Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

PERIOD ENDING: MARCH 31, 2019

Investment Performance Review for

Alameda County Employees' Retirement Association

1st quarter summary

THE ECONOMIC CLIMATE

— Real GDP growth continued at 3.0% YoY - on pace with the third quarter (2.2% quarterly annualized rate). Forecasts for 2019 U.S. growth have weakened. The U.S. economy is expected to grow at a 2.4% pace in 2019, according to the Survey of Professional Forecasters, while the Federal Reserve expects 2.1% growth this year.

— In March, negotiations resumed between U.S. and Chinese trade delegations. The dialogue was viewed as constructive, and optimism picked up for a trade resolution being reached in the near-to-intermediate future. The two sides have yet to agree on a formal timeline.

PORTFOLIO IMPACTS

— The Federal Open Market Committee reiterated its “patient” approach to policy, leaving rates unchanged, helping to push asset prices upward. Chairman Powell announced that starting in May the balance sheet runoff would slow from $50 to $30 billion a month, and would end in September.

— Risk assets exhibited strong performance over the quarter. U.S. equities delivered the greatest gains (S&P 500 +13.6%, MSCI ACWI +12.2%), reversing U.S. underperformance in Q4 2018 (S&P 500 -13.5%, MSCI ACWI -12.8%). This was followed by riskier credit with high single-digit returns, and safer credit and government bonds with low single-digit returns.

THE INVESTMENT CLIMATE

— The first quarter was nearly a mirror image of 2018 Q4, as many assets retraced losses of the prior quarter.

— Declining long-term Treasury yields following the Fed meeting in March briefly caused the yield curve to invert, meaning that short-term yields (3-month) were higher than long-term yields (10-year). Investors have expressed concerns that this may signal a near term recession. We believe these concerns are overblown.

— The House of Commons in the British Parliament briefly took control of their government’s legislative agenda, but failed to reach a majority vote on a path forward. On April 10th, British Prime Minister Theresa May and the European Council agreed to extend the Brexit deadline from April 12th to October 31st.

ASSET ALLOCATION ISSUES

— All major asset classes delivered positive performance in Q1, a refreshing change of pace from broad-based losses experienced in 2018.

— Economic conditions around the world have exhibited a weakening trend, leading to the question of whether a turn in the economic cycle is near. The first quarter was more mixed with strength in places, easing some concern. We remain watchful of this weakening trend, but believe the economy and market may have more room to run.

A neutral risk stance may be appropriate in today’s environment

U.S. economics summary

— Real GDP growth continued at 3.0% YoY, on pace with the third quarter (2.2% on a quarterly annualized rate).

— Forecasts for 2019 U.S. growth have weakened. The U.S. economy is expected to grow at a 2.4% pace in 2019, according to the Survey of Professional Forecasters, while the Federal Reserve expects 2.1% growth this year.

— In March, negotiations resumed between U.S. and Chinese trade delegations. The dialogue was viewed as constructive, and optimism picked up for a formal trade resolution being reached in the near future.

— U.S. inflation remained near the 2.0% Fed target. After dipping to 1.5% YoY in February, headline inflation recovered to 1.9% in March, resulting in no change over the quarter.

— Average hourly earnings grew 3.2% YoY in March, missing expectations of 3.3%. A slight tick up in the average non-farm private workweek from 34.4 to 34.5 hours likely contributed to the cooler wage data.

— The labor market remained strong in Q1. U-3 unemployment fell to 3.8% from 3.9% in December, though the labor force participation rate weakened from 63.1% to 63.0% during the period.

— The Federal Open Market Committee reiterated its "patient" approach to policy, leaving rates unchanged. Expectations for 2019 GDP growth and rate hikes were cut, and markets rallied. Chairman Powell announced that starting in May the balance sheet runoff would slow from $50 billion per month to $30 billion, and would end in September.

	Most Recent	**12 Months Prior**
GDP *(YoY)*	3.0% *12/31/18*	2.5% *12/31/17*
Inflation *(CPI YoY, Core)*	2.0% *3/31/19*	2.1% *3/31/18*
Expected Inflation *(5yr-5yr forward)*	2.0% *3/31/19*	2.2% *3/31/18*
Fed Funds Target Range	2.25 – 2.50% *3/31/19*	1.50 – 1.75% *3/31/18*
10 Year Rate	2.4% *3/31/19*	2.7% *3/31/18*
U-3 Unemployment	3.8% *3/31/19*	4.0% *3/31/18*
U-6 Unemployment	7.3% *3/31/19*	7.9% *3/31/18*

International economics summary

— Global growth expectations for the next two years were revised materially lower in Q1. The OECD's global GDP growth forecast for 2019 and 2020 fell from 3.5% to 3.3%, and from 3.5% to 3.4%, respectively.

— In March, negotiations resumed between high-level U.S. and Chinese trade delegations. The dialogue was viewed as constructive, and optimism picked up for some sort of formal trade resolution being reached in the near-to-intermediate future, although the two sides have yet to agree on a formal timeline.

— The German Manufacturing PMI fell from 47.6 to 44.1 in March, falling further into the contractionary territory below 50. New orders and export sales data came in weaker than expected which contributed to a more pessimistic outlook for German manufacturing activity.

— The House of Commons in the British Parliament briefly took control of their government's legislative agenda, but failed to reach a majority vote on a path forward. On April 10th, British Prime Minister Theresa May and the European Council agreed to extend the Brexit deadline from April 12th to October 31st.

— The spread between the JP Morgan Global Services and Manufacturing PMIs rose to 3.1 in March. Last March, the spread was at 0.0, indicating that over the past year the outlook for global manufacturing activity has weakened relative to the outlook for global services activity. Typically, services activity is more resilient to a worsening economic backdrop.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	3.0% *12/31/18*	1.5% *2/28/19*	3.8% *3/31/19*
Eurozone	1.1% *12/31/18*	1.4% *3/31/19*	7.8% *2/28/19*
Japan	0.3% *12/31/18*	0.2% *2/28/19*	2.3% *2/28/19*
BRICS Nations	5.8% *12/31/18*	2.4% *3/31/19*	5.3% *12/31/18*
Brazil	1.1% *12/31/18*	3.9% *2/28/19*	12.2% *3/31/19*
Russia	2.7% *12/31/18*	5.3% *3/31/19*	4.9% *2/28/19*
India	7.2% *12/31/18*	2.6% *2/28/19*	8.5% *12/31/17*
China	6.4% *12/31/18*	1.5% *2/28/19*	3.8% *12/31/18*

Interest rate environment

— The Federal Reserve held the fed funds rate unchanged over the quarter, and communicated a much more dovish stance on monetary policy amid slower growth expectations and stable inflation near 2%.

— Fed officials lowered their collective expectations for rate hikes in 2019 from two to zero, and announced that the balance sheet unwind would conclude in September, much earlier than previously anticipated.

— More dovish expectations for monetary policy and concerns over economic growth likely helped push long-term Treasury yields lower. The 10-year yield fell 28 bps to just above 2.4%.

— Falling long-term yields and stable short-term yields led to a brief inversion of the Treasury curve between the 10-year and 3-month yields.

— While widely considered a bearish signal for the economy and risk markets, the timing between curve inversion and bearish economic and market environments has varied widely. Additionally, Fed asset purchases of long-term Treasuries has artificially lowered yields and muddied the information conveyed by the yield curve.

— The ECB also pivoted to a more dovish stance as officials announced that deposit rates will be on hold through at least the end of the year.

— The 10-year German bund yield dipped back into negative territory for the first time since late 2016.

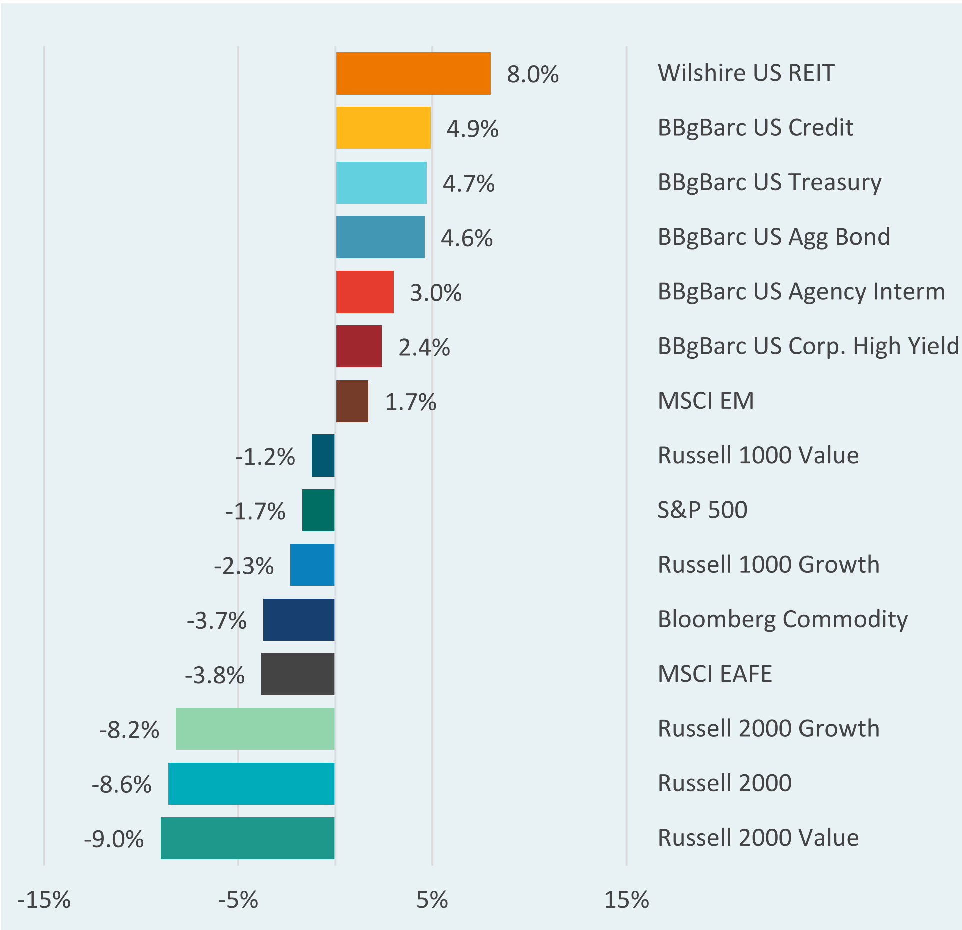
— Emerging market local bonds offer attractive yields relative to developed markets, even after adjusting for inflation. The JPM GBI-EM Index yielded 7% at the end of March.

Area	Short Term (3M)	10-Year
United States	2.39%	2.41%
Germany	(0.53%)	(0.07%)
France	(0.54%)	0.32%
Spain	(0.40%)	1.10%
Italy	(0.20%)	2.49%
Greece	0.87%	3.73%
U.K.	0.80%	1.00%
Japan	(0.17%)	0.08%
Australia	1.68%	1.77%
China	2.08%	3.07%
Brazil	6.31%	8.97%
Russia	7.35%	8.41%

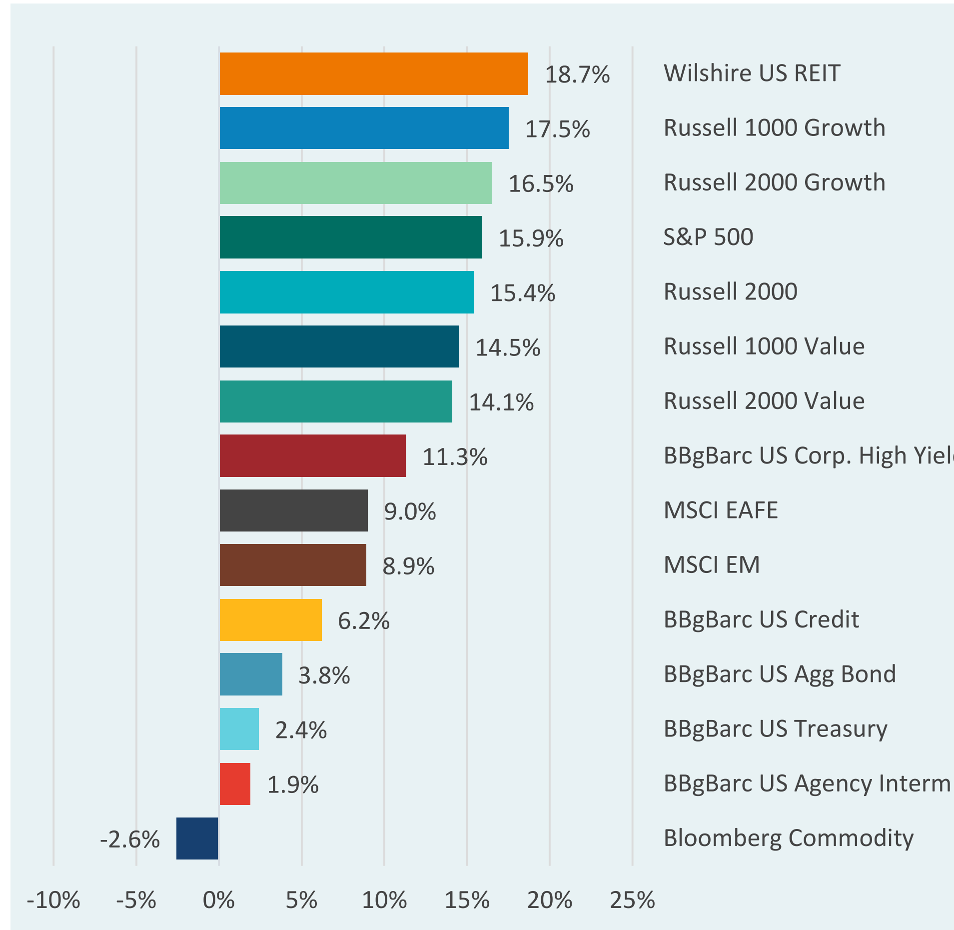
Source: Bloomberg, as of 3/31/19

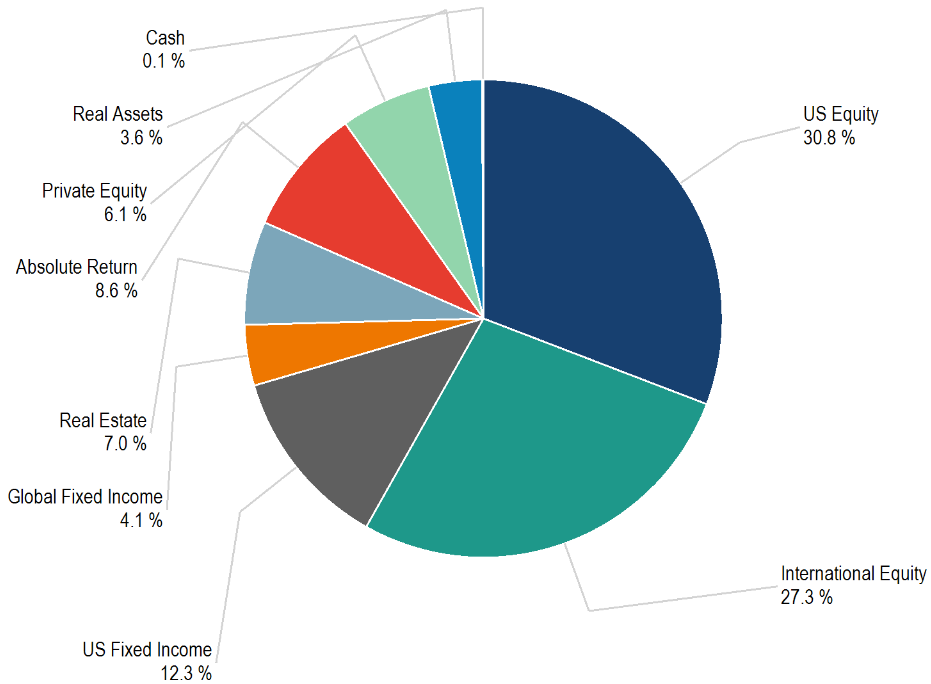
Major asset class returns

SIX MONTHS ENDING MARCH



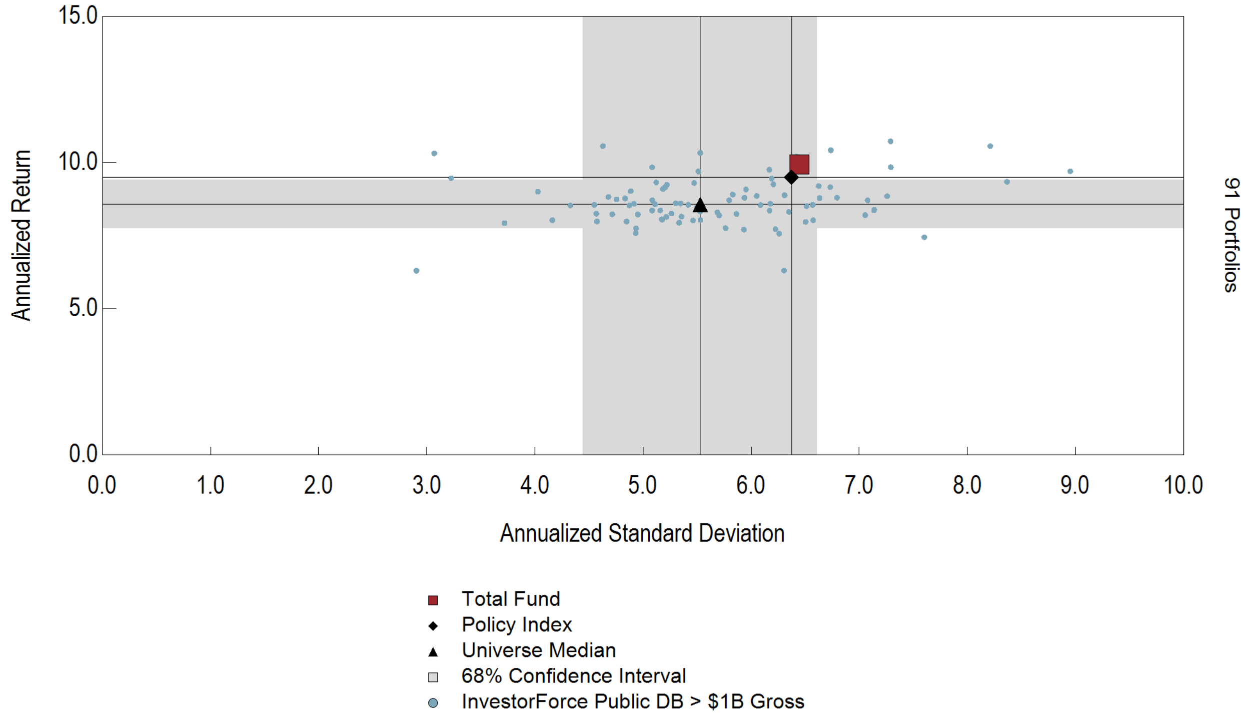
TEN YEARS ENDING MARCH



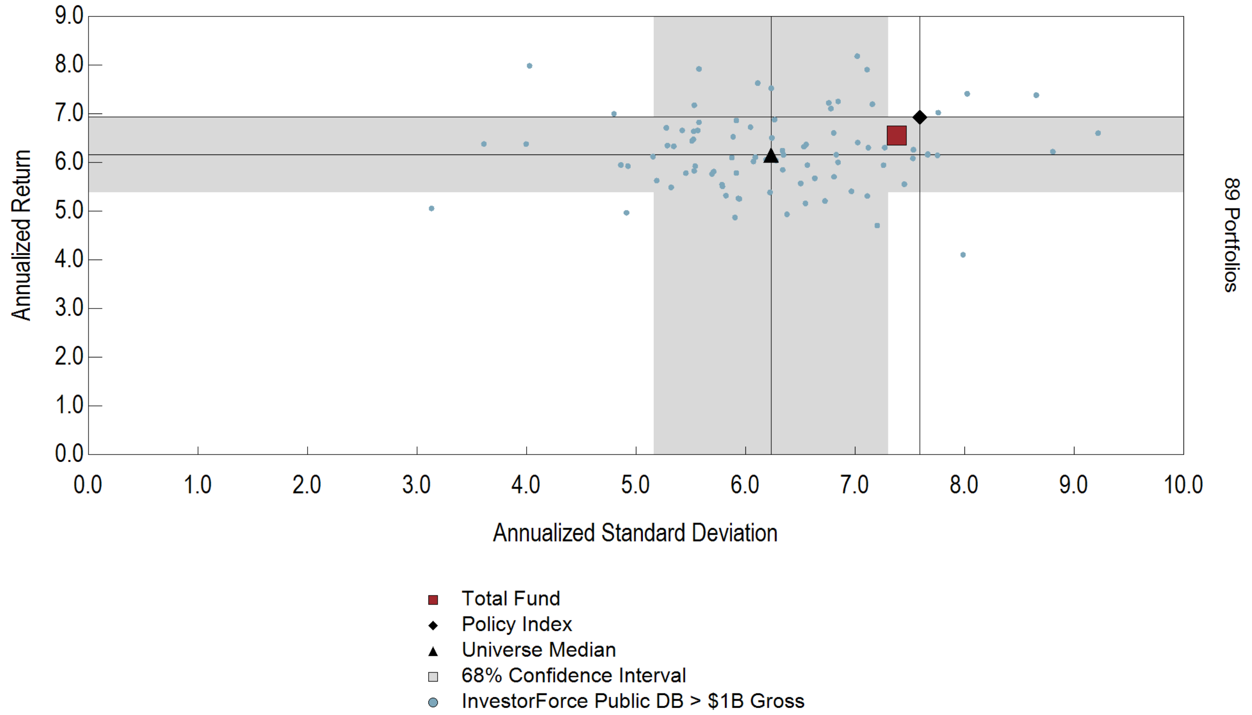


	Current Balance	Current Allocation
US Equity	$2,514,772,467	30.8%
International Equity	$2,228,167,930	27.3%
US Fixed Income	$1,007,280,462	12.3%
Global Fixed Income	$333,487,201	4.1%
Real Estate	$575,212,635	7.0%
Absolute Return	$703,082,579	8.6%
Private Equity	$499,089,132	6.1%
Real Assets	$297,171,660	3.6%
Cash	$10,082,991	0.1%
Total	**$8,168,347,056**	**100.0%**

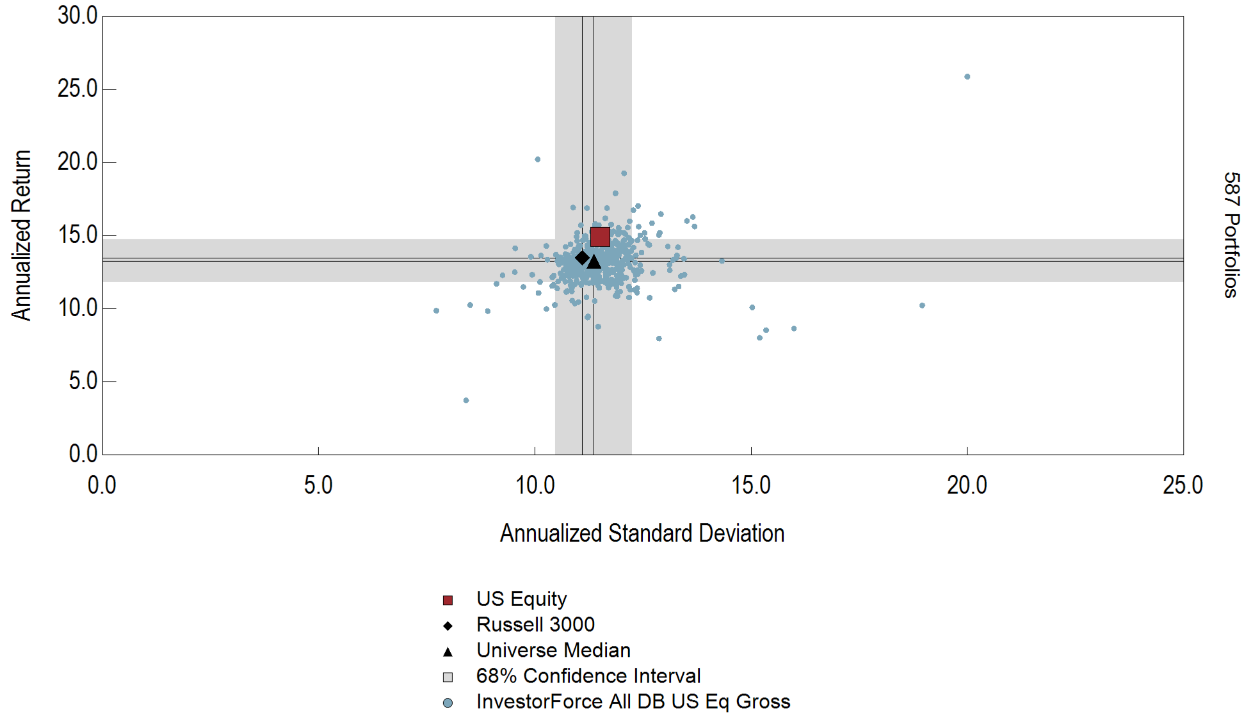
	Policy	Current Allocation	Difference
US Equity	28.0%	30.8%	-2.8%
International Equity	26.0%	27.3%	-1.3%
US Fixed Income	12.8%	12.3%	0.5%
Global Fixed Income	2.3%	4.1%	-1.8%
Real Estate	8.0%	7.0%	1.0%
Absolute Return	9.0%	8.6%	0.4%
Private Equity	9.0%	6.1%	2.9%
Real Assets	5.0%	3.6%	1.4%
Cash	0.0%	0.1%	0.1%
Total	**100.0%**	**100.0%**	



