th Percentile	4.91		20.81		-1.11		-2.49		-1.12		4.64		3.19		5.02	
95th Percentile	2.49		15.77		-9.04		-7.62		-5.04		2.40		1.15		3.33	
# of Portfolios	401		401		401		391		379		344		303		258	
● BlackRock MSCI World ex-US Index Fd A	4.96	(74)	21.27	(72)	0.52	(69)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)
▲ MSCI World ex US Gross	5.01	(72)	21.34	(71)	0.63	(67)	0.12	(53)	1.14	(53)	5.86	(56)	3.41	(70)	4.88	(79)

BlackRock MSCI World ex-US Index Fd A

Equity Only Summary Statistics

Period Ending: September 30, 2020

Characteristics

	Portfolio	MSCI World ex USA
Number of Holdings	989	988
Weighted Avg. Market Cap. (\$B)	63.1	63.0
Median Market Cap. (\$B)	10.2	10.2
Price To Earnings	19.3	19.0
Price To Book	2.8	2.8
Price To Sales	1.2	1.1
Return on Equity (%)	10.3	10.6
Yield (%)	2.5	2.8

Top Holdings

NESTLE SA, CHAM UND VEVEY	2.3%
ROCHE HOLDING AG	1.5%
NOVARTIS AG	1.2%
SAP SE	1.1%
ASML HOLDING NV	1.1%
ASTRAZENECA PLC	1.0%
TOYOTA MOTOR CORP	0.9%
LVMH MOET HENNESSY LOUIS VUITTON SE	0.9%
AIA GROUP LTD	0.8%
NOVO NORDISK 'B'	0.8%

Best Performers

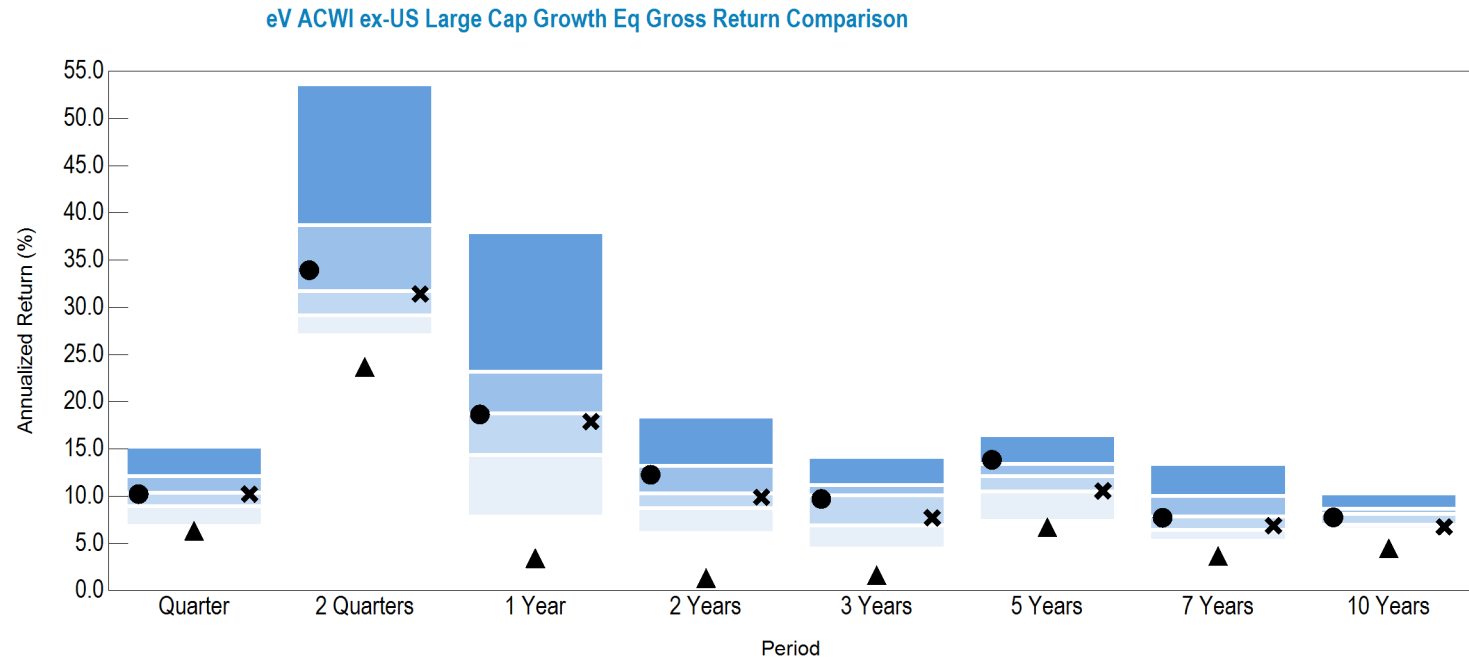
	Return %
ADEVINTA ASA	70.6%
SCHIBSTED ASA	69.7%
VESTAS WIND SYSTEMS A/S	59.4%
SG HOLDINGS CO LTD	59.2%
SUEZ SA	58.0%
INVESTMENTS AB KINNEVIK	54.5%
SIEMENS GAMESA RENEWABLE ENERGY SA	53.1%
BEIGENE LTD (BGNE)	52.0%
MERCARI INC	48.9%
RITCHIE BROS AUCTIONEERS INC (RBA.)	46.4%

Worst Performers

	Return %
ROLLS ROYCE HOLDINGS PLC	-52.4%
UNIBAIL-RODAMCO-WESTFIELD SE	-34.5%
CASINO GUICHARD PERRACHON	-34.2%
TELEFONICA SA	-27.8%
GALAPAGOS (B:GLPG)	-27.8%
TEVA PHARMACEUTICAL INDUSTRIES LTD (TEVA)	-26.9%
SUNCOR ENERGY INC. (SU.)	-26.7%
KLEPIERRE	-24.8%
IMPERIAL OIL LTD (IMO.)	-24.7%
REPSOL SA	-23.3%

ACWI ex-US Large Cap Growth Equity Peer Universe Comparison

Period Ending: September 30, 2020



	Return (Rank)															
5th Percentile	15.25	53.59	37.90	18.38	14.16	16.41	13.40	10.26								
25th Percentile	12.18	38.72	23.18	13.22	11.21	13.47	10.06	8.73								
Median	10.42	31.75	18.83	10.35	10.11	12.17	7.91	8.18								
75th Percentile	8.98	29.18	14.39	8.76	6.92	10.53	6.47	7.00								
95th Percentile	6.86	27.06	7.88	6.14	4.51	7.44	5.29	6.54								
# of Portfolios	36	36	36	36	35	33	28	18								
● Capital Group	10.23	(58)	33.94	(38)	18.65	(53)	12.27	(35)	9.71	(54)	13.85	(18)	7.72	(56)	7.76	(56)
▲ MSCI ACWI ex USA Gross	6.36	(98)	23.69	(99)	3.45	(99)	1.34	(99)	1.64	(98)	6.74	(98)	3.66	(99)	4.48	(99)
✕ MSCI ACWI ex USA Growth Gross	10.22	(58)	31.41	(52)	17.90	(61)	9.89	(60)	7.71	(69)	10.55	(75)	6.88	(70)	6.75	(86)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	201	2,375
Weighted Avg. Market Cap. (\$B)	71.0	97.2
Median Market Cap. (\$B)	25.9	7.4
Price To Earnings	25.2	16.5
Price To Book	4.0	2.9
Price To Sales	2.4	1.1
Return on Equity (%)	9.5	10.4
Yield (%)	1.7	2.6
Beta	1.0	1.0

Top Holdings

OCADO GROUP PLC	4.7%
ENEL ENTE NAZIONALE PER L'ENERGIA ELETTRICA SPA, ROMA	2.6%
BEIGENE LTD	2.3%
ASML HOLDING NV	2.3%
AIA GROUP LTD	2.2%
YANDEX NV	2.2%
ASTRAZENECA PLC	1.9%
PING AN INSURANCE GROUP	1.9%
KEYENCE CORP	1.9%
LONGFOR GROUP HOLDINGS LTD	1.8%

Best Performers

	Return %
ADEVINTA ASA	70.6%
BEIGENE LTD (BGNE)	52.0%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD (TSM)	43.5%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	41.4%
OCADO GROUP PLC	41.3%
NIDEC CORP	39.7%
NET ONE SYSTEMS CO LTD	36.6%
RELIANCE INDUSTRIES LTD (RLNIY)	34.7%
LIGHTSPEED POS INC (LSPD.)	34.3%
DSV PANALPINA A/S	33.9%

Worst Performers

	Return %
CAPITA PLC	-27.6%
ROYAL DUTCH SHELL PLC	-21.1%
BANCO BILBAO VIZCAYA ARGENTARIA SA (BBVA)	-19.2%
CK ASSET HOLDINGS	-17.6%
VODAFONE GROUP PLC	-16.8%
CHINA OVERSEAS LAND & INVESTMENT LTD	-15.4%
SHIONOGI & CO LTD	-14.0%
LOJAS AMERICANAS SA	-14.0%
PETROLEO BRASILEIRO S.A.- PETROBRAS (PBR)	-13.1%
TRAINLINE PLC	-12.7%

Capital Group Performance Attribution vs. MSCI ACWI ex USA Gross

	Attribution Effects						Returns		Sector Weights		
	Total	Selection	Allocation		Interaction	Portfolio	Benchmark	Portfolio	Benchmark		
	Effects	Effect	Effect		Effects						
Energy	0.26%	-0.12%	0.36%		0.02%	-10.53%	-7.49%	2.09%	4.94%		
Materials	-0.39%	-0.09%	-0.21%		-0.10%	8.97%	11.04%	3.28%	7.73%		
Industrials	-0.32%	-0.21%	-0.08%		-0.03%	8.14%	9.84%	8.77%	11.52%		
Consumer Discretionary	0.59%	-0.11%	0.45%		0.26%	16.81%	16.51%	16.53%	12.28%		
Consumer Staples	-0.14%	-0.24%	0.06%		0.03%	2.97%	4.59%	7.58%	10.12%		
Health Care	1.17%	1.06%	-0.04%		0.14%	13.47%	3.21%	11.42%	10.37%		
Financials	0.98%	1.18%	0.11%		-0.31%	5.76%	0.11%	16.06%	18.01%		
Information Technology	0.17%	-0.20%	0.29%		0.08%	11.82%	13.41%	15.50%	11.16%		
Communication Services	0.76%	0.95%	0.04%		-0.22%	15.95%	3.39%	6.04%	7.77%		
Utilities	0.09%	0.04%	-0.06%		0.11%	4.27%	1.94%	4.81%	3.51%		
Real Estate	0.31%	0.24%	-0.10%		0.16%	8.83%	1.26%	4.84%	2.60%		
Cash	-0.11%	0.00%	-0.11%		0.00%	0.02%	--	3.09%	0.00%		
Portfolio	3.36%	=	2.50%	+	0.72%	+	0.14%	9.68%	6.32%	100.00%	100.00%

Capital Group
Equity Performance Attribution

Period Ending: September 30, 2020

Capital Group Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	--	-4.78%	0.00%	0.11%	--	0.01%	0.00%	--	0.01%
Belgium	11.04%	0.40%	1.14%	0.62%	0.06%	-0.04%	0.03%	0.05%	0.10%
Czech Republic*	--	-4.84%	0.00%	0.03%	--	0.00%	0.00%	--	0.00%
Denmark	8.71%	15.42%	4.81%	1.56%	-0.10%	0.22%	0.15%	-0.21%	0.06%
Finland	--	12.45%	0.00%	0.67%	--	-0.03%	-0.03%	--	-0.06%
France	6.89%	2.82%	10.53%	7.25%	0.28%	-0.17%	0.16%	0.13%	0.40%
Germany	1.39%	10.68%	5.04%	3.61%	-0.33%	0.04%	0.06%	-0.13%	-0.37%
Greece*	--	3.43%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Hungary*	--	-9.08%	0.00%	0.07%	--	0.01%	0.00%	--	0.01%
Ireland	19.77%	12.40%	0.44%	0.38%	0.03%	0.00%	0.00%	0.00%	0.04%
Italy	2.84%	1.51%	3.02%	1.52%	0.02%	-0.10%	0.06%	0.02%	0.01%
Netherlands	-1.01%	5.90%	3.89%	2.88%	-0.20%	-0.02%	0.04%	-0.07%	-0.25%
Norway	28.52%	8.42%	0.96%	0.35%	0.07%	0.01%	0.03%	0.12%	0.22%
Poland*	--	-0.86%	0.00%	0.21%	--	0.01%	0.00%	--	0.01%
Portugal	--	-2.24%	0.00%	0.11%	--	0.01%	0.00%	--	0.01%
Russia*	1.82%	-4.98%	1.13%	0.93%	-0.01%	0.00%	0.07%	0.00%	0.06%
Spain	5.22%	-3.88%	2.06%	1.61%	0.14%	-0.05%	0.03%	0.04%	0.15%
Sweden	7.83%	14.28%	2.51%	2.04%	-0.13%	0.03%	0.01%	-0.03%	-0.11%
Switzerland	10.53%	5.21%	3.54%	6.87%	0.35%	0.06%	-0.10%	-0.17%	0.14%
United Kingdom	14.40%	-0.40%	13.46%	9.39%	1.34%	-0.34%	0.24%	0.58%	1.82%

Capital Group
Equity Performance Attribution

Period Ending: September 30, 2020

Capital Group Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
AsiaPacific									
Australia	--	2.53%	0.00%	4.49%	--	0.22%	-0.17%	--	0.05%
China*	8.79%	12.36%	4.39%	11.99%	-0.39%	-0.62%	-0.05%	0.25%	-0.81%
Hong Kong	5.90%	1.55%	9.91%	2.24%	0.09%	-0.17%	0.03%	0.31%	0.26%
India*	7.77%	15.19%	1.70%	2.36%	-0.10%	-0.06%	-0.07%	0.03%	-0.20%
Indonesia*	-4.04%	-5.65%	1.15%	0.43%	0.01%	-0.05%	-0.02%	0.01%	-0.05%
Japan	11.82%	7.04%	11.90%	16.92%	0.79%	-0.05%	-0.10%	-0.23%	0.40%
Korea*	15.75%	13.22%	0.64%	3.42%	0.08%	-0.17%	-0.09%	-0.07%	-0.25%
Malaysia*	--	3.96%	0.00%	0.52%	--	0.02%	-0.02%	--	0.00%
New Zealand	8.73%	-0.87%	0.12%	0.22%	0.02%	0.01%	0.00%	-0.01%	0.02%
Pakistan*	--	12.55%	0.00%	0.01%	--	0.00%	0.00%	--	0.00%
Philippines*	--	-2.71%	0.00%	0.25%	--	0.02%	-0.01%	--	0.02%
Singapore	-3.88%	-1.06%	0.14%	0.74%	-0.01%	0.04%	-0.02%	0.00%	0.02%
Taiwan*	37.30%	16.73%	3.24%	3.62%	0.76%	-0.04%	-0.02%	-0.08%	0.62%
Thailand*	-2.24%	-13.80%	0.11%	0.67%	0.08%	0.09%	0.01%	-0.07%	0.11%
Americas									
Argentina*	--	6.67%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Brazil*	-5.40%	-2.86%	3.51%	1.52%	-0.06%	-0.08%	0.01%	-0.08%	-0.22%
Canada	6.67%	6.51%	1.00%	6.67%	0.01%	-0.03%	-0.12%	-0.01%	-0.16%
Chile*	--	-3.97%	0.00%	0.17%	--	0.02%	-0.01%	--	0.01%
Colombia*	--	-1.00%	0.00%	0.05%	--	0.00%	0.00%	--	0.00%
Mexico*	2.01%	4.45%	0.57%	0.51%	0.01%	0.00%	-0.02%	0.00%	-0.01%
Peru*	-7.24%	3.54%	0.36%	0.07%	-0.01%	0.00%	0.00%	-0.03%	-0.04%
United States	32.40%	9.51%	4.73%	0.00%	0.00%	0.27%	0.00%	1.08%	1.36%

Capital Group
Equity Performance Attribution

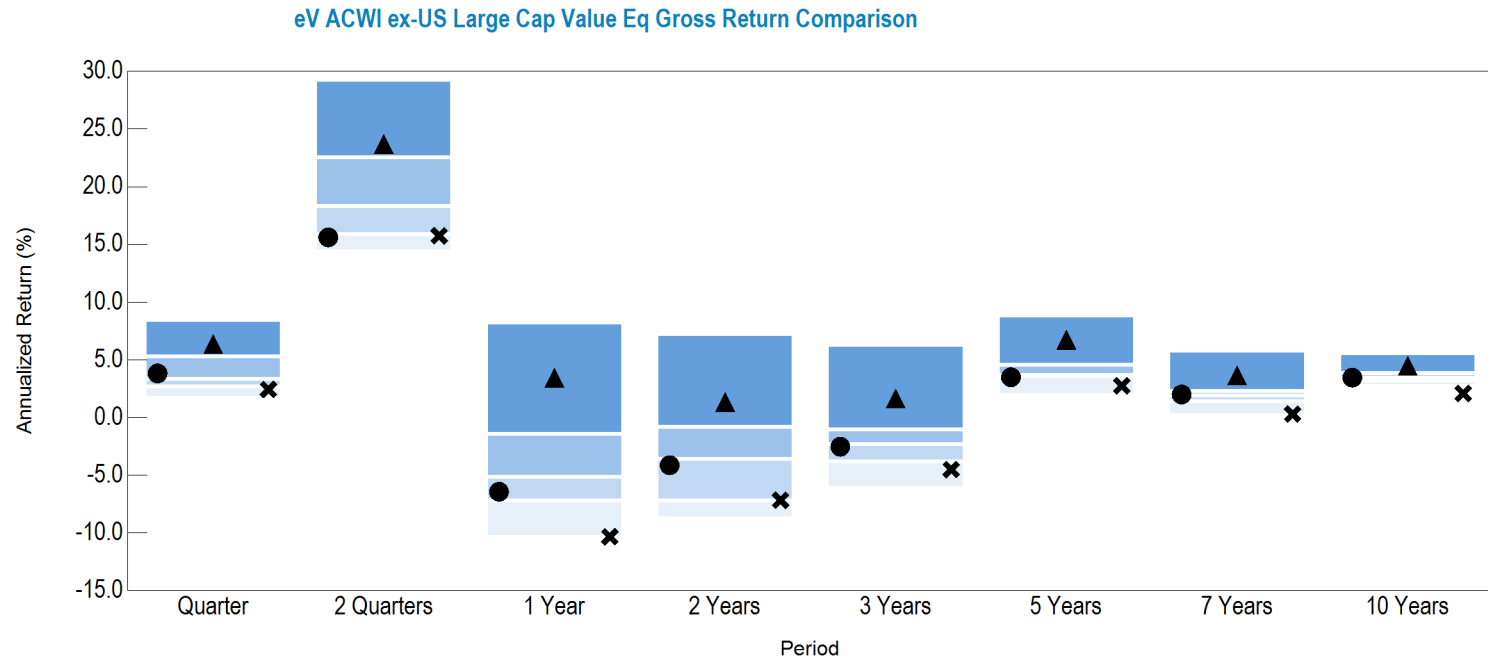
Period Ending: September 30, 2020

Capital Group Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
Other									
Egypt*	--	4.60%	0.00%	0.03%	--	0.00%	0.00%	--	0.00%
Israel	--	-2.00%	0.00%	0.42%	--	0.03%	0.00%	--	0.02%
Qatar*	--	7.45%	0.00%	0.24%	--	-0.01%	0.00%	--	-0.01%
Saudi Arabia*	--	9.47%	0.00%	0.78%	--	-0.04%	0.00%	--	-0.04%
South Africa*	13.88%	3.41%	0.89%	1.08%	0.11%	0.01%	0.00%	-0.02%	0.09%
Turkey*	--	-15.76%	0.00%	0.13%	--	0.01%	0.01%	--	0.03%
United Arab Emirates*	--	6.34%	0.00%	0.15%	--	0.00%	0.00%	--	0.00%
Totals									
Americas	13.72%	4.55%	10.17%	9.03%	0.97%	-0.01%	-0.14%	0.12%	0.94%
Europe	8.34%	4.16%	52.54%	40.25%	1.49%	-0.41%	0.72%	0.45%	2.25%
Asia/Pacific	11.34%	8.62%	33.30%	47.86%	1.68%	-0.44%	-0.54%	-0.51%	0.19%
Other	13.88%	3.90%	0.89%	2.85%	0.19%	0.02%	0.01%	-0.13%	0.08%
Cash	0.02%	--	3.11%	0.00%	0.00%	-0.12%	0.00%	0.00%	-0.12%
Unclassified	--	--	0.00%	0.00%	--	0.00%	0.00%	--	0.00%
Total	9.68%	6.32%	100.00%	100.00%	4.33%	-0.96%	0.05%	-0.07%	3.36%
Totals									
Developed	10.05%	4.93%	79.20%	70.66%	3.62%	-0.18%	0.27%	0.44%	4.16%
Emerging*	9.72%	9.67%	17.69%	29.34%	0.20%	-0.58%	-0.22%	-0.08%	-0.68%
Cash	0.02%	--	3.11%	0.00%	0.00%	-0.12%	0.00%	0.00%	-0.12%

ACWI ex-US Large Cap Value Equity Peer Universe Comparison

Period Ending: September 30, 2020



	Return (Rank)							
5th Percentile	8.45	29.25	8.19	7.19	6.27	8.84	5.77	5.56
25th Percentile	5.33	22.57	-1.36	-0.77	-1.01	4.60	2.32	3.91
Median	3.38	18.39	-5.08	-3.52	-2.29	3.74	1.96	3.48
75th Percentile	2.69	15.93	-7.13	-7.13	-3.79	3.60	1.42	3.20
95th Percentile	1.74	14.45	-10.33	-8.72	-6.11	2.01	0.24	2.77
# of Portfolios	21	21	21	21	21	21	17	14
● Mondrian	3.82 (43)	15.61 (78)	-6.43 (66)	-4.13 (54)	-2.53 (54)	3.49 (78)	2.00 (46)	3.46 (52)
▲ MSCI ACWI ex USA Gross	6.36 (15)	23.69 (20)	3.45 (17)	1.34 (14)	1.64 (14)	6.74 (14)	3.66 (12)	4.48 (12)
✕ MSCI ACWI ex USA Value Gross	2.43 (91)	15.74 (77)	-10.32 (95)	-7.17 (76)	-4.51 (86)	2.75 (93)	0.30 (95)	2.08 (99)

Mondrian Equity Only Summary Statistics

Period Ending: September 30, 2020

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	60	2,375
Weighted Avg. Market Cap. (\$B)	42.2	97.2
Median Market Cap. (\$B)	25.4	7.4
Price To Earnings	16.6	16.5
Price To Book	1.7	2.9
Price To Sales	0.7	1.1
Return on Equity (%)	4.5	10.4
Yield (%)	4.0	2.6
Beta	1.0	1.0

Top Holdings

CONTINENTAL	3.8%
COMPAGNIE DE SAINT GOBAIN SA	3.8%
SANOFI	3.6%
KYOCERA CORP	3.4%
FUJIFILM HOLDINGS CORP	3.3%
SCOTTISH AND SOUTHERN ENERGY PLC	3.2%
TELIA COMPANY AB	3.2%
ABB LTD	3.2%
KINGFISHER PLC	3.1%
ALLIANZ	3.1%

Best Performers

	Return %
G4S PLC	83.6%
KINGFISHER PLC	40.3%
TOYOTA INDUSTRIES CORP	20.1%
COMPAGNIE DE SAINT GOBAIN SA	17.2%
FUJITSU LTD	16.9%
FUJIFILM HOLDINGS CORP	16.0%
ABB LTD	13.5%
BMW PREF. (D:BMW3)	12.8%
SEKISUI CHEMICAL CO LTD	12.6%
SONY CORP	11.5%

Worst Performers

	Return %
BANCO SANTANDER SA	-23.2%
BP PLC	-22.4%
ROYAL DUTCH SHELL PLC	-21.1%
SOCIETE GENERALE GROUP	-20.2%
ROYAL DUTCH SHELL PLC	-18.9%
ISS A/S	-16.5%
ENI SPA	-16.4%
LLOYDS BANKING GROUP PLC	-11.7%
NIPPON TELEGRAPH & TELEPHONE CORP NTT	-10.7%
SINGAPORE TELECOMMUNICATIONS LTD	-10.4%

Mondrian Performance Attribution vs. MSCI ACWI ex USA Gross

	Attribution Effects						Returns		Sector Weights		
	Total	Selection	Allocation		Interaction	Portfolio	Benchmark	Portfolio	Benchmark		
	Effects	Effect	Effect	Effects							
Energy	-1.30%	-0.77%	-0.34%	-0.20%	-19.97%	-7.48%	7.67%	4.81%			
Materials	-0.53%	-0.60%	-0.23%	0.31%	4.50%	10.94%	2.53%	7.58%			
Industrials	-0.49%	-0.54%	0.16%	-0.11%	4.85%	9.83%	15.99%	11.38%			
Consumer Discretionary	-0.48%	-0.52%	-0.05%	0.08%	12.51%	16.42%	12.17%	12.54%			
Consumer Staples	-0.45%	-0.71%	0.10%	0.15%	-2.24%	4.59%	6.11%	9.92%			
Health Care	-0.83%	-0.55%	-0.22%	-0.07%	-1.97%	2.84%	16.11%	10.64%			
Financials	-1.02%	-1.74%	0.25%	0.46%	-8.43%	-0.10%	13.66%	18.17%			
Information Technology	-0.40%	-0.11%	-0.21%	-0.09%	11.95%	13.41%	7.94%	10.98%			
Communication Services	-0.31%	-0.36%	-0.04%	0.09%	0.27%	3.37%	9.81%	7.53%			
Utilities	-0.17%	-0.08%	-0.22%	0.13%	1.03%	1.89%	7.20%	3.51%			
Real Estate	0.05%	0.03%	0.07%	-0.05%	2.92%	1.50%	0.80%	2.76%			
Cash	0.00%	--	--	--	--	--	0.00%	0.00%			
Unclassified	0.00%	--	0.00%	--	--	6.23%	0.00%	0.18%			
Portfolio	-5.94%	=	-5.94%	+	-0.71%	+	0.70%	0.30%	6.24%	100.00%	100.00%

Mondrian
Equity Performance Attribution

Period Ending: September 30, 2020

Mondrian Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
Europe									
Austria	--	-4.78%	0.00%	0.11%	--	0.01%	0.00%	--	0.01%
Belgium	--	0.40%	0.00%	0.62%	--	0.05%	-0.03%	--	0.02%
Czech Republic*	--	-4.84%	0.00%	0.03%	--	0.00%	0.00%	--	0.00%
Denmark	-16.49%	15.42%	1.53%	1.56%	-0.48%	0.00%	-0.02%	0.01%	-0.49%
Finland	--	12.45%	0.00%	0.67%	--	-0.03%	-0.03%	--	-0.06%
France	3.93%	2.82%	9.28%	7.25%	0.08%	-0.11%	0.09%	0.02%	0.08%
Germany	2.81%	10.68%	4.41%	3.61%	-0.29%	0.02%	0.03%	-0.06%	-0.29%
Greece*	--	3.43%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Hungary*	--	-9.08%	0.00%	0.07%	--	0.01%	0.00%	--	0.01%
Ireland	--	12.40%	0.00%	0.38%	--	-0.02%	-0.01%	--	-0.03%
Italy	-4.51%	1.51%	5.38%	1.52%	-0.09%	-0.25%	0.15%	-0.22%	-0.41%
Netherlands	-11.53%	5.90%	3.15%	2.88%	-0.49%	-0.01%	0.00%	-0.05%	-0.54%
Norway	--	8.42%	0.00%	0.35%	--	0.00%	-0.01%	--	-0.02%
Poland*	--	-0.86%	0.00%	0.21%	--	0.01%	0.00%	--	0.01%
Portugal	--	-2.24%	0.00%	0.11%	--	0.01%	0.00%	--	0.01%
Russia*	--	-4.98%	0.00%	0.93%	--	0.01%	0.07%	--	0.08%
Spain	-22.26%	-3.88%	2.37%	1.61%	-0.28%	-0.09%	0.01%	-0.13%	-0.49%
Sweden	9.95%	14.28%	3.08%	2.04%	-0.08%	0.07%	0.04%	-0.04%	-0.02%
Switzerland	5.89%	5.21%	6.74%	6.87%	0.05%	0.00%	0.00%	0.00%	0.04%
United Kingdom	-1.09%	-0.40%	21.42%	9.39%	-0.06%	-1.01%	0.50%	-0.08%	-0.64%

Mondrian
Equity Performance Attribution

Period Ending: September 30, 2020

Mondrian Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
AsiaPacific									
Australia	1.27%	2.53%	1.13%	4.49%	-0.05%	0.17%	-0.13%	0.04%	0.03%
China*	--	12.36%	0.00%	11.99%	--	-0.97%	-0.06%	--	-1.03%
Hong Kong	-5.26%	1.55%	3.19%	2.24%	-0.15%	-0.02%	0.00%	-0.06%	-0.24%
India*	--	15.19%	0.00%	2.36%	--	-0.20%	-0.07%	--	-0.27%
Indonesia*	--	-5.65%	0.00%	0.43%	--	0.03%	0.01%	--	0.04%
Japan	4.01%	7.04%	30.87%	16.92%	-0.50%	0.14%	0.30%	-0.41%	-0.47%
Korea*	--	13.22%	0.00%	3.42%	--	-0.21%	-0.11%	--	-0.32%
Malaysia*	--	3.96%	0.00%	0.52%	--	0.02%	-0.02%	--	0.00%
New Zealand	--	-0.87%	0.00%	0.22%	--	0.02%	-0.01%	--	0.01%
Pakistan*	--	12.55%	0.00%	0.01%	--	0.00%	0.00%	--	0.00%
Philippines*	--	-2.71%	0.00%	0.25%	--	0.02%	-0.01%	--	0.02%
Singapore	-4.23%	-1.06%	5.26%	0.74%	-0.02%	-0.31%	0.07%	-0.13%	-0.38%
Taiwan*	--	16.73%	0.00%	3.62%	--	-0.40%	-0.07%	--	-0.47%
Thailand*	--	-13.80%	0.00%	0.67%	--	0.10%	0.01%	--	0.12%
Americas									
Argentina*	--	6.67%	0.00%	0.04%	--	0.00%	0.00%	--	0.00%
Brazil*	--	-2.86%	0.00%	1.52%	--	0.06%	0.04%	--	0.10%
Canada	2.92%	6.51%	0.79%	6.67%	-0.23%	-0.03%	-0.13%	0.21%	-0.19%
Chile*	--	-3.97%	0.00%	0.17%	--	0.02%	-0.01%	--	0.01%
Colombia*	--	-1.00%	0.00%	0.05%	--	0.00%	0.00%	--	0.00%
Mexico*	--	4.45%	0.00%	0.51%	--	0.02%	-0.02%	--	0.00%
Peru*	--	3.54%	0.00%	0.07%	--	0.00%	0.00%	--	0.00%

