

# Juniata College

## 403(b)Plan

December 31, 2017

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*Chief Executive Officer*



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# Section I

# Macroeconomic Overview

December 31, 2017

**Asset Class Benchmark Performance Summary**

	MTD	QTD	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
S&P 500 TR USD	1.11	6.64	21.83	21.83	11.41	15.79	13.76	8.50
Russell 3000 TR USD	1.00	6.34	21.13	21.13	11.12	15.58	13.50	8.60
NASDAQ Composite TR USD	0.48	6.55	29.64	29.64	14.72	19.40	16.01	11.26
DJ Industrial Average TR USD	1.92	10.96	28.11	28.11	14.36	16.37	14.30	9.28
Russell 1000 Value TR USD	1.46	5.33	13.66	13.66	8.65	14.04	12.46	7.10
Russell 1000 Growth TR USD	0.78	7.86	30.21	30.21	13.79	17.33	14.81	10.00
Russell 2000 Value TR USD	-0.95	2.05	7.84	7.84	9.55	13.01	10.84	8.17
Russell 2000 TR USD	-0.40	3.34	14.65	14.65	9.96	14.12	11.62	8.71
Russell 2000 Growth TR USD	0.12	4.59	22.17	22.17	10.28	15.21	12.34	9.19
MSCI EAFE NR USD	1.61	4.23	25.03	25.03	7.80	7.90	6.04	1.94
MSCI EAFE Value NR USD	1.53	3.24	21.44	21.44	6.35	6.95	5.41	1.15
MSCI EAFE Growth NR USD	1.68	5.24	28.86	28.86	9.15	8.78	6.60	2.67
MSCI ACWI Ex USA NR USD	2.24	5.00	27.19	27.19	7.83	6.80	4.93	1.84
MSCI EM NR USD	3.59	7.44	37.28	37.28	9.10	4.35	2.56	1.68
HFRX Absolute Return USD								
DJ Composite All REIT TR USD	-0.14	2.26	9.34	9.34	6.83	9.63	10.54	7.39
Bloomberg Commodity TR USD	2.99	4.71	1.70	1.70	-5.03	-8.45	-8.15	-6.83
BBgBarc US Treasury US TIPS TR USD	0.92	1.26	3.01	3.01	2.05	0.13	2.92	3.53
BBgBarc US Agg Bond TR USD	0.46	0.39	3.54	3.54	2.24	2.10	3.20	4.01
BBgBarc US HY Interm TR USD	0.26	0.42	7.03	7.03	5.99	5.46	6.70	7.65
BBgBarc Municipal 1-10Y Blend 1-12Y TR	0.64	-0.22	3.49	3.49	1.94	2.02	3.02	3.56
BBgBarc Global Aggregate TR USD	0.35	1.08	7.39	7.39	2.02	0.79	1.97	3.09

**Blended Benchmark Performance Summary**

	MTD	QTD	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
100% Equity (70.30)	1.37	5.94	22.96	22.96	10.18	12.94	10.93	6.61
80% Equity, 20% Fixed Income	1.19	4.82	18.83	18.83	8.65	10.78	9.47	6.32
60% Equity, 40% Fixed Income	1.01	3.70	14.84	14.84	7.09	8.61	7.96	5.91
40% Equity, 60% Fixed Income	0.82	2.59	10.96	10.96	5.50	6.44	6.41	5.38
20% Equity, 80% Fixed Income	0.64	1.48	7.19	7.19	3.88	4.27	4.83	4.75

## Market Returns

	Last Month	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
S&P:500	5.73	10.18	5.73	26.41	14.66	15.91	14.28	9.78
Russell:3000 Index	5.27	9.55	5.27	25.16	14.11	15.53	13.98	9.85
NASDAQ	7.36	10.40	7.36	33.38	18.29	20.14	16.93	13.28
DJ:30 Industrials	5.88	12.49	5.88	34.80	17.98	16.36	14.78	10.41
Russell:1000 Value	3.87	8.61	3.87	17.22	11.54	13.47	12.71	7.95
Russell:1000 Growth	7.08	11.19	7.08	34.89	17.01	17.95	15.53	11.65
Russell:2000 Value	1.23	3.17	1.23	9.95	11.56	11.98	11.03	8.76
Russell:2000 Index	2.61	5.14	2.61	17.18	12.12	13.33	12.07	9.76
Russell:2000 Growth	3.90	7.00	3.90	24.90	12.56	14.62	13.05	10.67
MSCI:EAFE	5.02	7.82	5.02	27.60	9.39	7.85	6.43	3.44
MSCI:EAFE Value	5.40	7.97	5.40	24.92	8.33	6.85	5.54	2.67
MSCI:EAFE Growth	4.64	7.67	4.64	30.44	10.36	8.77	7.25	4.14
MSCI:ACWI ex US	5.57	8.81	5.57	29.68	9.85	7.11	5.60	3.44
MSCI:EM	8.33	12.45	8.33	41.01	11.83	5.74	4.15	3.88
CS:All Hedge Idx	0.70	1.80	0.70	7.77	0.81	1.72	1.23	0.55
FTSE:NAREIT Equity Index	(4.18)	(1.79)	(4.18)	0.71	1.90	7.74	9.31	7.09
Blmbg:Commdty Idx	1.99	4.33	1.99	2.66	(3.75)	(8.78)	(8.23)	(7.32)
Blmbg:Gbl Aggr Idx	1.19	2.67	1.19	7.46	2.48	1.22	2.12	2.93
Blmbg:High Yld Corp	0.60	0.65	0.60	6.60	6.33	5.62	6.80	8.24
Blmbg:US Universal Idx	(0.96)	(0.68)	(0.96)	2.73	1.82	2.40	3.44	4.08
Blmbg:Aggregate Index	(1.15)	(0.83)	(1.15)	2.15	1.14	2.01	3.02	3.71
Blmbg:US TIPS Index	(0.86)	0.18	(0.86)	1.27	0.71	0.10	2.76	3.04
Blmbg:Muni 1-10 (1-12)	(0.58)	(0.86)	(0.58)	2.11	1.27	1.85	2.97	3.28

## Asset Allocation Returns

	Last Month	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
100% Equity	5.36	9.33	5.36	26.53	12.87	13.01	11.47	7.97
80% Equity; 20% Fixed Income	4.06	7.26	4.06	21.30	10.54	10.81	9.86	7.34
60% Equity; 40% Fixed Income	2.76	5.21	2.76	16.25	8.19	8.61	8.21	6.59
40% Equity; 60% Fixed Income	1.45	3.18	1.45	11.38	5.85	6.41	6.51	5.73
20% Equity; 80% Fixed Income	0.15	1.17	0.15	6.68	3.49	4.21	4.78	4.77

\*Equity - 70% Russell 3000; 30% MSCI ACWI ex U.S.

\*\*Fixed Income - 100% Bloomberg Aggregate

US Equity Sector Periodic Table

Best ↑	Health Care -22.8	Basic Materials 65.5	Basic Materials 31.7	Utilities 19.2	Financials 26.9	Consumer Ser- vices 42.2	Utilities 28.1	Consumer Ser- vices 6.6	Energy 26.3	Technology 37.3	Technology 37.3
	Consumer Goods -25.7	Technology 64.5	Industrials 26.0	Health Care 11.7	Consumer Ser- vices 24.2	Health Care 42.0	Health Care 25.8	Health Care 6.6	Telecommu- nications 24.0	Basic Materials 25.1	Basic Materials 25.1
	Utilities -30.3	Consumer Ser- vices 33.7	Consumer Ser- vices 23.7	Consumer Goods 8.8	Health Care 19.3	Industrials 40.6	Technology 20.0	Consumer Goods 6.1	Basic Materials 20.3	Industrials 24.5	Industrials 24.5
	Consumer Ser- vices -30.8	Industrials 26.1	Energy 19.7	Consumer Ser- vices 7.1	Telecommu- nications 18.8	Financials 34.2	Financials 14.6	Technology 4.1	Industrials 19.5	Health Care 22.8	Health Care 22.8
	Telecommu- nications -32.9	Consumer Goods 23.9	Consumer Goods 19.5	Energy 4.1	Industrials 17.9	Consumer Goods 30.6	Consumer Ser- vices 14.5	Telecommu- nications 3.5	Financials 17.3	Consumer Ser- vices 20.4	Consumer Ser- vices 20.4
	Energy -35.8	Health Care 21.7	Telecommu- nications 17.7	Telecommu- nications 4.0	Consumer Goods 12.8	Technology 27.0	Consumer Goods 12.1	Financials 0.1	Utilities 17.1	Financials 20.0	Financials 20.0
	Industrials -39.5	Energy 17.3	Financials 12.7	Technology 0.2	Technology 12.1	Energy 26.1	Industrials 7.3	Industrials -1.7	Technology 14.2	Consumer Goods 17.0	Consumer Goods 17.0
	Technology -42.9	Financials 17.1	Technology 12.6	Industrials -0.8	Basic Materials 10.5	Basic Materials 20.4	Basic Materials 3.4	Utilities -4.6	Consumer Ser- vices 6.0	Utilities 12.4	Utilities 12.4
	Financials -50.4	Utilities 12.6	Utilities 7.8	Financials -12.8	Energy 4.7	Utilities 15.2	Telecommu- nications 2.4	Basic Materials -12.4	Consumer Goods 5.3	Telecommu- nications -0.3	Telecommu- nications -0.3
	Basic Materials -50.8	Telecommu- nications 9.9	Health Care 4.5	Basic Materials -14.7	Utilities 1.8	Telecommu- nications 14.1	Energy -9.3	Energy -22.0	Health Care -2.4	Energy -1.6	Energy -1.6
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	YTD

International Equity Periodic Table

Best ↑	Global Stocks -40.3	Emerging Mar- kets 79.0	International Small/Mid Growth 23.3	Global Stocks -5.0	Emerging Mar- kets 18.6	International Small/Mid Value 28.1	Global Stocks 5.5	International Small/Mid Growth 12.2	Emerging Mar- kets 11.6	Emerging Mar- kets 37.8	Emerging Mar- kets 37.8	
	International Large Growth -44.0	International Small/Mid Value 45.1	International Small/Mid Core 19.4	International Large Growth -14.1	International Small/Mid Value 17.4	Global Stocks 27.4	Emerging Mar- kets -1.8	International Small/Mid Core 7.3	Global Stocks 8.2	International Small/Mid Growth 33.9	International Small/Mid Growth 33.9	
	International Large Core -45.1	International Small/Mid Core 43.2	Emerging Mar- kets 19.2	International Large Core -14.8	International Small/Mid Core 16.9	International Small/Mid Core 26.4	International Small/Mid Growth -6.2	International Small/Mid Value 2.5	International Small/Mid Value 3.0	International Small/Mid Core 30.3	International Small/Mid Core 30.3	
	International Large Value -46.2	International Small/Mid Growth 41.2	International Small/Mid Value 15.7	International Large Value -15.6	Global Stocks 16.5	International Small/Mid Growth 24.7	International Large Growth -6.3	International Large Growth 2.1	International Large Value 1.2	International Small/Mid Value 26.9	International Small/Mid Value 26.9	
	International Small/Mid Value -47.7	Global Stocks 30.8	Global Stocks 12.3	International Small/Mid Growth -15.9	International Small/Mid Growth 16.2	International Large Growth 20.0	International Small/Mid Core -6.9	Global Stocks -0.3	International Small/Mid Core 0.0	International Large Growth 26.4	International Large Growth 26.4	
	International Small/Mid Core -48.4	International Large Value 29.6	International Large Growth 9.9	International Small/Mid Core -18.0	International Large Growth 14.0	International Large Core 19.4	International Large Core -7.3	International Large Core -3.3	International Large Core -1.9	Global Stocks 23.1	Global Stocks 23.1	
	International Small/Mid Growth -49.0	International Large Core 27.7	International Large Core 4.9	Emerging Mar- kets -18.2	International Large Core 13.6	International Large Value 18.8	International Small/Mid Value -7.7	International Large Value -8.6	International Small/Mid Growth -3.0	International Large Core 21.8	International Large Core 21.8	
	Emerging Mar- kets -53.2	International Large Growth 26.0	International Large Value -0.1	International Small/Mid Value -20.1	International Large Value 13.0	Emerging Mar- kets -2.3	International Large Value -8.4	Emerging Mar- kets -14.6	International Large Growth -5.1	International Large Value 17.5	International Large Value 17.5	
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	YTD

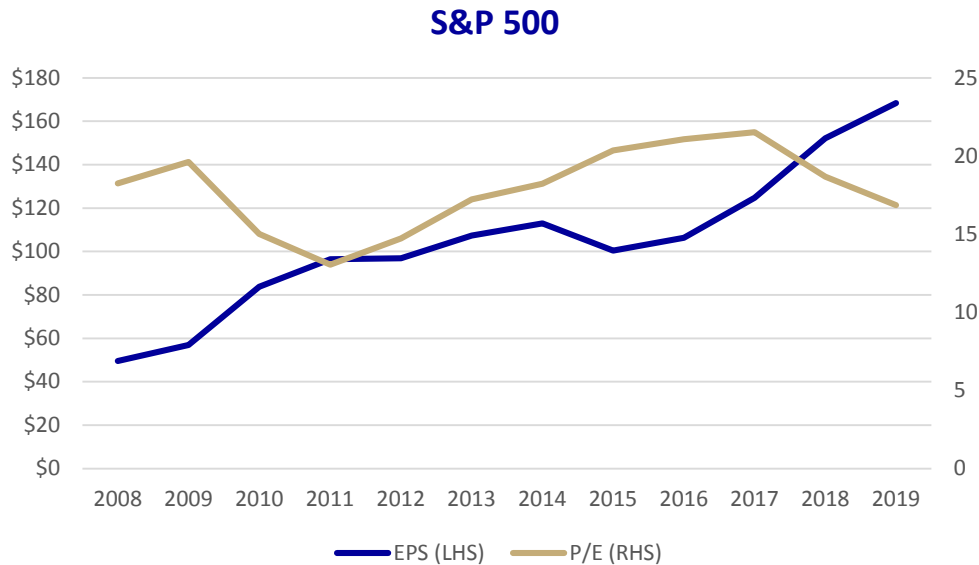
Worst  
↓



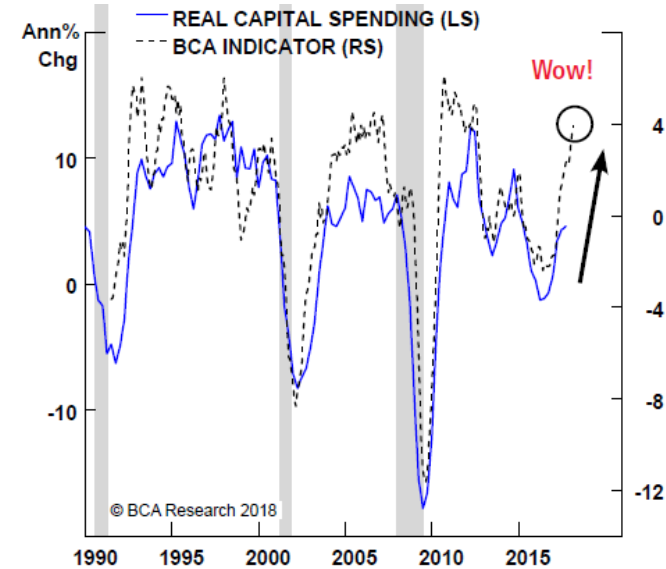
# S&P 500



# Too Fast, Too Soon?



S&P 500			
	4Q 2016	4Q 2017	Change (%)
Index Level	2,238.83	2,673.61	19%
Operating Earnings Per Share	\$27.9	\$33.6	20%
P/E (Operating Earnings)	20.1	19.9	

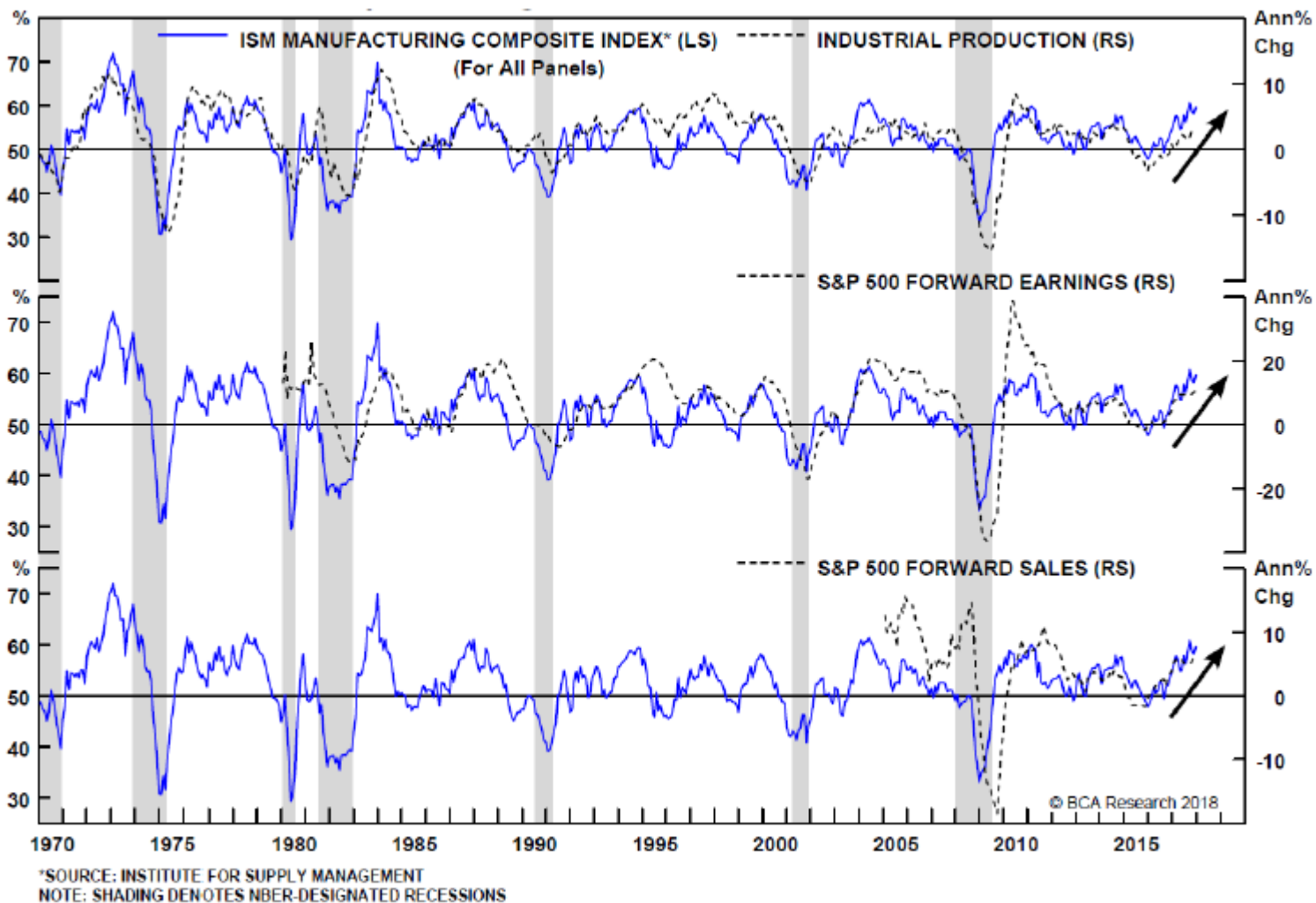


Source: Bank Credit Analyst

	2017e	2018f	2019f	2020f
<b>Real GDP</b>				
<b>World</b>	3.0	3.1	3.0	2.9
<b>Advanced Economies</b>	2.3	2.2	1.9	1.7
United States	2.3	2.5	2.2	2
Euro Area	2.4	2.1	1.7	1.5
Japan	1.7	1.3	0.8	0.5
<b>Emerging Market and Developing Economies (EMDE)</b>	4.3	4.5	4.7	4.7

Source: The World Bank

# Favorable Macro Backdrop



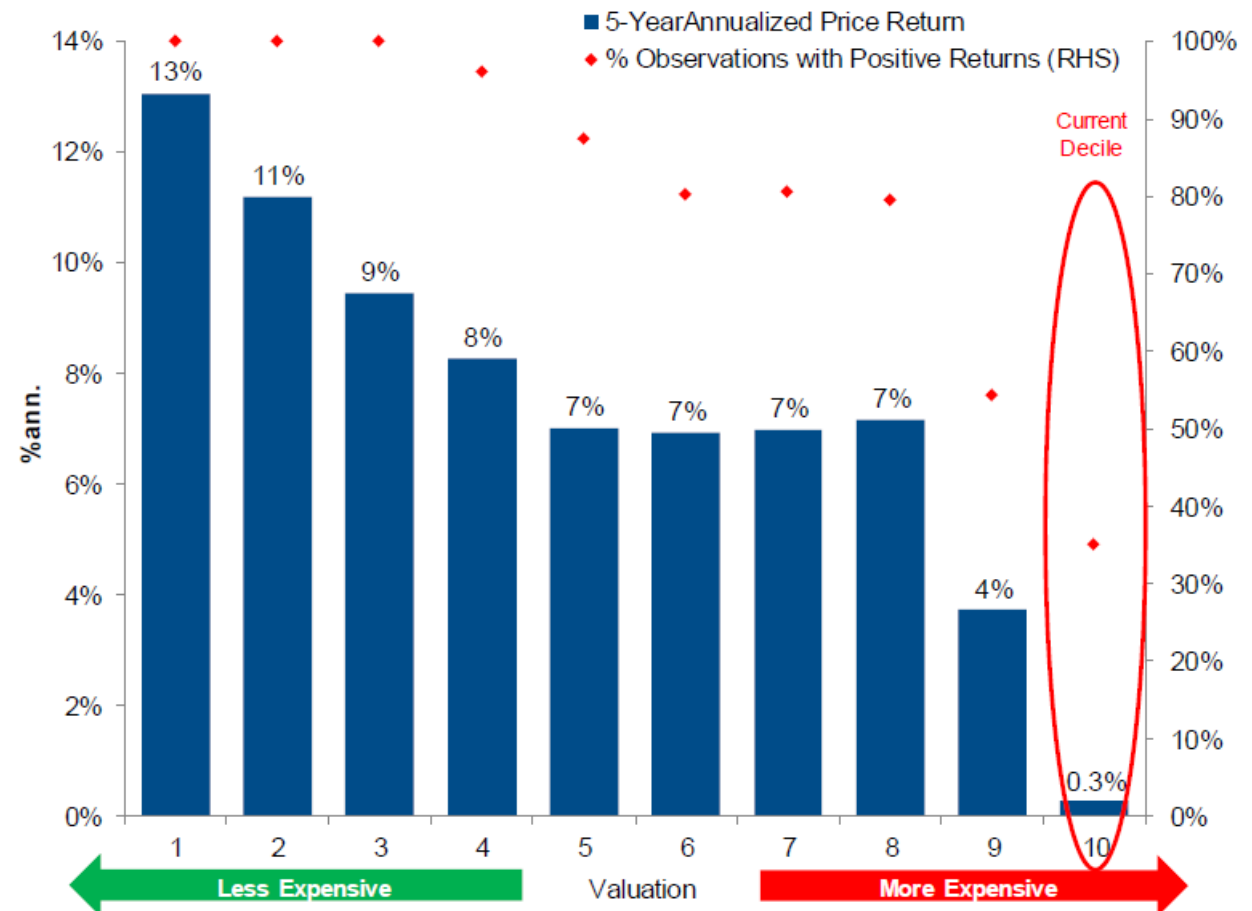
# US Equity Valuations

The S&P 500 is currently in its 10<sup>th</sup> decile.

This valuation decile has preceded positive price returns over the subsequent five years 35% of the time since 1945, with an average return of 0.3%.

## 5-YEAR S&P 500 PRICE RETURNS FROM EACH VALUATION DECILE<sup>1</sup>

As of December 29, 2017



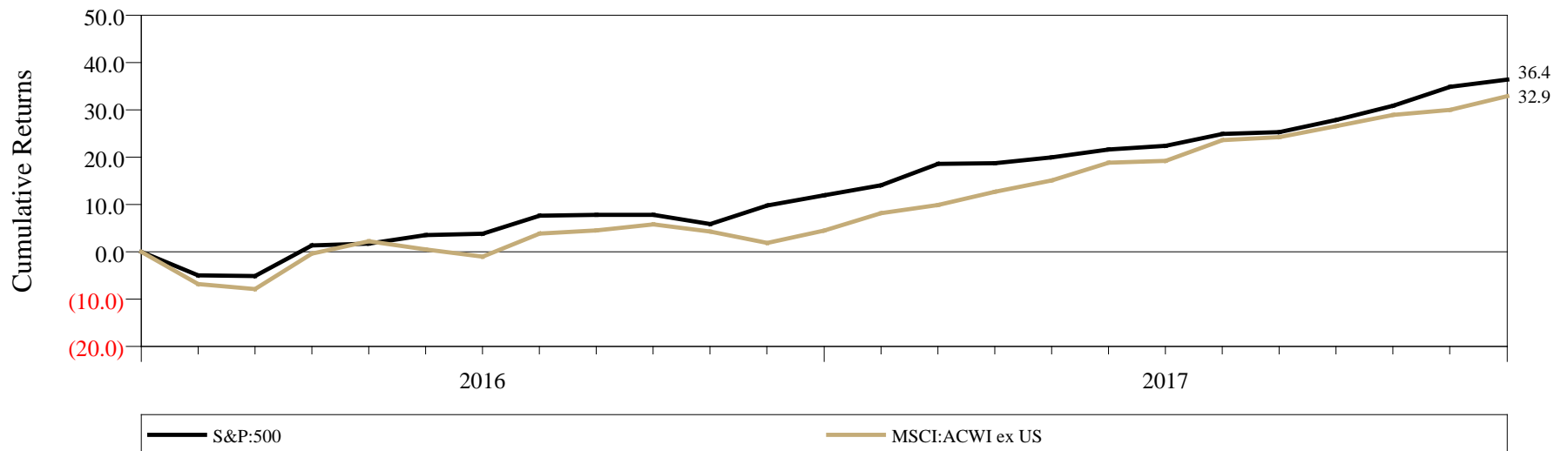
(1) Based on five valuation metrics for the S&P 500, beginning in September 1945: price-to-trend earnings, price-to-peak earnings, price-to-trailing 12m earnings, Shiller cyclically adjusted price-to-earnings ratio (CAPE) and price-to-10-year average earnings. These metrics are ranked from least expensive to most expensive and divided into 10 buckets based on monthly observations ("deciles"). The subsequent realized, annualized five-year price return is then calculated for each observation and averaged within each decile. Past performance is not indicative of future results.

Source: Investment Strategy Group, Bloomberg, Datastream, Robert Shiller.

# International Catching Up

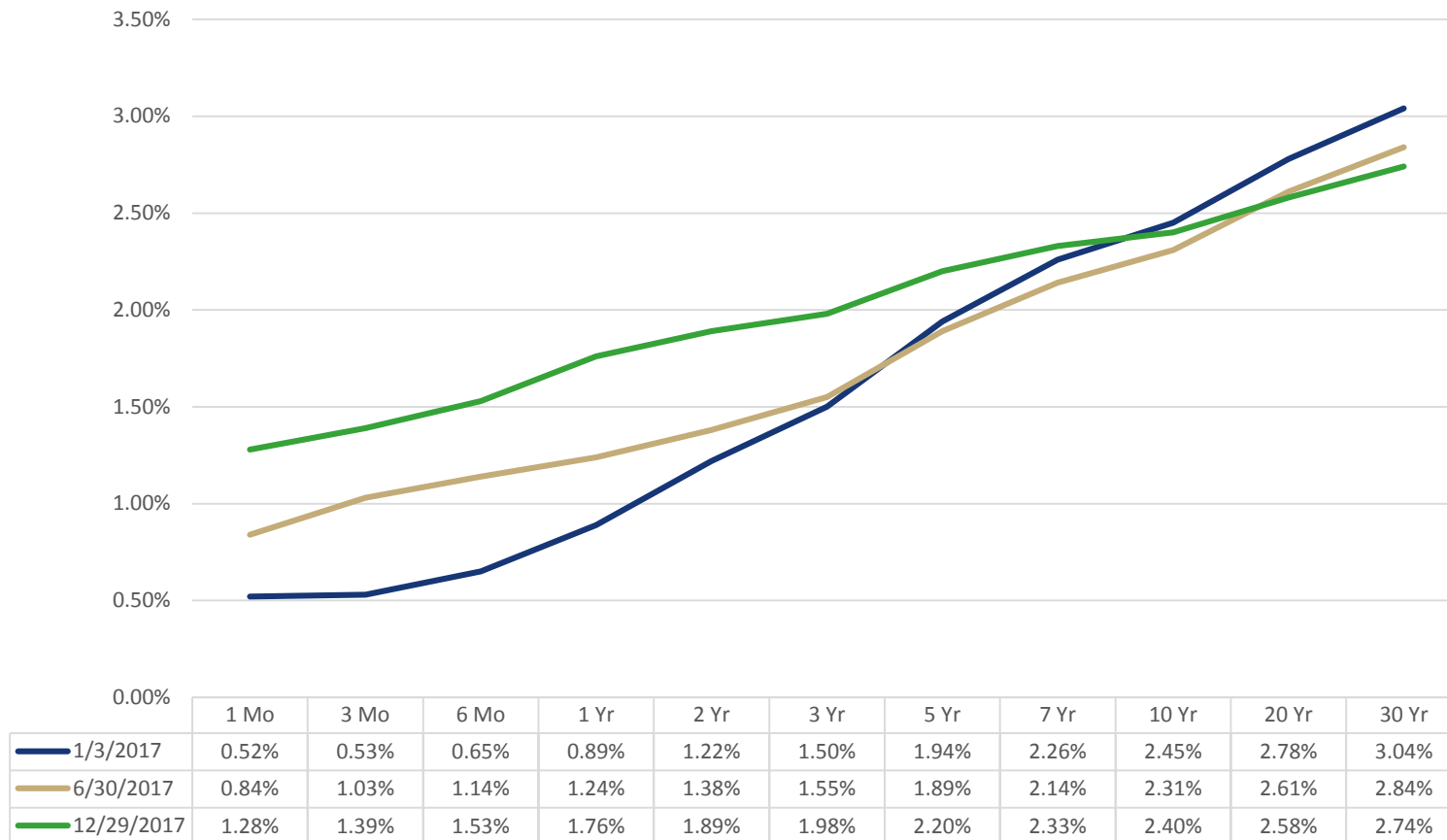
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
MSCI:ACWI ex US	5.00	27.19	7.83	6.80	1.84
MSCI:ACWI ex US Hedged	4.36	18.95	8.82	10.05	3.35
MSCI:EAFE	4.23	25.03	7.80	7.90	1.94
MSCI:EAFE LC	3.66	15.23	8.54	11.44	3.30
MSCI:EM	7.44	37.28	9.10	4.35	1.68
MSCI:EM LC	5.68	30.55	10.51	7.98	4.14

Cumulative Returns



# Treasury Yields

Treasury Yield Curve



# When to Move?

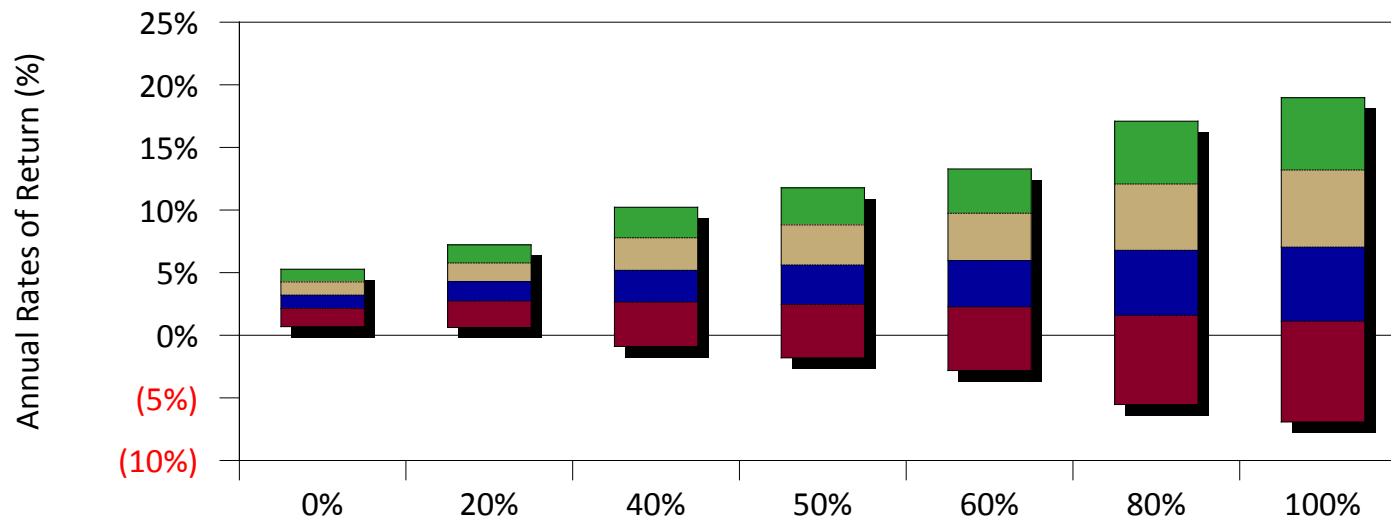
ANNUALIZED REAL RETURNS (%) PRIOR TO RECESSIONS	MONTHS PRIOR TO RECESSION					NON-RECESSION MONTHS
	13-TO-24 MONTHS	1-TO-24 MONTHS	7-TO-12 MONTHS	1-TO-12 MONTHS	1-TO-6 MONTHS	
<b>S&amp;P 500</b>	<i>Returns tend to be strong in the late stage of the business cycle...</i>			<i>...but don't overstay your welcome</i>		
<b>AVERAGE RETURNS POST-1950s</b>	<b>14.2</b>	6.8	8.0	0.1	<b>-7.8</b>	10.1
JUL 1953 - MAY 1954	21.9	12.0	17.8	2.0	-13.8	14.7
AUG 1957 - APR 1958	15.8	7.1	-17.0	-1.6	13.9	19.3
APR 1960 - FEB 1961	31.3	16.8	6.6	2.2	-2.2	15.8
DEC 1969 - NOV 1970	13.4	-1.3	-11.0	-15.9	-20.7	5.8
NOV 1973 - MAR 1975	16.9	4.9	-11.3	-7.0	-2.7	6.2
JAN 1980 - JUL 1980	0.5	2.2	6.8	5.4	4.0	3.1
JUL 1981 - NOV 1982*	...	...	<b>32.2</b>	10.5	-11.2	4.0
JUL 1990 - MAR 1991	14.3	13.1	<b>22.2</b>	11.9	1.6	14.0
MAR 2001 - NOV 2001	8.9	-0.7	<b>20.0</b>	-10.3	-40.6	12.5
DEC 2007 - JUN 2009	11.6	7.6	13.6	3.6	-6.3	4.0

\* FIRST 2 COLUMNS OMITTED DUE TO OVERLAP WITH PREVIOUS RECESSION PERIOD.

NOTE: MONTHLY RETURNS ARE ANNUALIZED AND DEFLATED BY THE CONSUMER PRICE INDEX; CALCULATIONS ARE BASED ON TOTAL RETURN INDEX.

# 2018 Assumptions

Range of Projected Rates of Return  
(Percentages Reflect Amount Invested in Equity)

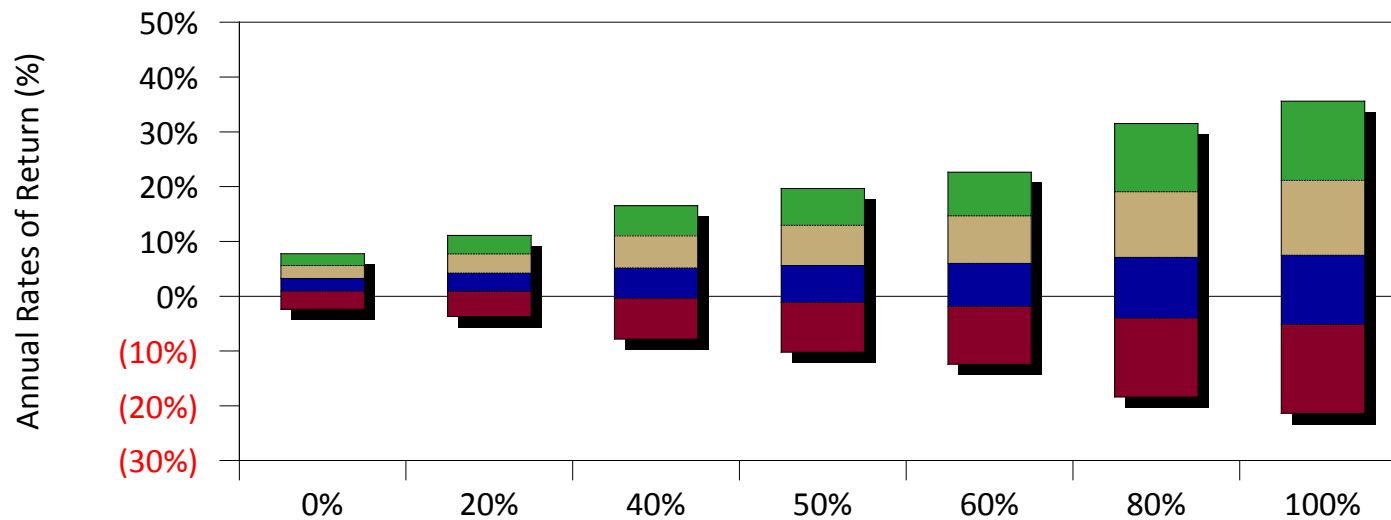


10th Percentile	5.3%	7.2%	10.2%	11.8%	13.3%	17.1%	19.0%
25th Percentile	4.3%	5.8%	7.8%	8.8%	9.8%	12.1%	13.2%
Median	3.2%	4.3%	5.2%	5.6%	6.0%	6.8%	7.0%
75th Percentile	2.1%	2.7%	2.7%	2.5%	2.3%	1.6%	1.1%
95th Percentile	0.7%	0.6%	(0.9%)	(1.8%)	(2.8%)	(5.5%)	(6.9%)
Prob > 7.5%	<1.0%	8.3%	27.5%	34.1%	39.0%	46.5%	48.1%



# 2018 Assumptions

Range of Projected Rates of Return for 1 Year  
(Percentages Reflect Amount Invested in Equity)



10th Percentile	7.8%	11.1%	16.5%	19.7%	22.7%	31.5%	35.6%
25th Percentile	5.6%	7.7%	11.0%	13.0%	14.7%	19.1%	21.2%
Median	3.2%	4.2%	5.2%	5.6%	6.0%	7.1%	7.5%
75th Percentile	0.9%	0.9%	(0.4%)	(1.1%)	(1.9%)	(4.0%)	(5.2%)
95th Percentile	(2.4%)	(3.7%)	(7.8%)	(10.2%)	(12.4%)	(18.4%)	(21.4%)
Prob > 7.5%	11.8%	26.2%	38.8%	42.4%	45.1%	48.8%	50.0%

# Section II

**Juniata College 403(b) Plan  
December 31, 2017**

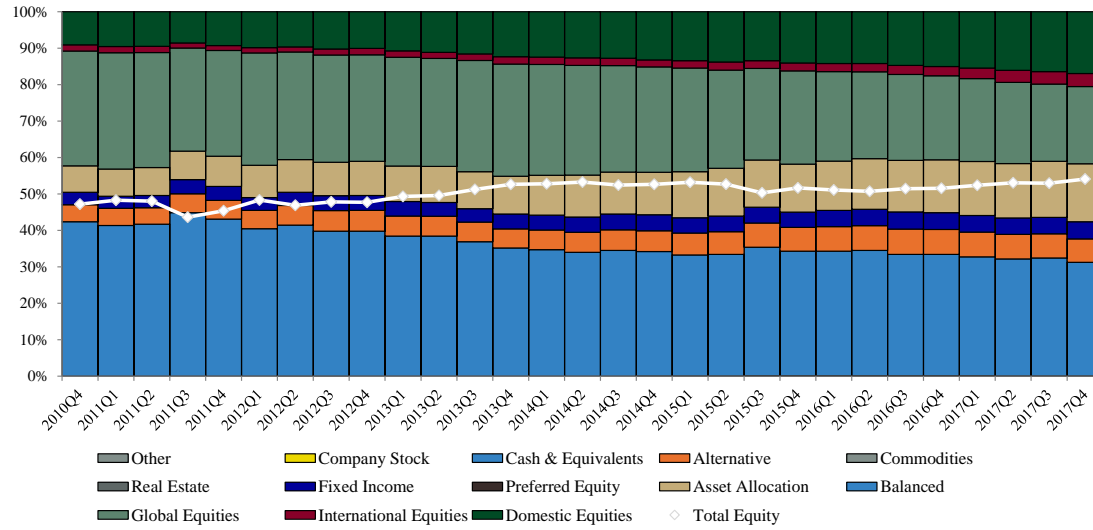
Investments - 09/30/2017 to 12/31/2017

Investment Option	Beginning Market Value	Contributions	Forfeitures	Transfers	Withdrawals	Gain/Loss	Ending Market Value
TIAA-CREF Large-Cap Value Idx Retire	\$1,897,054	\$26,319	\$0	(\$238,381)	(\$2,036)	\$89,802	\$1,772,758
TIAA-CREF Large-Cap Value Retire	\$1,311,959	\$20,393	\$0	\$69,761	(\$1,915)	\$53,399	\$1,453,598
TIAA RASRA-CREF:Eq Idx R2	\$2,928,098	\$42,075	\$0	(\$4,213)	(\$4,451)	\$183,638	\$3,145,148
TIAA-CREF Equity Index R	\$632,089	\$10,541	\$0	\$0	\$0	\$39,952	\$682,581
TIAA-CREF Growth & Income Retire	\$439,558	\$8,115	\$0	(\$2,710)	(\$1,281)	\$30,170	\$473,852
TIAA-CREF S&P 500 Index Retire	\$359,824	\$13,528	\$0	\$100,250	\$0	\$27,900	\$501,503
TIAA-CREF Social Choice Eq Retire	\$207,711	\$7,311	\$0	\$259,020	(\$112)	\$22,573	\$496,502
TIAA RASRA-CREF:Growth R2	\$5,828,638	\$48,441	\$0	(\$158,481)	(\$36,893)	\$450,994	\$6,132,698
TIAA-CREF Large-Cap Gr Idx Retire	\$618,180	\$14,400	\$0	\$27,636	(\$644)	\$49,642	\$709,214
TIAA-CREF Large-Cap Growth R	\$54,787	\$1,222	\$0	(\$3,712)	\$0	\$3,849	\$56,146
TIAA-CREF Mid-Cap Value Retire	\$1,312,022	\$12,056	\$0	(\$68,720)	(\$1,116)	\$47,895	\$1,302,138
TIAA-CREF Mid-Cap Growth Retire	\$172,400	\$3,484	\$0	(\$20,000)	(\$216)	\$8,837	\$164,505
Victory Sycamore Small Company Opp A	\$392,055	\$4,801	\$0	(\$89,409)	(\$174)	(\$4,582)	\$302,691
TIAA-CREF Small-Cap Blend Idx Retire	\$237,002	\$7,846	\$0	\$22,000	(\$137)	\$7,925	\$274,635
TIAA-CREF Small-Cap Equity Retire	\$1,193,827	\$11,785	\$0	\$48,164	(\$2,674)	\$49,022	\$1,300,123
Prudential Jennison Small Company Z	\$113,700	\$2,064	\$0	\$89	(\$15)	\$5,578	\$121,415
TIAA-CREF International Eq Idx Retire	\$1,560,059	\$25,662	\$0	(\$52,002)	(\$5,152)	\$56,822	\$1,585,389
TIAA-CREF International Eq Retire	\$518,833	\$3,750	\$0	\$4,011	(\$187)	\$22,908	\$549,315
American Funds Europacific Growth R4	\$704,076	\$9,367	\$0	\$168,930	(\$1,706)	\$31,757	\$912,423
Vanguard Emerging Mkts Stock Idx Adm	\$897,466	\$13,753	\$0	(\$2,544)	(\$429)	\$52,078	\$960,324
TIAA RASRA-CREF:Gbl Eq R2	\$2,956,216	\$23,800	\$0	(\$8,670)	(\$5,336)	\$177,392	\$3,143,402
TIAA RASRA-CREF:Stock R2	\$19,825,192	\$110,690	\$0	(\$333,678)	(\$203,947)	\$1,119,243	\$20,517,499
TIAA-CREF High-Yield R	\$611,848	\$6,302	\$0	\$11,837	(\$208)	\$3,868	\$633,648
T. Rowe Price Emerging Markets Bond	\$91,300	\$1,369	\$0	(\$20,347)	\$0	(\$448)	\$71,875
TIAA-CREF Bond Plus R	\$925,961	\$16,283	\$0	\$27,352	(\$906)	\$3,719	\$972,408
TIAA RASRA-CREF:Bond Mkt R2	\$2,704,366	\$22,480	\$0	\$328,955	(\$6,321)	\$13,944	\$3,063,424
TIAA-CREF Bond R	\$451,546	\$3,647	\$0	(\$17,152)	(\$772)	\$1,868	\$439,137
TIAA-CREF Short-Term Bond R	\$72,287	\$1,426	\$0	\$7,279	(\$146)	\$7	\$80,852
TIAA RASRA-CREF:Infl-Lkd Bond R2	\$1,316,196	\$17,761	\$0	(\$76,384)	(\$17,687)	\$7,168	\$1,247,053
TIAA-CREF Inflation Link Bd R	\$267,210	\$540	\$0	\$0	(\$327)	\$1,555	\$268,978
TIAA RASRA-CREF:Real Estate Acct	\$4,869,305	\$49,020	\$0	(\$36,894)	(\$17,015)	\$62,753	\$4,927,168
TIAA-CREF Real Estate Sec Retire	\$655,782	\$9,747	\$0	\$8,917	(\$443)	\$24,455	\$698,458
PIMCO All Asset A	\$6,484	\$261	\$0	\$0	\$0	\$200	\$6,946
TIAA Traditional Account (RA)	\$34,415,570	\$190,623	\$0	\$19,558	(\$651,232)	\$335,144	\$34,309,663
TIAA RASRA-CREF:Money Mkt R2	\$423,872	\$3,345	\$0	\$1,751	(\$16,989)	\$654	\$412,633
TIAA-CREF Money Market R	\$1,882	\$146	\$0	\$60,358	\$0	\$70	\$62,457
Self Directed Brokerage	\$71,192	\$1,757	\$0	\$0	\$0	\$3,389	\$76,339
TIAA RASRA-CREF:Social Choice R2	\$5,414,777	\$45,721	\$0	(\$5,408)	(\$15,972)	\$185,872	\$5,624,990
TIAA-CREF Managed Allc R	\$6,263	\$93	\$0	\$0	\$0	\$227	\$6,583
TIAA-CREF Lifecycle 2060 Retirement	\$582	\$2,446	\$0	\$0	\$0	\$98	\$3,125
TIAA-CREF Lifecycle 2055 Retirement	\$303,202	\$34,063	\$0	(\$1,127)	\$0	\$17,214	\$353,352
TIAA-CREF Lifecycle 2050 Retirement	\$800,090	\$47,119	\$0	\$0	\$0	\$44,310	\$891,519
TIAA-CREF Lifecycle 2045 Retirement	\$1,183,022	\$79,883	\$0	\$0	\$0	\$64,004	\$1,326,908
TIAA-CREF Lifecycle 2040 Retirement	\$2,085,625	\$81,962	\$0	\$9,940	(\$3,222)	\$107,646	\$2,281,951
TIAA-CREF Lifecycle 2035 Retirement	\$2,301,576	\$72,442	\$0	(\$6,404)	(\$2,113)	\$108,500	\$2,474,000
TIAA-CREF Lifecycle 2030 Retirement	\$1,329,350	\$58,116	\$0	\$2,250	(\$12,500)	\$55,736	\$1,432,952
TIAA-CREF Lifecycle 2025 Retirement	\$1,476,154	\$49,580	\$0	\$793	\$0	\$55,171	\$1,581,699
TIAA-CREF Lifecycle 2020 Retirement	\$865,514	\$23,129	\$0	\$0	(\$1,250)	\$28,467	\$915,860
TIAA-CREF Lifecycle 2015 Retirement	\$504,874	\$17,667	\$0	\$0	\$0	\$14,778	\$537,319
TIAA-CREF Lifecycle 2010 Retirement	\$286,395	\$109	\$0	(\$14,408)	(\$5,626)	\$7,201	\$273,671
TIAA-CREF Lifecycle Retire Income Retire	\$5,639	\$583	\$0	\$0	(\$536)	\$135	\$5,821
<b>Aggregate</b>	<b>\$107,608,610</b>	<b>\$1,259,021</b>	<b>\$0</b>	<b>\$18,208</b>	<b>(\$1,021,688)</b>	<b>\$3,674,500</b>	<b>\$111,538,650</b>

\*The cash flow statement is created from unaudited data obtained directly from the Plan's record keeper. For the reporting period, these balances could differ from the actual balances depending on timing of receipt of data by Cornerstone from the record keeper. Please compare to the custodial statement for accuracy, as applicable.