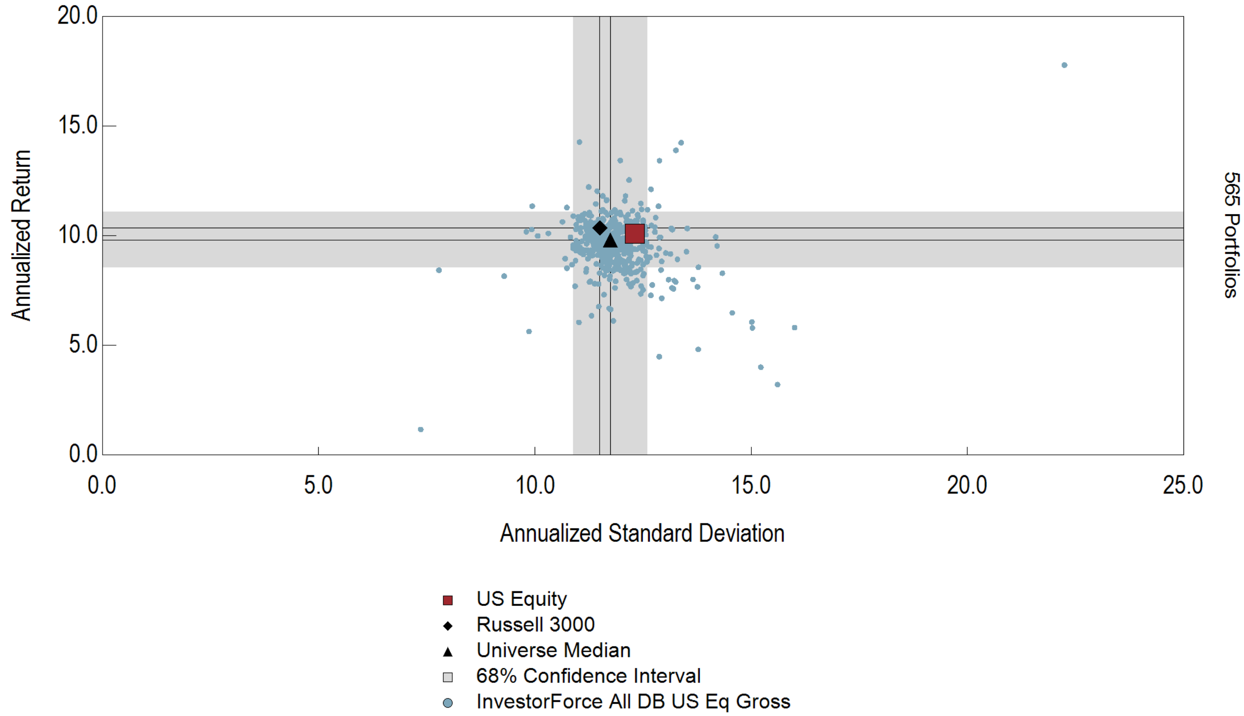
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	9.93%	9	6.45%	78	1.35	43	0.37	51	1.16%	68
Policy Index	9.49%	16	6.37%	75	1.30	56	--	--	0.00%	1
Allocation Index	9.33%	19	6.67%	85	1.21	69	-0.31	90	0.53%	6
InvestorForce Public DB > $1B Gross Median	8.57%	--	5.53%	--	1.32	--	0.39	--	1.02%	--



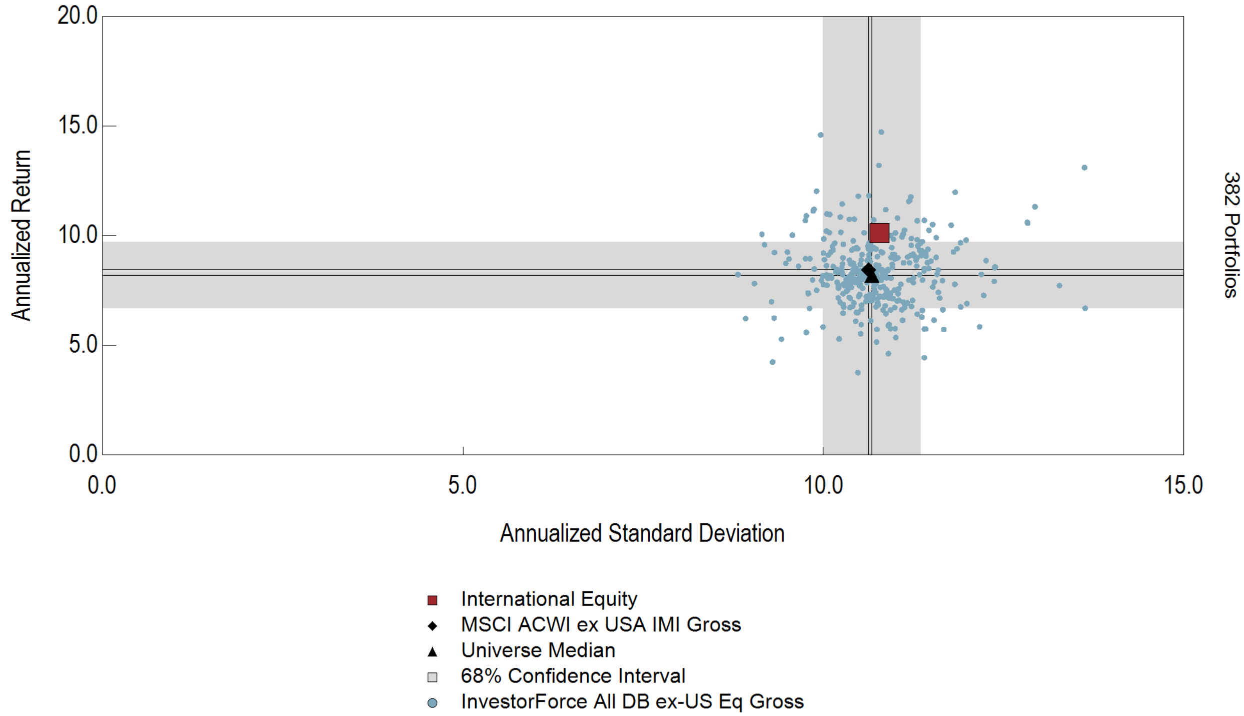
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	6.55%	30	7.38%	87	0.78	70	-0.30	89	1.26%	67
Policy Index	6.93%	17	7.59%	91	0.81	63	--	--	0.00%	1
Allocation Index	6.68%	23	7.67%	93	0.77	72	-0.57	97	0.44%	3
InvestorForce Public DB > $1B Gross Median	6.16%	--	6.23%	--	0.86	--	0.15	--	1.14%	--



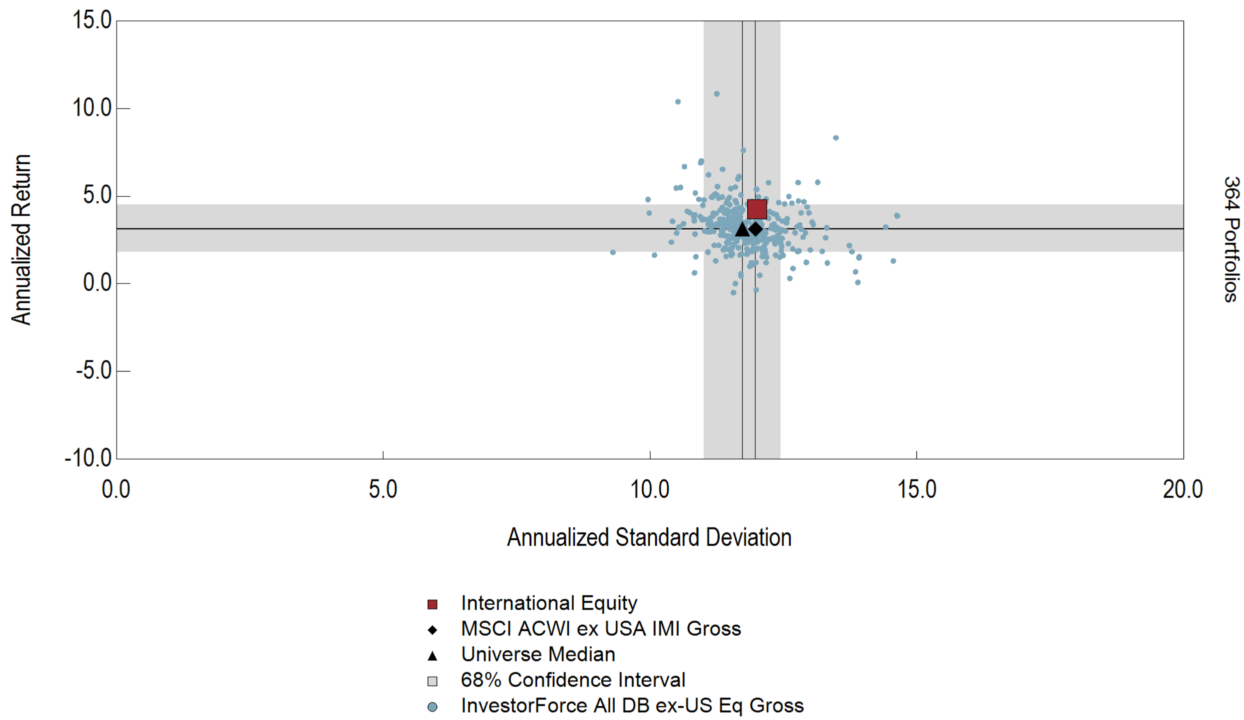
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
US Equity	14.92%	9	11.52%	62	1.19	8	0.96	5	1.50%	39
Russell 3000	13.48%	40	11.09%	34	1.11	34	--	--	0.00%	1
InvestorForce All DB US Eq Gross Median	13.26%	--	11.36%	--	1.06	--	-0.16	--	1.83%	--



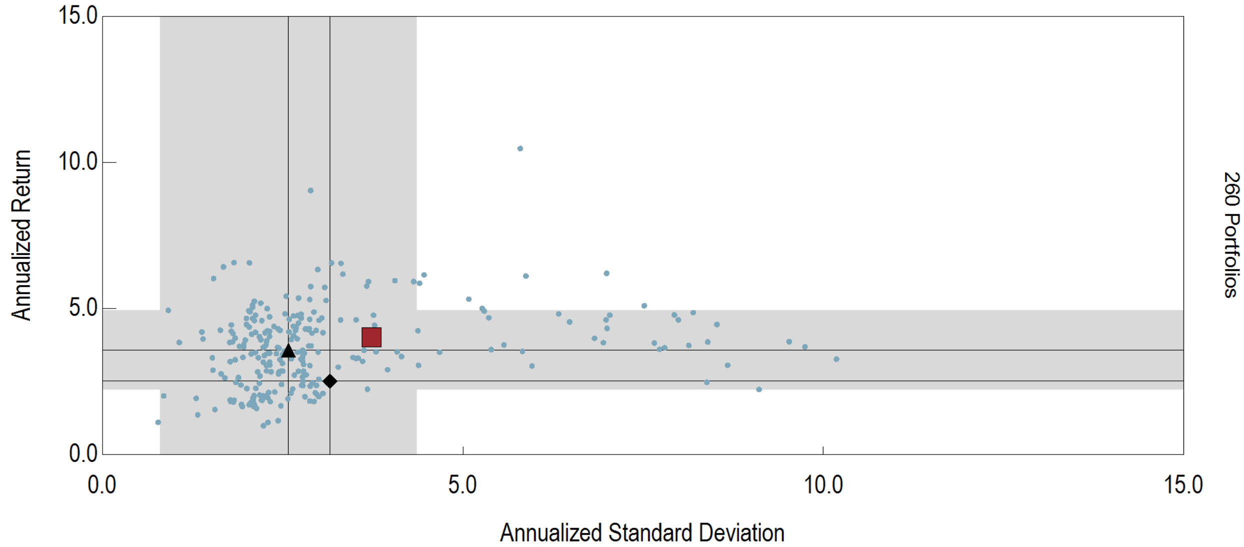
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
US Equity	10.09%	38	12.30%	84	0.76	54	-0.12	32	2.24%	61
Russell 3000	10.35%	26	11.50%	31	0.83	22	--	--	0.00%	1
InvestorForce All DB US Eq Gross Median	9.80%	--	11.74%	--	0.77	--	-0.36	--	1.92%	--



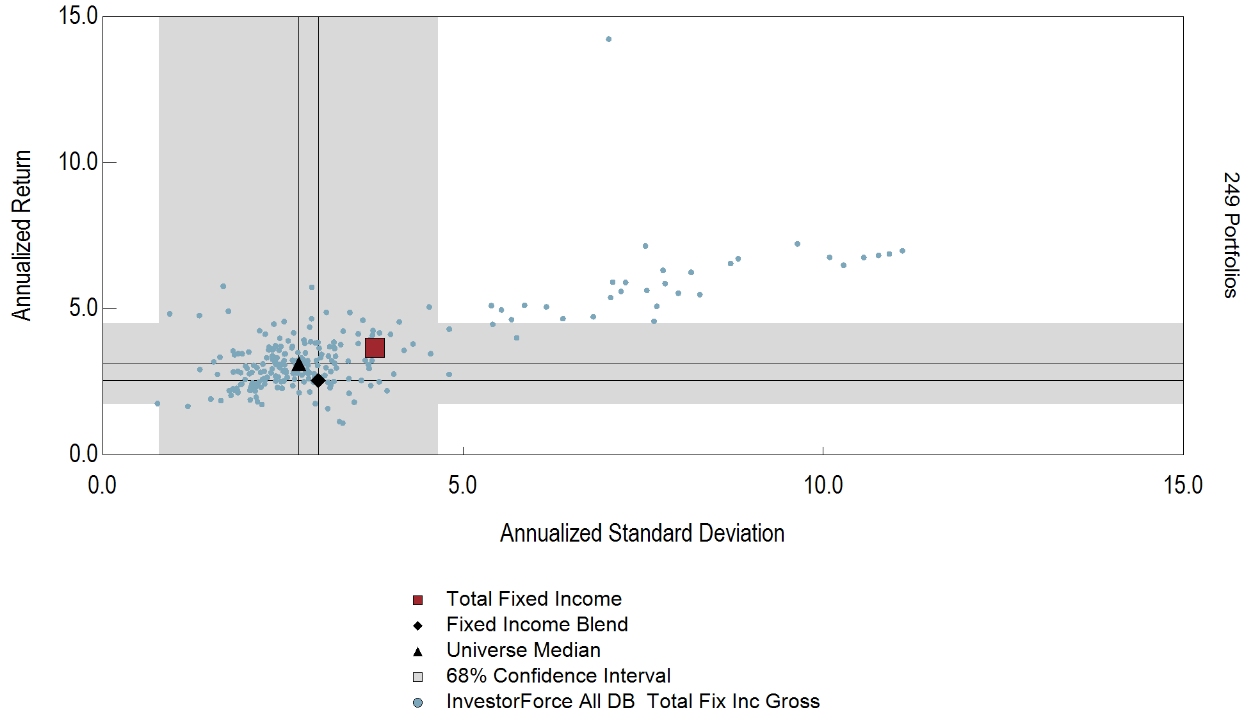
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
International Equity	10.13%	10	10.78%	58	0.83	10	1.12	5	1.51%	13
MSCI ACWI ex USA IMI Gross	8.44%	42	10.63%	46	0.68	42	--	--	0.00%	1
InvestorForce All DB ex-US Eq Gross Median	8.19%	--	10.68%	--	0.66	--	0.05	--	2.64%	--



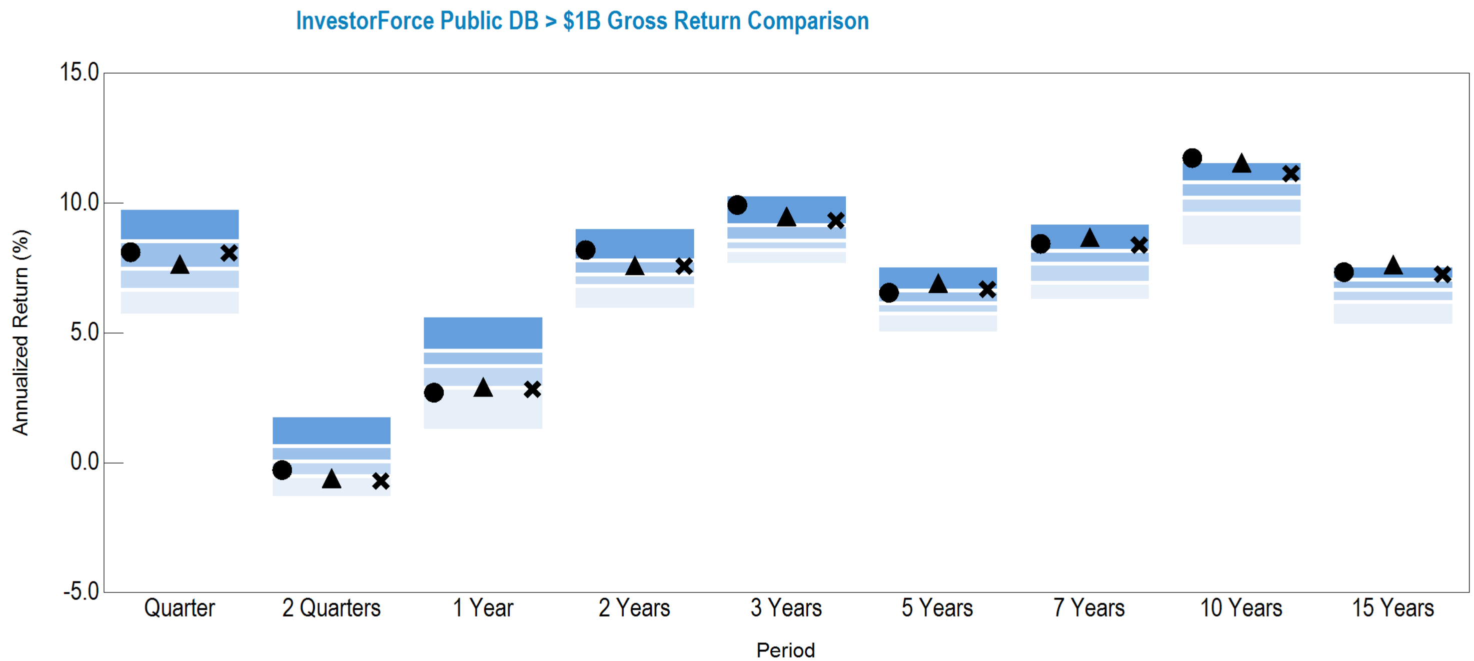
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
International Equity	4.25%	17	12.01%	68	0.29	19	0.75	10	1.50%	7
MSCI ACWI ex USA IMI Gross	3.13%	52	11.98%	65	0.20	52	--	--	0.00%	1
InvestorForce All DB ex-US Eq Gross Median	3.15%	--	11.73%	--	0.20	--	0.17	--	2.80%	--



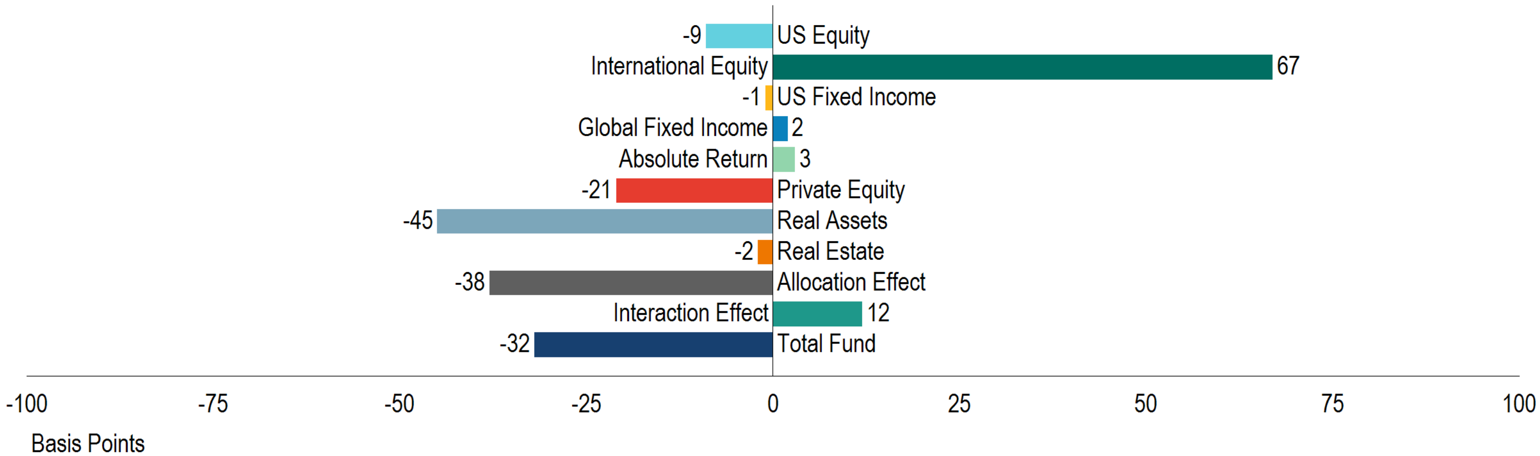
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fixed Income	4.01%	38	3.74%	83	0.74	53	0.96	41	1.54%	56
Fixed Income Blend	2.52%	76	3.16%	77	0.41	75	--	--	0.00%	1
InvestorForce All DB Total Fix Inc Gross Median	3.58%	--	2.58%	--	0.79	--	0.87	--	1.36%	--