Mondrian
Equity Performance Attribution

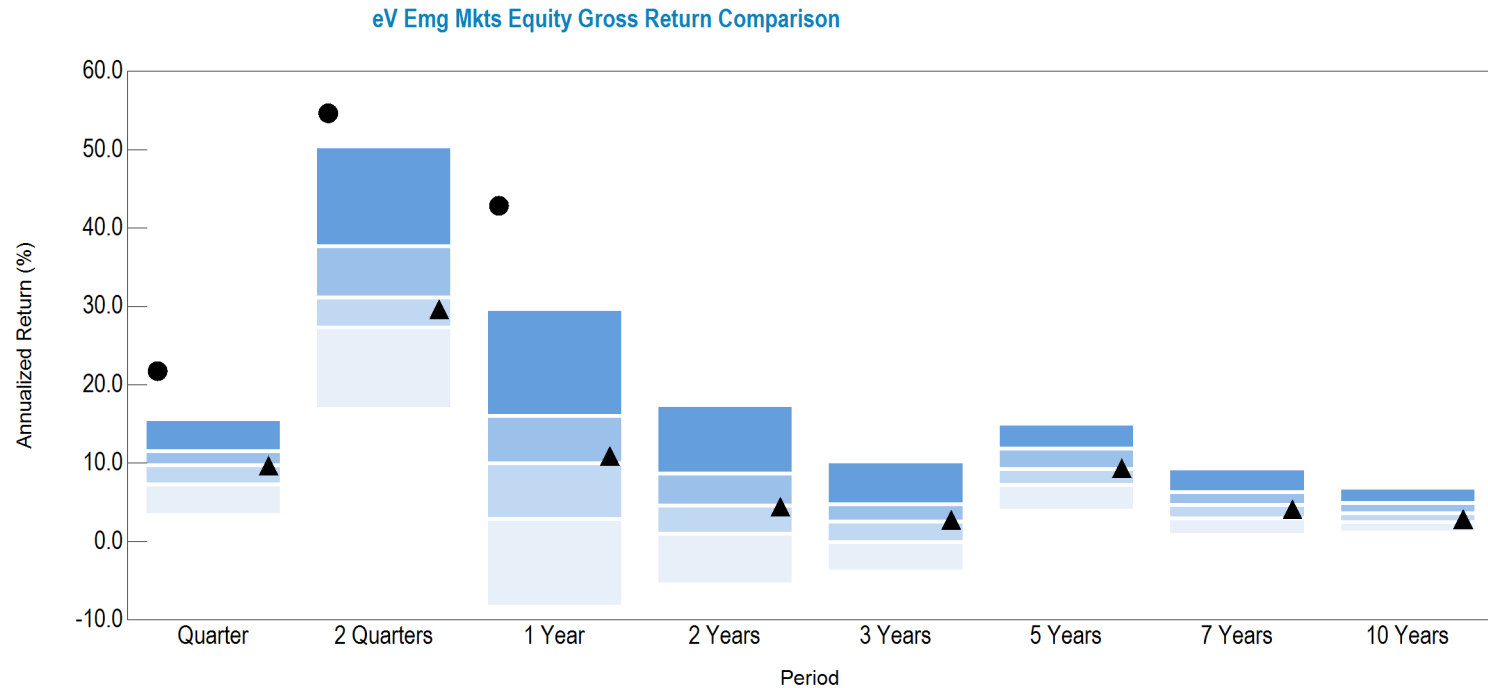
Period Ending: September 30, 2020

Mondrian Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
Other									
Egypt*	--	4.60%	0.00%	0.03%	--	0.00%	0.00%	--	0.00%
Israel	--	-2.00%	0.00%	0.42%	--	0.03%	0.00%	--	0.02%
Qatar*	--	7.45%	0.00%	0.24%	--	-0.01%	0.00%	--	-0.01%
Saudi Arabia*	--	9.47%	0.00%	0.78%	--	-0.04%	0.00%	--	-0.04%
South Africa*	--	3.41%	0.00%	1.08%	--	0.05%	-0.04%	--	0.00%
Turkey*	--	-15.76%	0.00%	0.13%	--	0.01%	0.01%	--	0.03%
United Arab Emirates*	--	6.34%	0.00%	0.15%	--	0.00%	0.00%	--	0.00%
Totals									
Americas	2.92%	4.55%	0.79%	9.03%	-0.20%	0.06%	-0.12%	0.18%	-0.08%
Europe	-0.74%	4.16%	57.37%	40.25%	-2.06%	-0.58%	0.77%	-0.88%	-2.74%
Asia/Pacific	2.13%	8.62%	40.44%	47.86%	-3.19%	-0.22%	-0.07%	0.49%	-2.99%
Other	--	3.90%	0.00%	2.85%	--	0.03%	-0.03%	--	0.00%
Cash	0.02%	--	1.40%	0.00%	0.00%	-0.05%	0.00%	0.00%	-0.05%
Total	0.46%	6.32%	100.00%	100.00%	-5.45%	-0.77%	0.55%	-0.20%	-5.86%
Totals									
Developed	0.46%	4.93%	98.60%	70.66%	-3.09%	-0.58%	0.83%	-1.22%	-4.07%
Emerging*	--	9.67%	0.00%	29.34%	--	-1.47%	-0.28%	--	-1.74%
Cash	0.02%	--	1.40%	0.00%	0.00%	-0.05%	0.00%	0.00%	-0.05%

ACWI ex-US Large Cap Value Equity Peer Universe Comparison

Period Ending: September 30, 2020



	Return (Rank)															
5th Percentile	15.61		50.35		29.63		17.38		10.20		15.05		9.27		6.83	
25th Percentile	11.58		37.76		16.09		8.72		4.79		11.89		6.37		4.99	
Median	9.79		31.21		10.02		4.67		2.64		9.27		4.74		3.67	
75th Percentile	7.33		27.36		2.95		1.03		0.00		7.28		3.00		2.55	
95th Percentile	3.42		16.97		-8.26		-5.38		-3.74		4.01		0.90		1.19	
# of Portfolios	391		391		391		377		356		322		277		172	
● Newton Emerging Mkt	21.75	(1)	54.65	(3)	42.84	(2)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)
▲ MSCI Emerging Markets Gross	9.70	(51)	29.65	(60)	10.91	(46)	4.45	(51)	2.79	(48)	9.37	(49)	4.12	(60)	2.87	(71)

Newton Emerging Mkt Equity Only Summary Statistics

Period Ending: September 30, 2020

Characteristics

	Portfolio	MSCI Emerging Markets Gross
Number of Holdings	46	1,387
Weighted Avg. Market Cap. (\$B)	125.5	178.5
Median Market Cap. (\$B)	10.4	5.6
Price To Earnings	24.3	12.6
Price To Book	4.7	3.1
Price To Sales	4.1	1.2
Return on Equity (%)	7.7	9.7
Yield (%)	0.6	2.3

Top Holdings

ALIBABA GROUP HOLDING LTD	6.2%
SAMSUNG SDI CO LTD	5.9%
LONGI GREEN ENERGY TECHNOLOGY CO LTD	5.9%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	5.6%
MEITUAN DIANPING USD0.00001 A B CLASS ISIN KYG596691041	5.3%
NEW ORIENTAL EDUCATION & TECHNOLOGY GROUP INC	5.0%
AIA GROUP LTD	4.3%
HOUSING DEVELOPMENT FINANCE CORP LTD	4.0%
INFO EDGE (INDIA) LTD	3.5%
ILJIN MATERIALS CO LTD	3.1%

Best Performers

	Return %
G4S PLC	83.6%
KINGFISHER PLC	40.3%
TOYOTA INDUSTRIES CORP	20.1%
COMPAGNIE DE SAINT GOBAIN SA	17.2%
FUJITSU LTD	16.9%
FUJIFILM HOLDINGS CORP	16.0%
ABB LTD	13.5%
BMW PREF. (D:BMW3)	12.8%
SEKISUI CHEMICAL CO LTD	12.6%
SONY CORP	11.5%

Worst Performers

	Return %
BANCO SANTANDER SA	-23.2%
BP PLC	-22.4%
ROYAL DUTCH SHELL PLC	-21.1%
SOCIETE GENERALE GROUP	-20.2%
ROYAL DUTCH SHELL PLC	-18.9%
ISS A/S	-16.5%
ENI SPA	-16.4%
LLOYDS BANKING GROUP PLC	-11.7%
NIPPON TELEGRAPH & TELEPHONE CORP NTT	-10.7%
SINGAPORE TELECOMMUNICATIONS LTD	-10.4%

Newton Emerging Mkt Performance Attribution vs. MSCI Emerging Markets Gross

	Attribution Effects				Returns		Sector Weights				
	Total	Selection	Allocation	Interaction	Portfolio	Benchmark	Portfolio	Benchmark			
	Effects	Effect	Effect	Effects							
Energy	0.54%	--	0.46%	--	--	-0.25%	0.00%	5.95%			
Materials	0.91%	0.86%	-0.01%	0.06%	25.28%	11.90%	6.34%	6.84%			
Industrials	0.22%	0.34%	0.25%	-0.37%	7.01%	2.05%	1.89%	4.68%			
Consumer Discretionary	1.86%	-0.92%	3.31%	-0.53%	22.63%	27.00%	37.73%	17.34%			
Consumer Staples	0.27%	0.18%	0.23%	-0.14%	9.05%	4.32%	3.16%	6.34%			
Health Care	0.64%	2.43%	0.30%	-2.09%	63.74%	2.26%	0.68%	4.20%			
Financials	1.15%	0.66%	0.72%	-0.23%	4.05%	-0.10%	11.67%	19.22%			
Information Technology	3.50%	1.45%	1.03%	1.03%	29.69%	20.76%	26.09%	16.85%			
Communication Services	2.16%	2.24%	0.07%	-0.15%	19.13%	2.55%	12.45%	13.35%			
Utilities	0.30%	--	0.32%	--	--	-4.11%	0.00%	2.27%			
Real Estate	0.24%	--	0.25%	--	--	0.11%	0.00%	2.55%			
Cash	0.00%	--	--	--	--	--	0.00%	0.00%			
Unclassified	0.00%	--	0.00%	--	--	9.71%	0.00%	0.40%			
Portfolio	11.79%	=	7.23%	+	6.92%	+	-2.37%	21.53%	9.74%	100.00%	100.00%

Newton Emerging Mkt Performance Attribution vs. MSCI Emerging Markets Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Czech Republic*	--	-4.84%	0.00%	0.11%	--	0.02%	0.00%	--	0.01%
Germany	12.55%	6.21%	2.62%	0.00%	0.00%	-0.17%	0.12%	0.15%	0.10%
Greece*	--	3.43%	0.00%	0.14%	--	0.01%	-0.01%	--	0.01%
Hungary*	--	-9.08%	0.00%	0.23%	--	0.04%	0.00%	--	0.04%
Netherlands	-0.38%	5.90%	5.28%	0.00%	0.00%	-0.38%	0.22%	-0.32%	-0.48%
Poland*	--	-0.86%	0.00%	0.72%	--	0.09%	-0.02%	--	0.07%
Russia*	--	-4.98%	0.00%	3.17%	--	0.20%	0.24%	--	0.43%

Newton Emerging Mkt
Equity Performance Attribution

Period Ending: September 30, 2020

Newton Emerging Mkt Performance Attribution vs. MSCI Emerging Markets Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
AsiaPacific									
Australia	17.99%	2.53%	1.37%	0.00%	0.00%	-0.14%	0.06%	0.20%	0.13%
China*	34.49%	12.36%	19.36%	40.88%	8.75%	-0.67%	0.03%	-4.60%	3.51%
Hong Kong	15.68%	1.56%	15.48%	0.00%	0.00%	-1.11%	0.00%	2.19%	1.07%
India*	23.36%	15.19%	18.62%	8.05%	0.64%	0.36%	0.36%	0.84%	2.20%
Indonesia*	23.52%	-5.65%	0.78%	1.47%	0.44%	0.08%	0.01%	-0.21%	0.33%
Korea*	10.80%	13.22%	11.61%	11.66%	-0.27%	0.00%	-0.01%	0.00%	-0.28%
Malaysia*	--	3.96%	0.00%	1.77%	--	0.14%	-0.06%	--	0.08%
Pakistan*	--	12.55%	0.00%	0.02%	--	0.00%	0.00%	--	0.00%
Philippines*	--	-2.71%	0.00%	0.84%	--	0.12%	-0.02%	--	0.10%
Taiwan*	34.79%	16.73%	6.03%	12.33%	2.19%	-0.38%	-0.10%	-1.12%	0.58%
Thailand*	-19.32%	-13.80%	0.50%	2.27%	-0.13%	0.37%	0.04%	0.10%	0.37%
Americas									
Argentina*	--	6.67%	0.00%	0.13%	--	0.00%	0.00%	--	0.00%
Brazil*	--	-2.86%	0.00%	5.16%	--	0.47%	0.13%	--	0.60%
Chile*	24.36%	-3.97%	0.78%	0.59%	0.19%	-0.03%	-0.02%	0.06%	0.20%
Colombia*	--	-1.00%	0.00%	0.19%	--	0.01%	0.01%	--	0.02%
Mexico*	--	4.45%	0.00%	1.74%	--	0.15%	-0.08%	--	0.07%
Peru*	--	3.54%	0.00%	0.25%	--	0.01%	0.00%	--	0.01%
United States	23.23%	9.51%	13.87%	0.00%	0.00%	0.11%	0.00%	1.90%	2.01%

Newton Emerging Mkt
Equity Performance Attribution

Period Ending: September 30, 2020

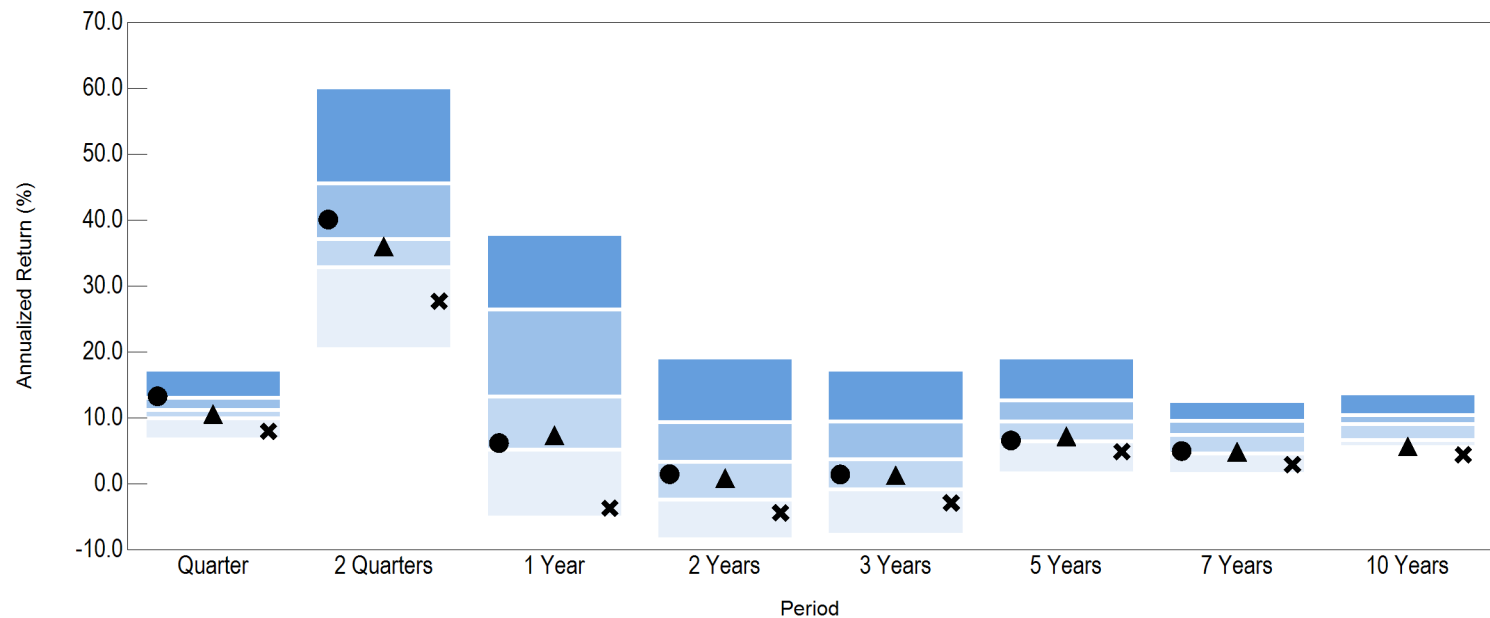
Newton Emerging Mkt Performance Attribution vs. MSCI Emerging Markets Gross

	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
Other									
Egypt*	--	4.60%	0.00%	0.12%	--	0.01%	0.00%	--	0.00%
Qatar*	--	7.45%	0.00%	0.83%	--	0.01%	0.00%	--	0.01%
Saudi Arabia*	--	9.47%	0.00%	2.67%	--	-0.02%	0.00%	--	-0.02%
South Africa*	10.24%	3.41%	3.71%	3.69%	0.24%	0.00%	0.01%	0.00%	0.25%
Turkey*	--	-15.76%	0.00%	0.46%	--	0.06%	0.05%	--	0.11%
United Arab Emirates*	--	6.34%	0.00%	0.53%	--	0.01%	0.00%	--	0.01%
Totals									
Americas	23.29%	-0.97%	14.65%	8.05%	1.92%	-0.62%	0.03%	1.58%	2.91%
Europe	3.90%	-4.24%	7.90%	4.36%	-0.04%	-0.29%	0.55%	-0.03%	0.18%
Asia/Pacific	23.24%	12.02%	73.74%	79.29%	8.48%	-0.11%	0.32%	-0.59%	8.09%
Other	10.24%	4.92%	3.71%	8.29%	0.19%	0.23%	0.06%	-0.11%	0.37%
Total	21.24%	9.67%	100.00%	100.00%	10.55%	-0.78%	0.95%	0.84%	11.57%
Totals									
Developed	16.07%	--	38.62%	0.00%	0.00%	0.00%	0.40%	2.43%	2.83%
Emerging*	24.49%	9.67%	61.38%	100.00%	13.34%	0.00%	0.55%	-5.15%	8.73%

ACWI ex-US Small Cap Equity Peer Universe Comparison

Period Ending: September 30, 2020

eV ACWI ex-US Small Cap Equity Gross Return Comparison



	Return (Rank)															
5th Percentile	17.28	60.08	37.91	19.11	17.32	19.09	12.49	13.65								
25th Percentile	13.11	45.60	26.51	9.40	9.54	12.76	9.66	10.51								
Median	11.31	37.17	13.32	3.38	3.74	9.48	7.50	9.16								
75th Percentile	10.00	32.87	5.29	-2.34	-0.73	6.55	4.70	6.74								
95th Percentile	6.84	20.47	-5.09	-8.34	-7.63	1.62	1.57	5.64								
# of Portfolios	55	55	55	52	50	44	32	22								
● Templeton	13.29	(22)	40.08	(47)	6.19	(74)	1.48	(60)	1.43	(62)	6.58	(75)	4.98	(73)	--	(--)
▲ MSCI ACWI ex US Small Cap Gross	10.61	(61)	36.03	(57)	7.36	(65)	0.87	(62)	1.32	(62)	7.20	(70)	4.87	(75)	5.70	(95)
✕ MSCI ACWI ex US Small Cap Value GD	7.98	(92)	27.71	(91)	-3.69	(93)	-4.40	(82)	-2.89	(87)	4.89	(84)	2.92	(84)	4.40	(99)

Characteristics

	Portfolio	MSCI ACWI ex US Small Cap Gross
Number of Holdings	107	4,052
Weighted Avg. Market Cap. (\$B)	2.9	2.4
Median Market Cap. (\$B)	1.5	0.9
Price To Earnings	15.6	16.9
Price To Book	2.4	2.4
Price To Sales	1.0	0.9
Return on Equity (%)	11.7	8.0
Yield (%)	2.1	2.3
Beta	1.0	1.0

Top Holdings

THULE GROUP AB	2.1%
TECHTRONIC INDUSTRIES CO LTD	2.1%
HUHTAMAKI OY	2.0%
FUJI OIL HOLDINGS INC	2.0%
INTERPUMP GROUP SPA, SANT'ILARIO (RE)	2.0%
BUCHER INDUSTRIES AG, NIEDERWENINGEN	1.9%
TSUMURA & CO	1.9%
SIEGFRIED HOLDING AG, ZOFINGEN	1.8%
LOGITECH INTERNATIONAL SA, APPLES	1.8%
DOMETIC GROUP AB	1.7%

Best Performers

	Return %
SIEGFRIED HOLDING AG, ZOFINGEN	52.4%
SHANGHAI HAOHAI BIOLOGICAL TECHNOLOGY CO LTD	46.9%
SOLUTIONS 30 SE	46.6%
LIVENT CORP (LTHM)	45.6%
NICHIHA CORP	41.6%
TECAN GROUP AG, MAENNEDORF	41.2%
RATIONAL AG, LANDSBERG AM LECH	40.1%
CANADA GOOSE HOLDINGS INC (GOOS.)	38.5%
DOMETIC GROUP AB	38.3%
NISSEI ASB MACHINE CO LTD	37.2%

Worst Performers

	Return %
PT XL AXIATA TBK	-28.8%
GREGGS PLC	-24.2%
KINPOLIS GROUP (B:KIN)	-21.5%
M DIAS BRANCO INDUSTRIA ON (BR:MDB)	-18.0%
HOLLYSYS AUTOMATION TECHNOLOGIES LTD (HOLI)	-16.9%
BARCO NV, KORTRIJK	-16.7%
VALUE PARTNERS GROUP LTD	-16.3%
LANDIS & GYR AG	-15.0%
ZUR ROSE GROUP AG	-12.1%
QUANG VIET ENTERPRISE CO LTD	-11.6%

Templeton Performance Attribution vs. MSCI ACWI ex US Small Cap Gross

	Attribution Effects					Returns		Sector Weights					
	Total Effects	Selection Effect	Allocation Effect	Currency Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark				
Energy	0.19%	0.25%	0.12%	-0.04%	-0.15%	11.98%	0.79%	0.87%	2.22%				
Materials	0.30%	0.77%	-0.05%	-0.10%	-0.32%	19.13%	11.40%	6.05%	10.43%				
Industrials	2.02%	1.53%	-0.01%	0.17%	0.33%	18.43%	10.37%	23.62%	19.38%				
Consumer Discretionary	1.63%	0.43%	0.39%	0.34%	0.47%	17.03%	13.44%	24.52%	11.78%				
Consumer Staples	0.10%	0.14%	-0.07%	-0.04%	0.07%	9.02%	8.18%	9.77%	6.48%				
Health Care	0.63%	1.11%	-0.12%	-0.05%	-0.31%	29.39%	15.91%	6.15%	8.49%				
Financials	0.03%	0.08%	-0.01%	-0.04%	0.00%	5.69%	5.33%	10.31%	10.16%				
Information Technology	-1.04%	-0.94%	0.02%	-0.04%	-0.08%	3.95%	12.17%	13.27%	12.21%				
Communication Services	-0.67%	-0.67%	-0.11%	-0.10%	0.22%	0.71%	18.49%	2.90%	4.28%				
Utilities	0.03%	--	0.12%	-0.08%	--	--	6.55%	0.00%	3.43%				
Real Estate	0.27%	2.34%	0.37%	-0.29%	-2.14%	27.70%	6.77%	0.93%	11.15%				
Cash	0.00%	--	--	--	--	--	--	0.00%	0.00%				
Unclassified	0.04%	0.00%	0.04%	0.00%	0.00%	10.02%	--	1.61%	0.00%				
Portfolio	3.55%	=	5.04%	+	0.70%	+	-0.27%	+	-1.92%	14.03%	10.48%	100.00%	100.00%

Templeton Performance Attribution vs. MSCI ACWI ex US Small Cap Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	--	3.17%	0.00%	0.58%	--	0.05%	-0.02%	--	0.03%
Belgium	-17.93%	10.67%	2.08%	1.44%	-0.40%	-0.01%	0.00%	-0.17%	-0.57%
Czech Republic*	--	18.16%	0.00%	0.01%	--	0.00%	0.00%	--	0.00%
Denmark	31.80%	15.44%	0.68%	1.25%	0.20%	-0.02%	-0.02%	-0.09%	0.06%
Finland	22.55%	22.15%	2.66%	1.04%	0.01%	0.16%	0.06%	0.02%	0.25%
France	31.79%	8.70%	2.58%	2.13%	0.47%	-0.02%	0.05%	0.10%	0.60%
Germany	22.61%	9.14%	5.91%	2.44%	0.31%	-0.10%	0.19%	0.44%	0.85%
Greece*	-2.18%	2.98%	0.47%	0.26%	-0.01%	-0.02%	0.01%	-0.01%	-0.03%
Hungary*	--	-3.68%	0.00%	0.03%	--	0.00%	0.00%	--	0.00%
Ireland	--	-2.73%	0.00%	0.28%	--	0.04%	-0.01%	--	0.03%
Italy	12.55%	9.42%	4.53%	2.26%	0.07%	-0.06%	0.11%	0.07%	0.19%
Netherlands	14.03%	11.18%	5.61%	1.63%	0.04%	-0.04%	0.19%	0.11%	0.31%
Norway	--	13.13%	0.00%	1.56%	--	-0.03%	-0.05%	--	-0.09%
Poland*	--	2.63%	0.00%	0.30%	--	0.02%	-0.01%	--	0.01%
Portugal	--	-4.77%	0.00%	0.20%	--	0.03%	-0.01%	--	0.02%
Russia*	--	1.53%	0.00%	0.21%	--	0.00%	0.01%	--	0.01%
Spain	-4.87%	4.97%	0.89%	1.43%	-0.13%	0.04%	-0.03%	0.05%	-0.07%
Sweden	27.54%	23.22%	5.35%	4.95%	0.21%	0.04%	0.03%	0.02%	0.29%
Switzerland	21.38%	11.98%	6.84%	3.98%	0.40%	0.03%	0.05%	0.29%	0.77%
United Kingdom	0.62%	6.28%	4.35%	12.18%	-0.66%	0.45%	-0.36%	0.42%	-0.15%

Templeton
Equity Performance Attribution

Period Ending: September 30, 2020

Templeton Performance Attribution vs. MSCI ACWI ex US Small Cap Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
AsiaPacific									
Australia	--	9.96%	0.00%	6.15%	--	0.10%	-0.25%	--	-0.15%
China*	46.91%	11.21%	0.51%	2.20%	0.79%	-0.06%	0.00%	-0.60%	0.12%
Hong Kong	15.11%	9.29%	6.60%	1.65%	0.10%	0.09%	0.00%	0.29%	0.47%
India*	--	22.19%	0.00%	2.53%	--	-0.29%	-0.08%	--	-0.37%
Indonesia*	-28.80%	-4.61%	1.00%	0.41%	-0.10%	-0.06%	-0.01%	-0.15%	-0.31%
Japan	16.12%	9.79%	25.75%	23.03%	1.43%	0.00%	0.10%	0.17%	1.69%
Korea*	8.02%	24.10%	1.44%	3.79%	-0.59%	-0.30%	-0.09%	0.37%	-0.62%
Malaysia*	--	22.52%	0.00%	0.74%	--	-0.08%	-0.03%	--	-0.11%
New Zealand	--	13.48%	0.00%	0.70%	--	-0.02%	-0.02%	--	-0.04%
Pakistan*	--	17.00%	0.00%	0.12%	--	-0.01%	0.00%	--	-0.01%
Philippines*	--	-0.81%	0.00%	0.18%	--	0.02%	0.00%	--	0.02%
Singapore	--	6.31%	0.00%	1.43%	--	0.05%	-0.03%	--	0.02%
Taiwan*	3.72%	6.79%	9.46%	5.37%	-0.16%	-0.10%	0.07%	-0.12%	-0.32%
Thailand*	--	-2.99%	0.00%	0.81%	--	0.07%	0.02%	--	0.09%
Americas									
Argentina*	--	-13.99%	0.00%	0.18%	--	0.04%	0.00%	--	0.04%
Brazil*	1.80%	1.32%	3.66%	1.64%	0.01%	-0.07%	-0.05%	0.01%	-0.11%
Canada	16.94%	8.84%	5.04%	6.70%	0.53%	0.02%	-0.03%	-0.13%	0.39%
Chile*	--	-2.99%	0.00%	0.20%	--	0.03%	-0.01%	--	0.02%
Colombia*	--	19.59%	0.00%	0.06%	--	-0.01%	0.00%	--	-0.01%
Mexico*	--	8.26%	0.00%	0.47%	--	0.02%	-0.02%	--	0.00%
United States	14.75%	9.51%	4.60%	0.00%	0.00%	0.09%	0.00%	0.24%	0.33%

Templeton Performance Attribution vs. MSCI ACWI ex US Small Cap Gross

	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
Other									
Egypt*	--	3.33%	0.00%	0.09%	--	0.01%	0.00%	--	0.00%
Israel	--	9.67%	0.00%	1.40%	--	-0.02%	-0.01%	--	-0.03%
Qatar*	--	21.29%	0.00%	0.23%	--	-0.03%	0.00%	--	-0.03%
Saudi Arabia*	--	24.54%	0.00%	0.58%	--	-0.10%	0.00%	--	-0.10%
South Africa*	--	5.37%	0.00%	0.74%	--	0.05%	-0.03%	--	0.02%
Turkey*	--	-11.68%	0.00%	0.30%	--	0.02%	0.03%	--	0.06%
United Arab Emirates*	--	4.15%	0.00%	0.13%	--	0.00%	0.00%	--	0.00%
Totals									
Americas	12.02%	6.84%	13.30%	9.26%	0.60%	-0.09%	-0.11%	0.26%	0.66%
Europe	16.37%	10.67%	41.94%	38.17%	2.15%	-0.04%	0.19%	0.21%	2.51%
Asia/Pacific	12.44%	11.06%	44.76%	49.12%	0.93%	-0.05%	-0.33%	-0.08%	0.46%
Other	--	9.79%	0.00%	3.46%	--	-0.07%	-0.01%	--	-0.08%
Total	14.03%	10.48%	100.00%	100.00%	3.68%	-0.25%	-0.27%	0.39%	3.55%
Totals									
Developed	16.24%	10.18%	83.46%	78.42%	4.98%	-0.04%	-0.07%	0.32%	5.19%
Emerging*	2.87%	11.55%	16.54%	21.58%	-1.71%	-0.13%	-0.20%	0.40%	-1.64%

Interest rate environment

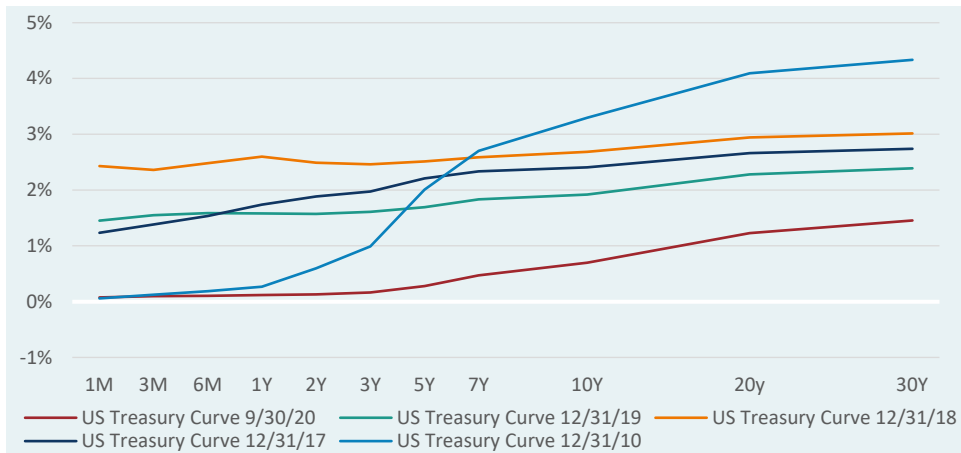
- Global interest rate levels remained extremely depressed relative to long-term averages in Q3, and the 10-year U.S. Treasury yield traded in a relatively narrow range between 0.50%-0.75%.
- The Federal Reserve maintained an accommodative tone, and most members of the Federal Open Market Committee remained of the view that short rates are likely to stay near-zero through 2023, and eventually move toward 2.50% over the longer-term. The Fed repeated that while it has the power to lend, it does not hold the power to spend, and additional fiscal support will likely be required from Congress.
- The U.S. Fed made an adjustment to its policy approach related to its inflation target. Instead of targeting stable prices, defined as 2% annual growth in personal consumption expenditures (PCE), the Fed will now implement an average inflation targeting approach aimed at achieving “inflation moderately above 2% for some time so that inflation averages 2% over time and longer-term inflation expectations remain well anchored at 2%.”
- Officials at the Bank of England (BOE) reportedly warmed to the idea of pursuing a negative interest rate policy, and markets are now pricing in negative overnight rates by May 2021. Many analysts have stated that the BOE is likely to remain extremely supportive and may provide additional monetary accommodation in the form of quantitative easing before year-end.
- Investors were paid for betting on longer-term reflation of growth and inflation, likely due to their expectations for further fiscal and monetary accommodation moving forward. Ten-year breakeven inflation rates recovered from 1.3% to 1.6%, and key term spreads indicated a moderate steepening in the U.S. yield curve.