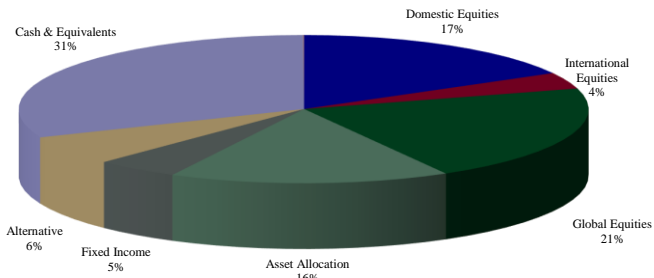
**Juniata College 403(b) Plan  
Plan Summary - Style & Capitalization**

**Historical Asset Allocation**



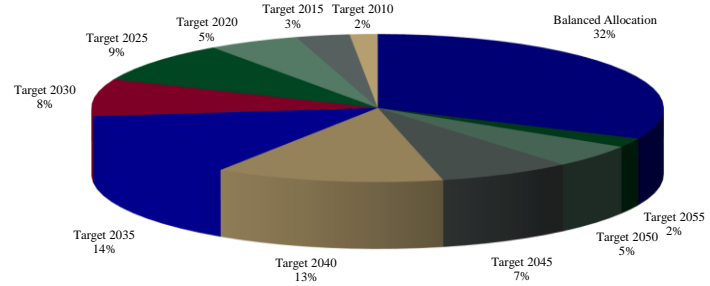
Ending asset allocation as of 2017Q4 is 54% equity and 46% fixed income.

**Portfolio Allocation**



	Market Value	Last Qtr	Current Qtr	Change
Domestic Equities	\$18,889,507	16.4%	16.9%	0.5%
International Equities	\$4,007,452	3.4%	3.6%	0.2%
Global Equities	\$23,660,901	21.2%	21.2%	0.0%
Asset Allocation	\$17,709,750	15.4%	15.9%	0.5%
Fixed Income	\$5,261,345	4.5%	4.7%	0.2%
Alternative	\$7,148,603	6.6%	6.4%	-0.2%
Cash & Equivalents	\$34,784,754	32.4%	31.2%	-1.2%
Other	\$76,339	0.1%	0.1%	0.0%
	\$111,538,650	100%	100%	0%

**Target Date/ Asset Allocations**



	Market Value	Last Qtr	Current Qtr	Change
Balanced Allocation	\$5,631,572	32.7%	31.8%	-0.9%
Target 2060	\$3,125	0.0%	0.0%	0.0%
Target 2055	\$353,352	1.8%	2.0%	0.2%
Target 2050	\$891,519	4.8%	5.0%	0.2%
Target 2045	\$1,326,908	7.1%	7.5%	0.4%
Target 2040	\$2,281,951	12.6%	12.9%	0.3%
Target 2035	\$2,474,000	13.9%	14.0%	0.1%
Target 2030	\$1,432,952	8.0%	8.1%	0.1%
Target 2025	\$1,581,699	8.9%	8.9%	0.0%
Target 2020	\$915,860	5.2%	5.2%	-0.1%
Target 2015	\$537,319	3.0%	3.0%	0.0%
Target 2010	\$273,671	1.7%	1.5%	-0.2%
Target Retirement	\$5,821	0.0%	0.0%	0.0%
	\$17,709,750	100%	100%	0%

**Juniata College 403(b) Plan  
Manager Performance Summary\***

	<i>Quarterly Return 4th Quarter 2017</i>	<i>Market Value Beginning of Period</i>	<i>Market Value End of Period</i>
<b>TIAA-CREF Large-Cap Value Idx Retire</b>	5.21%	\$1,897,054	\$1,772,758
<b>TIAA-CREF Large-Cap Value Retire</b>	3.86%	\$1,311,959	\$1,453,598
Russell 1000 Value	5.33%		
<b>TIAA RASRA-CREF:Eq Idx R2</b>	6.25%	\$2,928,098	\$3,145,148
<b>TIAA-CREF Equity Index R</b>	6.28%	\$632,089	\$682,581
<b>TIAA-CREF Growth &amp; Income Retire</b>	6.85%	\$439,558	\$473,852
<b>TIAA-CREF S&amp;P 500 Index Retire</b>	6.55%	\$359,824	\$501,503
<b>TIAA-CREF Social Choice Eq Retire</b>	6.13%	\$207,711	\$496,502
S&P 500	6.64%		
<b>TIAA RASRA-CREF:Growth R2</b>	7.85%	\$5,828,638	\$6,132,698
<b>TIAA-CREF Large-Cap Gr Idx Retire</b>	7.77%	\$618,180	\$709,214
<b>TIAA-CREF Large-Cap Growth R</b>	7.01%	\$54,787	\$56,146
Russell 1000 Growth	7.86%		
<b>TIAA-CREF Mid-Cap Value Retire</b>	3.76%	\$1,312,022	\$1,302,138
Russell Mid-Cap Value	5.50%		
<b>TIAA-CREF Mid-Cap Growth Retire</b>	5.48%	\$172,400	\$164,505
Russell Mid-Cap Growth	6.81%		
<b>Victory Sycamore Small Company Opp A</b>	3.09%	\$392,055	\$302,691
Russell 2000 Value	2.05%		
<b>TIAA-CREF Small-Cap Blend Idx Retire</b>	3.31%	\$237,002	\$274,635
<b>TIAA-CREF Small-Cap Equity Retire</b>	3.98%	\$1,193,827	\$1,300,123
Russell 2000	3.34%		
<b>Prudential Jennison Small Company Z</b>	4.84%	\$113,700	\$121,415
Russell 2000 Growth	4.59%		
<b>TIAA-CREF International Eq Idx Retire</b>	3.71%	\$1,560,059	\$1,585,389
<b>TIAA-CREF International Eq Retire</b>	4.38%	\$518,833	\$549,315
MSCI:EAFE	4.23%		
<b>American Funds Europacific Growth R4</b>	4.14%	\$704,076	\$912,423
MSCI ACWI ex US	5.06%		
<b>Vanguard Emerging Mkts Stock Idx Adm</b>	6.29%	\$897,466	\$960,324
MSCI Emerging Markets	7.50%		
<b>TIAA RASRA-CREF:Gbl Eq R2</b>	6.00%	\$2,956,216	\$3,143,402
<b>TIAA RASRA-CREF:Stock R2</b>	5.70%	\$19,825,192	\$20,517,499
MSCI ACWI	5.84%		
<b>TIAA RASRA-CREF:Social Choice R2</b>	3.43%	\$5,414,777	\$5,624,990
60% ACWI; 40% Global Agg	3.92%		
<b>TIAA-CREF Managed Allc R</b>	3.61%	\$6,263	\$6,583
60% ACWI; 40% Global Agg	3.92%		
<b>TIAA-CREF Lifecycle 2060 Retirement</b>	5.49%	\$582	\$3,125
Callan Tgt Dt Idx 2050	5.23%		
<b>TIAA-CREF Lifecycle 2055 Retirement</b>	5.41%	\$303,202	\$353,352
Callan Tgt Dt Idx 2050	5.23%		
<b>TIAA-CREF Lifecycle 2050 Retirement</b>	5.40%	\$800,090	\$891,519
Callan Tgt Dt Idx 2050	5.23%		
<b>TIAA-CREF Lifecycle 2045 Retirement</b>	5.25%	\$1,183,022	\$1,326,908
Callan Tgt Dt Idx 2045	5.15%		
<b>TIAA-CREF Lifecycle 2040 Retirement</b>	5.06%	\$2,085,625	\$2,281,951
Callan Tgt Dt Idx 2040	4.98%		
<b>TIAA-CREF Lifecycle 2035 Retirement</b>	4.65%	\$2,301,576	\$2,474,000
Callan Tgt Dt Idx 2035	4.66%		

**Juniata College 403(b) Plan  
Manager Performance Summary\***

	<i>Quarterly Return 4th Quarter 2017</i>	<i>Market Value Beginning of Period</i>	<i>Market Value End of Period</i>
<b>TIAA-CREF Lifecycle 2030 Retirement</b> Callan Tgt Dt Idx 2030	4.12% 4.24%	\$1,329,350	\$1,432,952
<b>TIAA-CREF Lifecycle 2025 Retirement</b> Callan Tgt Dt Idx 2025	3.68% 3.69%	\$1,476,154	\$1,581,699
<b>TIAA-CREF Lifecycle 2020 Retirement</b> Callan Tgt Dt Idx 2020	3.25% 3.17%	\$865,514	\$915,860
<b>TIAA-CREF Lifecycle 2015 Retirement</b> CallanTgt Dt Idx 2015	2.88% 2.71%	\$504,874	\$537,319
<b>TIAA-CREF Lifecycle 2010 Retirement</b> Callan Tgt Dt Idx 2010	2.55% 2.49%	\$286,395	\$273,671
<b>TIAA-CREF Lifecycle Retire Income Retire</b> 40% ACWI; 60% Global Agg	2.40% 2.96%	\$5,639	\$5,821
<b>TIAA-CREF High-Yield R</b> Blmbg:Corporate High Yld	0.62% 0.47%	\$611,848	\$633,648
<b>T. Rowe Price Emerging Markets Bond</b> Blmbg:Glob Agg ex USD	-0.34% 1.63%	\$91,300	\$71,875
<b>TIAA-CREF Bond Plus R</b> Barclays Capital U.S. Universal Idx	0.39% 0.41%	\$925,961	\$972,408
<b>TIAA RASRA-CREF:Bond Mkt R2</b>	0.47%	\$2,704,366	\$3,063,424
<b>TIAA-CREF Bond R</b> Barclays Capital Aggregate	0.42% 0.39%	\$451,546	\$439,137
<b>TIAA-CREF Short-Term Bond R</b> Barclays Capital 1-3 Year Govt/Credit	0.01% -0.21%	\$72,287	\$80,852
<b>TIAA RASRA-CREF:Infl-Lkd Bond R2</b>	0.57%	\$1,316,196	\$1,247,053
<b>TIAA-CREF Inflation Link Bd R</b> Barclays Capital US TIPS	0.58% 1.26%	\$267,210	\$268,978
<b>TIAA RASRA-CREF:Real Estate Acct</b>	1.29%	\$4,869,305	\$4,927,168
<b>TIAA-CREF Real Estate Sec Retire</b> FTSE:NAREIT Equity Index	3.72% 1.51%	\$655,782	\$698,458
<b>PIMCO All Asset A</b> CS:AllHedge Ix	3.00% 3.11%	\$6,484	\$6,946
<b>TIAA Traditional Account (GSRA)</b>	0.78%	\$0	\$0
<b>TIAA Traditional Account (RA)</b>	0.94%	\$34,415,570	\$34,309,663
<b>TIAA Traditional Account (SRA)</b> 3 Month T-Bill	0.78% 0.28%	\$0	\$0
<b>TIAA RASRA-CREF:Money Mkt R2</b>	0.16%	\$423,872	\$412,633
<b>TIAA-CREF Money Market R</b> 3 Month T-Bill	0.19% 0.28%	\$1,882	\$62,457
<b>Self Directed Brokerage</b> Self Directed Benchmark	4.76% 4.76%	\$71,192	\$76,339
<b>Weighted Investment Return</b>	3.41%	\$107,608,610	\$111,538,650
<b>Blended Benchmark**</b>	3.32%		

\* Fund returns net of fees

\*\*Composite benchmark based on plan assets

	<i>Quarterly Return 4th Quarter 2017</i>	<i>Market Value Beginning of Period</i>	<i>Market Value End of Period</i>
<b>Plan Assets Excluding Self-Directed</b>	3.41%	\$107,537,418	\$111,462,312

Performance quoted is past performance and is no guarantee of future results.

**Juniata College 403(b) Plan  
Historical Performance Summary**

<i>Time Period</i>	<i>Overall Plan Growth</i>	<i>Net Flow Change</i>	<i>Investment Return</i>	<i>Blended Market Benchmark Return</i>	<i>Market Value Beginning of Period</i>	<i>Market Value End of Period</i>	<i>Net Flows</i>	<i>Income/MV Gain/Loss</i>
<b>Year 2010</b>	<b>5.33%</b>	<b>0.78%</b>	<b>4.56%</b>	<b>4.06%</b>	<b>\$68,058,430</b>	<b>\$71,687,586</b>	<b>\$528,724</b>	<b>\$3,100,433</b>
<b>Year 2011</b>	<b>-0.18%</b>	<b>-0.39%</b>	<b>0.22%</b>	<b>-1.11%</b>	<b>\$71,687,586</b>	<b>\$71,556,256</b>	<b>(\$289,763)</b>	<b>\$158,433</b>
<b>Year 2012</b>	<b>12.02%</b>	<b>1.54%</b>	<b>10.38%</b>	<b>8.79%</b>	<b>\$71,556,256</b>	<b>\$80,159,260</b>	<b>\$1,146,611</b>	<b>\$7,456,393</b>
First Quarter 2013	4.74%	0.17%	4.57%	4.11%	\$80,159,260	\$83,961,194	\$136,321	\$3,665,614
Second Quarter 2013	0.11%	-0.66%	0.77%	-0.02%	\$83,961,194	\$84,050,226	(\$556,298)	\$645,330
Third Quarter 2013	4.18%	-0.15%	4.33%	4.17%	\$84,050,226	\$87,564,096	(\$122,303)	\$3,636,173
Fourth Quarter 2013	4.51%	-0.52%	5.03%	4.23%	\$87,564,096	\$91,515,435	(\$455,296)	\$4,406,635
<b>Year 2013</b>	<b>14.17%</b>	<b>-1.16%</b>	<b>15.47%</b>	<b>13.01%</b>	<b>\$80,159,260</b>	<b>\$91,515,435</b>	<b>(\$997,576)</b>	<b>\$12,353,751</b>
First Quarter 2014	1.04%	-0.23%	1.26%	1.60%	\$91,515,435	\$92,465,523	(\$206,923)	\$1,157,012
Second Quarter 2014	2.46%	-0.58%	3.04%	3.50%	\$92,465,523	\$94,740,524	(\$539,028)	\$2,814,028
Third Quarter 2014	0.81%	1.32%	-0.51%	-0.81%	\$94,740,524	\$95,506,025	\$1,250,137	(\$484,636)
Fourth Quarter 2014	2.47%	0.33%	2.14%	1.83%	\$95,506,025	\$97,867,055	\$319,899	\$2,041,131
<b>Year 2014</b>	<b>6.94%</b>	<b>0.84%</b>	<b>6.03%</b>	<b>6.21%</b>	<b>\$91,515,435</b>	<b>\$97,867,055</b>	<b>\$824,086</b>	<b>\$5,527,534</b>
First Quarter 2015	1.12%	-1.03%	2.16%	1.89%	\$97,867,055	\$98,966,096	(\$1,010,566)	\$2,109,607
Second Quarter 2015	-0.94%	-1.47%	0.54%	0.02%	\$98,966,096	\$98,036,132	(\$1,459,536)	\$529,571
Third Quarter 2015	-4.22%	-0.22%	-4.00%	-4.13%	\$98,036,132	\$93,898,076	(\$216,816)	(\$3,921,241)
Fourth Quarter 2015	3.11%	0.16%	2.95%	3.28%	\$93,898,076	\$96,820,276	\$150,771	\$2,771,430
<b>Year 2015</b>	<b>-1.07%</b>	<b>-2.55%</b>	<b>1.50%</b>	<b>0.91%</b>	<b>\$97,867,055</b>	<b>\$96,820,276</b>	<b>(\$2,536,146)</b>	<b>\$1,489,368</b>
First Quarter 2016	0.36%	-0.24%	0.60%	1.27%	\$96,820,276	\$97,172,426	(\$232,369)	\$584,518
Second Quarter 2016	1.03%	-0.34%	1.36%	1.72%	\$97,172,426	\$98,171,206	(\$327,134)	\$1,325,915
Third Quarter 2016	2.86%	-0.33%	3.18%	2.69%	\$98,171,206	\$100,977,040	(\$319,961)	\$3,125,794
Fourth Quarter 2016	0.43%	-0.82%	1.25%	0.83%	\$100,977,040	\$101,407,935	(\$828,764)	\$1,259,659
<b>Year 2016</b>	<b>4.74%</b>	<b>-1.71%</b>	<b>6.54%</b>	<b>6.66%</b>	<b>\$96,820,276</b>	<b>\$101,407,935</b>	<b>(\$1,708,227)</b>	<b>\$6,295,885</b>
First Quarter 2017	3.87%	0.02%	3.86%	4.00%	\$101,407,935	\$105,333,587	\$15,775	\$3,909,878
Second Quarter 2017	2.33%	-0.17%	2.50%	2.63%	\$105,333,587	\$107,787,635	(\$183,495)	\$2,637,543
Third Quarter 2017	-0.17%	-3.41%	3.24%	3.12%	\$107,787,635	\$107,608,610	(\$3,670,447)	\$3,491,422
Fourth Quarter 2017	3.65%	0.24%	3.41%	3.32%	\$107,608,610	\$111,538,650	\$255,540	\$3,674,500
<b>Year 2017</b>	<b>9.99%</b>	<b>-3.33%</b>	<b>13.66%</b>	<b>13.72%</b>	<b>\$101,407,935</b>	<b>\$111,538,650</b>	<b>(\$3,582,627)</b>	<b>\$13,713,343</b>
<b>Historical Performance Cumulative</b>	<b>63.89%</b>	<b>-5.93%</b>	<b>74.05%</b>	<b>64.47%</b>	<b>\$68,058,430</b>	<b>\$111,538,650</b>	<b>(\$6,614,920)</b>	<b>\$50,095,140</b>
<b>Historical Performance Annualized</b>	<b>7.05%</b>	<b>-0.84%</b>	<b>7.94%</b>	<b>7.10%</b>				
1 Year Rolling	9.99%	-3.33%	13.66%	13.72%				
3 Year Rolling	4.46%	-2.53%	7.12%	6.97%				
5 Year Rolling	6.83%	-1.59%	8.52%	8.00%				

Performance quoted is past performance and is no guarantee of future results.

## Juniata College 403(b) Plan

### Fund Selection List

Fund Name	Fund Category	Tot Ret 12 Mo	% Rank Cat 12 Mo	Tot Ret Annlzd 3 Yr	% Rank Cat 3 Yr	Tot Ret Annlzd 5 Yr	% Rank Cat 5 Yr	Beta 3 Yr	% Rank Beta	Std Dev 3 Yr	% Rank Std Dev	Alpha 3 Yr	% Rank Alpha	Sharpe Ratio 3 Yr	% Rank Sharpe Ratio	Expense Ratio	% Rank Expense Ratio
TIAA-CREF Large-Cap Value Idx Retire	Large Cap Value	13.30	90	8.32	53	13.67	53	1.00	45	7.65	69	-0.28	63	1.03	45	0.31	96
TIAA-CREF Large-Cap Value Retire	Large Cap Value	12.22	91	8.08	65	13.00	69	1.09	19	8.75	30	-1.20	74	0.88	73	0.66	77
Callan Lg Cap Value MF	Large Cap Value	16.66	-	8.39	-	13.68	-	-	-	8.13	-	-	-	0.99	-	0.80	-
Russell 1000 Value	Large Cap Value	13.66	89	8.65	48	14.04	42	1.00	44	7.68	68	0.00	54	1.07	26	-	-
TIAA RASRA-CREF:Eq Idx R2	Large Cap Core	20.74	52	10.77	24	15.18	28	1.01	56	7.13	71	-0.73	27	1.45	17	0.34	93
TIAA-CREF Equity Index R	Large Cap Core	20.86	49	10.84	22	15.26	28	1.02	54	7.17	70	-0.72	27	1.46	17	0.30	93
TIAA-CREF Growth & Income Retire	Large Cap Core	23.78	24	11.43	11	15.51	26	1.06	30	7.77	35	-0.58	25	1.42	21	0.67	71
TIAA-CREF S&P 500 Index Retire	Large Cap Core	21.46	47	11.08	16	15.42	27	1.00	62	6.94	81	-0.26	19	1.54	13	0.30	93
TIAA-CREF Social Choice Eq Retire	Large Cap Core	20.64	57	9.96	52	14.59	44	1.01	61	7.18	70	-1.38	48	1.33	37	0.44	89
Callan Large Cap Core MFs	Large Cap Core	20.83	-	9.97	-	14.37	-	-	-	7.44	-	-	-	1.27	-	0.86	-
S&P 500	Large Cap Core	21.83	40	11.41	11	15.79	20	1.00	62	6.97	80	0.00	15	1.58	10	-	-
TIAA RASRA-CREF:Growth R2	Large Cap Growth	31.73	39	12.95	32	17.20	26	1.14	50	9.03	61	-2.48	42	1.39	23	0.38	97
TIAA-CREF Large-Cap Gr Idx Retire	Large Cap Growth	29.79	54	13.42	24	16.95	30	1.00	81	7.80	88	-0.35	8	1.67	3	0.31	97
TIAA-CREF Large-Cap Growth R	Large Cap Growth	34.12	23	13.02	31	17.43	25	1.20	43	10.03	47	-3.11	52	1.26	43	0.68	84
Callan Large Cap Grwth MF	Large Cap Growth	30.27	-	11.72	-	15.94	-	-	-	9.65	-	-	-	1.23	-	0.94	-
Russell 1000 Growth	Large Cap Growth	30.21	50	13.79	19	17.33	26	1.00	82	7.79	88	0.00	7	1.72	2	-	-
TIAA-CREF Mid-Cap Value Retire	Mid Cap Value	10.79	85	7.01	74	12.77	64	0.96	56	7.24	75	-1.56	57	0.91	45	0.66	94
Callan Mid Cap Value MFs	Mid Cap Value	13.38	-	7.93	-	13.16	-	-	-	8.48	-	-	-	0.86	-	1.11	-
Russell Mid-Cap Value	Mid Cap Value	13.34	52	9.00	22	14.68	20	1.00	51	7.36	71	0.00	33	1.17	21	-	-
TIAA-CREF Mid-Cap Growth Retire	Mid Cap Growth	25.90	44	8.27	65	13.22	58	1.11	39	9.41	44	-2.86	65	0.84	57	0.72	93
Callan Mid Cap Growth MFs	Mid Cap Growth	25.06	-	9.17	-	13.58	-	-	-	9.15	-	-	-	0.92	-	1.14	-
Russell Mid-Cap Growth	Mid Cap Growth	25.27	46	10.30	30	15.30	25	1.00	60	8.08	75	0.00	27	1.22	23	-	-
Victory Sycamore Small Company Opp A	Small Cap Value	11.48	49	12.79	2	15.21	9	0.80	69	9.26	79	4.78	9	1.34	10	1.26	33
Callan Sm Cap Value MF	Small Cap Value	11.38	-	9.15	-	13.35	-	-	-	10.41	-	-	-	0.87	-	1.10	-
Russell 2000 Value	Small Cap Value	7.84	79	9.55	42	13.01	58	1.00	13	11.33	25	0.00	65	0.81	58	-	-
TIAA-CREF Small-Cap Blend Idx Retire	Small Cap Broad	14.56	54	9.93	36	14.09	40	1.00	25	10.45	60	-0.02	56	0.91	33	0.31	100
TIAA-CREF Small-Cap Equity Retire	Small Cap Broad	14.74	54	11.09	23	15.36	16	0.94	33	10.14	69	1.59	34	1.05	16	0.67	94
Callan Small Cap MFs	Small Cap Broad	16.12	-	9.30	-	13.78	-	-	-	10.82	-	-	-	0.84	-	1.17	-
Russell 2000	Small Cap Broad	14.65	54	9.96	36	14.12	40	1.00	25	10.46	60	0.00	56	0.91	33	-	-
Prudential Jennison Small Company Z	Small Cap Growth	19.68	74	9.45	49	13.79	69	0.70	94	8.82	96	1.98	25	1.02	16	0.81	86
Callan Sm Cap Growth MF	Small Cap Growth	24.60	-	9.40	-	14.42	-	-	-	11.14	-	-	-	0.83	-	1.17	-
Russell 2000 Growth	Small Cap Growth	22.17	60	10.28	38	15.21	31	1.00	36	11.41	48	0.00	48	0.86	36	-	-
TIAA-CREF International Eq Idx Retire	Intl Large Cap Core	25.04	57	7.80	20	7.52	17	0.98	68	9.72	72	0.16	13	0.76	7	0.31	99
TIAA-CREF International Eq Retire	Intl Large Cap Core	32.62	4	9.42	2	8.25	11	1.14	17	11.84	20	0.64	2	0.76	7	0.74	88
Callan Intl Lg Cap Cor MF	Intl Large Core	25.88	-	6.72	-	6.30	-	-	-	10.70	-	-	-	0.63	-	1.17	-
MSCI:EAFE	Intl Large Cap Core	25.03	57	7.80	20	7.90	14	1.00	59	9.87	70	0.00	18	0.75	10	-	-
American Funds Europacific Growth R4	Intl Core Plus	30.70	21	9.28	18	8.83	16	1.01	28	11.09	35	0.83	41	0.80	26	0.85	73
Callan Non US Equity MFs	Intl Core Plus	26.65	-	8.01	-	7.75	-	-	-	10.54	-	-	-	0.72	-	1.06	-
MSCI ACWI ex US	International Equities	27.77	42	8.33	44	7.28	65	1.00	31	10.48	50	0.00	73	0.76	42	-	-
Vanguard Emerging Mkts Stock Idx Adm	Emerging Markets	31.38	79	7.51	81	3.49	69	0.96	70	14.44	75	-1.49	79	0.49	78	0.14	97
Callan Emerging Equity MF	Emerging Markets	37.50	-	9.43	-	4.26	-	-	-	15.18	-	-	-	0.61	-	1.36	-
MSCI Emerging Markets	Emerging Markets	37.75	48	9.50	49	4.73	40	1.00	35	14.94	61	0.00	67	0.61	49	-	-
TIAA RASRA-CREF:Gbl Eq R2	Global Equities	24.71	56	9.25	47	11.57	28	0.97	60	8.28	73	-0.30	55	1.07	37	0.44	100
TIAA RASRA-CREF:Stock R2	Global Equities	23.33	79	10.05	28	12.64	10	0.94	68	7.90	82	0.68	38	1.22	21	0.43	100
Callan Global Equity MFs	Global Equities	26.75	-	9.18	-	10.97	-	-	-	9.53	-	-	-	0.94	-	1.17	-
MSCI ACWI	Global Equities	24.62	60	9.89	37	11.40	36	1.00	58	8.38	72	0.00	51	1.13	28	-	-



## Juniata College 403(b) Plan

### Fund Selection List

<i>Fund Name</i>	<i>Fund Category</i>	<i>Tot Ret 12 Mo</i>	<i>% Rank Cat 12 Mo</i>	<i>Tot Ret Annlzd 3 Yr</i>	<i>% Rank Cat 3 Yr</i>	<i>Tot Ret Annlzd 5 Yr</i>	<i>% Rank Cat 5 Yr</i>	<i>Beta 3 Yr</i>	<i>% Rank Beta</i>	<i>Std Dev 3 Yr</i>	<i>% Rank Std Dev</i>	<i>Alpha 3 Yr</i>	<i>% Rank Alpha</i>	<i>Sharpe Ratio 3 Yr</i>	<i>% Rank Sharpe Ratio</i>	<i>Expense Ratio</i>	<i>% Rank Expense Ratio</i>
TIAA RASRA-CREF:Social Choice R2	Balanced Allocation	14.18	40	6.66	37	8.63	41	0.76	53	4.59	76	1.37	35	1.36	17	0.38	97
Morningstar Alloc 50-70 E	Balanced Allocation	13.72	-	6.30	-	8.36	-	-	-	5.08	-	-	-	1.16	-	1.06	-
60% ACWI; 40% Global Agg	Balanced Allocation	17.46	5	6.82	31	7.15	77	1.00	6	5.70	24	0.00	77	1.12	55	-	-
TIAA-CREF Managed Allc R	Balanced Allocation	16.71	8	7.69	9	8.84	37	0.87	21	5.37	35	1.64	26	1.36	18	0.65	86
Morningstar Alloc 50-70 E	Balanced Allocation	13.72	-	6.30	-	8.36	-	-	-	5.08	-	-	-	1.16	-	1.06	-
60% ACWI; 40% Global Agg	Balanced Allocation	17.46	5	6.82	31	7.15	77	1.00	6	5.70	24	0.00	77	1.12	55	-	-
TIAA-CREF Lifecycle 2060 Retirement	Target Date 2060	24.21	2	10.31	7	-	-	1.13	2	7.86	2	0.05	18	1.26	18	0.70	56
Morningstar Target 2060+	Target Date 2060	21.27	-	9.11	-	-	-	-	-	7.28	-	-	-	1.18	-	0.76	-
Callan Tgt Dt Idx 2050	Target Date 2050	20.44	74	9.10	56	11.05	-	1.00	94	6.86	95	0.00	20	1.27	17	-	-
TIAA-CREF Lifecycle 2055 Retirement	Target Date 2055	23.85	3	10.16	1	11.93	11	1.13	12	7.81	6	-0.03	21	1.25	21	0.70	56
Morningstar Target 2055	Target Date 2055	21.16	-	8.73	-	10.84	-	-	-	7.26	-	-	-	1.15	-	0.75	-
Callan Tgt Dt Idx 2050	Target Date 2050	20.44	67	9.10	32	11.05	40	1.00	-	6.86	83	0.00	-	1.27	18	-	-
TIAA-CREF Lifecycle 2050 Retirement	Target Date 2050	23.62	3	10.06	2	11.86	8	1.13	10	7.80	14	-0.11	24	1.24	22	0.70	60
Morningstar Target 2050	Target Date 2050	20.85	-	8.57	-	10.68	-	-	-	7.22	-	-	-	1.14	-	0.81	-
Callan Tgt Dt Idx 2050	Target Date 2050	20.44	60	9.10	27	11.05	32	1.00	76	6.86	85	0.00	21	1.27	15	-	-
TIAA-CREF Lifecycle 2045 Retirement	Target Date 2045	23.41	1	9.93	4	11.78	8	1.13	7	7.77	6	-0.20	26	1.22	25	0.70	56
Morningstar Target 2045	Target Date 2045	20.65	-	8.61	-	10.61	-	-	-	7.09	-	-	-	1.15	-	0.75	-
Callan Tgt Dt Idx 2045	Target Date 2045	20.13	62	8.99	32	10.91	33	1.00	81	6.77	83	0.00	19	1.27	16	-	-
TIAA-CREF Lifecycle 2040 Retirement	Target Date 2040	22.49	1	9.59	4	11.57	7	1.15	4	7.65	10	-0.41	38	1.20	32	0.69	61
Morningstar Target 2040	Target Date 2040	19.78	-	8.20	-	10.18	-	-	-	6.88	-	-	-	1.13	-	0.80	-
Callan Tgt Dt Idx 2040	Target Date 2040	19.48	55	8.77	28	10.65	35	1.00	61	6.56	81	0.00	17	1.27	13	-	-
TIAA-CREF Lifecycle 2035 Retirement	Target Date 2035	20.76	7	9.01	11	10.97	11	1.12	19	7.00	16	-0.24	30	1.23	32	0.68	56
Morningstar Target 2035	Target Date 2035	18.72	-	7.94	-	9.73	-	-	-	6.50	-	-	-	1.16	-	0.75	-
Callan Tgt Dt Idx 2035	Target Date 2035	18.26	59	8.32	33	10.11	37	1.00	63	6.17	71	0.00	18	1.28	16	-	-
TIAA-CREF Lifecycle 2030 Retirement	Target Date 2030	18.86	5	8.38	7	10.15	12	1.12	25	6.36	30	-0.21	27	1.25	26	0.67	61
Morningstar Target 2030	Target Date 2030	17.01	-	7.26	-	8.86	-	-	-	5.89	-	-	-	1.15	-	0.79	-
Callan Tgt Dt Idx 2030	Target Date 2030	16.61	58	7.71	28	9.33	36	1.00	66	5.58	73	0.00	18	1.31	16	-	-
TIAA-CREF Lifecycle 2025 Retirement	Target Date 2025	17.06	4	7.75	4	9.27	11	1.15	25	5.71	24	-0.09	23	1.29	23	0.66	56
Morningstar Target 2025	Target Date 2025	15.03	-	6.63	-	8.07	-	-	-	5.21	-	-	-	1.19	-	0.73	-
Callan Tgt Dt Idx 2025	Target Date 2025	14.56	59	6.89	32	8.35	38	1.00	66	4.88	67	0.00	18	1.33	14	-	-
TIAA-CREF Lifecycle 2020 Retirement	Target Date 2020	15.21	4	7.10	3	8.35	7	1.18	17	5.08	23	-0.01	17	1.32	18	0.65	60
Morningstar Target 2020	Target Date 2020	12.63	-	5.81	-	6.98	-	-	-	4.68	-	-	-	1.16	-	0.74	-
Callan Tgt Dt Idx 2020	Target Date 2020	12.57	50	6.10	33	7.33	40	1.00	62	4.21	69	0.00	16	1.35	13	-	-
TIAA-CREF Lifecycle 2015 Retirement	Target Date 2015	13.65	7	6.51	7	7.48	21	1.21	21	4.55	21	0.11	13	1.34	18	0.64	56
Morningstar Target 2015	Target Date 2015	11.42	-	5.51	-	6.73	-	-	-	4.27	-	-	-	1.22	-	0.66	-
Callan Tgt Dt Idx 2015	Target Date 2015	10.88	64	5.37	55	6.32	68	1.00	89	3.63	94	0.00	19	1.37	12	-	-
TIAA-CREF Lifecycle 2010 Retirement	Target Date 2010	12.39	1	6.02	1	6.82	1	1.18	10	4.13	10	0.14	3	1.36	7	0.63	60
Morningstar Target Ret	Target Retirement	8.84	-	4.13	-	4.34	-	-	-	3.52	-	-	-	1.10	-	0.72	-
Callan Tgt Dt Idx 2010	Target Date 2010	10.05	25	5.03	15	5.67	14	1.00	46	3.33	59	0.00	9	1.39	3	-	-
TIAA-CREF Lifecycle Retire Income Retire	Retirement Income	11.75	6	5.74	3	6.20	4	0.63	25	3.88	27	2.26	2	1.37	6	0.63	60
Morningstar Target Ret	Target Retirement	8.84	-	4.13	-	4.34	-	-	-	3.52	-	-	-	1.10	-	0.72	-
40% ACWI; 60% Global Agg	Moderate Allocation	14.02	1	5.24	10	5.03	29	1.00	1	5.09	1	0.00	90	0.95	74	-	-
TIAA-CREF High-Yield R	High Yield Bond	5.39	92	5.51	29	4.94	40	0.91	39	5.21	41	-0.30	53	0.98	53	0.61	84
Callan High Yield MFs	High Yield Bond	6.89	-	5.11	-	4.80	-	-	-	5.05	-	-	-	1.00	-	0.84	-
Blmbg:Corporate High Yld	High Yield Bond	7.50	19	6.35	8	5.78	16	1.00	18	5.64	22	0.00	45	1.05	43	-	-

## Juniata College 403(b) Plan

### Fund Selection List

<i>Fund Name</i>	<i>Fund Category</i>	<i>Tot Ret 12 Mo</i>	<i>% Rank 12 Mo</i>	<i>Tot Ret Annlzd 3 Yr</i>	<i>% Rank 3 Yr</i>	<i>Tot Ret Annlzd 5 Yr</i>	<i>% Rank 5 Yr</i>	<i>Beta 3 Yr</i>	<i>% Rank Beta</i>	<i>Std Dev 3 Yr</i>	<i>% Rank Std Dev</i>	<i>Alpha 3 Yr</i>	<i>% Rank Alpha</i>	<i>Sharpe Ratio 3 Yr</i>	<i>% Rank Sharpe Ratio</i>	<i>Expense Ratio</i>	<i>% Rank Expense Ratio</i>
T. Rowe Price Emerging Markets Bond	International Bond	8.98	58	7.92	1	3.78	3	1.10	54	5.62	82	1.00	22	1.34	1	0.92	36
Callan Intl Fixed Inc MF	International Bond	10.13	-	1.62	-	0.38	-	-	-	8.12	-	-	-	0.15	-	0.80	-
Blmbg:Glob Agg ex USD	Global Bond	10.51	45	1.77	46	-0.20	73	1.00	-	8.84	13	0.00	-	0.15	48	-	-
TIAA-CREF Bond Plus R	Core Plus Bond	4.44	56	3.06	23	2.75	34	0.99	47	3.05	59	0.28	32	0.87	22	0.56	53
Callan Core Plus MFs	Core Plus Bond	4.58	-	2.77	-	2.54	-	-	-	3.08	-	-	-	0.74	-	0.59	-
Barclays Capital U.S. Universal Idx	Universal Bond	4.09	66	2.80	46	2.49	55	1.00	41	3.06	59	0.00	48	0.78	44	-	-
TIAA RASRA-CREF: Bond Mkt R2	Core Bond	4.04	34	2.60	18	2.23	24	0.98	30	3.12	38	0.40	19	0.70	19	0.40	89
TIAA-CREF Bond R	Core Bond	4.18	32	2.89	11	2.54	15	0.99	28	3.15	31	0.67	12	0.79	12	0.56	44
Callan Core Bond MFs	Core Bond	3.53	-	2.20	-	1.97	-	-	-	3.09	-	-	-	0.57	-	0.52	-
Barclays Capital Aggregate	Core Bond	3.54	49	2.24	44	2.10	34	1.00	15	3.17	25	0.00	54	0.58	46	-	-
TIAA-CREF Short-Term Bond R	Short Term Bond	1.62	34	1.38	34	1.00	49	0.90	47	0.80	49	0.50	36	1.21	20	0.52	58
Callan Defensive FI MFs	Defensive Fixed Income	1.34	-	1.14	-	0.99	-	-	-	0.80	-	-	-	0.95	-	0.55	-
Barclays Capital 1-3 Year Govt/Credit	Short Term Govt/Credit	0.84	71	0.93	65	0.84	65	1.00	33	0.80	49	0.00	70	0.65	69	-	-
TIAA RASRA-CREF:Infl-Lkd Bond R2	TIPS	1.77	80	1.35	61	-0.43	47	0.86	73	2.99	82	-0.46	54	0.32	53	0.35	89
TIAA-CREF Inflation Link Bd R	TIPS	1.55	89	0.98	82	-0.67	70	0.82	82	2.83	87	-0.76	76	0.20	79	0.52	70
Callan TIPS MFs	TIPS	2.63	-	1.54	-	-0.43	-	-	-	3.51	-	-	-	0.33	-	0.70	-
Barclays Capital US TIPS	TIPS	3.01	25	2.05	20	0.13	12	1.00	51	3.43	60	0.00	23	0.48	16	-	-
TIAA RASRA-CREF:Real Estate Acct	Real Estate	4.37	61	5.90	22	7.88	68	0.05	99	1.18	100	5.20	3	4.64	1	0.85	83
TIAA-CREF Real Estate Sec Retire	Real Estate	12.02	4	6.77	8	9.55	16	0.88	71	8.55	65	1.70	14	0.74	14	0.76	90
Callan Real Estate MFs	Real Estate	5.20	-	4.85	-	8.38	-	-	-	9.00	-	-	-	0.50	-	1.23	-
FTSE:NAREIT Equity Index	Real Estate	5.23	49	5.62	27	9.46	17	1.00	23	9.19	31	0.00	37	0.57	35	-	-
PIMCO All Asset A	GTAA	13.50	3	5.14	5	3.17	37	0.66	33	7.27	8	4.70	5	0.65	26	1.32	73
Morningstar Multialt	Multi Alternative	4.62	-	1.67	-	2.58	-	-	-	3.76	-	-	-	0.34	-	1.72	-
CS:AllHedge Ix	Hedge Fund	7.72	19	0.78	64	1.99	69	1.00	12	3.96	43	0.00	69	0.09	65	-	-
TIAA Traditional Account (GSRA)	Cash & Equivalents	3.14	1	3.26	1	3.32	1	-	-	-	-	-	-	-	-	0.55	60
TIAA Traditional Account (RA)	Cash & Equivalents	3.80	1	3.94	1	3.99	1	-	-	-	-	-	-	-	-	0.55	60
TIAA Traditional Account (SRA)	Cash & Equivalents	3.14	1	3.26	1	3.32	1	-	-	-	-	-	-	-	-	0.55	60
Callan Stable Value CT	Cash & Equivalents	1.51	-	1.40	-	1.30	-	-	-	0.07	-	-	-	14.72	-	0.65	-
3 Month T-Bill	Cash & Equivalents	0.86	95	0.41	98	0.27	99	1.00	-	0.19	3	0.00	-	0.00	98	-	-
TIAA RASRA-CREF:Money Mkt R2	Cash & Equivalents	0.44	70	0.17	61	0.10	69	0.00	-	0.11	69	-0.24	-	-2.21	69	0.34	64
TIAA-CREF Money Market R	Cash & Equivalents	0.50	59	0.18	66	0.11	67	0.00	-	0.13	60	-0.23	-	-1.82	60	0.39	67
Callan Money Market Funds	Cash & Equivalents	0.60	-	0.23	-	0.14	-	-	-	0.15	-	-	-	-1.19	-	0.44	-
3 Month T-Bill	Cash & Equivalents	0.86	22	0.41	21	0.27	19	1.00	-	0.19	24	0.00	-	0.00	21	-	-