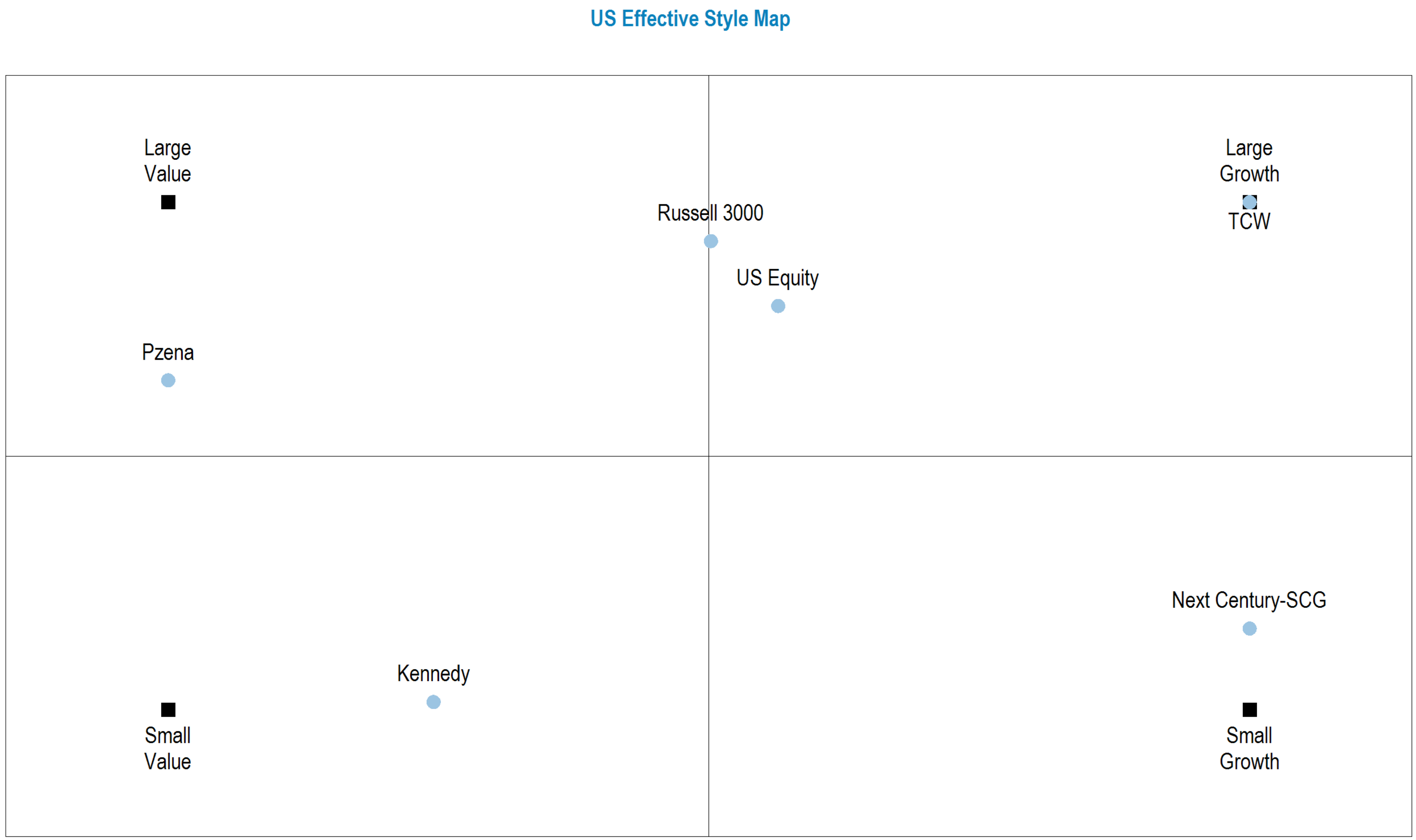
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fixed Income	3.65%	31	3.78%	83	0.77	59	0.65	20	1.71%	57
Fixed Income Blend	2.55%	77	2.99%	65	0.60	85	--	--	0.00%	1
InvestorForce All DB Total Fix Inc Gross Median	3.12%	--	2.72%	--	0.81	--	0.28	--	1.50%	--

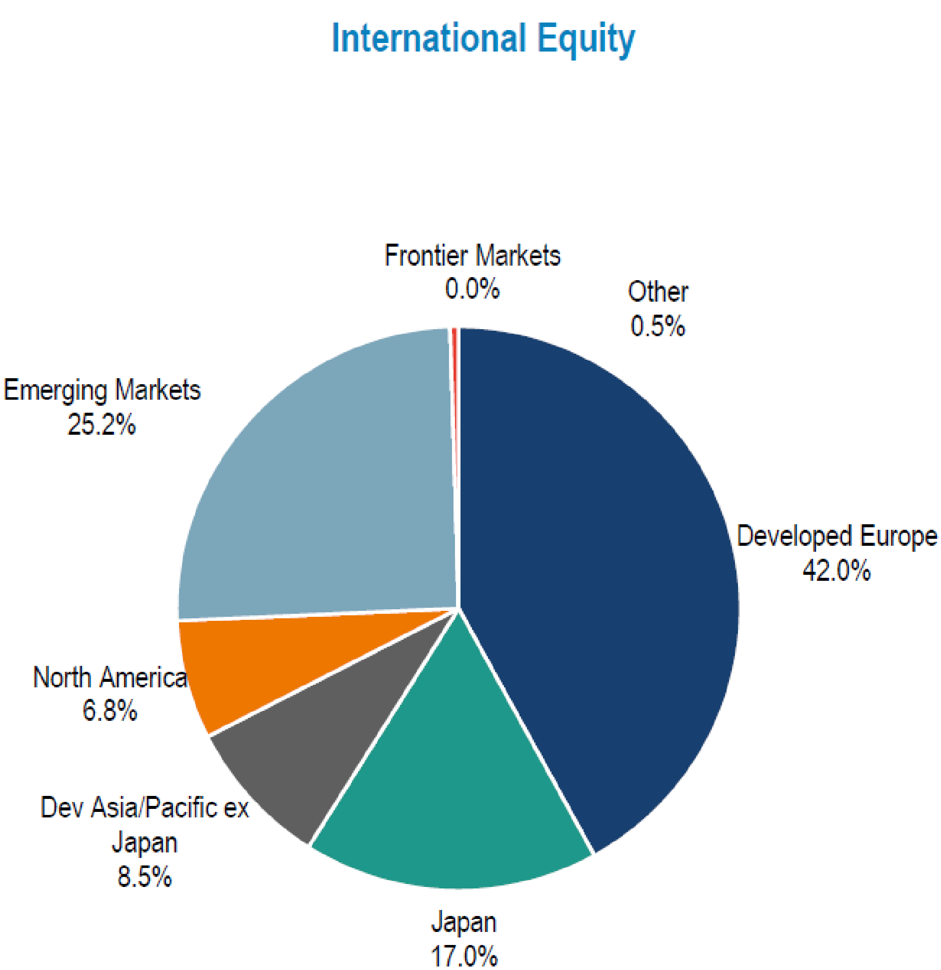


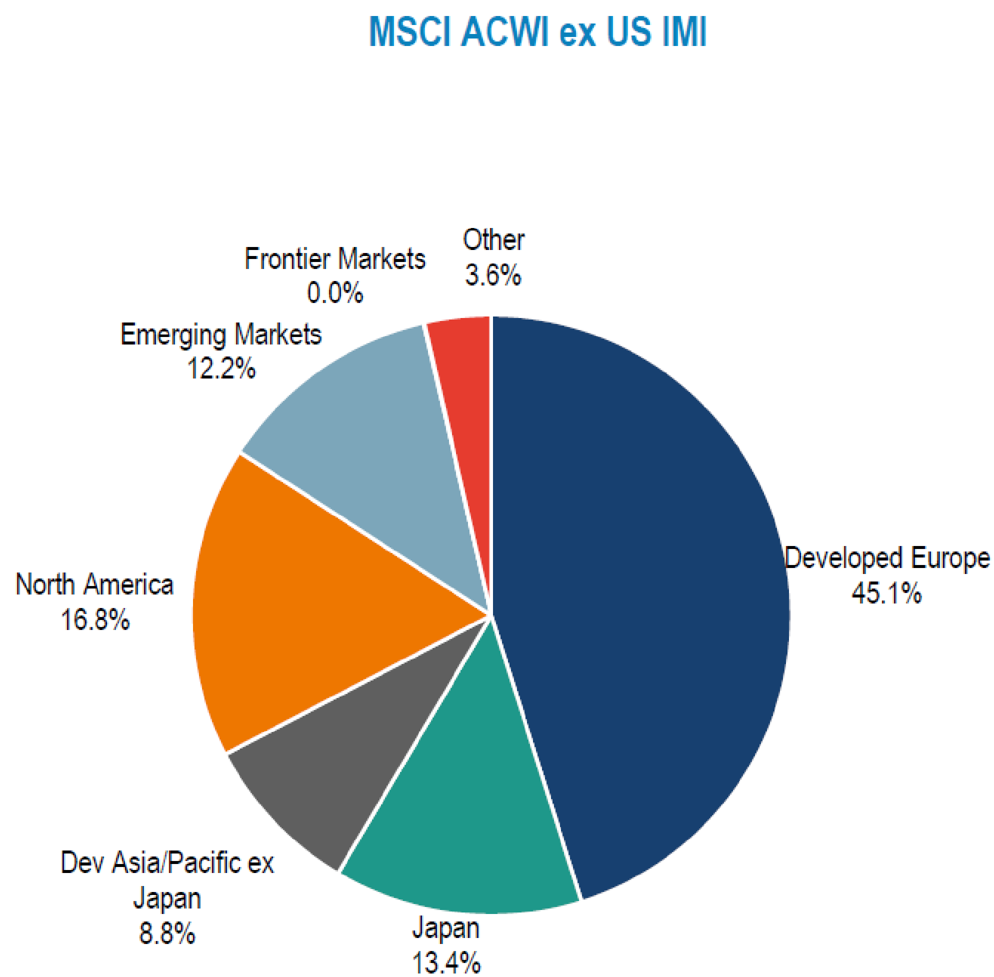
	Quarter		2 Quarters		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years		15 Years	
	Return (Rank)																	
5th Percentile	9.81		1.81		5.66		9.07		10.32		7.59		9.24		11.60		7.58	
25th Percentile	8.55		0.67		4.34		7.81		9.16		6.64		8.17		10.81		7.06	
Median	7.49		0.07		3.75		7.26		8.57		6.16		7.68		10.22		6.68	
75th Percentile	6.68		-0.50		2.89		6.81		8.19		5.76		6.93		9.61		6.21	
95th Percentile	5.70		-1.34		1.26		5.90		7.64		5.00		6.25		8.34		5.29	
# of Portfolios	92		91		91		91		91		89		87		83		78	
● Total Fund	8.11	(34)	-0.28	(64)	2.70	(80)	8.19	(14)	9.93	(9)	6.55	(30)	8.43	(17)	11.74	(4)	7.34	(13)
▲ Policy Index	7.65	(45)	-0.59	(82)	2.93	(75)	7.60	(34)	9.49	(16)	6.93	(17)	8.69	(12)	11.56	(7)	7.64	(3)
✕ Allocation Index	8.08	(35)	-0.70	(85)	2.83	(77)	7.57	(37)	9.33	(19)	6.68	(23)	8.38	(18)	11.14	(14)	7.26	(15)



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
US Equity	-2.51%	-2.11%	-0.40%	-0.09%	-0.17%	-0.03%	-0.29%
International Equity	0.16%	-2.37%	2.54%	0.67%	0.00%	0.02%	0.69%
US Fixed Income	3.89%	3.95%	-0.07%	-0.01%	-0.04%	0.00%	-0.05%
Global Fixed Income	3.43%	2.47%	0.95%	0.02%	0.02%	0.02%	0.06%
Absolute Return	-0.32%	-0.74%	0.43%	0.03%	-0.01%	-0.02%	0.00%
Private Equity	0.06%	2.36%	-2.30%	-0.21%	-0.08%	0.02%	-0.27%
Real Assets	-7.59%	0.70%	-8.29%	-0.45%	-0.01%	0.10%	-0.36%
Real Estate	5.15%	5.36%	-0.21%	-0.02%	-0.09%	0.00%	-0.10%
Total	**-0.12%**	**0.19%**	**-0.32%**	**-0.05%**	**-0.38%**	**0.12%**	**-0.32%**


US Effective Style Map
Large Value
Russell 3000
Large Growth
TCW
US Equity
Pzena
Next Century-SCG
Kennedy
Small Value
Small Growth


International Equity
Frontier Markets
0.0%
Other
0.5%
Emerging Markets
25.2%
Developed Europe
42.0%
North America
6.8%
Dev Asia/Pacific ex
Japan
8.5%
Japan
17.0%


MSCI ACWI ex US IMI
Frontier Markets
0.0%
Other
3.6%
Emerging Markets
12.2%
North America
16.8%
Developed Europe
45.1%
Dev Asia/Pacific ex
Japan
8.8%
Japan
13.4%

	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)	**8.11**	**34**	**-0.28**	**64**	**2.70**	**80**	**9.93**	**9**	**6.55**	**30**	**8.43**	**17**	**11.74**	**4**	**9.57**	**Sep-85**
Total Fund (Net)	**8.08**	**35**	**-0.34**	**68**	**2.54**	**80**	**9.67**	**15**	**6.27**	**45**	**8.13**	**27**	**11.42**	**8**	**9.37**	
Policy Index	*7.65*	*45*	*-0.59*	*82*	*2.93*	*75*	*9.49*	*16*	*6.93*	*17*	*8.69*	*12*	*11.56*	*7*	*9.84*	*Sep-85*
Allocation Index	*8.08*	*35*	*-0.70*	*85*	*2.83*	*77*	*9.33*	*19*	*6.68*	*23*	*8.38*	*18*	*11.14*	*14*	*--*	*Sep-85*
InvestorForce Public DB > $1B Gross Median	*7.49*		*0.07*		*3.75*		*8.57*		*6.16*		*7.68*		*10.22*		*8.59*	*Sep-85*
US Equity (Gross)	**14.62**	**23**	**-2.55**	**43**	**7.82**	**47**	**14.92**	**9**	**10.09**	**38**	**12.50**	**33**	**16.40**	**17**	**11.61**	**Sep-85**
US Equity (Net)	**14.61**	**23**	**-2.59**	**44**	**7.66**	**51**	**14.62**	**12**	**9.78**	**52**	**12.18**	**54**	**16.07**	**31**	**--**	
Russell 3000	*14.04*	*53*	*-2.27*	*33*	*8.77*	*27*	*13.48*	*40*	*10.35*	*26*	*12.63*	*26*	*16.00*	*36*	*11.12*	*Sep-85*
InvestorForce All DB US Eq Gross Median	*14.05*		*-2.75*		*7.66*		*13.26*		*9.80*		*12.23*		*15.71*		*10.81*	*Sep-85*
BlackRock Russell 1000 Index Fund (Gross)	14.02	27	-1.72	42	--	--	--	--	--	--	--	--	--	--	8.99	Apr-18
BlackRock Russell 1000 Index Fund (Net)	14.01	27	-1.72	42	--	--	--	--	--	--	--	--	--	--	8.98	
Russell 1000	*14.00*	*27*	*-1.76*	*42*	*9.30*	*36*	*13.52*	*36*	*10.63*	*38*	*12.79*	*43*	*16.05*	*32*	*8.93*	*Apr-18*
Large Cap Active Equity (Gross)	**15.57**	**--**	**-3.21**	**--**	**5.87**	**--**	**14.65**	**--**	**10.06**	**--**	**12.15**	**--**	**16.53**	**--**	**7.77**	**Mar-00**
Large Cap Active Equity (Net)	**15.57**	**--**	**-3.31**	**--**	**5.45**	**--**	**14.22**	**--**	**9.66**	**--**	**11.74**	**--**	**16.11**	**--**	**7.35**	
Russell 1000	*14.00*	*--*	*-1.76*	*--*	*9.30*	*--*	*13.52*	*--*	*10.63*	*--*	*12.79*	*--*	*16.05*	*--*	*5.60*	*Mar-00*
Pzena (Gross)	11.57	52	-6.67	92	-5.40	98	11.41	40	7.11	74	10.83	65	15.23	36	5.32	Jan-06
Pzena (Net)	11.57	52	-6.83	93	-5.91	98	10.91	55	6.64	80	10.36	77	14.77	48	4.89	
Russell 1000 Value	*11.93*	*43*	*-1.19*	*28*	*5.67*	*36*	*10.45*	*65*	*7.72*	*60*	*11.14*	*57*	*14.52*	*55*	*6.86*	*Jan-06*

1 See Policy Index and Benchmark History.

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
TCW (Gross)	19.40	6	0.51	22	17.48	9	17.93	28	13.17	45	13.41	64	17.34	38	7.52	Jun-99
TCW (Net)	19.40	6	0.51	22	17.17	10	17.56	32	12.85	51	13.08	70	16.99	50	--	
Russell 1000 Growth	*16.10*	*49*	*-2.34*	*64*	*12.75*	*47*	*16.53*	*49*	*13.50*	*38*	*14.34*	*39*	*17.52*	*34*	*5.38*	*Jun-99*
Small Cap Equity (Gross)	**18.26**	**--**	**-7.71**	**--**	**4.46**	**--**	**15.40**	**--**	**7.32**	**--**	**11.37**	**--**	**16.00**	**--**	**13.40**	**Jul-85**
Small Cap Equity (Net)	**18.26**	**--**	**-7.96**	**--**	**3.54**	**--**	**14.36**	**--**	**6.43**	**--**	**10.46**	**--**	**15.12**	**--**	**--**	
Russell 2000	*14.58*	*--*	*-8.56*	*--*	*2.05*	*--*	*12.92*	*--*	*7.05*	*--*	*10.74*	*--*	*15.36*	*--*	*9.46*	*Jul-85*
Kennedy (Gross)	14.09	27	-9.45	63	-4.60	84	9.88	49	5.94	57	11.02	35	--	--	11.90	Sep-10
Kennedy (Net)	14.09	27	-9.69	66	-5.43	87	8.91	71	5.09	76	10.13	64	--	--	11.02	
Russell 2000 Value	*11.93*	*69*	*-8.97*	*56*	*0.17*	*39*	*10.86*	*33*	*5.59*	*66*	*9.61*	*76*	*14.12*	*88*	*10.37*	*Sep-10*
Next Century-SCG (Gross)	22.26	16	-6.09	44	14.00	28	20.79	31	8.63	74	10.69	91	15.80	90	11.81	Oct-02
Next Century-SCG (Net)	22.26	16	-6.37	45	13.00	32	19.70	35	7.71	84	9.77	95	14.83	96	10.85	
Russell 2000 Growth	*17.14*	*56*	*-8.22*	*68*	*3.85*	*82*	*14.87*	*75*	*8.41*	*77*	*11.79*	*80*	*16.52*	*83*	*11.09*	*Oct-02*
International Equity (Gross)	**12.54**	**9**	**0.41**	**8**	**-2.40**	**13**	**10.13**	**10**	**4.25**	**17**	**6.82**	**14**	**10.25**	**23**	**8.18**	**Dec-90**
International Equity (Net)	**12.48**	**10**	**0.27**	**9**	**-2.69**	**14**	**9.74**	**15**	**3.87**	**25**	**6.42**	**21**	**9.85**	**38**	**--**	
MSCI ACWI ex USA IMI Gross	*10.43*	*61*	*-2.63*	*52*	*-4.50*	*32*	*8.44*	*42*	*3.13*	*52*	*5.37*	*62*	*9.44*	*56*	*6.20*	*Dec-90*
InvestorForce All DB ex-US Eq Gross Median	*10.67*		*-2.60*		*-5.29*		*8.19*		*3.15*		*5.69*		*9.56*		*6.71*	*Dec-90*
Bivium Intl Equity (Gross)	10.92	50	--	--	--	--	--	--	--	--	--	--	--	--	5.11	Oct-18
Bivium Intl Equity (Net)	10.83	56	--	--	--	--	--	--	--	--	--	--	--	--	5.02	
MSCI ACWI ex USA Gross	*10.44*	*64*	*-2.16*	*36*	*-3.74*	*41*	*8.61*	*42*	*3.05*	*71*	*5.21*	*79*	*9.35*	*83*	*6.49*	*Oct-18*
AQR (Gross)	11.58	40	-3.81	67	-8.14	91	7.73	49	3.15	58	6.31	33	10.71	36	1.89	Oct-07
AQR (Net)	11.58	40	-3.95	72	-8.66	93	7.18	63	2.64	75	5.81	53	10.20	50	1.41	
MSCI ACWI ex USA Gross	*10.44*	*65*	*-2.16*	*36*	*-3.74*	*28*	*8.61*	*32*	*3.05*	*59*	*5.21*	*83*	*9.35*	*70*	*1.04*	*Oct-07*

1 See Policy Index and Benchmark History.

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Capital Group (Gross)	15.59	8	4.04	2	2.08	4	13.95	4	5.78	21	7.98	23	10.56	59	8.58	Dec-90
Capital Group (Net)	15.59	8	4.04	2	2.01	4	13.75	4	5.53	23	7.69	30	10.23	64	--	
MSCI ACWI ex USA Gross	*10.44*	*63*	*-2.16*	*30*	*-3.74*	*35*	*8.61*	*46*	*3.05*	*65*	*5.21*	*79*	*9.35*	*78*	*6.20*	*Dec-90*
MSCI ACWI ex USA Growth Gross	*12.42*	*32*	*-1.25*	*20*	*-2.66*	*24*	*8.82*	*43*	*4.39*	*39*	*6.06*	*61*	*9.85*	*70*	*--*	*Dec-90*
Mondrian (Gross)	9.22	44	-0.40	14	-2.34	10	7.17	48	2.70	33	5.19	62	9.08	44	7.05	Nov-03
Mondrian (Net)	9.02	49	-0.67	16	-2.70	13	6.76	60	2.33	51	4.84	76	8.74	50	6.75	
MSCI ACWI ex USA Gross	*10.44*	*13*	*-2.16*	*25*	*-3.74*	*24*	*8.61*	*31*	*3.05*	*21*	*5.21*	*62*	*9.35*	*41*	*6.76*	*Nov-03*
MSCI ACWI ex USA Value Gross	*8.46*	*66*	*-3.07*	*35*	*-4.82*	*29*	*8.37*	*34*	*1.66*	*71*	*4.32*	*95*	*8.81*	*46*	*6.54*	*Nov-03*
Templeton (Gross)	13.15	31	-3.01	13	-8.58	44	8.09	63	4.50	61	7.65	79	--	--	6.09	Apr-11
Templeton (Net)	13.15	31	-3.19	14	-9.08	46	7.40	73	3.83	69	6.94	88	--	--	5.39	
MSCI ACWI ex US Small Cap Gross	*10.36*	*69*	*-5.51*	*40*	*-9.13*	*46*	*7.41*	*73*	*3.64*	*71*	*6.43*	*94*	*12.25*	*94*	*3.90*	*Apr-11*
Total Fixed Income (Gross)	**3.38**	**48**	**3.85**	**49**	**1.91**	**94**	**4.01**	**38**	**3.65**	**31**	**4.33**	**23**	**7.61**	**10**	**7.29**	**Sep-86**
Total Fixed Income (Net)	**3.33**	**50**	**3.75**	**54**	**1.73**	**96**	**3.80**	**44**	**3.46**	**37**	**4.13**	**26**	**7.41**	**12**	**--**	
Fixed Income Blend	*3.16*	*58*	*4.15*	*38*	*3.25*	*77*	*2.52*	*76*	*2.55*	*77*	*2.50*	*87*	*4.28*	*80*	*6.40*	*Sep-86*
InvestorForce All DB Total Fix Inc Gross Median	*3.31*		*3.83*		*4.12*		*3.58*		*3.12*		*3.40*		*5.37*		*6.78*	*Sep-86*
US Fixed Income (Gross)	**3.46**	**44**	**4.35**	**39**	**4.38**	**63**	**4.18**	**25**	**4.04**	**25**	**4.68**	**21**	**7.70**	**13**	**7.20**	**Sep-86**
US Fixed Income (Net)	**3.42**	**46**	**4.26**	**42**	**4.21**	**74**	**4.00**	**29**	**3.87**	**28**	**4.51**	**24**	**7.52**	**15**	**--**	
BBgBarc US Aggregate TR	*2.94*	*65*	*4.63*	*28*	*4.48*	*55*	*2.03*	*80*	*2.74*	*72*	*2.48*	*80*	*3.77*	*84*	*6.15*	*Sep-86*
InvestorForce All DB US Fix Inc Gross Median	*3.28*		*4.12*		*4.54*		*3.22*		*3.26*		*3.40*		*5.34*		*6.61*	*Sep-86*
Baird Advisors (Gross)	3.15	60	4.71	37	4.70	48	3.04	16	3.73	8	3.86	7	6.10	8	5.05	Oct-01
Baird Advisors (Net)	3.13	62	4.66	43	4.62	59	2.95	18	3.65	9	3.77	9	6.01	10	4.96	
BBgBarc US Aggregate TR	*2.94*	*79*	*4.63*	*48*	*4.48*	*75*	*2.03*	*86*	*2.74*	*89*	*2.48*	*93*	*3.77*	*93*	*4.19*	*Oct-01*