Area	Short Term (3M)	10-Year
United States	0.09%	0.68%
Germany	(0.63%)	(0.52%)
France	(0.64%)	(0.24%)
Spain	(0.54%)	0.25%
Italy	(0.48%)	0.87%
Greece	(0.08%)	1.02%
U.K.	0.01%	0.23%
Japan	(0.15%)	0.01%
Australia	0.12%	0.79%
China	2.29%	3.13%
Brazil	1.93%	7.45%
Russia	4.09%	6.29%

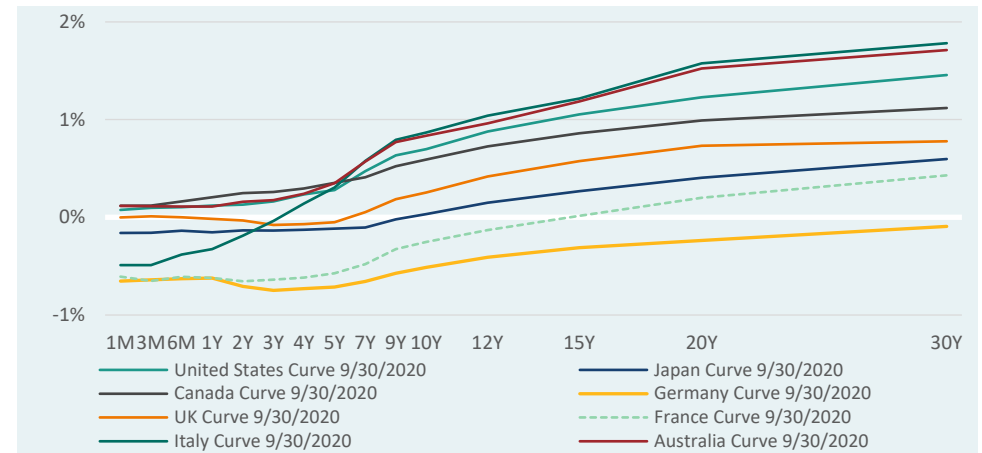
Source: Bloomberg, as of 9/30/20

Yield environment

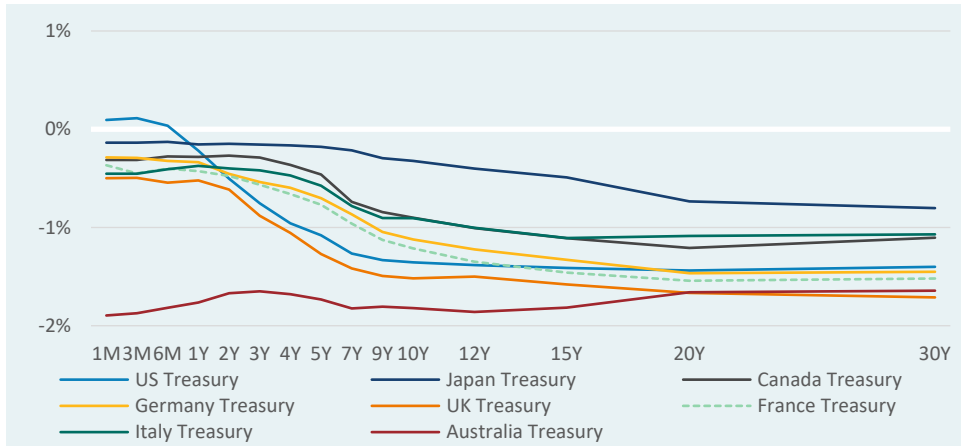
U.S. YIELD CURVE



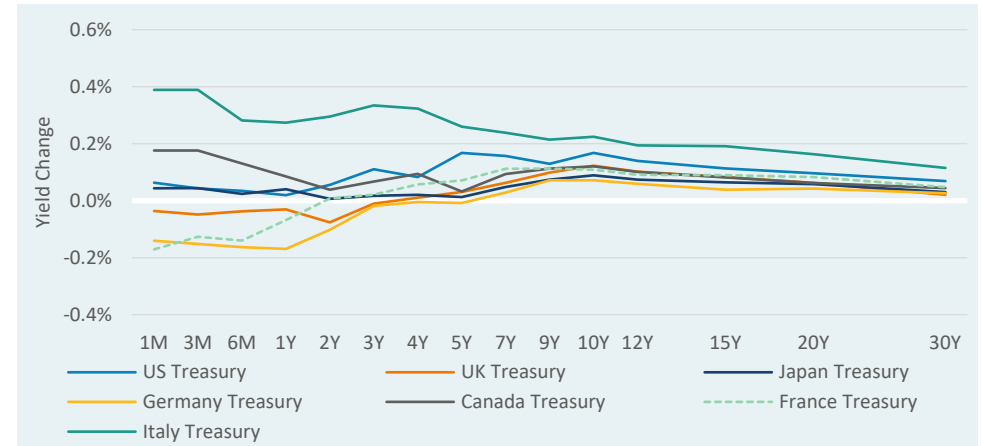
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/20

Currency

The U.S. dollar fell -3.5% in the third quarter, continuing a downward trend since a sudden jump in March on safe-haven buying. Though the dollar did show some signs of stabilization in September as equities took a step back, the Bloomberg Dollar Spot Index has now completely unwound the gains experienced during the market sell-off.

Interest rate differentials between U.S. Treasury bonds and international developed sovereign bonds have begun to separate once again. U.S. Treasury yields traded in a relatively narrow range while European yields

drifted lower, perhaps as a result of speculation on further quantitative easing from the European Central Bank. A continuation of this trend could be supportive of the dollar bull case, looking ahead.

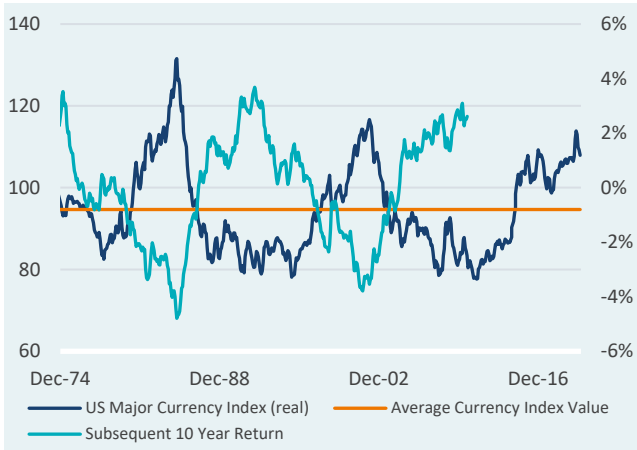
Despite the significant rally of the euro (+4.4%) relative to the greenback in Q3, the common currency remains cheap according to the OECD's purchasing power parity data. At quarter-end, the euro was -20.8% cheap relative to the U.S. dollar, which was significant but still at its least undervalued level since September 2018.

BLOOMBERG DOLLAR SPOT INDEX



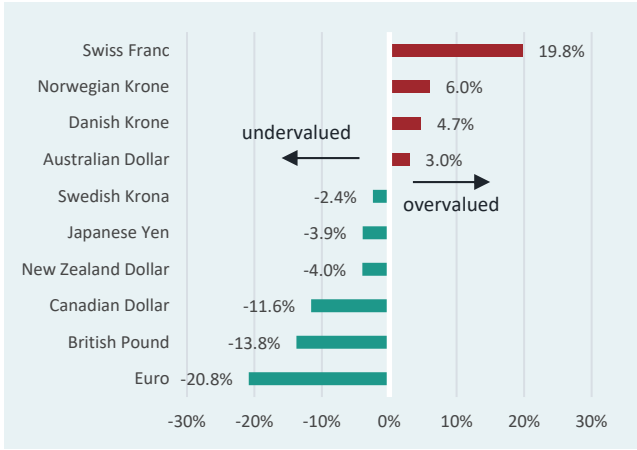
Source: Bloomberg, as of 9/30/20

USD CURRENCY LEVEL & SUBSEQUENT RETURN



Source: Federal Reserve, as of 9/30/20

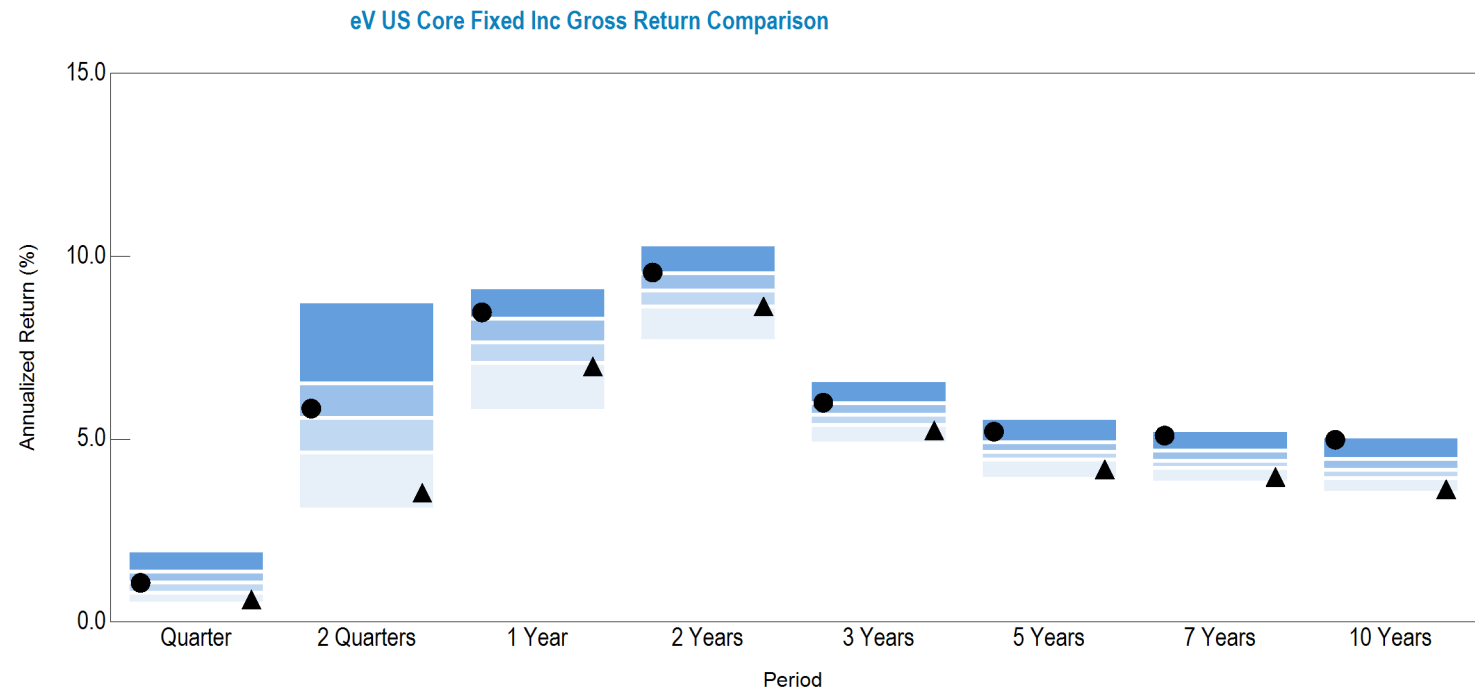
G10 FX VALUATIONS – OECD PPP (VS USD)



Source: OECD, Bloomberg, as of 9/30/20

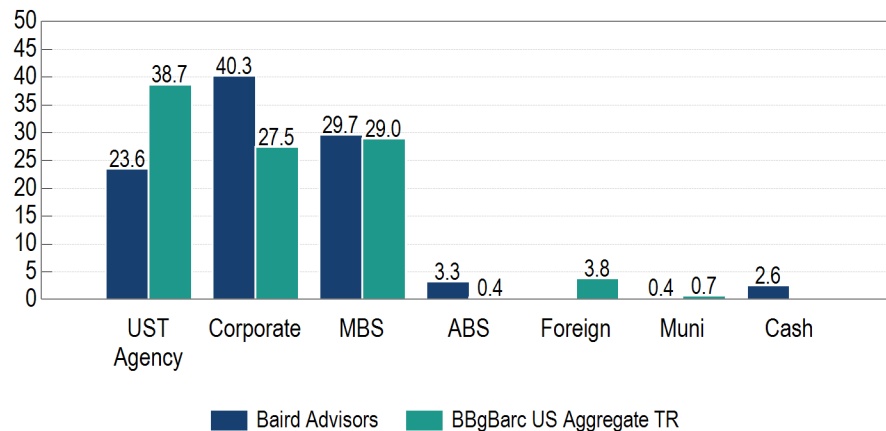
Core Fixed Income Peer Universe Comparison

Period Ending: September 30, 2020

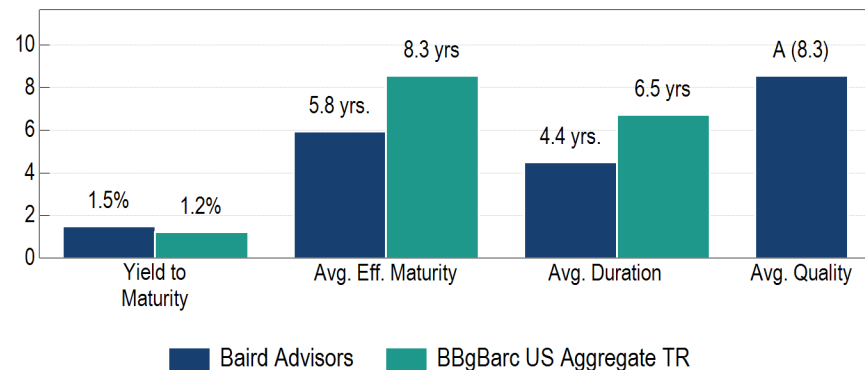


	Return (Rank)							
5th Percentile	1.94	8.75	9.14	10.31	6.60	5.58	5.24	5.07
25th Percentile	1.38	6.53	8.30	9.54	5.98	4.92	4.69	4.46
Median	1.10	5.59	7.65	9.08	5.67	4.66	4.41	4.17
75th Percentile	0.81	4.65	7.09	8.64	5.40	4.45	4.22	3.94
95th Percentile	0.51	3.09	5.77	7.68	4.89	3.93	3.82	3.53
# of Portfolios	223	223	223	221	220	216	213	207
● Baird Advisors	1.07 (52)	5.84 (43)	8.46 (19)	9.55 (24)	5.99 (25)	5.20 (14)	5.10 (8)	4.98 (7)
▲ BBgBarc US Aggregate TR	0.62 (90)	3.53 (93)	6.98 (78)	8.63 (77)	5.24 (86)	4.18 (91)	3.97 (91)	3.63 (94)

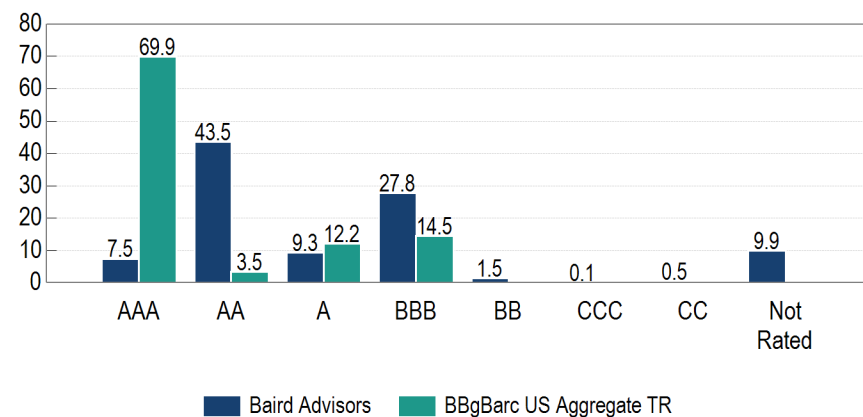
US Sector Allocation
Baird Advisors



Characteristics
Baird Advisors



Credit Quality Allocation
Baird Advisors



PERFORMANCE BY QUALITY

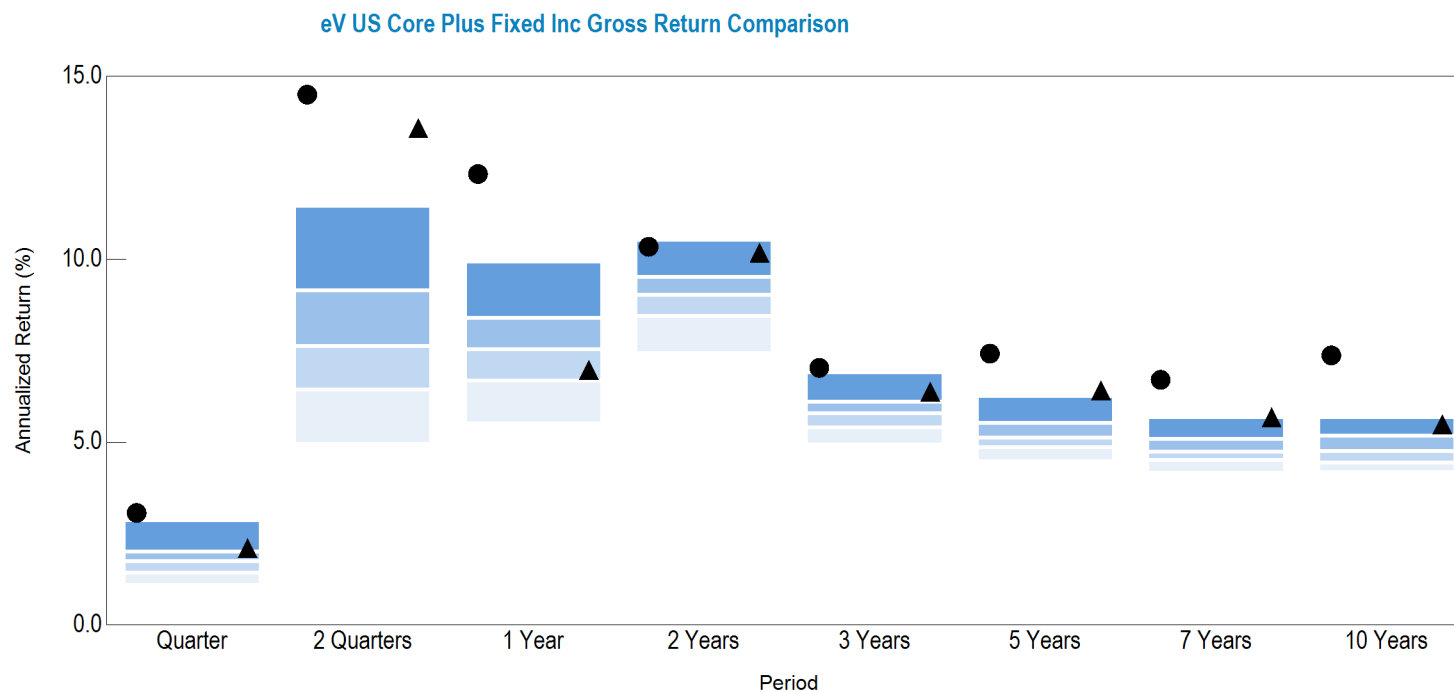
	NUMBER OF ISSUES	FINAL MARKET VALUE (\$000)	FINAL MARKET VALUE %	QUARTERLY RETURN %	QUARTERLY CONTRIBUTION TO TOTAL RETURN %
Cash & Equiv	1	19,064	2.6	0.03	0.00
Govt & Agency	113	343,890	46.9	0.30	0.12
AAA	26	60,126	8.2	1.30	0.11
AA	7	4,399	0.6	-0.70	0.00
A	37	90,922	12.4	1.70	0.21
BAA	82	195,042	26.6	1.90	0.51
Below BAA	16	19,797	2.7	4.80	0.13
Other	0	-	0.0	0.00	0.00
Total Account	282	\$733,240	100.0	1.06	1.06

PERFORMANCE BY DURATION

	NUMBER OF ISSUES	FINAL MARKET VALUE (\$000)	FINAL MARKET VALUE %	QUARTERLY RETURN %	QUARTERLY CONTRIBUTION TO TOTAL RETURN %
Under 1 Year	30	60,126	8.2	0.30	0.02
1 - 3 Years	86	197,241	26.9	0.61	0.16
3 - 6 Years	103	252,235	34.4	1.21	0.42
Over 6 Years	63	223,638	30.5	1.51	0.46
Total Account	282	\$733,240	100.0	1.06	1.06

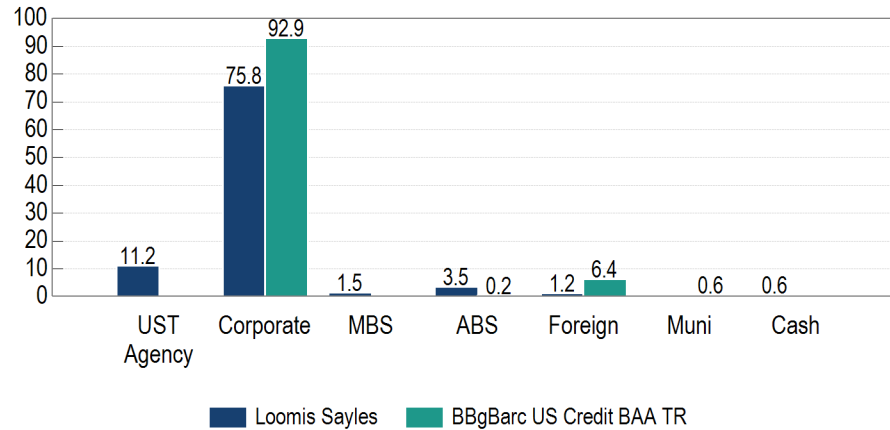
Core Plus Fixed Income Peer Universe Comparison

Period Ending: September 30, 2020

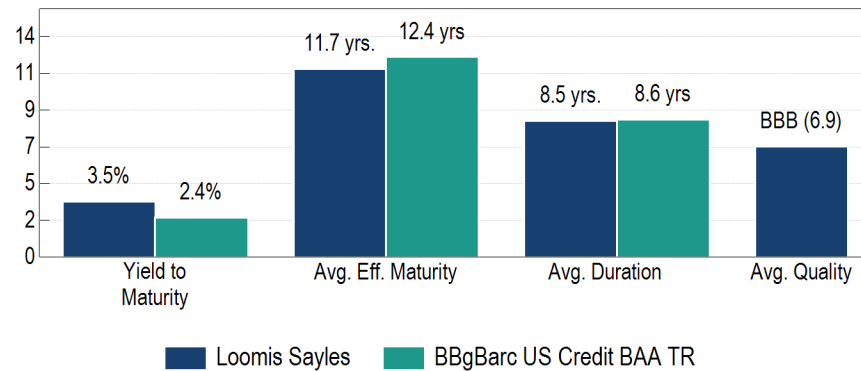


	Return (Rank)													
5th Percentile	2.85		11.45		9.94		10.52		6.90		6.25		5.68	
25th Percentile	2.02		9.16		8.40		9.52		6.11		5.53		5.09	
Median	1.76		7.63		7.55		9.03		5.80		5.13		4.75	
75th Percentile	1.44		6.44		6.68		8.46		5.41		4.87		4.53	
95th Percentile	1.10		4.96		5.52		7.44		4.95		4.49		4.18	
# of Portfolios	119		119		119		116		114		109		104	
● Loomis Sayles	3.06	(4)	14.50	(1)	12.33	(3)	10.34	(6)	7.03	(5)	7.42	(1)	6.70	(1)
▲ BBgBarc US Credit BAA TR	2.10	(24)	13.58	(1)	6.97	(70)	10.18	(9)	6.38	(11)	6.41	(4)	5.68	(5)

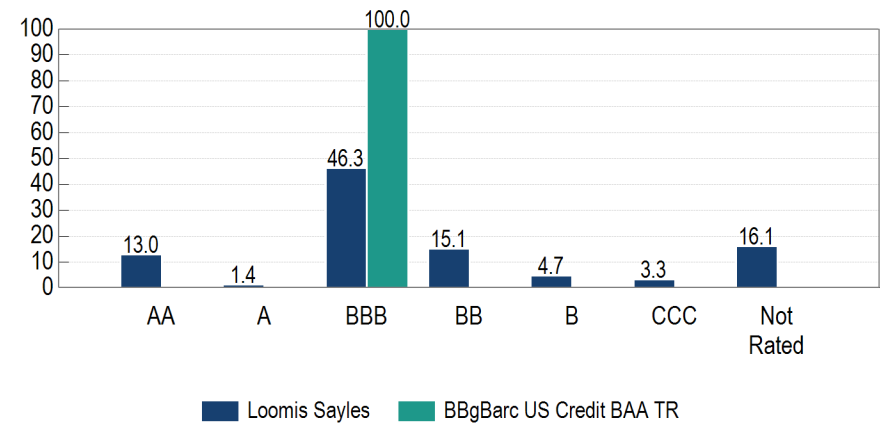
US Sector Allocation
Loomis Sayles

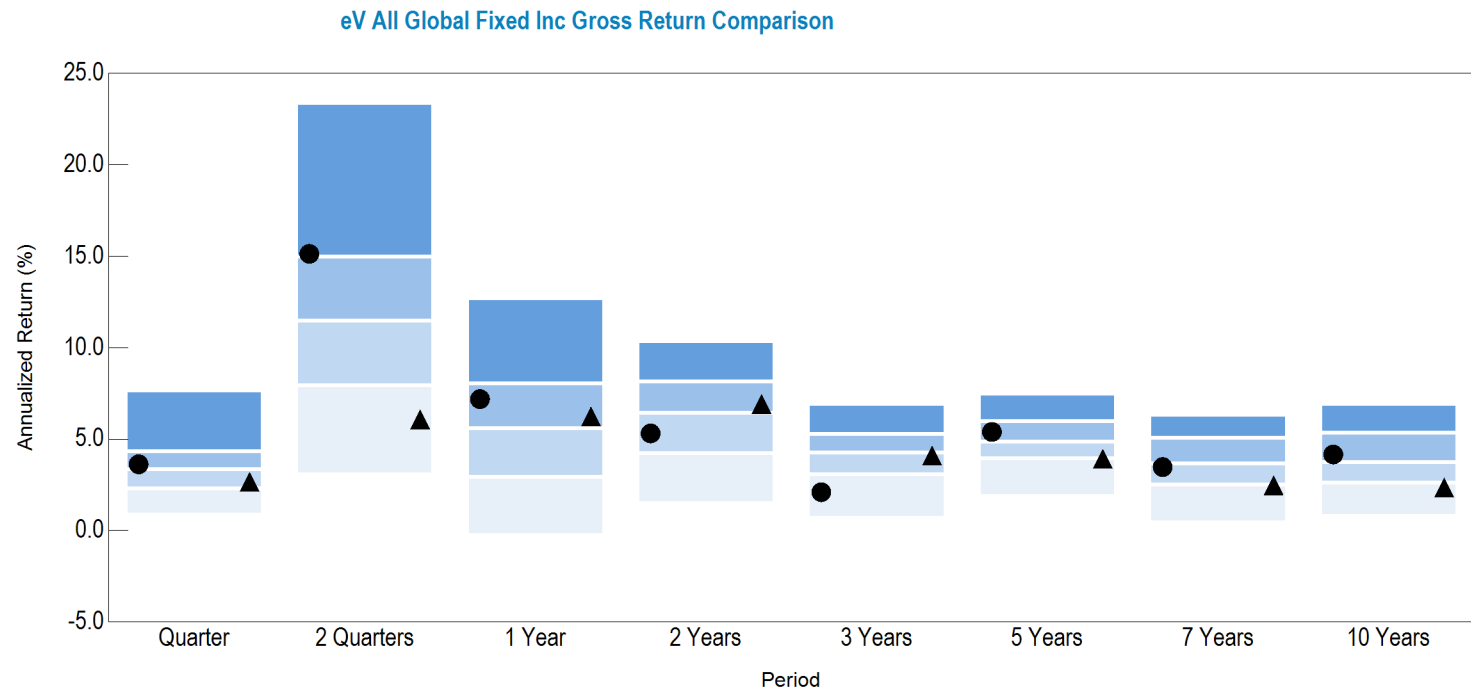


Characteristics
Loomis Sayles



Credit Quality Allocation
Loomis Sayles



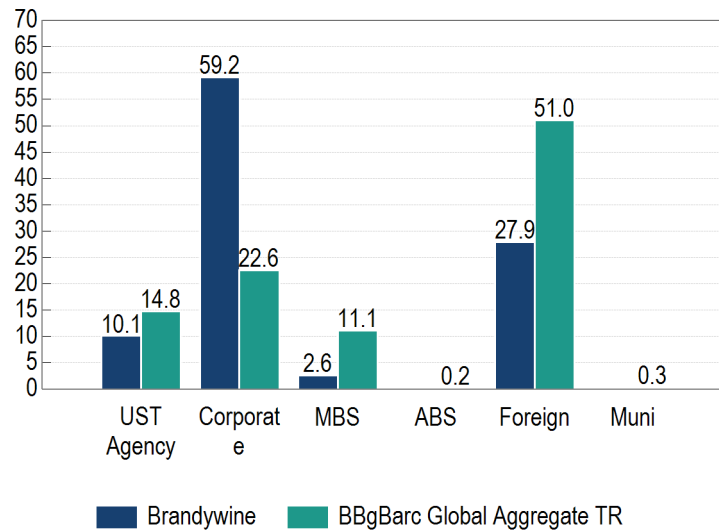


	Return (Rank)															
5th Percentile	7.66		23.38		12.68		10.33		6.90		7.46		6.33		6.91	
25th Percentile	4.37		15.01		8.06		8.16		5.30		6.01		5.08		5.36	
Median	3.38		11.49		5.61		6.47		4.29		4.87		3.69		3.77	
75th Percentile	2.32		7.95		2.97		4.24		3.10		3.98		2.52		2.63	
95th Percentile	0.91		3.10		-0.22		1.54		0.72		1.92		0.48		0.83	
# of Portfolios	504		504		504		490		470		437		377		275	
● Brandywine	3.63	(43)	15.13	(25)	7.19	(35)	5.31	(63)	2.10	(87)	5.39	(39)	3.47	(54)	4.16	(42)
▲ BBgBarc Global Aggregate TR	2.66	(69)	6.07	(85)	6.24	(45)	6.91	(45)	4.09	(56)	3.92	(78)	2.47	(76)	2.36	(82)