**Performance quoted is past performance and is no guarantee of future results.**

*Data was obtained from Callan Associates as of December 31, 2017*

## Juniata College 403(b) Plan - Proposed w/ Mapping

### Fund Selection List

<i>Fund Name</i>	<i>Fund Category</i>	<i>Tot Ret 12 Mo</i>	<i>% Rank Cat 12 Mo</i>	<i>Tot Ret Annlzd 3 Yr</i>	<i>% Rank Cat 3 Yr</i>	<i>Tot Ret Annlzd 5 Yr</i>	<i>% Rank Cat 5 Yr</i>	<i>Beta 3 Yr</i>	<i>% Rank Beta</i>	<i>Std Dev 3 Yr</i>	<i>% Rank Std Dev</i>	<i>Alpha 3 Yr</i>	<i>% Rank Alpha</i>	<i>Sharpe Ratio 3 Yr</i>	<i>% Rank Sharpe Ratio</i>	<i>Expense Ratio</i>	<i>% Rank Expense Ratio</i>
<b>American Beacon Large Cap Value Instl</b>	<b>Large Cap Value</b>	<b>20.70</b>	<b>20</b>	<b>7.63</b>	<b>56</b>	<b>13.06</b>	<b>35</b>	<b>1.09</b>	<b>15</b>	<b>9.08</b>	<b>14</b>	<b>-1.44</b>	<b>72</b>	<b>0.80</b>	<b>77</b>	<b>0.59</b>	<b>85</b>
<b>American Funds Washington Mutual R6</b>	<b>Large Cap Value</b>	<b>19.58</b>	<b>38</b>	<b>10.07</b>	<b>13</b>	<b>13.82</b>	<b>21</b>	<b>0.82</b>	<b>86</b>	<b>6.84</b>	<b>91</b>	<b>2.86</b>	<b>9</b>	<b>1.43</b>	<b>8</b>	<b>0.30</b>	<b>96</b>
TIAA-CREF Large-Cap Value Idx Retire	Large Cap Value	14.74	73	8.22	43	12.84	43	1.00	42	7.61	60	-0.27	49	1.04	27	0.31	96
TIAA-CREF Large-Cap Value Retire	Large Cap Value	15.31	64	8.07	47	12.71	45	1.10	10	8.75	22	-1.15	68	0.89	62	0.66	79
Callan Lg Cap Value MF	Large Cap Value	17.66	-	7.89	-	12.41	-	-	-	7.92	-	-	-	0.95	-	0.81	-
Russell 1000 Value	Large Cap Value	15.12	67	8.53	35	13.20	33	1.00	41	7.64	60	0.00	41	1.08	21	-	-
TIAA-CREF Equity Index R	Large Cap Core	18.43	49	10.45	24	13.91	27	1.03	41	7.01	63	-0.66	25	1.45	15	0.30	93
TIAA-CREF Growth & Income Retire	Large Cap Core	18.86	40	10.46	24	13.82	28	1.05	39	7.43	44	-0.74	26	1.36	27	0.67	71
TIAA-CREF S&P 500 Index Retire	Large Cap Core	18.24	53	10.47	24	13.86	27	0.99	62	6.68	80	-0.26	17	1.52	11	0.30	93
<b>TIAA-CREF Social Choice Eq Retire</b>	<b>Large Cap Core</b>	<b>18.21</b>	<b>53</b>	<b>9.23</b>	<b>51</b>	<b>13.60</b>	<b>32</b>	<b>1.00</b>	<b>61</b>	<b>6.91</b>	<b>68</b>	<b>-1.46</b>	<b>44</b>	<b>1.29</b>	<b>35</b>	<b>0.44</b>	<b>89</b>
<b>Vanguard 500 Index Admiral</b>	<b>Large Cap Core</b>	<b>18.57</b>	<b>47</b>	<b>10.78</b>	<b>12</b>	<b>14.18</b>	<b>24</b>	<b>1.00</b>	<b>61</b>	<b>6.72</b>	<b>77</b>	<b>-0.03</b>	<b>14</b>	<b>1.56</b>	<b>10</b>	<b>0.04</b>	<b>100</b>
Callan Large Cap Core MFs	Large Cap Core	18.34	-	9.32	-	12.98	-	-	-	7.26	-	-	-	1.21	-	0.86	-
S&P 500	Large Cap Core	18.61	47	10.81	12	14.22	24	1.00	61	6.72	77	0.00	14	1.56	9	-	-
<b>Jensen Quality Growth I</b>	<b>Large Cap Growth</b>	<b>16.02</b>	<b>91</b>	<b>12.68</b>	<b>26</b>	<b>14.76</b>	<b>33</b>	<b>0.82</b>	<b>95</b>	<b>7.89</b>	<b>84</b>	<b>2.28</b>	<b>1</b>	<b>1.57</b>	<b>6</b>	<b>0.61</b>	<b>88</b>
<b>T. Rowe Price Growth Stock</b>	<b>Large Cap Growth</b>	<b>26.10</b>	<b>8</b>	<b>13.90</b>	<b>10</b>	<b>16.26</b>	<b>13</b>	<b>1.24</b>	<b>43</b>	<b>10.19</b>	<b>37</b>	<b>-1.60</b>	<b>24</b>	<b>1.33</b>	<b>27</b>	<b>0.68</b>	<b>82</b>
TIAA-CREF Large-Cap Gr Idx Retire	Large Cap Growth	21.52	36	12.35	29	14.88	30	1.00	82	7.38	88	-0.35	8	1.63	4	0.31	97
TIAA-CREF Large-Cap Growth R	Large Cap Growth	22.11	32	12.46	27	15.99	15	1.25	41	9.87	44	-3.03	54	1.23	38	0.68	82
Callan Large Cap Grwth MF	Large Cap Growth	20.41	-	11.31	-	14.14	-	-	-	9.46	-	-	-	1.19	-	0.94	-
Russell 1000 Growth	Large Cap Growth	21.94	34	12.69	26	15.26	29	1.00	82	7.37	88	0.00	7	1.68	2	-	-
TIAA-CREF Mid-Cap Value Retire	Mid Cap Value	12.91	82	7.74	44	12.72	55	1.00	53	7.53	67	-1.31	52	0.99	33	0.66	94
Callan Mid Cap Value MFs	Mid Cap Value	15.57	-	7.56	-	12.97	-	-	-	8.47	-	-	-	0.90	-	1.11	-
Russell Mid-Cap Value	Mid Cap Value	13.37	74	9.19	18	14.33	18	1.00	47	7.45	72	0.00	33	1.19	17	-	-
<b>Vanguard Mid Cap Index Admiral</b>	<b>Mid Cap Broad</b>	<b>15.30</b>	<b>65</b>	<b>9.72</b>	<b>17</b>	<b>14.39</b>	<b>17</b>	<b>0.99</b>	<b>55</b>	<b>7.24</b>	<b>86</b>	<b>0.26</b>	<b>27</b>	<b>1.30</b>	<b>13</b>	<b>0.06</b>	<b>100</b>
Callan Mid Cap MFs	Mid Cap Broad	16.96	-	8.23	-	12.58	-	-	-	8.65	-	-	-	0.89	-	1.11	-
Russell Mid-Cap	Mid Cap Broad	15.32	64	9.54	25	14.26	18	1.00	53	7.18	87	0.00	31	1.28	13	-	-
TIAA-CREF Mid-Cap Growth Retire	Mid Cap Growth	17.87	48	8.18	60	12.17	51	1.13	34	9.38	41	-2.78	70	0.84	62	0.72	93
Callan Mid Cap Growth MFs	Mid Cap Growth	17.56	-	9.06	-	12.24	-	-	-	8.96	-	-	-	0.89	-	1.14	-
Russell Mid-Cap Growth	Mid Cap Growth	17.82	48	9.96	28	14.18	23	1.00	63	7.93	82	0.00	26	1.22	19	-	-
<b>Victory Sycamore Small Company Opp A</b>	<b>Small Cap Value</b>	<b>22.97</b>	<b>22</b>	<b>14.87</b>	<b>2</b>	<b>15.35</b>	<b>6</b>	<b>0.80</b>	<b>60</b>	<b>9.78</b>	<b>68</b>	<b>4.73</b>	<b>3</b>	<b>1.49</b>	<b>6</b>	<b>1.26</b>	<b>28</b>
Callan Sm Cap Value MF	Small Cap Value	19.52	-	9.60	-	12.97	-	-	-	10.92	-	-	-	0.91	-	1.09	-
Russell 2000 Value	Small Cap Value	20.55	36	12.12	23	13.27	46	1.00	7	11.95	20	0.00	53	0.99	40	-	-
TIAA-CREF Small-Cap Blend Idx Retire	Small Cap Broad	20.63	30	12.16	22	13.73	32	1.00	19	11.19	51	-0.01	47	1.06	27	0.31	100
TIAA-CREF Small-Cap Equity Retire	Small Cap Broad	21.64	27	12.82	16	14.72	16	0.93	30	10.69	62	1.38	31	1.17	18	0.67	94
<b>Vanguard Small Cap Index Adm</b>	<b>Small Cap Broad</b>	<b>17.35</b>	<b>69</b>	<b>10.44</b>	<b>47</b>	<b>13.94</b>	<b>28</b>	<b>0.77</b>	<b>76</b>	<b>8.86</b>	<b>91</b>	<b>0.97</b>	<b>36</b>	<b>1.14</b>	<b>20</b>	<b>0.06</b>	<b>100</b>
Callan Small Cap MFs	Small Cap Broad	18.93	-	10.08	-	13.02	-	-	-	11.20	-	-	-	0.89	-	1.17	-
Russell 2000	Small Cap Broad	20.74	29	12.18	22	13.79	31	1.00	19	11.19	51	0.00	47	1.06	27	-	-
<b>Prudential Jennison Small Company Z</b>	<b>Small Cap Growth</b>	<b>20.38</b>	<b>32</b>	<b>9.51</b>	<b>61</b>	<b>13.46</b>	<b>39</b>	<b>0.66</b>	<b>93</b>	<b>8.83</b>	<b>96</b>	<b>1.31</b>	<b>23</b>	<b>1.04</b>	<b>18</b>	<b>0.84</b>	<b>85</b>
Callan Sm Cap Growth MF	Small Cap Growth	19.00	-	10.93	-	13.30	-	-	-	11.86	-	-	-	0.84	-	1.17	-
Russell 2000 Growth	Small Cap Growth	20.98	27	12.17	28	14.28	24	1.00	30	12.10	46	0.00	42	0.98	27	-	-
TIAA-CREF International Eq Idx Retire	Intl Large Cap Core	18.69	45	5.03	27	8.30	18	0.99	68	10.21	69	0.03	27	0.46	22	0.31	100
TIAA-CREF International Eq Retire	Intl Large Cap Core	21.88	16	7.24	2	9.49	5	1.11	19	11.99	20	1.72	2	0.58	4	0.74	88
Callan Intl Lg Cap Cor MF	Intl Large Core	18.24	-	4.02	-	6.79	-	-	-	10.93	-	-	-	0.35	-	1.18	-
MSCI:EAFE	Intl Large Cap Core	19.10	38	5.04	26	8.38	18	1.00	66	10.22	68	0.00	28	0.46	22	-	-

## Juniata College 403(b) Plan - Proposed w/ Mapping

### Fund Selection List

<i>Fund Name</i>	<i>Fund Category</i>	<i>Tot Ret 12 Mo</i>	<i>% Rank Cat 12 Mo</i>	<i>Tot Ret Annlzd 3 Yr</i>	<i>% Rank Cat 3 Yr</i>	<i>Tot Ret Annlzd 5 Yr</i>	<i>% Rank Cat 5 Yr</i>	<i>Beta 3 Yr</i>	<i>% Rank Beta</i>	<i>Std Dev 3 Yr</i>	<i>% Rank Std Dev</i>	<i>Alpha 3 Yr</i>	<i>% Rank Alpha</i>	<i>Sharpe Ratio 3 Yr</i>	<i>% Rank Sharpe Ratio</i>	<i>Expense Ratio</i>	<i>% Rank Expense Ratio</i>
American Funds Europacific Growth R4	Intl Core Plus	20.21	29	7.20	21	9.13	16	1.00	35	11.25	39	1.98	33	0.61	23	0.85	73
<b>American Funds Europacific Growth R6</b>	<b>Intl Core Plus</b>	<b>20.63</b>	<b>23</b>	<b>7.56</b>	<b>14</b>	<b>9.51</b>	<b>13</b>	<b>1.00</b>	<b>35</b>	<b>11.27</b>	<b>39</b>	<b>2.33</b>	<b>29</b>	<b>0.64</b>	<b>17</b>	<b>0.50</b>	<b>90</b>
<b>Dodge &amp; Cox International Stock</b>	<b>Intl Core Plus</b>	<b>26.58</b>	<b>3</b>	<b>3.87</b>	<b>80</b>	<b>10.13</b>	<b>11</b>	<b>1.19</b>	<b>3</b>	<b>13.51</b>	<b>5</b>	<b>-1.93</b>	<b>96</b>	<b>0.26</b>	<b>93</b>	<b>0.64</b>	<b>89</b>
<b>Vanguard Total Intl Stock Index Admiral</b>	<b>Intl Core Plus</b>	<b>19.27</b>	<b>46</b>	<b>5.31</b>	<b>54</b>	<b>7.49</b>	<b>73</b>	<b>0.98</b>	<b>37</b>	<b>10.68</b>	<b>53</b>	<b>0.18</b>	<b>67</b>	<b>0.47</b>	<b>52</b>	<b>0.11</b>	<b>100</b>
Callan Non US Equity MFs	Intl Core Plus	19.13	-	5.48	-	8.18	-	-	-	10.87	-	-	-	0.47	-	1.06	-
MSCI ACWI ex US	International Equities	20.15	33	5.19	57	7.45	76	1.00	34	10.81	52	0.00	68	0.45	55	-	-
<b>Causeway Emerging Markets Instl</b>	<b>Emerging Markets</b>	<b>25.08</b>	<b>36</b>	<b>4.77</b>	<b>59</b>	<b>5.54</b>	<b>30</b>	<b>0.98</b>	<b>56</b>	<b>15.18</b>	<b>66</b>	<b>-0.41</b>	<b>70</b>	<b>0.29</b>	<b>62</b>	<b>1.18</b>	<b>69</b>
Vanguard Emerging Mkts Stock Idx Adm	Emerging Markets	18.85	80	4.03	76	3.60	65	0.95	72	14.53	78	-1.00	76	0.26	74	0.15	97
Callan Emerging Equity MF	Emerging Markets	23.99	-	5.48	-	4.16	-	-	-	15.50	-	-	-	0.34	-	1.36	-
MSCI Emerging Markets	Emerging Markets	22.91	58	5.28	55	4.36	47	1.00	42	15.09	68	0.00	63	0.33	54	-	-
TIAA RASRA-CREF:Gbl Eq R2	Global Equities	19.64	35	7.68	52	10.90	39	0.95	68	7.98	74	0.03	51	0.92	39	0.44	100
TIAA RASRA-CREF:Stock R2	Global Equities	19.09	50	8.88	28	11.87	20	0.93	73	7.66	82	1.34	36	1.12	11	0.43	100
Callan Global Equity MFs	Global Equities	19.18	-	8.06	-	10.70	-	-	-	9.45	-	-	-	0.75	-	1.17	-
MSCI ACWI	Global Equities	19.29	47	8.02	50	10.79	43	1.00	56	8.18	73	0.00	52	0.94	38	-	-
TIAA RASRA-CREF:Social Choice R2	Balanced Allocation	10.79	48	6.18	35	8.29	36	0.73	49	4.47	77	2.09	39	1.31	19	0.38	97
Morningstar Alloc 50-70 E	Balanced Allocation	10.75	-	5.81	-	7.86	-	-	-	4.96	-	-	-	1.11	-	1.05	-
60% ACWI; 40% Global Agg	Balanced Allocation	10.67	53	5.43	63	6.67	80	1.00	5	5.62	22	0.00	87	0.91	75	-	-
TIAA-CREF Managed Allc R	Balanced Allocation	12.58	17	7.06	15	8.50	32	0.86	18	5.27	34	2.31	32	1.28	22	0.65	85
Morningstar Alloc 50-70 E	Balanced Allocation	10.75	-	5.81	-	7.86	-	-	-	4.96	-	-	-	1.11	-	1.05	-
60% ACWI; 40% Global Agg	Balanced Allocation	10.67	53	5.43	63	6.67	80	1.00	5	5.62	22	0.00	87	0.91	75	-	-
<b>TIAA-CREF Lifecycle 2060 Institutional</b>	<b>Target Date 2060</b>	<b>19.60</b>	<b>1</b>	<b>9.35</b>	<b>5</b>	<b>-</b>	<b>-</b>	<b>1.14</b>	<b>5</b>	<b>7.65</b>	<b>5</b>	<b>0.26</b>	<b>13</b>	<b>1.18</b>	<b>13</b>	<b>0.45</b>	<b>82</b>
TIAA-CREF Lifecycle 2060 Retirement	Target Date 2060	19.32	2	9.09	11	-	-	1.14	2	7.66	2	0.00	22	1.14	22	0.70	58
<b>Vanguard Target Retirement 2060 Inv</b>	<b>Target Date 2060</b>	<b>16.84</b>	<b>56</b>	<b>8.09</b>	<b>55</b>	<b>10.87</b>	<b>-</b>	<b>1.06</b>	<b>52</b>	<b>7.00</b>	<b>72</b>	<b>-0.33</b>	<b>44</b>	<b>1.11</b>	<b>44</b>	<b>0.16</b>	<b>95</b>
Morningstar Target 2060+	Target Date 2060	16.97	-	8.24	-	-	-	-	-	7.10	-	-	-	1.08	-	0.79	-
CAI Tgt Dt Idx 2050	Target Date 2050	16.39	70	8.01	58	10.30	-	1.00	96	6.62	100	0.00	19	1.16	16	-	-
<b>TIAA-CREF Lifecycle 2055 Institutional</b>	<b>Target Date 2055</b>	<b>19.43</b>	<b>1</b>	<b>9.26</b>	<b>1</b>	<b>11.58</b>	<b>5</b>	<b>1.14</b>	<b>3</b>	<b>7.65</b>	<b>3</b>	<b>0.16</b>	<b>15</b>	<b>1.17</b>	<b>15</b>	<b>0.45</b>	<b>85</b>
TIAA-CREF Lifecycle 2055 Retirement	Target Date 2055	19.17	1	8.98	3	11.30	10	1.14	4	7.62	5	-0.06	23	1.14	25	0.70	60
<b>Vanguard Target Retirement 2055 Inv</b>	<b>Target Date 2055</b>	<b>16.86</b>	<b>43</b>	<b>8.11</b>	<b>31</b>	<b>10.88</b>	<b>21</b>	<b>1.06</b>	<b>52</b>	<b>7.00</b>	<b>61</b>	<b>-0.31</b>	<b>35</b>	<b>1.11</b>	<b>31</b>	<b>0.16</b>	<b>96</b>
Morningstar Target 2055	Target Date 2055	16.61	-	7.76	-	10.28	-	-	-	7.11	-	-	-	1.06	-	0.81	-
CAI Tgt Dt Idx 2050	Target Date 2050	16.39	59	8.01	36	10.30	49	1.00	83	6.62	87	0.00	21	1.16	17	-	-
<b>TIAA-CREF Lifecycle 2050 Institutional</b>	<b>Target Date 2050</b>	<b>19.27</b>	<b>1</b>	<b>9.18</b>	<b>1</b>	<b>11.53</b>	<b>4</b>	<b>1.14</b>	<b>8</b>	<b>7.64</b>	<b>13</b>	<b>0.12</b>	<b>16</b>	<b>1.16</b>	<b>14</b>	<b>0.45</b>	<b>86</b>
TIAA-CREF Lifecycle 2050 Retirement	Target Date 2050	18.86	2	8.86	3	11.23	8	1.13	9	7.61	14	-0.16	28	1.12	26	0.70	63
<b>Vanguard Target Retirement 2050 Inv</b>	<b>Target Date 2050</b>	<b>16.84</b>	<b>36</b>	<b>8.15</b>	<b>23</b>	<b>10.91</b>	<b>11</b>	<b>1.05</b>	<b>46</b>	<b>6.97</b>	<b>56</b>	<b>-0.24</b>	<b>31</b>	<b>1.12</b>	<b>25</b>	<b>0.16</b>	<b>96</b>
Morningstar Target 2050	Target Date 2050	16.49	-	7.58	-	10.10	-	-	-	7.10	-	-	-	1.03	-	0.88	-
CAI Tgt Dt Idx 2050	Target Date 2050	16.39	52	8.01	29	10.30	41	1.00	80	6.62	85	0.00	19	1.16	14	-	-
<b>TIAA-CREF Lifecycle 2045 Institutional</b>	<b>Target Date 2045</b>	<b>18.88</b>	<b>1</b>	<b>9.05</b>	<b>1</b>	<b>11.44</b>	<b>4</b>	<b>1.15</b>	<b>6</b>	<b>7.62</b>	<b>6</b>	<b>-0.01</b>	<b>19</b>	<b>1.15</b>	<b>20</b>	<b>0.45</b>	<b>84</b>
TIAA-CREF Lifecycle 2045 Retirement	Target Date 2045	18.65	2	8.79	4	11.20	8	1.15	9	7.59	8	-0.22	30	1.12	32	0.70	60
<b>Vanguard Target Retirement 2045 Inv</b>	<b>Target Date 2045</b>	<b>16.84</b>	<b>30</b>	<b>8.14</b>	<b>24</b>	<b>10.91</b>	<b>13</b>	<b>1.07</b>	<b>41</b>	<b>6.98</b>	<b>48</b>	<b>-0.28</b>	<b>33</b>	<b>1.12</b>	<b>32</b>	<b>0.16</b>	<b>96</b>
Morningstar Target 2045	Target Date 2045	16.12	-	7.58	-	9.94	-	-	-	6.97	-	-	-	1.05	-	0.81	-
CAI Tgt Dt Idx 2045	Target Date 2045	16.12	50	7.92	34	10.18	41	1.00	81	6.53	83	0.00	19	1.16	15	-	-
<b>TIAA-CREF Lifecycle 2040 Institutional</b>	<b>Target Date 2040</b>	<b>18.26</b>	<b>1</b>	<b>8.81</b>	<b>1</b>	<b>11.31</b>	<b>3</b>	<b>1.17</b>	<b>5</b>	<b>7.49</b>	<b>12</b>	<b>-0.16</b>	<b>24</b>	<b>1.13</b>	<b>22</b>	<b>0.44</b>	<b>87</b>
TIAA-CREF Lifecycle 2040 Retirement	Target Date 2040	17.98	2	8.53	5	11.04	6	1.16	9	7.47	13	-0.40	35	1.10	31	0.69	65
<b>Vanguard Target Retirement 2040 Inv</b>	<b>Target Date 2040</b>	<b>16.26</b>	<b>30</b>	<b>7.97</b>	<b>22</b>	<b>10.80</b>	<b>10</b>	<b>1.09</b>	<b>30</b>	<b>6.90</b>	<b>38</b>	<b>-0.41</b>	<b>36</b>	<b>1.11</b>	<b>28</b>	<b>0.16</b>	<b>96</b>
Morningstar Target 2040	Target Date 2040	15.50	-	7.17	-	9.53	-	-	-	6.74	-	-	-	1.02	-	0.87	-
CAI Tgt Dt Idx 2040	Target Date 2040	15.58	47	7.76	29	9.95	36	1.00	69	6.34	85	0.00	16	1.17	10	-	-

## Juniata College 403(b) Plan - Proposed w/ Mapping

### Fund Selection List

<i>Fund Name</i>	<i>Fund Category</i>	<i>Tot Ret 12 Mo</i>	<i>% Rank 12 Mo</i>	<i>Tot Ret Annlzd 3 Yr</i>	<i>% Rank 3 Yr</i>	<i>Tot Ret Annlzd 5 Yr</i>	<i>% Rank 5 Yr</i>	<i>Beta 3 Yr</i>	<i>% Rank Beta</i>	<i>Std Dev 3 Yr</i>	<i>% Rank Std Dev</i>	<i>Alpha 3 Yr</i>	<i>% Rank Alpha</i>	<i>Sharpe Ratio 3 Yr</i>	<i>% Rank Sharpe Ratio</i>	<i>Expense Ratio</i>	<i>% Rank Expense Ratio</i>
<b>TIAA-CREF Lifecycle 2035 Institutional</b>	<b>Target Date 2035</b>	<b>16.59</b>	<b>9</b>	<b>8.36</b>	<b>4</b>	<b>10.77</b>	<b>6</b>	<b>1.14</b>	<b>17</b>	<b>6.87</b>	<b>17</b>	<b>0.01</b>	<b>18</b>	<b>1.17</b>	<b>19</b>	<b>0.43</b>	<b>85</b>
TIAA-CREF Lifecycle 2035 Retirement	Target Date 2035	16.31	14	8.09	11	10.51	8	1.13	18	6.84	18	-0.21	28	1.14	29	0.68	60
<b>Vanguard Target Retirement 2035 Inv</b>	<b>Target Date 2035</b>	<b>14.76</b>	<b>42</b>	<b>7.61</b>	<b>26</b>	<b>10.30</b>	<b>16</b>	<b>1.05</b>	<b>46</b>	<b>6.30</b>	<b>50</b>	<b>-0.16</b>	<b>25</b>	<b>1.16</b>	<b>21</b>	<b>0.15</b>	<b>96</b>
Morningstar Target 2035	Target Date 2035	14.50	-	7.04	-	9.15	-	-	-	6.30	-	-	-	1.06	-	0.80	-
CAI Tgt Dt Idx 2035	Target Date 2035	14.43	52	7.39	34	9.47	39	1.00	68	5.97	79	0.00	18	1.19	16	-	-
<b>TIAA-CREF Lifecycle 2030 Institutional</b>	<b>Target Date 2030</b>	<b>15.04</b>	<b>6</b>	<b>7.87</b>	<b>2</b>	<b>10.02</b>	<b>5</b>	<b>1.14</b>	<b>26</b>	<b>6.26</b>	<b>30</b>	<b>0.04</b>	<b>16</b>	<b>1.21</b>	<b>16</b>	<b>0.42</b>	<b>88</b>
TIAA-CREF Lifecycle 2030 Retirement	Target Date 2030	14.72	12	7.62	6	9.76	10	1.14	27	6.24	31	-0.18	24	1.17	24	0.67	64
<b>Vanguard Target Retirement 2030 Inv</b>	<b>Target Date 2030</b>	<b>13.25</b>	<b>40</b>	<b>7.19</b>	<b>19</b>	<b>9.58</b>	<b>13</b>	<b>1.06</b>	<b>43</b>	<b>5.71</b>	<b>55</b>	<b>-0.07</b>	<b>19</b>	<b>1.20</b>	<b>17</b>	<b>0.15</b>	<b>97</b>
Morningstar Target 2030	Target Date 2030	13.00	-	6.44	-	8.41	-	-	-	5.77	-	-	-	1.06	-	0.83	-
CAI Tgt Dt Idx 2030	Target Date 2030	12.87	54	6.90	29	8.76	37	1.00	68	5.40	78	0.00	18	1.22	14	-	-
<b>TIAA-CREF Lifecycle 2025 Institutional</b>	<b>Target Date 2025</b>	<b>13.38</b>	<b>5</b>	<b>7.36</b>	<b>1</b>	<b>9.22</b>	<b>6</b>	<b>1.16</b>	<b>25</b>	<b>5.61</b>	<b>25</b>	<b>0.15</b>	<b>13</b>	<b>1.25</b>	<b>14</b>	<b>0.41</b>	<b>85</b>
TIAA-CREF Lifecycle 2025 Retirement	Target Date 2025	13.14	9	7.11	4	8.96	11	1.16	27	5.61	26	-0.08	25	1.21	24	0.66	58
<b>Vanguard Target Retirement 2025 Inv</b>	<b>Target Date 2025</b>	<b>11.74</b>	<b>35</b>	<b>6.76</b>	<b>11</b>	<b>8.85</b>	<b>13</b>	<b>1.09</b>	<b>46</b>	<b>5.15</b>	<b>47</b>	<b>0.01</b>	<b>18</b>	<b>1.25</b>	<b>15</b>	<b>0.14</b>	<b>96</b>
Morningstar Target 2025	Target Date 2025	11.32	-	5.93	-	7.74	-	-	-	5.06	-	-	-	1.10	-	0.79	-
CAI Tgt Dt Idx 2025	Target Date 2025	10.82	62	6.24	33	7.86	43	1.00	64	4.74	70	0.00	19	1.25	15	-	-
<b>TIAA-CREF Lifecycle 2020 Institutional</b>	<b>Target Date 2020</b>	<b>11.81</b>	<b>3</b>	<b>6.84</b>	<b>1</b>	<b>8.38</b>	<b>3</b>	<b>1.19</b>	<b>22</b>	<b>5.00</b>	<b>22</b>	<b>0.25</b>	<b>12</b>	<b>1.31</b>	<b>13</b>	<b>0.40</b>	<b>86</b>
TIAA-CREF Lifecycle 2020 Retirement	Target Date 2020	11.52	7	6.56	3	8.10	6	1.19	21	5.00	22	-0.03	24	1.25	22	0.65	63
<b>Vanguard Target Retirement 2020 Inv</b>	<b>Target Date 2020</b>	<b>10.17</b>	<b>29</b>	<b>6.23</b>	<b>7</b>	<b>8.08</b>	<b>8</b>	<b>1.13</b>	<b>35</b>	<b>4.62</b>	<b>45</b>	<b>-0.02</b>	<b>23</b>	<b>1.28</b>	<b>16</b>	<b>0.14</b>	<b>97</b>
Morningstar Target 2020	Target Date 2020	9.31	-	5.20	-	6.62	-	-	-	4.51	-	-	-	1.10	-	0.80	-
CAI Tgt Dt Idx 2020	Target Date 2020	8.92	58	5.59	33	6.92	41	1.00	59	4.10	68	0.00	21	1.29	15	-	-
<b>TIAA-CREF Lifecycle 2015 Institutional</b>	<b>Target Date 2015</b>	<b>10.36</b>	<b>5</b>	<b>6.31</b>	<b>3</b>	<b>7.52</b>	<b>7</b>	<b>1.21</b>	<b>29</b>	<b>4.45</b>	<b>27</b>	<b>0.39</b>	<b>6</b>	<b>1.35</b>	<b>12</b>	<b>0.38</b>	<b>86</b>
TIAA-CREF Lifecycle 2015 Retirement	Target Date 2015	10.08	11	6.05	7	7.27	16	1.22	26	4.49	26	0.09	18	1.28	23	0.63	60
<b>Vanguard Target Retirement 2015 Inv</b>	<b>Target Date 2015</b>	<b>7.95</b>	<b>72</b>	<b>5.35</b>	<b>37</b>	<b>6.92</b>	<b>30</b>	<b>1.10</b>	<b>62</b>	<b>3.90</b>	<b>72</b>	<b>-0.06</b>	<b>28</b>	<b>1.29</b>	<b>20</b>	<b>0.14</b>	<b>96</b>
Morningstar Target 2015	Target Date 2015	8.64	-	4.98	-	6.50	-	-	-	4.22	-	-	-	1.13	-	0.74	-
CAI Tgt Dt Idx 2015	Target Date 2015	7.22	82	4.96	51	5.97	73	1.00	89	3.53	95	0.00	22	1.31	18	-	-
TIAA-CREF Lifecycle 2010 Retirement	Target Date 2010	9.14	1	5.65	1	6.64	1	1.20	8	4.08	9	0.14	6	1.31	10	0.62	65
<b>TIAA-CREF Lifecycle 2010 Institutional</b>	<b>Target Date 2010</b>	<b>9.41</b>	<b>1</b>	<b>5.92</b>	<b>1</b>	<b>6.89</b>	<b>1</b>	<b>1.20</b>	<b>8</b>	<b>4.08</b>	<b>9</b>	<b>0.41</b>	<b>1</b>	<b>1.38</b>	<b>2</b>	<b>0.37</b>	<b>88</b>
Morningstar Target Ret	Target Retirement	5.86	-	3.86	-	4.12	-	-	-	3.46	-	-	-	1.06	-	0.77	-
CAI Tgt Dt Idx 2010	Target Date 2010	6.49	30	4.65	15	5.34	14	1.00	46	3.25	59	0.00	15	1.33	6	-	-
<b>TIAA-CREF Lifecycle Retire Income Instl</b>	<b>Retirement Income</b>	<b>8.76</b>	<b>1</b>	<b>5.61</b>	<b>1</b>	<b>6.28</b>	<b>1</b>	<b>0.61</b>	<b>20</b>	<b>3.84</b>	<b>17</b>	<b>2.94</b>	<b>1</b>	<b>1.38</b>	<b>2</b>	<b>0.38</b>	<b>87</b>
TIAA-CREF Lifecycle Retire Income Retire	Retirement Income	8.51	3	5.36	2	6.01	4	0.61	21	3.84	18	2.70	2	1.31	10	0.63	64
<b>Vanguard Target Retirement Income Inv</b>	<b>Retirement Income</b>	<b>5.26</b>	<b>69</b>	<b>4.28</b>	<b>25</b>	<b>4.68</b>	<b>30</b>	<b>0.49</b>	<b>67</b>	<b>2.90</b>	<b>80</b>	<b>2.06</b>	<b>16</b>	<b>1.37</b>	<b>2</b>	<b>0.13</b>	<b>97</b>
Morningstar Target Ret	Target Retirement	5.86	-	3.86	-	4.12	-	-	-	3.46	-	-	-	1.06	-	0.77	-
40% ACWI; 60% Global Agg	Moderate Allocation	6.56	29	4.08	36	4.61	32	1.00	1	5.07	1	0.00	93	0.74	83	-	-
TIAA-CREF High-Yield R	High Yield Bond	7.39	70	5.03	28	5.45	44	0.91	39	5.33	42	-0.28	46	0.88	44	0.61	84
Callan High Yield MFs	High Yield Bond	7.94	-	4.57	-	5.32	-	-	-	5.22	-	-	-	0.87	-	0.84	-
Blmbg:Corporate High Yld	High Yield Bond	8.88	17	5.83	9	6.36	13	1.00	23	5.80	25	0.00	35	0.95	30	-	-
T. Rowe Price Emerging Markets Bond	International Bond	6.60	9	7.11	1	4.63	1	-	-	6.04	81	-	-	1.12	1	0.92	36
Callan Intl Fixed Inc MF	Global Bond	0.92	-	1.10	-	1.02	-	-	-	8.16	-	-	-	0.10	-	0.80	-
Blmbg:Glob Agg ex USD	Global Bond	-2.42	88	0.20	73	-0.73	82	1.00	-	9.02	14	0.00	-	-0.01	73	-	-
<b>JPMorgan Strategic Income Opports R5</b>	<b>World Bond</b>	<b>4.61</b>	<b>17</b>	<b>3.34</b>	<b>3</b>	<b>3.16</b>	<b>2</b>	<b>0.08</b>	<b>92</b>	<b>2.92</b>	<b>92</b>	<b>2.96</b>	<b>1</b>	<b>1.04</b>	<b>3</b>	<b>0.57</b>	<b>94</b>
Callan Global FI MFs	Global Bond	1.12	-	1.37	-	1.14	-	-	-	5.48	-	-	-	0.21	-	0.97	-
Barclays Capital Global Agg	Global Bond	-1.26	90	1.30	53	0.48	71	1.00	16	6.13	29	0.00	65	0.16	60	-	-
TIAA-CREF Bond Plus R	Core Plus Bond	1.54	51	3.36	22	2.89	30	0.99	51	3.05	63	0.28	29	1.00	18	0.56	53
Callan Core Plus MFs	Core Plus Bond	1.58	-	2.99	-	2.69	-	-	-	3.10	-	-	-	0.82	-	0.59	-
Barclays Capital U.S. Universal Idx	Universal Bond	0.96	67	3.11	39	2.53	54	1.00	36	3.07	60	0.00	47	0.91	43	-	-

## Juniata College 403(b) Plan - Proposed w/ Mapping

### Fund Selection List

<i>Fund Name</i>	<i>Fund Category</i>	<i>Tot Ret 12 Mo</i>	<i>% Rank Cat 12 Mo</i>	<i>Tot Ret Annlzd 3 Yr</i>	<i>% Rank Cat 3 Yr</i>	<i>Tot Ret Annlzd 5 Yr</i>	<i>% Rank Cat 5 Yr</i>	<i>Beta 3 Yr</i>	<i>% Rank Beta</i>	<i>Std Dev 3 Yr</i>	<i>% Rank Std Dev</i>	<i>Alpha 3 Yr</i>	<i>% Rank Alpha</i>	<i>Sharpe Ratio 3 Yr</i>	<i>% Rank Sharpe Ratio</i>	<i>Expense Ratio</i>	<i>% Rank Expense Ratio</i>
<b>Federated Total Return Bond Instl</b>	<b>Core Bond</b>	<b>1.54</b>	<b>12</b>	<b>3.19</b>	<b>12</b>	<b>2.70</b>	<b>14</b>	<b>0.84</b>	<b>92</b>	<b>2.95</b>	<b>79</b>	<b>0.86</b>	<b>10</b>	<b>0.98</b>	<b>10</b>	<b>0.39</b>	<b>89</b>
TIAA RASRA-CREF:Bond Mkt R2	Core Bond	0.74	28	2.94	19	2.21	31	0.96	35	3.14	43	0.30	22	0.83	23	0.40	89
TIAA-CREF Bond R	Core Bond	1.00	22	3.21	10	2.62	15	0.96	36	3.17	41	0.58	14	0.91	13	0.56	45
<b>Vanguard Total Bond Market Index Adm</b>	<b>Core Bond</b>	<b>-0.13</b>	<b>86</b>	<b>2.62</b>	<b>38</b>	<b>1.97</b>	<b>61</b>	<b>1.04</b>	<b>1</b>	<b>3.38</b>	<b>4</b>	<b>-0.19</b>	<b>70</b>	<b>0.68</b>	<b>60</b>	<b>0.05</b>	<b>100</b>
Callan Core Bond MFs	Core Bond	0.33	-	2.55	-	1.99	-	-	-	3.10	-	-	-	0.71	-	0.53	-
Barclays Capital Aggregate	Core Bond	0.07	70	2.71	24	2.06	42	1.00	7	3.24	22	0.00	44	0.74	37	-	-
TIAA-CREF Short-Term Bond R	Short Term Bond	1.23	44	1.36	41	1.08	49	0.92	44	0.81	49	0.36	42	1.28	29	0.52	58
Callan Defensive FI MFs	Defensive Fixed Income	1.17	-	1.18	-	1.06	-	-	-	0.80	-	-	-	1.13	-	0.55	-
Barclays Capital 1-3 Year Govt/Credit	Short Term Govt/Credit	0.66	71	1.05	63	0.91	63	1.00	32	0.75	58	0.00	69	0.98	62	-	-
TIAA RASRA-CREF:Infl-Lkd Bond R2	TIPS	-0.50	52	1.12	39	-0.42	51	0.87	61	2.99	74	-0.33	36	0.27	31	0.35	89
TIAA-CREF Inflation Link Bd R	TIPS	-0.78	64	0.73	68	-0.67	70	0.82	65	2.83	76	-0.65	63	0.15	64	0.52	71
Callan TIPS MFs	TIPS	-0.44	-	1.01	-	-0.40	-	-	-	3.46	-	-	-	0.20	-	0.68	-
Barclays Capital US TIPS	TIPS	-0.73	62	1.62	17	0.02	22	1.00	38	3.41	51	0.00	21	0.38	18	-	-
TIAA RASRA-CREF:Real Estate Acct	Real Estate	4.34	10	6.74	90	8.04	63	-	-	1.72	100	-	-	3.73	1	0.85	83
<b>TIAA-CREF Real Estate Sec Retire</b>	<b>Real Estate</b>	<b>3.84</b>	<b>12</b>	<b>10.23</b>	<b>8</b>	<b>9.19</b>	<b>19</b>	<b>-</b>	<b>-</b>	<b>10.95</b>	<b>67</b>	<b>-</b>	<b>-</b>	<b>0.91</b>	<b>15</b>	<b>0.76</b>	<b>90</b>
Callan Real Estate MFs	Real Estate	-0.12	-	8.47	-	8.35	-	-	-	11.47	-	-	-	0.74	-	1.23	-
FTSE:NAREIT Equity Index	Real Estate	0.67	37	9.86	15	9.69	11	1.00	34	11.57	43	0.00	28	0.82	23	-	-
<b>Goldman Sachs Satellite Strategies R6</b>	<b>GTAA</b>	<b>8.47</b>	<b>8</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1.03</b>	<b>89</b>
PIMCO All Asset A	GTAA	9.78	5	3.07	17	3.13	35	0.66	41	7.56	7	3.38	13	0.36	43	1.32	76
Morningstar Multialt	Multi Alternative	3.56	-	1.27	-	2.67	-	-	-	3.87	-	-	-	0.27	-	1.74	-
CS:AllHedge Ix	Hedge Fund	3.93	44	-0.24	82	1.51	84	1.00	20	3.55	58	0.00	81	-0.16	86	-	-
<b>TIAA Traditional Account (RC)</b>	<b>Cash &amp; Equivalents</b>	<b>4.30</b>	<b>1</b>	<b>4.34</b>	<b>1</b>	<b>4.37</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.55</b>	<b>4</b>
Callan Stable Value CT	Cash & Equivalents	1.49	-	1.39	-	1.31	-	-	-	0.05	-	-	-	20.88	-	0.25	-
3 Month T-Bill	Cash & Equivalents	0.66	100	0.32	100	0.22	100	1.00	-	0.16	5	0.00	-	0.00	100	-	-
<b>TIAA-CREF Money Market R</b>	<b>Cash &amp; Equivalents</b>	<b>0.32</b>	<b>68</b>	<b>0.12</b>	<b>67</b>	<b>0.07</b>	<b>68</b>	<b>0.00</b>	<b>-</b>	<b>0.10</b>	<b>60</b>	<b>-0.20</b>	<b>-</b>	<b>-2.05</b>	<b>61</b>	<b>0.39</b>	<b>67</b>
Callan Money Market Funds	Cash & Equivalents	0.45	-	0.17	-	0.10	-	-	-	0.12	-	-	-	-1.23	-	0.43	-
3 Month T-Bill	Cash & Equivalents	0.66	25	0.32	23	0.22	18	1.00	-	0.16	24	0.00	-	0.00	23	-	-

Performance quoted is past performance and is no guarantee of future results.