1 See Policy Index and Benchmark History.

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Loomis Sayles (Gross)	4.06	4	3.62	98	3.73	98	6.34	1	4.60	2	6.24	1	10.73	1	8.19	Dec-00
Loomis Sayles (Net)	3.98	5	3.45	99	3.40	99	5.98	1	4.27	3	5.90	1	10.38	1	7.84	
BBgBarc US Credit BAA TR	*5.82*	*1*	*4.87*	*21*	*4.99*	*19*	*4.51*	*2*	*3.90*	*5*	*4.22*	*4*	*7.56*	*2*	*6.24*	*Dec-00*
Global Fixed Income (Gross)	**3.17**	**69**	**2.35**	**65**	**-5.08**	**94**	**3.32**	**75**	**2.41**	**62**	**3.23**	**60**	**7.39**	**26**	**7.28**	**Nov-01**
Global Fixed Income (Net)	**3.10**	**73**	**2.20**	**72**	**-5.28**	**97**	**3.04**	**81**	**2.14**	**76**	**2.94**	**78**	**7.09**	**46**	**6.98**	
FTSE WGBI TR	*1.74*	*89*	*3.53*	*43*	*-1.57*	*85*	*0.95*	*99*	*0.59*	*97*	*0.52*	*99*	*2.20*	*99*	*4.44*	*Nov-01*
InvestorForce All DB Glbl Fix Inc Gross Median	*4.10*		*3.13*		*2.14*		*4.82*		*2.71*		*3.33*		*7.00*		*6.62*	*Nov-01*
Brandywine (Gross)	3.17	57	2.35	62	-5.08	91	3.32	51	2.41	52	3.23	50	7.39	29	7.28	Nov-01
Brandywine (Net)	3.10	58	2.20	64	-5.28	92	3.04	56	2.14	56	2.94	53	7.09	30	6.98	
FTSE WGBI TR	*1.74*	*87*	*3.53*	*35*	*-1.57*	*77*	*0.95*	*91*	*0.59*	*83*	*0.52*	*92*	*2.20*	*95*	*4.44*	*Nov-01*
Absolute Return (Gross)	**0.86**	**82**	**-0.74**	**40**	**-2.89**	**82**	**3.22**	**72**	**2.57**	**57**	**4.06**	**61**	**--**	**--**	**3.27**	**Sep-11**
Absolute Return (Net)	**0.86**	**82**	**-0.74**	**40**	**-2.89**	**82**	**3.22**	**72**	**2.57**	**57**	**4.06**	**61**	**--**	**--**	**3.27**	
HFRI Fund of Funds Composite Index	*4.62*	*33*	*-0.55*	*37*	*0.15*	*66*	*3.94*	*66*	*2.20*	*63*	*3.10*	*72*	*3.55*	*85*	*3.28*	*Sep-11*
InvestorForce All DB Hedge Funds Gross Median	*3.25*		*-1.56*		*1.41*		*4.90*		*2.96*		*4.45*		*5.21*		*4.88*	*Sep-11*

Total Fund
Performance Summary

Period Ending: March 31, 2019

	3 Mo (%)	Rank	6 Mo (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	7 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Private Equity (Gross)	**-3.58**	**--**	**0.06**	**--**	**8.89**	**--**	**12.39**	**--**	**14.13**	**--**	**14.40**	**--**	**6.20**	**--**	**3.11**	**Nov-08**
Private Equity (Net)	**-3.58**	**--**	**0.06**	**--**	**8.89**	**--**	**12.39**	**--**	**14.13**	**--**	**14.40**	**--**	**6.20**	**--**	**3.11**	
Thomson Reuters C|A Global All PE 1 Qtr Lag	*-4.41*	--	*-1.77*	--	*3.67*	--	*9.89*	--	*7.59*	--	*9.72*	--	*11.05*	--	*7.48*	*Nov-08*
Real Assets (Gross)	**1.19**	**--**	**-9.93**	**--**	**-7.38**	**--**	**0.04**	**--**	**-6.54**	**--**	**-6.33**	**--**	**--**	**--**	**-5.15**	**Sep-11**
Real Assets (Net)	**1.19**	**--**	**-9.93**	**--**	**-7.38**	**--**	**0.04**	**--**	**-6.54**	**--**	**-6.33**	**--**	**--**	**--**	**-5.15**	
Real Asset Blend	*12.05*	--	*-1.04*	--	*2.44*	--	*8.25*	--	*6.59*	--	*6.07*	--	--	--	*6.00*	*Sep-11*
Cash (Gross)	**0.62**	**--**	**1.09**	**--**	**1.94**	**--**	**1.24**	**--**	**0.77**	**--**	**0.58**	**--**	**0.46**	**--**	**3.17**	**Sep-85**
Cash (Net)	**0.62**	**--**	**1.09**	**--**	**1.94**	**--**	**1.24**	**--**	**0.77**	**--**	**0.58**	**--**	**0.46**	**--**	**3.17**	
91 Day T-Bills	*0.59*	--	*1.17*	--	*2.15*	--	*1.23*	--	*0.76*	--	*0.56*	--	*0.42*	--	*3.27*	*Sep-85*
Real Estate (Gross)	**1.67**	**36**	**3.50**	**36**	**7.66**	**50**	**8.35**	**29**	**10.89**	**20**	**11.44**	**20**	**9.25**	**28**	**7.11**	**Mar-86**
Real Estate (Net)	**1.67**	**36**	**3.50**	**36**	**7.66**	**50**	**8.11**	**41**	**10.33**	**33**	**10.73**	**40**	**8.46**	**46**	**6.05**	
NCREIF-ODCE	*1.42*	*58*	*3.20*	*51*	*7.52*	*56*	*7.97*	*43*	*10.17*	*35*	*10.77*	*39*	*8.73*	*38*	*7.32*	*Mar-86*
InvestorForce All DB Real Estate Pub+Priv Gross Median	*1.55*		*3.22*		*7.65*		*7.64*		*9.79*		*10.41*		*8.35*		*7.51*	*Mar-86*

1 See Policy Index and Benchmark History.

	INDEX OUTPERFORMANCE						DATABASE BENCHMARK		MANAGER TO BE PLACED ON WATCH LIST
MANAGER	AFTER FEE VS. INDEX		BEFORE FEE VS. INDEX		RISK ADJUSTED (SHARPE RATIO)		MEDIAN		
	3 YEAR	5 YEAR	3 YEAR	5 YEAR	3 YEAR	5 YEAR	3 YEAR	5 YEAR	
AQR (MSCI ACWI EX US GROSS)	NO	NO	NO	YES	NO	NO	YES	NO	NO
BAIRD ADVISORS (BBGBARC US AGGREGATE)	YES	YES	YES	YES	YES	YES	YES	YES	NO
BRANDYWINE FIXED INCOME (FTSE WGBI)	YES	YES	YES	YES	YES	YES	NO	NO	NO
CAPITAL GROUP (MSCI ACWI EX US GROSS)	YES	YES	YES	YES	YES	YES	YES	YES	NO
KENNEDY (RUSSELL 2000 VALUE)	NO	NO	NO	YES	NO	NO	YES	NO	NO
LOOMIS SAYLES (BBGBARC US CREDIT BAA)	YES	YES	YES	YES	YES	NO	YES	YES	NO
MONDRIAN (MSCI ACWI EX US GROSS)	NO	NO	NO	NO	NO	YES	YES	YES	NO
NEXT CENTURY-SCG[1] (RUSSELL 2000 GROWTH)	YES	NO	YES	YES	YES	NO	YES	NO	NO
PZENA (RUSSELL 1000 VALUE)	YES	NO	YES	NO	NO	NO	YES	NO	YES
TCW (RUSSELL 1000 GROWTH)	YES	NO	YES	NO	NO	NO	YES	YES	YES
TEMPLETON (MSCI ACWI EX US SMALL CAP GROSS)	NO	YES	YES	YES	YES	YES	NO	NO	YES

1 Next Century will be replaced by William Blair

Total Plan Policy Index	**As of:** 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	11.25%	11.25%	11.25%	15%	18%	18%	21%	23%	26%	33%	29%	32%	37%	30%
BBgBarc High Yield	1.50%	1.50%	1.50%	2.0%	2.4%	2%	3%	3%	3%					
Bloomberg Commodity	0.75%	0.75%												
FTSE WGBI	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	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%	6.00%	6%										
Russell 3000	28.00%	28.00%	32.00%	34%	37%	37%	41%	39%	35%	42%	49%	47%	40%	
HFRI FoF Composite	9.00%													
Thomson Reuters C|A Global All PE	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%												
S&P Global Natural Resources	2.50%	2.50%												
Wilshire RE										9%	11%	10%	12%	3%
	100.0%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**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: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - 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: Portfolio Excess Return / 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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Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

PERIOD ENDING: MARCH 31, 2019

Absolute Return Performance Report

Alameda County Employees’ Retirement Association

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Hedge Fund Environment

Markets volatile, rates back to 2017 levels

Outlook

Our hedge fund outlook combines our views of macroeconomic, geopolitical, and capital market conditions along with hedge fund industry metrics and trends across the strategy set. Key observations include:

— **Trade tensions** - Markets move day to day on trade deal rumors between the U.S. and China as escalations continued, diminishing expectations of any imminent resolution.

— **Synchronized growth no longer -** Reversing from 2017 and early 2018, global growth has softened amid continued economic and political uncertainty around the world. Central bank policy expectations has followed this softening with markets expecting rate cuts, rather than continued hiking, from the Fed in 2019 and beyond.

— **Factor struggles drive alt risk premia underperformance –** Value, Momentum, and Trend continue to drive underperformance of the alternative beta universe relative to both expectations and the broader hedge fund universe. Hedge funds have been able to outperform equity markets over the six month period of Q418/Q119, taking advantage of the significant market swings during that time.

Summary of findings

Strategy	Role in HF allocation	Outlook/Implementation	View
Equity Hedge Funds	Return Driver	Equity hedge funds that held or added to their positions on 4Q weakness were rewarded in Q1 2019 as markets rebounded. Most of the value going forward will be their natural risk-reducing nature by being less than 100% net long. Managers who have outperformed long-only markets have done so by investing in privates or focused on activism. We have a more positive view on the alpha environment in non-US markets.	**Neutral**
Fixed Income Hedge Funds	Diversifier	We have a positive view on Fixed Income hedge fund universe which holds several distinct advantages over traditional Fixed Income products. We believe there is a premium for the ability to invest in less liquid, less traveled areas of the market such as structured credit, and traditional managers of any decent size are unable to invest in these ripe areas or trade meaningfully due to their asset base and liquidity requirements.	**Positive**
Asymmetric Hedge Funds	Diversifier	We have a positive view on Macro strategies, particularly in their roles as diversifiers both within portfolios and in relation to the current market environment. We favor managers with wide opportunity sets, expertise in less crowded niche segments, strong capital allocation skills, and risk management practices. Market neutral strategies have generally struggled and access to top-tier managers remains crucial for success.	**Positive**
Diversifying Alternative Strategies	Diversifier	Cheaper quantitative strategies such as Alternative Beta have underperformed our expectations by some margin over the past 18-24 months. This dispersion between the comparable hedge fund universe and these newer strategies may be signs that the alpha-seeking hedge funds have evolved or moved away from the more well-known factors popularized by the emergence of alternative beta strategies. The dispersion within the alt beta universe means there is significant value in diversifying exposure across managers. As fees for hedge funds come down and transparency and reporting improve, the value gap between them and alt beta narrows.	**Neutral**

Hedge fund allocation trends & flows

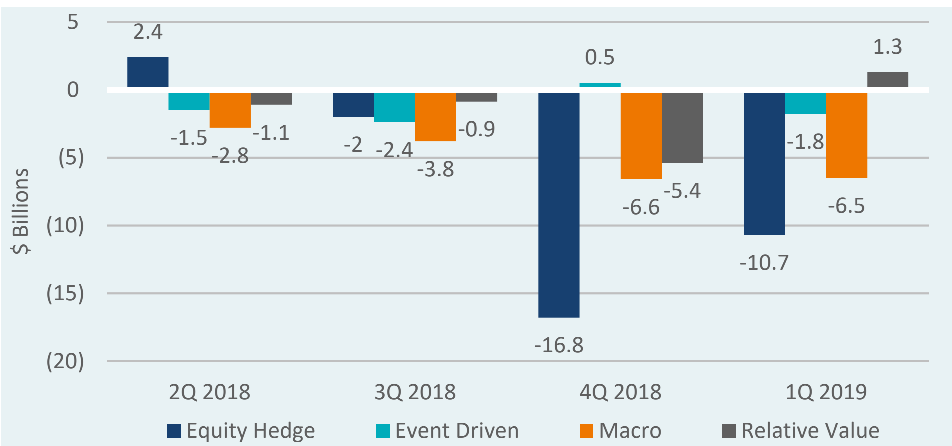
Outflows continue

— Flows turned in their fourth negative quarter in a row, following four slightly positive quarters prior to that. Strategies that saw the largest outflows were Equity Hedge, which is the largest hedge fund group, and Macro, which has seen four significant quarterly outflows in a row. Event Driven and Relative Value remain relative bright spots for flows, although they have still experienced cumulative outflows over the past few years.

— Despite two large quarterly outflows in a row hedge fund assets remain near all time highs, according to HFR. This is due to the strong performance in the first quarter of 2019, which was the best start to the year for the HFRI Fund Weighted Composite since 2006.

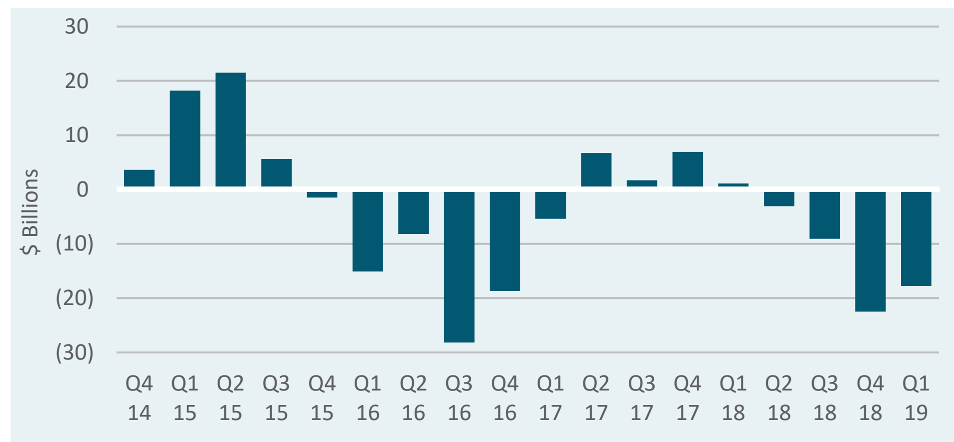
— Industry measures aside, we still believe there is tremendous demand from investors for top-tier funds and appetite for institutional quality, absolute-return oriented hedge funds remains robust. Alt beta remains a preferred option for clients who seek a more cost effective and transparent exposure.

NET FLOWS TO HFR SUB-STRATEGIES, LAST 4 QUARTERS



Source: HFR

QUARTERLY NET FLOWS TO HEDGE FUNDS



Source: HFR

Alternative beta

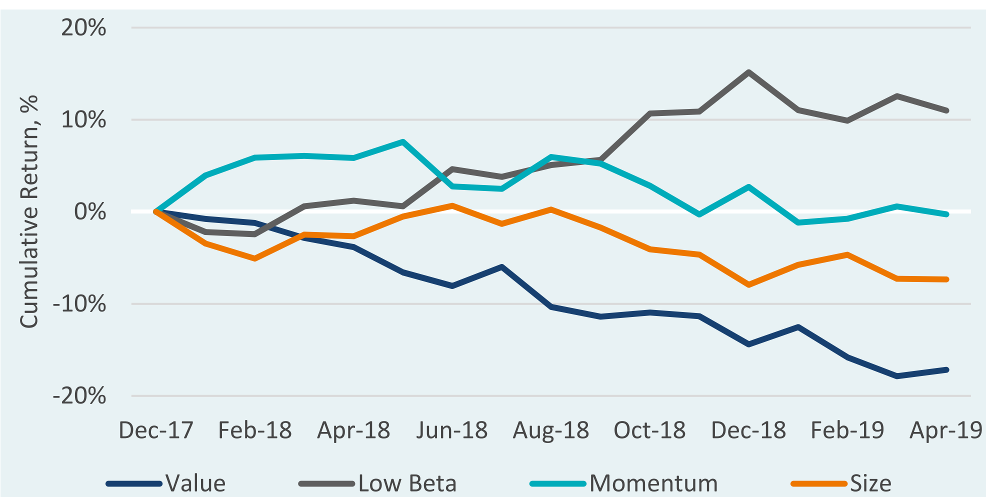
Recent performance trends

— Alternative Betas are derived from the ongoing effort to explain additional components of return generated by portfolios of securities over longer periods of time. Most of these betas, or factors, are well-known academically and have been a common source of what historically had been deemed "alpha". These strategies use leverage to go long and short large numbers of securities, isolating the alternative betas while minimizing broad market beta exposure.

— The Dow Jones US Thematic Market Neutral indexes are a good proxy for the style factors that these strategies attempt to harvest. The last 1-2 years have been challenging for the most commonly used factors, Value and Momentum, which historically have offered attractive diversification power to each other.

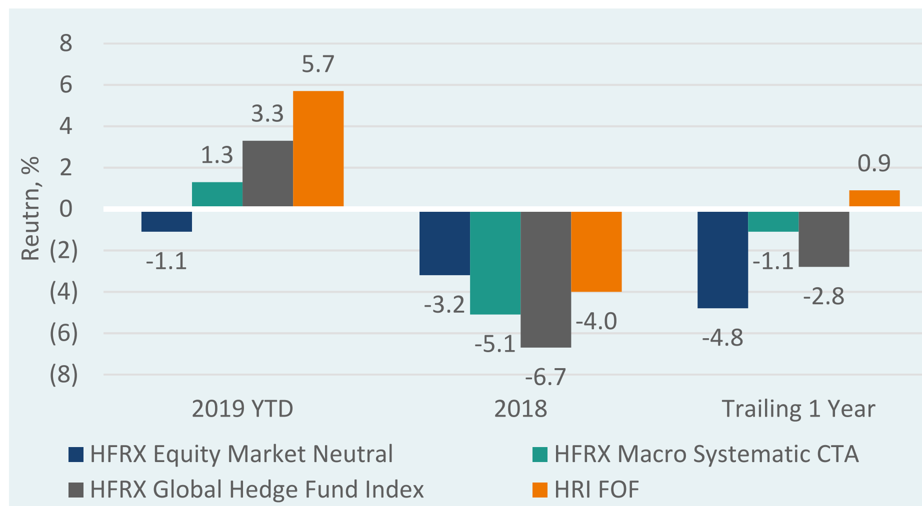
— Trend following in global markets is another area these funds seek exposure to, and that too has offered little help offsetting market neutral losses.

MARKET NEUTRAL FACTOR PERFORMANCE, SINCE JAN-2018



Source: DJ US Market Neutral Thematic Indexes

KEY HEDGE FUND PERFORMANCE – AS OF APRIL 2019



Alt beta correlations

CORRELATION, TRAILING 3 YEARS AS OF DEC-18

	Alt Beta 1	Alt Beta 2	Alt Beta 3	Alt Beta 4	Alt Beta 5	Alt Beta 6	Alt Beta 7	Alt Beta 8	Alt Beta 9	Alt Beta 10	S&P 500	US Long Treasuries
Alt Beta 1		0.67	0.40	0.58	0.62	0.50	0.00	0.64	0.46	0.39	0.21	0.17
Alt Beta 2	0.67		0.34	0.43	0.48	0.18	-0.09	0.65	0.31	0.22	0.26	-0.02
Alt Beta 3	0.40	0.34		0.45	0.55	0.46	0.23	0.49	0.55	0.32	-0.06	0.01
Alt Beta 4	0.58	0.43	0.45		0.72	0.35	0.07	0.64	0.71	0.32	-0.14	0.34
Alt Beta 5	0.62	0.48	0.55	0.72		0.51	0.29	0.69	0.74	0.47	-0.10	0.52
Alt Beta 6	0.50	0.18	0.46	0.35	0.51		0.62	0.46	0.46	0.60	0.20	-0.01
Alt Beta 7	0.00	-0.09	0.23	0.07	0.29	0.62		0.29	0.35	0.54	0.13	0.18
Alt Beta 8	0.64	0.65	0.49	0.64	0.69	0.46	0.29		0.65	0.59	0.32	0.25
Alt Beta 9	0.46	0.31	0.55	0.71	0.74	0.46	0.35	0.65		0.53	-0.28	0.34
Alt Beta 10	0.39	0.22	0.32	0.32	0.47	0.60	0.54	0.59	0.53		0.14	0.10
S&P 500	0.21	0.26	-0.06	-0.14	-0.10	0.20	0.13	0.32	-0.28	0.14		-0.22
US Long Treasuries	0.17	-0.02	0.01	0.34	0.52	-0.01	0.18	0.25	0.34	0.10	-0.22	

Correlations between alt beta strategies are moderately positive in most cases while consistently uncorrelated to the equity and rates markets.

However, in reality this has meant experiencing suboptimal results while most markets have risen over the last three years.

ACERA Performance

Allocations

Target

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

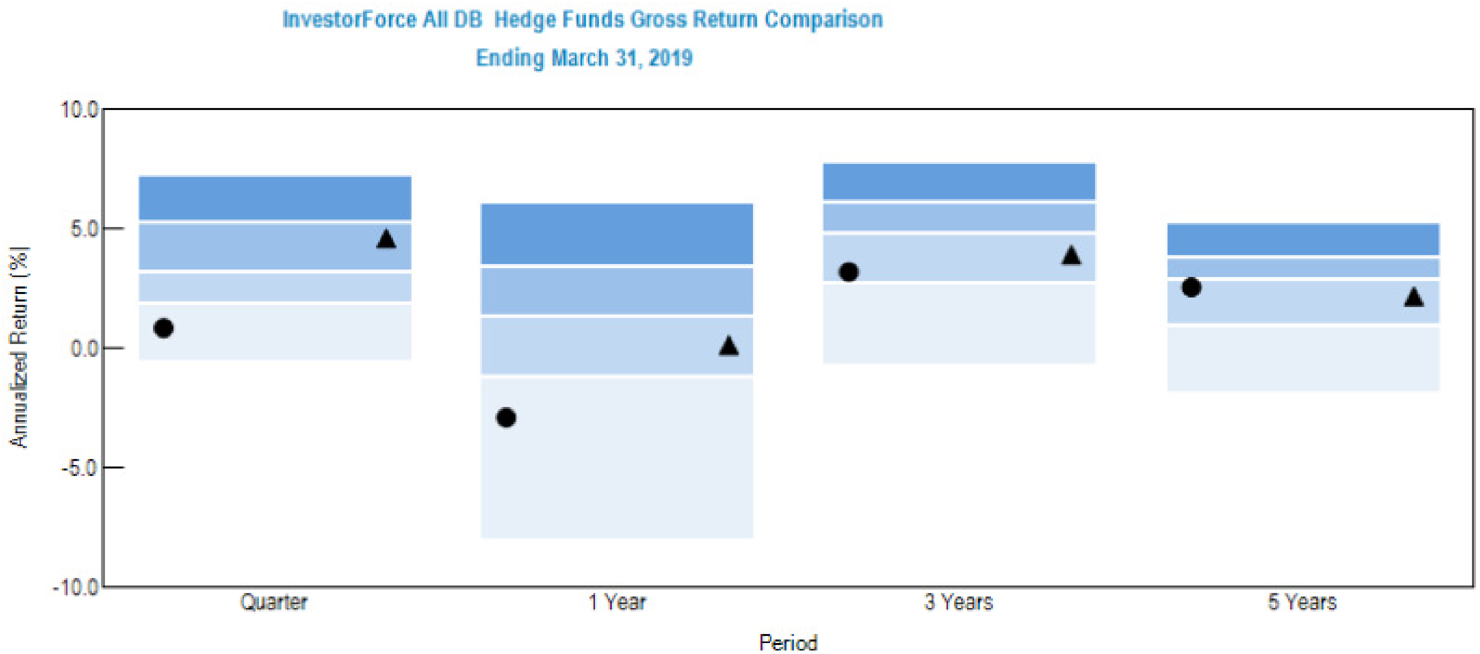
Current (as of 3/31/2019)

Sub-categories	Current Allocations	Min./Max. Ranges
AR Portfolio	**9.2%**	**5% to 10.5%**
▪ *Alternative Premia Strategies*	*2.1%*	*2% to 6%*
▪ *Fund of Funds*	*3.6%*	*2% to 6%*
▪ *Other Alternatives/Opportunistic*	*2.9%*	*0% to 4.5%*

Performance Summary

	Market Value ($)	% of Portfolio	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	Inception (%)	Inception Date
										Ending March 31, 2019						
Absolute Return*	703,082,579	100.0	0.9	0.9	0.9	-2.9	3.2	2.6	--	-2.2	3.3	5.4	0.7	6.7	3.3	Sep-11

Relative Performance



	Return (Rank)							
5th Percentile	7.3		6.1		7.8		5.3	
25th Percentile	5.3		3.5		6.2		3.9	
Median	3.3		1.4		4.9		3.0	
75th Percentile	1.9		-1.1		2.8		1.1	
95th Percentile	-0.5		-8.0		-0.6		-1.9	
# of Portfolios	223		218		205		193	
● Absolute Return	0.9	(82)	-2.9	(82)	3.2	(72)	2.6	(57)
▲ HFRI Fund of Funds Composite Index	4.6	(33)	0.1	(66)	3.9	(66)	2.2	(63)

Portfolio Statistics* (as of 3/31/19)

	Benchmark HFRI FoF Composite	Absolute Return Portfolio
Max Drawdown	-19.4	-7.0
Sharpe Ratio	0.18	0.72
Beta	0.25	0.09
Correlation to MSCI ACWI	0.82	0.38
Annualized StDev	5.0	3.7

*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.

Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

PERIOD ENDING: DECEMBER 31, 2018

Private Equity Performance Review

Alameda County Employees’ Retirement Association

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DEBT RELATED

- **HY and leveraged/syndicated loan issuance were down.** In 2018, US high yield issuance of $168 billion[1], the lowest issuance total since 2009, was down 40.2% versus 2019. The institutional issuance of $730 billion[1], 21% off 2017's record level.
- **Spreads loosed across the board except for CCC index.** US HY Credit Index loosed by 166 bps or 44.5%[2] versus the same period last year. Except for CCC index tightened by 44bps, a 3.6%[2] decrease versus 2H 2017, BB, B loosed by 146 bps and 140 bps respectively, a 54.5%[2] and 32.7%[2] increase versus the same period last year.
- **Slight increase in LBO debt, but improvement in interest coverage.** US total leverage (Debt / EBITDA) for 2018 at 5.8x[3] up 1.4% from the same time last year. Interest coverage ratio (EBITDA / Cash Interest) ended Q4'18 at 2.7x[3], down 6.2% from 3.1x[3] at the end of 2017.

GLOBAL

- **Investment activity up.** During 2018, PE firms globally invested in $729.6 billion[6&13] worth of deals,5.9% from the same time prior year and closed on 19,995 transactions[6&13], up 6.5% from 2017.
- **Mixed movement of purchase price multiples by region.** As of December 31, 2018, global median purchase price multiples (Enterprise Value / EBITDA) was 10.8x[1], a 1.8% decrease from the same time last year. This was driven by a 0.1% decrease in US purchase multiples at 10.6x[7], a 15.8% increase in purchase price multiples in Europe at 11.5x[11] , and a 17.5% decrease in the rest of the world at 9.2x[11].
- **Increase in dry powder in all regions, slightly down in the rest of world.** For 2018, global total PE dry powder was at $1.36 trillion[4], up (14.9%) from end of 2017. Total PE dry powder was: up in the US 14.4% to $735.9 billion[4]; up in Europe by 15.7% to $281.3 billion[4]; up in Asia by 18.1% to $302.2 billion[4]; and down the rest of world by 1.8% to $43.2 billion[4] .

US BUYOUTS

- **Fundraising down significantly.** In 2018, US buyout firms raised $123.2 billion[5], down by 30.2% from same time prior year. Both the number of funds closed and average fund size decreased from 1H 2017 to 1H 2018, 117[5] to 112[5] and $1.51 billion[5] to $1.1 billion[5] , respectively.
- **Slight decline in LBO price multiples.** As of December 31, 2018, US LBO purchase price multiples (Enterprise Value / EBITDA) were at 10.6x[7] , a -0.1% decrease from 2017.

- **Investment activity up.** During 2018, US buyout firms invested in $264.0 billion[6] worth of deals, up 50.9% from the same time last year and closed on 2,787 transactions[6], up 22.0% versus the same time in 2017. Keurig Dr Pepper, Inc. ($21.0 billion[6]), Refinitiv ($17.0 billion[6]), and Johnson Controls' Power Solutions business ($13.2 billion[6]) contributed to the increase in capital deployed.
- **Dry powder up.** For 2018, US buyout dry powder was $402.4 billion[4], up by 12.2% from the same time in 2017.
- **Exits activity strong.** In 2018, US buyout firms exited 928 companies[6], representing $178.4 billion[6] in total transaction value. This represented a 19.3% increase in the number of exits and a 26.1% increase in total transaction value compared to the same time last year.

US VENTURE CAPITAL

- **Fundraising increased.** US VC firms raised $41.5 billion[5] during 2018, a 37.6% increase from the same period last year. 342 funds[5] closed in 2018, a 54.1% increase from the same period last year. The average US VC fund size decreased by 10.7% at $121.4 million[5] versus the same period last year.
- **Dry powder up.** As of Q4 2018, US VC dry powder was at $110.8 billion[4], up 10.7% from the last year.
- **Investment activity up sharply from last year.** US VC firms deployed $113.0 billion[12] in capital during 2018, a 47.2% increase from 2017. The number of rounds closed at 5,510[12], a 28.1% increase from the same time last year. The average investment per deal increased 15% from last year, to $20.6 million[12].
- **All stages valuations were up.** Compared to 2017, the average pre-money valuations increased across all stages in 2018: up 16.7% at $7.0 million[8] for Seed stage, 29.0% at $20.0 million[8] for Series A, 37.9% at $55.5 million for Series B, 36.9% at $115.0 million[8] for Series C, and 45.4% at $325.0 million[8] for Series D. Over the past 3 years, the average pre-money valuations of Seed stage, Series A, Series B, Series C and Series D investments were up 40.0%, 56.6%, 44.9%, 64.3% and 95.6%, respectively[9].
- **Exit activity up.** US VC firms exited 662 companies[12] in 2018, down by 2.1% from the same period last year, representing $87.6 billion[12] in transaction value, up 69.4% from the same period 2017.

EX-US

— **Fundraising up in Asia and ROW, down in Europe.** For 2018, Ex-US fundraising was up 2.3% to $185.5 billion[5] compared to same time prior year. The increase was led by Asian funds which raised $80.0 billion[5], up 25.1% from same time last year. The increase was offset by a decrease in funds in Europe which raised $89.5 billion[5], down 17.3% from 2017. Fundraising in the rest of the world was up 74.0% to $16.0 billion[5] compared to 2017.

— **Ex-US dry powder grew, but less than dry powder in the US.** PE dry powder outside the US grew to $626.7 billion[4] for Q4 2018, a 15.4% increase versus last year. However, dry powder outside the US was still slightly less than dry powder in the US ($735.9 billion[4]) by 14.8%.

- **Dry powder of buyout, VC and growth equity in Asia increased.** At the end of 2018, Asia buyout dry power was $85.6 billion[4], up by 35.7% from last year. VC dry powder in Asia increased to $81.1 billion[4], up by 13.1% from prior year. Growth equity dry powder grew to $113.6 billion[4], a 13.8% increase from 2017.
- **Europe buyout and VC dry powders up.** For 2018, Europe buyout dry power was $189.3 billion[4], up by 15.7% from last year. Same time, VC dry powder in Europe grew to $26.4 billion[4], a 15.8% increase from prior year. Growth equity dry powder grew to $20.4 billion[4], a 36.9% increase from 2017.

— **Investments up in all key sectors and geographies, except for Asia buyout.** Number of deals increased in both Europe and Asia buyout and venture capital. Aggregate deal volume increased in 2018 in European buyout and venture capital and Asia venture capital.

- **Europe buyout and VC investments increased.** In 2018, Europe buyout firms transacted on $136.7 billion[6] in aggregate value, up by 39.4% from 2017. VC investment activity was up from $17.7 billion in 2017 to $22.4 billion[12] during 2018, an increase of 26.7%.
- **Asia average buyout deal value was down, while VC investment activities was up.** During 2018, Asia VC investment activity was $115.9 billion[12], up from $75.2 billion in 2017, an increase of 54.1%. Buyout firms closed on $39.1 billion[6] in aggregate value, down by 37.5% from the same time of last year's $62.5 billion[6].

— **Leverage multiples in Europe moved up, loan volume slightly down.** European LBO leverage multiples (Debt / EBITDA) have averaged 5.7x[10] during 2018, an increase of 6.5% from the same time last year and a 7.7% decrease from the peak (6.1x[11]) in 2007. European LBO Loan volume at $76.4 billion[11] is down 2.8% versus 2017, an decrease of 44.5% versus the peak of $137.7 billion[11] in of 2007.

— **Exit activity stronger in Europe and Asia.** In 2018, Europe PE firms aggregate exit value amounted to $122.3 billion[6&12], a 48.0% increase from the same time last year, while Asia PE firms' exits were up 174.4% from 2017 to $84.3[6&12] billion in the same time.

Outlook

— **Momentum of increase in PE allocations plateaus.** A recent survey of institutional investors conducted on December 31, 2018 indicated that 46%[13] intend to increase their allocation for private equity compared to 53%[13] during the same period last year. 49%[13] intend to maintain their allocation for private equity compared to 43%[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 December 31, 2018, Institutional investors view US as the most attractive location to invest in the current economic climate with 67%[13] (versus Western Europe 49%[13]) choosing it as their preferred developed markets investment destination, and with 49%[13] choosing China (versus India 30%[13]) as their preferred emerging markets investment destination. In the same survey, 54%[13] of institutional investors also cited the small to mid-market buyout strategy as presenting the best opportunities in the current financial climate. venture capital strategy was mentioned next with 46%[13] of institutional investors believing it presented the best opportunities.

Notes

1. *Leveraged Loan Monthly Refinitiv 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 Fundraising*
6. *Preqin Private Equity-Backed Buyout 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, Europe Leverage Lending Review and Leveraged Loan Monthly Refinitiv LPC.*
12. *Preqin Venture Capital Deals and Exits*
13. *Preqin Investor Outlook: Alternative Assets*

	Policy Target	Policy Range	Market Value %	Market Value $(000)	Unfunded Commitment $(000)	Market Value + Unfunded $(000)
ACERA Plan Assets - Total				**$7,609,664**		
Private Equity:	**9.0%**	**0-13%**	**6.8%**	**$519,871**	**$540,057**	**$1,059,929**
Buyouts	60.0%	30-80%	57.3%	$297,969	$284,145	$582,114
Venture Capital	20.0%	0-40%	32.9%	$170,793	$37,651	$208,444
Debt-Related/Special Situations	20.0%	0-70%	9.8%	$51,110	$218,261	$269,371

Portfolio Summary

— As of December 31, 2018, the Private Equity portfolio had a total market value of $519.9 million, with $298.0 million in Buyouts, $170.8 million in Venture Capital, and $51.1 million 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 (10 years ago), ACERA has contributed $708.8 million towards its Private Equity commitments, with $384.8 million to Buyouts, $145.7 million to Venture Capital, and $178.3 million in Debt-Related / Special Situations. Unfunded commitments total $540.1 million.

Portfolio Activity

— ACERA made two new commitments to Private Equity in the second half of 2018: $25.0 million to Audax Private Equity Fund VI-A (Buyout) and $33.0 million to ABRY Advanced Securities Fund IV (Debt-Related/Special Situations).

Performance

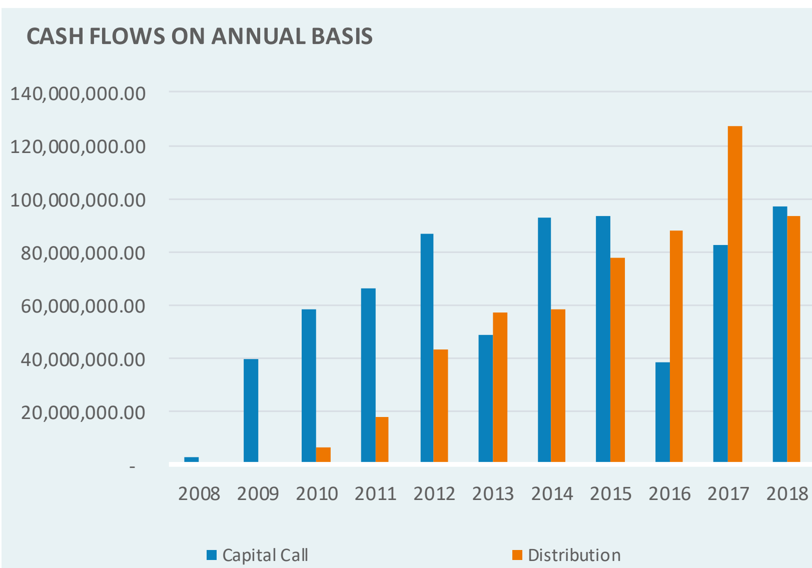
— Current Private Equity portfolio is valued at $519.9 million. Portfolio investments have a capital-weighted average life of 4.4 years.

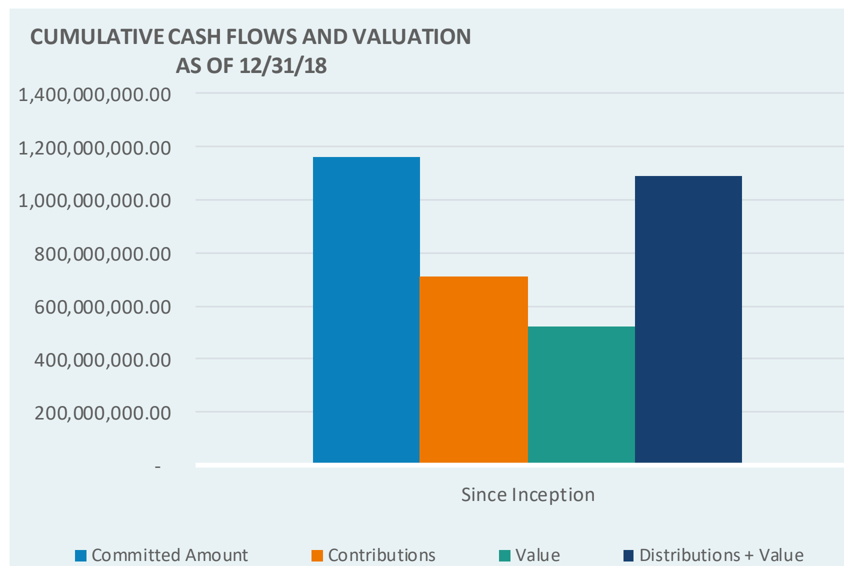
- Since inception, the portfolio has produced +14.83% net IRR, outperforming its Thomson Reuters C|A Global PE benchmark pooled IRR of 13.45% by 138 basis points. Portfolio returns rank above Median on net IRR and Total Value Multiple (TVPI); and above Top-Quartile on Distribution Multiple (DPI).
- Relative to the global benchmark peers in the same Vintage Years since inception (2008), the net IRR, TVPI, and DPI of the Buyout portfolio ranks above Median; Venture Capital ranks above Top-Quartile on TVPI and DPI, and above Median on IRR; Debt-Related / Special Situations ranks above Median on all measures.

— Together with $570.1 million in realized distributions (0.80x cost), Private Equity's Total Value at $1,089.9 million is approximately $381.2 million above $708.8 million cost (1.54x cost), net of fees. Return drivers include:

- Venture Capital up $155.28 million/+106.6% versus cost (Third Rock II & III, General Catalyst VI, Great Hill IV, NEA 13 & 14, and Khosla Ventures IV & Seed B leading), with 89.3% of called capital realized and distributed. Since inception, this portfolio produced 20.54% net IRR versus its peer global benchmark of 16.65% pooled IRR.
- Buyouts up $165.19 million/+42.9% versus cost (Sycamore I, ABRY Partners VII, Great Hill V, and Insight Equity II leading), with 65.5% of called capital realized and distributed. Since inception, the Buyouts portfolio produced 14.02% net IRR versus its peer global benchmark of 14.69% pooled IRR.
- Debt-Related / Special Situations was up $60.71 million/+34.1% versus cost (ABRY Advanced Securities II, Centerbridge, ABRY Senior Equity IV, and OHA Strategic Credit IB leading), with 105.4% of called capital realized and distributed. Since inception, this portfolio produced 10.46% net IRR versus its peer global benchmark of 10.99% pooled IRR.

— Within Private Equity, the current allocation of invested capital is 57% to Buyouts, 33% to Venture Capital and 10% to Debt / Special Situations. Of $570.1 million in cash distributions, 44% were from Buyouts, 33% from Debt-Related/Special Situations, and 23% from Venture Capital.





Private Equity – Portfolio Performance vs. Pooled Benchmark IRR

Period Ending: December 31, 2018

	1-Year	3-Year	5-Year	10-Year	Since Inception[2]
Buyout	**10.27%**	**10.76%**	**13.66%**	**N/A**	**14.02%**
Thomson Reuters C/A Global Buyout Benchmark[1]	*10.43%*	*17.35%*	*15.07%*	*15.56%*	*14.69%*
Venture Capital	**19.65%**	**14.92%**	**22.18%**	**20.68%**	**20.54%**
Thomson Reuters C/A Global Venture Capital & Growth Equity Benchmark[1]	*19.03%*	*14.35%*	*16.73%*	*16.89%*	*16.65%*
Debt-Related / Special Situation	**-7.50%**	**10.29%**	**6.65%**	**10.64%**	**10.46%**
Thomson Reuters C/A Global Mezzanine & Distressed Benchmark[1]	*4.09%*	*10.10%*	*8.07%*	*12.01%*	*10.99%*
Total Private Equity	**11.30%**	**12.20%**	**15.16%**	**14.92%**	**14.83%**
Thomson Reuters C/A Global All Private Equity Benchmark[1]	*11.19%*	*14.40%*	*13.01%*	*14.08%*	*13.45%*

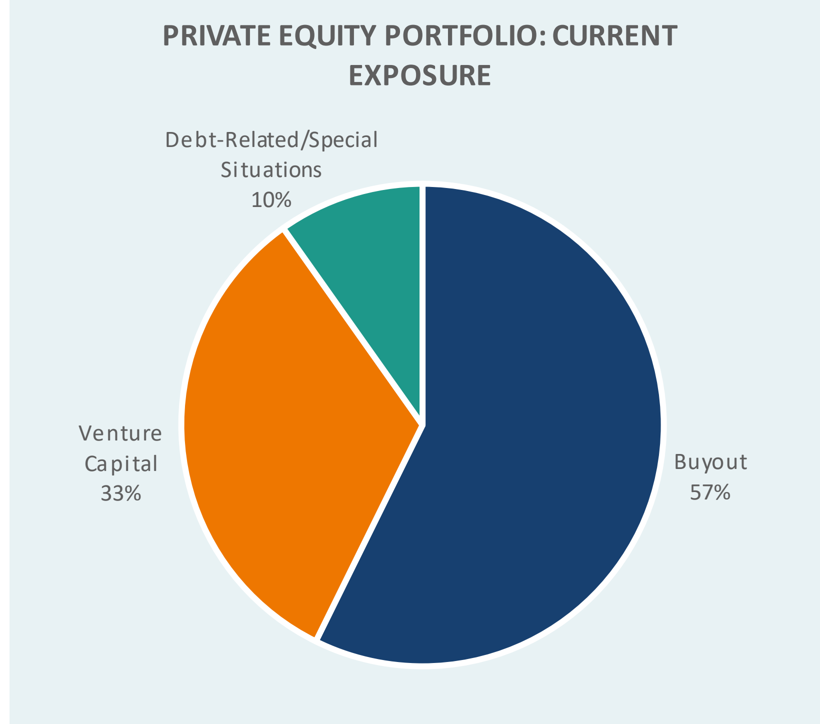
Identical cash flows from portfolio inception through 12/31/2018 invested in Russell 3000 Total Return index would yield 12.12% (Long Nickels). The result is an over performance of the portfolio of 2.71% relative to the index. Analysis provided by Solovis.

[1] *Benchmarks: Thomson Reuters C/A as of 12/31/18, 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.*

Investment Type	Commitment	Current Exposure	Current Exposure as % of Private Equity
Buyout	623,525,000	297,968,513	57.3%
Venture Capital	183,100,000	170,792,672	32.9%
Debt-Related/Special Situations	354,647,152	51,110,253	9.8%
Total Private Equity	**1,161,272,152**	**519,871,438**	**100.0%**

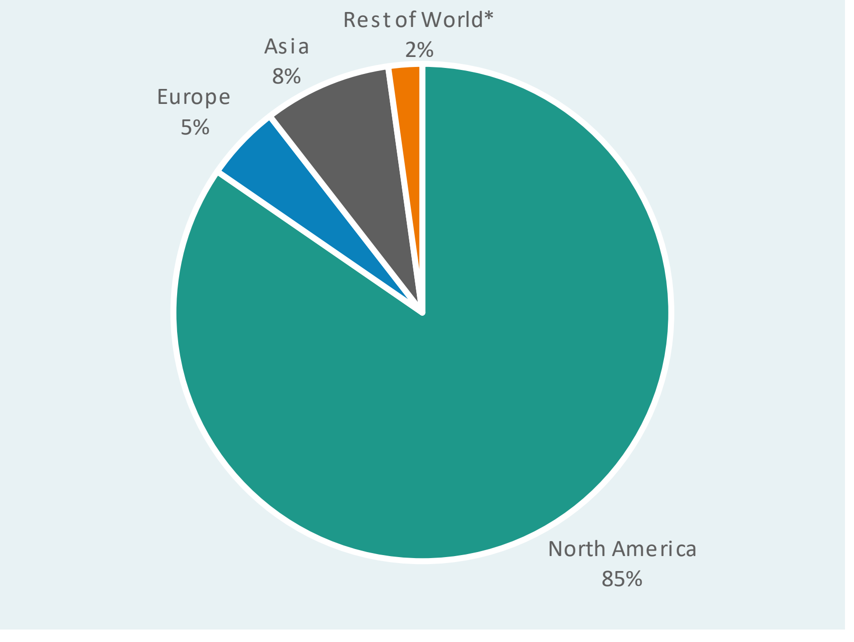
Investment Type	Target Range	Target Exposure	Current Exposure as % of Target	Difference
Buyout	4%-8%	5.4%	3.7%	-1.7%
Venture Capital	0%-3%	1.8%	2.1%	0.3%
Debt-Related/Special Situations	1%-3%	1.8%	0.6%	-1.2%
Total Private Equity	**0%-13%**	**9.0%**	**6.4%**	**-2.6%**



Private Equity Portfolio Diversification

Period Ending: December 31, 2018

Geography	Current Exposure
North America	424,584,915
Europe	24,707,293
Asia	41,420,353
Rest of World*	11,176,284
Total Private Equity	**501,888,845**



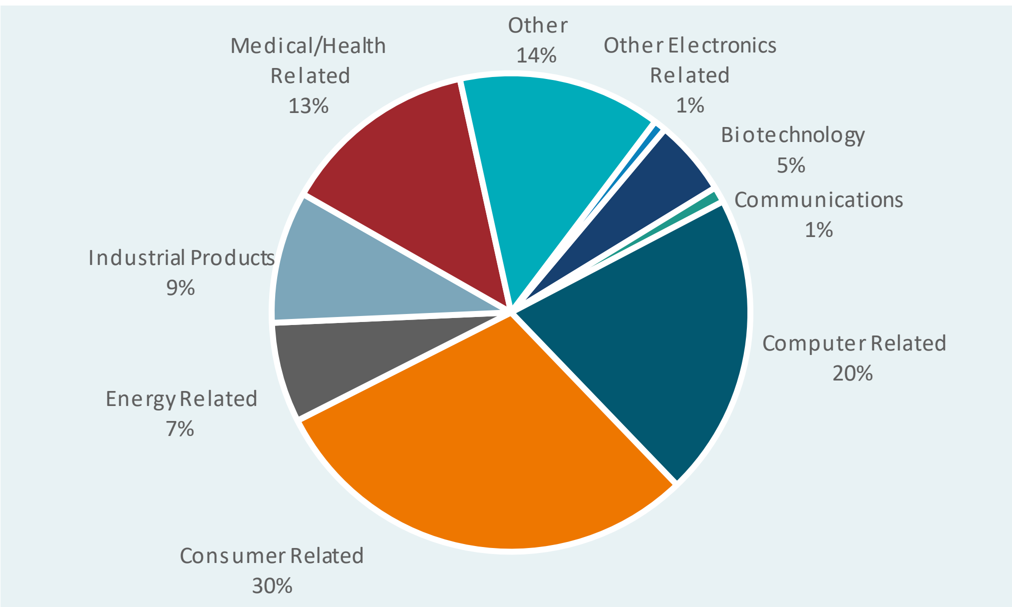
Based on the value of private equity portfolio companies as of December 31, 2018, as provided by the partnerships. Differences between reported value and the private equity portfolio valuation is due to temporary cash funds, fees, other expenses, and holdings with undisclosed geography breakdown.