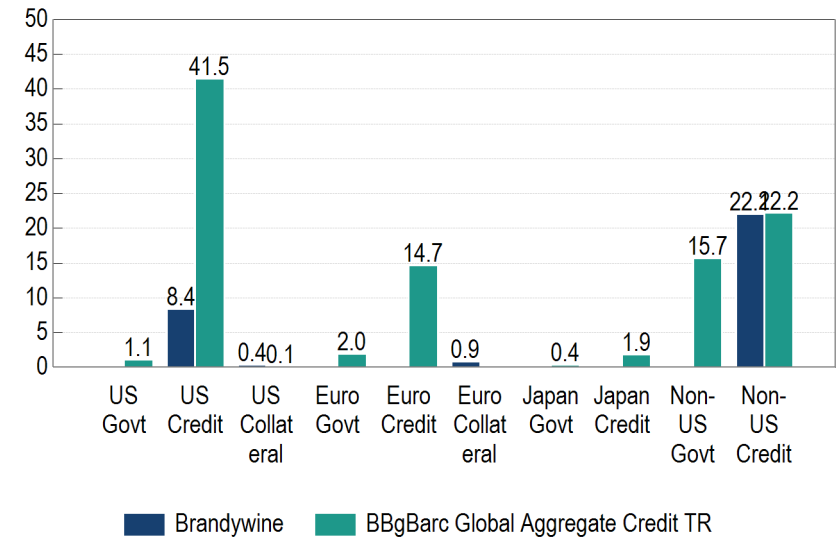
Brandywine Bond Summary Statistics

Period Ending: September 30, 2020

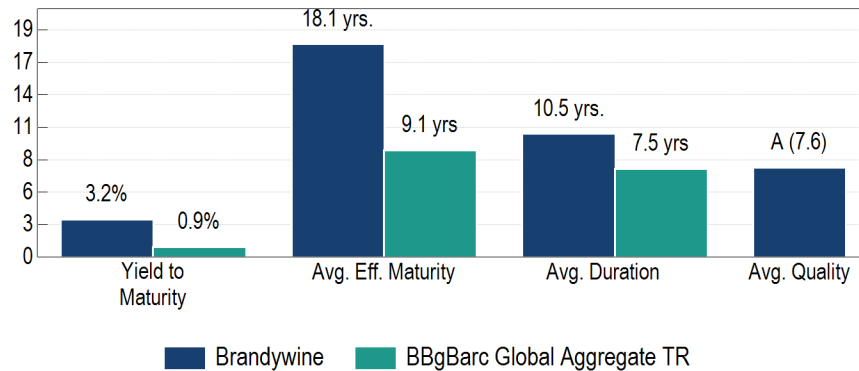
US Sector Allocation



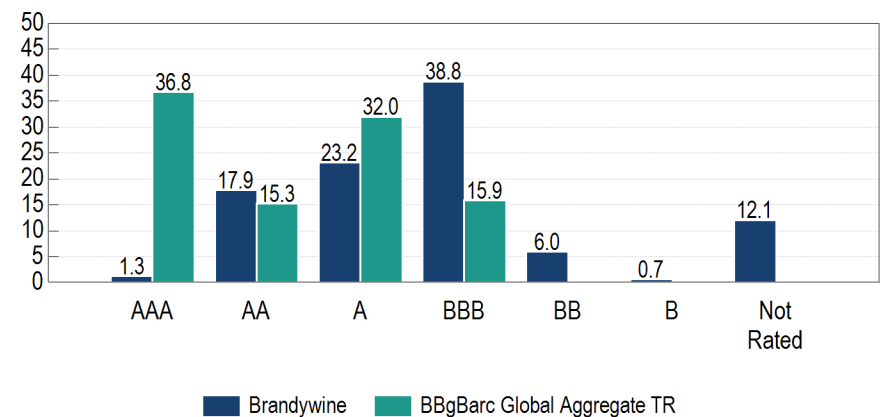
Global Sector Allocation



Characteristics
Brandywine



Credit Quality Allocation
Brandywine



Policy Index and Benchmark History

Period Ending: September 30, 2020

Total Plan Policy Index	As of:														
	6/1/19	10/1/17	7/1/16	1/1/13	10/1/11	4/1/11	1/1/09	7/1/06	4/1/03	6/1/01	10/1/97	1/1/96	10/1/94	1/1/92	1/1/80
91-day US T-Bill											1%	1%	1%	1%	2%
BBgBarc Aggregate	11.40%	11.25%	11.25%	11.25%	15%	18%	18%	21%	23%	26%	33%	29%	32%	37%	30%
BBgBarc High Yield	1.60%	1.50%	1.50%	1.50%	2.0%	2.4%	2%	3%	3%	3%					
Bloomberg Commodity	0.75%	0.75%	0.75%												
FTSE WGBI	3.00%	2.25%	2.25%	2.25%	3%	3.6%	3.6%	4%	4%	5%					
CPI-U +3% (RR)				5.00%	5%										
MSCI ACWI ex US							23%	22%	22%	22%					
MSCI ACWI ex US IMI	25.00%	26.00%	26.00%	27.00%	25%	23%									
MSCI EAFE											10%	10%	10%	10%	
MSCI Emg Mkts Free ex Malaysia											3%				
MSCI World net															10%
NCREIF						6%	6%	9%	9%	9%					
NCREIF ODCE	8.00%	8.00%	8.00%	6.00%	6%										
Russell 3000	25.00%	28.00%	28.00%	32.00%	34%	37%	37%	41%	39%	35%	42%	49%	47%	40%	
HFRI FoF Composite	9.00%	9.00%													
Thomson Reuters CJA Global All PE	8.00%	9.00%													
Russell 3000 +1% (PE)			18.00%	15.00%	10%										
Russell 3000 +1.5% (PE)						10%	10%								
Russell 3000 +4% (AI)											2%				
S&P 500															55%
S&P Global Infrastructure	1.75%	1.75%	1.75%												
S&P Global Natural Resources	2.50%	2.50%	2.50%												
S&P/LSTA Leveraged Loan	4.00%														

ACERA**US Equity Benchmark****As of:****1/1/92 1/1/80**

Russell 3000	100%	0%
S&P 500	0%	100%
	100.0%	100.0%

International Equity Benchmark**As of:****4/1/11 6/1/01 10/1/97 1/1/92 1/1/80**

MSCI ACWI ex US		100%			
MSCI ACWI ex US IMI	100%				
MSCI EAFE			77%	100%	
MSCI Emg Mkts Free ex Malaysia			23%		
MSCI World net					100%
	100.0%	100.0%	100.0%	100.0%	100.0%

Fixed Income Benchmark**As of:****6/1/19 6/1/01 1/1/80**

BBgBarc Aggregate	71.25%	75%	100%
BBgBarc High Yield	10.00%	10%	
FTSE WGBI	18.75%	15%	
	100.0%	100.0%	100.0%

Real Estate Benchmark**As of:****1/1/80**

NCREIF ODCE	100%
	100.0%

Real Assets Benchmark**As of:****7/1/16 10/1/11**

CPI-U +3%		100%
Bloomberg Commodity	15%	
S&P Global Infrastructure	35%	
S&P Global Natural Resources	50%	
	100.00%	100.0%

Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$.

Benchmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

Beta: A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation: A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price-to-Earnings Ratio (P/E): Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$.

Sortino Ratio: Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS



PERIOD ENDING: SEPTEMBER 30, 2020

Absolute Return Performance Report

Alameda County Employees' Retirement Association

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Hedge Fund Environment **PAGE 3**

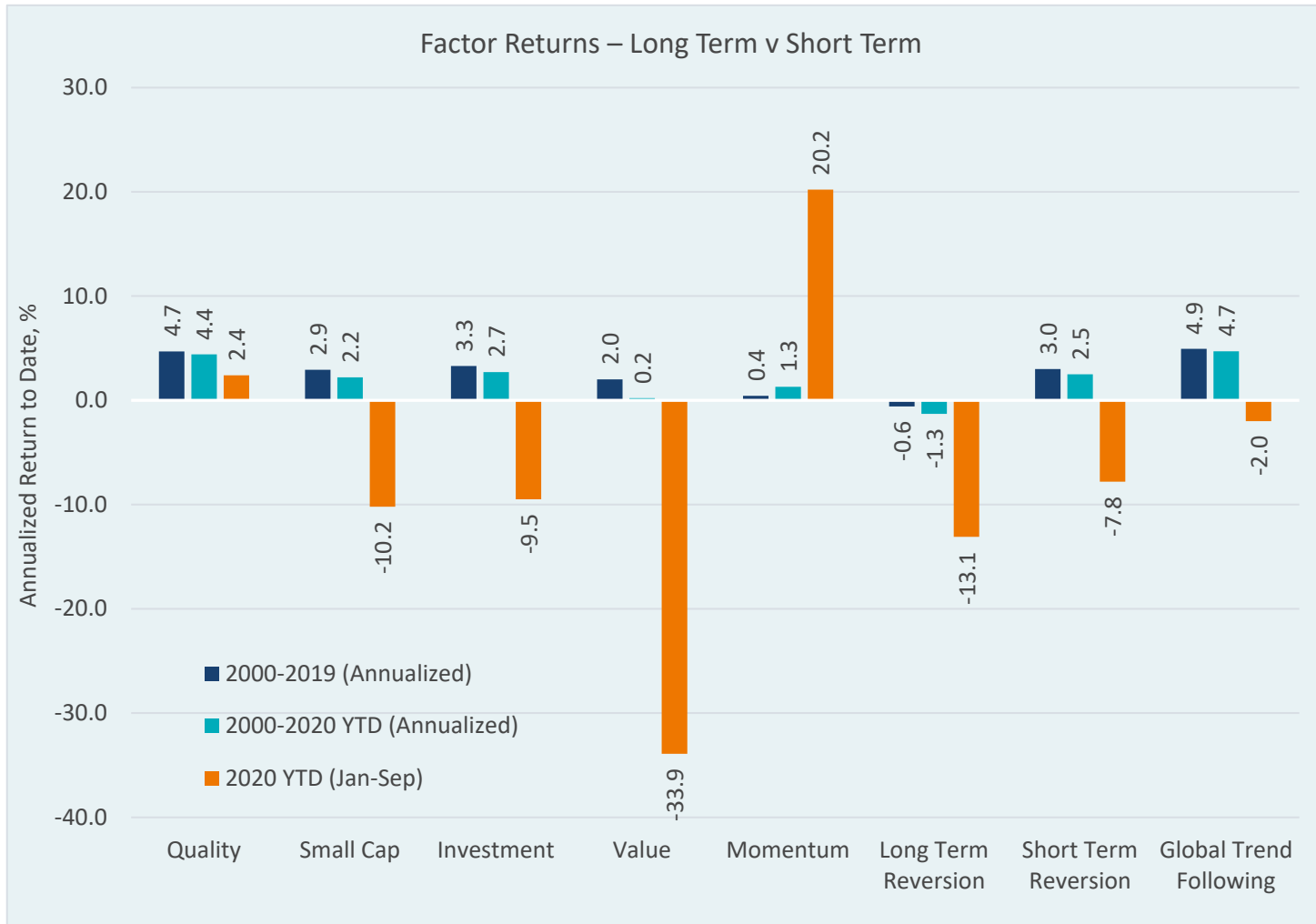
ACERA Performance **PAGE 9**

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Hedge Fund Environment

Despite recent experience, factors additive over the long term



Fama French 5-Factor model factors are mostly positive over last 20 years, as has been global trend following, a key component of most alt beta strategies

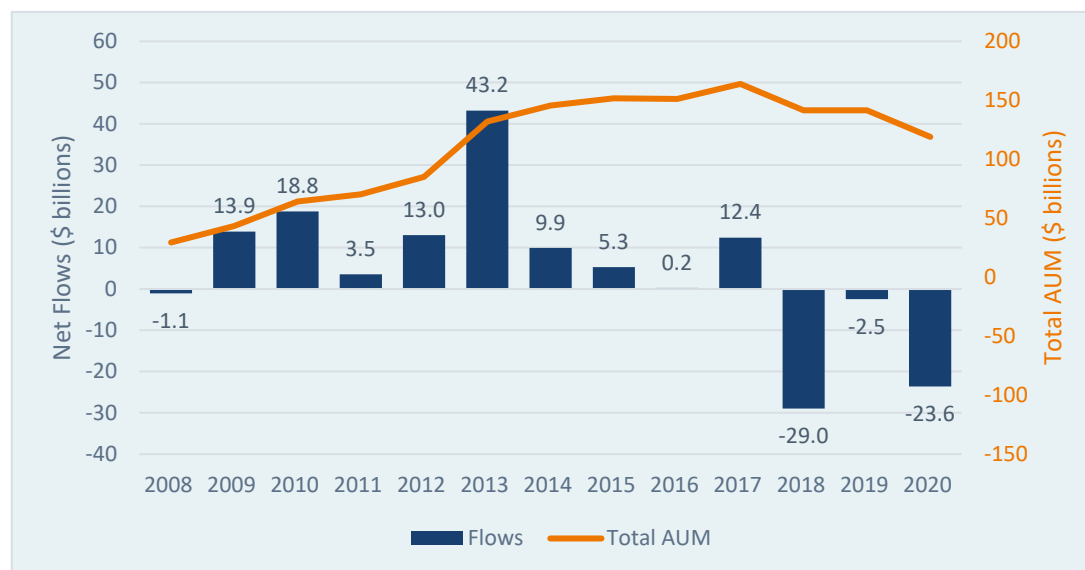
Factor detail: Quality = Fama French Robust Minus Weak, Small Cap = FF Small Minus Big, Investment = FF Conservative Minus Aggressive, Value = FF High Minus Low, Momentum = FF-Carrhart Momentum, LT Reversion = FF Long Term Reversion, ST Reversion = FF Short Term Reversion, Global Trend Following = SocGen Trend Index (representing momentum in equity + non equity assets)

Alt premia performance and liquid alt flows

Alt Beta Strategy	Index	YTD as of 10/31/20	1-year	3-year	5-year	10-year	Annualized Std. Dev.	Sharpe Ratio	Inception Date
Alt Risk Premia - Equity	HFR Bank Systematic Risk Premia Equity Index	-32.8%	-32.6%	-18.5%	-10.0%	-2.1%	17.5%	-0.19	May-07
Alt Risk Premia - Rates	HFR Bank Systematic Risk Premia Rates Index	5.2%	2.1%	-1.7%	-2.1%	3.9%	11.4%	0.78	Mar-08
Alt Risk Premia - Multi Asset	HFR Bank Systematic Risk Premia Multi-Asset Index	-16.7%	-15.1%	1.0%	4.9%	8.5%	27.4%	0.22	Jun-07

Source: HFR

Statistics are calculated from inception date to 10/31/20



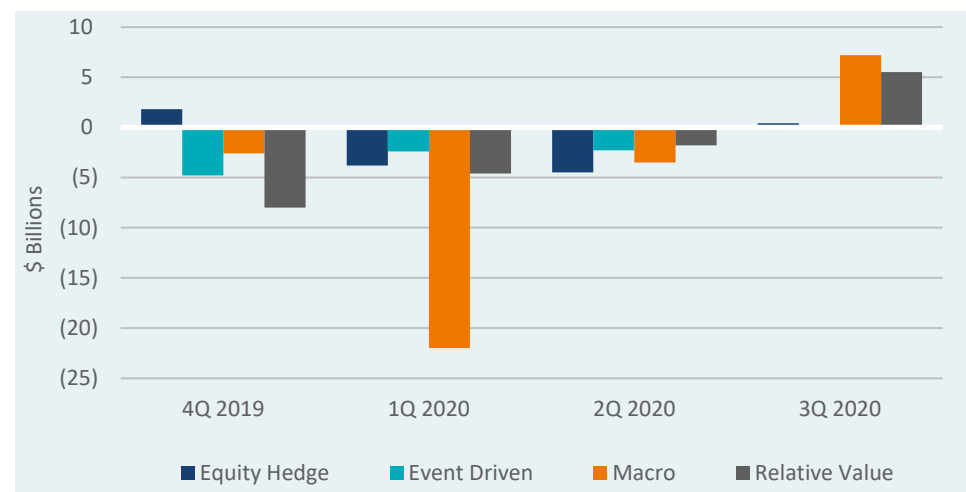
Source: Morningstar, all US Open-end (ex-FOF) Alternative Funds. 2020 data is through 10/31/20

Hedge fund trends & flows

Hedge funds see inflows for first time in nearly 3 years

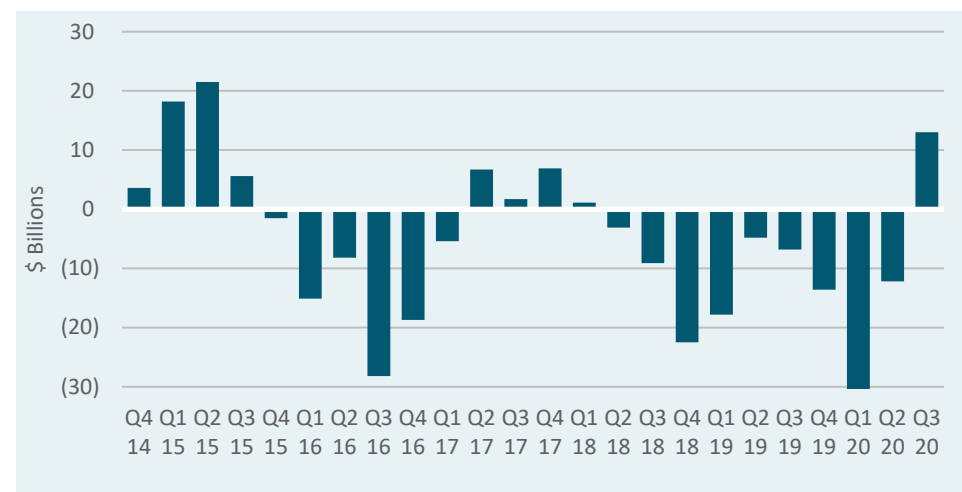
- Investors allocated an estimated net \$12 billion into hedge funds in the third quarter of 2020, the first quarterly inflows since the first quarter of 2018. Inflows were led by Macro and Relative Value strategies which together received an estimated \$13 billion in net inflows.
- Outflows were limited to Event Driven strategies, but amounts were small relative to the industry size.
- The quarterly net inflows for the industry were the largest since second quarter of 2015.
- Within Macro, net inflows were split between quantitative/CTA funds and currency focused funds. The quantitative/CTA funds are still recovering from their significant outflows in the first quarter.
- The most significant net inflows were into Relative Value Credit: Multi Strategy firms, which saw an estimated net \$14.3 billion inflow.

NET FLOWS TO HFR SUB-STRATEGIES, LAST 4 QUARTERS



Source: HFR

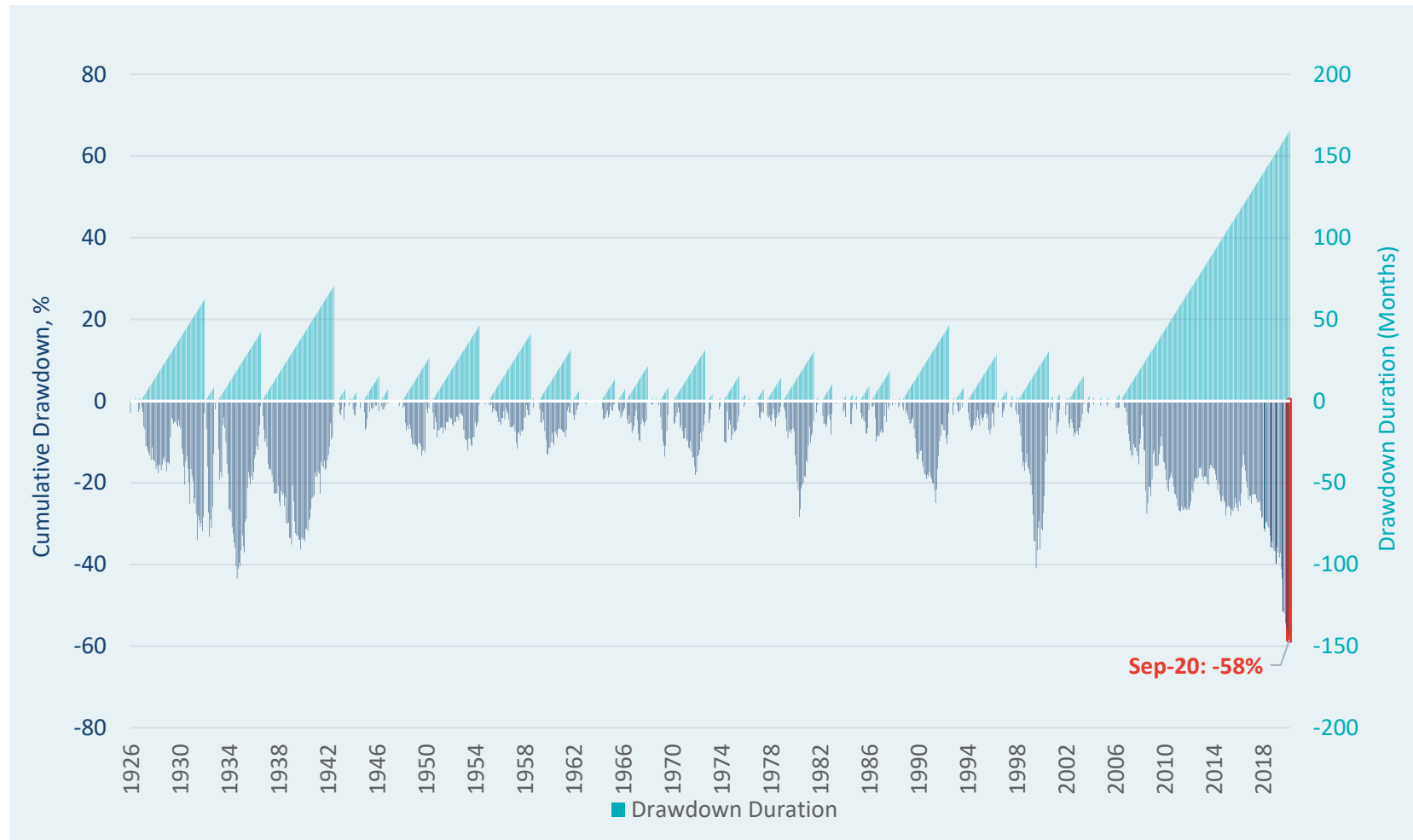
QUARTERLY NET FLOWS TO HEDGE FUNDS



Source: HFR

Long-term perspective on value

HISTORICAL DRAWDOWNS FOR FAMA-FRENCH HML FACTOR 1926 – APRIL 2020



The Fama-French Value factor has declined well beyond its historical max loss.

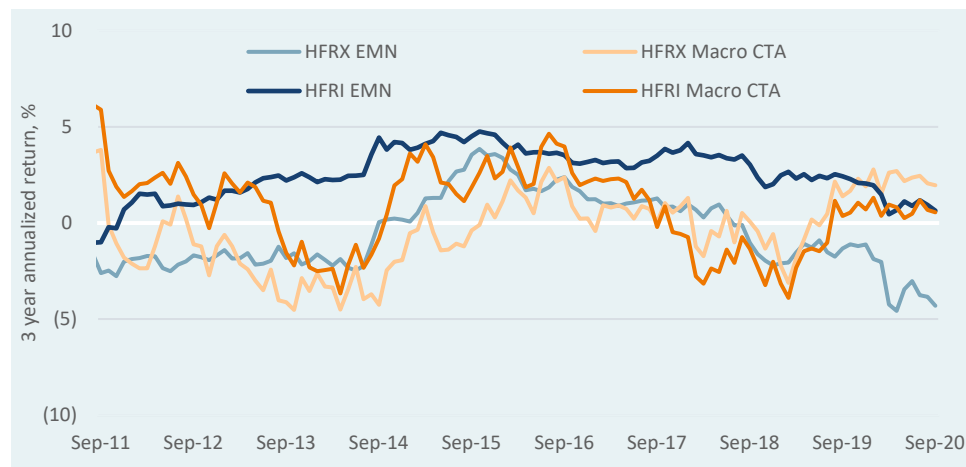
Its -34% return in 2020 through September would be its worst return in a calendar year period ever, just ahead of 1932 and 1934.

Source: MPI

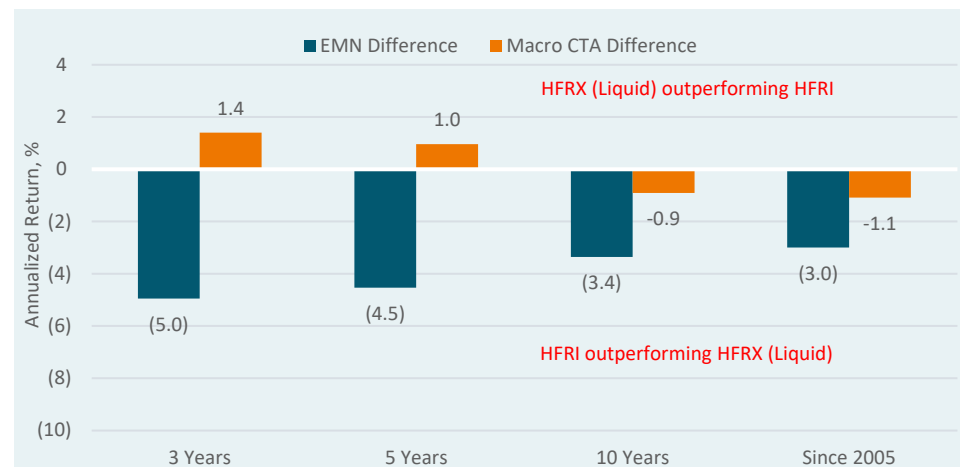
Liquid alts – macro vs equity mkt neutral

- Liquid equity market neutral hedge funds (proxied by HFRX Equity Market Neutral) have consistently underperformed their less liquid/true hedge fund peers (proxied by the HFRI equivalent). This is consistent with the extreme struggles alt risk premia managers are having within their equity market neutral books.
- Looking at the same comparison of liquid (HFRX) to less liquid (HFRI) for the CTA/Systematic Macro strategies shows a different story: liquid alternatives have been much more competitive with their illiquid hedge fund peers over time and have even outperformed over the last 3 and 5 years. This is also consistent with the alt premia portfolios – macro strategies have performed well, but not enough to balance out EMN losses.
- Several alt premia managers have recently launched “macro-only” alt premia funds. The data below supports this initiative to some extent, but suspect some recency bias at play as well.