Data was obtained from Callan Associates as of September 30, 2017



**Juniata College 403(b) Plan**  
**IPS Performance Criteria Dashboard**

Fund Name	3 Yr Alpha	Peer Group % Rankings			Sharpe Ratio - 3Yr	Quadrant Rank - 3Yr	Manager Tenure	Composite Rating
		12 Mo	3 Yr	5 Yr				
TIAA-CREF Large-Cap Value Retire	-1.20	91	65	69	0.88	4	15.08	15
TIAA-CREF Large-Cap Value Idx Retire	-0.28	90	53	53	1.03	3	12.08	12
TIAA RASRA-CREF:Eq Idx R2	-0.73	52	24	28	1.45	1		7
TIAA-CREF S&P 500 Index Retire	-0.26	47	16	27	1.54	1	12.08	7
TIAA-CREF Growth & Income Retire	-0.58	24	11	26	1.42	2	12.83	7
TIAA-CREF Social Choice Eq Retire	-1.38	57	52	44	1.33	3	12.08	9
TIAA-CREF Equity Index R	-0.72	49	22	28	1.46	1	12.08	7
TIAA-CREF Large-Cap Gr Idx Retire	-0.35	54	24	30	1.67	1	12.42	8
TIAA-CREF Large-Cap Growth R	-3.11	23	31	25	1.26	2	11.83	8
TIAA RASRA-CREF:Growth R2	-2.48	39	32	26	1.39	1		6
TIAA-CREF Mid-Cap Value Retire	-1.56	85	74	64	0.91	3	15.25	12
TIAA-CREF Mid-Cap Growth Retire	-2.86	44	65	58	0.84	4	11.58	13
Victory Sycamore Small Company Opp A	4.78	49	2	9	1.34	1	19.58	7
TIAA-CREF Small-Cap Equity Retire	1.59	54	23	16	1.05	1	11.08	8
TIAA-CREF Small-Cap Blend Idx Retire	-0.02	54	36	40	0.91	1	12.42	9
Prudential Jennison Small Company Z	1.98	74	49	69	1.02	1	17.67	9
TIAA-CREF International Eq Retire	0.64	4	2	11	0.76	2	18.50	7
TIAA-CREF International Eq Idx Retire	0.16	57	20	17	0.76	1	12.42	8
American Funds Europacific Growth R4	0.83	21	18	16	0.80	2	26.08	7
Vanguard Emerging Mkts Stock Idx Adm	-1.49	79	81	69	0.49	3	9.42	16
TIAA RASRA-CREF:Stock R2	0.68	79	28	10	1.22	1		8
TIAA RASRA-CREF:Gbl Eq R2	-0.30	56	47	28	1.07	1		8
TIAA RASRA-CREF:Social Choice R2	1.37	40	37	41	1.36	1		6
TIAA-CREF Managed Allc R	1.64	8	9	37	1.36	2	11.83	7
TIAA-CREF Lifecycle 2060 Retirement	0.05	2	7		1.26	2	3.33	6
TIAA-CREF Lifecycle 2055 Retirement	-0.03	3	1	11	1.25	2	6.75	7
TIAA-CREF Lifecycle 2050 Retirement	-0.11	3	2	8	1.24	2	10.17	7
TIAA-CREF Lifecycle 2045 Retirement	-0.20	1	4	8	1.22	2	10.17	7
TIAA-CREF Lifecycle 2040 Retirement	-0.41	1	4	7	1.20	2	11.83	7
TIAA-CREF Lifecycle 2035 Retirement	-0.24	7	11	11	1.23	2	11.83	7
TIAA-CREF Lifecycle 2030 Retirement	-0.21	5	7	12	1.25	2	11.83	7
TIAA-CREF Lifecycle 2025 Retirement	-0.09	4	4	11	1.29	2	11.83	7
TIAA-CREF Lifecycle 2020 Retirement	-0.01	4	3	7	1.32	2	11.83	7
TIAA-CREF Lifecycle 2015 Retirement	0.11	7	7	21	1.34	2	11.83	7
TIAA-CREF Lifecycle 2010 Retirement	0.14	1	1	1	1.36	2	11.83	7
TIAA-CREF Lifecycle Retire Income Retire	2.26	6	3	4	1.37	2	10.17	7
TIAA-CREF High-Yield R	-0.30	92	29	40	0.98	2	11.83	11
T. Rowe Price Emerging Markets Bond	1.00	58	1	3	1.34	1	23.08	8
TIAA-CREF Bond Plus R	0.28	56	23	34	0.87	1	11.83	8
TIAA-CREF Bond R	0.67	32	11	15	0.79	2	14.08	7
TIAA RASRA-CREF:Bond Mkt R2	0.40	34	18	24	0.70	2		6
TIAA-CREF Short-Term Bond R	0.50	34	34	49	1.21	2	11.83	7
TIAA-CREF Inflation Link Bd R	-0.76	89	82	70	0.20	3	9.42	16
TIAA RASRA-CREF:Infl-Lkd Bond R2	-0.46	80	61	47	0.32	3		11
TIAA-CREF Real Estate Sec Retire	1.70	4	8	16	0.74	1	12.08	7
TIAA RASRA-CREF:Real Estate Acct	5.20	61	22	68	4.64	1		8
PIMCO All Asset A	4.70	3	5	37	0.65	2	15.50	7

Data was obtained from Morningstar and/or Callan Associates as of December 31, 2017

Criteria	
3 Yr Alpha, Peer Group % Rankings & Sharpe Ratio	 Indicates % Rank < 50
	 Indicates % Rank >= 50 and <= 75
	 Indicates % Rank > 75
Quadrant Rank	 1 Indicates Risk/Return Upper Left Quadrant - Less Risk & More Return
	 2 Indicates Risk/Return Upper Right Quadrant - More Risk & More Return
	 3 Indicates Risk/Return Lower Left Quadrant - Less Risk & Less Return
	 4 Indicates Risk/Return Lower Right Quadrant - More Risk & Less Return
Manager Tenure	 Indicates Fund Manager Tenure >= 3 Years
	 Indicates Fund Manager Tenure < 3 Years
Composite Rating	 Total Score <= 11
	 Total Score > 11 and <= 17
	 Total Score > 17

# Juniata College 403(b) Plan

## IPS Performance Criteria Dashboard

### Glossary

**Alpha** - A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. A positive Alpha figure indicates the portfolio has performed better than its beta would predict. In contrast, a negative Alpha indicates the portfolio has underperformed, given the expectations established by beta.

**Manager Tenure** - The number of years that the current manager has been the portfolio manager for the investment product. For products with more than one manager, the tenure of the manager who has been with the product the longest is shown.

**Peer Group % Rankings** - Percentile Ranking is a standardized ranking. The funds are ranked from 1 to 100 (1 being the best and 100 being the worst) based on their return compared to that of their peers. The rest of the observations are placed an equal distance from each other. All the percentile ranks are based on the peer group (Morningstar or Callan Associates Category).

**Quadrant Rank** - A measure that encompasses both risk and return. It is calculated by comparing the return and standard deviation (A statistical measurement of dispersion about an average, which, for a fund, depicts how widely the returns varied over a certain period of time) to the return and standard deviation of the peer group. This allows a graph to be generated where items are plotted in one of four quadrants. Each quadrant represents an explanation of the managers ability to produce returns relative to the risk they take.



**Sharpe Ratio** - A risk-adjusted measure developed by Nobel Laureate William Sharpe. It is calculated by using standard deviation and excess return to determine reward per unit of risk. The higher the Sharpe Ratio, the better the fund's historical risk-adjusted performance. The Sharpe ratio is calculated for the past 36-month period by dividing a fund's annualized excess returns by the standard deviation of a fund's annualized excess returns. Since this ratio uses standard deviation as its risk measure, it is most appropriately applied when analyzing a fund that is an investor's sole holding. The Sharpe Ratio can be used to compare two funds directly on how much risk a fund had to bear to earn excess return over the risk-free rate.

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*Cornerstone has exercised reasonable care in the preparation of this report. Several portions of this report are obtained from third party sources. While we have attempted to verify all information within, we disclaim all responsibility for any errors that may occur due to third party information and data.*

*The information is provided solely for informational purposes and therefore should not be considered an offer to buy or sell a security. Except as otherwise required by law,*

*Cornerstone shall not be responsible for any trading decisions or damages or other losses resulting from, this information, data, analyses or opinions or their use. Please read the prospectus carefully before investing.*



# Section III

# Manager Due Diligence

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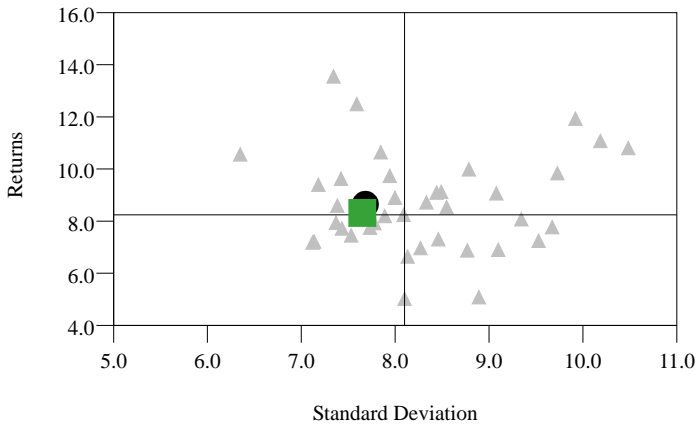
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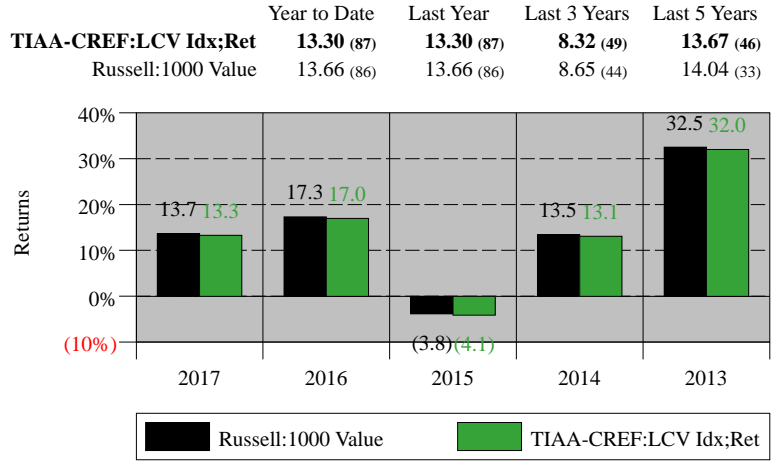
# TIAA-CREF:LCV Idx;Ret

Russell:1000 Value - (Callan Lg Cap Value MF)

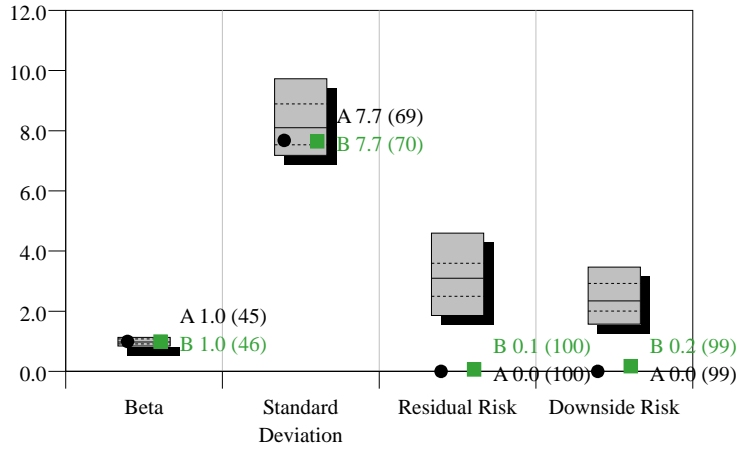
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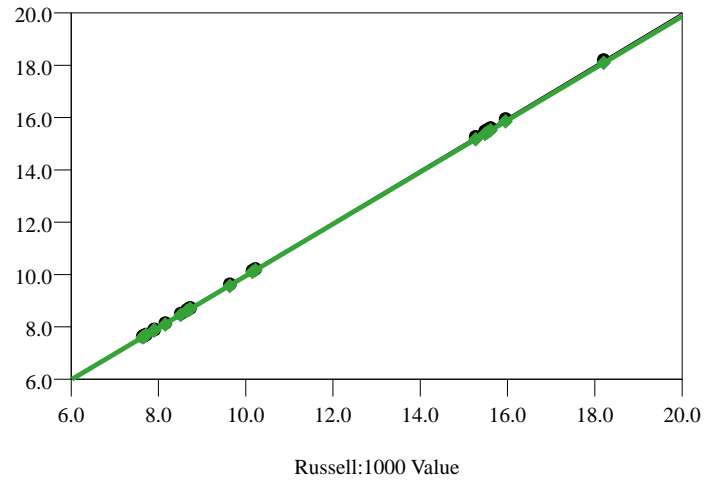
Returns for Various Periods



Risk Statistics for 3 Years



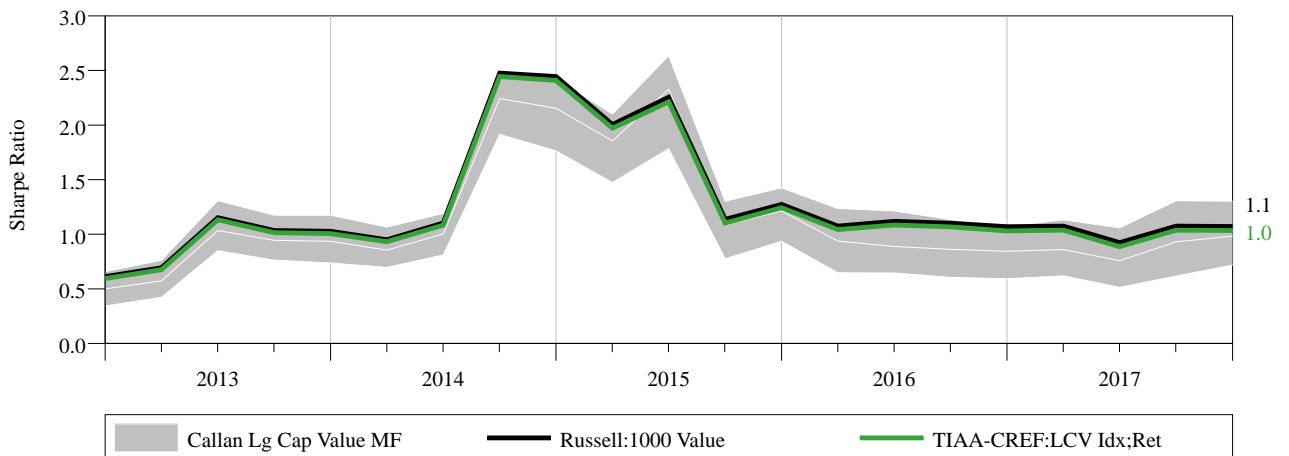
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:LCV Idx;Ret	(0.28) (60)	1.03 (32)	7.95 (57)	(4.22) (100)	(1.91) (100)
Russell:1000 Value	0.00 (50)	1.07 (27)	8.24 (49)	0.00 (50)	--

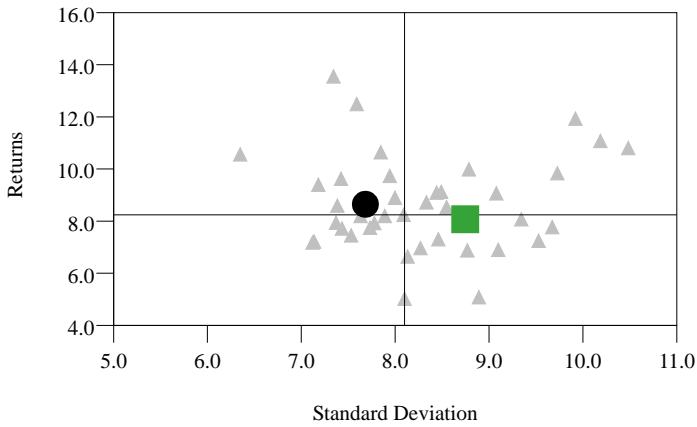
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



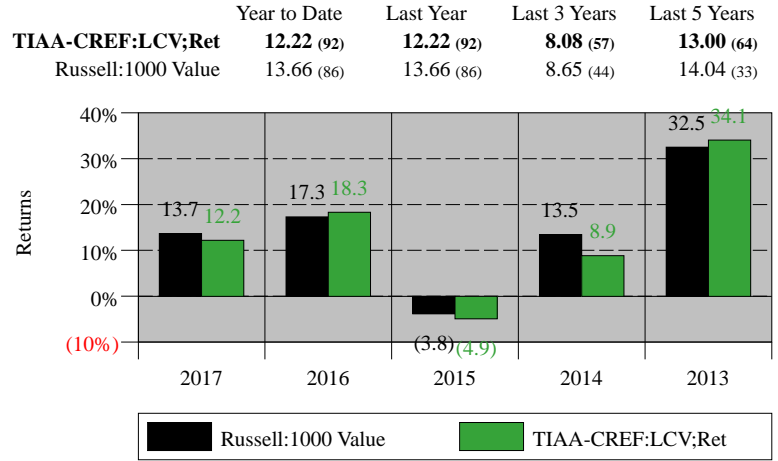
# TIAA-CREF:LCV;Ret

## Russell:1000 Value - (Callan Lg Cap Value MF)

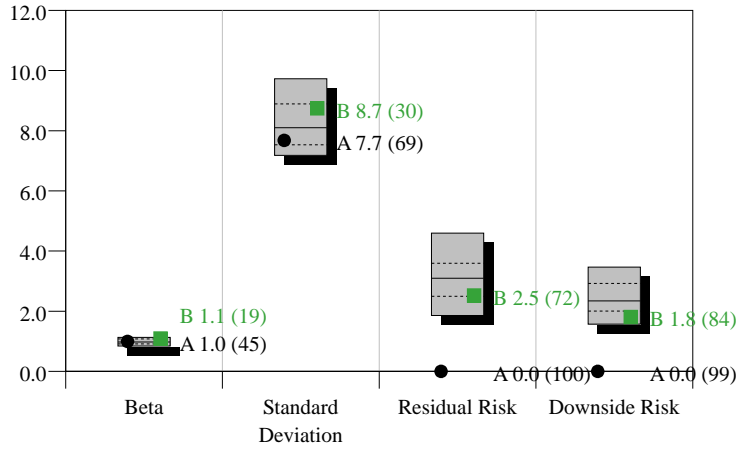
Scatter Chart  
for 3 Years Ended December 31, 2017



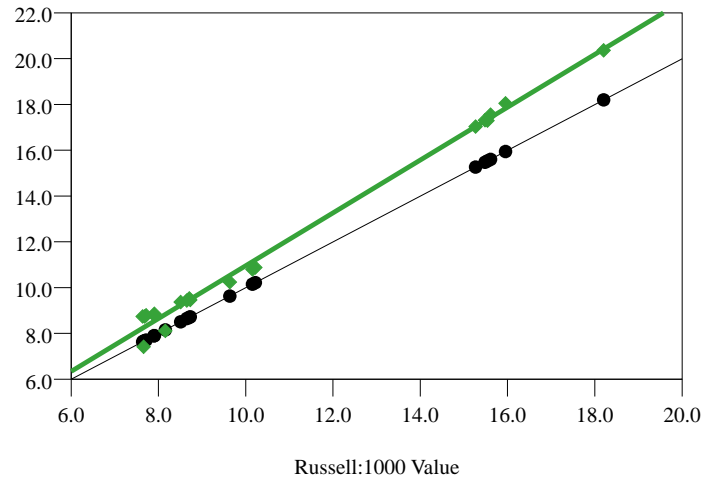
Returns for Various Periods



Risk Statistics for 3 Years



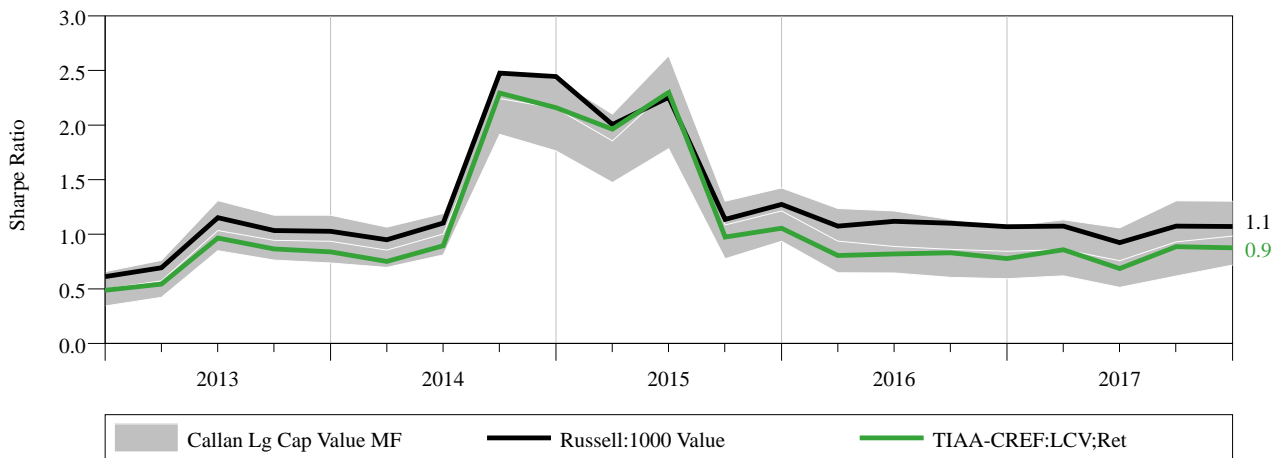
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:LCV;Ret	(1.20) (74)	0.88 (74)	7.02 (74)	(0.48) (78)	(0.32) (63)
Russell:1000 Value	0.00 (50)	1.07 (27)	8.24 (49)	0.00 (50)	--

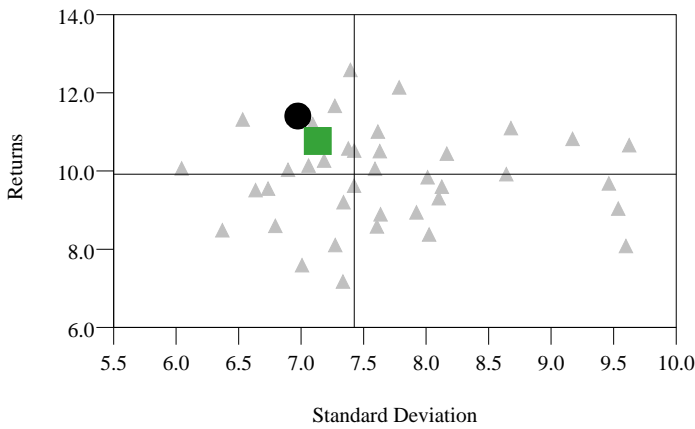
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



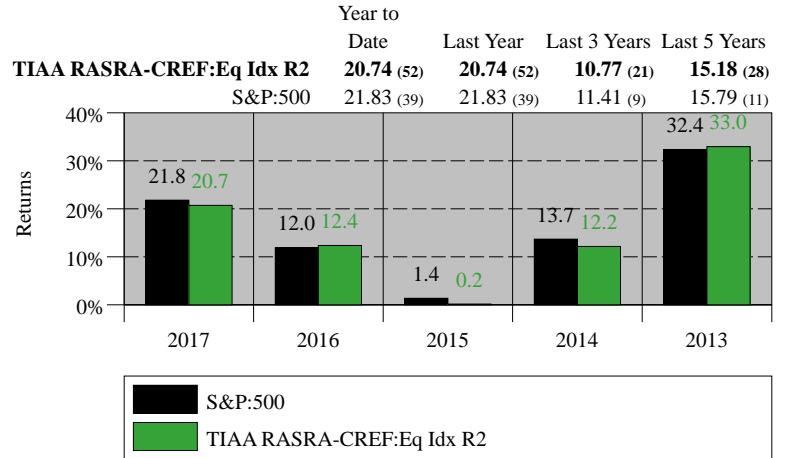
# TIAA RASRA-CREF:Eq Idx R2

S&P:500 - (Callan Large Cap Core MFs)

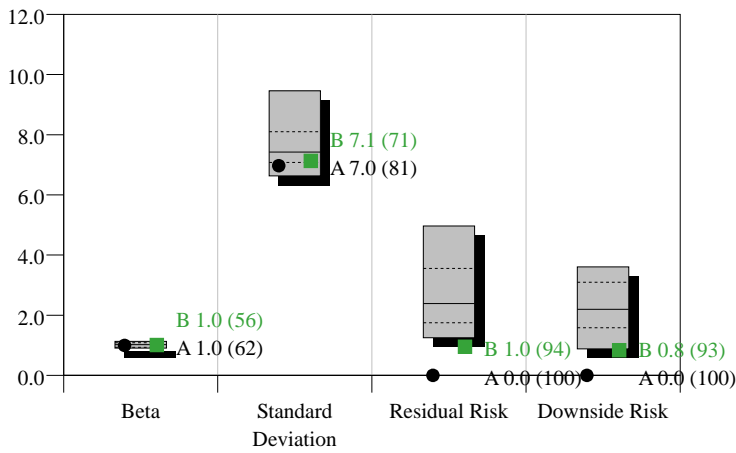
Scatter Chart  
for 3 Years Ended December 31, 2017



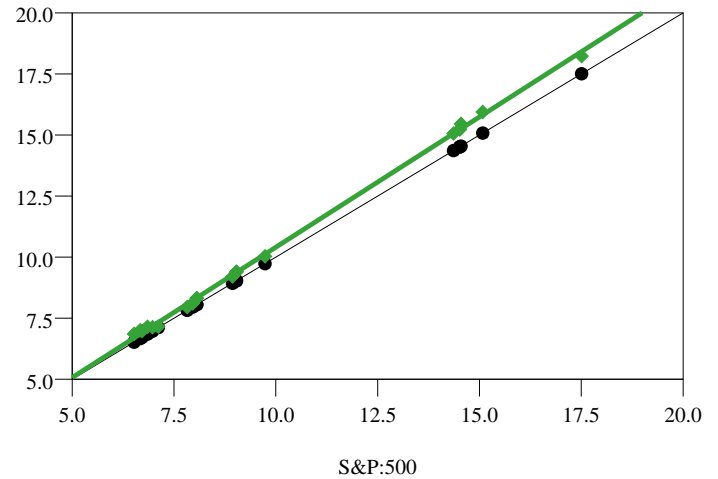
Returns for Various Periods



Risk Statistics for 3 Years



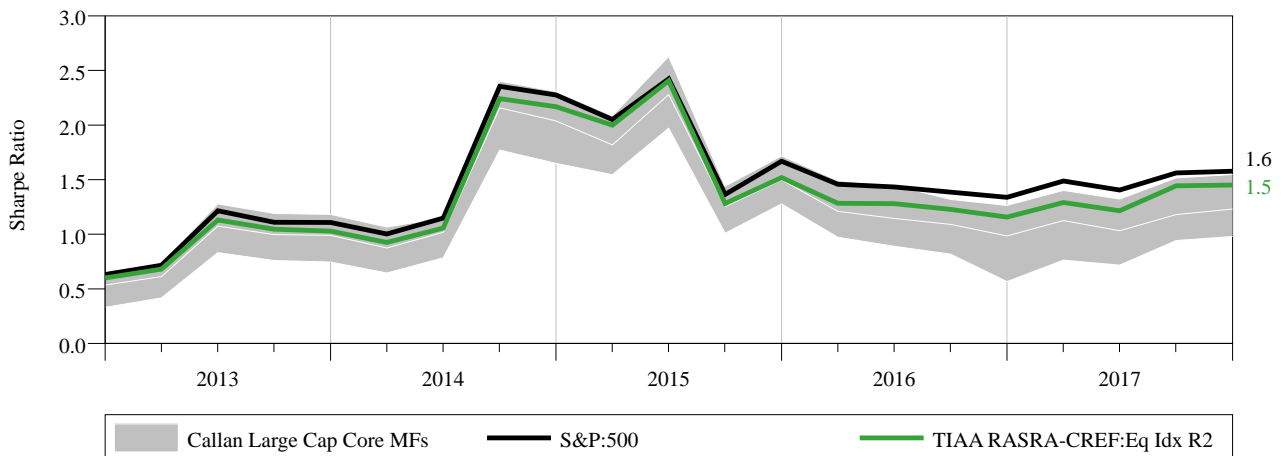
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA RASRA-CREF:Eq Idx R2	(0.73) (25)	1.45 (17)	10.22 (24)	(0.76) (60)	(0.76) (63)
S&P:500	0.00 (10)	1.58 (9)	11.00 (10)	0.00 (10)	--

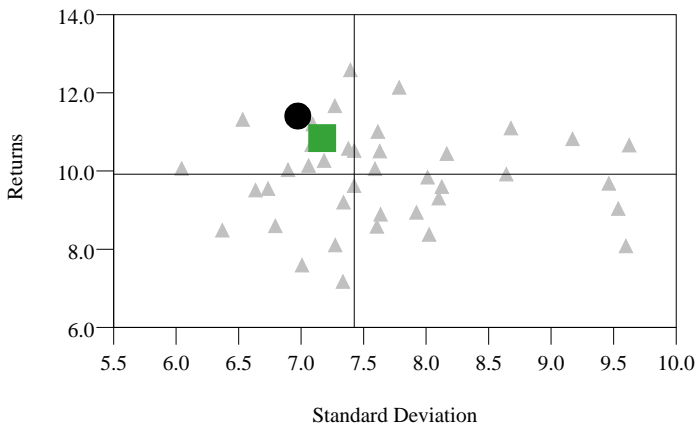
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



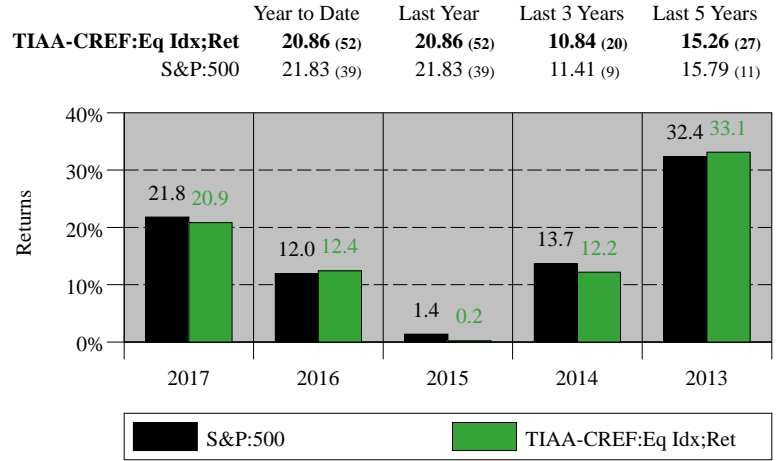
# TIAA-CREF:Eq Idx;Ret

## S&P:500 - (Callan Large Cap Core MFs)

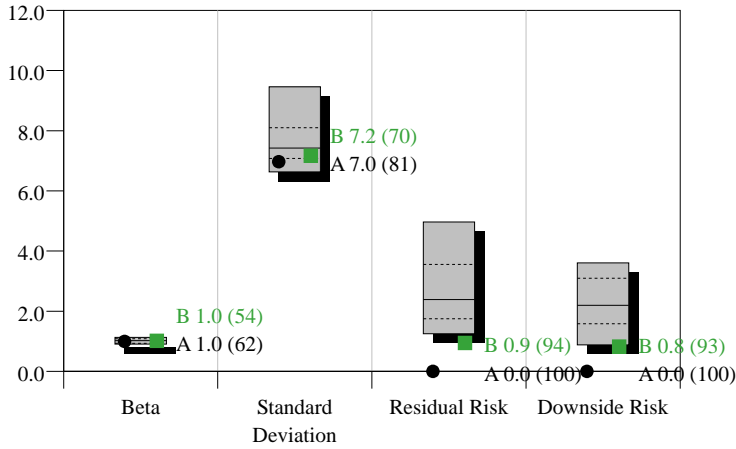
Scatter Chart  
for 3 Years Ended December 31, 2017



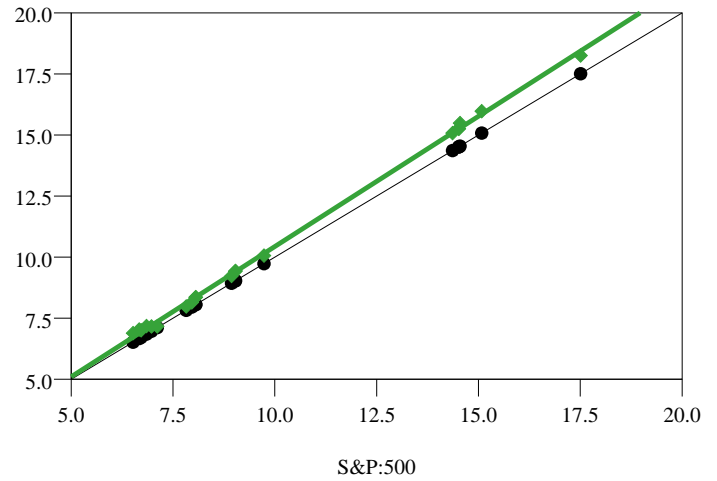
Returns for Various Periods



Risk Statistics for 3 Years



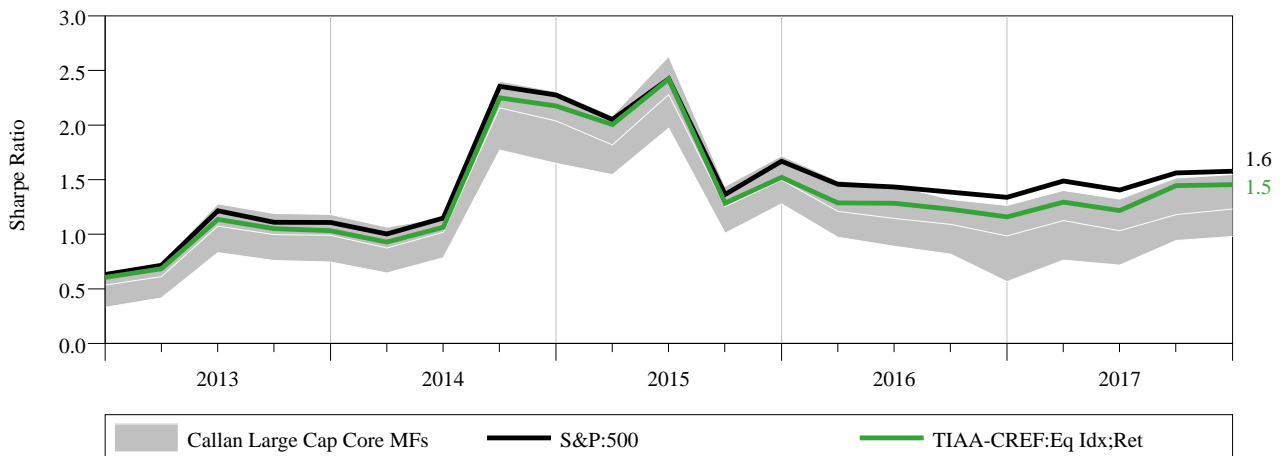
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Eq Idx;Ret	0.72 (25)	1.45 (17)	10.23 (24)	0.76 (60)	0.69 (51)
S&P:500	0.00 (10)	1.58 (9)	11.00 (10)	0.00 (10)	--

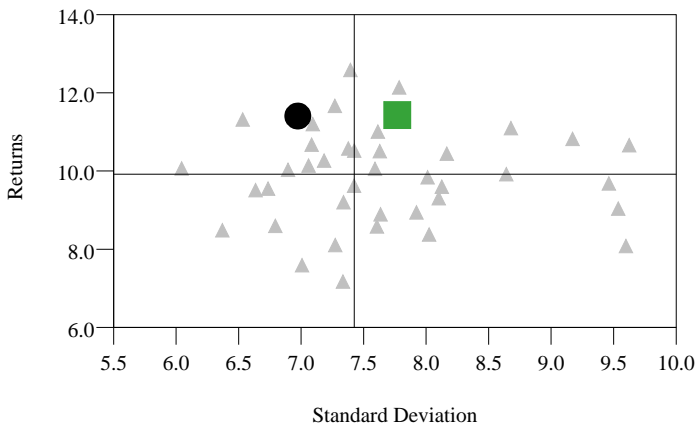
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:Gro & Inc;Ret

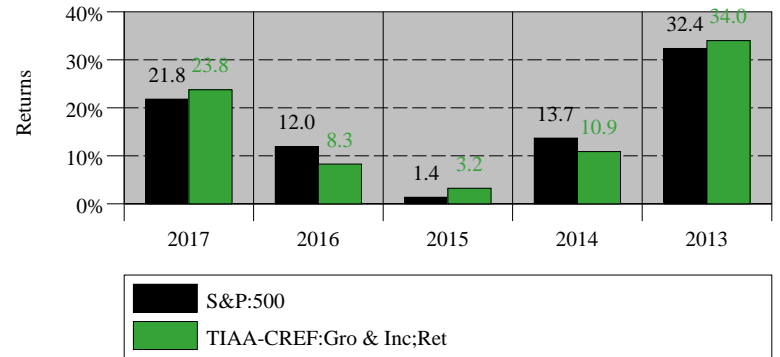
## S&P:500 - (Callan Large Cap Core MFs)

Scatter Chart  
for 3 Years Ended December 31, 2017

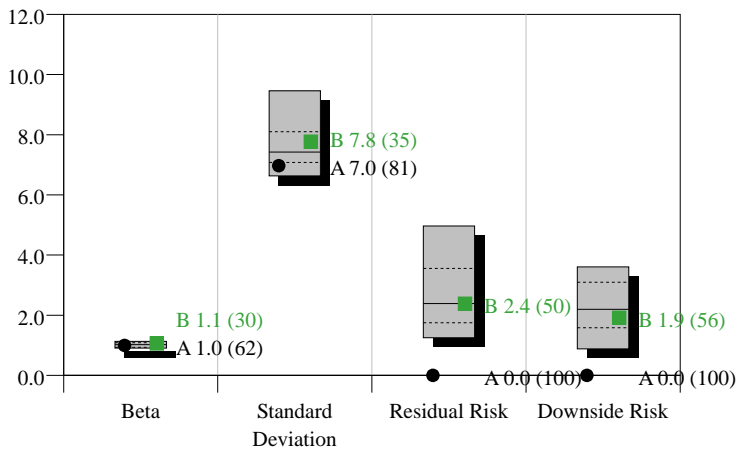


Returns for Various Periods

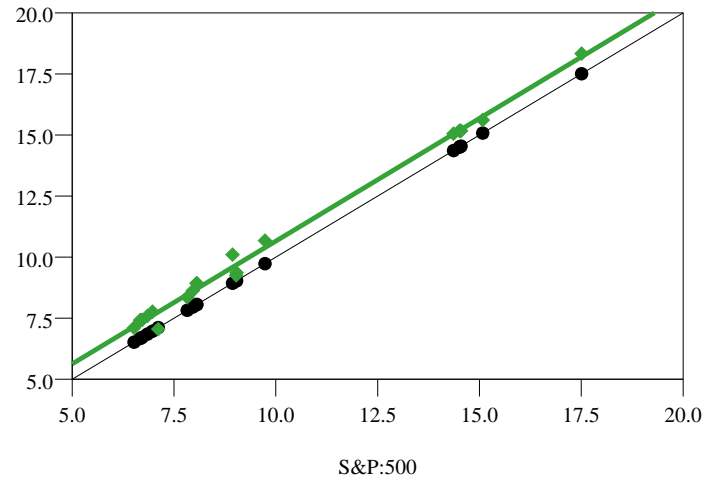
	Year to Date	Last Year	Last 3 Years	Last 5 Years
TIAA-CREF:Gro & Inc;Ret	23.78 (24)	23.78 (24)	11.43 (9)	15.51 (23)
S&P:500	21.83 (39)	21.83 (39)	11.41 (9)	15.79 (11)



Risk Statistics for 3 Years



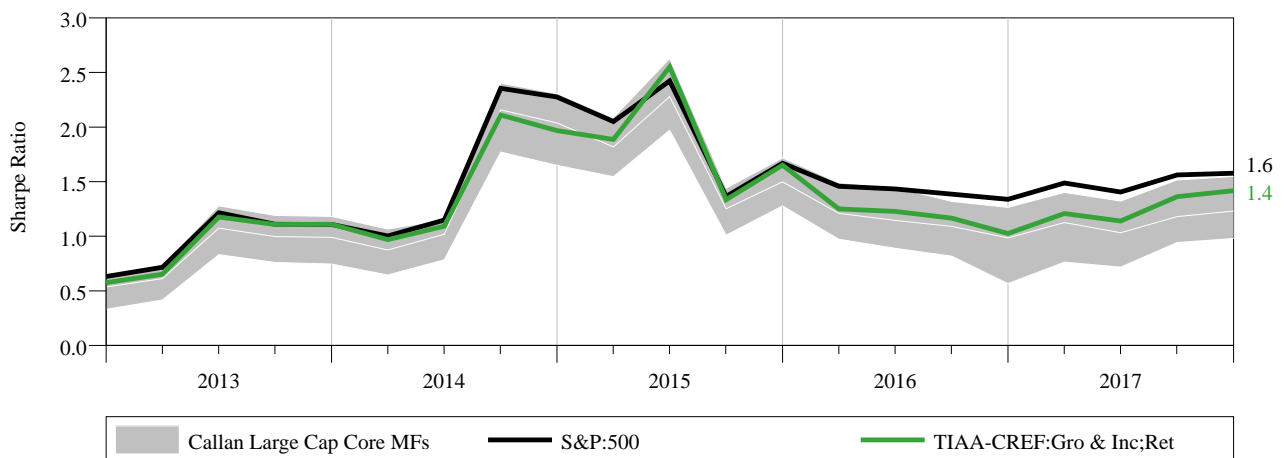
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Gro & Inc;Ret	0.58 (24)	1.42 (19)	10.38 (23)	0.25 (22)	0.01 (9)
S&P:500	0.00 (10)	1.58 (9)	11.00 (10)	0.00 (10)	--

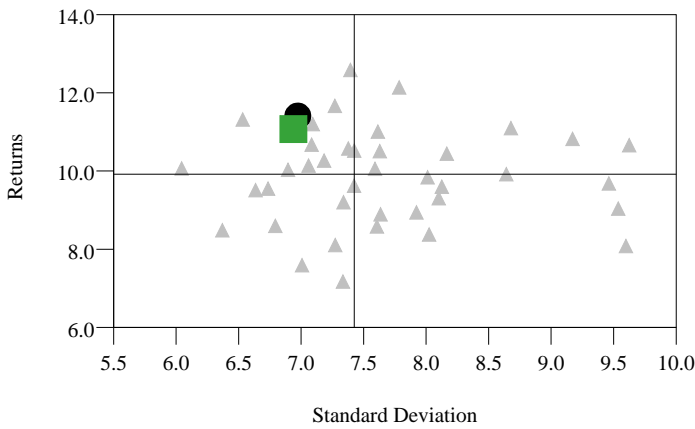
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:S&P500 Idx;Ret

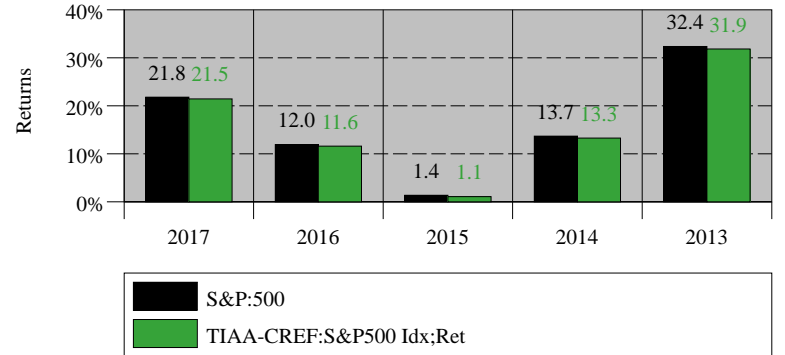
## S&P:500 - (Callan Large Cap Core MFs)

Scatter Chart  
for 3 Years Ended December 31, 2017

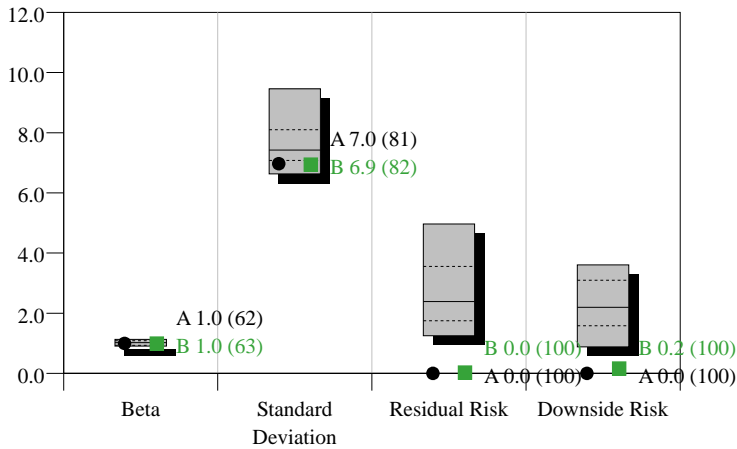


Returns for Various Periods

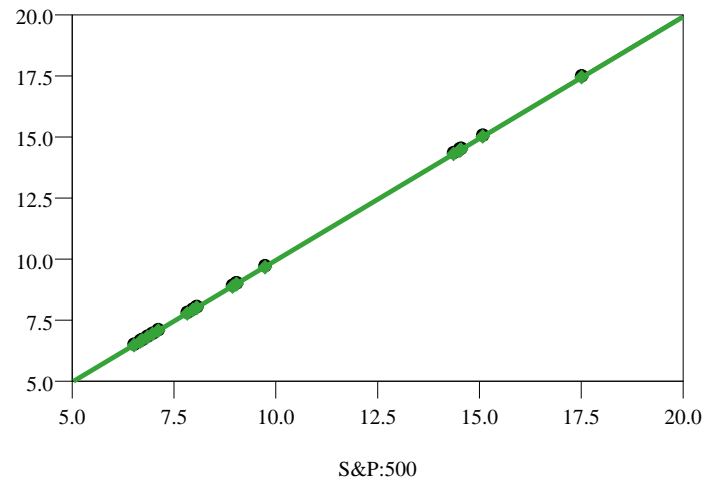
	Year to Date	Last Year	Last 3 Years	Last 5 Years
TIAA-CREF:S&P500 Idx;Ret	21.46 (42)	21.46 (42)	11.08 (16)	15.42 (25)
S&P:500	21.83 (39)	21.83 (39)	11.41 (9)	15.79 (11)



Risk Statistics for 3 Years



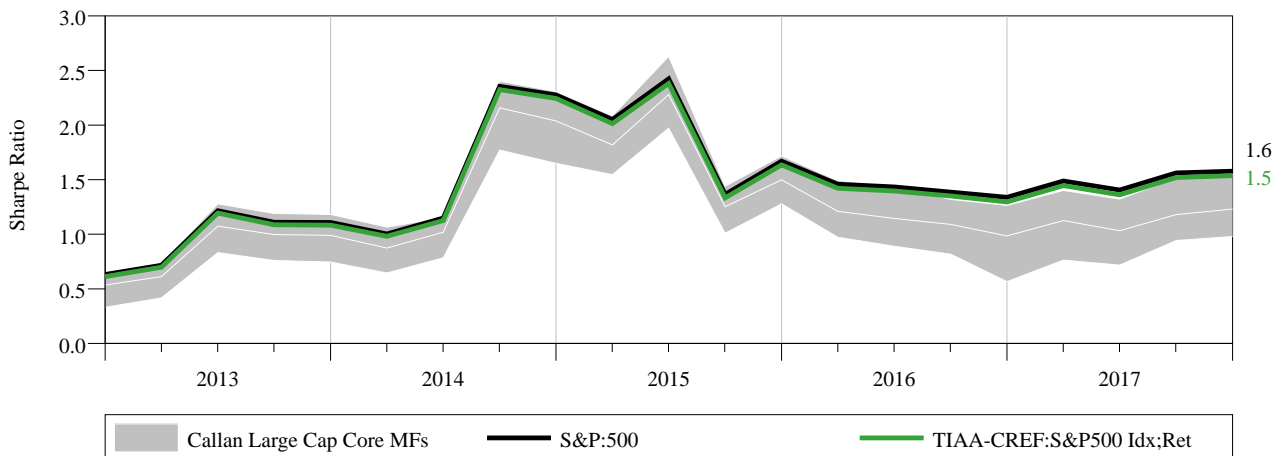
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:S&P500 Idx;Ret	(0.26) (16)	1.54 (11)	10.72 (16)	(9.12) (100)	(2.07) (100)
S&P:500	0.00 (10)	1.58 (9)	11.00 (10)	0.00 (10)	--

Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.