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

Industry
Private Equity Portfolio Diversification

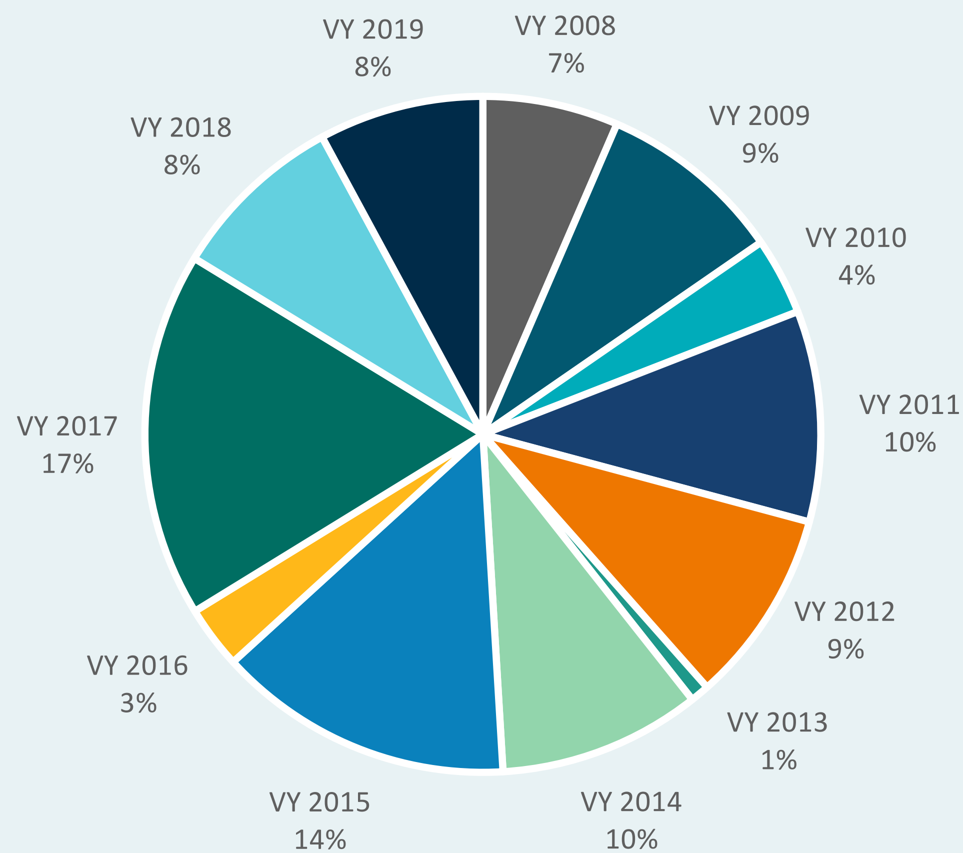
Period Ending: December 31, 2018

Industry	Current Exposure
Biotechnology	25,832,063
Communications	5,293,106
Computer Related	102,869,989
Consumer Related	149,187,112
Energy Related	34,007,667
Industrial Products	44,845,719
Medical/Health Related	66,868,403
Other	68,839,574
Other Electronics Related	4,145,210
Total Private Equity	**501,888,843**



Based on the value of private equity portfolio companies as of December 31, 2018, 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	Commitment as of 12/31/18	% of Portfolio Commitment	Reported Value as of 12/31/18
2008	75,000,000	6.5%	10,407,357
2009	103,500,000	8.9%	37,581,392
2010	42,500,000	3.7%	8,597,532
2011	117,500,000	10.1%	62,566,484
2012	108,500,000	9.3%	124,289,277
2013	10,000,000	0.9%	10,893,110
2014	112,500,000	9.7%	98,827,145
2015	163,250,000	14.2%	103,047,066
2016	35,000,000	3.0%	4,917,096
2017	203,522,152	17.5%	52,454,006
2018	98,000,000	8.4%	6,290,974
2019	92,000,000	7.9%	0
Total Private Equity	**1,161,272,152**	**100%**	**519,871,438**



— **As of December 31, 2018, the Private Equity Portfolio is below its neutral target allocation of 9.0%, as commitments continue to be made to various funds. The allocation target increased from 6.0% to 9.0% in September 2017.**

Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

PERIOD ENDING: DECEMBER 31, 2018

Real Assets Review

Alameda County Employees’ Retirement Association

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Verus

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Observations driving our outlook

Deflation concerns weigh more on the minds of investors than inflation

Inflation fears have been subdued in the market over the past year. Both core CPI and headline CPI have been declining over the past nine months and came in at 2.0% and 1.9% respectively in March. Over the past twelve months, core CPI has ranged between 2.0 and 2.3%, near the Fed's inflation target. At this stage of the market cycle, we view the risk of deflation from an economic slowdown to be of greater concern than unanticipated inflation.

Commodity price volatility testing the patience of many investors

Commodity futures likely hold the title for the worst performing asset class over the last 5, 7 and 10-year periods. The Bloomberg Commodity Index has returned a negative 3.8% annually over the trailing 10 years. While it is tempting to conclude that commodities present an opportunity, given the significant underperformance of the asset class, it is difficult to determine whether commodities offer value in the current environment. Our inability to estimate a fair value or confidently project future price movements has led us to a bearish stance in this year's outlook. For investors who are able and willing to take on additional equity risk, we believe investing in commodity producers may be a preferred approach for gaining commodity exposure in the current environment.

We remain conservatively positioned in real estate

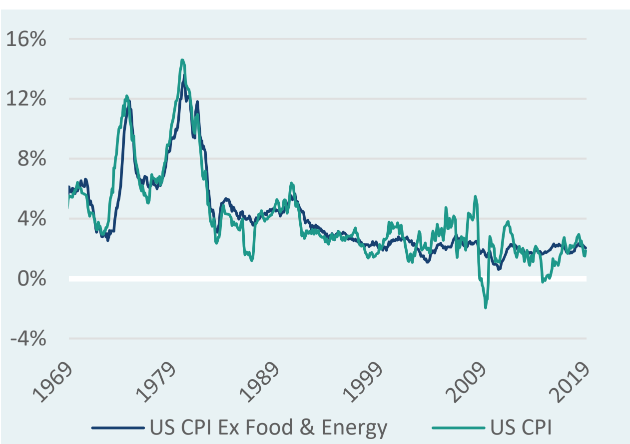
Real estate fundamentals have remained fairly stable with overall declining vacancies and increasing NOI. Valuations continue to climb, and cap rate spreads have returned to average levels. New supply has been moderate with some pockets of excess. Our outlook has changed to neutral as returns have continued to moderate to "normal" levels. Appreciation continues to slow with income becoming a larger portion of overall returns. We favor more conservative strategies with strong cash flows and hands-on asset management. We remain cautious with leverage, illiquidity, quality and long duration value creation strategies.

Oil/Gas industry investment conundrum

It is fair to say that the least popular industry, at the moment, is the oil/gas industry. Listed Exploration & Production (E&P) companies appear quite cheap, despite improved balance sheets, greater capital discipline and higher oil prices. Fundraising within private energy is as challenging as we've seen in many years. Many institutions from endowments to public pensions are slowing or halting new commitments to upstream energy funds. M&A activity in the upstream market has stalled. In most other industries this would create an attractive investment opportunity, but we would practice restraint.

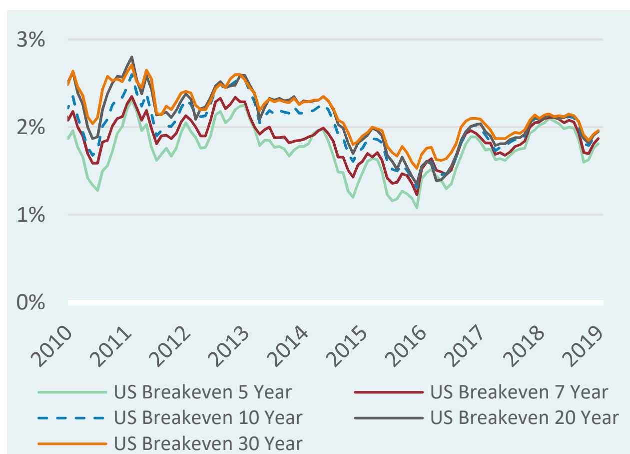
- Core CPI has remained in a tight range between 2.0% and 2.3% for each of the last 12 months, most recently coming in at 2.0% in March.
- Headline CPI moved up to between 2.5% and 2.9% in mid 2018 but has since fallen to a range of 1.5% to 2.5% since. In March, headline CPI was 1.9%, still at levels below that seen in typical late-cycle periods. The Fed appears hesitant to hike interest rates, and has indicated a willingness to let inflation drift slightly higher than the stated 2% inflation target. However, we believe weaker inflation is more likely to materialize.
- In most late-stage business cycles, real assets are often the best performing asset classes due to rising inflation. This cycle appears unique for a number of secular reasons (globalization, automation, low GDP growth, etc.) but there is always some probability that we are wrong, and history repeats itself, in which case it will be advantageous to have exposure to assets which perform well when inflation exceeds expectations.

U.S. CPI (YOY)



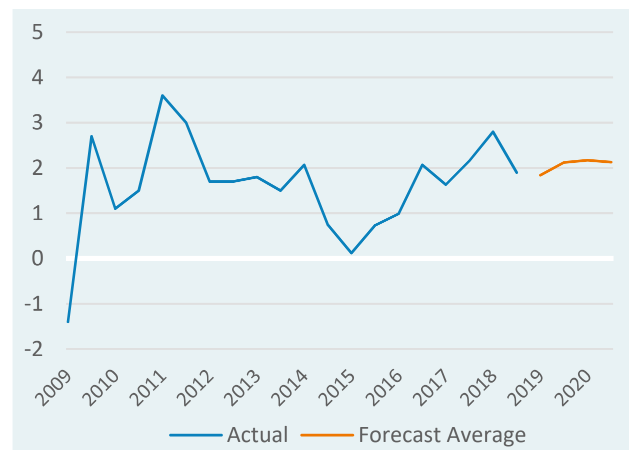
Source: FRED, as of 3/31/19

U.S. TIPS BREAKEVEN RATES



Source: FRED, as of 3/31/19

INFLATION EXPECTATIONS



Source: Wall Street Journal, 3/31/19

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Private Real Estate	Real estate fundamentals have remained fairly stable with overall declining vacancies and increasing NOI. Valuations continue to climb, and cap rate spreads have returned to average levels. New supply has been moderate with some pockets of excess.	— A general economic slowdown may drastically impact demand for real estate. — New supply could increase ahead of current projections and outpace demand. — A sharp rise in interest rates could lead to increased cap rates, hurting values.	Our outlook has changed to neutral as returns have continued to moderate to "normal" levels. Appreciation continues to slow and income is a larger portion of overall returns. We favor more conservative strategies with strong cash flows and hands on asset management. We remain cautious with leverage, illiquidity, quality and long duration value creation strategies.	**Neutral**
REITs	REITs started the year as the top performing major asset class in 1Q'19. This is following several years of underperforming the equity markets. REITs have benefitted from the overall strength of the real estate market but were depressed by concerns over rising interest rates and a rotation away from yield-oriented assets. REITs now appear to be fairly valued-to-slightly overvalued.	— Rising interest rates can have a negative effect on REITs and all yield-sensitive assets over short time periods. — REITs are sensitive to economic decline and general equity market volatility.	We remain neutral on REITs given current valuations appear fair-to-slightly overvalued. 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 most commodities, contango continues to create a drag on performance.	— Supply responses surprising the market to the upside. — Global growth slowing down, reducing demand for energy and industrial metals.	Commodity futures continue to face headwinds as futures trade in contango across most commodities. The uptick in interest rates has helped margin returns and prices have stabilized across metals and energy but we expect the asset class to generate low returns going forward.	**Negative**
TIPS	Low nominal interest rates combined with low to moderate inflation has led to a depressed return environment for TIPS.	— 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 has led to other real assets offering higher total return potential than TIPS.	**Negative**

Outlook Summary (continued) — Period Ending: December 31, 2018

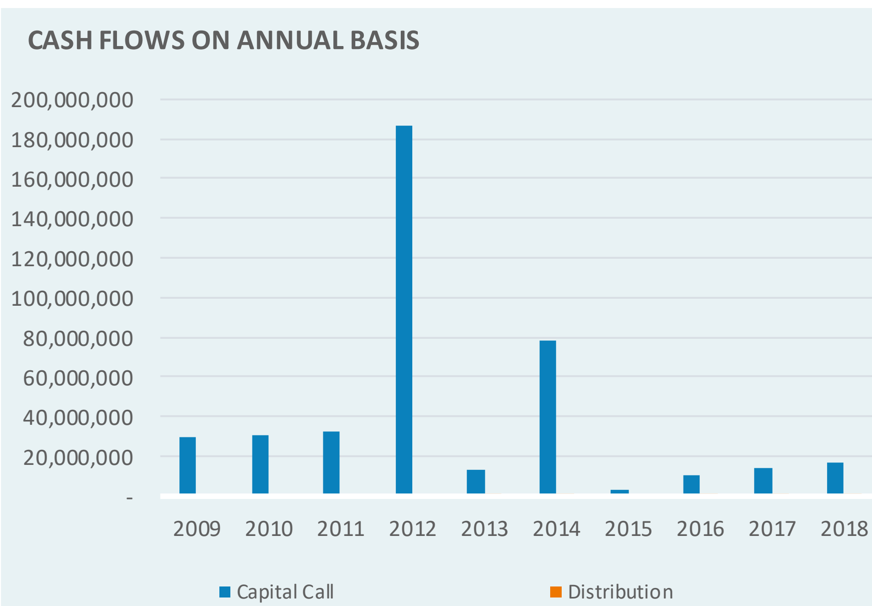
Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Infrastructure	The early sell-off in listed infrastructure equities during 2018 appeared to signal a welcomed revaluation in the industry but public equities have largely recovered since. Meanwhile, valuations stayed elevated within private markets throughout the volatility. Large sums of capital continue to pour into the private infrastructure market intensifying an already competitive market.	— Last year we highlighted rising rates as a headwind to yield-oriented investments. That appears to have dissipated as central banks focus more on slowing economic growth — Assets that are sensitive to growth in GDP carry greater risk today. We would be cautious about deals in transportation where valuations remain rich despite heightened risk of an economic slowdown.	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. We would avoid heavy exposure to GDP sensitive assets where volume and pricing risk are present.	**Neutral**
Oil & Gas	Oil prices have rebounded nicely in 2019, most recently trading around $65/bbl for WTI. Gas prices have reversed course after reaching seasonal highs and are now trading around $2.3/Mbtu. Up till now, the energy upstream industry has faced a hostile public and private market as fund flows into the sector have trended away. Whether capital returns in 2019 and company valuations re-rate higher is an open question. Until then, it is likely that private energy funds will struggle to find liquidity for their holdings.	— Last year we highlighted the significant volume of dry powder that was waiting to be invested. Given the challenging fundraising environment in 2018, dry powder is less of a concern. However, transactions in the industry have collapsed leading to a scarcity of exit options for private funds. — Future demand growth is a key risk that is incredibly difficult to project. The impact of shifts in oil consumption could lead to significant terminal value risk.	Given valuations and a lack of access to capital, there will be interesting investment opportunities within the upstream energy market. Given our concerns around terminal value risk, we would look for shorter duration investment opportunities. Investments where the bulk of your capital can be returned within 3-5 years represents a more attractive risk/return.	**Neutral**
Mining	Despite some fits and starts in the last 3 years, mining has been a challenged sector since 2013. Excess supply in several metals has contributed to low prices, low capital expenditure and weak capital flows. A slowdown in global GDP could present a headwind to the industry but the supply/demand dynamics look favorable for several industrial metals longer term.	— 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 has a large impact on metal prices.	Longer-term, we think the supply picture looks favorable for several industrial metals. Investing in mining private equity is challenging, not only because the sector is especially volatile, but the pool of attractive GPs is quite small. Our primary exposure to the sector is to invest through the debt side of a mining project. Mining project finance offers an attractive mid-teen return with high income and an equity kicker.	**Positive**

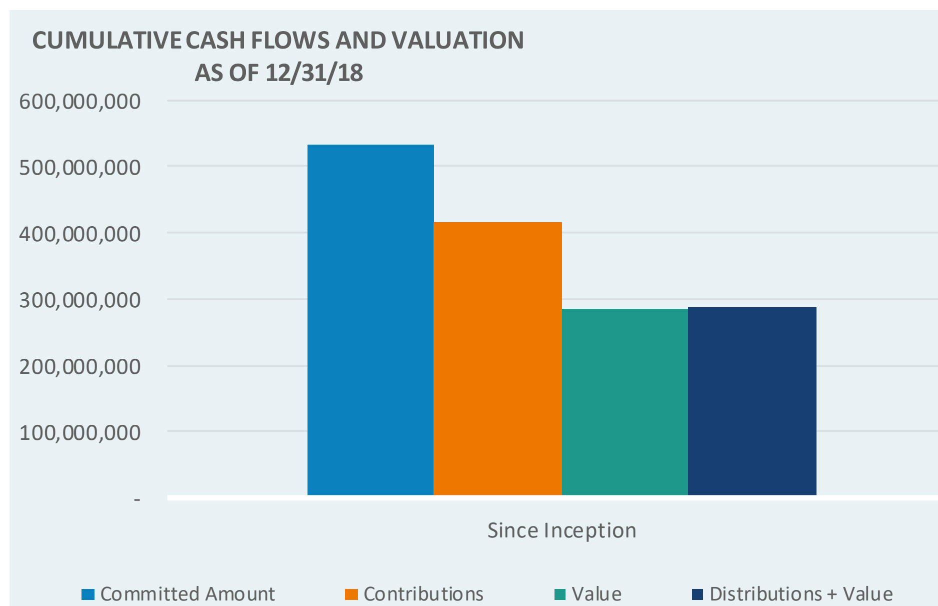
Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Midstream Energy / MLPs	We highlighted a tactical opportunity in MLPs in April of last year. The sector moved higher during the summer but sold-off again in Q418. We still believe there is a compelling opportunity within the asset class, especially relative to private midstream where transactions are priced well above public market comps.	— Falling oil/gas prices could curtail drilling programs and reduce production volumes which would hurt MLP cash flows. — Regulatory risk is low and though recent headlines around the Federal Energy Regulatory Commission (FERC) rules changing cost pass-throughs created selling pressure the end result was de minimis for most MLPs.	MLPs are currently providing a healthy 7+% dividend yield and distribution growth has recovered to a range of 4-6%. In addition, nearly 90% of the MLP sector has eliminated their IDRs and simplified their ownership structure. The sector has made impressive changes in a short time period by improving financial strength, growing cash flow and creating better alignment of interests.	**Positive**
Timberland	Timber markets in North America continue to face challenges from excess inventory, low interest rates and unfavorable transaction market. Trade wars have impacted timber prices in regions that export trees while somewhat benefiting growers that sell into the U.S. market. 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.	— Trade wars have both helped and hurt domestic timber markets depending on whether you export or sell into the U.S. market. Investors should be more concerned with homebuilding trends which will have a greater impact on most timber holdings in the U.S. — 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. However, the unique return drivers and potential for higher than expected prices in softwood lumber may be attractive for some investors with sufficient liquidity and a low cost of capital.	**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.	— 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**

Performance

— ACERA's Real Asset Pool has produced a -6.01% 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, Quantum Energy, and ISQ Global Infrastructure have emerged from their j-curve but are still too early in their fund life to gauge performance.

— New commitment to Taurus Mining Finance II in February will be ACERA's first mining investment. Taurus' strategy also helps to mitigate the broader portfolio's j-curve due the unique cash flow structure within project finance loans.





Real Assets Performance vs. Pooled Benchmark IRR

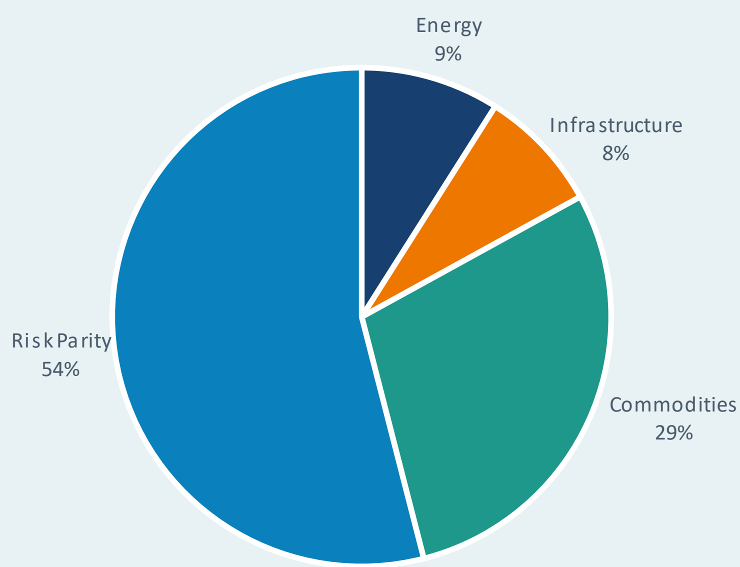
Period Ending: December 31, 2018

	1-Year	3-Year	5-Year	10-Year	Since Inception
Natural Resources Funds	**-25.27%**	**-4.81%**	**-14.09%**	**N/A**	**-16.11%**
S&P Global Natural Resources Index [1]	*-14.78%*	*4.32%*	*-1.36%*	*-1.00%*	*-1.00%*
Infrastructure Funds	**9.84%**	**N/A**	**N/A**	**N/A**	**5.54%**
S&P Global Infrastructure Index [1]	*-9.13%*	*-1.20%*	*-1.20%*	*-1.20%*	*-1.20%*
Liquid Pool Funds	**-9.52%**	**0.32%**	**-6.58%**	**N/A**	**-5.57%**
Bloomberg Commodity Index [1]	*-11.25%*	*0.30%*	*-9.12%*	*-7.97%*	*-7.97%*
Total Real Assets	**-10.27%**	**0.22%**	**-6.76%**	**N/A**	**-6.01%**

[1] *Benchmarks: Identical cash flows invested in the appropriate benchmarks through the life of the portfolio up through 12/31/18. Analysis provided by Solovis.*

Investment Type	Commitment	Current Exposure	Current Exposure as % of Portfolio
Energy	74,000,000	25,491,937	9.0%
Infrastructure	110,000,000	21,434,148	7.5%
Commodities	123,700,000	83,643,416	29.4%
Risk Parity	223,979,858	153,898,517	54.1%
Total Portfolio	**531,679,858**	**284,468,018**	**100.0%**

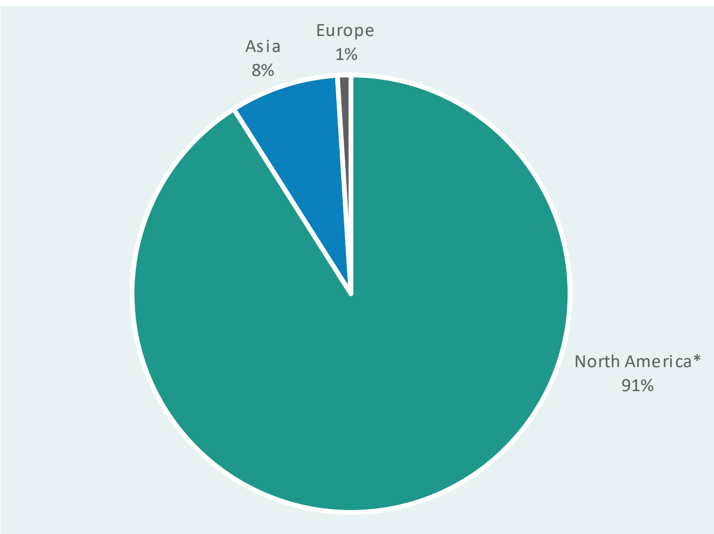
REAL ASSETS PORTFOLIO: CURRENT EXPOSURE



Geography	Reported Fair Value
North America*	42,906,481
Asia	3,577,159
Europe	442,445
Total Portfolio**	**46,926,085**

** North America includes 100% market value from Sheridan II-B.*

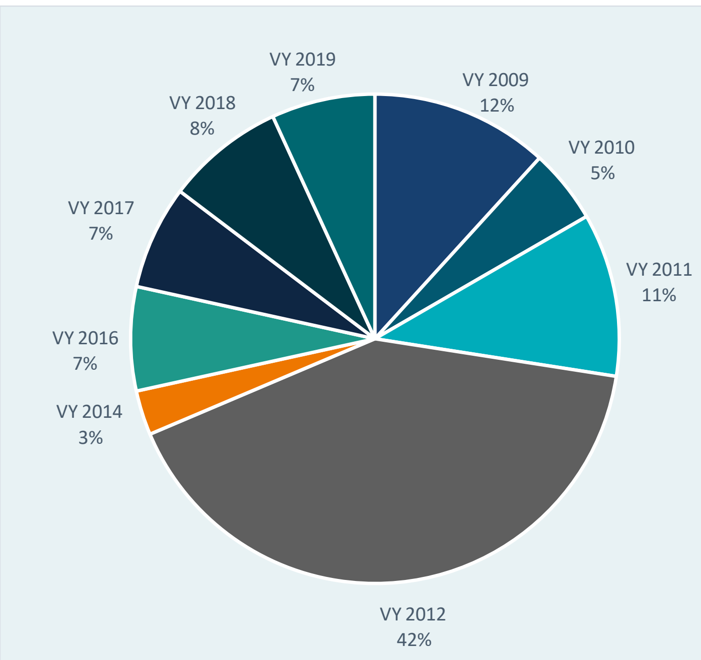
*** Excludes Liquid assets.*



Vintage Year
Portfolio Diversification

Period Ending: December 31, 2018

Vintage Year	Commitment as of 12/31/18	% of Portfolio Commitment	Reported Value as of 12/31/18
2009	62,900,000	11.8%	47,407,146
2010	24,000,000	4.5%	1,575,000
2011	60,800,000	11.4%	36,236,270
2012	223,979,858	42.1%	153,898,517
2014	15,000,000	2.8%	10,685,402
2016	35,000,000	6.6%	10,845,768
2017	35,000,000	6.6%	13,231,535
2018	40,000,000	7.5%	10,588,380
2019	35,000,000	6.6%	0
Total Portfolio	**531,679,858**	**100%**	**284,468,018**



- ACERA committed to Taurus Mining Finance II in February which marked the portfolios first mining investment and the first dedicated debt fund.
- We are actively looking at an opportunity in Core Infrastructure which we may bring to the Board in August.
- Valuations across most asset classes has made it challenging to find attractive opportunities. There has been a slowing of capital deployed among private market funds, generally, reflecting a highly competitive market that is valued richly. For now, we are being patient which could result in a reduced level of commitments.