3 YR ROLLING RETURNS, SEP-08 TO SEP-20



RETURNS TO DATE, AS OF SEP-20



ACERA Performance

Allocations

Target

Sub-categories	Target Allocations	Min./Max. Ranges
AR Portfolio	9.0%	5% to 10.5%
▪ <i>Alternative Premia Strategies</i>	4.5%	2% to 6%
▪ <i>Fund of Funds</i>	3.6%	2% to 6%
▪ <i>Other Alternatives/Opportunistic</i>	0.9%	0% to 4.5%

Current (as of 9/30/2020)

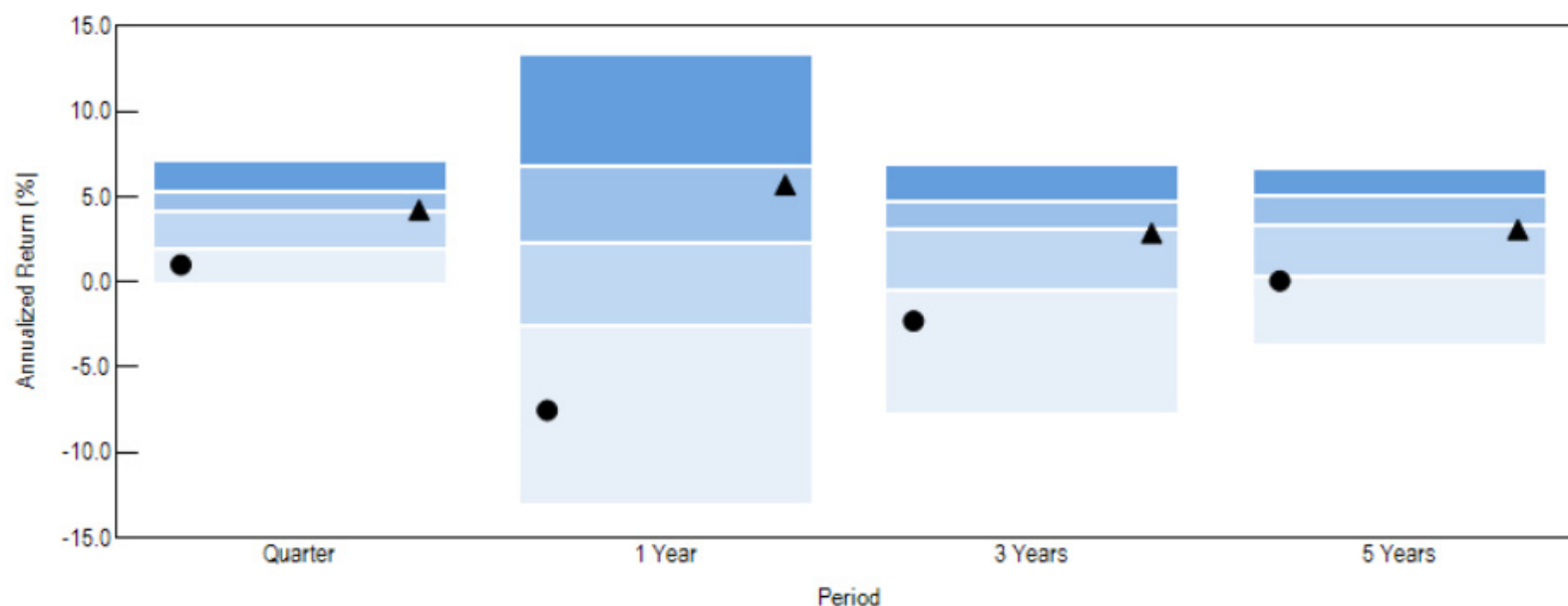
Sub-categories	Current Allocations	Min./Max. Ranges
AR Portfolio	8.1%	5% to 10.5%
▪ <i>Alternative Premia Strategies</i>	2.3%	2% to 6%
▪ <i>Fund of Funds</i>	3.8%	2% to 6%
▪ <i>Other Alternatives/Opportunistic</i>	1.9%	0% to 4.5%

Performance Summary

	Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Ending September 30, 2020					Inception (%)	Inception Date
										2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)		
Absolute Return*	631,664,349	100.0	1.1	-7.3	-7.3	-7.5	-2.3	0.1	--	1.8	-2.2	3.3	5.4	0.7	2.0	Sep-11
HFRI Fund of Funds Composite Index			4.3	2.6	2.6	5.7	2.9	3.1	2.9	8.4	-4.0	7.8	0.5	-0.3	3.4	Sep-11

Relative Performance

InvMetrics All DB Hedge Funds Gross Return Comparison
Ending September 30, 2020



Return (Rank)

	Quarter		1 Year		3 Years		5 Years	
5th Percentile	7.1	(80)	13.3	(86)	6.9	(83)	6.7	(79)
25th Percentile	5.3	(50)	6.8	(30)	4.8	(54)	5.1	(54)
Median	4.2		2.3		3.1		3.4	
75th Percentile	2.0		-2.6		-0.5		0.3	
95th Percentile	-0.1		-13.0		-7.7		-3.6	
# of Portfolios	193		192		180		169	
● Absolute Return	1.0	(80)	-7.5	(86)	-2.3	(83)	0.1	(79)
▲ HFRI Fund of Funds Composite Index	4.2	(50)	5.7	(30)	2.9	(54)	3.1	(54)

Portfolio Statistics* (as of 9/30/2020)

	Benchmark HFRI FoF Composite	Absolute Return Portfolio	MSCI ACWI
Max Drawdown	-9.0	-10.6	-21.2
Sharpe Ratio	0.51	0.23	0.69
Beta	0.30	0.11	1.00
Correlation to MSCI ACWI	0.86	0.35	1.00
Annualized StDev	4.7	4.1	13.8

*Since inception of AR Portfolio (9/2011)

Portfolio performance and risk targets are:

AR portfolio returns to exceed benchmark

Correlation to global equities less than or equal to 0.5

Appendix

Glossary

Beta - A measure of systematic (undiversifiable) or market risk, the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Correlation – A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help optimize the benefits of diversification when constructing an investment portfolio.

Internal Rate of Return (IRR) – the interest rate which is the net present value of all the cash flows (both positive and negative) of an investment.

Maximum Drawdown – the maximum loss from a peak to a trough of a portfolio before a new peak attained. Maximum drawdown measures the downside risk over a specified time period.

Standard Deviation - A measure of volatility, or risk. Measures risk by indicating how far from the average, or mean, return one is likely to fall in any given time period. The rules of statistics dictate that you will fall within 1 standard deviation of the mean 2/3 of the time and within 2 standard deviations 95% of the time. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Glossary

Sharpe Ratio - A measure of that explains the return of an investment compared to its risk. The Sharpe Ratio indicates excess portfolio return for each unit of risk over the risk free rate (usually short-term Treasuries or LIBOR) per unit of volatility. The higher the Sharpe Ratio, the greater its risk-adjusted return.

Time Weighted Return – A measure of the compound rate of growth in a portfolio, which eliminates the distorting effects of growth rates created by inflows and outflows of money.



PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS



PERIOD ENDING JUNE 30, 2020

Private Equity Review

Alameda County Employees' Retirement Association

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DEBT RELATED

- **HY issuance was down and leveraged loan issuance was up.** In the first half of 2020, US high yield issuance was down 2.1% at \$128 billion¹ compared to 1H 2019. Leverage loan issuance volume reached \$385 billion in the first half of 2020, up 22% from the same time last year.
- **Spreads loosen across the board.** US HY Credit Index loosened by 228 bps or 54.2%² in 1H 2020 versus the same period last year. BB and B index loosened by 162 bps and 168 bps, a 55.9%² and 34.4%² increases versus the same period last year. In the meantime, CCC index increased by 46.2%² in the first half of 2020 from 2019 same period.
- **Decline in LBO debt, with interest coverage up significantly.** US total leverage (Debt / EBITDA) for 1H 2020 at 5.1x³ down 14.2% from the same time last year. Interest coverage (EBITDA / Cash Interest) of first half of 2020 was 3.6x³, up 55.7% from same time 2019 as underwriting new deals focused on risk reduction.

GLOBAL

- **PE dry powder continued to surge globally.** For the first half of 2020, global total PE dry powder was at \$1.74 trillion⁴, up 16.4% from same time last year. US total PE was up by 21.9% to \$964.5 billion⁴; Europe total PE increased by 12.3% to \$335.2 billion⁴; Asia total PE was up by 8.3% to \$387.7 billion⁴; and the rest of world total PE was up by 11.1% to \$55.0 billion⁴.
- **Investment activity was down.** During the first of 2020, global PE firms invested in \$299.3 billion⁶ worth of deals, down 19.0% from the same time prior year and closed on 9,923 transactions⁶, down 19.1% from same time in 2019.

US BUYOUTS

- **Dry powder increased.** For the first half of 2020, US buyout dry powder was \$505.1 billion⁴, up by 15.5% from the same time in 2019.
- **Fundraising activity was down significantly.** In 1H 2020, US firms across all buyout strategies raised \$65.6 billion⁵, down by 49.8% from same time prior year. Average fund size decreased 25.1%, from \$1.72 billion in 1H 2019 to \$1.29 billion in 1H 2020.
- **Investment activity was down.** During 1H 2020, US buyout firms invested in \$77.4 billion⁶ worth of deals, down 41.1% from the same time last year and closed on 1,210 transactions⁶, down 23.6% versus the same time in 2019.

- **LBO price multiples were down.** As of June 30, 2020, US LBO purchase price multiples (Enterprise Value / EBITDA) were at 10.6x⁷, a 4.7% decrease from the second quarter-end of 2019.
- **Exit activity slowed down.** During 1H 2020, US buyout firms exited 358 companies¹², representing \$74.6 billion¹² in total transaction value. This represented a 30.4% decrease in the number of exits and a 45.0% decrease in total transaction value compared to the same time last year.

US VENTURE CAPITAL

- **Dry powder increased.** In the first six months of 2020, US VC dry powder was at \$150.3 billion⁴, up 27.2% from 1H 2019.
- **Fundraising activity slowed down, but average fund size increased.** US VC firms raised \$44.4 billion⁵ during the first half of 2020, a 77.6% increase from the same period last year. 193 funds⁵ closed in 1H 2020, a 20.6% decrease from the same period last year. The average US VC fund size increased to \$230.1 million⁵ by 123.6% versus the same period last year.
- **Investment activity was down, but average check size was up.** US VC firms deployed \$72.7 billion⁶ in capital in 1H 2020, a 9.8% increase from 1H 2019 as deal activity skewed from early to late stage. The number of rounds closed at 2,646⁶, a 21.1% decrease from the same time last year. The average investment per deal increased to \$27.5 million⁶, a 39.2% increase from prior year.
- **All stages valuations were up.** Compared to December 31, 2019, the average pre-money valuations increased for both early VC and late VC stages in 1H 2020: up 2.0% at \$30.0 million⁸ for early stage VC, and 36.4% at \$120 million⁸ for late stage VC.
- **Exit activity decreased with larger transactions.** US VC firms exited 344 companies⁶ in the first half of 2020, down by 4.4% from last year. This represented \$49.8 billion⁶ in transaction value, up by 5.7% from the same period last year. Largest sectors exited were Technology Services and Health Technology.

EX US

- **Ex US dry powder grew but less than dry powder in the US.** PE dry powder outside the US grew to \$777.8 billion⁴ for 1H 2020, a 10.2% increase versus last year. However, dry powder outside the US was still 19.4% less than dry powder in the US (\$964.5 billion⁴).
 - **Europe buyout and VC dry powders were up.** For 1H 2020, Europe buyout dry power was \$227.8 billion⁴, up by 11.9% from last year. Same time, VC dry powder in Europe grew to \$34.2 billion⁴, a 11.0% increase from prior year.
 - **In Asia, dry powder of both buyout and VC kept increasing, but growth equity decreased.** In the first half of 2020, Asia buyout dry power was \$99.7 billion⁴, up by 16.1% from same time last year. VC dry powder in Asia increased to \$124.1 billion⁴, up by 19.9% from 1H 2019. Growth equity dry powder decreased to \$141.3 billion⁴, down by 5.4% from 2019.

- **Fundraising outside of US was down except Europe.** In 1H 2020, ex-US fundraising was down 8.9% to \$108.2 billion⁵ compared to same time prior year. The decrease was led by Asian funds which raised \$35.3 billion⁵, down 36.9% from same time last year. Fundraising in the rest of the world decreased by 18.5%, from 8.1 billion⁵ in 1H 2019 to \$6.6 billion⁵ in the same time 2020. However, fundraising was up in Europe, up by 21.0% from \$54.8 billion in the first half of 2018 to \$66.3 billion⁵ in 1H 2020.
- **Investments activity was down, but with larger deals in Asia.** Both Europe buyout and Asia venture capital firms decreased the number of deals and aggregate deal volume in the first 6 months in 2020. But Asia buyout and venture capital firms decreased the number of deals but increased aggregate deal volume in 1H 2020.
 - **Both Europe buyout and VC activities decreased.** In the first half in 2020, Europe buyout firms transacted on \$43.4 billion⁶ in aggregate value, down by 25.0% from 1H 2019. VC investment activity was down from \$19.3 billion in 1H 2019 to \$17.3 billion⁶ in 1H 2020, an increase of 10.4%.
 - **Asia buyout and VC activities were down, but average deal size was up slightly.** During 1H 2020, Asia buyout firms closed on \$30.8 billion⁶ in aggregate value, up by 4.2% from the same time of last year's \$29.5 billion⁶. VC investment activity was up from \$40.6 billion during 1H 2020 to \$40.9 billion⁶, an increase of 0.9%.
- **Both US and Europe purchase price multiples decreased.** As of June 30, 2020, US median purchase price multiples (Enterprise Value / EBITDA) was 10.6x¹, a 4.7% decrease from the same time last year. In the meantime, Europe median purchase price multiples dropped 15.3% from 8.0x¹ from the same time last year.
- **Leverage multiples in Europe moved down.** European LBO leverage multiples (Debt / EBITDA) have averaged 5.8x¹⁰ during 1H 2020, an increase of 3.9% from the same time last year and an 5.0% decrease from the peak (6.1x¹¹) in 2007. European LBO Loan volume at \$26.9 billion¹¹ is down 4.4% versus 1H 2019, a decrease of 75.0% versus the peak of \$107.3 billion¹¹ in the first half of 2007.
- **Exit activity weaker in Europe, but stronger in Asia.** During 1H 2020, Europe PE firms aggregate exit value amounted to \$32.3 billion⁶, a 41.5% decrease from the same time last year, while Asia PE firms' exits were up 48.6% from \$101.8⁶ billion in the same time.

Outlook

- **PE allocations likely to remain stable.** A recent survey of institutional investors conducted on June 30, 2020¹² indicated that 41% intend to increase their allocation for private equity compared to 40% during the same period last year; 49% intend to maintain their allocation for private equity compared to 47% during the same period last year; 11% intend to commit less capital to private equity compared to 13% during the same period last year.
- **Institutional investors most interested in investing in North America and like small- to mid-market buyouts.** Based on the survey conducted on June 30, 2020¹², institutional investors view North America as the most attractive location to invest in the current economic climate with 80% choosing it as their preferred developed market investment destination. This compares favorably versus Western Europe (49%) and Asia (11%). China (42%) and India (38%) are the top two desired countries in the emerging markets for investors. In the same survey, 53% of institutional investors also cited the venture capital strategy as presenting the best opportunities in the current financial climate. Small to mid-market buyout strategy was mentioned next with 83% of institutional investors believing it presented the best opportunities.

Notes

1. *Leveraged Loan Monthly Thomson Reuters LPC*
2. *Guggenheim High-Yield Bank Loan Outlook*
3. *LCD's Leveraged Buyout Review*
4. *Preqin Dry powder by Geography (Preqin Website)* Dry powder includes Buyout, Distressed PE, Growth, Mezzanine, Co-investments, Balanced, and Venture Strategies.
5. *Preqin Private Equity Historical Fundraising Statistics*
6. *Preqin Pro Buyout and Venture Deals and Exits*
7. *US LBO Review*
8. *PitchBook-NVCA Venture Monitor*
9. *PitchBook's VC Valuations*
10. *LCD European Leveraged Buyout Review*
11. *European Leveraged Lending Review*
 - a. *Ex US Multiples were estimated utilizing a number of sources including Preqin Private Equity-Backed Buyout Deals and Exits Factsheet, LCD's Leveraged*
 - b. *Buyout Review, Pitchbook Europe M&A and Leveraged Loan Monthly Thomson Reuters LPC.*
12. *Preqin Investor Update: Alternative Assets*

Private Equity Portfolio Overview

Period Ending: June 30, 2020

	Policy Target	Policy Range	Market Value %	Market Value \$(000)	Unfunded Commitment \$(000)	Market Value + Unfunded \$(000)
ACERA Plan Assets - Total				\$8,208,050		
Private Equity:	8.0%	0-13%	7.7%	\$633,209	\$549,219	\$1,182,428
Buyouts	60.0%	30-80%	51.2%	\$324,168	\$351,240	\$675,408
Venture Capital	20.0%	0-40%	30.2%	\$191,295	\$40,398	\$231,693
Debt-Related/Special Situations	20.0%	0-70%	18.6%	\$117,746	\$157,581	\$275,327

Portfolio Summary

- As of June 30, 2020, the Private Equity portfolio had a total market value of \$633.2M, with \$324.2M in Buyouts, \$191.3M in Venture Capital, and \$117.7M in Debt-Related / Special Situations. Total market value is the current reported value of investments, excluding the remaining amount of unfunded commitments.
- Since its initial allocation to Private Equity in Q4 2008, ACERA has contributed \$918.3M towards its Private Equity commitments, with \$469.0M to Buyouts, \$168.1M to Venture Capital, and \$281.2M in Debt-Related / Special Situations. Unfunded commitments total \$549.2M.

Portfolio Activity

- In the first half of 2020, ACERA committed \$35.0M to AG CSF1A (Annex) Dislocation Fund, L.P. and \$35.0M to Vista Foundation Fund IV, L.P.

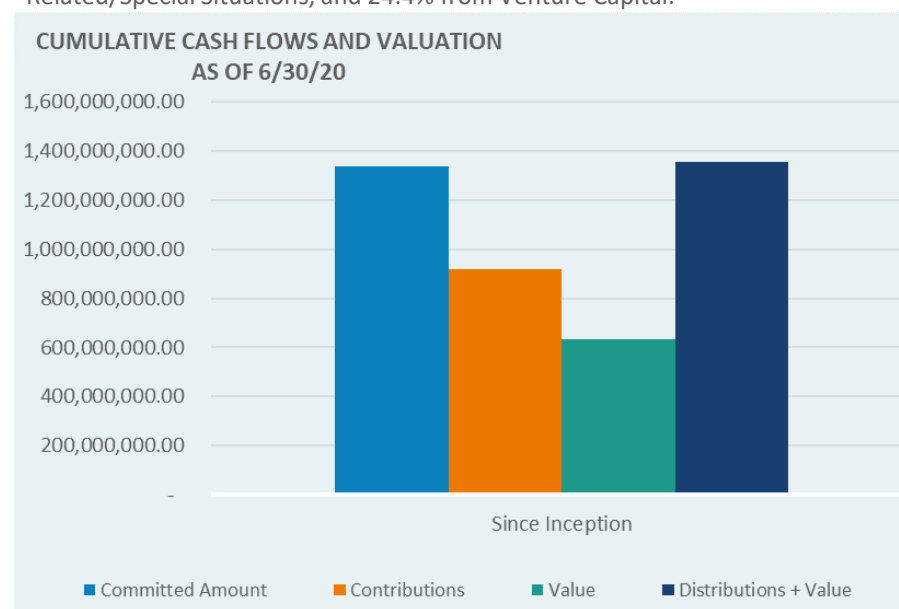
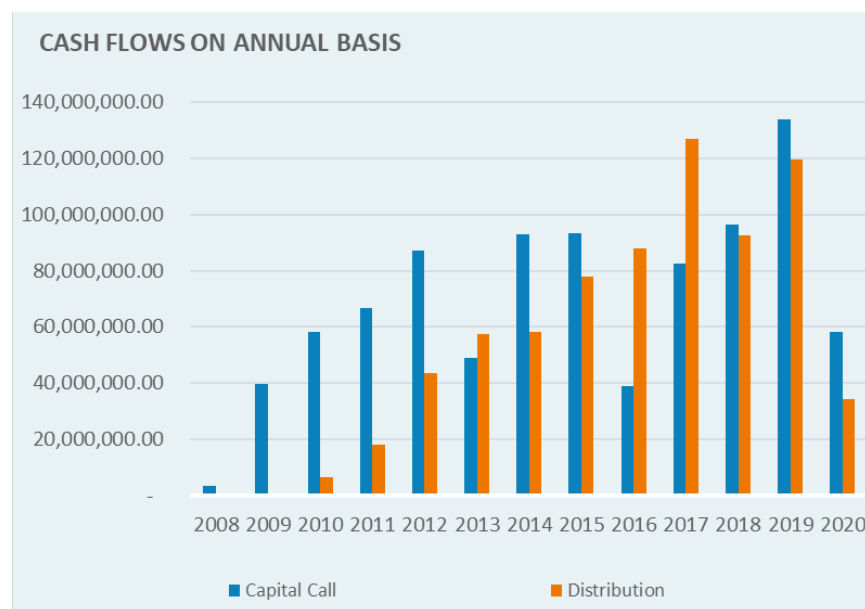
Private Equity Portfolio Performance

Period Ending: June 30, 2020

Performance

- Current Private Equity portfolio is valued at \$633.2M. Capital calls continued to outpace distributions by a ratio of 2.23:1.0 in 1H'20 as commitments have increased over the last several years in order to meet higher allocation target to Private Equity. Portfolio investments have a capital-weighted average life of 4.7 years.
- Since inception (2008):
 - The portfolio has produced +13.65% net IRR, outperforming its Thomson Reuters C|A Global PE benchmark pooled IRR of 12.58% by 107 basis points. Portfolio returns rank above Median on net IRR, Total Value Multiple (TVPI), and Distribution Multiple (DPI).
 - Relative to same Vintage global benchmark peers, Buyout ranks above Median on net IRR, TVPI, and DPI; Venture Capital ranks above Top-Quartile on TVPI and DPI and slightly below Top-Quartile on IRR; and Debt Related/ Special Situations ranks slightly below Median on IRR and TVPI and above Median on DPI.
- Together with \$723.1M in realized distributions (0.79x cost), Private Equity's Total Value at \$1,356.3M is approximately \$438.0M above \$918.3M cost (1.48x cost), net of fees. Return drivers include:

- Venture Capital up \$199.8M/+118.8% versus cost (Third Rock Venture II & III, General Catalyst VI, Great Hill IV, Khosla Ventures III, IV & Seed B, and NEA 13 and 14, leading), with 105.0% of called capital realized and distributed. Since inception, this portfolio produced 20.25% net IRR versus its peer global benchmark of 16.89% pooled IRR.
- Buyout up \$191.5M/+40.8% versus cost (Great Hill V and VI, Sycamore Partners I, Warburg XI, and Peakrock Capital Fund II leading) with 71.7% of called capital realized and distributed. Since inception, the Buyout portfolio produced 12.42% net IRR versus its peer global benchmark of 13.90% pooled IRR.
- Debt-Related / Special Situations was up \$46.8M/+16.6% versus cost (Centerbridge Special Credit Partners, ABRY Advanced Securities II and Senior Equity IV, and OHA Strategic Credit IB leading), with 74.8% of called capital realized and distributed. Since inception, this portfolio produced 7.91% net IRR versus its peer global benchmark of 9.45% pooled IRR.
- Within Private Equity, the current allocation of invested capital is 51.2% to Buyouts, 30.2% to Venture Capital and 18.6% to Debt / Special Situations. Of \$723.1M in cash distributions, 46.5% were from Buyouts, 29.1% from Debt-Related/Special Situations, and 24.4% from Venture Capital.



Private Equity – Portfolio Performance vs. Pooled Benchmark IRR

Period Ending: June 30, 2020

	1-Year	3-Year	5-Year	10-Year	Since Inception ²
Buyout	1.33%	7.74%	8.16%	12.64%	12.42%
<i>Thomson Reuters C/A Global Buyout Benchmark¹</i>	6.71%	12.94%	14.21%	14.86%	13.90%
Venture Capital	12.54%	20.80%	14.59%	20.55%	20.25%
<i>Thomson Reuters C/A Global Venture Capital & Growth Equity Benchmark¹</i>	14.86%	18.68%	14.93%	17.35%	16.89%
Debt-Related / Special Situation	-18.57%	-8.42%	-0.76%	7.05%	7.91%
<i>Thomson Reuters C/A Global Mezzanine & Distressed Benchmark¹</i>	-1.76%	4.40%	6.25%	8.64%	9.45%
Total Private Equity	1.47%	9.80%	9.34%	13.67%	13.65%
<i>Thomson Reuters C/A Global All Private Equity Benchmark¹</i>	5.28%	11.63%	11.49%	13.02%	12.58%

Identical cash flows from the portfolio inception through 6/30/2020 invested in the Russell 3000 Total Return index would yield a 12.96% (Long Nickels). The Private Equity Portfolio outperformed the Russell 3000 by 0.69%. Public Market Equivalent analysis provided by Solovis.

¹ Benchmarks: Thomson Reuters C/A as of 6/30/20, vintage 2008 through present.

² ACERA's inception date of November 21, 2008 vs. Thomson Reuters C/A's inception date of January 1, 2008.

Strategy

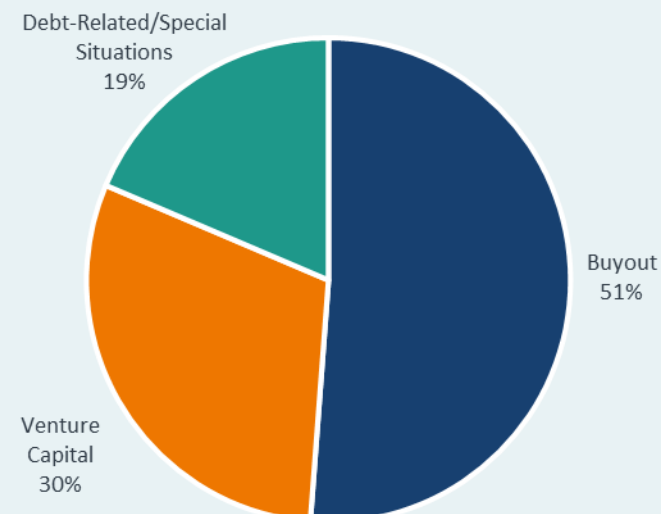
Portfolio Diversification

Period Ending: June 30, 2020

Investment Type	Commitment	Current Exposure	Current Exposure as % of Private Equity
Buyout	774,006,508	324,168,060	51.2%
Venture Capital	208,100,000	191,294,872	30.2%
Debt-Related/Special Situations	388,997,675	117,746,157	18.6%
Total Private Equity	1,371,104,183	633,209,089	100.0%

Investment Type	Target Range	Target Exposure	Current Exposure as % of Target	Difference
Buyout	4%-8%	5.4%	4.4%	-1.0%
Venture Capital	0%-3%	1.8%	2.5%	0.7%
Debt-Related/Special Situations	1%-3%	1.8%	1.6%	-0.2%
Total Private Equity	0%-13%	9.0%	8.5%	-0.5%

PRIVATE EQUITY PORTFOLIO: CURRENT EXPOSURE

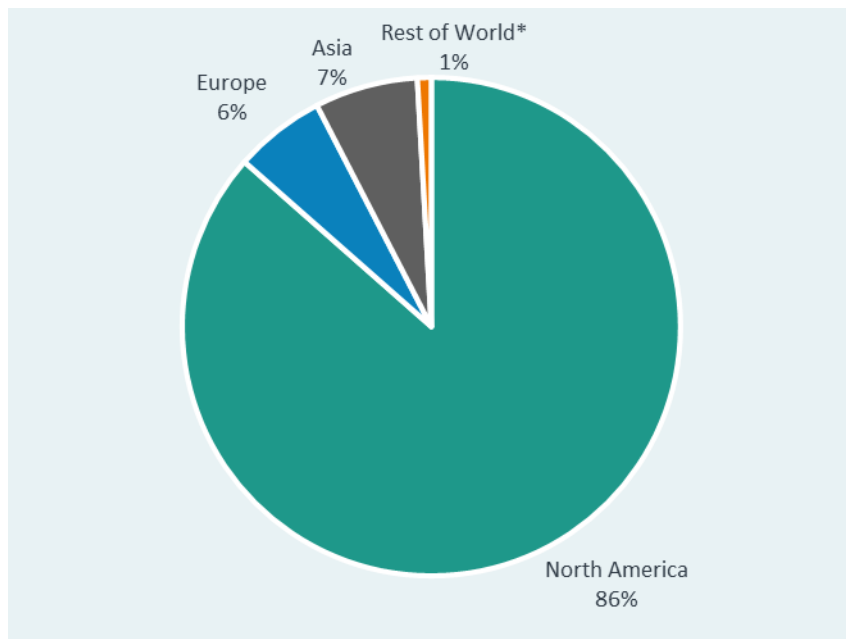


Geography

Private Equity Portfolio Diversification

Period Ending: June 30, 2020

Geography	Current Exposure
North America	514,975,190
Europe	34,986,515
Asia	39,827,249
Rest of World*	5,417,252
Total Private Equity	595,206,206



Based on the value of private equity portfolio companies as of June 30, 2020, as provided by the partnerships. Differences between reported value and the private equity portfolio valuation is due to temporary cash funds, fees, other expenses, and holdings with undisclosed industry breakdown.

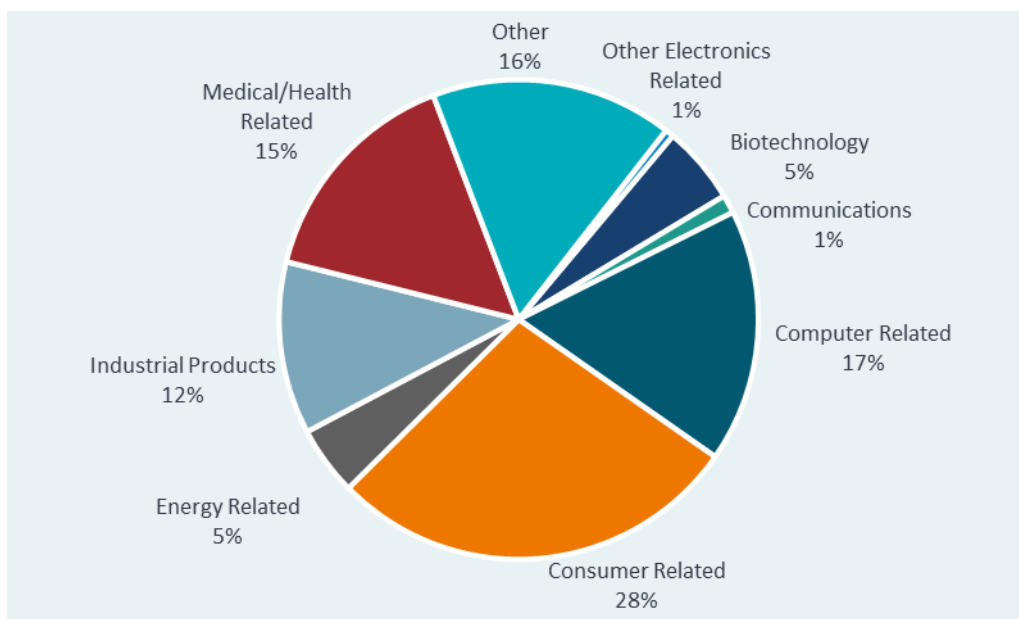
* Rest of World includes: Brazil, New Zealand, Kenya, Israel, United Arab Emirates, Australia, and Turkey.