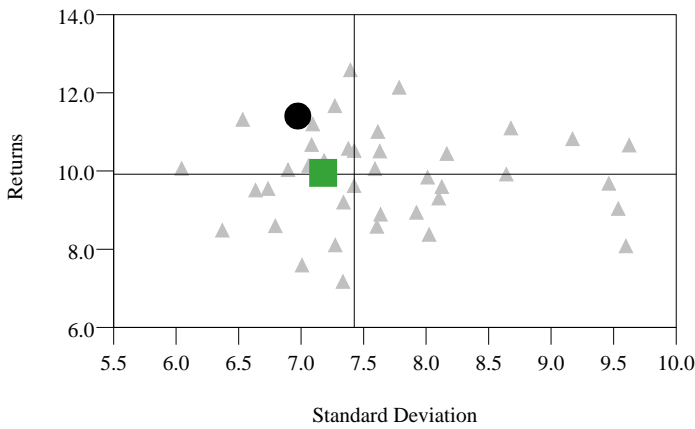




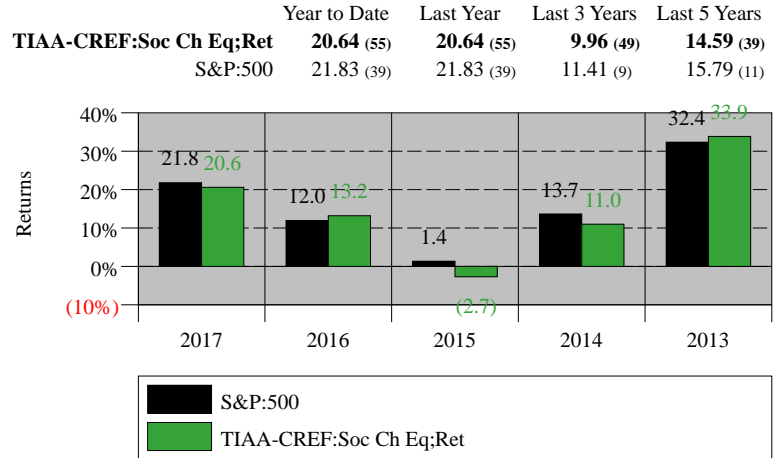
# TIAA-CREF:Soc Ch Eq;Ret

## S&P:500 - (Callan Large Cap Core MFs)

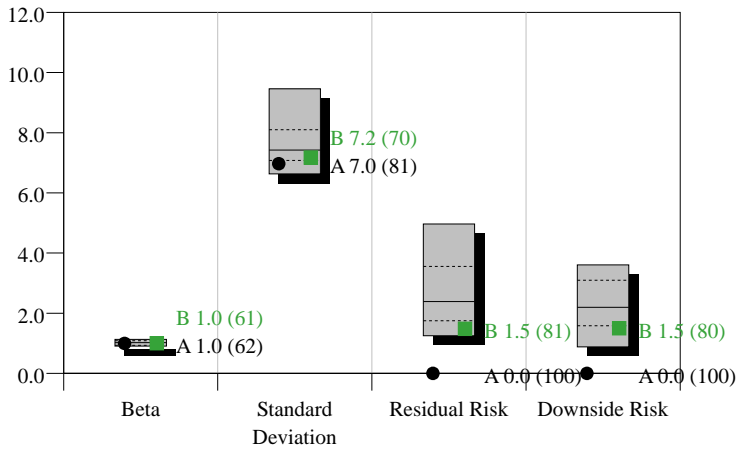
Scatter Chart  
for 3 Years Ended December 31, 2017



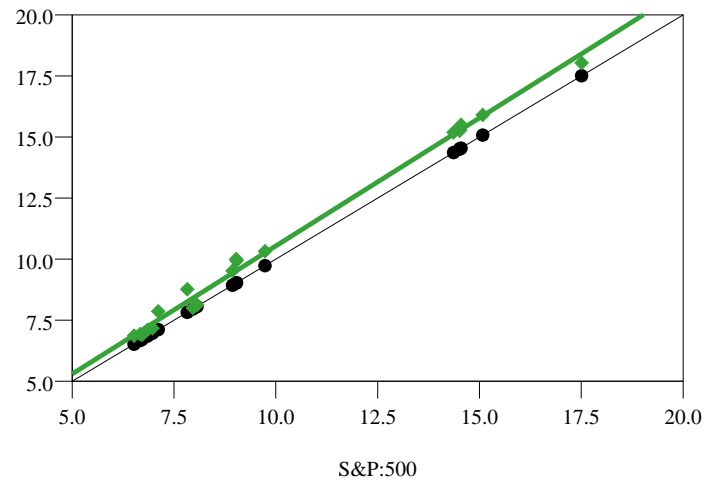
Returns for Various Periods



Risk Statistics for 3 Years



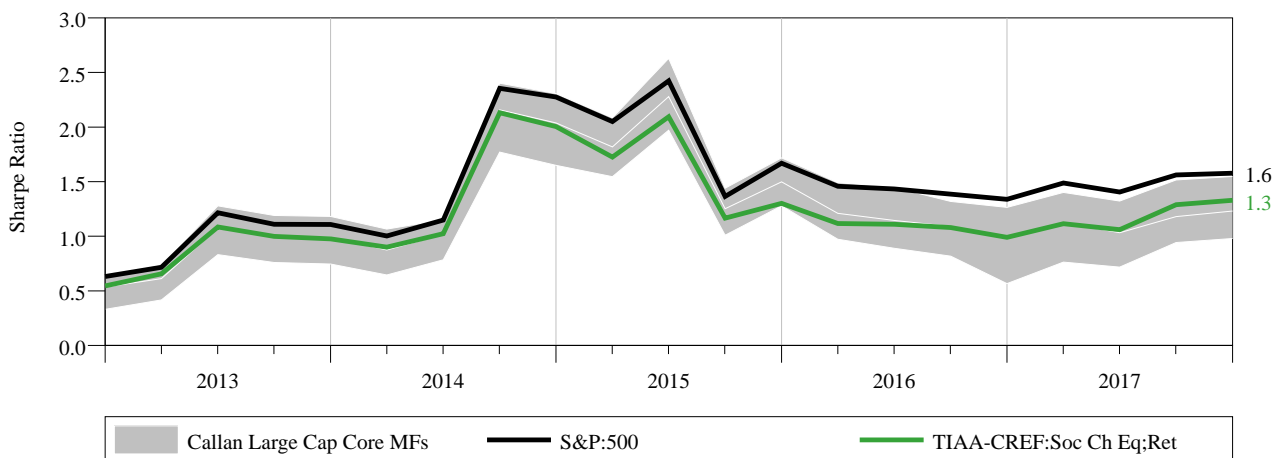
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Soc Ch Eq;Ret	1.38 (48)	1.33 (40)	9.50 (45)	0.93 (76)	0.97 (75)
S&P:500	0.00 (10)	1.58 (9)	11.00 (10)	0.00 (10)	--

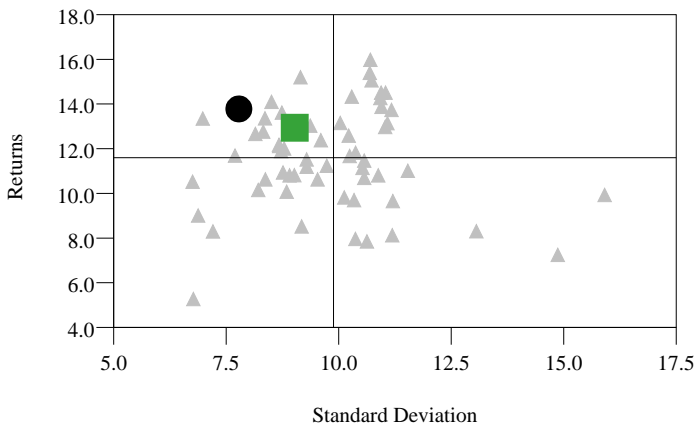
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



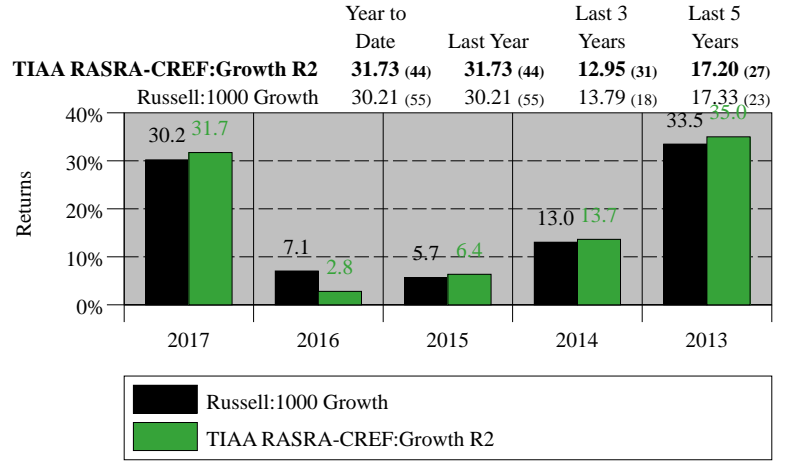
# TIAA RASRA-CREF:Growth R2

Russell:1000 Growth - (Callan Large Cap Grwth MF)

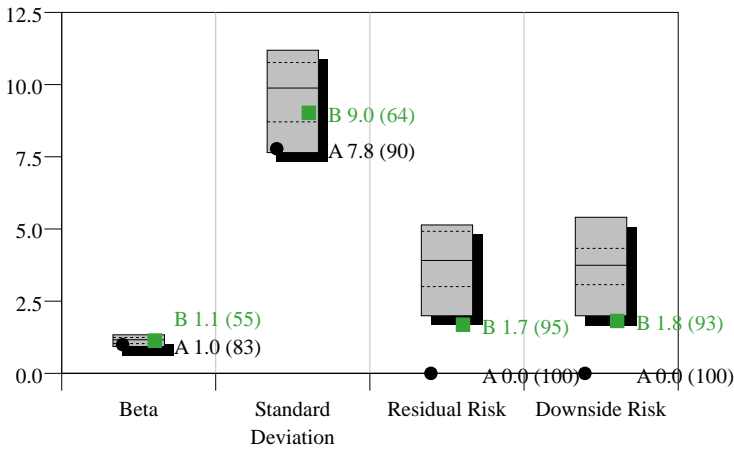
Scatter Chart  
for 3 Years Ended December 31, 2017



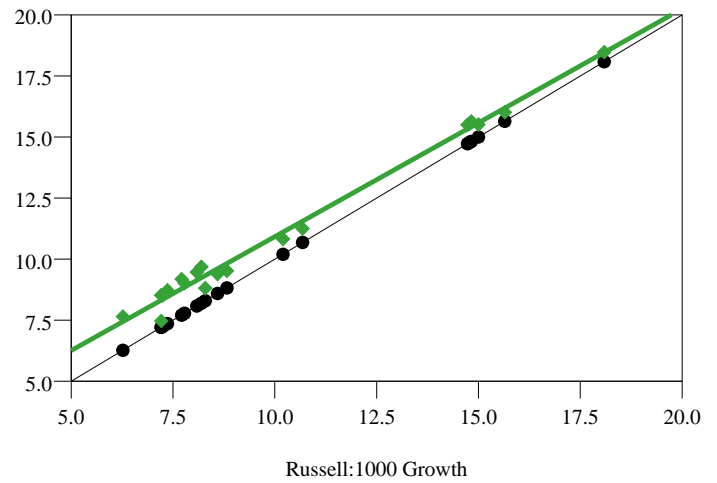
Returns for Various Periods



Risk Statistics for 3 Years



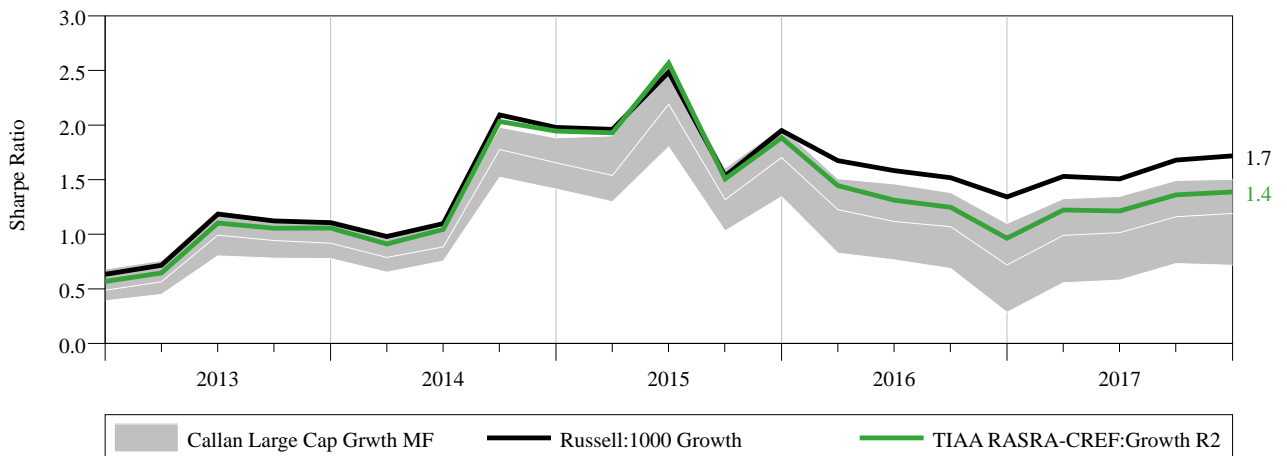
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA RASRA-CREF:Growth R2</b>	<b>(2.47) (33)</b>	<b>1.39 (19)</b>	<b>10.98 (32)</b>	<b>(1.46) (84)</b>	<b>(0.46) (38)</b>
Russell:1000 Growth	0.00 (7)	1.72 (3)	13.38 (7)	0.00 (6)	--

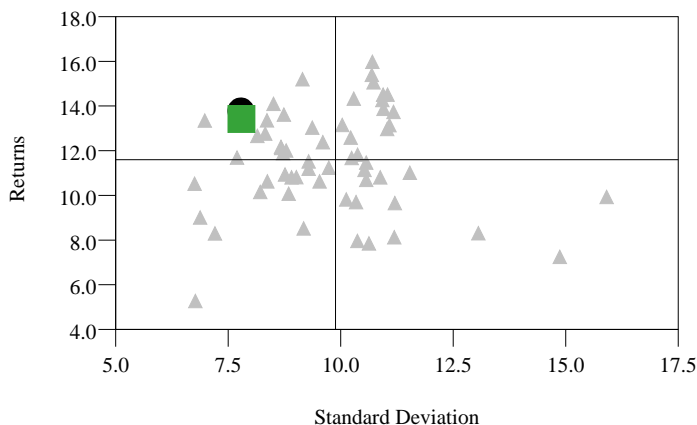
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:LCG Idx;Ret

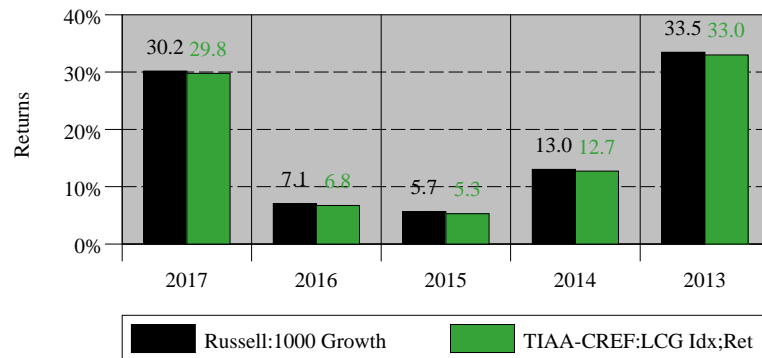
## Russell:1000 Growth - (Callan Large Cap Grwth MF)

Scatter Chart  
for 3 Years Ended December 31, 2017

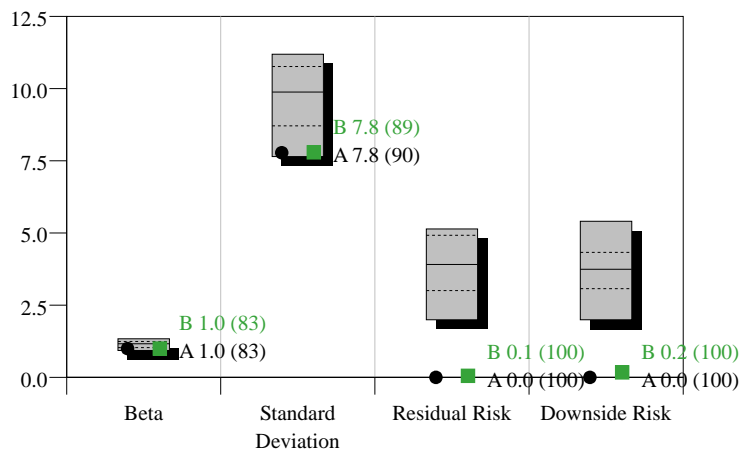


Returns for Various Periods

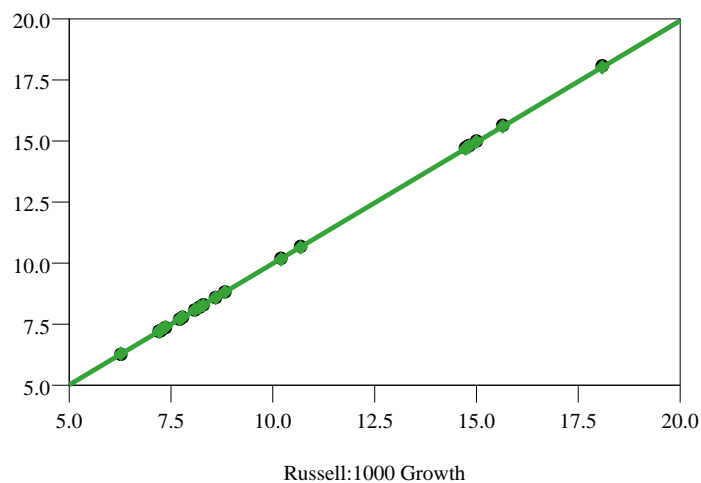
	Year to Date	Last Year	Last 3 Years	Last 5 Years
TIAA-CREF:LCG Idx;Ret	29.79 (57)	29.79 (57)	13.42 (22)	16.95 (29)
Russell:1000 Growth	30.21 (55)	30.21 (55)	13.79 (18)	17.33 (23)



Risk Statistics for 3 Years



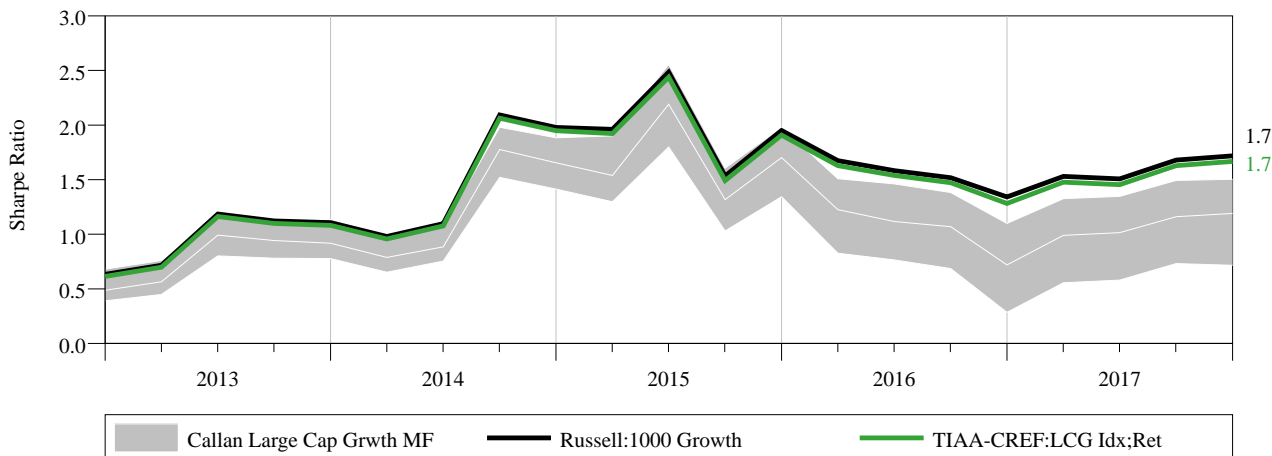
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:LCG Idx;Ret	(0.35) (8)	1.67 (3)	12.99 (8)	(6.11) (100)	(2.08) (100)
Russell:1000 Growth	0.00 (7)	1.72 (3)	13.38 (7)	0.00 (6)	--

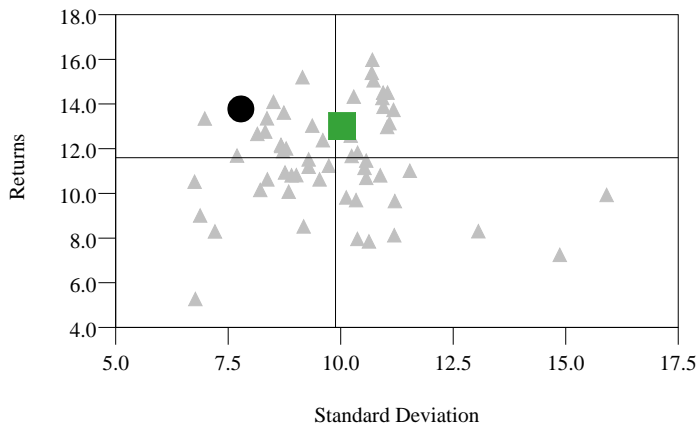
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



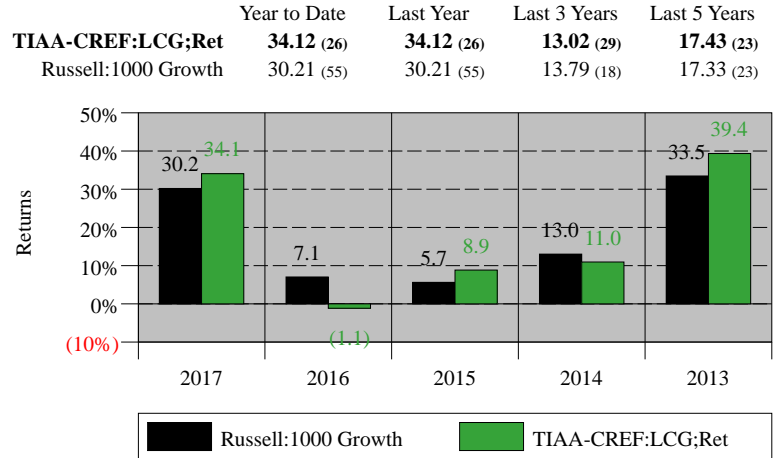
# TIAA-CREF:LCG;Ret

Russell:1000 Growth - (Callan Large Cap Grwth MF)

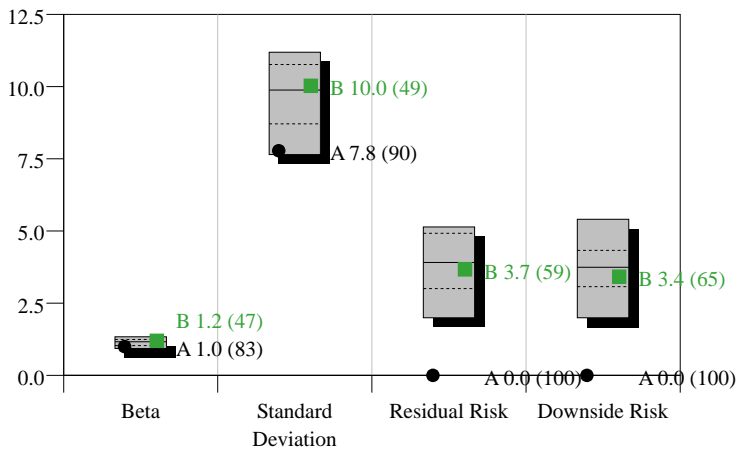
Scatter Chart  
for 3 Years Ended December 31, 2017



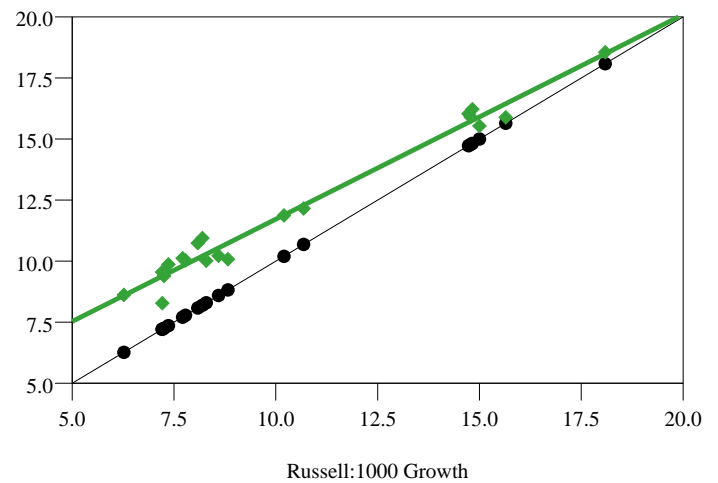
Returns for Various Periods



Risk Statistics for 3 Years



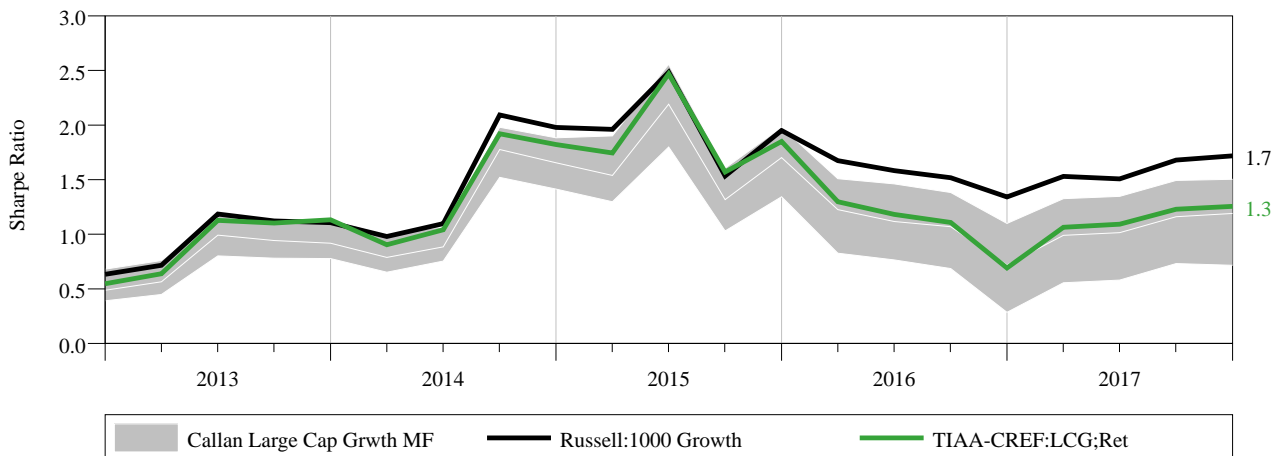
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA-CREF:LCG;Ret</b>	<b>(3.11)</b> (49)	<b>1.26</b> (38)	<b>10.48</b> (43)	<b>(0.85)</b> (38)	<b>(0.22)</b> (26)
Russell:1000 Growth	0.00 (7)	1.72 (3)	13.38 (7)	0.00 (6)	--

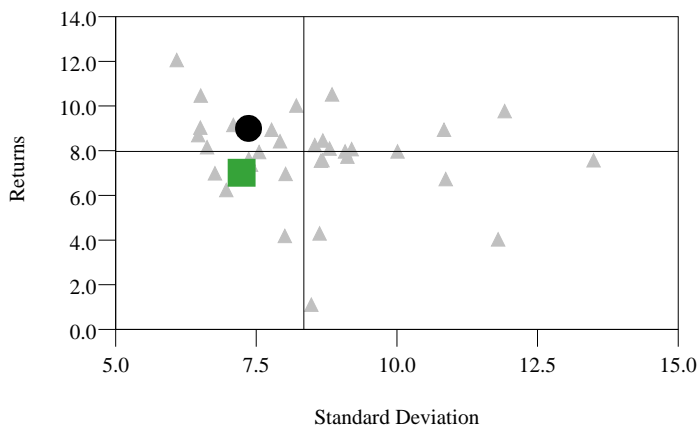
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:MCV;Ret

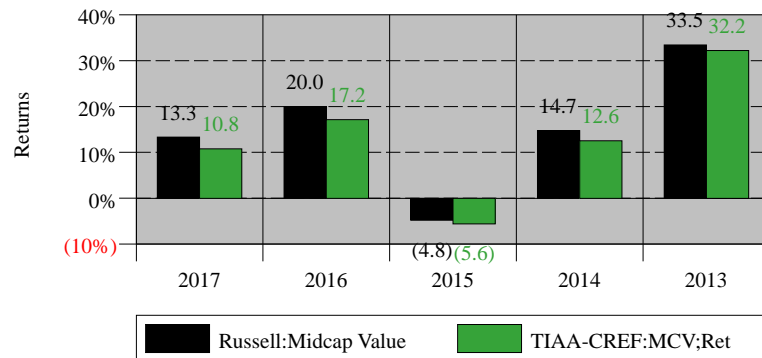
## Russell:Midcap Value - (Callan Mid Cap Value MFs)

Scatter Chart  
for 3 Years Ended December 31, 2017

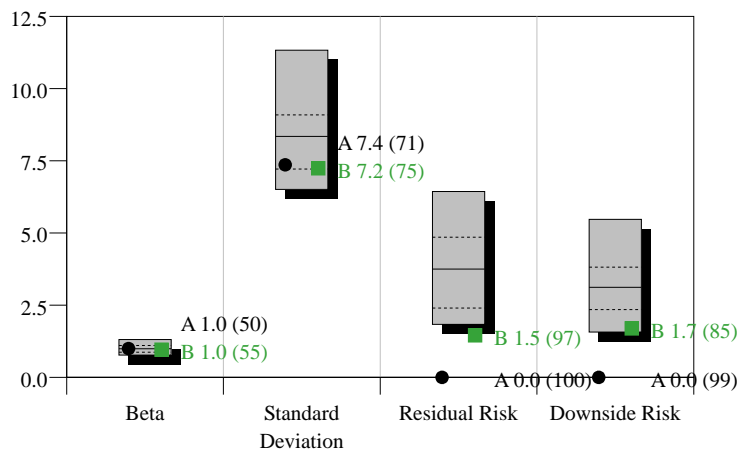


Returns for Various Periods

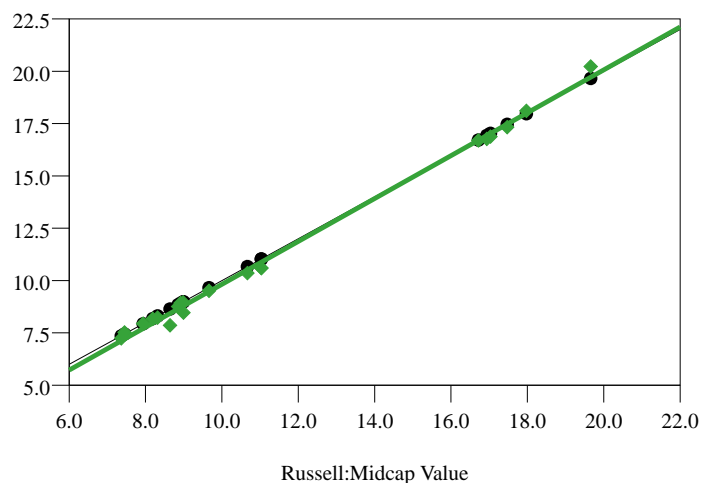
	Year to Date	Last Year	Last 3 Years	Last 5 Years
TIAA-CREF:MCV;Ret	10.79 (83)	10.79 (83)	7.01 (77)	12.77 (64)
Russell:Midcap Value	13.34 (51)	13.34 (51)	9.00 (21)	14.68 (20)



Risk Statistics for 3 Years



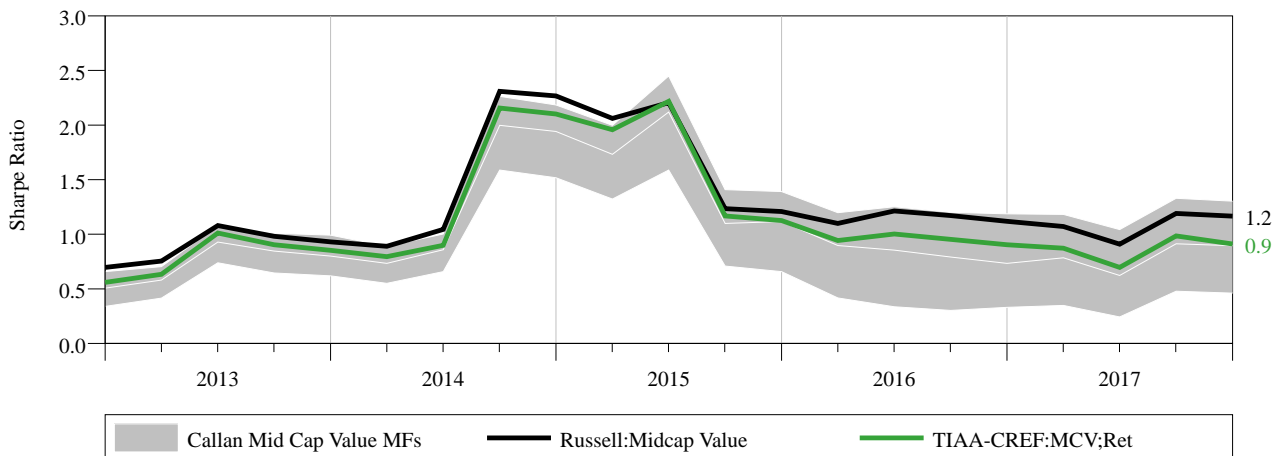
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:MCV;Ret	(1.56) (56)	0.91 (49)	6.85 (62)	(1.07) (94)	(1.17) (95)
Russell:Midcap Value	0.00 (35)	1.17 (20)	8.59 (34)	0.00 (35)	--

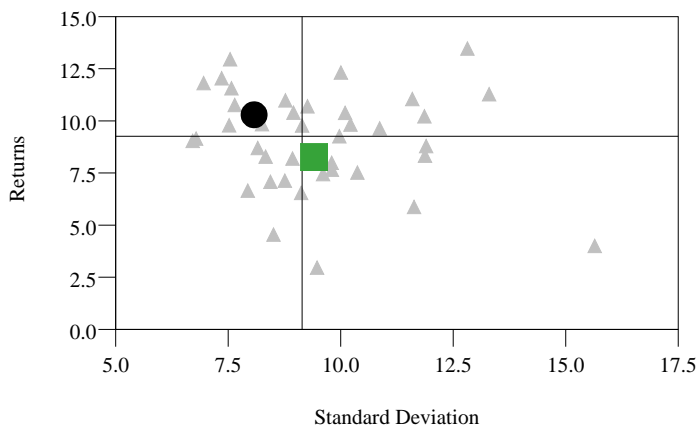
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:MCG;Ret

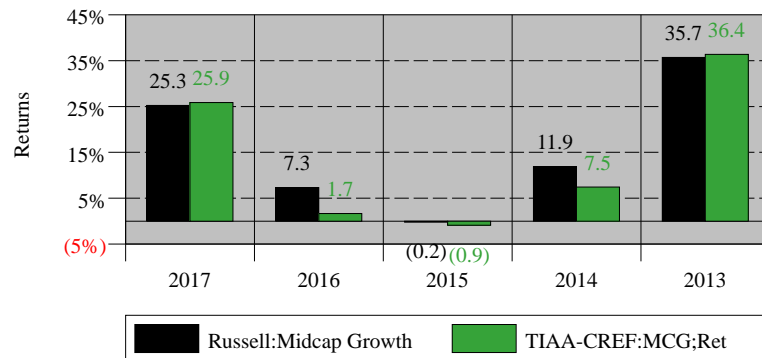
## Russell:Midcap Growth - (Callan Mid Cap Growth MFs)

Scatter Chart  
for 3 Years Ended December 31, 2017

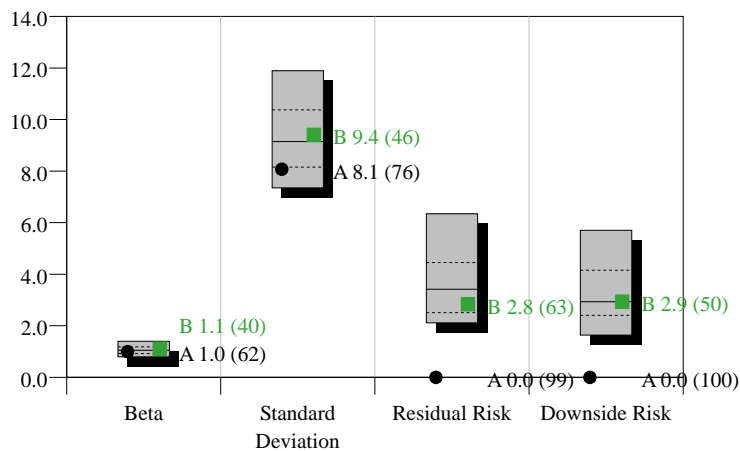


Returns for Various Periods

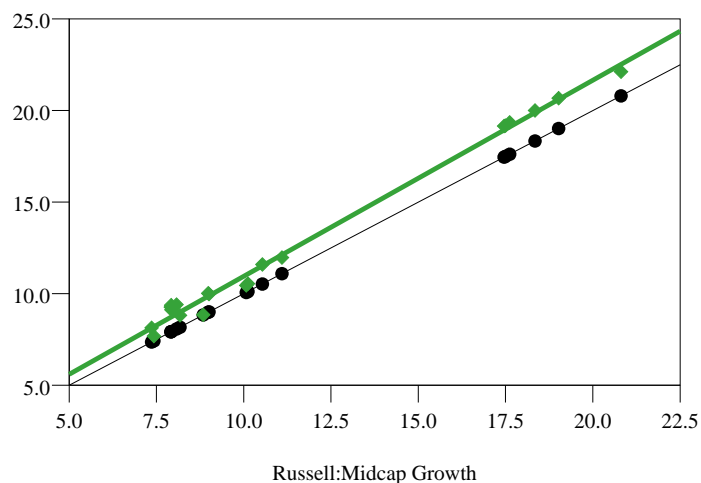
	Year to Date	Last Year	Last 3 Years	Last 5 Years
TIAA-CREF:MCG;Ret	25.90 (46)	25.90 (46)	8.27 (66)	13.22 (54)
Russell:Midcap Growth	25.27 (49)	25.27 (49)	10.30 (34)	15.30 (24)



Risk Statistics for 3 Years



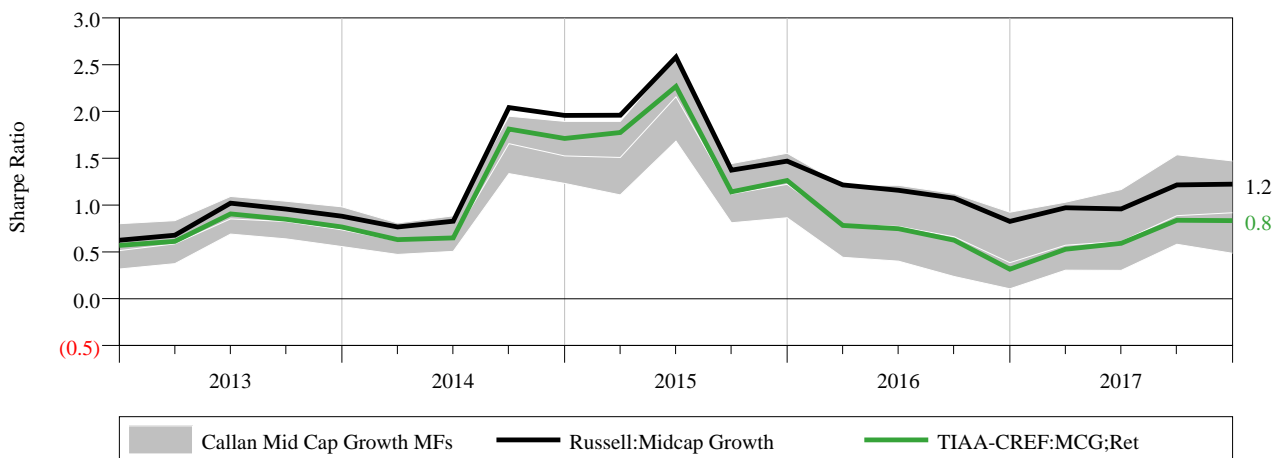
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:MCG;Ret	(2.86) (67)	0.84 (59)	7.06 (64)	(1.00) (76)	(0.69) (69)
Russell:Midcap Growth	0.00 (29)	1.22 (21)	9.88 (28)	0.00 (29)	--

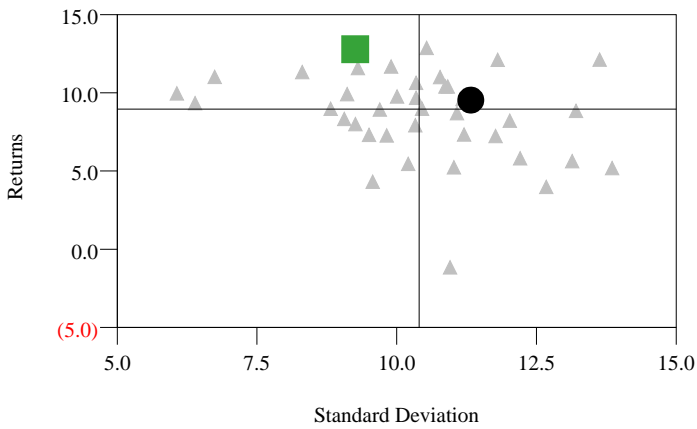
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



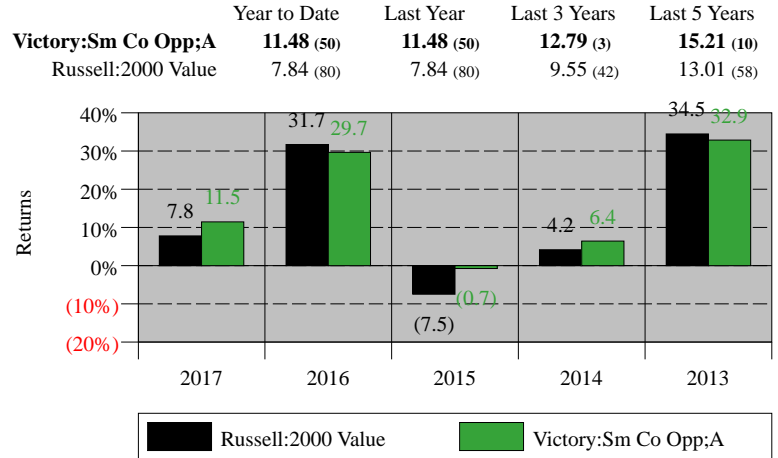
# Victory:Sm Co Opp;A

## Russell:2000 Value - (Callan Sm Cap Value MF)

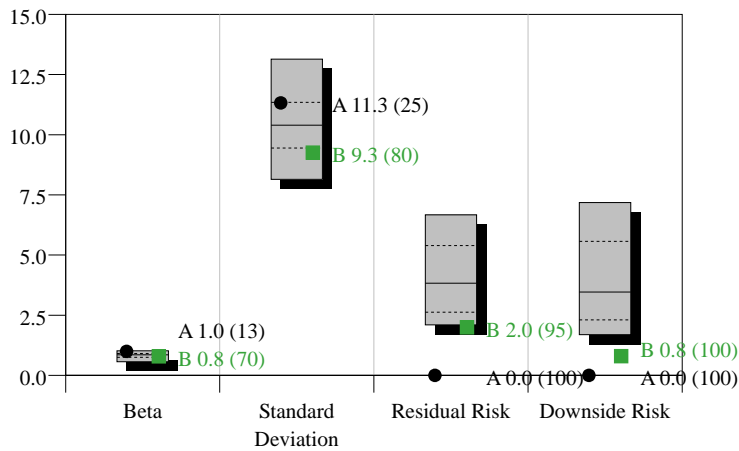
Scatter Chart  
for 3 Years Ended December 31, 2017