Callan

June 2019

Semiannual Real Estate Performance Measurement Review

Callan

PUBLIC VERSION

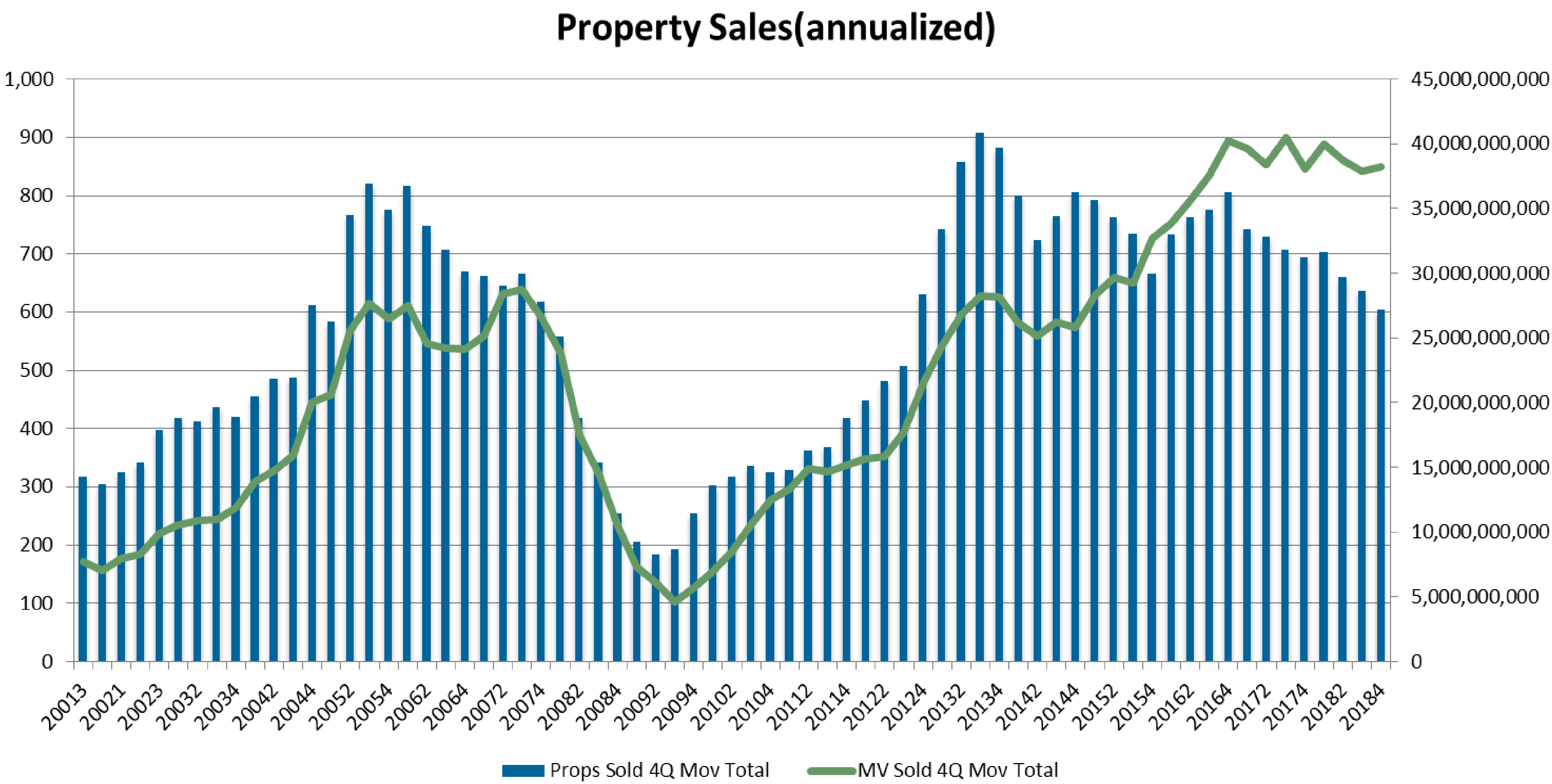
Avery Robinson, CAIA
Senior Vice President

Real Estate Market Overview

- U.S. real estate fundamentals are healthy. The real estate sector continued to see steady returns driven by above inflation-level rent growth in many metropolitan areas.
- Within the NPI, the vacancy rate for U.S. property was 5.8% in the fourth quarter of 2018, near its lowest level since 2001. Vacancies were below their 20-year average in every major sector, however the rate of absorption has flattened.
- Net operating income has been growing annually, and is expected to be the primary driver of returns going forward as the real estate cycle is in a mature phase and appreciation has been moderating.
- Valuations continue to creep higher, although there is a dispersion between property sectors. The office sector has had varying levels of performance based on location, suburban versus CBD (Central Business District), as well as market, primary or secondary/tertiary. Industrial performance has been strong and multi-family may benefit from increased demand in the presence of declining home affordability.
- Supply and demand fundamentals are balanced but peaking. Supply is in check and aided by strict commercial real estate lending standards. Demand continues on the back of synchronized domestic growth.
- The industrial sector is performing the strongest, benefitting as structural shifts in the economy, property markets, and consumer habits continue to dampen demand for traditional retail space. Office is performing as expected late in the cycle and tenant improvements and other capital expenditures are increasingly eroding cash flow. Multifamily remains strong due to positive demographic trends, except for the Class A luxury segment in prime markets such as New York. Retail is the laggard.

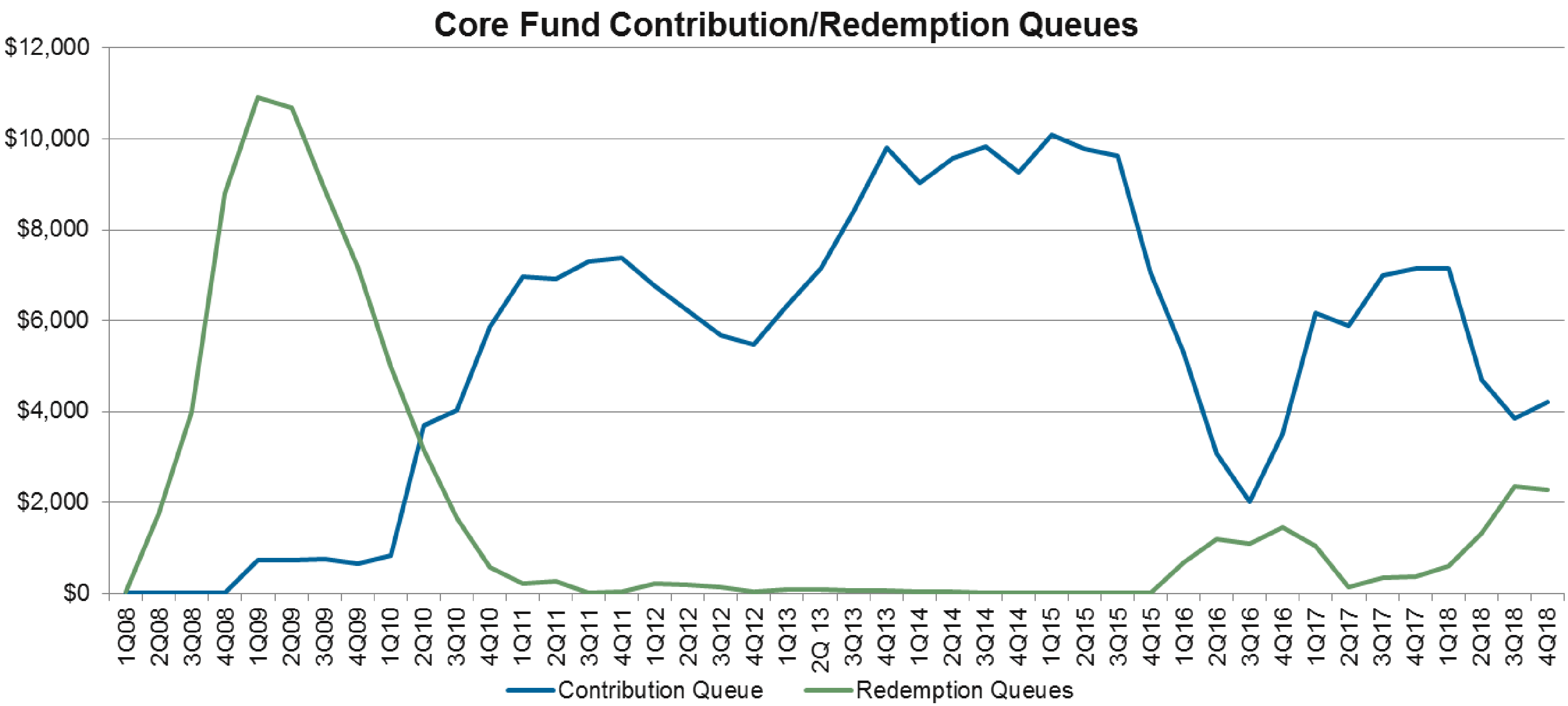
Real Estate Capital Markets

Transaction volume in 2018 was 12.7% below volume in 2017



Source:NCREIF

Core Open-End Funds Continue to Attract Capital

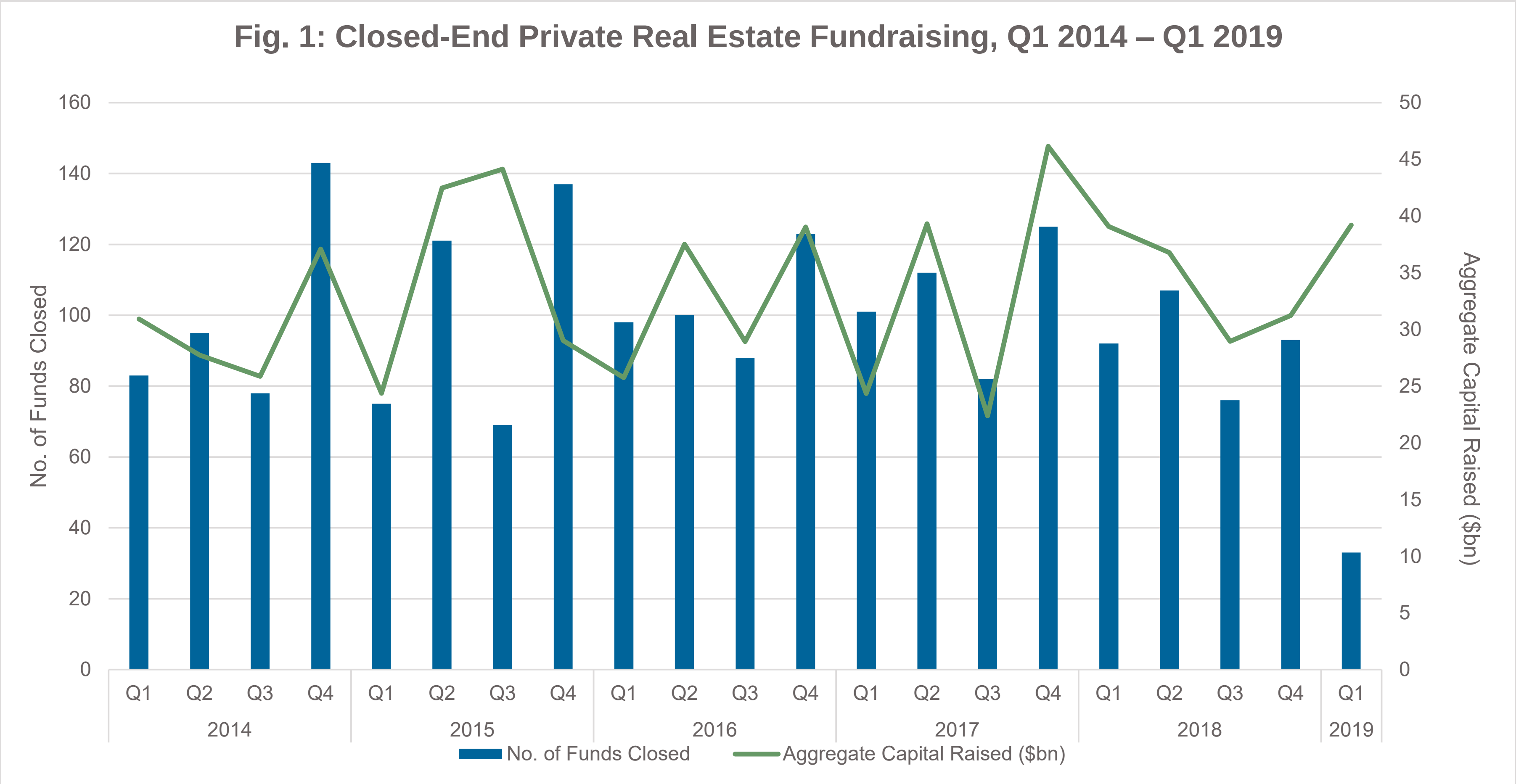


- Investor appetite for core real estate leveled out as redemption cues increased, indicating reduced demand for real estate
  - Institutional investors, who previously reached their target allocations, are now feeling the “denominator effect”
  - However, concern about core pricing remains a factor

Source: Callan research, as of Q4 2018

Closed-End Real Estate Fundraising Moderated in Q1 2019

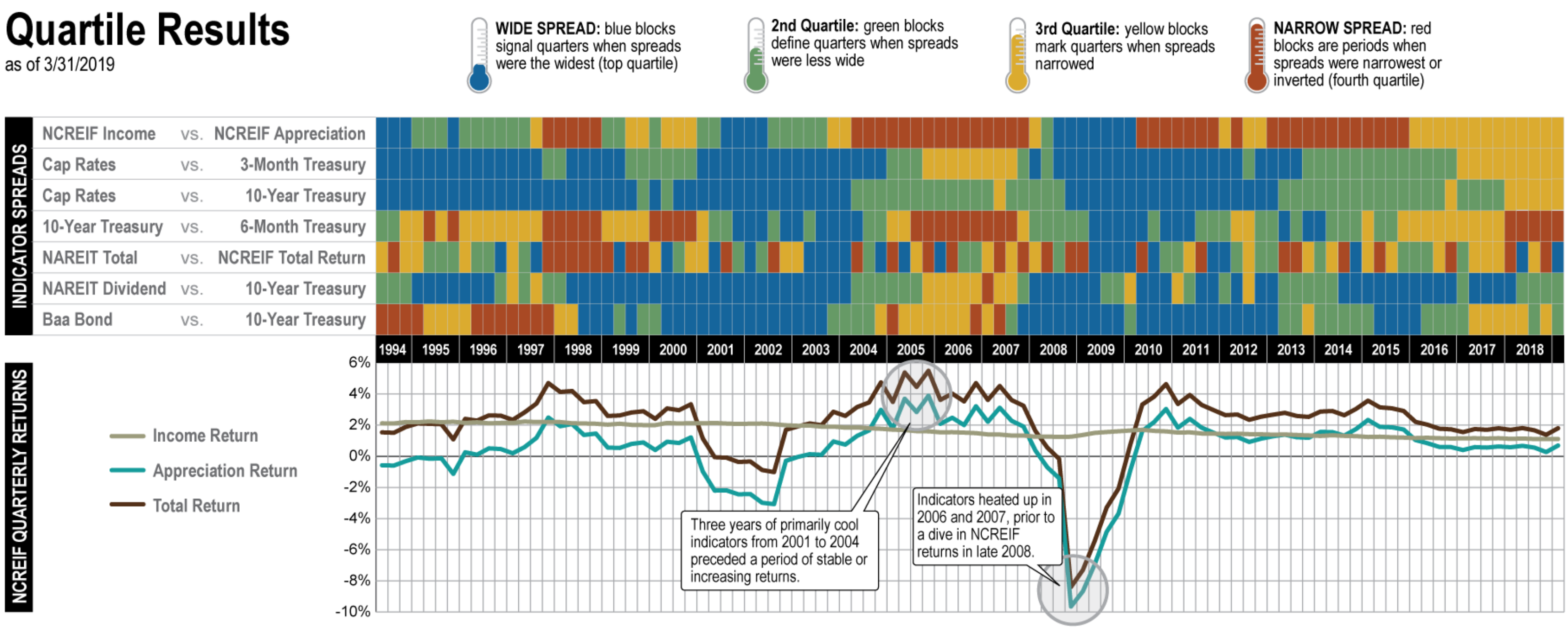
Closed-End Private Real Estate Fundraising, by Date of Final Close, Q1 2014 – Q1 2019



- Dry powder was estimated at $275 billion at June 2018, the highest level recorded during the past 10 years

Source: Preqin, as of Q1 2019

Real Estate Indicators



The seven indicator spreads reveal multiple instances when wide spreads (cool indicators) preceded stable or increasing performance, and narrow spreads (hot indicators) were more prevalent before declining market periods.

International Real Estate

The U.S. Remains a Dominant Market in Global Real Estate, Asia is Increasingly Important

Asia

- The growth of the middle class in Asia is steady and the demand for institutional quality real estate is commensurate.
- The number of open-end core funds focused on the Asia Pacific market have increased over recent years and include both sector-diversified and sector-specific (e.g. logistics) funds, supporting the development of the institutional real estate market in the region. During Q1 2019, India had the first successful IPO for a REIT which substantiates the institutionalization of the asset class in India.

Europe

- Political uncertainty continues to weigh on overall growth throughout Europe, but real estate fundamentals remain strong in key gateway markets given the continued lack of new supply. Cap rates for prime real estate remain low, as real estate continues to be an attractive asset class as a result of low interest rates throughout the region.
- Office rents continue to steadily rise year-over-year, while retail rental growth has lagged. Rental growth for industrial assets has been positive but well below the breakneck pace of the U.S.

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 December 31, 2018 ("Quarter").

Funding Status as of December 31, 2018

	($) Millions	(%)
ACERA Plan Assets	7,609.312	100.00%
Real Estate Target[1]	608.745	8.00%
Plan's Real Estate Market Value	568.125	7.47%
Net Unfunded Commitments	60.723	0.79%
RE Market Value & Unfunded Commitments	628.848	8.26%
Remaining Allocation	40.619	0.53%

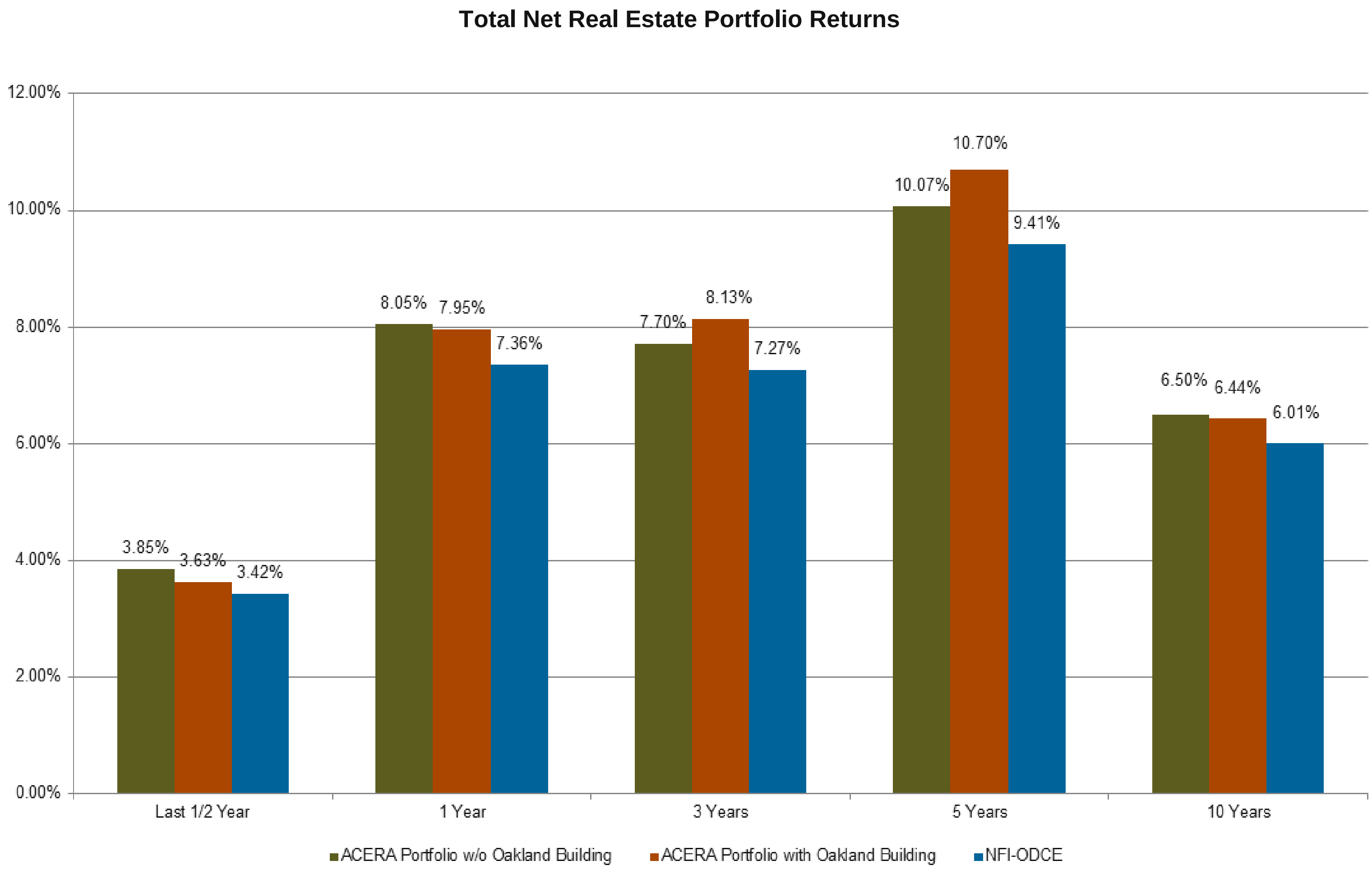
Portfolio Composition

	Target	Funded	Funded & Committed
Core	70.00%	81.39%	69.66%
Non-Core	30.00%	18.61%	30.34%

1. The Real Estate Target increase from 6% to 8% was adopted in August 2015.
2. In July 2018 the Board adopted the recommendation to invest $35 million in Angelo Gordon Realty Value Fund X.