Industry

Private Equity Portfolio Diversification

Period Ending: June 30, 2020

Industry	Current Exposure
Biotechnology	31,389,852
Communications	7,394,463
Computer Related	101,650,310
Consumer Related	165,938,539
Energy Related	27,772,298
Industrial Products	69,212,269
Medical/Health Related	91,164,453
Other	97,372,892
Other Electronics Related	3,311,130
Total Private Equity	595,206,206



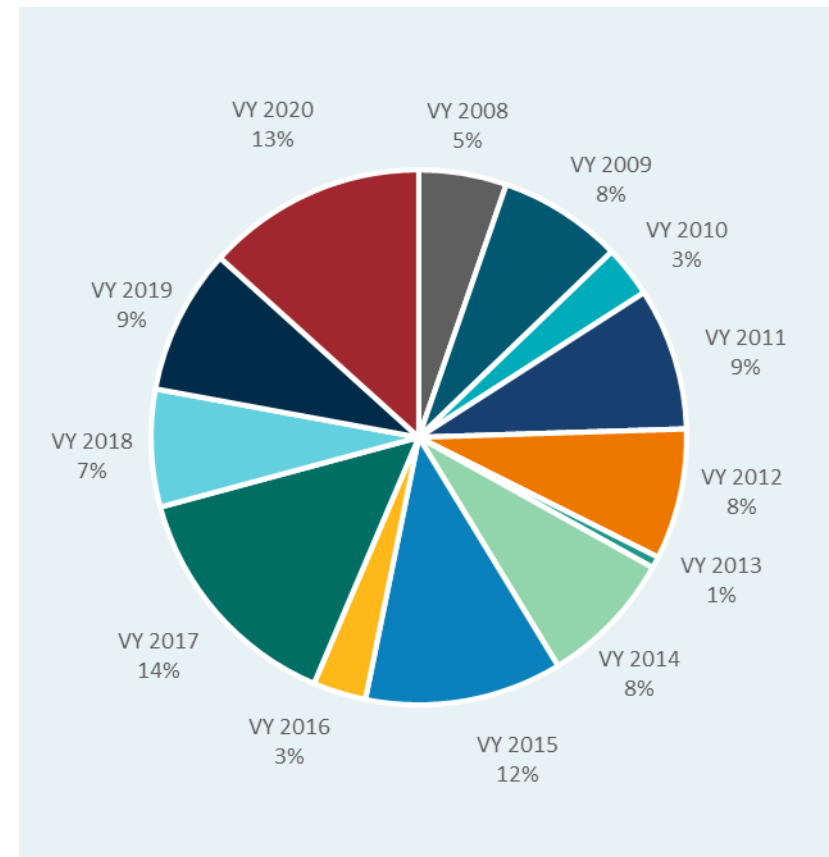
Based on the value of private equity portfolio companies as of June 30, 2020, as provided by the partnerships. Differences between reported value and the private equity portfolio valuation is due to temporary cash funds, fees, other expenses, and holdings with undisclosed industry breakdown.

Vintage Year

Private Equity Portfolio Diversification

Period Ending: June 30, 2020

Vintage Year	Commitment as of 6/30/20	% of Portfolio Commitment	Reported Value as of 6/30/20
2008	72,370,855	5.3%	7,008,526
2009	103,500,000	7.5%	28,623,644
2010	42,500,000	3.1%	5,640,952
2011	117,500,000	8.6%	51,731,726
2012	108,500,000	7.9%	100,716,401
2013	10,000,000	0.7%	15,805,656
2014	112,080,000	8.2%	91,538,124
2015	163,250,000	11.9%	126,404,001
2016	43,250,000	3.2%	23,077,301
2017	197,251,820	14.4%	117,862,887
2018	98,000,000	7.1%	12,881,079
2019	121,000,000	8.8%	31,999,450
2020	181,901,508	13.3%	19,919,343
Total Private Equity	1,371,104,183	100%	633,209,089



- **As of June 30, 2020, the Private Equity Portfolio's market value at 7.7% is below its target allocation of 8.0%, but within its target range. In the second half of 2019, ACERA reduced the allocation to Private Equity from 9.0% to 8.0%.**

Appendix

	Policy Target	Policy Range	Market Value %	Market Value \$(000)	Unfunded Commitment \$(000)	Market Value + Unfunded \$(000)
ACERA Plan Assets - Total				\$8,208,050		
Private Credit:	4.0%	3-5%	0.5%	\$39,055	\$40,000	\$79,055

Portfolio Summary

- As of June 30, 2020, the Private Credit portfolio had a total market value of \$39.1M. Total market value is the current reported value of investments, excluding the remaining amount of unfunded commitments.
- Since its initial allocation to Private Credit in Q1 2019, ACERA has contributed \$41.1M towards its Private Credit commitments. Unfunded commitments total \$40.0M.

Portfolio Activity

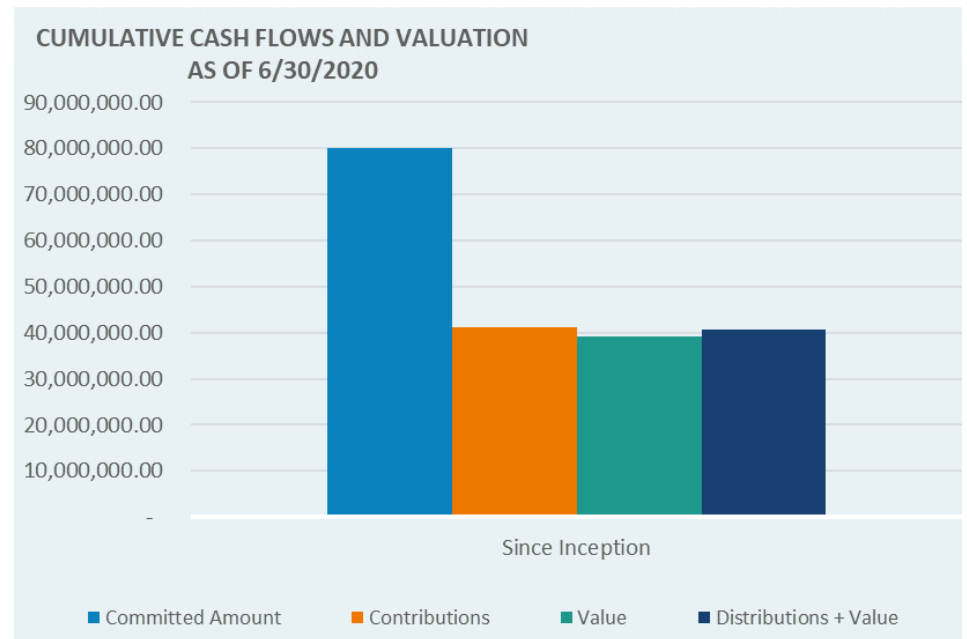
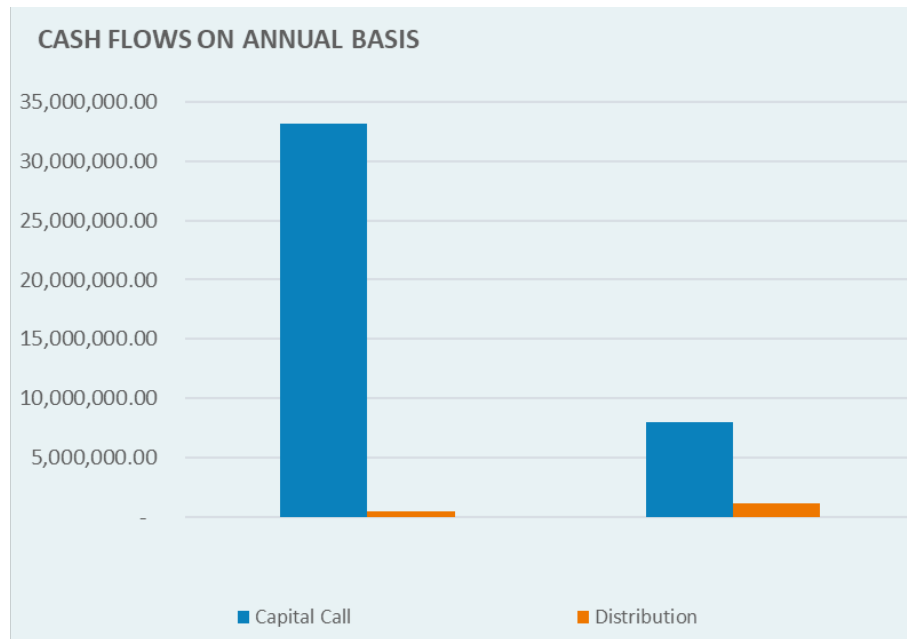
- Most recently ACERA made two new commitments to Private Credit in the second half of 2020: \$75.0M to Blackrock Direct Lending Fund IX, L.P. and \$75.0M to HPS Specialty Loan Fund V, L.P.

Private Credit Portfolio Performance

Period Ending: June 30, 2020

Performance

- The Private Credit's performance, as measured by net IRR, is -2.03%, 115 bps above the same cash flow invested in the S&P LSTA U.S. Leveraged Loan 100 Index of -3.18%. With a capital-weighted average life of investments at 0.6 years, portfolio IRR is not meaningful.
- The portfolio is currently valued at \$39.1M. Together with \$1.6M in realized distributions (0.04x cost), Private Credit's Total Value at \$40.6M is approximately \$500.0 thousand below \$41.1M cost (0.99x cost), net of fees.
- Capital calls dominated the portfolio's cash-flow activity as new investments are made to reach the target exposure.





PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS



PERIOD ENDING: JUNE 30, 2020

Real Assets Review

Alameda County Employees' Retirement Association

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Real Asset Outlook

Outlook summary

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Private Real Estate	Negative impacts from the economic slowdown caused by Covid-19 will likely take several quarters to play out in the appraisal process for existing assets. Transaction activity has come to a halt, making pricing comparisons difficult. Retail/hotel/resort/casinos will likely feel the greatest impact. Income declines are more likely than prior downturns.	<ul style="list-style-type: none"> — The duration of the economic slowdown will impact the degree of negative real estate performance. Core real estate returns tend to have high correlation to overall GDP growth. — A sharp rise in interest rates could lead to increased cap rates, hurting values. 	Our outlook remains neutral; however we are taking a barbell approach. The lag effect of the appraisals process will create a period of several quarters where valuations are not reflective of perceived value. Redemption requests are typically met with gates or redemption restrictions. We recommend rebalancing redemptions in core real estate where possible and deploying capital in non-core strategies with fresh capital.	Neutral
REITs	REITs responded sharply downward in March when the severity of coronavirus forecasts filtered in. REITs were down almost 40% YTD at their nadir with some sectors such as hotels and casinos down over 70%. A sharp recovery occurred, but not all the way back. Through mid April REITs were down ~25%, but well off their lows.	<ul style="list-style-type: none"> — REITs have higher leverage than core real estate and have higher exposures to non-core sectors such as hotels, self-storage, for rent residential and senior/student housing. — Rising interest rates can have a negative effect on REITs and all yield-sensitive assets over short periods. — REITs are sensitive to economic decline and general equity market volatility. 	We remain neutral on REITs. Although the recent decline in performance has increased discounts to NAV, the underlying NAVs have not yet adjusted. REITs can provide liquid exposure to real estate with the following caveats: high sensitivity to equity market volatility over shorter holding periods, higher leverage and higher exposures to non-core sectors such as hotels, self-storage, for-rent residential, etc.	Neutral
Commodities	Commodities futures have had lackluster performance over the last decade. An upward sloping futures curve for most of the last decade has created a headwind for the asset class. In 1Q, an oversupply of energy, coronavirus demand destruction, and declining inflation concerns has exacerbated performance issues.	<ul style="list-style-type: none"> — Oversupply issues, especially across the energy complex could have a lasting impact. — Depending on the depth of the recession, demand for energy and industrial metals could be reduced for an extended period. — Inflationary pressures remaining low would continue to be a headwind. 	Commodities will likely face both supply and demand issues over the intermediate timeframe. Contango remains steep across the complexes and lower rates will keep collateral returns low. Inflation driven by excess demand is unlikely in the intermediate horizon and any inflation led by excess monetary supply is unlikely to have a direct benefit to commodities.	Negative

Outlook summary (continued)

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
TIPS	Declining nominal interest rates have led to positive total returns, however declining inflation has caused TIPS to underperform nominal bonds. Breakeven rates, while volatile, are down across the board.	<ul style="list-style-type: none"> Decreasing inflation expectations or rising nominal interest rates would be a headwind to TIPS. Continued low rates create a high cost of carry. 	Low current yields and modest inflation expectations have led to other real assets offering higher total return potential than TIPS.	Negative
Infrastructure	Infrastructure assets have not been spared during the broad market sell-off in 2020. Coming into the year, we were especially bearish on transportation infrastructure assets (airports, toll roads, ports, etc.) due to valuations and significant GDP risk. We anticipate that Covid-19-related impacts on travel will generate more interesting deals for client capital. Power and energy-related infrastructure has also been hit hard by the economic fallout though we are cautious about taking significant commodity-price risk. Finally, the telecom/data space remains an attractive segment for infrastructure capital and we anticipate putting more money to work in this area going forward.	<ul style="list-style-type: none"> Regulatory changes are creating investment challenges in parts of Europe as low interest rates are putting downward pressure on the allowed returns by investors. We are cautious on utilities where returns are set by governmental bodies. Transportation assets are particularly vulnerable in the current environment. We may see interesting opportunities emerge from over-levered infrastructure funds, but we'd be a patient buyer. 	The asset class offers a compelling return profile that aligns well with long duration pools of capital. We favor private infrastructure funds that have capabilities to improve operations and manage complex deal structures..	Positive
Oil & Gas	The oil & gas industry entered 2020 on shaky legs following several years of weak commodity prices. The dual impact of Covid-related demand destruction and the disintegration of OPEC+ supply controls sent oil markets into a tailspin. For independent drillers, current prices are far too low for them to operate profitably. We expect a large number of bankruptcies across the energy industry vertical and a challenging time ahead raising capital once prices stabilize.	<ul style="list-style-type: none"> Slowing demand for oil, mostly driven by slowing economic growth, is a key concern for the industry. Longer-term, oil demand is expected to decline as non-carbon sources of power outcompete hydrocarbons. Access to capital within oil & gas presents a challenge for an industry that requires large capital expenditures to grow. Geopolitics and the tension between OPEC and non-OPEC producers presents an additional risk for investors. 	We had been cautious about energy going into 2020 but industry fundamentals deteriorated far more than we would have predicted. There is too much uncertainty around oil/gas demand, access to capital, and geopolitics for us to gain comfort. We recognize that someone will likely make money from the devastation occurring in upstream energy, but we aren't willing to place bets just yet.	Negative

Outlook summary (continued)

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Renewables	Operating renewable energy assets remain expensive with yields in the mid-single digits. New development projects will slow down in 2020 but will likely see a rebound shortly after as solar and wind farms are now the cheapest form of new build electricity generation for over two-thirds of the global population, and countries shift their energy sources to meet pledges to become carbon neutral.	<ul style="list-style-type: none"> As corporations shore up capital to preserve liquidity, capital expenditure dedicated to developing and purchasing renewable energy assets may shrink. There is also a potential for government subsidies and tax incentives to be reduced as governments are forced to dedicate resources to the current crisis as opposed to the long-term impact of climate change. 	While we believe the development of solar and wind farms is an attractive investment, it is difficult to find scalable opportunities that warrant deploying capital into a dedicated renewable energy fund. Infrastructure funds with a track record of successful development projects within broader portfolios are the most effective way to gain exposure to the sector.	Neutral
Mining	The mining industry has not suffered quite like the oil & gas market, but it has been a weak sector for several years. Unlike oil, we see growing demand for industrial metals like copper, nickel, zinc and steel inputs as electrification takes market share from carbon-based power generation.	<ul style="list-style-type: none"> Global GDP growth and the economy in China are the two biggest risks in the sector. China represents a disproportionately large buyer of industrial metals, so its economy and industrial output have a large impact on metal prices. 	Longer-term, we believe the demand outlook looks favorable for several industrial metals. There will be near-term headwinds from Covid-19 but as the global economy recovers, we expect a tightening of supply/demand for mining commodities.	Positive
Midstream Energy / MLPs	Coming into 2020, midstream companies were trading at levels that indicated the market was skeptical about company cashflows and future earnings. Falling oil prices from the impact of Covid-19 and news that OPEC & Russia would no longer cooperate to balance the supply side of the market compounded negative sentiment. With so much uncertainty now present in the energy market, we would avoid companies exposed directly or indirectly to oil price movement.	<ul style="list-style-type: none"> Falling oil/gas prices could curtail drilling programs and reduce production volumes which would hurt MLP cash flows. Regulatory risk is low for most of the midstream space though there are pockets of risk in states like Colorado and New York where regulations could greatly impact drillers and pipeline owners. 	We have shifted our outlook to negative for midstream energy given the challenges that emerged in 2020. Though prices for listed midstream stocks have plummeted, we are seeing a wave of distribution cuts that will reset the sectors income yield and depending on the duration of the oil price downturn, could see a spike in bankruptcies.	Negative

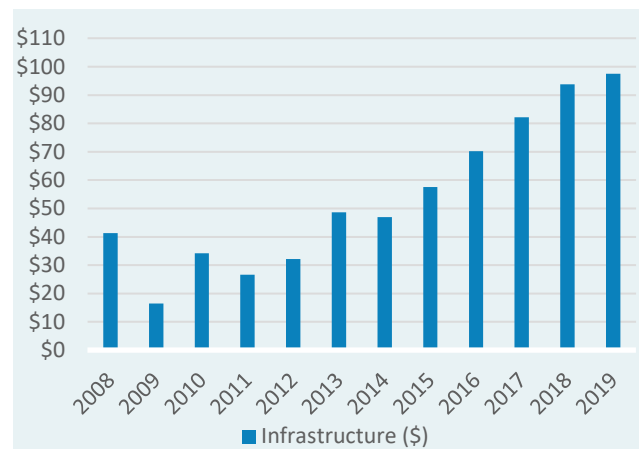
Outlook summary (continued)

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Timberland	Timber markets in North America continue to face challenges from excess inventory, low interest rates and unfavorable transaction market. Stumpage and lumber prices are facing near-term headwinds from Covid-19 as home building softens exports to Asia have stalled. Our outlook on timber has been negative for several years due to the headwinds the asset class has faced. Despite broadly negative sentiment towards the timber industry, we struggle to make a case for returns to reach higher than mid-single digits.	<ul style="list-style-type: none"> — Coming off trade war headwinds, the timber market hit another bump when Covid-19 stalled exports to Asia and home building activity declined. An already oversupplied timber market will take time to work through excess inventory. — Timber markets outside the U.S. face varying degrees of currency and political risk which in many cases has resulted in disappointing returns for investors. With few exceptions, returns do not justify the additional risk. 	For most investors, high single-digit expected returns for timberland in the U.S. is too low for the illiquidity and risk assumed within the asset class. Fundraising has been slow for several years which has resulted in a slow transaction market and less competition but finding attractive deals remains elusive.	Negative
Agriculture	Farmland prices in the Midwest leveled off after 2014 but remain too expensive for the income and return potential. We are interested in opportunities where we can control more of the value-chain associated with food production.	<ul style="list-style-type: none"> — Similar to timber markets, we have concerns around valuations and the risk/return proposition for farmland investments. — The income potential within farmland is more attractive than timber and the global growth in food is a more compelling macro trend than pulp and paper but we remain bearish on the sector, in general. 	Currently we find the asset class to be broadly expensive. Selectively looking at agriculture business investments where crop and land are a component of a broader value-add investment strategy.	Negative

Infrastructure

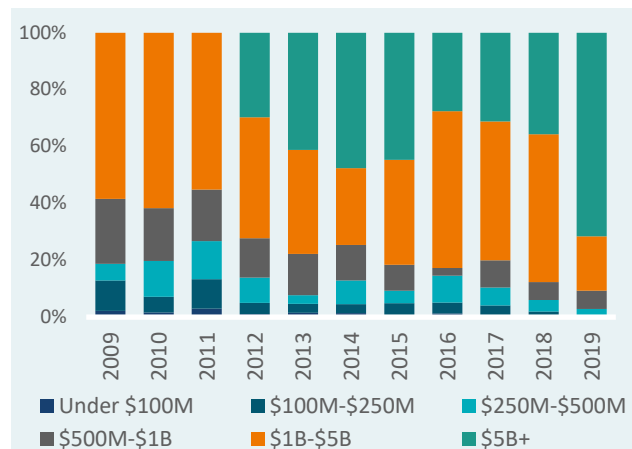
- Fundraising within Infrastructure reached a record high of \$98 billion in 2019, according to Preqin. In addition, large infrastructure funds are capturing a greater share of the overall market, with around 70% of the capital raised in 2019 committed to infrastructure funds that were targeting at least \$5B in assets.
- In 2019, we saw a surge in deal activity for telecom and energy (ex. renewables). We've been bullish on the telecom theme given the tailwinds around data usage growth globally. Social distancing measures have heightened our collective use of data as we learn to work remotely and conduct meetings via videoconferencing. The growth in energy transactions, led by several midstream take-privates, has likely not worked quite as well. The collapse in oil prices has devastated oil/gas producers which will flow through to the pipeline owners as volumes fall from production declines.

FUNDRAISING IN INFRASTRUCTURE



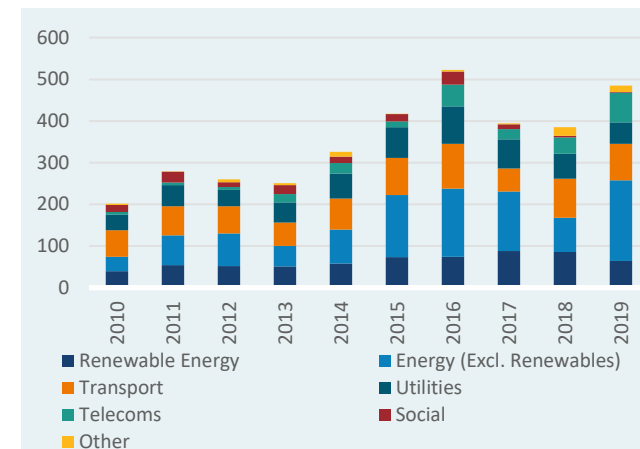
Source: Preqin

INFRASTRUCTURE FUNDRAISING BY FUND SIZE



Source: Pitchbook

INFRASTRUCTURE DEALS BY SECTOR

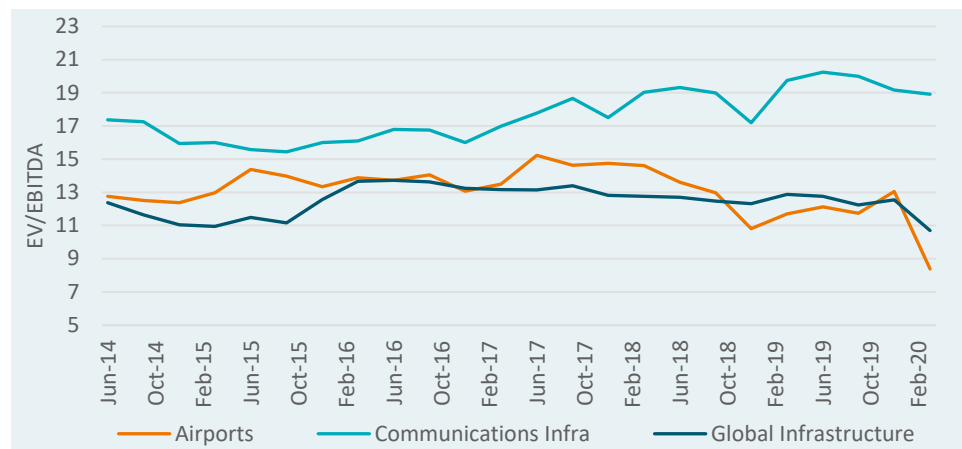


Source: Preqin

Infrastructure (cont.)

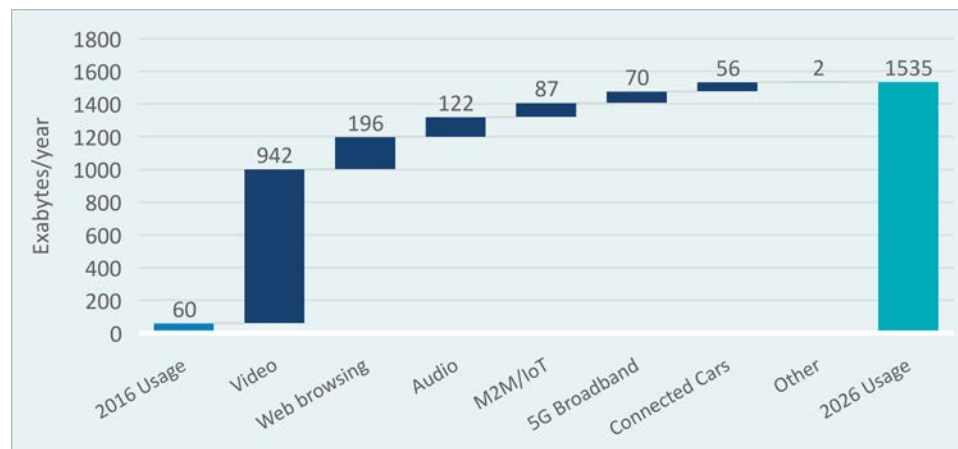
- Transportation infrastructure (i.e. ports, toll roads, airports) is experiencing a material decline in revenue due to travel restrictions and slowing global trade. Airport passenger traffic fell as much as 50-90% during March as the full impact of social distancing orders took effect. Cargo volumes were down 30% at the Port of Los Angeles, the largest port in the U.S. In contrast, communications infrastructure has either seen little-to-no impact or has benefited from a surge in data usage. Verizon reported traffic across its networks increased 20% from pre-coronavirus levels as video streaming, gaming and web traffic surged.
- Valuations within sectors most impacted by Covid-19 fell sharply during the first quarter, reflecting the near-term business impact and higher risk premiums. Listed airports, for example, fell from an average EV/EBITDA multiple of 13.0x to 8.0x in March 2020. Having been bearish on the transportation sector for a couple years, the disruption to infrastructure assets could present an interesting entry point for new capital.
- Communication infrastructure trades at a considerable premium, 19.0x vs. 10.5x for infrastructure broadly, which is a reflection of the stability of their earnings and future growth potential. The macro tailwinds within mobile data usage and video streaming are compelling, though valuations, at least within public markets, appear to be pricing in much of the future growth opportunity.

INFRASTRUCTURE VALUATIONS – EV/EBITDA



Source: Bloomberg; Dow Jones Brookfield Infrastructure; S&P Global Infrastructure

GROWTH IN GLOBAL MOBILE DATA TRAFFIC (EXABYTES PER YEAR)

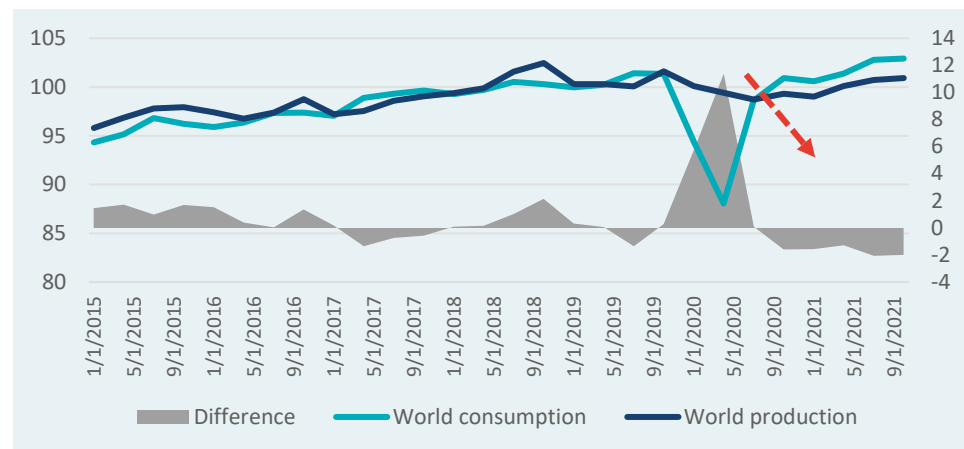


Source: Altman Vilandrie 2018

Energy – Oil/Gas

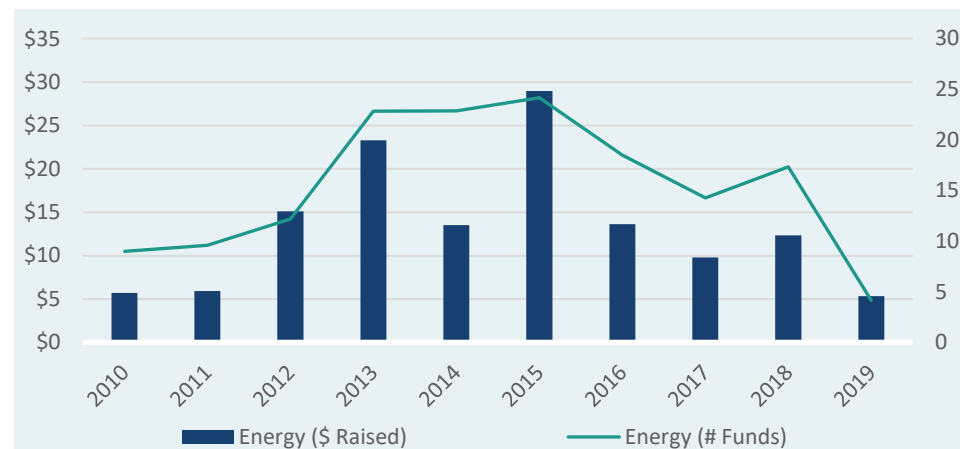
- The oil/gas industry would seem to be cursed as weather, geopolitics, human pandemics and investor antipathy have collectively hit the sector when it was already severely wounded. News of a breakdown in the alliance between OPEC and Russia on supply management will likely result in another round of bankruptcies and capital destruction for North American Oil & Gas companies. Forecasts for oil demand are still being adjusted downward but are projected to decline 5-10% in 2020. An already oversupplied market will take time to recover from the steep decline in demand but for U.S. drillers, time is in short supply.
- We do not see private capital stepping in to provide much needed debt and equity infusions as they did in 2015/'16. Fundraising, both in equity and credit strategies, to support the energy industry has been anemic. Absent a sharp recovery in oil prices over the next 6 months, we believe a substantial wave of restructurings will occur and U.S. shale production will fall sharply as small and financially weak operators are taken out of the market.
- For now, we would recommend investors avoid putting new capital into the sector. We are more comfortable potentially missing out on a market bottom than risking additional capital that in our view is likely to become impaired.