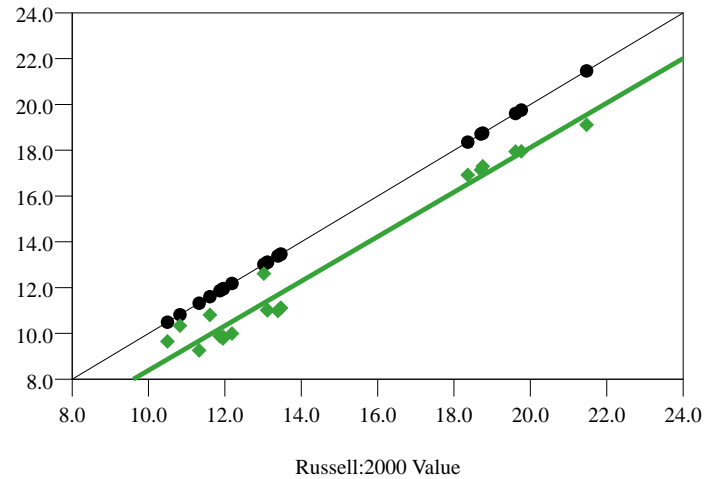
Returns for Various Periods



Risk Statistics for 3 Years



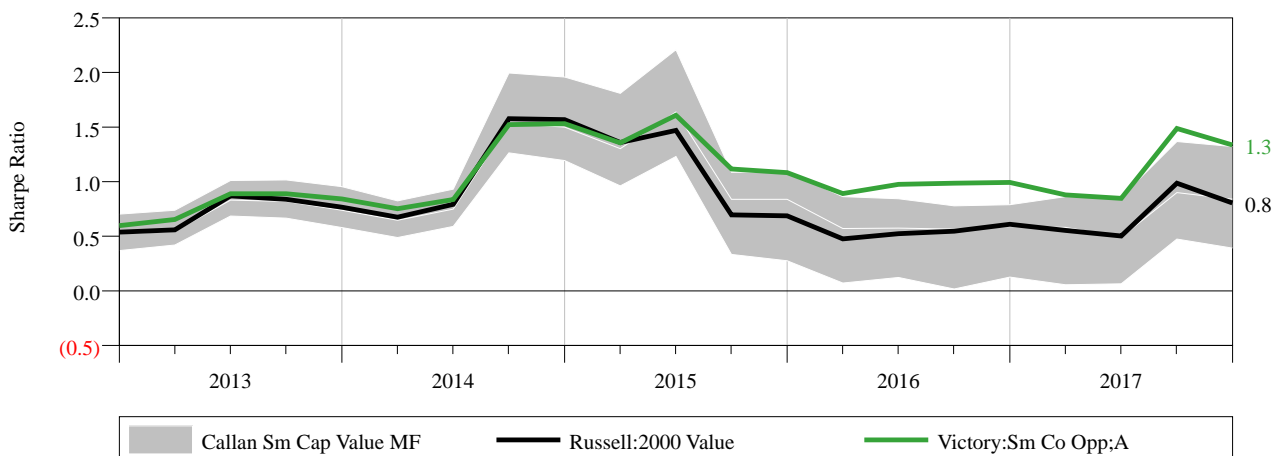
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>Victory:Sm Co Opp;A</b>	<b>4.78</b> (9)	<b>1.34</b> (10)	<b>15.54</b> (13)	<b>2.39</b> (2)	<b>4.03</b> (1)
Russell:2000 Value	0.00 (65)	0.81 (57)	9.13 (63)	0.00 (64)	--

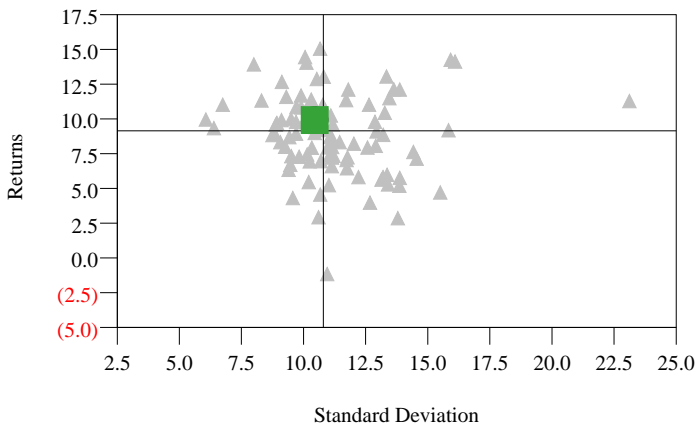
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



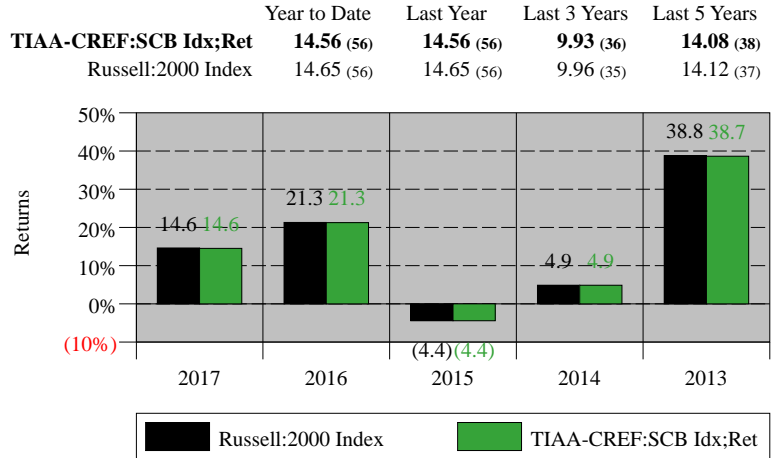
# TIAA-CREF:SCB Idx;Ret

## Russell:2000 Index - (Callan Small Cap MFs)

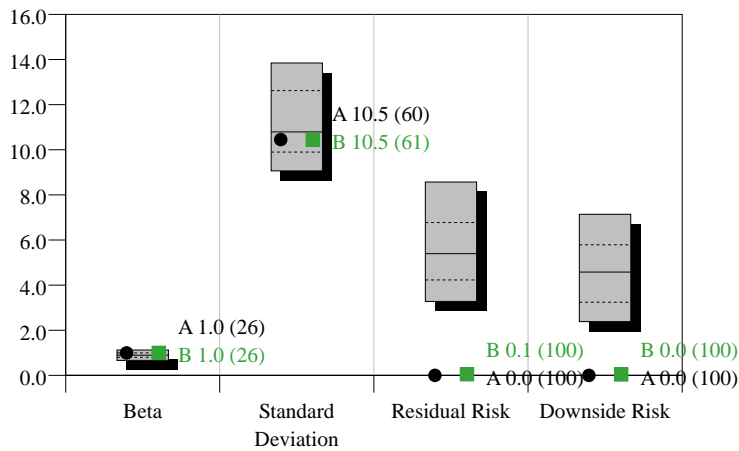
Scatter Chart  
for 3 Years Ended December 31, 2017



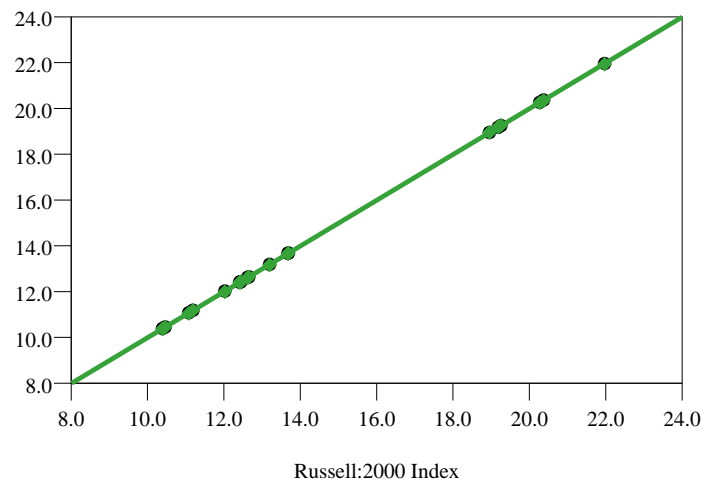
Returns for Various Periods



Risk Statistics for 3 Years



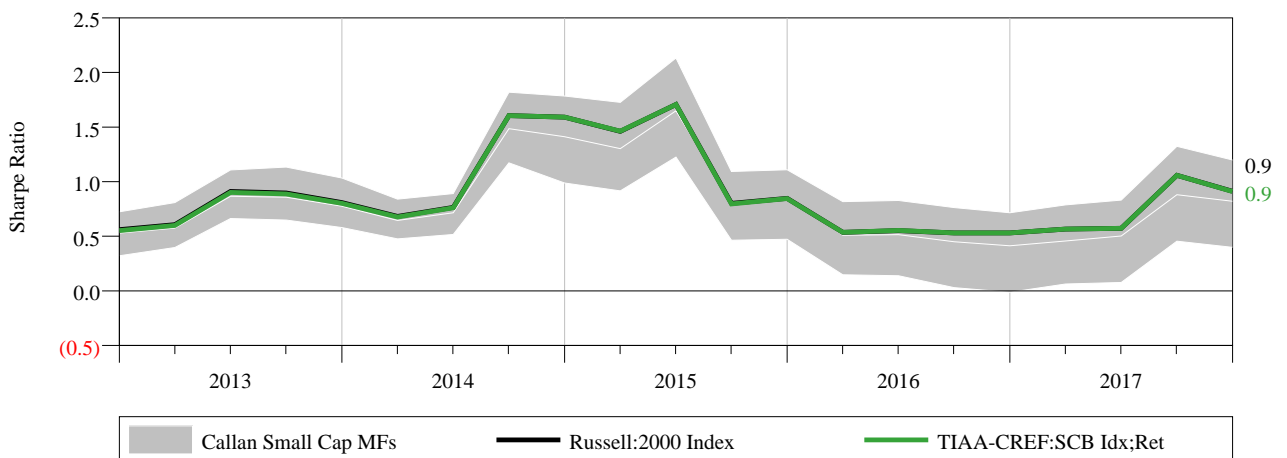
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA-CREF:SCB Idx;Ret</b>	<b>(0.02)</b> (54)	<b>0.91</b> (34)	<b>9.52</b> (51)	<b>(0.36)</b> (73)	<b>(0.62)</b> (72)
Russell:2000 Index	0.00 (53)	0.91 (34)	9.54 (51)	0.00 (53)	--

Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.

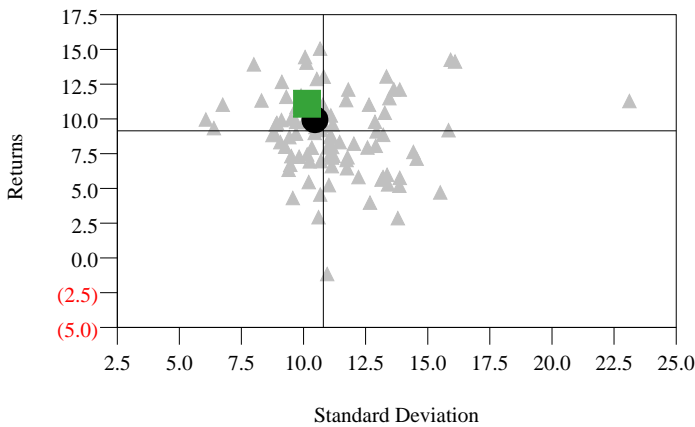




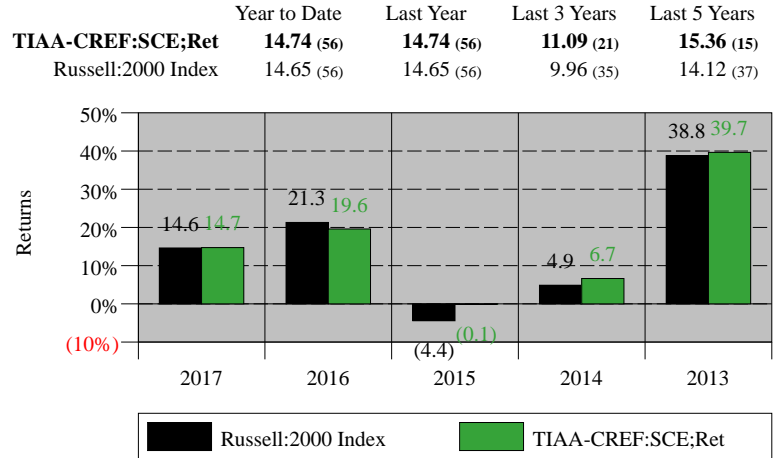
# TIAA-CREF:SCE;Ret

## Russell:2000 Index - (Callan Small Cap MFs)

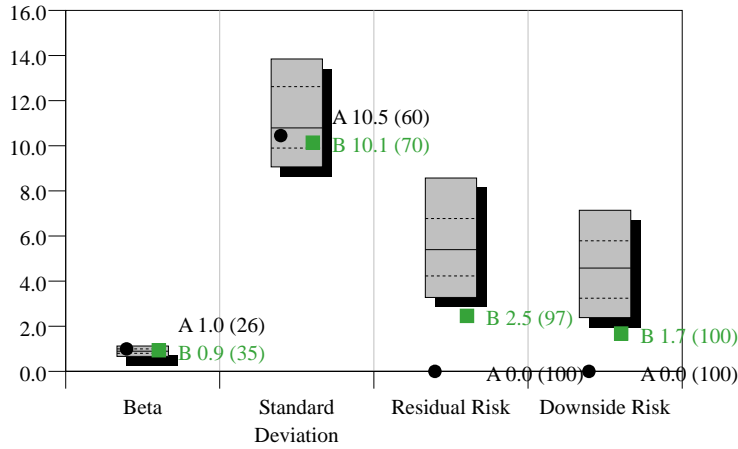
Scatter Chart  
for 3 Years Ended December 31, 2017



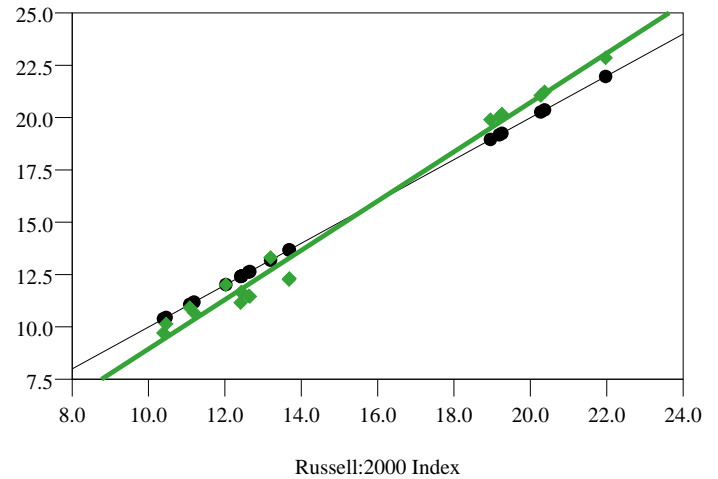
Returns for Various Periods



Risk Statistics for 3 Years



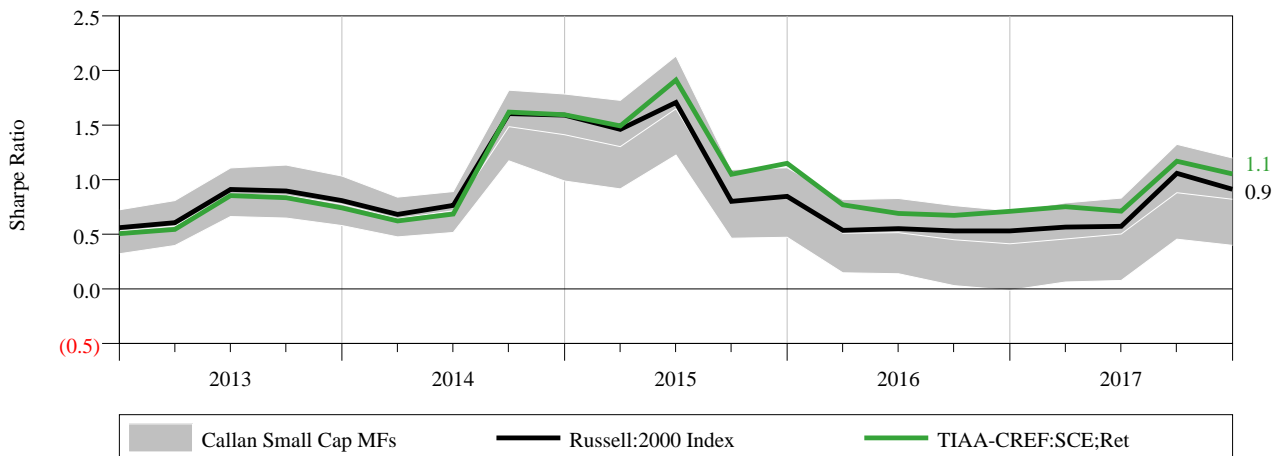
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA-CREF:SCE;Ret</b>	<b>1.59</b> (34)	<b>1.05</b> (16)	<b>11.35</b> (31)	<b>0.65</b> (14)	<b>0.68</b> (10)
Russell:2000 Index	0.00 (53)	0.91 (34)	9.54 (51)	0.00 (53)	--

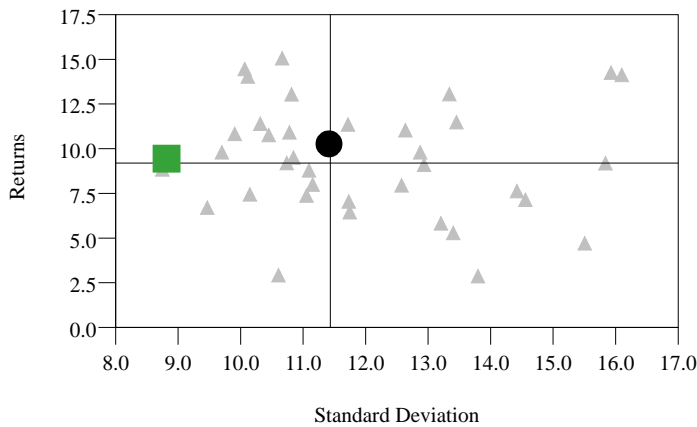
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



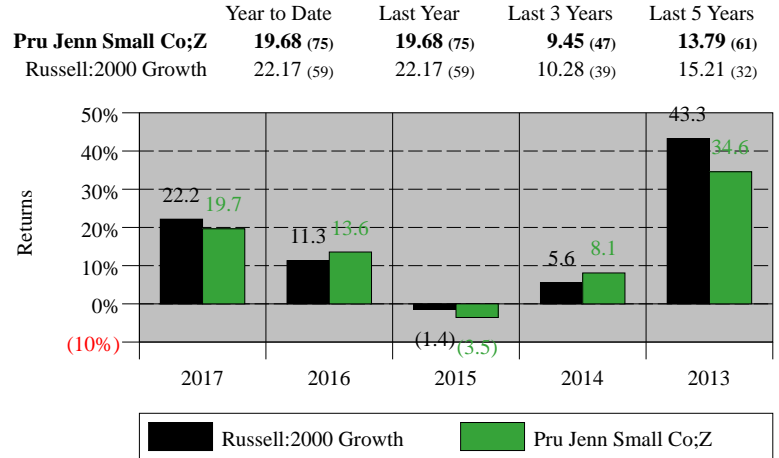
# Pru Jenn Small Co;Z

## Russell:2000 Growth - (Callan Sm Cap Growth MF)

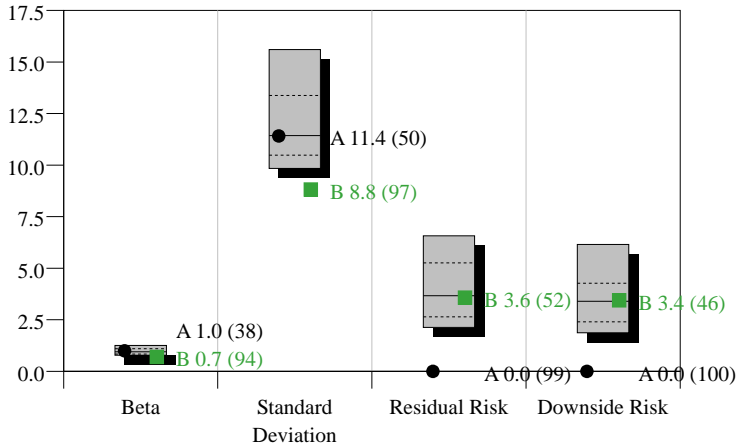
Scatter Chart  
for 3 Years Ended December 31, 2017



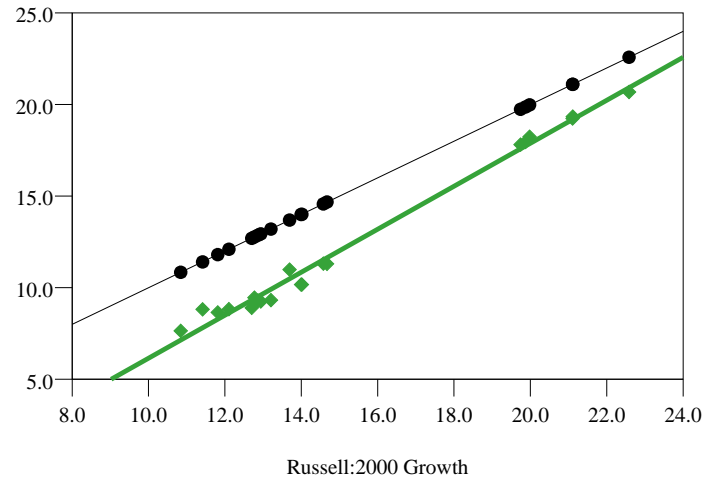
Returns for Various Periods



Risk Statistics for 3 Years



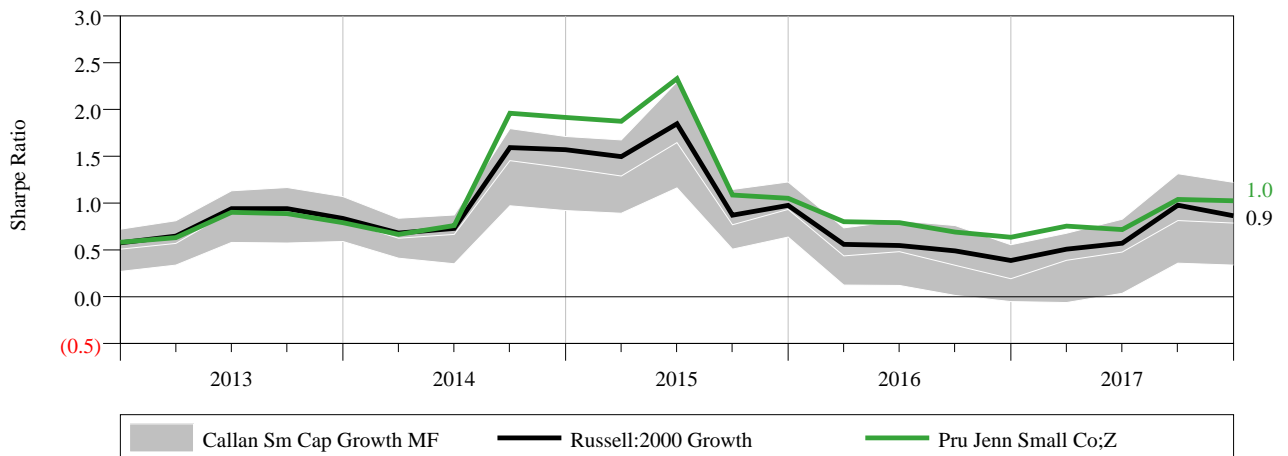
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>Pru Jenn Small Co;Z</b>	<b>1.98</b> (24)	<b>1.02</b> (17)	<b>12.85</b> (21)	<b>0.55</b> (18)	<b>(0.24)</b> (49)
<b>Russell:2000 Growth</b>	<b>0.00</b> (47)	<b>0.86</b> (36)	<b>9.87</b> (47)	<b>0.00</b> (47)	--

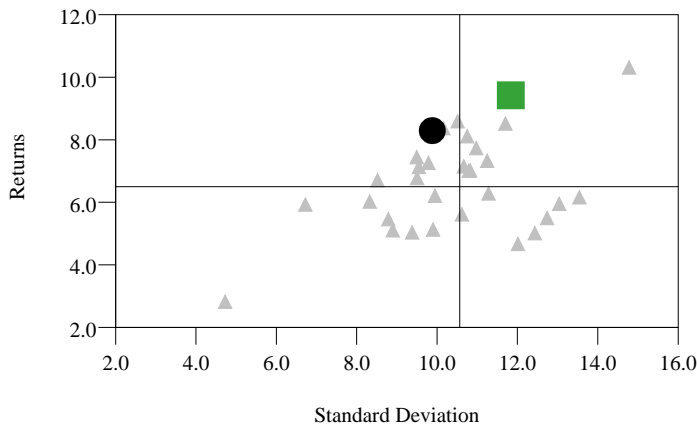
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



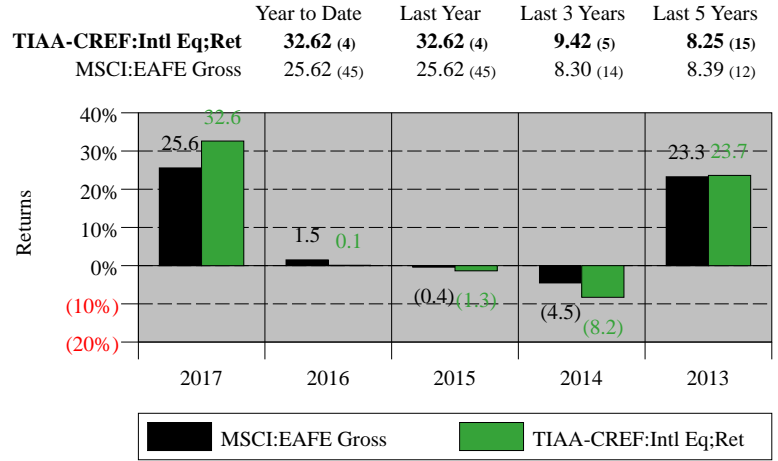
# TIAA-CREF: Intl Eq; Ret

## MSCI:EAFE Gross - (Callan Intl Lg Cap Cor MF)

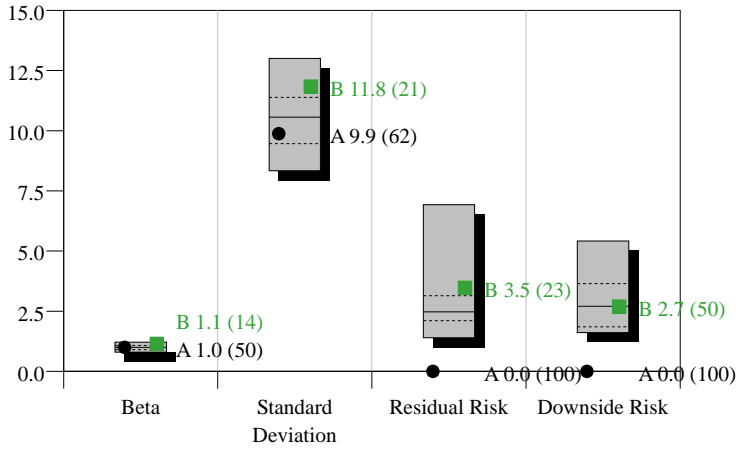
Scatter Chart  
for 3 Years Ended December 31, 2017



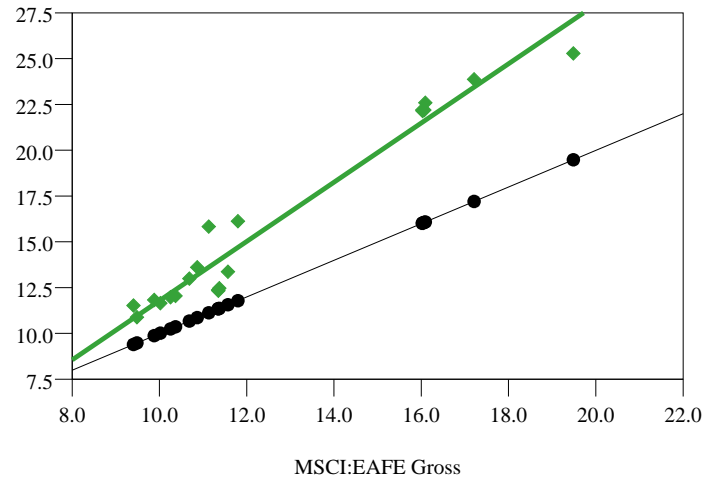
Returns for Various Periods



Risk Statistics for 3 Years



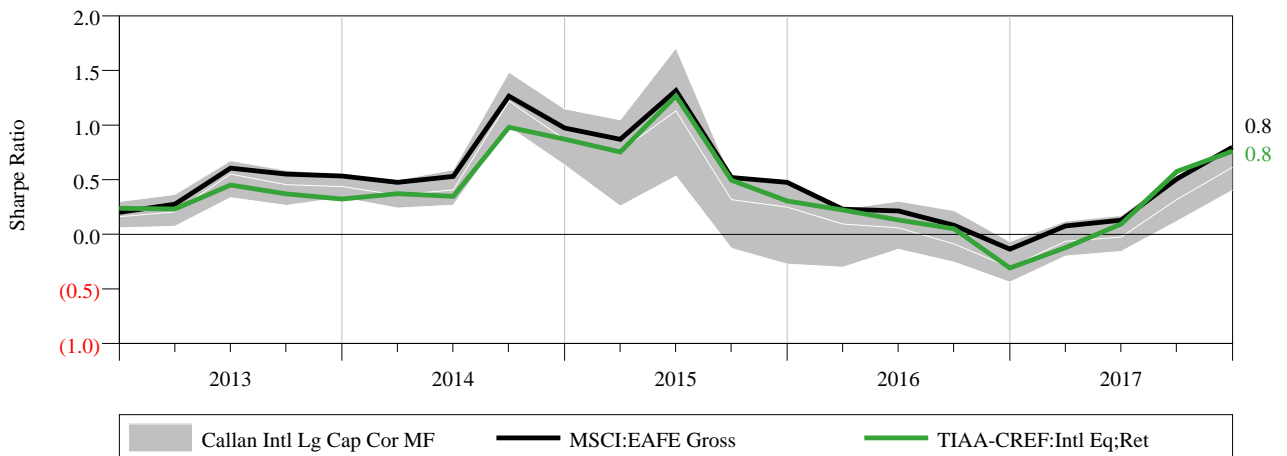
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA-CREF: Intl Eq; Ret</b>	<b>0.08</b> (6)	<b>0.76</b> (11)	<b>7.87</b> (10)	<b>0.02</b> (7)	<b>0.42</b> (4)
MSCI:EAFE Gross	0.00 (10)	0.80 (5)	7.89 (9)	0.00 (11)	--

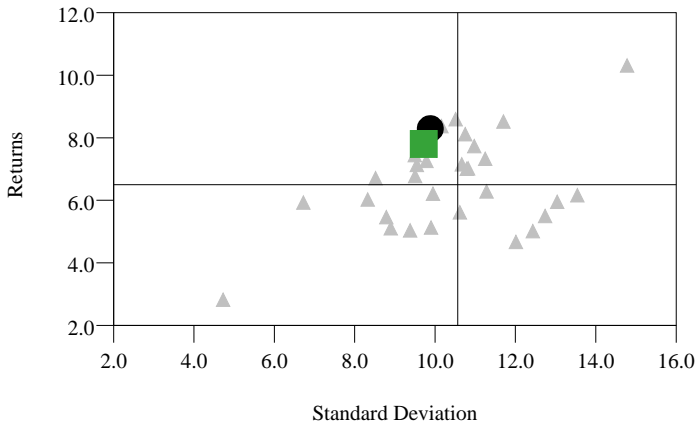
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



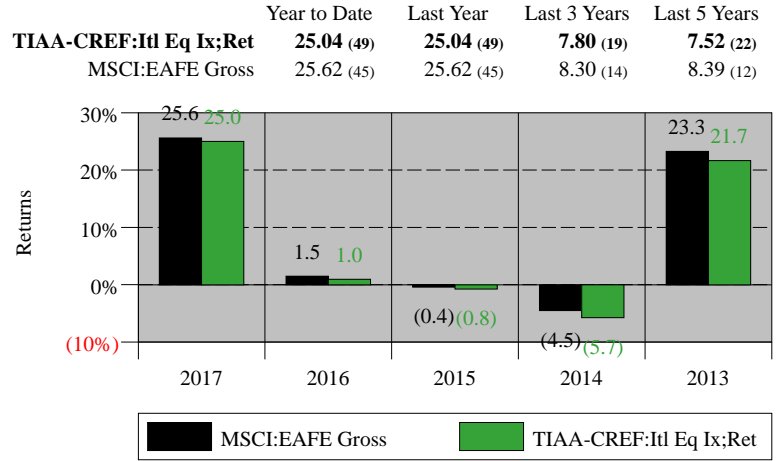
# TIAA-CREF:Itl Eq Ix;Ret

## MSCI:EAFE Gross - (Callan Intl Lg Cap Cor MF)

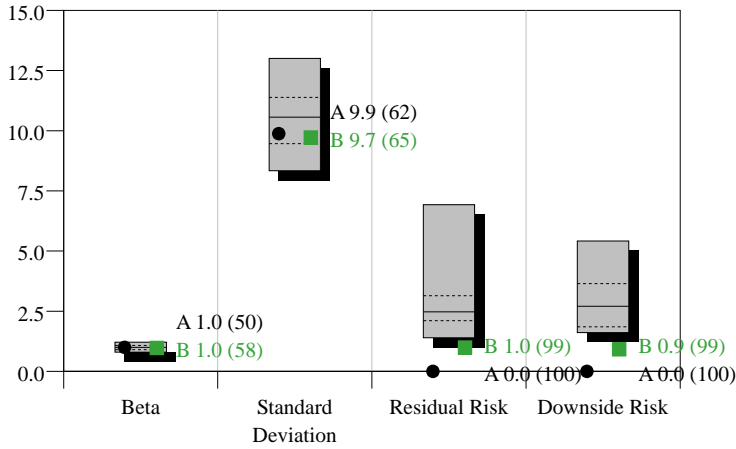
Scatter Chart  
for 3 Years Ended December 31, 2017



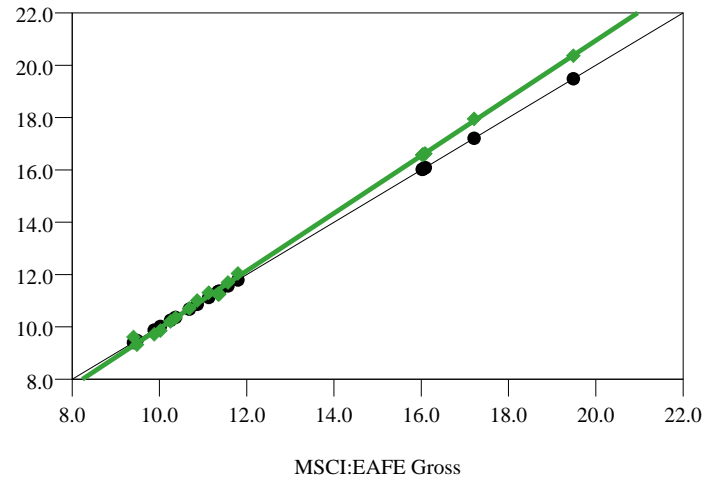
Returns for Various Periods



Risk Statistics for 3 Years



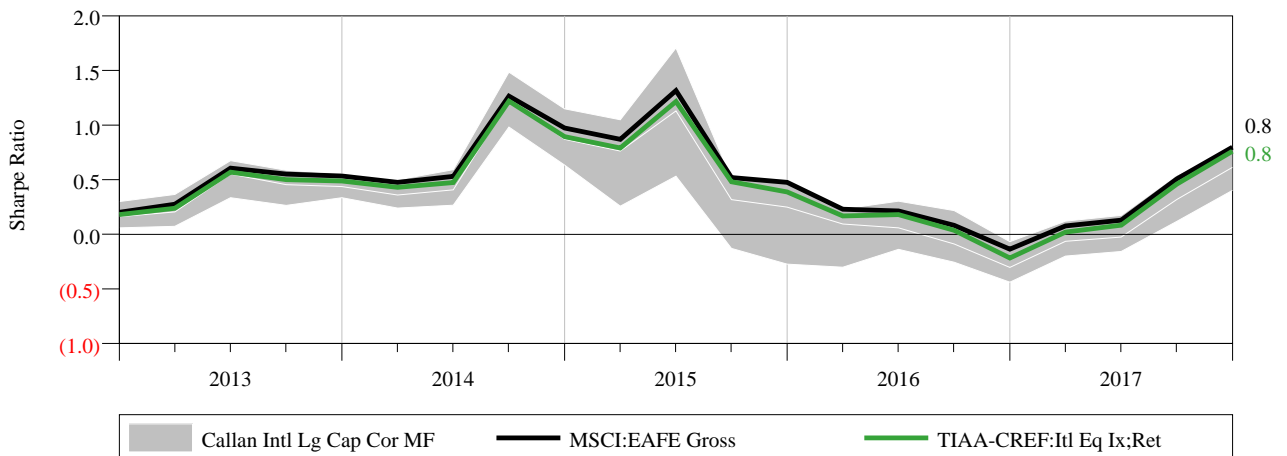
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA-CREF:Itl Eq Ix;Ret</b>	<b>(0.31)</b> (20)	<b>0.76</b> (11)	<b>7.55</b> (16)	<b>(0.31)</b> (37)	<b>(0.54)</b> (38)
MSCI:EAFE Gross	0.00 (10)	0.80 (5)	7.89 (9)	0.00 (11)	--

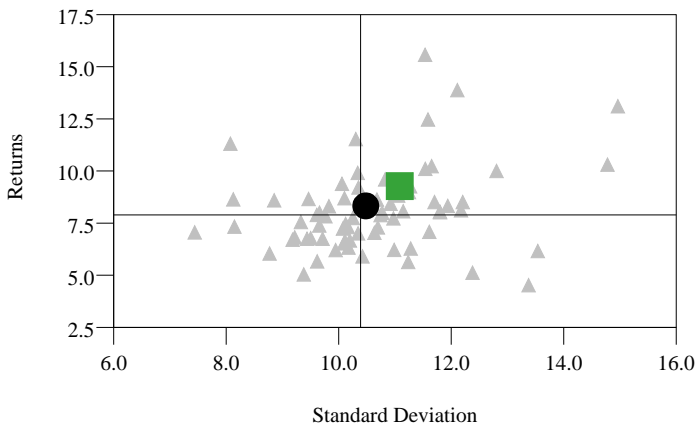
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# American Funds EuPc;R-4

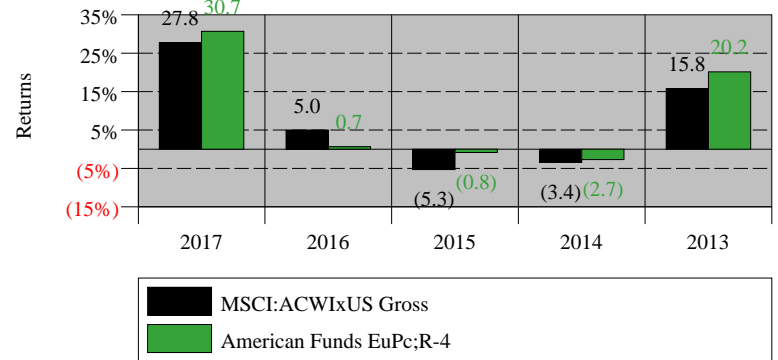
MSCI:ACWIXUS Gross - (Callan Non US Equity MFs)

Scatter Chart  
for 3 Years Ended December 31, 2017

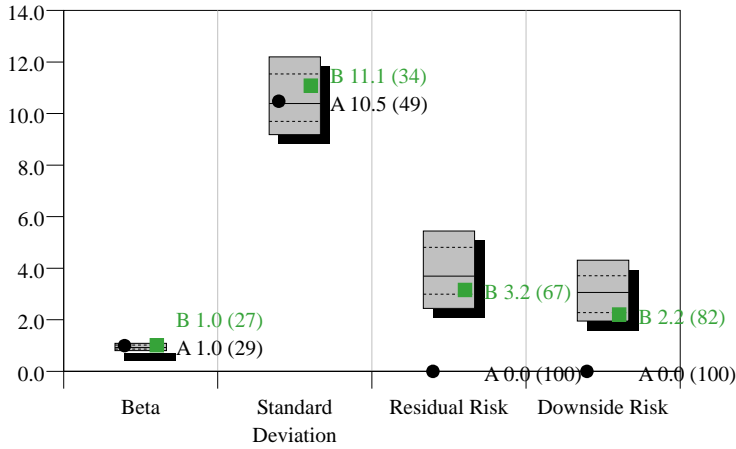


Returns for Various Periods

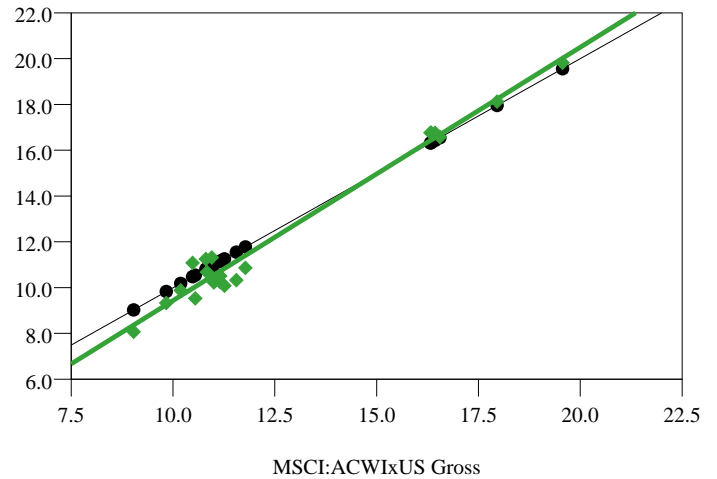
	Year to Date	Last Year	Last 3 Years	Last 5 Years
American Funds EuPc;R-4	30.70 (20)	30.70 (20)	9.28 (20)	8.83 (16)
MSCI:ACWIXUS Gross	27.77 (42)	27.77 (42)	8.33 (38)	7.28 (60)



Risk Statistics for 3 Years



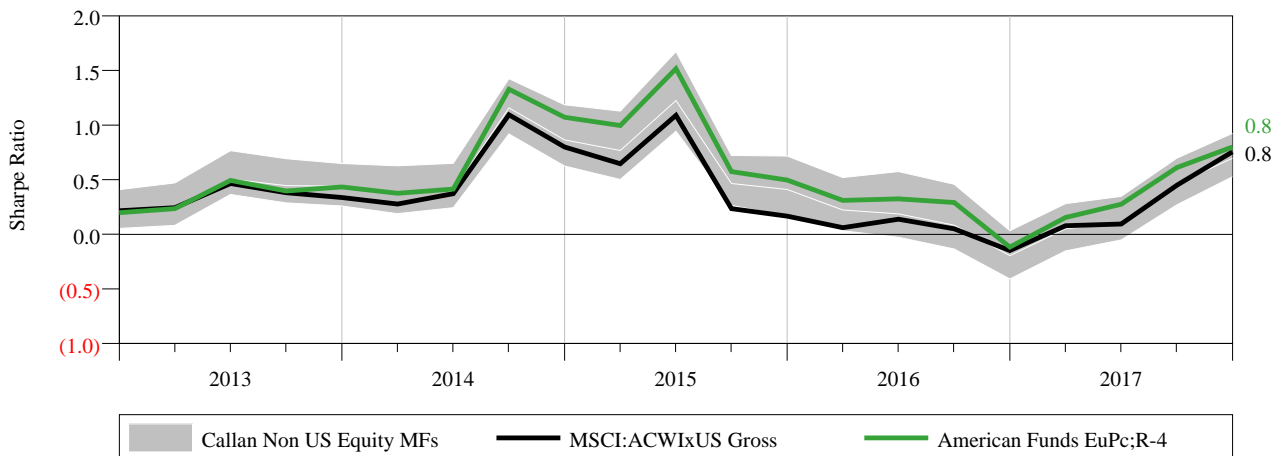
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
American Funds EuPc;R-4	0.83 (29)	0.80 (27)	8.74 (29)	0.26 (27)	0.43 (17)
MSCI:ACWIXUS Gross	0.00 (49)	0.76 (40)	7.92 (48)	0.00 (49)	--