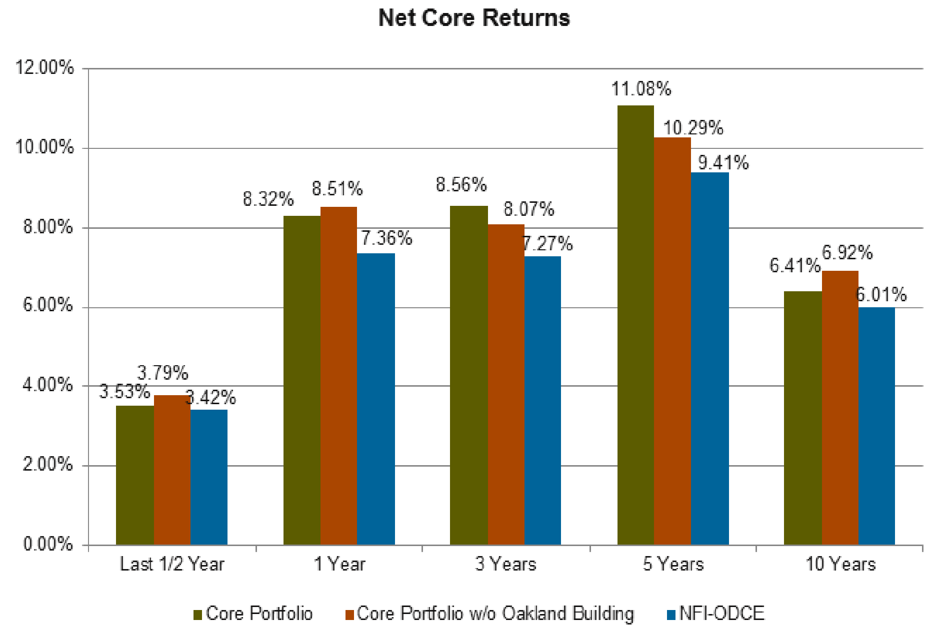
Portfolio Net Returns

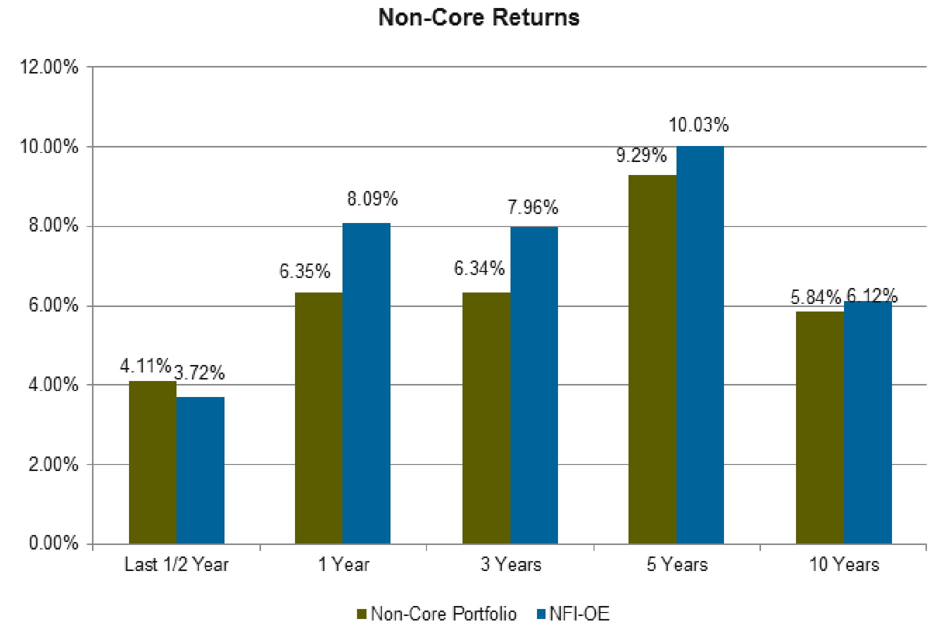
For Period Ended December 31, 2018



Portfolio Returns by Style

For Period Ended December 31, 2018





Net Portfolio w/o Oakland Building	Last ½ Year	1 Year	3 Years	5 Years	10 Years
Core Portfolio w/o Oakland Building	3.79%	8.51%	8.07%	10.29%	6.92%
Non-Core Portfolio	4.11%	6.35%	6.34%	9.29%	5.84%
Total Portfolio w/o Oakland Building	**3.85%**	**8.05%**	**7.70%**	**10.07%**	**6.50%**

Net Total Portfolio	Last ½ Year	1 Year	3 Years	5 Years	10 Years
Core Portfolio	3.53%	8.32%	8.56%	11.08%	6.41%
Non-Core Portfolio	4.11%	6.35%	6.34%	9.29%	5.84%
Total Portfolio	**3.63%**	**7.95%**	**8.13%**	**10.70%**	**6.44%**

Performance Drivers and Detractors by Style

Core Portfolio (Excluding Oakland Building)

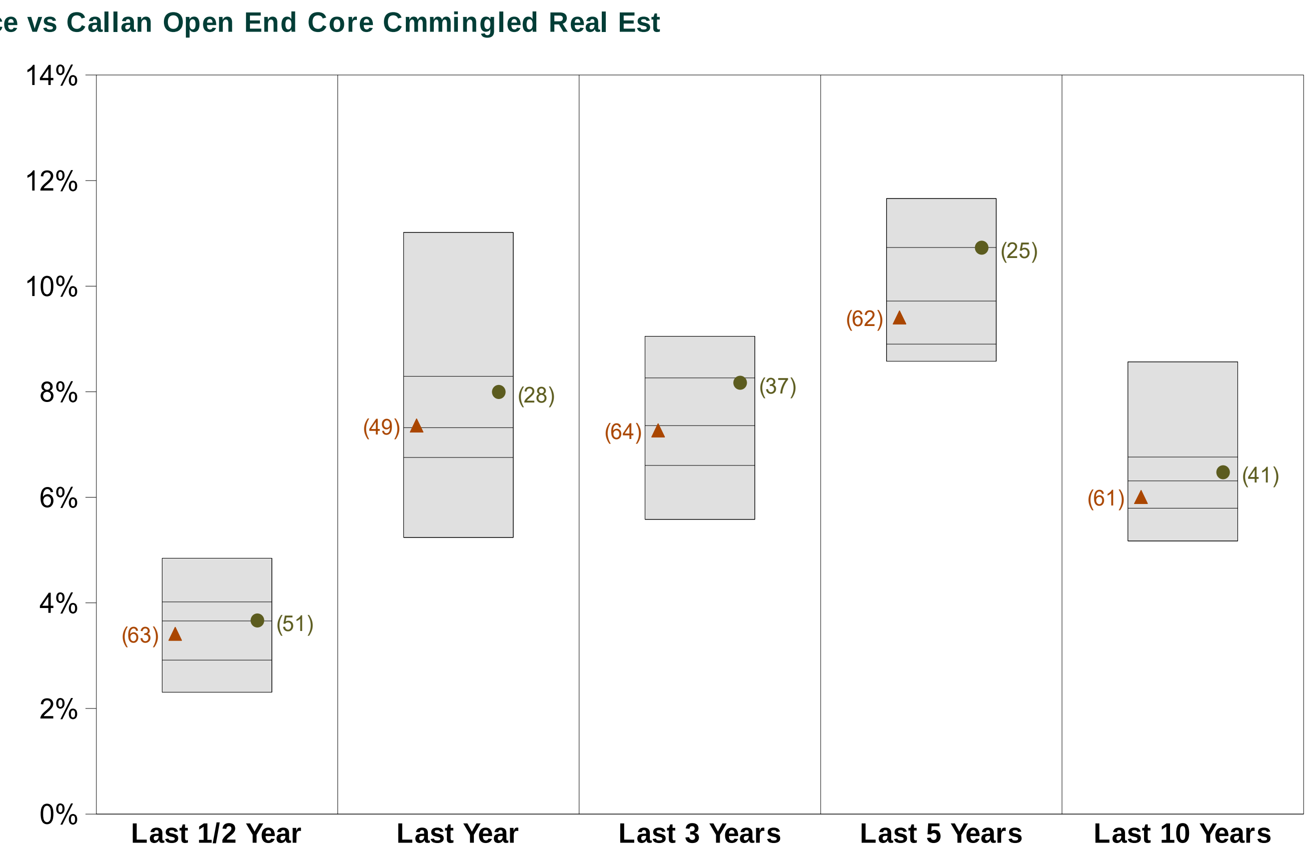
- The ACERA Core Portfolio has outperformed the benchmark during every period over the last ten years and it continued that trend this during the second half of 2018 beating the benchmark by 19 bps.
- The Lion Industrial Trust was the strongest performer during the second half of last year.
- The PGIM Prisa Fund was also a strong performer.
- The UBS Trumbull Property Fund was a weak performer for the Core Portfolio.

Non-Core Portfolio

- The portfolio's outperformance was driven mainly by the CIM VI – 2 (Urban REIT) Fund.

Performance vs. Peer Group

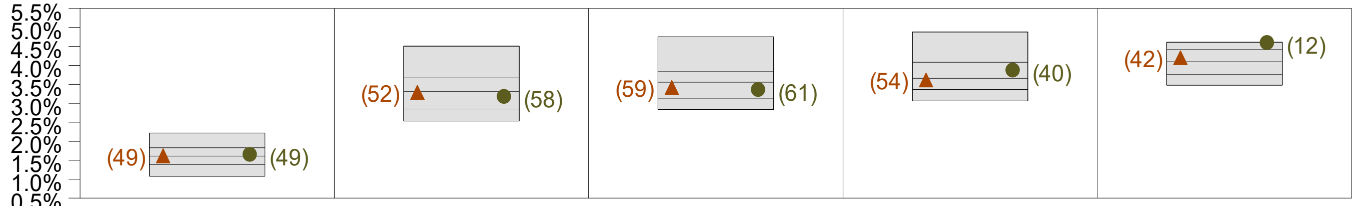
For Period Ended December 31, 2018



	Last 1/2 Year	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	4.85	11.02	9.05	11.66	8.57
25th Percentile	4.02	8.29	8.26	10.73	6.76
Median	3.66	7.32	7.36	9.72	6.31
75th Percentile	2.92	6.75	6.60	8.90	5.79
90th Percentile	2.31	5.24	5.58	8.58	5.17
ACERA Total RE Portfolio ●	3.63	7.97	8.14	10.70	6.44
NCREIF NFI-ODCE Val Wt Nt ▲	3.42	7.36	7.27	9.41	6.01

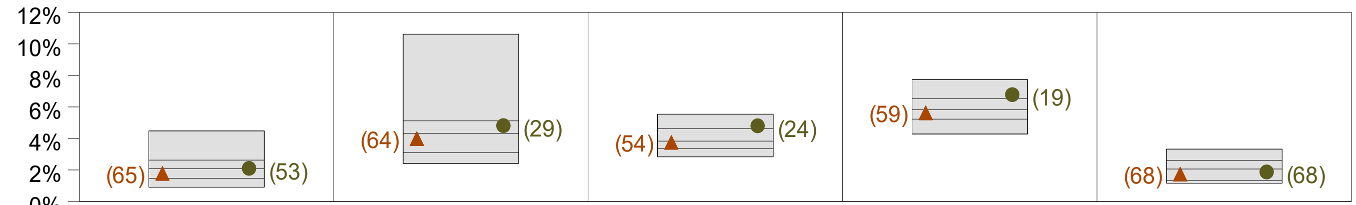
Performance vs. Peer Group

Income Rankings vs Callan OE Core Cmngld RE
Periods ended December 31, 2018



	Last 1/2 Year	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	2.21	4.51	4.76	4.88	4.61
25th Percentile	1.83	3.67	3.84	4.08	4.42
Median	1.61	3.31	3.56	3.66	4.10
75th Percentile	1.38	2.85	3.12	3.36	3.75
90th Percentile	1.08	2.53	2.84	3.06	3.48
ACERA Total RE Portfolio ●	1.61	3.14	3.32	3.83	4.56
NCREIF NFI-ODCE Val Wt Nt ▲	1.62	3.29	3.42	3.62	4.20

Appreciation Rankings vs Callan OE Core Cmngld RE
Periods ended December 31, 2018

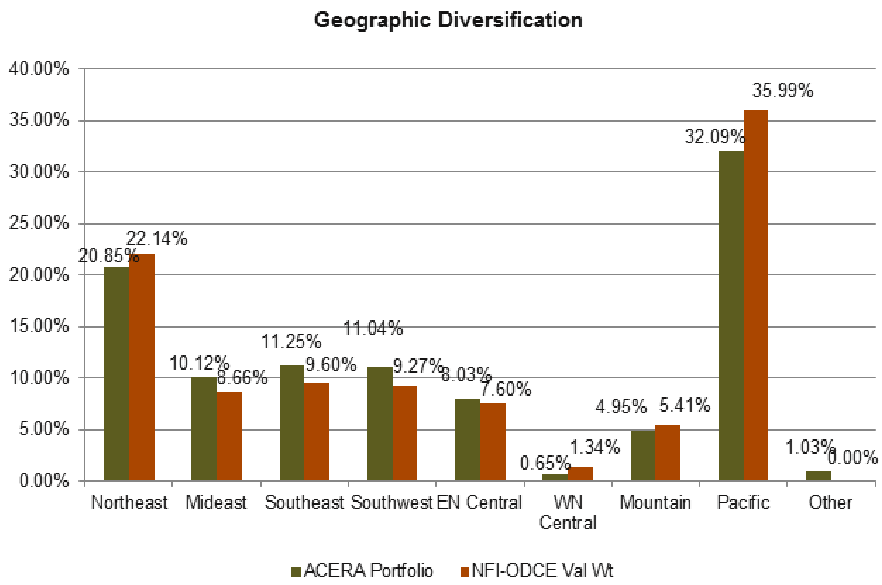


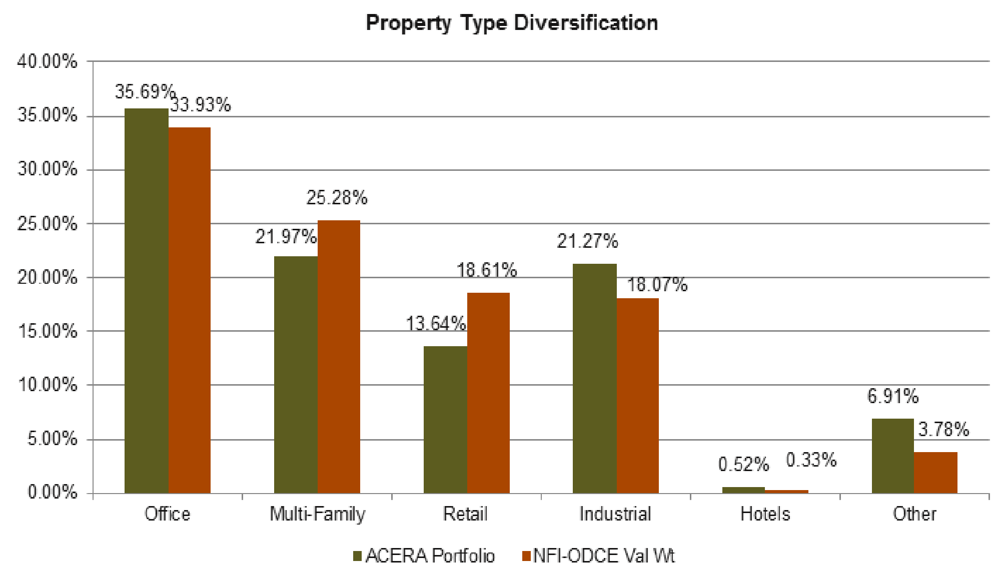
	Last 1/2 Year	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	4.48	10.62	5.55	7.74	3.32
25th Percentile	2.63	5.12	4.63	6.53	2.61
Median	2.09	4.33	3.84	5.83	2.07
75th Percentile	1.48	3.11	3.36	5.23	1.33
90th Percentile	0.90	2.42	2.83	4.28	1.16
ACERA Total RE Portfolio ●	2.00	4.71	4.70	6.68	1.77
NCREIF NFI-ODCE Val Wt Nt ▲	1.79	3.99	3.75	5.63	1.74

Diversification & Debt

Diversification – Total Portfolio (excluding Oakland Building)

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





Debt Compliance

– The ACERA Strategic Plan limits leverage to 40.0% at the Portfolio level. As of December 31, 2018, the loan-to-value ("LTV") ratio of the Portfolio was 25.22%.

ACERA Real Estate Portfolio Snapshot – 4Q2018

Total Plan Assets	Allocation		Market Value		Unfunded Commitments		Remaining Allocation	
7,609,312,745	608,745,020	8.00%	568,125,986	7.47%	60,723,741	0.80%	40,619,034	0.53%

Performance Summary	1/2 Year		1 Year		3 Years		5 Years		10 Years	
	TGRS	TNET	TGRS	TNET	TGRS	TNET	TGRS	TNET	TGRS	TNET
ACERA	4.14%	3.63%	9.18%	7.95%	9.25%	8.13%	11.80%	10.70%	7.49%	6.44%
NFI-ODCE	3.88%	3.42%	8.35%	7.36%	8.24%	7.27%	10.41%	9.41%	7.00%	6.01%

Funding Status ($)	Investment Vintage Year	Committment Amount	Funded Amount	Unfunded Amount	Capital Returned	Market Value	Market Value (%)	Market Value + Unfunded Commitments (%)	Net IRR	Equity Multiple
Core Portfolio										
ACERA Oakland Building Portfolio	2001	31,700,000	31,700,000	$0	41,445,934	69,084,790	12.16%	12.16%	9.40%	2.21x
Total Core Portfolio	**1986**	**331,700,000**	**331,700,000**	**$0**	**120,910,175**	**462,422,028**	**81.39%**	**82.60%**		
Non-Core Portfolio										
Total Non-Core Portfolio	**1987**	**207,748,644**	**162,179,418**	**45,569,226**	**73,798,226**	**96,745,454**	**18.61%**	**37.09%**		
Total Current Portfolio	**1986**	**564,448,644**	**503,724,903**	**60,723,741**	**201,564,887**	**568,125,986**	**100.00%**			

Quarterly Cash Flow Activity ($)	Beginning Market Value	Contributions	Net Operating Income	Manager Fees	Appreciation	Distributions	Ending Market Value	LTV
Core Portfolio								
ACERA Oakland Building Portfolio	68,829,981	$0	846,248	91,439	0	500,000	69,084,790	-
Core Portfolio	**453,845,033**	**5,000,000**	**5,087,142**	**959,567**	**3,158,950**	**3,709,532**	**462,422,026**	
Non-Core Portfolio								
Non-Core Portfolio	**93,843,110**	**813,207**	**612,847**	**334,511**	**2,237,858**	**427,056**	**96,745,455**	
Total Current Portfolio	**555,880,842**	**6,630,742**	**5,797,173**	**1,367,874**	**5,520,636**	**4,335,534**	**568,125,985**	**25.22%**

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ACERA Property Diversification – 4Q2018

Property Type Diversification	Office	Multi-Family	Retail	Industrial	Hotel	Other
Core Portfolio						
ACERA Oakland Building Portfolio	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Core Portfolio	**37.76%**	**17.05%**	**14.52%**	**24.81%**	**0.31%**	**5.55%**
Non-Core Portfolio						
Non-Core Portfolio	**26.60%**	**43.53%**	**9.80%**	**5.73%**	**1.43%**	**12.91%**
Total Current Portfolio						
ACERA Portfolio w/o Oakland Bldg.	**26.78%**	**25.01%**	**15.53%**	**24.21%**	**0.59%**	**7.87%**
ACERA Portfolio with Oakland Bldg.	**35.69%**	**21.97%**	**13.64%**	**21.26%**	**0.52%**	**6.92%**
ODCE Index	**33.93%**	**25.28%**	**18.61%**	**18.07%**	**0.33%**	**3.78%**

Geographic Diversification	Northeast	Midwest	Southeast	Southwest	EN Central	WN Central	Mountain	Pacific	Other
Core Portfolio									
ACERA Oakland Building Portfolio	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Core Portfolio	**17.38%**	**7.78%**	**9.89%**	**8.91%**	**7.48%**	**0.70%**	**4.80%**	**43.07%**	**0.00%**
Non-Core Portfolio									
Non-Core Portfolio	**22.40%**	**14.44%**	**9.88%**	**13.05%**	**5.17%**	**0.00%**	**2.35%**	**27.83%**	**4.89%**
Total Current Portfolio									
ACERA Portfolio w/o Oakland Bldg.	**20.85%**	**10.27%**	**11.25%**	**11.02%**	**8.03%**	**0.65%**	**4.95%**	**31.96%**	**1.03%**
ACERA Portfolio with Oakland Bldg.	**18.31%**	**9.02%**	**9.88%**	**9.68%**	**7.05%**	**0.57%**	**4.34%**	**40.24%**	**0.91%**
ODCE Index	**22.14%**	**8.66%**	**9.60%**	**9.27%**	**7.60%**	**1.34%**	**5.41%**	**35.99%**	**0.00%**

Detailed Returns

	1/2 Year			1 Year			3 Year			5 Year				
	INC	APP	TNET	INC	APP	TNET	INC	APP	TNET	INC	APP	TNET	NET IRR	Mult.
Core Portfolio														
Oakland Building Portfolio	2.07%	0.00%	2.07%	4.36%	2.72%	7.17%	3.69%	7.58%	11.48%	4.69%	11.00%		9.40%	2.21x
Core Portfolio	**1.80%**	**1.71%**	**3.53%**	**3.59%**	**4.61%**	**8.32%**	**3.60%**	**4.83%**	**8.56%**	**3.96%**	**6.92%**	**11.08%**		
Core Portfolio w/o Oakland Building	**1.76%**	**2.02%**	**3.79%**	**3.44%**	**4.94%**	**8.51%**	**3.59%**	**4.36%**	**8.07%**	**3.85%**	**6.26%**	**10.29%**		
NFI-ODCE Value Weight Net	**1.62%**	**1.79%**	**3.42%**	**3.34%**	**4.28%**	**7.71%**	**3.46%**	**4.26%**	**7.83%**	**3.67%**	**5.88%**	**9.71%**		
Non-Core Portfolio														
Non-Core Portfolio	**0.77%**	**3.33%**	**4.11%**	**1.01%**	**5.29%**	**6.33%**	**2.03%**	**4.24%**	**6.34%**	**3.17%**	**5.98%**	**9.29%**		
NFI-OE Value Weight Net	**1.61%**	**2.10%**	**3.72%**	**3.35%**	**4.98%**	**8.45%**	**3.49%**	**4.89%**	**8.51%**	**3.67%**	**6.47%**	**10.33%**		
Total Current Portfolio														
ACERA Portfolio w/o Oakland Bldg.	**1.55%**	**2.29%**	**3.85%**	**2.93%**	**5.02%**	**8.05%**	**3.26%**	**4.33%**	**7.70%**	**3.73%**	**6.17%**	**10.07%**		
ACERA Portfolio with Oakland Bldg.	**1.61%**	**2.00%**	**3.63%**	**3.11%**	**4.73%**	**7.95%**	**3.31%**	**4.70%**	**8.13%**	**3.83%**	**6.68%**	**10.70%**		
NFI-ODCE Value Weight Net	**1.62%**	**1.79%**	**3.42%**	**3.34%**	**4.28%**	**7.71%**	**3.46%**	**4.26%**	**7.83%**	**3.67%**	**5.88%**	**9.71%**		

Definitions

Performance

Capitalization rate: Commonly known as cap rate, is a rate that helps in evaluating a real estate investment. Cap rate = Net operating income / 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