WORLD CONSUMPTION/PRODUCTION OF LIQUID FUELS PER DAY



Source: EIA

FUNDRAISING IN OIL/GAS

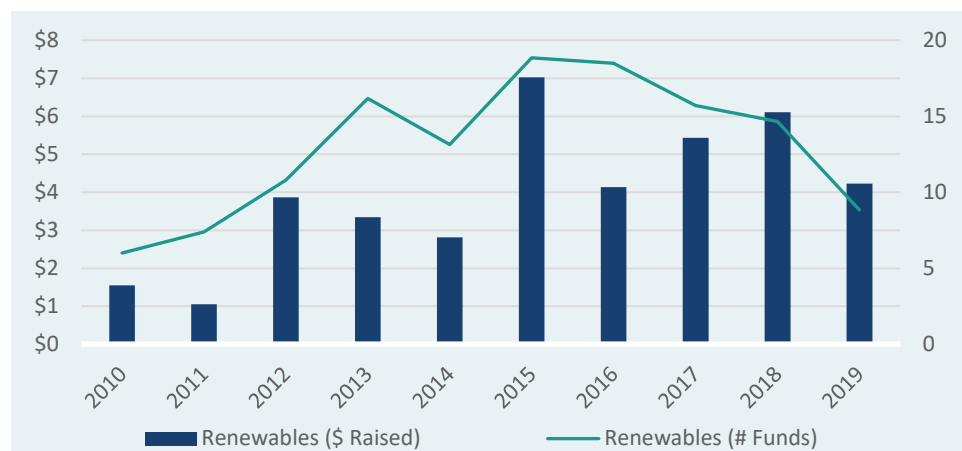


Source: Preqin

Energy – Renewables

- Dedicated renewable energy fundraising moderated in 2019 to just over \$4 billion. However, this figure does not include energy funds that invest in both conventional energy sources along with renewable sources, or infrastructure funds that target renewable energy investments as a portion of their strategy. Taken as a whole, investment in the sector has been on a consistent upward trend, with only more room to grow as countries and corporations aim to become carbon neutral. According to Bloomberg¹, over \$10 trillion of investment in new renewable energy generation assets is needed by 2050 in order to meet demand.
- The sector has held up strongly through the Covid-19 crisis due to stable demand for electricity and the relative ease of operations for solar and wind farms. New development projects will likely slow in the short term as financing dries up and permitting processes come to a halt, but existing assets will be largely unaffected.
- Despite a strong outlook for demand, there are challenges to deploying capital in the space. Investments in operating assets are not compelling as returns remain in the mid-single digits, and it is difficult to find scalable development opportunities. We currently believe the best way to gain exposure is through broader infrastructure funds that include investments in the sector as a component of a diversified portfolio.

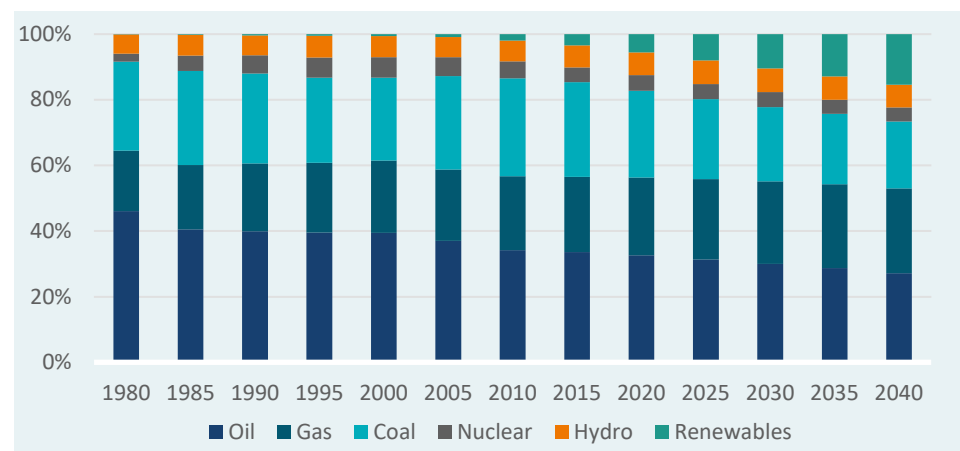
FUNDRAISING IN RENEWABLES



Source: Preqin

1. Bloomberg New Energy Finance, New Energy Outlook 2019.

GLOBAL ENERGY SOURCES

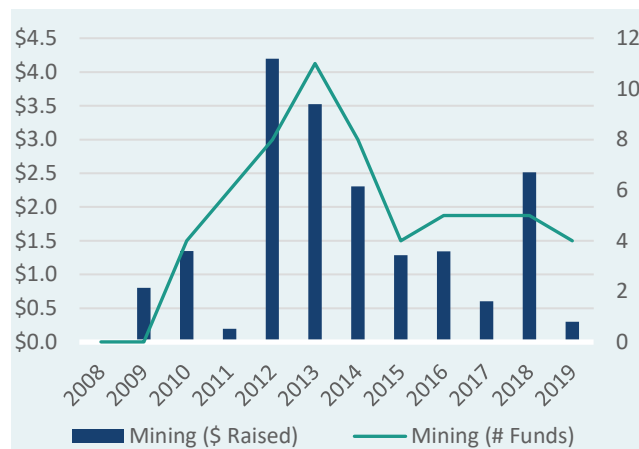


Source: BP

Metals and mining

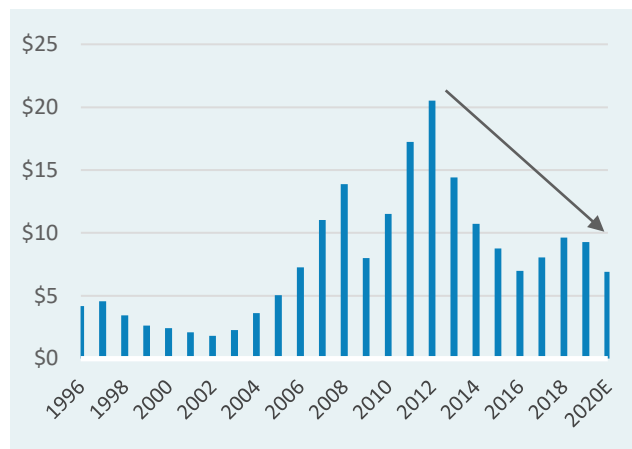
- Fundraising in the private equity mining segment has been lumpy and quite modest since the GFC. 2019 saw a significant decrease after a notable uptick in fundraising in 2018. The landscape for fundraising in mining will be one to watch as more institutions implement strong ESG programs that will undoubtedly impact mining GPs. We could see a scenario where fundraising improves if investors see the benefit of funding the extraction of materials that contribute to our shift away from fossil fuels.
- After a modest recovery from a cyclical low in 2016, mining exploration budgets are expected to decrease by 29% in 2020 due to limited access to financing and lockdown measures in place in many countries mining companies operate. Despite short term challenges, macro trends of increasing demand for industrial metals remain in place. Our overall outlook within mining is positive with a notable challenge in finding enough investment opportunities that meet our underwriting criteria.
- On the investment side, we have participated in the mining sector by backing teams with expertise in financing mining projects which delivers a high income return with some upside associated with a structured equity security. We are more bullish on base/industrial metals which longer-term will benefit from a shift away from fossil fuels. We are less bullish on bulk and energy-related commodities.

FUNDRAISING IN MINING



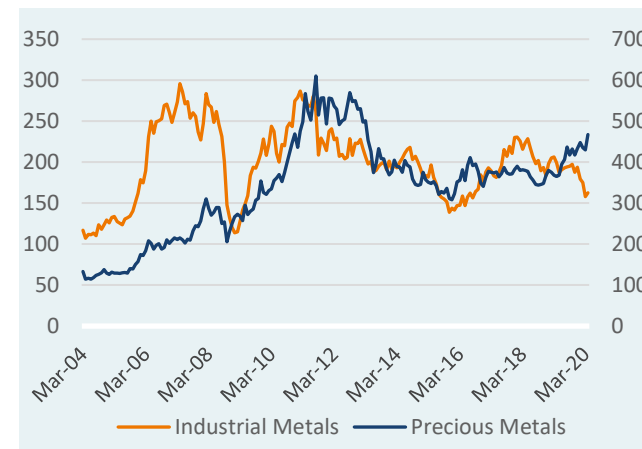
Source: Preqin

CAPITAL EXPENDITURE IN MINING (\$B)



Source: S&P Global Market Intelligence

METAL PRICES

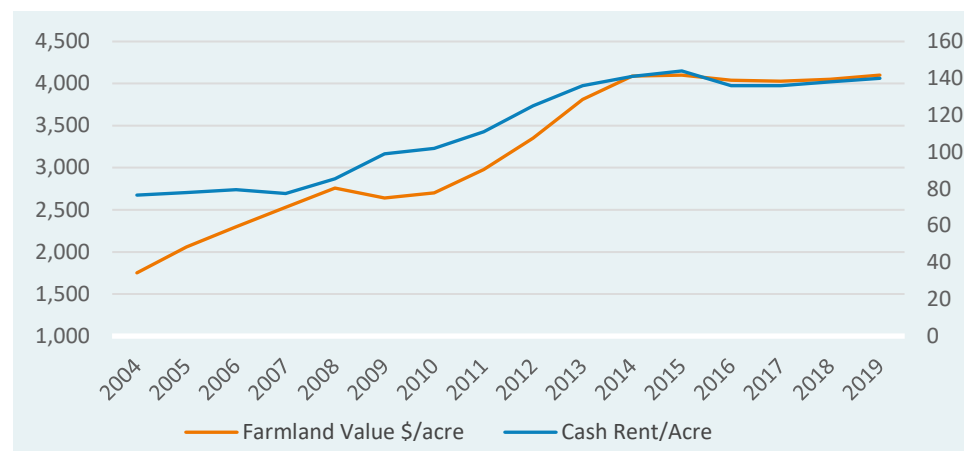


Source: Bloomberg

Agriculture

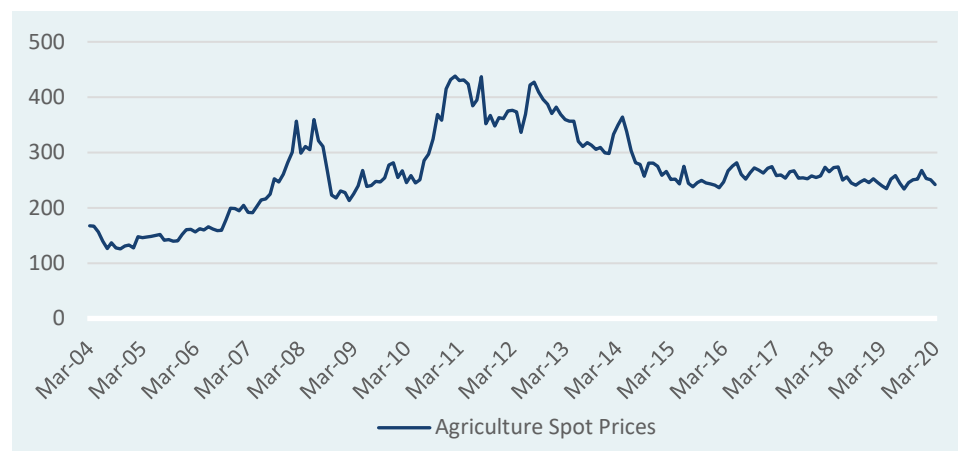
- Farmland values nationally have remained largely flat since 2014, despite a challenging commodity price environment over the last 5 years. That has put pressure on investment returns as income yields have been flat-to-down and capital appreciation has not materialized. For new investors, the investment return potential looks disappointing as rental yields remain stubbornly low (3-4% on average) and land values appear expensive.
- In the row crop segment, rental yields hover around 3% which is insufficient in our opinion for most institutional investors. Permanent crops offer the potential of higher income yields but also carry greater risk and operational expertise. There are additional ways to add value through crop selection, improving crop yields and selling land for higher-and-better-use cases. In addition, managers can control a greater share of the food production value-chain which carries higher returns but also higher operational risk.
- We tend to favor agriculture strategies that both own land for crop production and control the operating verticals that bring food to the consumer. Strategies that can capture more value through processing, storage and marketing, offer the potential of higher returns.

U.S. NATIONAL FARMLAND VALUES VS CASH RENTS



Source: USDA

BLOOMBERG AGRICULTURE PRICES

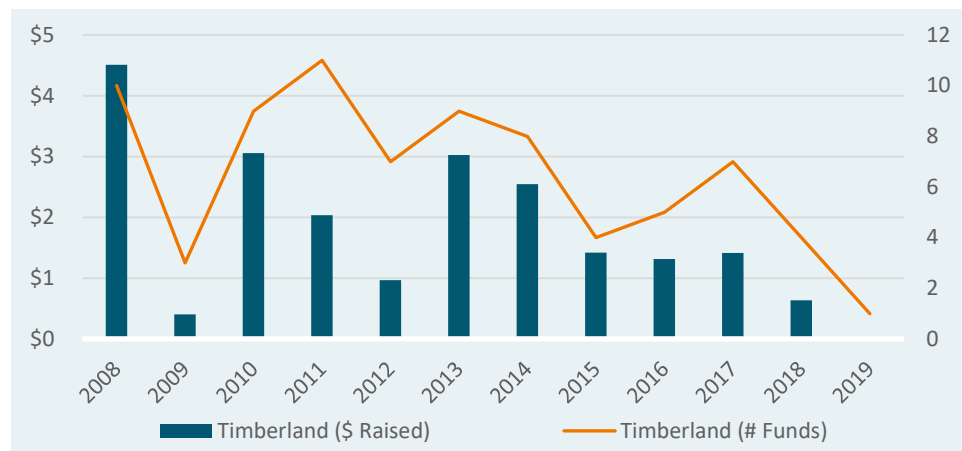


Source: Bloomberg, as of 3/31/20

Timberland

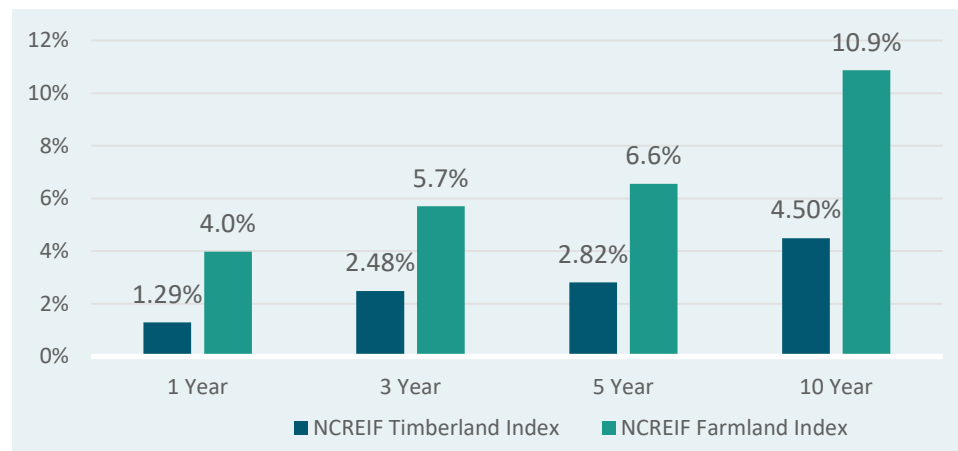
- Fundraising has continued to be a challenge within the timber industry with Prequin having 1 timber fund raised in 2019. Despite a lack of capital being raised by TIMOs, the investment opportunity within timber has not materially improved.
- One other effect of the fundraising trend in timberland is the cluster of “zombie” funds raised in the pre-GFC period that are finding liquidity a challenge. The mismatch in buyers and sellers in other markets could present a buying opportunity but a reluctance on the part of selling timber managers to realize a loss has kept prices elevated and thus expected returns low.
- The past 10 years have been lackluster for timber investors, achieving a trailing average return of 4.5%, according to the NCREIF Timberland Index. Many TIMO funds have fared worse than the index due to leverage and/or less favorable geographic exposures within their portfolio. The 10-year returns prior to the GFC were more than double the returns experienced after, so investors may ask, which returns we are likely to see in the decade ahead. We believe the asset class was undergoing a unique shift in the 90s and early 2000s that drove high double-digit returns that aren’t repeatable in today’s market.

FUNDRAISING IN TIMBERLAND



Source: Pitchbook/Prequin

TIMBERLAND TRAILING PERFORMANCE

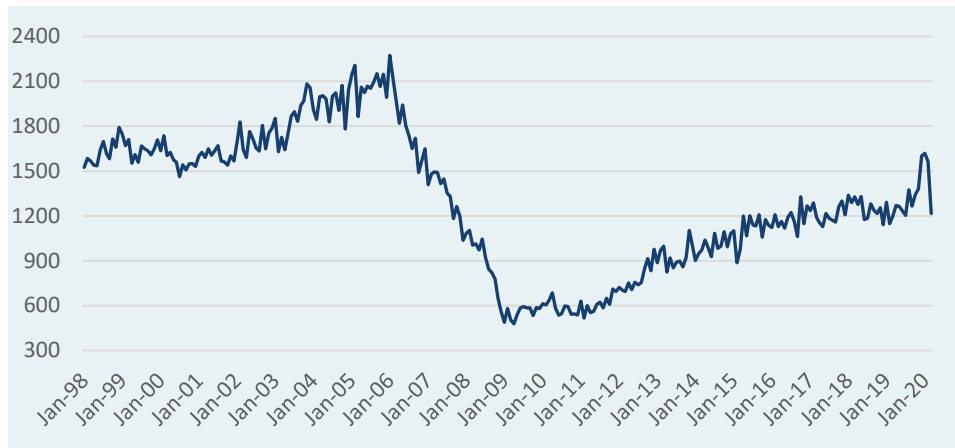


Source: NCREIF (as of 3/31/20)

Timberland (continued)

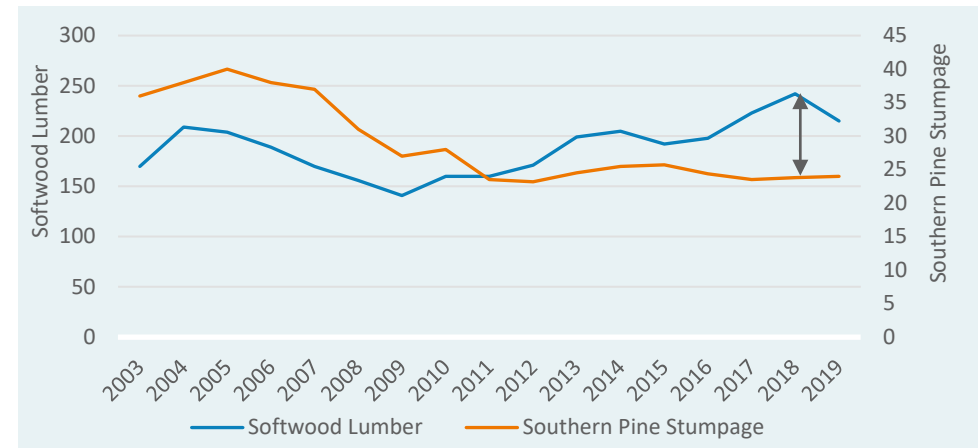
- Housing starts have experienced a slow rebound since the GFC as millennials delayed buying and urban living trends reduced demand for single family homes. There was a surge in housing starts in 2019 but the impact of Covid-19 caused a sharp reversal in the first quarter of 2020.
- As the chart on the bottom right indicates, one of the challenges that timber investors have faced is that the price they received for their trees (southern pine stumpage) began to decline during the GFC and largely never recovered. With housing construction turning around in 2015/16, lumber prices began to respond but the prices that timberland owners received did not. Two critical issues have kept stumpage prices depressed, excess supply of trees in the region and a lack of mill density that has created bottle necks in lumber production.
- The impact of Covid-19 is likely to be a short-term headwind for lumber prices and the timber industry as a whole. That said, given the lack of highly leveraged players in the timber market, we don't expect a stressed buying opportunity to emerge.

U.S. HOUSING STARTS



Source: St. Louis Fed, as of 3/1/20

SOUTHERN PINE STUMPAGE VS SOFTWOOD LUMBER PRICES



Real Asset Performance

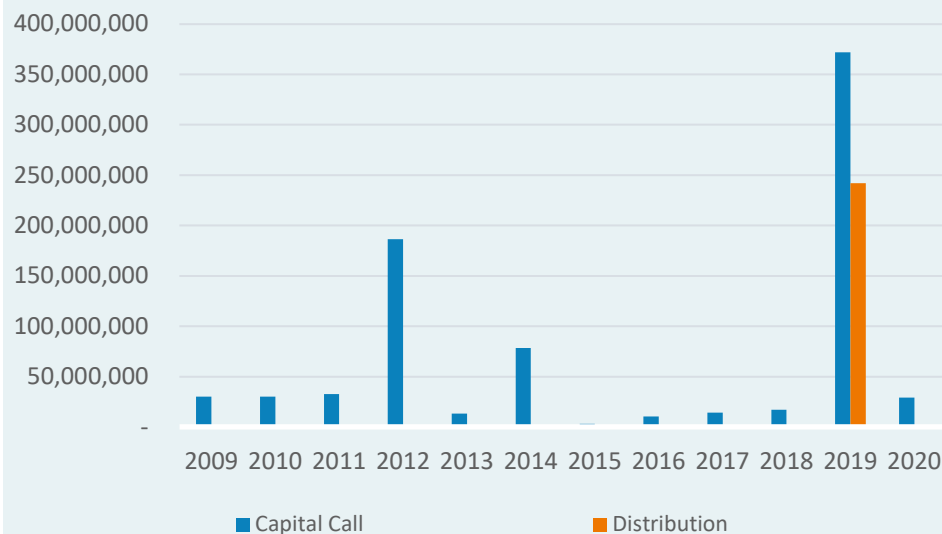
Real Assets Performance

Period Ending: June 30, 2020

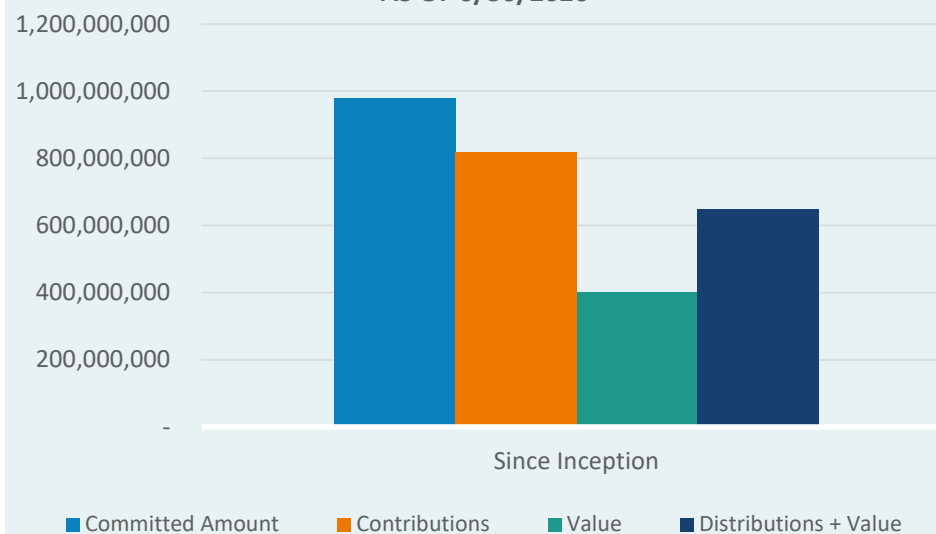
Performance

- ACERA's Real Asset Pool has produced a -6.45% IRR since inception. The portfolios poor performance has been driven primarily by the large weighting in commodity futures (Gresham and AQR) and from earlier investments in energy (Sheridan). More recent investments in CIM Infrastructure II, EQT Infrastructure IV, and ISQ Global Infrastructure II have emerged from their j-curve but are still too early in their fund life to gauge performance.

CASH FLOWS ON ANNUAL BASIS



CUMULATIVE CASH FLOWS AND VALUATION
AS OF 6/30/2020



Real Assets Performance vs. Pooled Benchmark IRR

Period Ending: June 30, 2020

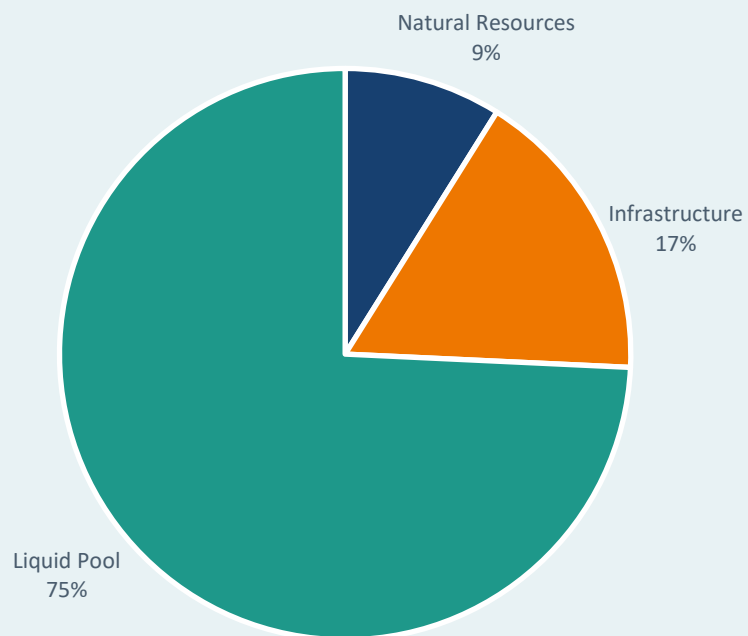
	1-Year	3-Year	5-Year	10-Year	Since Inception
Natural Resources Funds	-15.50%	-18.81%	-14.00%		-15.45%
<i>S&P Global Natural Resources Index¹</i>	-27.67%	-9.94%	-7.25%	-5.71%	-5.71%
Infrastructure Funds	12.09%	9.24%			8.43%
<i>S&P Global Infrastructure Index¹</i>	-35.34%	-19.74%	-17.43%	-17.43%	-17.43%
Liquid Pool Funds	-13.56%	-5.75%	-5.72%	-6.57%	-6.36%
<i>Bloomberg Commodity Index¹</i>	-0.83%	-0.32%	-3.98%	-5.95%	-5.78%
Total Real Assets	-11.38%	-5.97%	-5.55%	-6.63%	-6.45%
<i>Blended Real Assets Benchmark²</i>	-15.80%	-1.05%	0.48%	2.46%	3.52%

¹ Benchmarks: Identical cash flows invested in the appropriate benchmarks through the life of the portfolio up through 12/31/2019. Analysis provided by Solovis.

² Blended Real Assets Benchmark calculated on a time-weighted return basis

Investment Type	Commitment	Current Exposure	Current Exposure as % of Portfolio
Natural Resources	104,000,000	34,844,398	8.7%
Infrastructure	185,000,000	65,821,956	16.5%
Liquid Pool	689,235,893	298,930,111	74.8%
Total Portfolio	978,235,893	399,596,465	100.0%

REAL ASSETS PORTFOLIO: CURRENT EXPOSURE

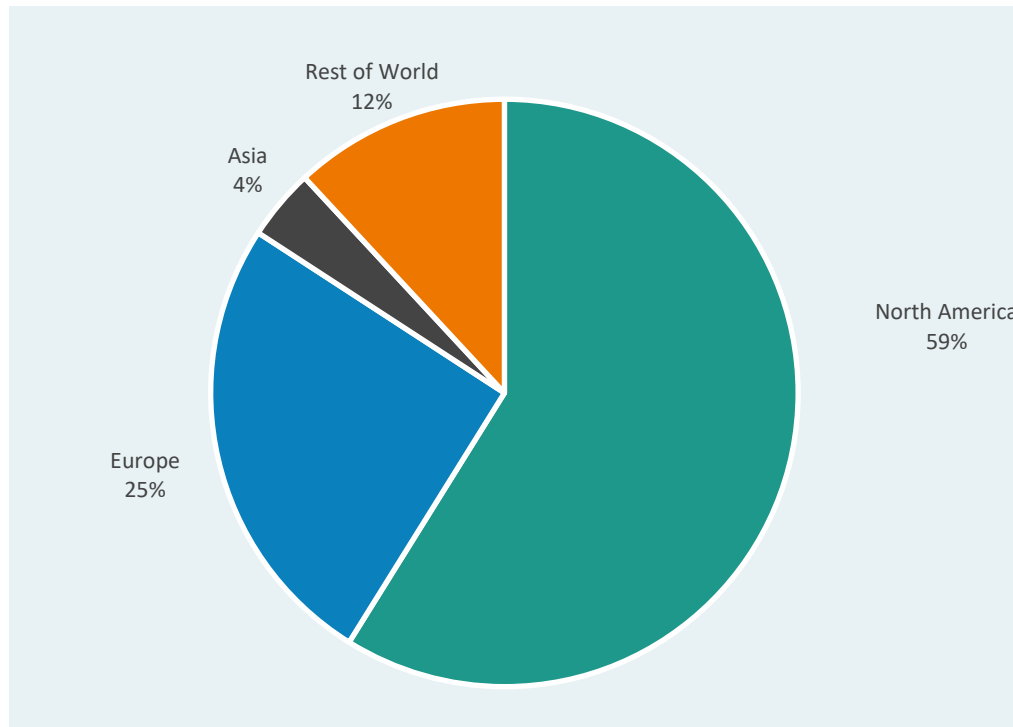


Geography Portfolio Diversification

Period Ending: June 30, 2020

Geography	Reported Fair Value
North America	59,261,132
Europe	25,479,527
Asia	3,942,135
Rest of World	11,983,560
Total Portfolio*	100,666,354

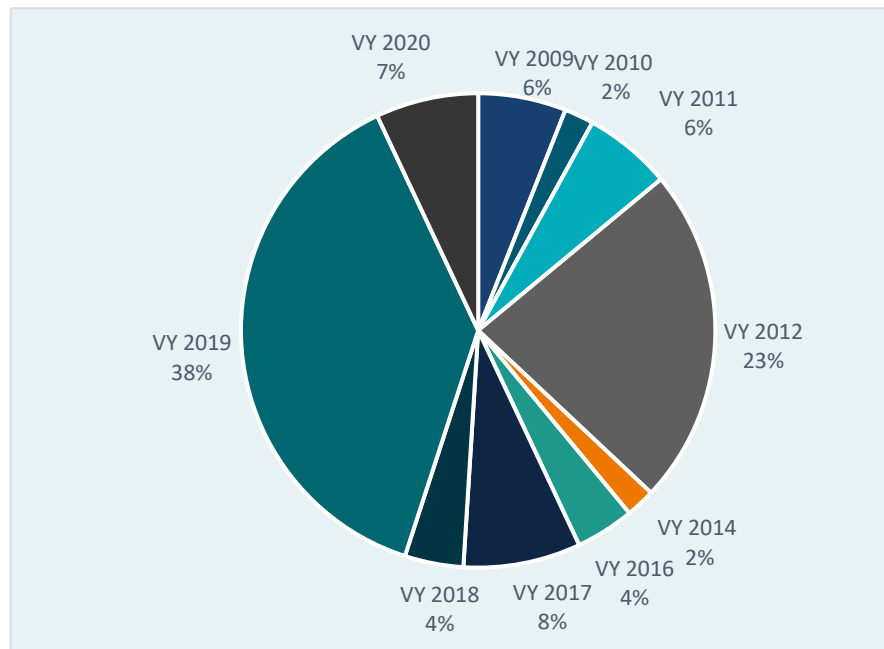
* Excludes Liquid assets.