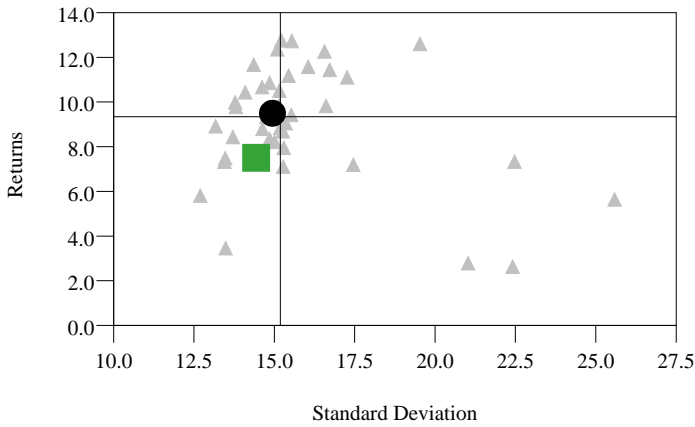
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# Vanguard EM St Idx;Adm

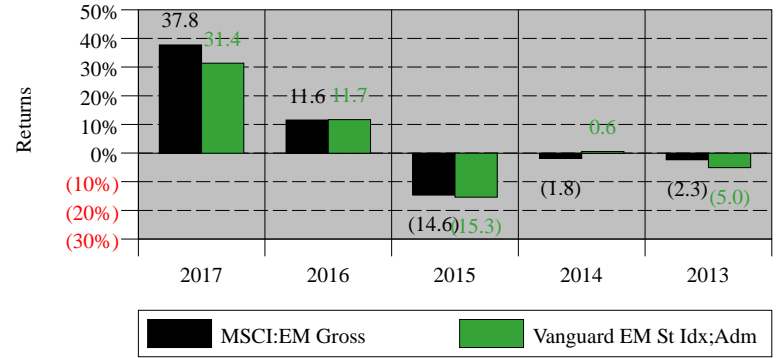
MSCI:EM Gross - (Callan Emerging Equity MF)

Scatter Chart  
for 3 Years Ended December 31, 2017

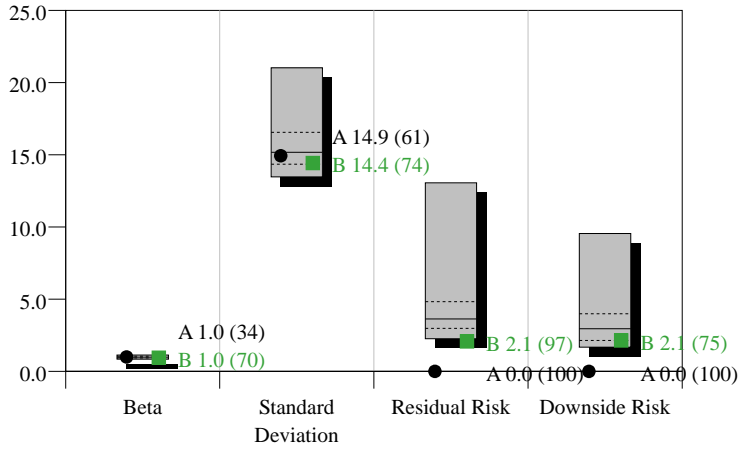


Returns for Various Periods

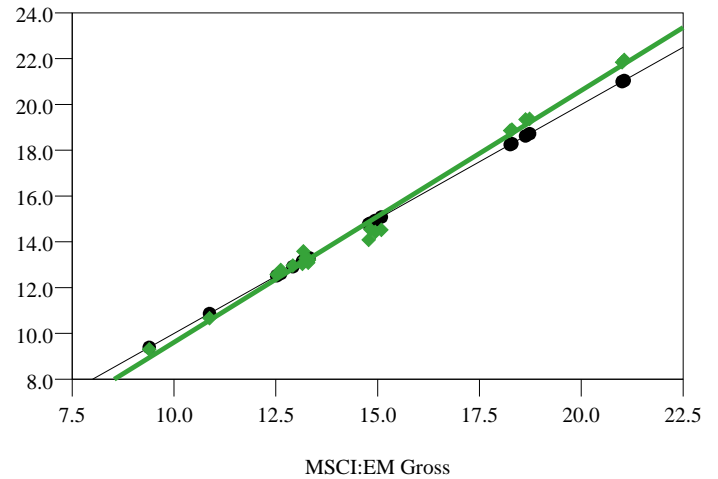
	Year to Date	Last Year	Last 3 Years	Last 5 Years
<b>Vanguard EM St Idx;Adm</b>	<b>31.38</b> (78)	<b>31.38</b> (78)	<b>7.51</b> (75)	<b>3.49</b> (67)
MSCI:EM Gross	37.75 (47)	37.75 (47)	9.50 (47)	4.73 (38)



Risk Statistics for 3 Years



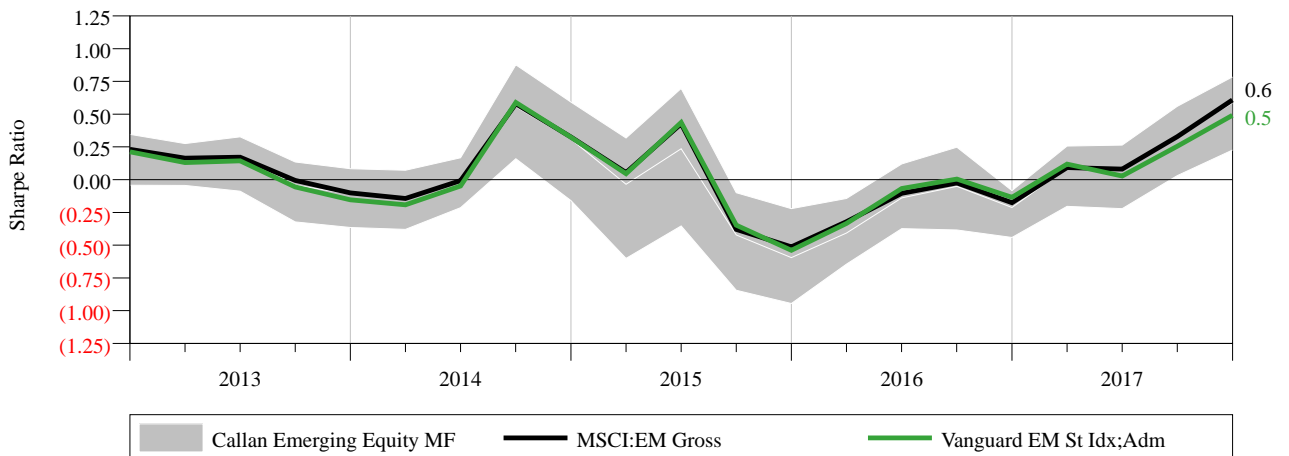
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>Vanguard EM St Idx;Adm</b>	<b>(1.49)</b> (79)	<b>0.49</b> (78)	<b>7.42</b> (78)	<b>(0.72)</b> (95)	<b>(0.93)</b> (95)
MSCI:EM Gross	0.00 (51)	0.61 (47)	9.09 (52)	0.00 (51)	--

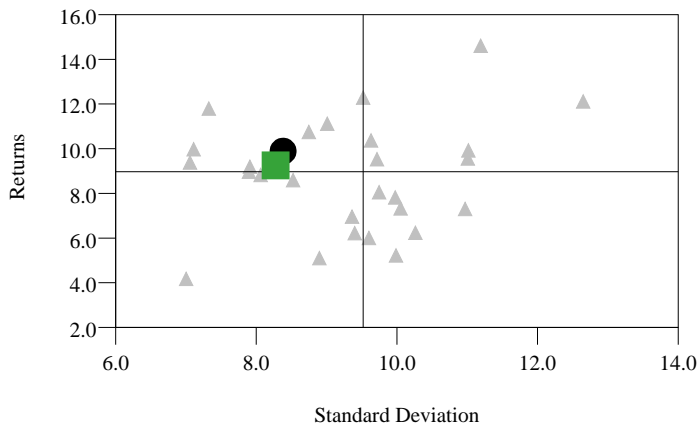
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



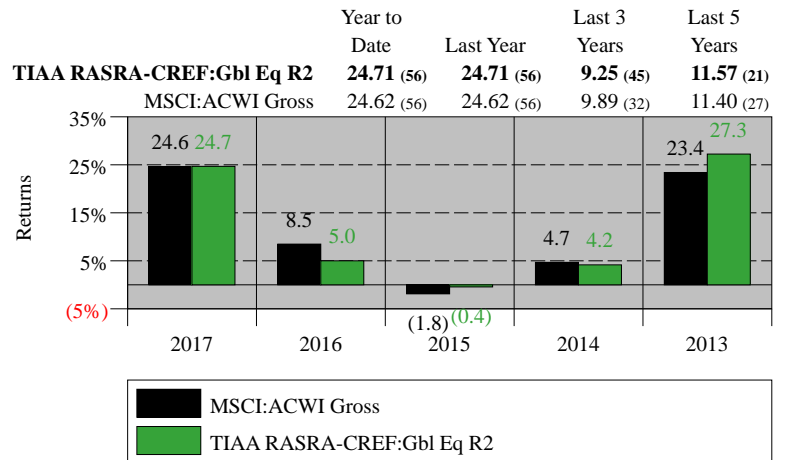
# TIAA RASRA-CREF:Gbl Eq R2

MSCI:ACWI Gross - (Callan Global Equity MFs)

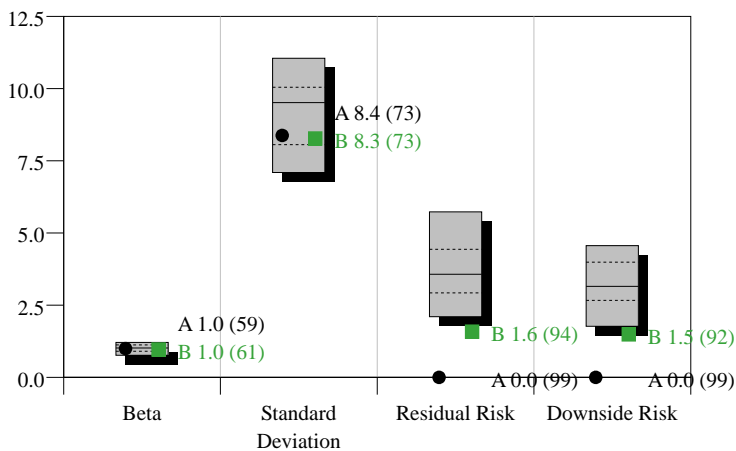
Scatter Chart  
for 3 Years Ended December 31, 2017



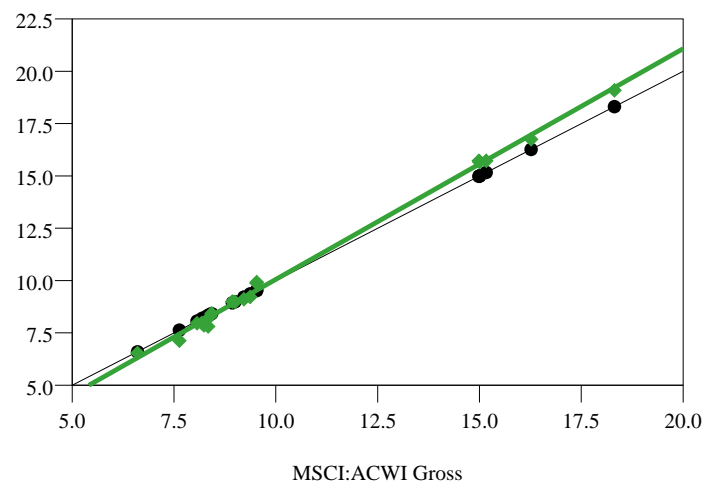
Returns for Various Periods



Risk Statistics for 3 Years



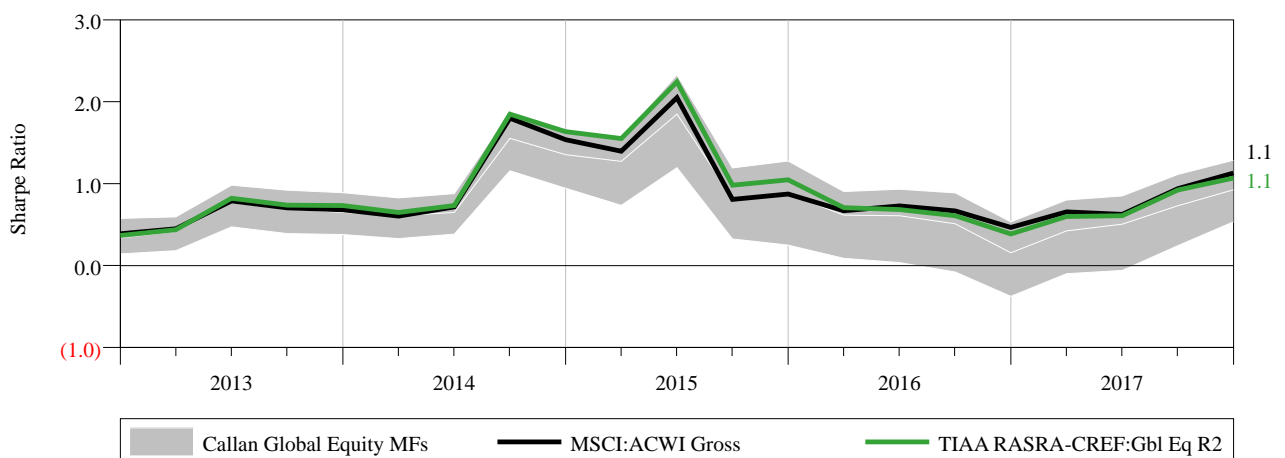
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA RASRA-CREF:Gbl Eq R2</b>	<b>(0.30)</b> (41)	<b>1.07</b> (34)	<b>9.13</b> (40)	<b>(0.19)</b> (47)	<b>(0.43)</b> (52)
MSCI:ACWI Gross	0.00 (38)	1.13 (28)	9.48 (37)	0.00 (39)	--

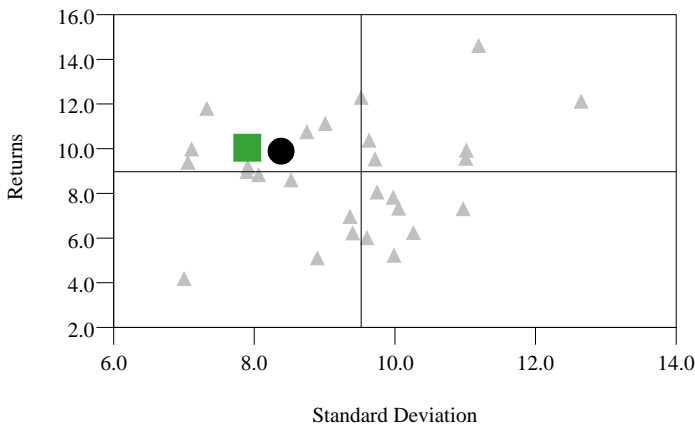
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA RASRA-CREF:Stock R2

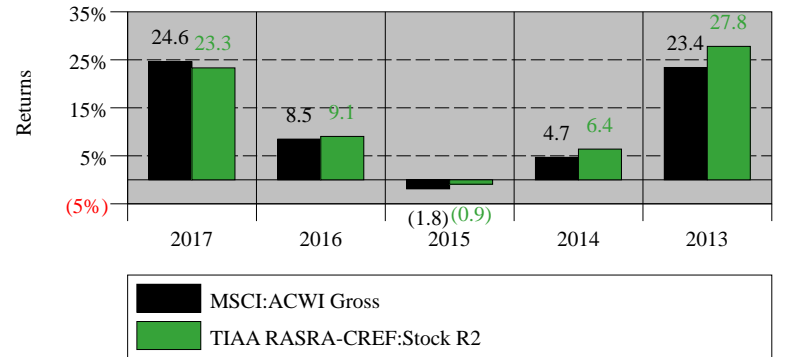
## MSCI:ACWI Gross - (Callan Global Equity MFs)

Scatter Chart  
for 3 Years Ended December 31, 2017

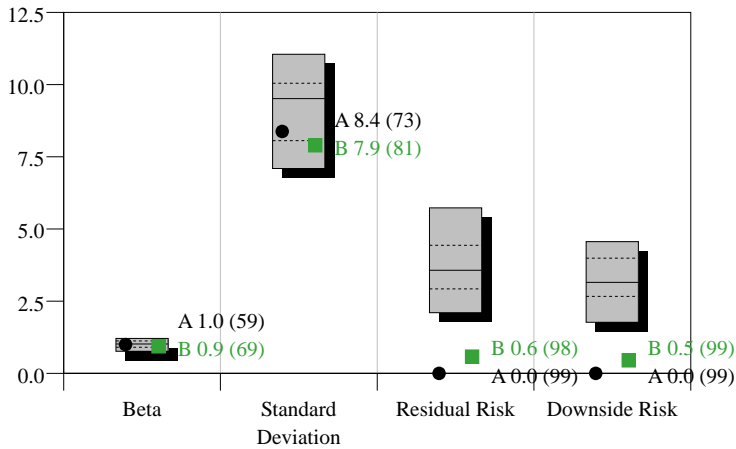


Returns for Various Periods

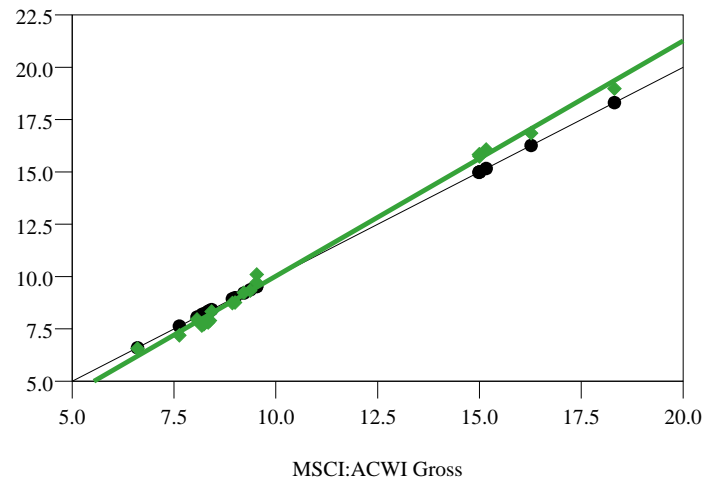
	Year to Date	Last Year	Last 3 Years	Last 5 Years
<b>TIAA RASRA-CREF:Stock R2</b>	<b>23.33</b> (79)	<b>23.33</b> (79)	<b>10.05</b> (28)	<b>12.64</b> (9)
MSCI:ACWI Gross	24.62 (56)	24.62 (56)	9.89 (32)	11.40 (27)



Risk Statistics for 3 Years



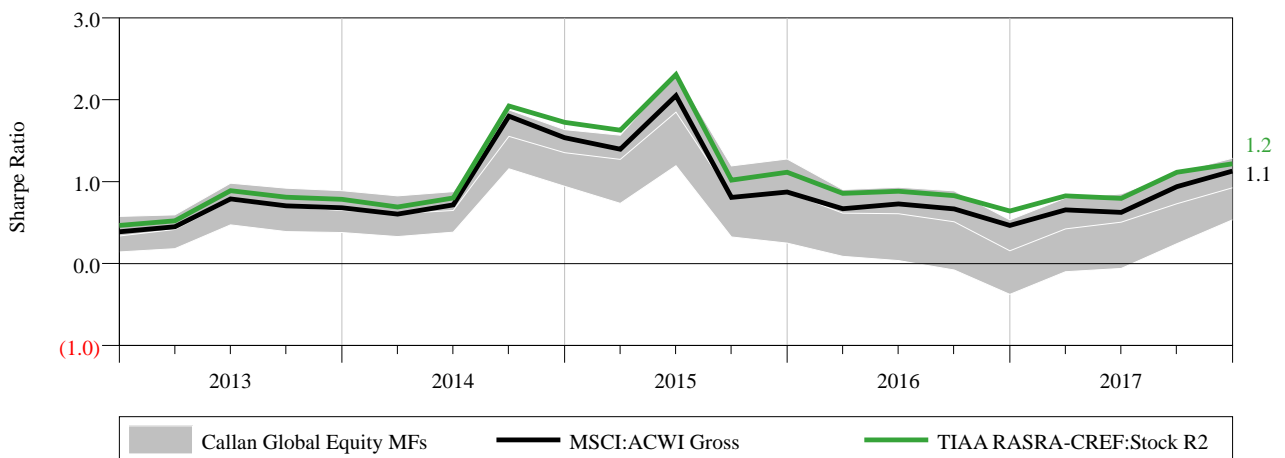
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA RASRA-CREF:Stock R2</b>	<b>0.68</b> (25)	<b>1.22</b> (20)	<b>10.26</b> (24)	<b>1.17</b> (3)	<b>0.34</b> (23)
MSCI:ACWI Gross	0.00 (38)	1.13 (28)	9.48 (37)	0.00 (39)	--

Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.

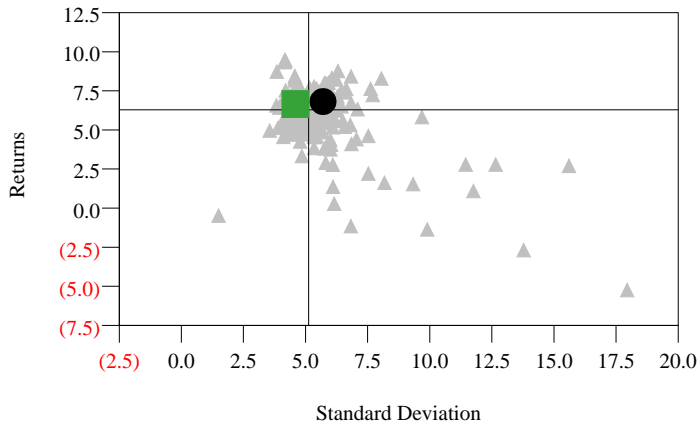




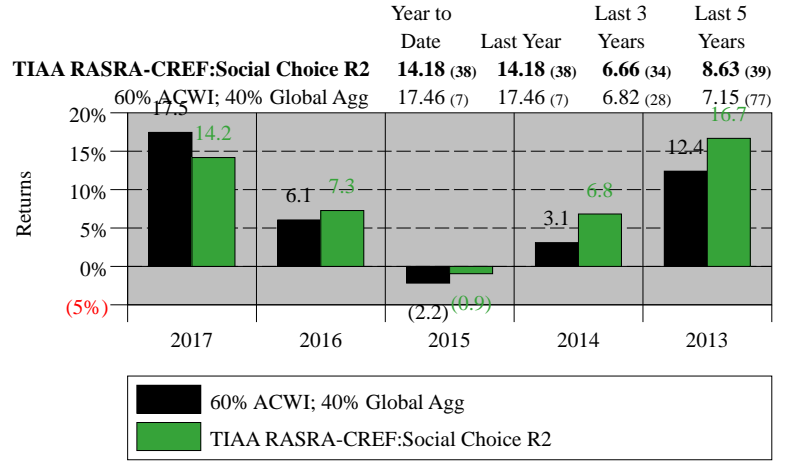
# TIAA RASRA-CREF:Social Choice R2

60% ACWI; 40% Global Agg - (Morningstar Alloc 50-70 E)

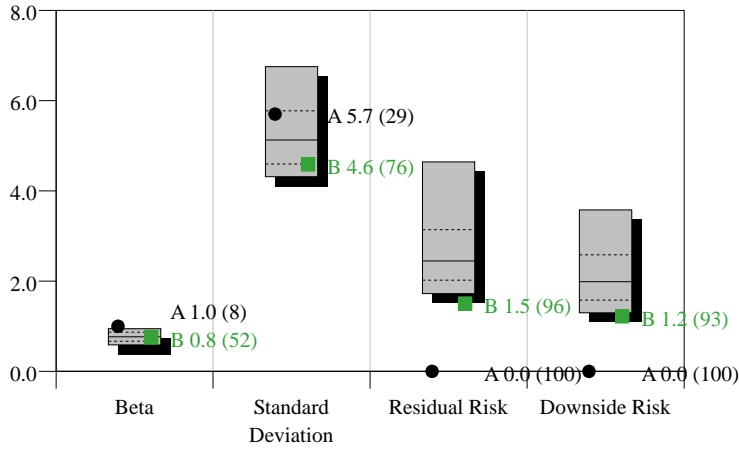
Scatter Chart  
for 3 Years Ended December 31, 2017



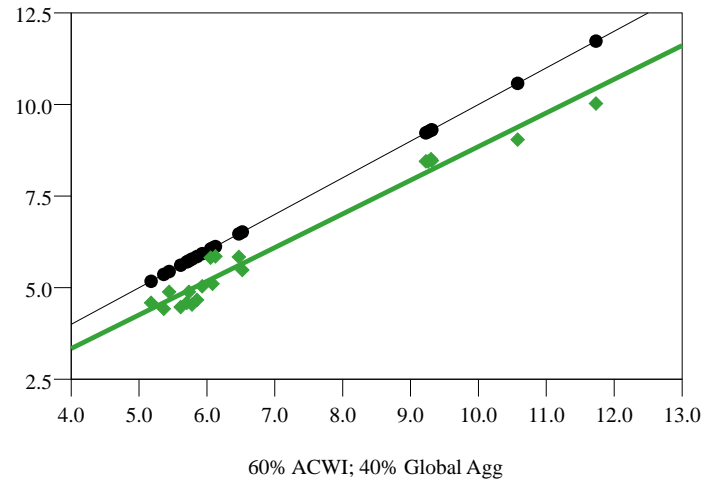
Returns for Various Periods



Risk Statistics for 3 Years



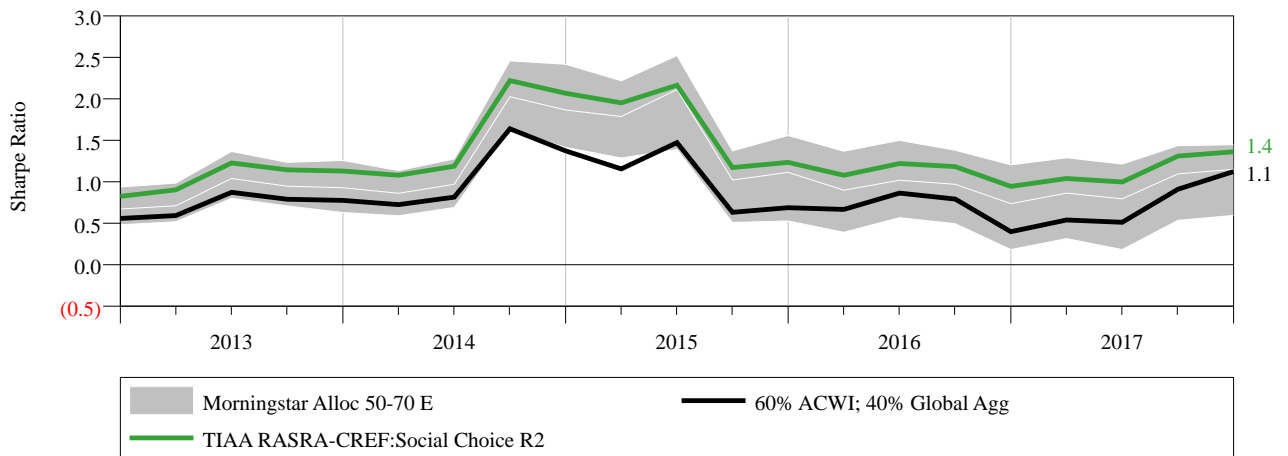
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA RASRA-CREF:Social Choice R2</b>	<b>1.37</b> (33)	<b>1.36</b> (16)	<b>8.28</b> (32)	<b>0.91</b> (13)	<b>(0.13)</b> (39)
<b>60% ACWI; 40% Global Agg</b>	0.00 (76)	1.12 (53)	6.41 (75)	0.00 (76)	--

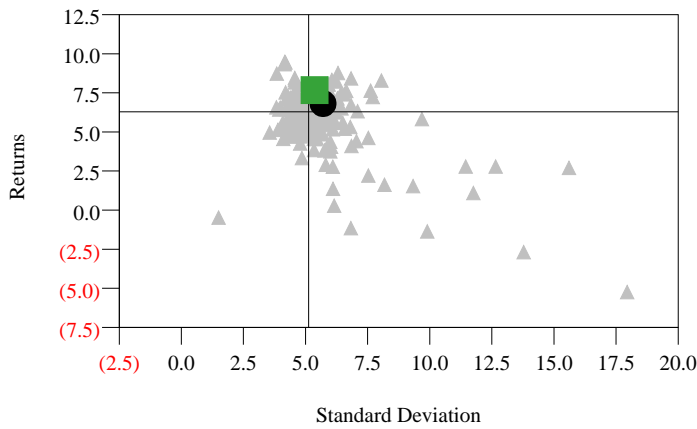
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:Mgd Alloc;Ret

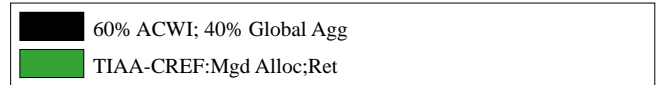
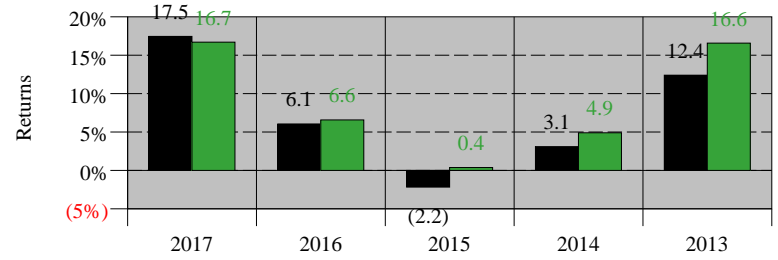
60% ACWI; 40% Global Agg - (Morningstar Alloc 50-70 E)

Scatter Chart  
for 3 Years Ended December 31, 2017

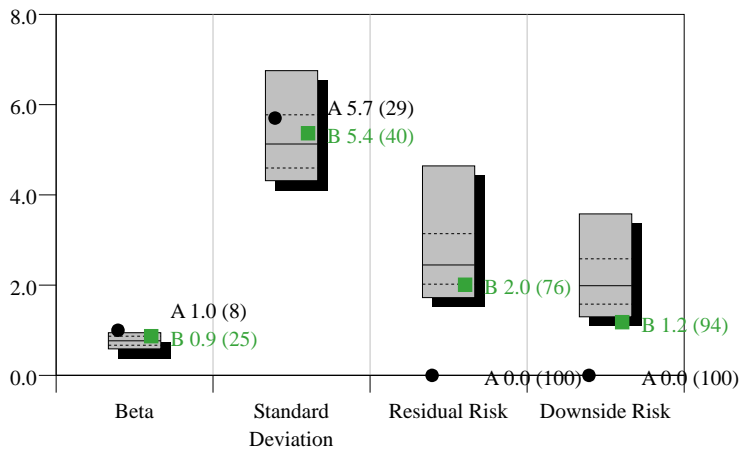


Returns for Various Periods

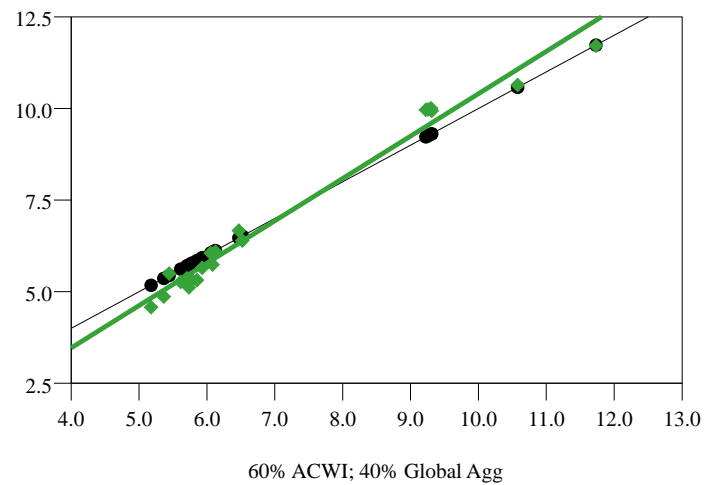
	Year to Date	Last Year	Last 3 Years	Last 5 Years
<b>TIAA-CREF:Mgd Alloc;Ret</b>	<b>16.71</b> (10)	<b>16.71</b> (10)	<b>7.69</b> (9)	<b>8.84</b> (35)
60% ACWI; 40% Global Agg	17.46 (7)	17.46 (7)	6.82 (28)	7.15 (77)



Risk Statistics for 3 Years



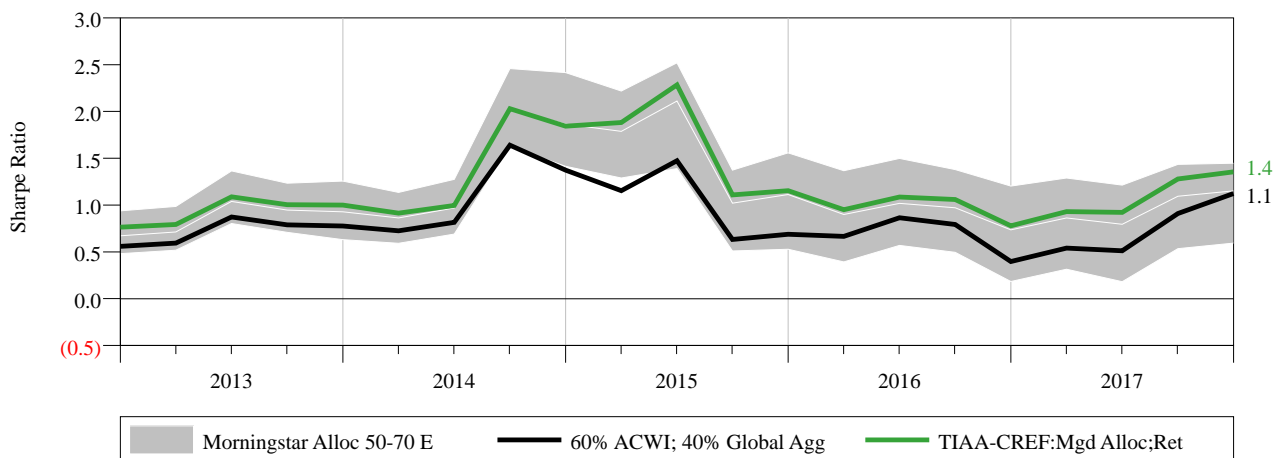
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA-CREF:Mgd Alloc;Ret</b>	<b>1.64</b> (27)	<b>1.36</b> (17)	<b>8.35</b> (31)	<b>0.81</b> (16)	<b>0.73</b> (7)
60% ACWI; 40% Global Agg	0.00 (76)	1.12 (53)	6.41 (75)	0.00 (76)	--

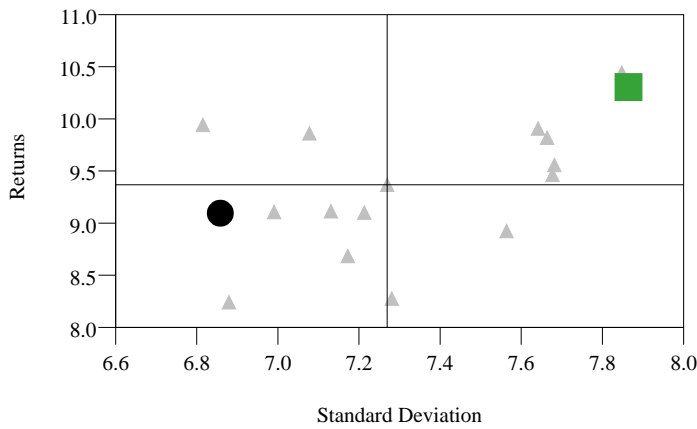
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:Lfcy 2060;Ret

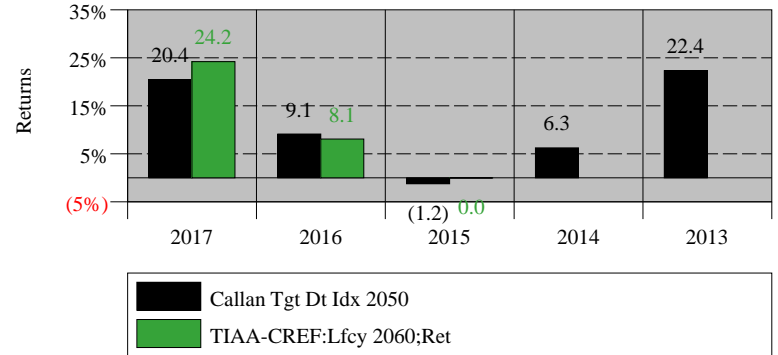
## Callan Tgt Dt Idx 2050 - (Morningstar Target 2060+)

Scatter Chart  
for 3 Years Ended December 31, 2017

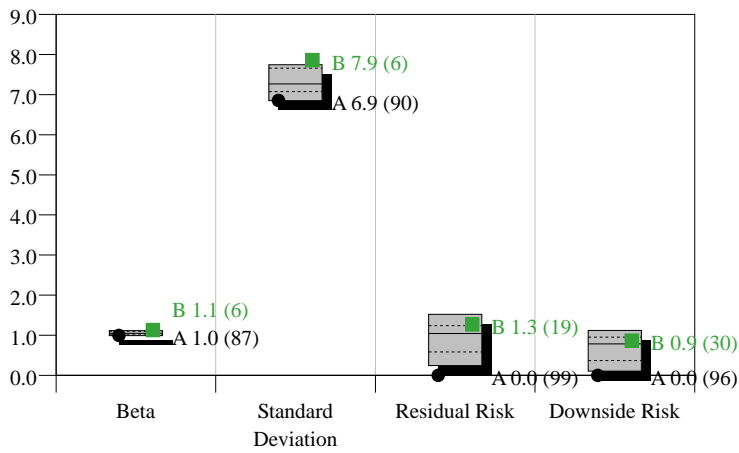


Returns for Various Periods

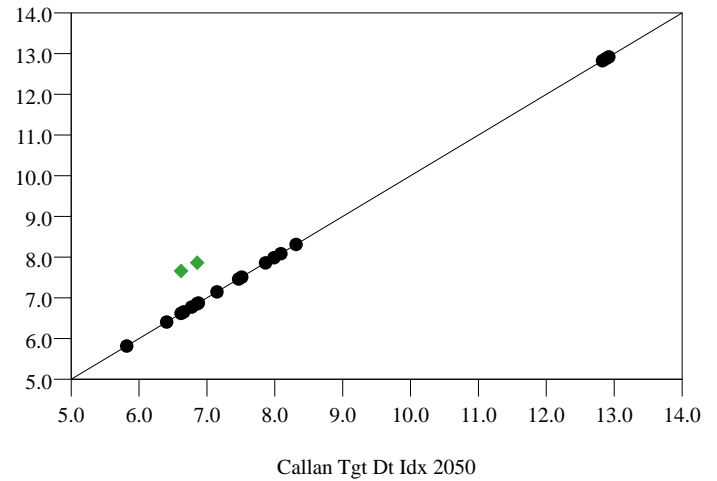
	Year to Date	Last Year	Last 3 Years	Last 5 Years
TIAA-CREF:Lfcy 2060;Ret	24.21 (3)	24.21 (3)	10.31 (8)	--
Callan Tgt Dt Idx 2050	20.44 (77)	20.44 (77)	9.10 (69)	11.05



Risk Statistics for 3 Years



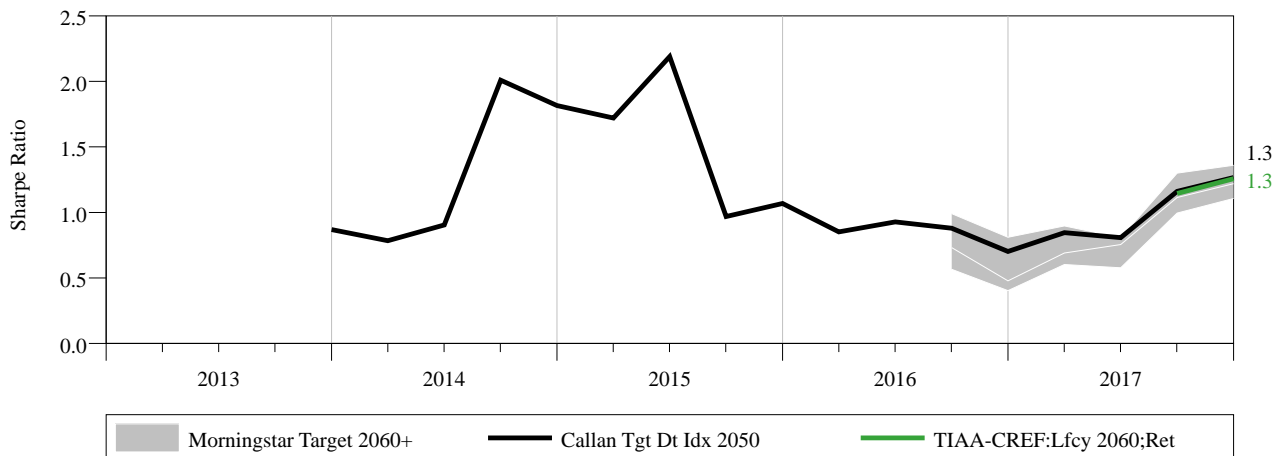
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Lfcy 2060;Ret	0.05 (22)	1.26 (22)	8.73 (22)	0.04 (22)	1.39 (21)
Callan Tgt Dt Idx 2050	0.00 (23)	1.27 (21)	8.68 (23)	0.00 (23)	--

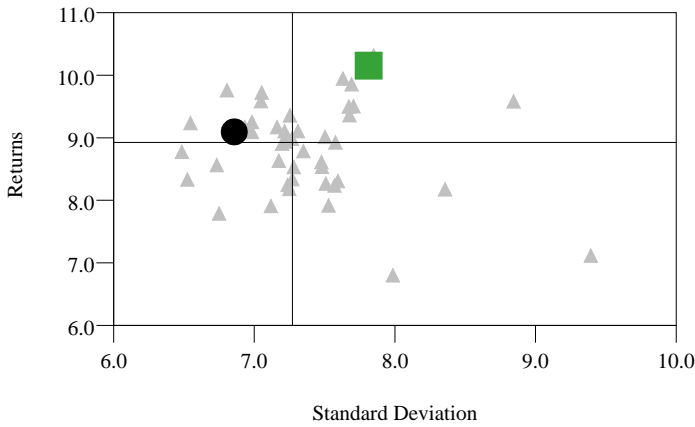
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:Lfcy 2055;Ret

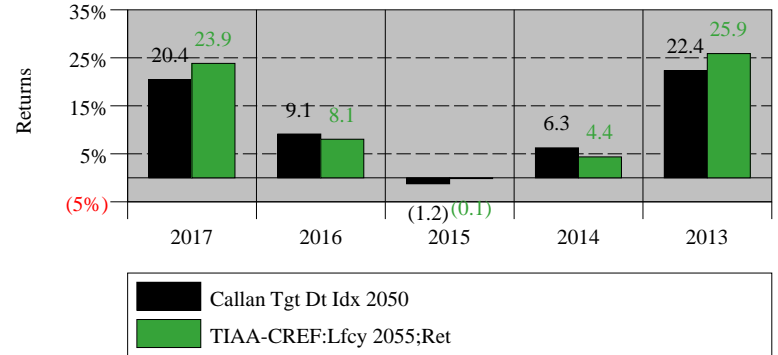
## Callan Tgt Dt Idx 2050 - (Morningstar Target 2055)

Scatter Chart  
for 3 Years Ended December 31, 2017

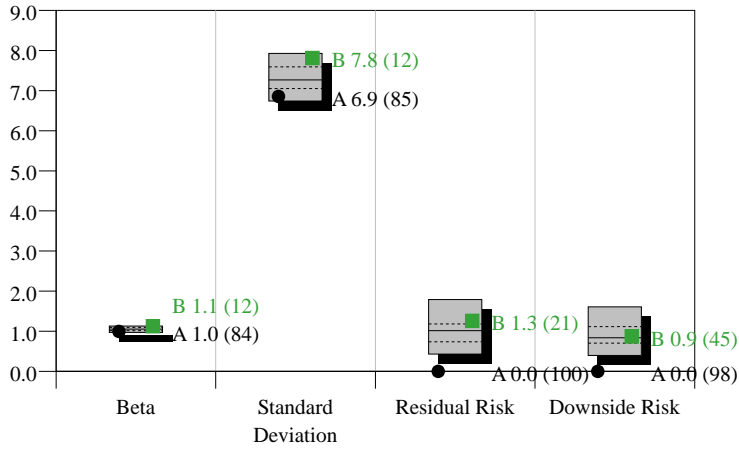


Returns for Various Periods

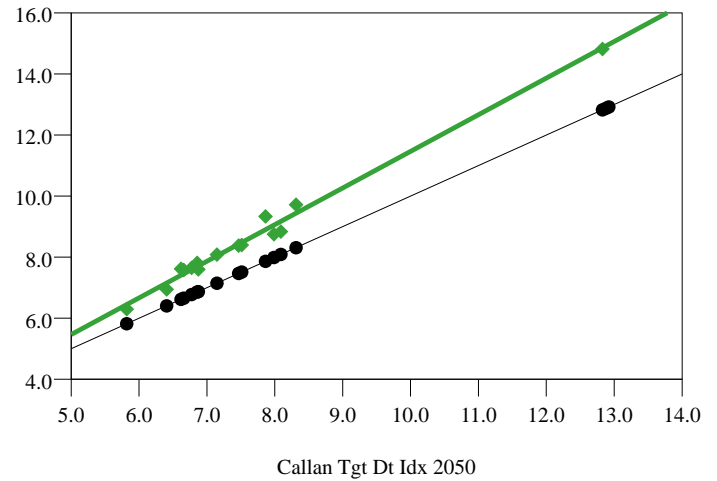
	Year to Date	Last Year	Last 3 Years	Last 5 Years
TIAA-CREF:Lfcy 2055;Ret	23.85 (6)	23.85 (6)	10.16 (3)	11.93 (12)
Callan Tgt Dt Idx 2050	20.44 (72)	20.44 (72)	9.10 (41)	11.05 (36)