Vintage Year Portfolio Diversification

Period Ending: June 30, 2020

Vintage Year	Commitment as of 6/30/20	% of Portfolio Commitment	Reported Value as of 6/30/20
2009	62,900,000	6.4%	0
2010	24,000,000	2.5%	0
2011	60,800,000	6.2%	0
2012	223,979,858	22.9%	0
2014	15,000,000	1.5%	8,487,610
2016	35,000,000	3.6%	14,953,252
2017	75,000,000	7.7%	40,966,835
2018	40,000,000	4.1%	24,275,097
2019	371,556,035	38.0%	310,913,671
2020	70,000,000	7.2%	0
Total Portfolio	978,235,893	100%	399,596,465



- ACERA committed \$40 million to Brookfield Super-Core Infrastructure Partners and \$30 million to EQT Infrastructure V, a re-up with an existing GP relationship for ACERA within the infrastructure portfolio.
- Several GPs within ACERA's portfolio are coming back to market in 2021 so we will be revisiting those opportunities for potential re-ups. We are also working on a sustainable real asset strategy that could be an interesting investment opportunity with the additional benefit of being ESG-friendly.
- As mentioned previously, we plan to increase the allocation to infrastructure investments at the expense of natural resource strategies as we move away from investments in the oil & gas industry.



December 2020

**Semi-Annual Real Estate
Performance Measurement Report**

Callan

PUBLIC VERSION

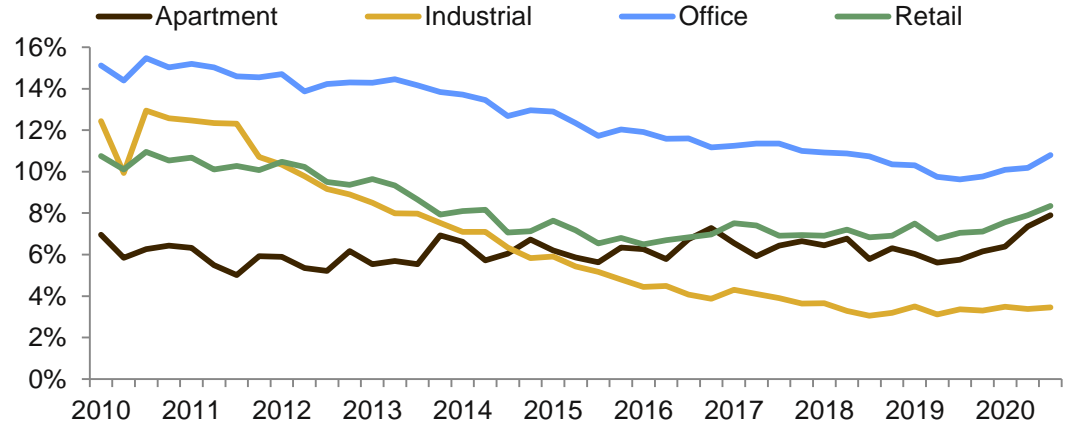
Avery Robinson, CAIA
Senior Vice President

U.S. Private Real Estate Market Trends

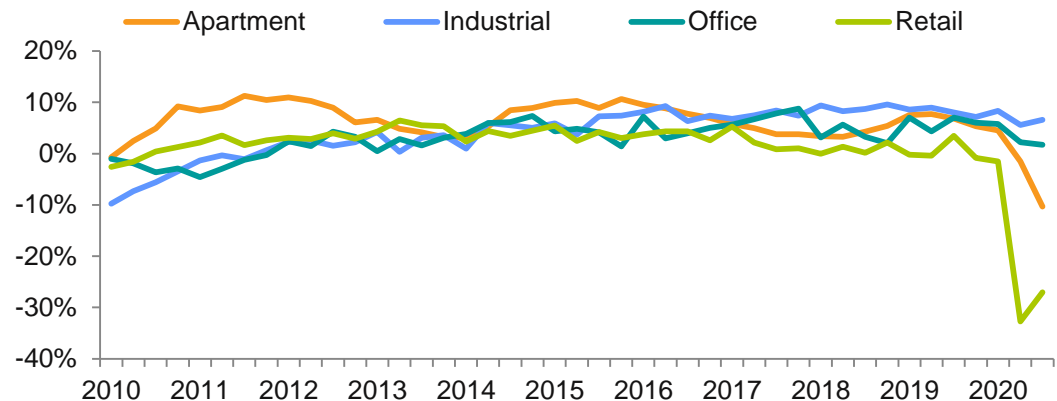
● U.S. real estate fundamentals

- Vacancy rates for all property types are increasing or likely to increase.
- Net operating income has declined as retail continues to suffer.
- 3Q rent collections show relatively stable income throughout the quarter in the Industrial, Apartment, and Office sectors. The Retail sector remains challenged, with regional malls impacted most heavily.
- Class A/B urban apartment rent collections have been relatively strong although occupancy has been declining
- Supply was in check before the pandemic.
- Construction is limited to completion of existing projects but has been hampered by shelter in place and construction material shortages.
- New construction is expected to be slowed significantly future quarters - except for pre-leased properties.

Vacancy by Property Type



Rolling 4-Quarter NOI Growth by Property Type



● Source: NCREIF

Alameda County Employees' Retirement Association Performance Measurement Report Summary

Portfolio Measurement Presentation

This is the Performance Measurement Report presentation for the Alameda County Employees' Retirement Association ("ACERA") Real Estate Portfolio ("Portfolio") Quarter ending September 30, 2020 ("Quarter").

Funding Status as of September 30, 2020

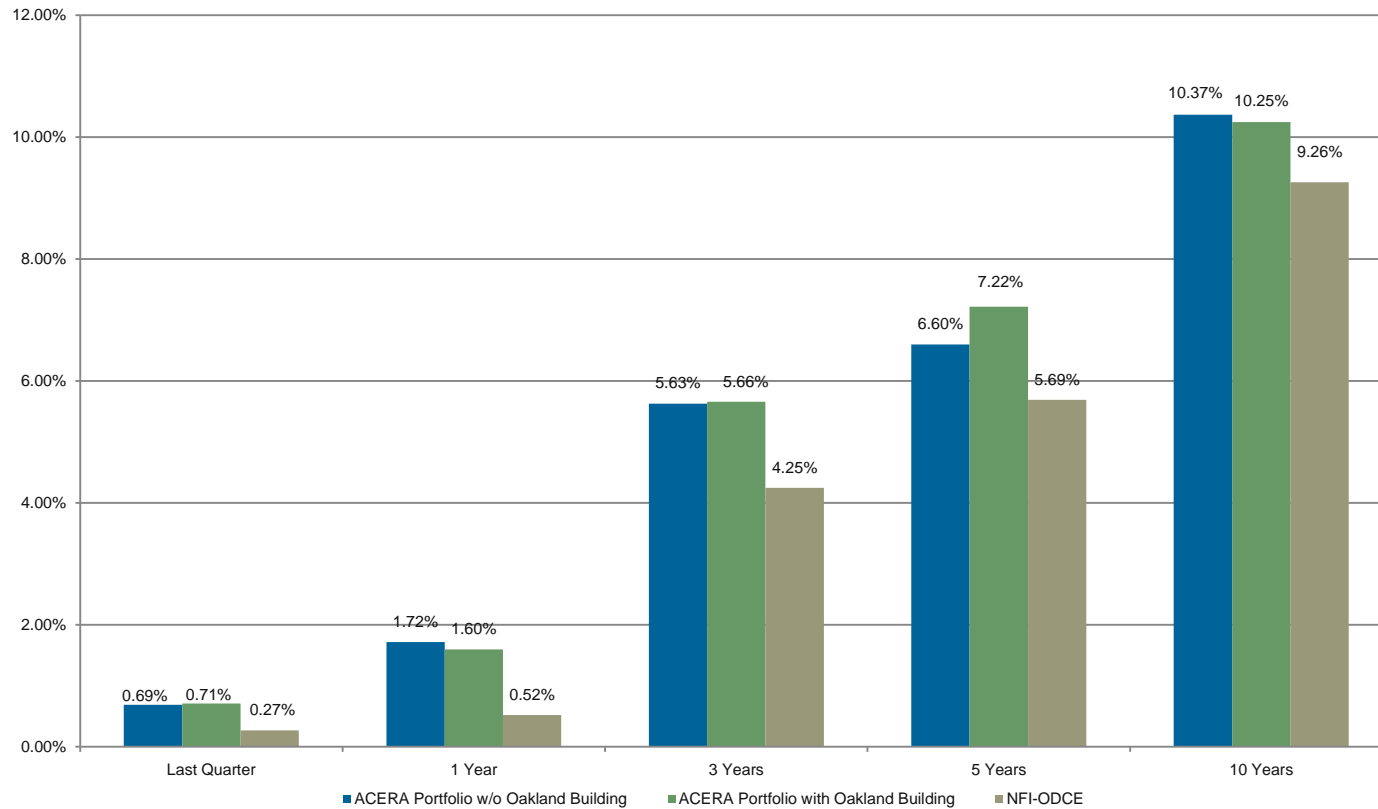
	(\$) Millions	(%)
ACERA Plan Assets	8,682.251	100.00%
Real Estate Target ⁽¹⁾	694.580	8.00%
Plan's Real Estate Market Value	608.132	7.00%
Net Unfunded Commitments	72.921	0.84%
RE Market Value & Unfunded Commitments	681.053	7.84%
Remaining Allocation	86.447	1.00%

	Target	Funded	Funded & Committed
Core	70.00%	70.93%	61.48%
Non-Core	30.00%	29.07%	38.52%

Portfolio Net Returns

For Period Ended September 30, 2020

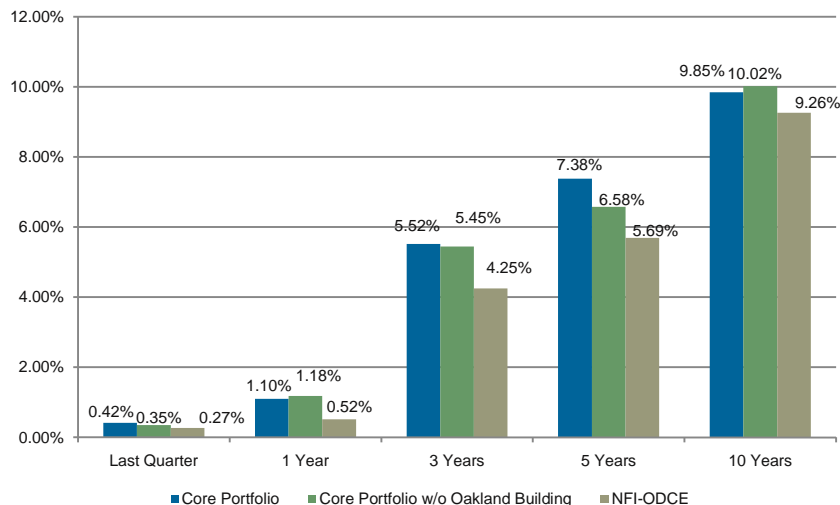
Total Net Real Estate Portfolio Returns



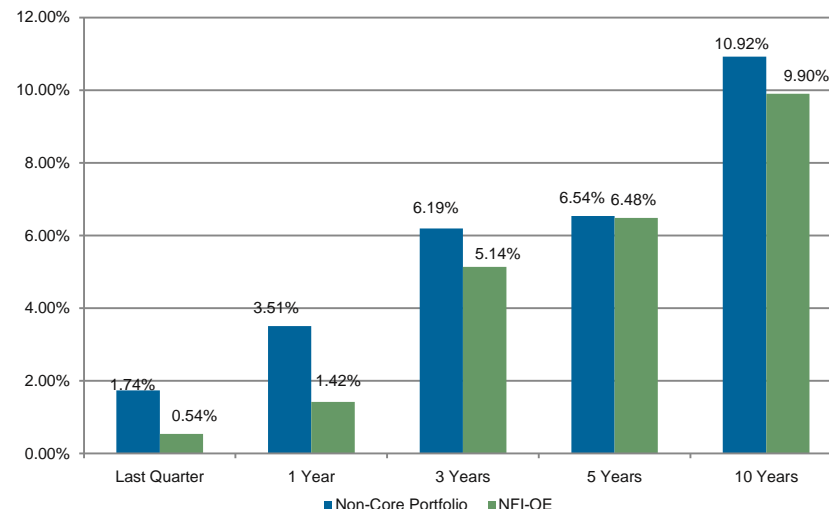
Portfolio Returns by Style

For Period Ended September 30, 2020

Net Core Returns



Net Non-Core Returns



Net Portfolio w/o Oakland Building	Last Quarter	1 Year	3 Years	5 Years	10 Years
Core Portfolio w/o Oakland Building	0.35%	1.18%	5.45%	6.58%	10.02%
Non-Core Portfolio	1.74%	3.51%	6.19%	6.54%	10.92%
Total Portfolio w/o Oakland Building	0.69%	1.72%	5.63%	6.60%	10.37%

Net Total Portfolio	Last Quarter	1 Year	3 Years	5 Years	10 Years
Core Portfolio	0.42%	1.10%	5.52%	7.38%	9.85%
Non-Core Portfolio	1.74%	3.51%	6.19%	6.54%	10.92%
Total Portfolio	0.71%	1.60%	5.66%	7.22%	10.25%

Performance Drivers and Detractors by Style

Core Portfolio (Excluding Oakland Building)

- The ACERA Core Portfolio outperformed the NFI-ODCE Value Weight Index (Net) by 8 bps for the quarter ending 9/30/2020. The core portfolio has outperformed the benchmark over the last year, last 3 years, last 5 years, and last 10 years.
- The Lion Industrial Trust was once again the strongest performer.
- Jamestown Premier Property Fund and the UBS Trumbull Property Fund were the largest detractors from performance over the last quarter.

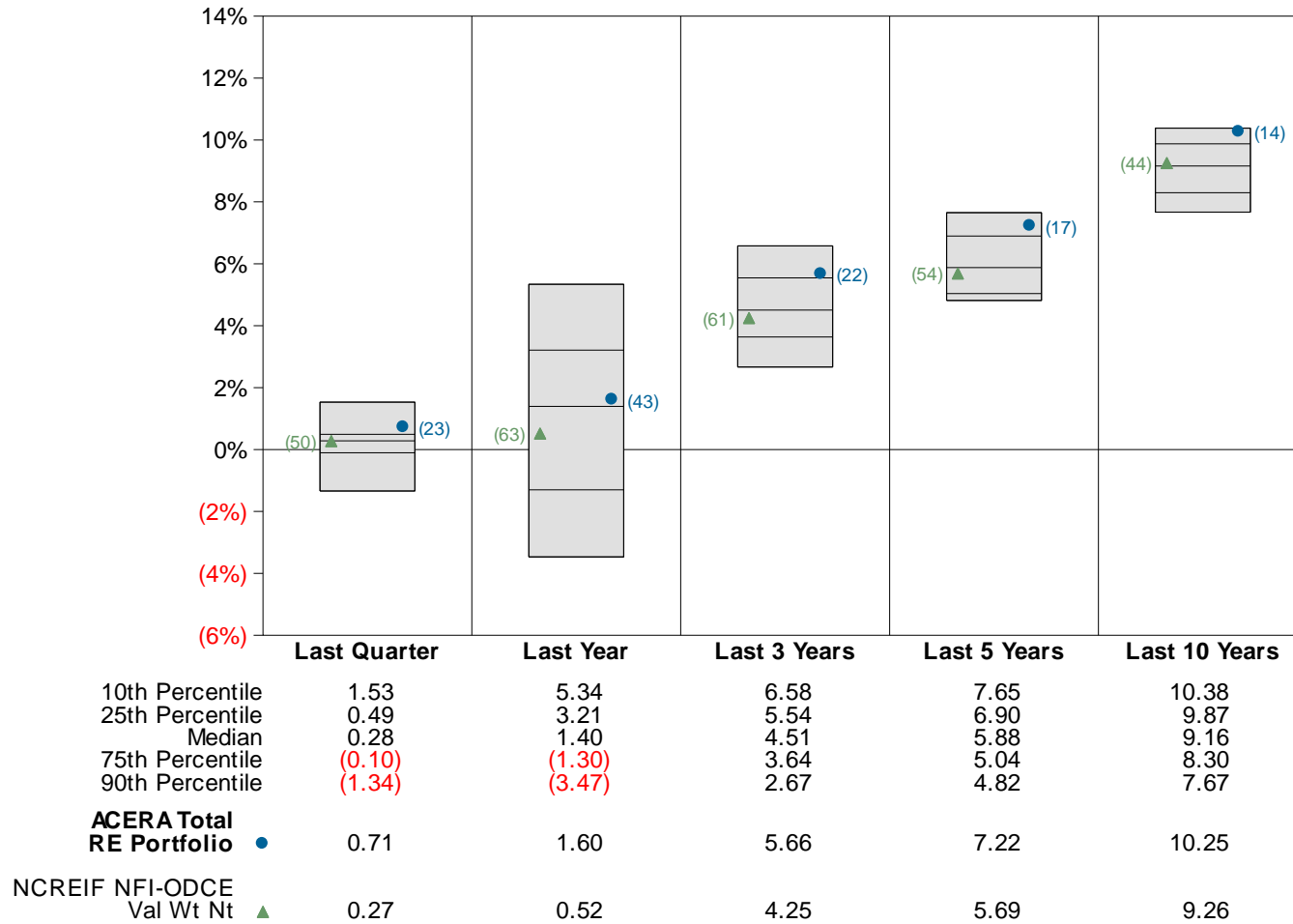
Non-Core Portfolio

- The Non-Core Portfolio outperformed the NFI-OE Value Weight Index (Net) by 120 bps for the period.
- CIM VI Urban REIT and Artemis Income and Growth were the weakest performers over the period.
- Angelo Gordon and PRISA III were the primary drivers of performance.

Performance vs. Peer Group

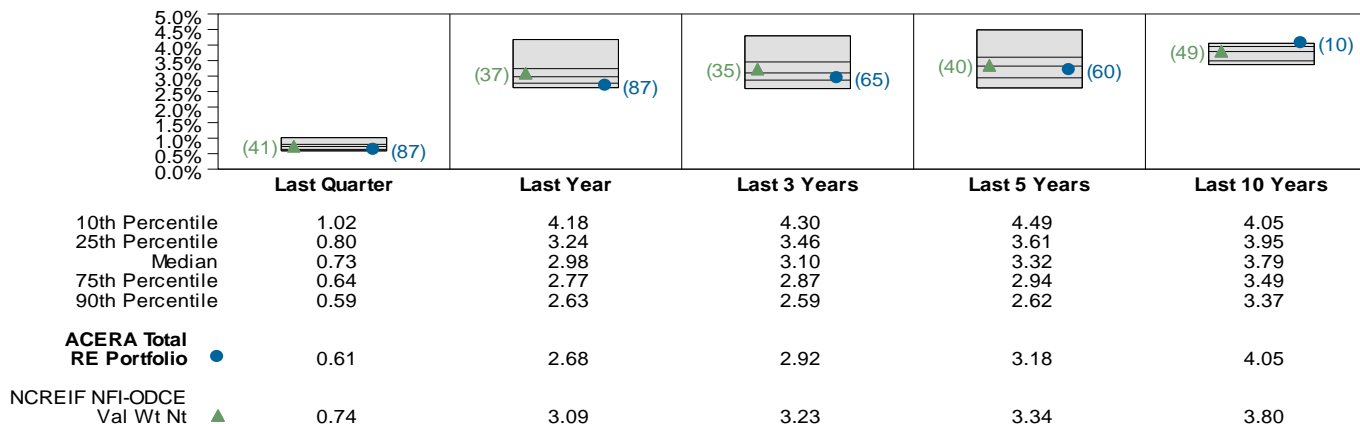
For Period Ended September 30, 2020

Performance vs Callan Open End Core Cmmingled Real Est

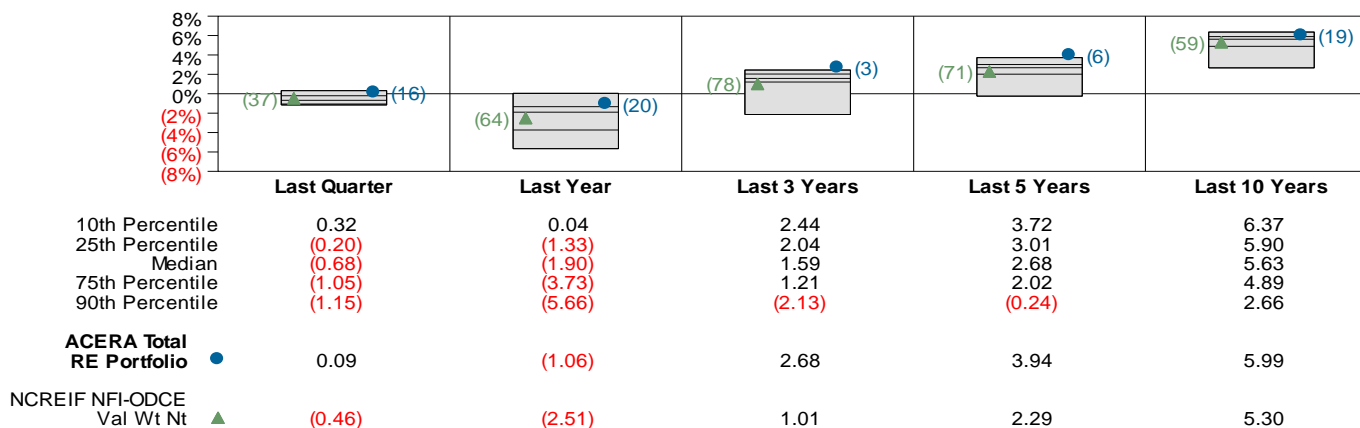


Performance vs. Peer Group

Income Rankings vs Callan OE Core Cmngrd RE Periods ended September 30, 2020



Appreciation Rankings vs Callan OE Core Cmngrd RE Periods ended September 30, 2020

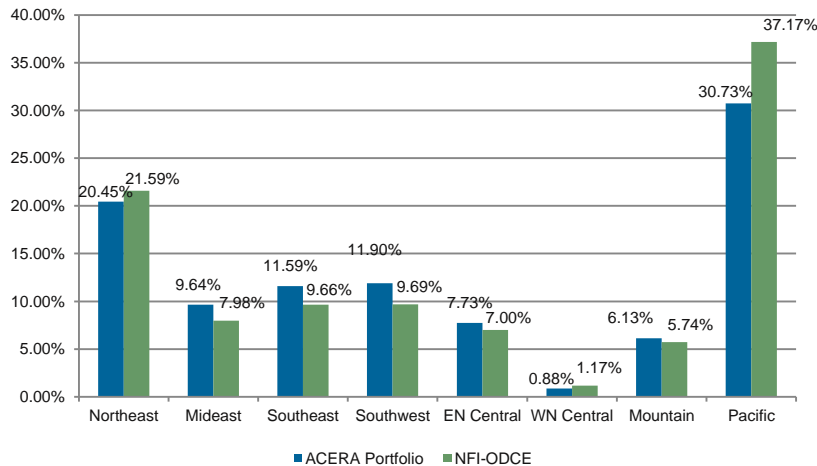


Diversification & Debt

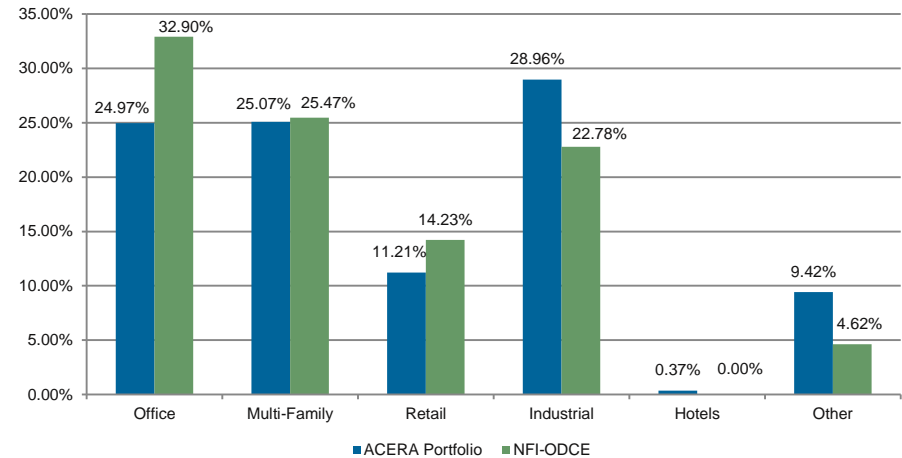
Diversification – Total Portfolio (excluding Oakland Building)

- The ACERA Portfolio is well diversified by both property type and region.

Geographic Diversification



Property Type Diversification



Debt Compliance

- The ACERA Strategic Plan limits leverage to 40.0% at the Portfolio level. As of September 30, 2020, the loan-to-value (“LTV”) ratio of the Portfolio was 29.11%.

Definitions

Performance

Capitalization rate: Commonly known as cap rate, is a rate that helps in evaluating a real estate investment. $\text{Cap rate} = \text{Net operating income} / \text{Current market value (Sale price) of the asset}$.

Net operating income: Commonly known as NOI, is the annual income generated by an income-producing property, taking into account all income collected from operations, and deducting all expenses incurred from operations.

Real Estate Appraisal: The act of estimating the value of a property. A real estate appraisal may take into account the quality of the property, values of surrounding properties, and market conditions in the area.

Income Return ("INC"): Net operating income net of debt service before deduction of capital items (e.g., roof replacement, renovations, etc.)

Appreciation Return ("APP"): Increase or decrease in an investment's value based on internal or third party appraisal, recognition of capital expenditures which did not add value, uncollectible accrued income, or realized gain or loss from sales.

Total Gross Return ("TGRS"): The sum of the income return and appreciation return before adjusting for fees paid to and/or accrued by the manager.

Total Net Return ("TNET"): Total gross return less Advisor fees reported. All fees are requested (asset management, accrued incentives, paid incentives). No fee data is verified. May not include any fees paid directly by the investor as opposed to those paid from cash flows.

Inception Returns: The total net return for an investment or portfolio over the period of time the client has had funds invested. Total portfolio Inception Returns may include returns from investments no longer held in the current portfolio.

Net IRR: IRR after advisory fees, incentive, and promote. This includes actual cash flows and a reversion representing the LP Net Assets at market value as of the period end reporting date.

Equity Multiple: The ratio of Total Value to Paid-in-Capital (TVPIC). It represents the Total Return of the investment to the original investment not taking into consideration the time invested. Total Value is computed by adding the Residual Value and Distributions. It is calculated net of all investment advisory and incentive fees and promote.

Definitions

Style Groups

The Style Groups consist of returns from commingled funds with similar risk/return investment strategies. Investor portfolios/investments are compared to comparable style groupings.

Core: Direct investments in operating, fully leased, office, retail, industrial, or multifamily properties using little or no leverage (normally less than 30%).

Value-Added: Core returning investments that take on moderate additional risk from one or more of the following sources: leasing, re-development, exposure to non-traditional property types, the use of leverage.

Opportunistic: Investments that take on additional risk in order to achieve a higher return. Typical sources of risks are: development, land investing, operating company investing, international exposure, high leverage, distressed properties.

Definitions

Indices

Stylized Index: Weights the various style group participants so as to be comparable to the investor's portfolio holdings for each period.

Open-End Diversified Core Equity Index ("ODCE"): A core index that includes only open-end diversified core strategy funds with at least 95% of their investments in U.S. markets. The ODCE is the first of the NCREIF Fund Database products, created in May 2005, and is an index of investment returns reporting on both a historical and current basis (24 active vehicles). The ODCE Index is capitalization-weighted and is reported gross and net of fees. Measurement is time-weighted and includes leverage.

NCREIF Fund Index Open-End Index ("OE"): NFI-OE is an aggregate of open-end, commingled equity real estate funds with diverse investment strategies. Funds comprising NFI-OE have varied concentrations of sector and region, core and non-core, leverage, and life cycle.

NAREIT Equity Index: This is an index of Equity Real Estate Investment Trust returns reflecting the stock value changes of REIT issues as determined through public market transactions.

Definitions

Cash Flow Statements

Beginning Market Value: Value of real estate, cash, and other holdings from prior period end.

Contributions: Cash funded to the investment for acquisition and capital items (i.e., initial investment cost or significant capital improvements).

Distributions: Actual cash returned from the investment, representing distributions of income from operations.

Withdrawals: Cash returned from the investment, representing returns of capital or net sales proceeds.

Ending Market Value: The value of an investment as determined by actual sales dollars invested and withdrawn plus the effects of appreciation and reinvestment; market value is equal to the ending cumulative balance of the cash flow statement (NAV).

Unfunded Commitments: Capital allocated to managers which has not yet been called for investment. Amounts are as reported by managers.

Remaining Allocation: The difference between the ending market value + the unfunded commitments and the target allocation. This figure represents dollars available for allocation.

NCREIF Region Map

GEOGRAPHIC REGIONS and DIVISIONS