Risk Statistics for 3 Years



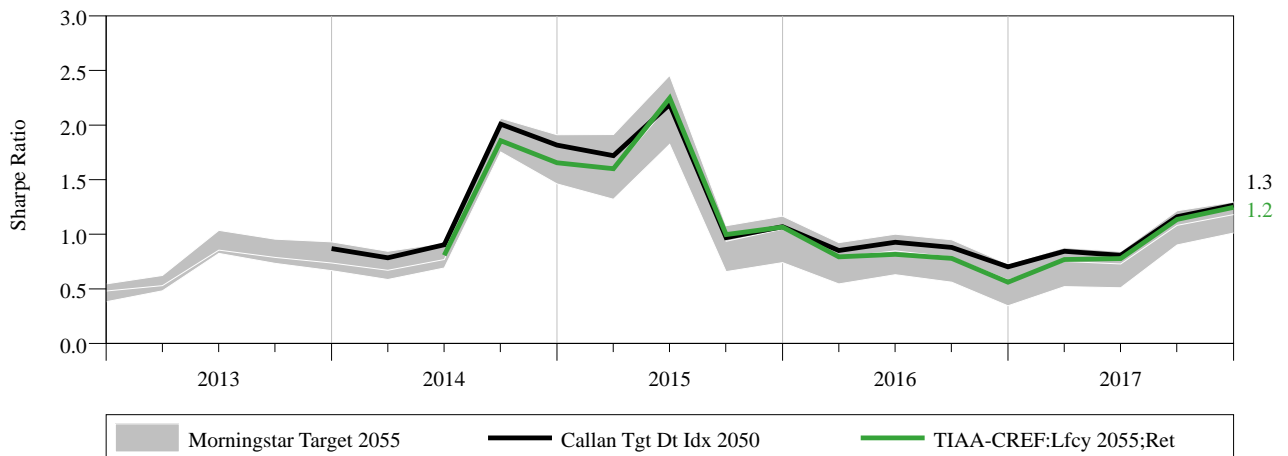
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Lfcy 2055;Ret	(0.03) (21)	1.25 (21)	8.65 (21)	(0.02) (20)	1.21 (8)
Callan Tgt Dt Idx 2050	0.00 (20)	1.27 (14)	8.68 (20)	0.00 (20)	--

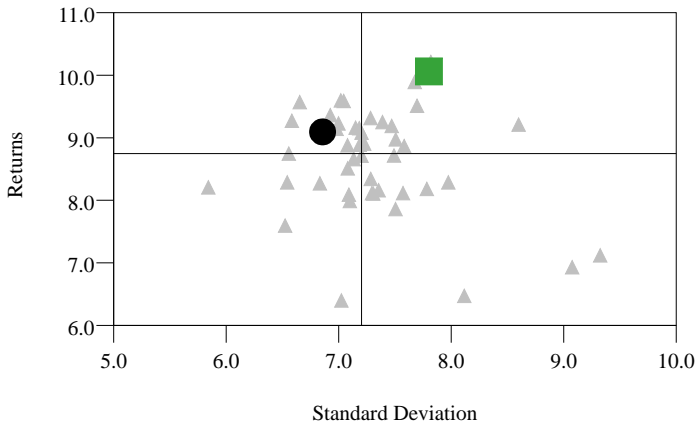
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:Lfcy 2050;Ret

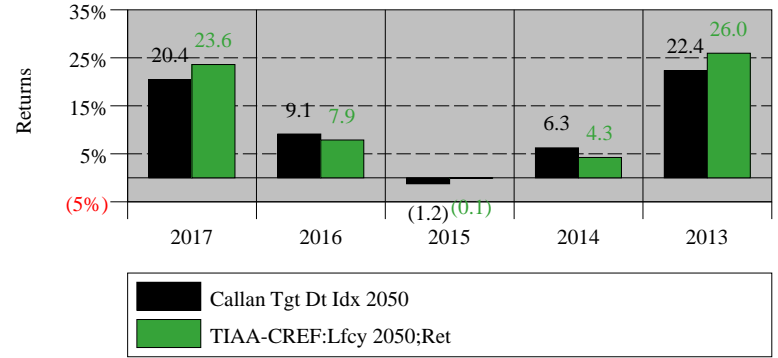
## Callan Tgt Dt Idx 2050 - (Morningstar Target 2050)

Scatter Chart  
for 3 Years Ended December 31, 2017

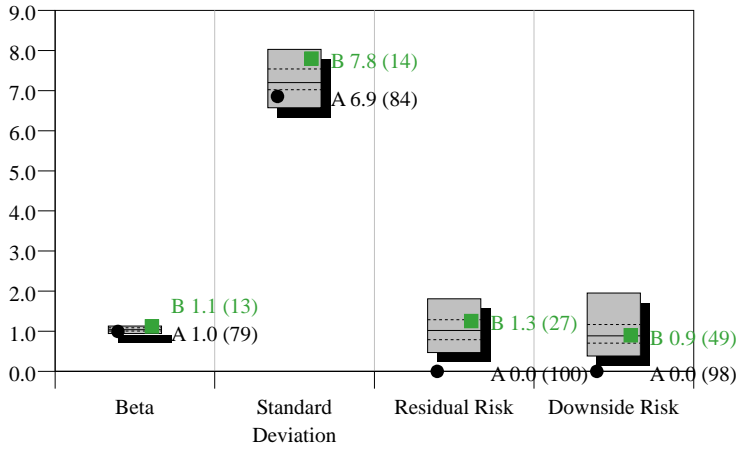


Returns for Various Periods

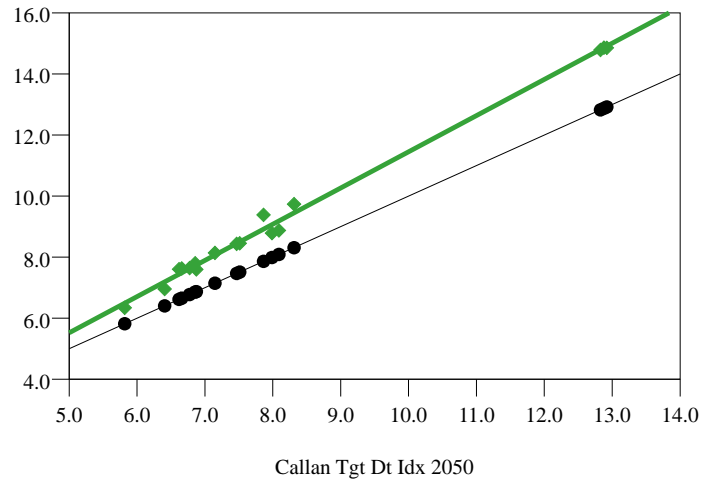
	Year to Date	Last Year	Last 3 Years	Last 5 Years
TIAA-CREF:Lfcy 2050;Ret	23.62 (4)	23.62 (4)	10.06 (3)	11.86 (10)
Callan Tgt Dt Idx 2050	20.44 (64)	20.44 (64)	9.10 (37)	11.05 (29)



Risk Statistics for 3 Years



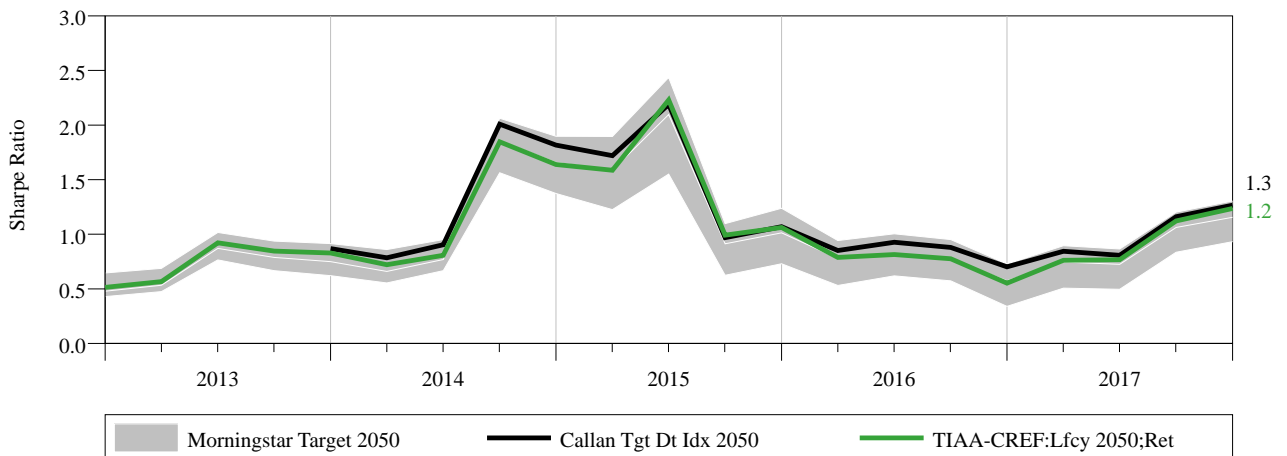
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Lfcy 2050;Ret	(0.11) (24)	1.24 (24)	8.58 (22)	(0.08) (23)	1.07 (8)
Callan Tgt Dt Idx 2050	0.00 (20)	1.27 (16)	8.68 (20)	0.00 (21)	--

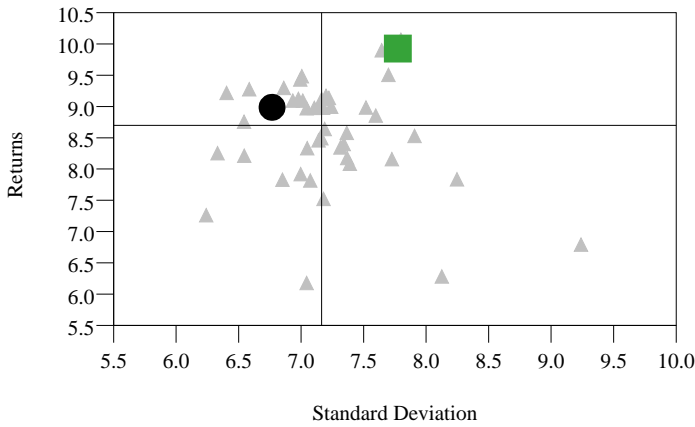
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:Lfcy 2045;Ret

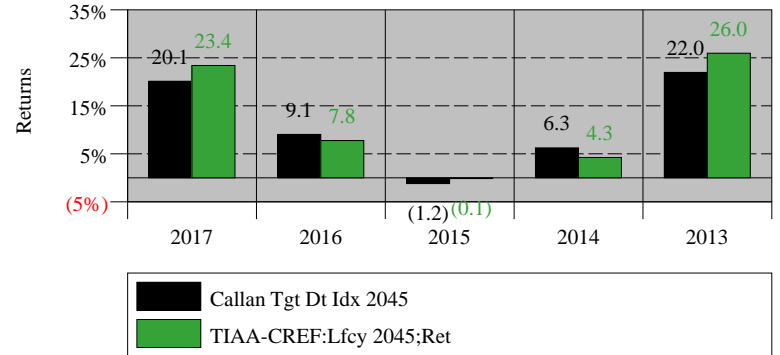
## Callan Tgt Dt Idx 2045 - (Morningstar Target 2045)

Scatter Chart  
for 3 Years Ended December 31, 2017

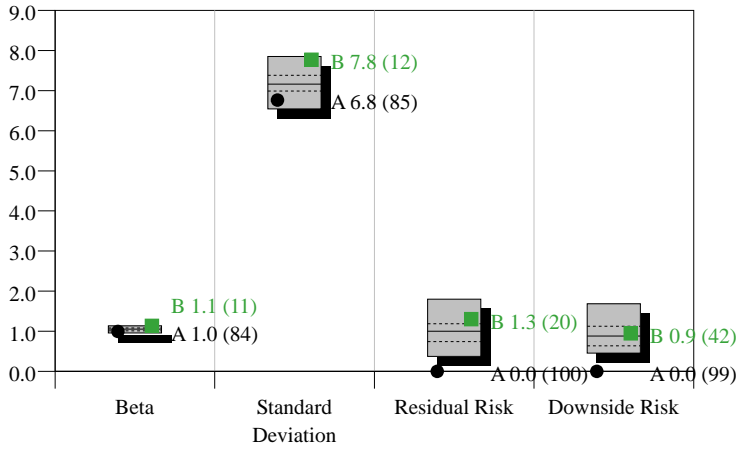


Returns for Various Periods

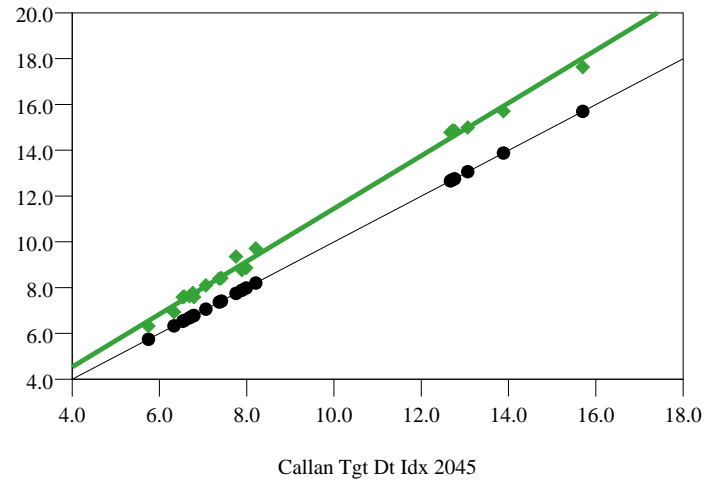
	Year to Date	Last Year	Last 3 Years	Last 5 Years
TIAA-CREF:Lfcy 2045;Ret	23.41 (2)	23.41 (2)	9.93 (4)	11.78 (12)
Callan Tgt Dt Idx 2045	20.13 (66)	20.13 (66)	8.99 (36)	10.91 (32)



Risk Statistics for 3 Years



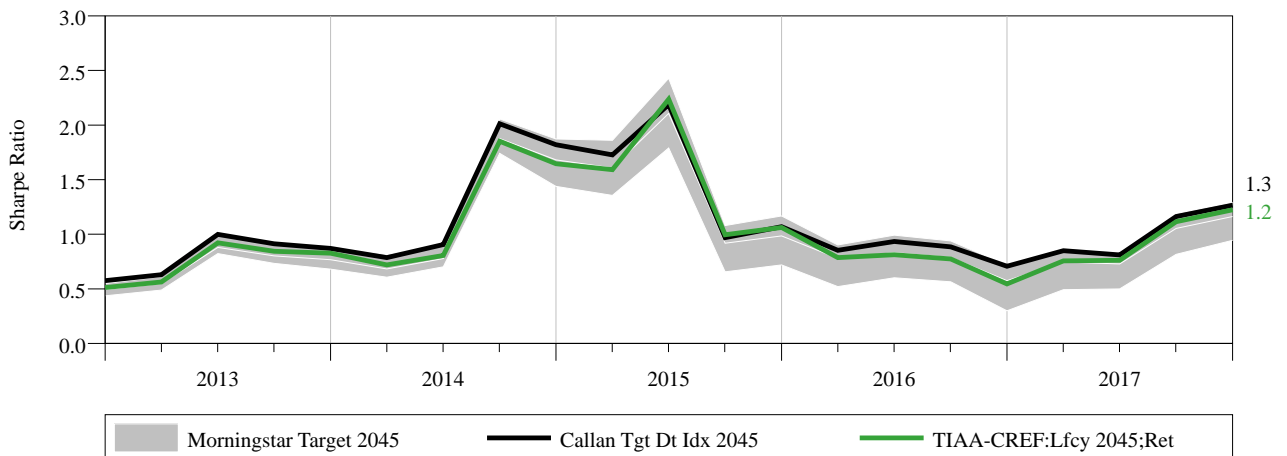
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Lfcy 2045;Ret	(0.20) (28)	1.22 (28)	8.39 (28)	(0.15) (26)	0.99 (7)
Callan Tgt Dt Idx 2045	0.00 (15)	1.27 (14)	8.58 (15)	0.00 (15)	--

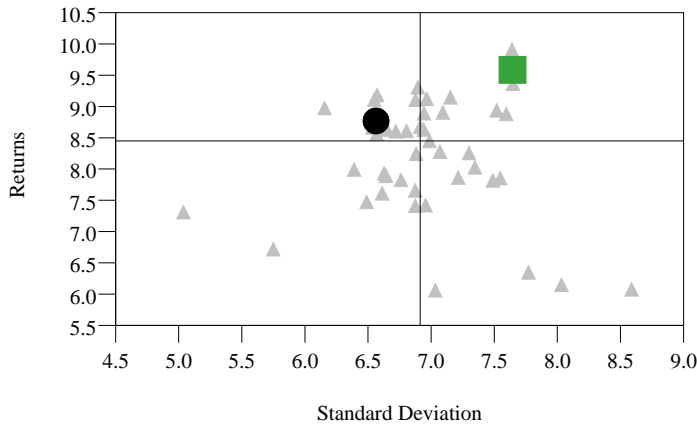
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:Lfcy 2040;Ret

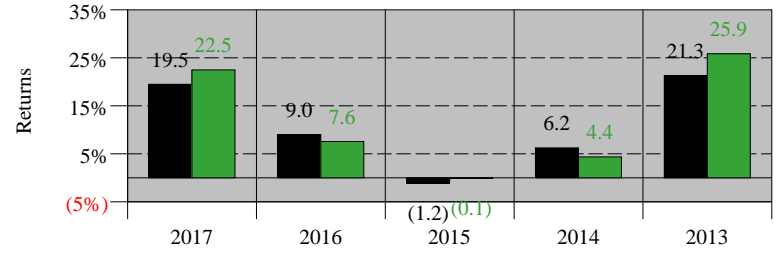
## Callan Tgt Dt Idx 2040 - (Morningstar Target 2040)

Scatter Chart  
for 3 Years Ended December 31, 2017

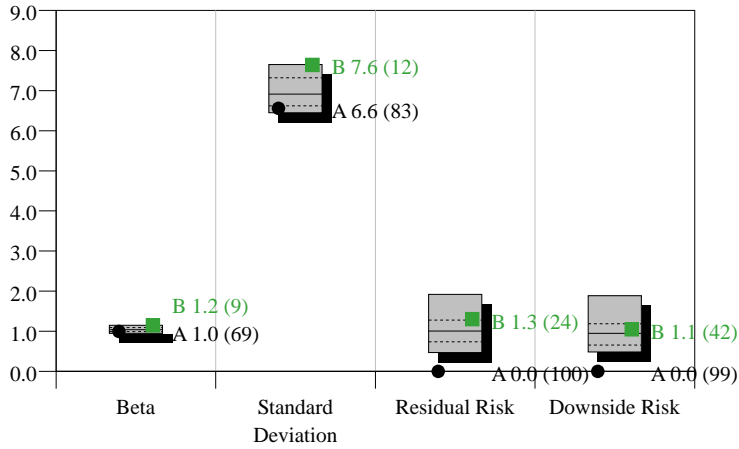


Returns for Various Periods

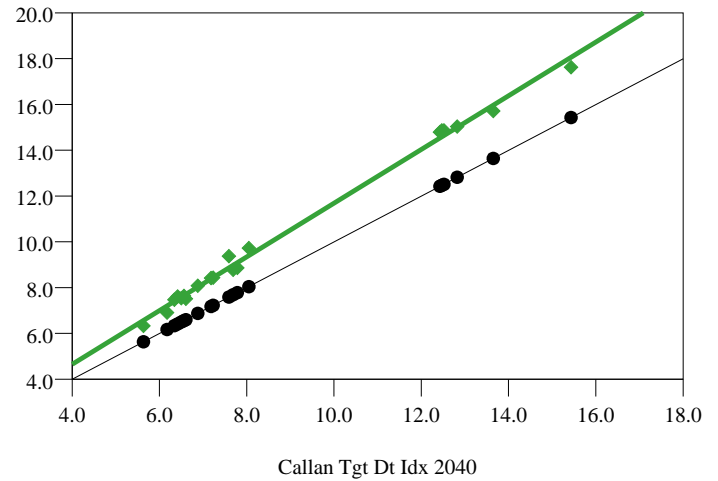
	Year to Date	Last Year	Last 3 Years	Last 5 Years
TIAA-CREF:Lfcy 2040;Ret	22.49 (3)	22.49 (3)	9.59 (5)	11.57 (11)
Callan Tgt Dt Idx 2040	19.48 (54)	19.48 (54)	8.77 (32)	10.65 (42)



Risk Statistics for 3 Years



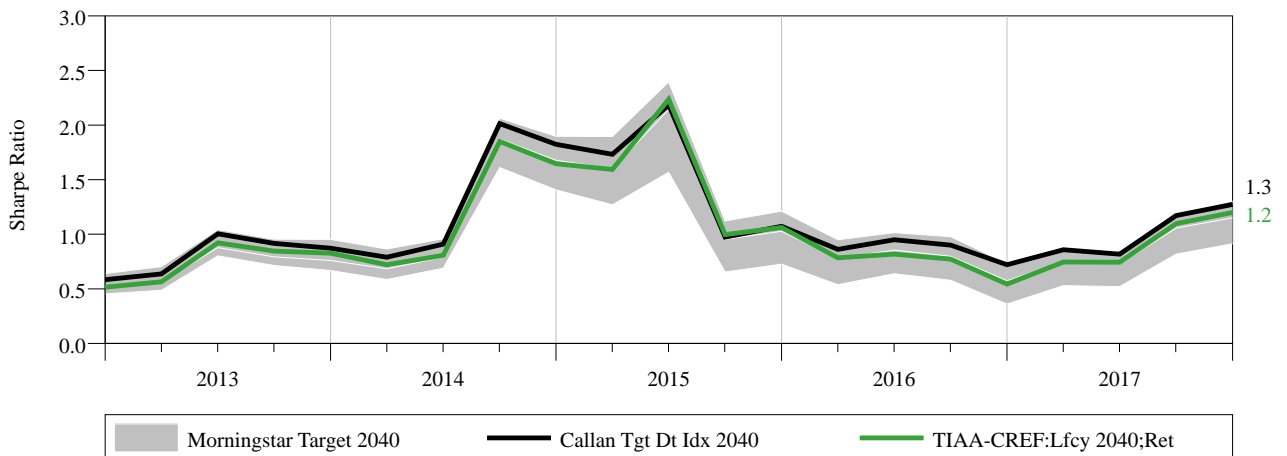
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Lfcy 2040;Ret	(0.41) (40)	1.20 (38)	7.97 (38)	(0.31) (34)	0.78 (13)
Callan Tgt Dt Idx 2040	0.00 (13)	1.27 (12)	8.36 (13)	0.00 (13)	--

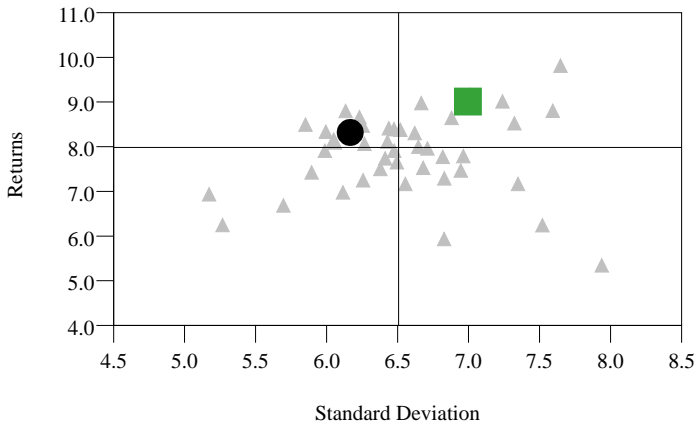
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:Lfcy 2035;Ret

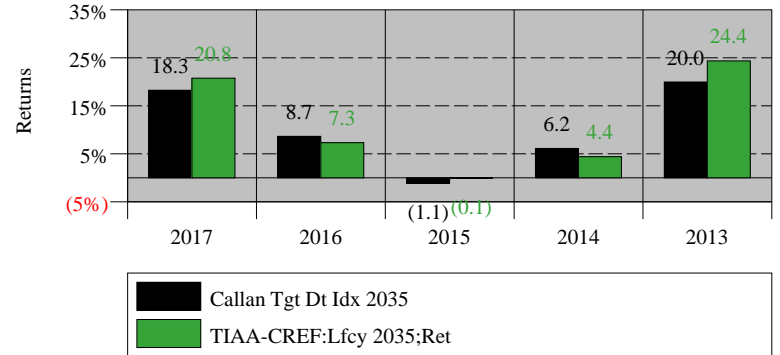
## Callan Tgt Dt Idx 2035 - (Morningstar Target 2035)

Scatter Chart  
for 3 Years Ended December 31, 2017

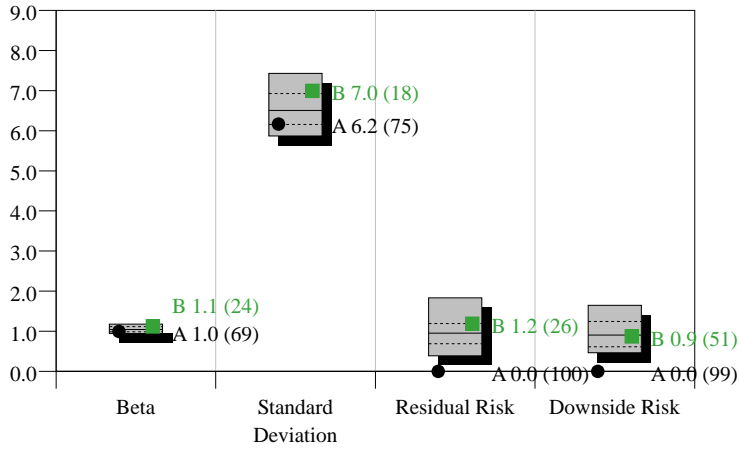


Returns for Various Periods

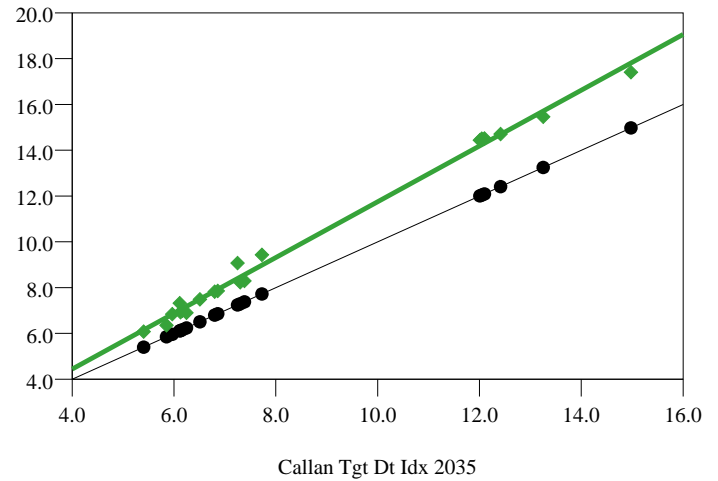
	Year to Date	Last Year	Last 3 Years	Last 5 Years
TIAA-CREF:Lfcy 2035;Ret	20.76 (7)	20.76 (7)	9.01 (9)	10.97 (13)
Callan Tgt Dt Idx 2035	18.26 (60)	18.26 (60)	8.32 (37)	10.11 (37)



Risk Statistics for 3 Years



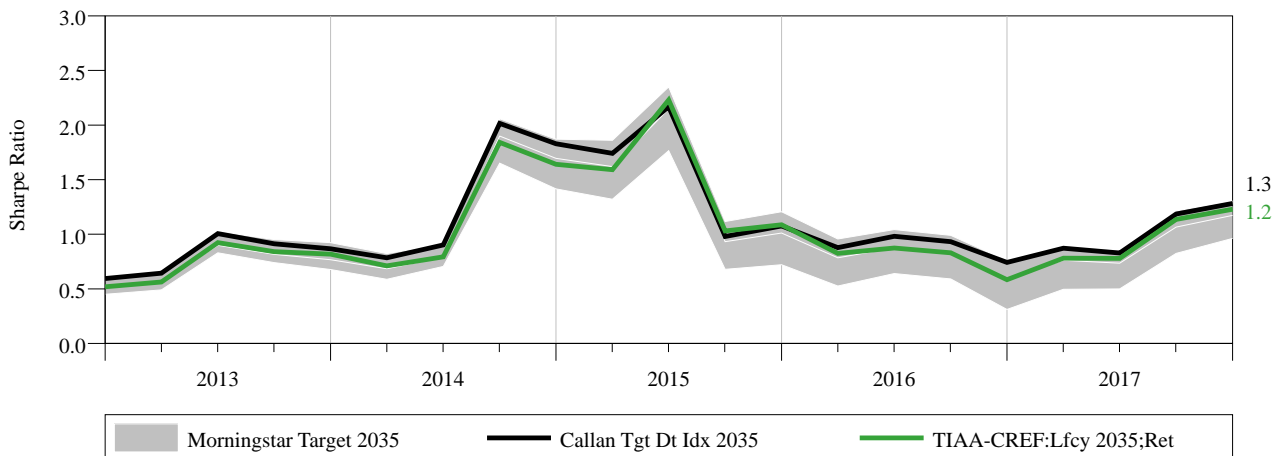
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Lfcy 2035;Ret	(0.24) (31)	1.23 (33)	7.68 (32)	(0.20) (31)	0.79 (15)
Callan Tgt Dt Idx 2035	0.00 (20)	1.28 (15)	7.91 (20)	0.00 (20)	--

Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.

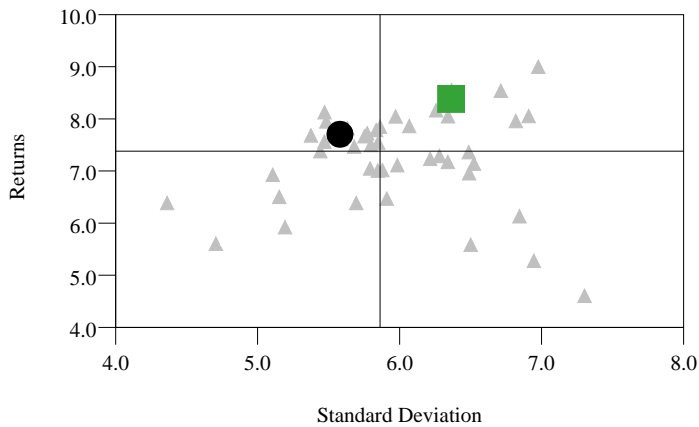




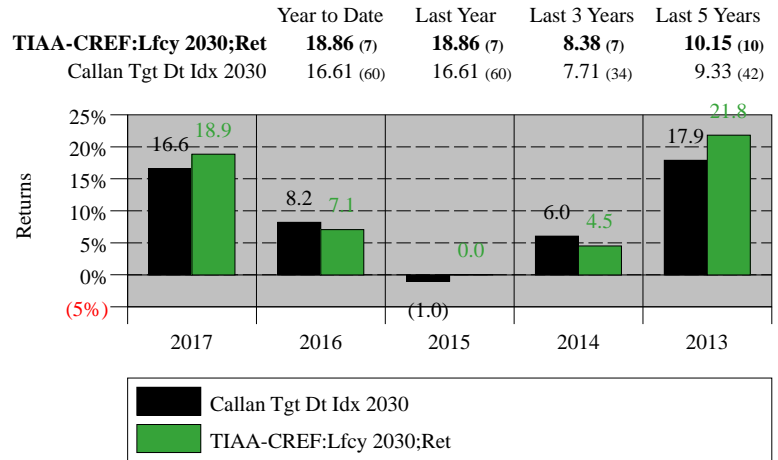
# TIAA-CREF:Lfcy 2030;Ret

## Callan Tgt Dt Idx 2030 - (Morningstar Target 2030)

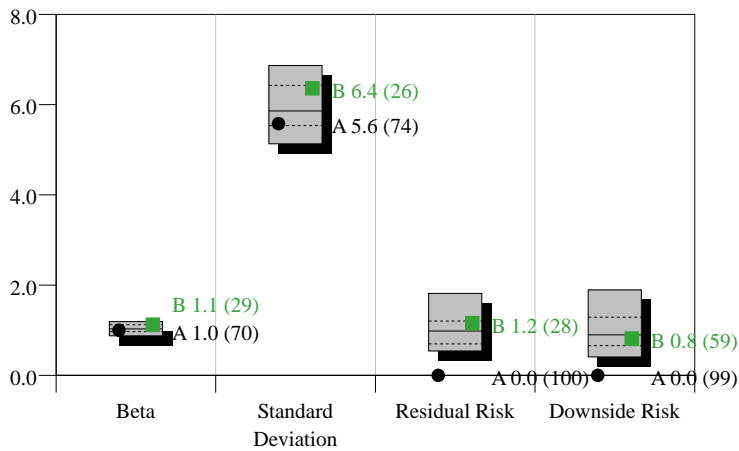
Scatter Chart  
for 3 Years Ended December 31, 2017



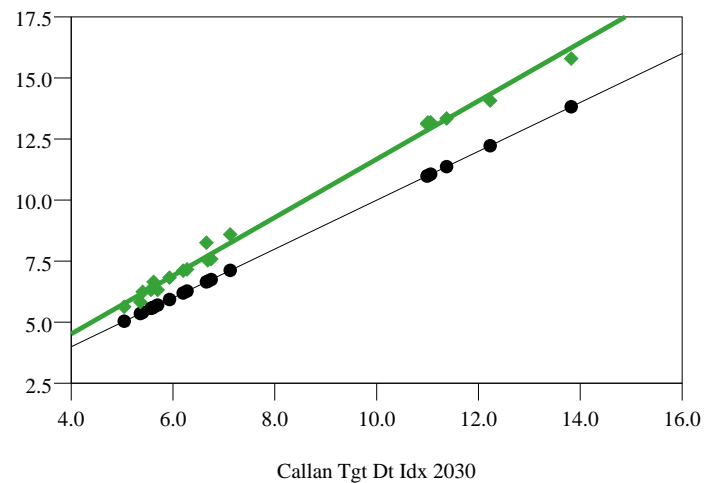
Returns for Various Periods



Risk Statistics for 3 Years



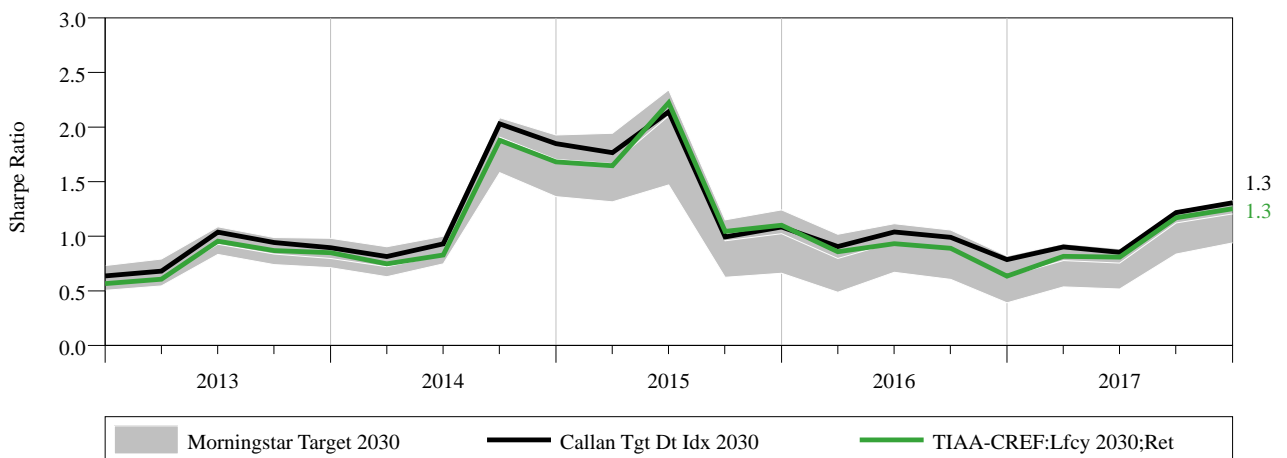
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Lfcy 2030;Ret	<b>(0.21)</b> (33)	<b>1.25</b> (34)	<b>7.09</b> (32)	<b>(0.19)</b> (31)	<b>0.83</b> (10)
Callan Tgt Dt Idx 2030	0.00 (14)	1.31 (13)	7.30 (14)	0.00 (15)	--

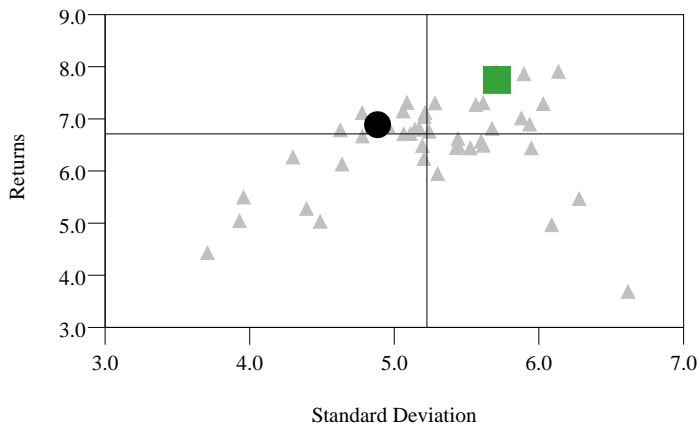
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



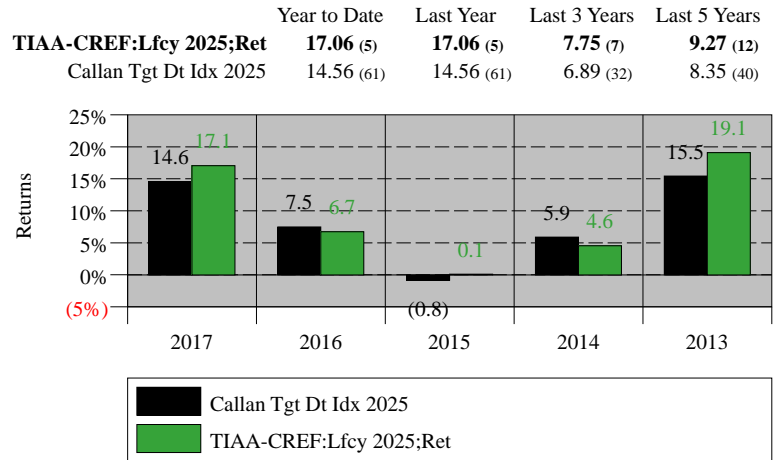
# TIAA-CREF:Lfcy 2025;Ret

## Callan Tgt Dt Idx 2025 - (Morningstar Target 2025)

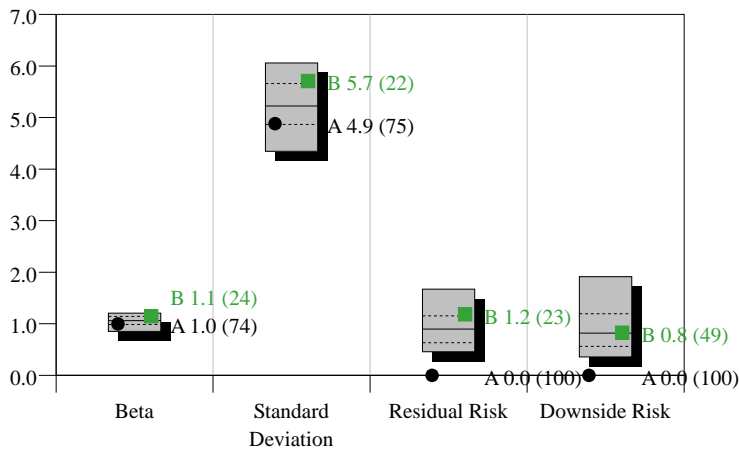
Scatter Chart  
for 3 Years Ended December 31, 2017



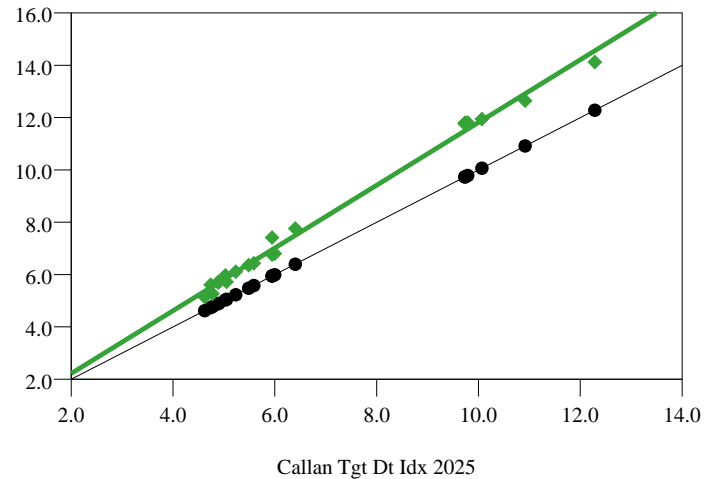
Returns for Various Periods



Risk Statistics for 3 Years



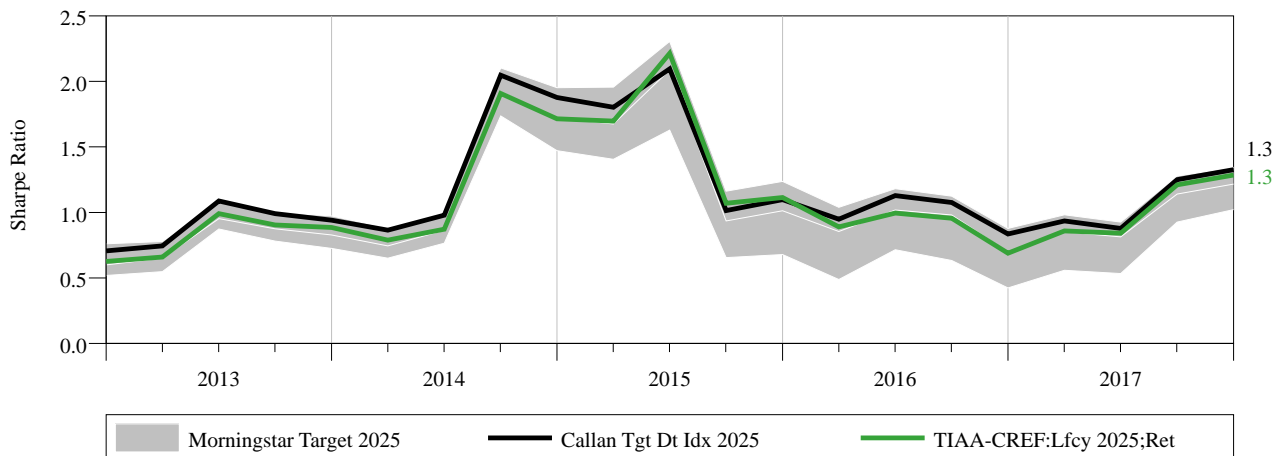
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Lfcy 2025;Ret	(0.09) (24)	1.29 (26)	6.40 (24)	(0.08) (22)	1.03 (13)
Callan Tgt Dt Idx 2025	0.00 (19)	1.33 (13)	6.48 (19)	0.00 (19)	--

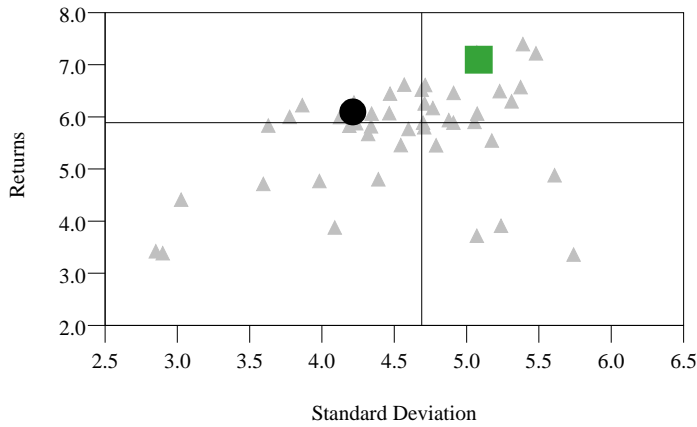
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:Lfcy 2020;Ret

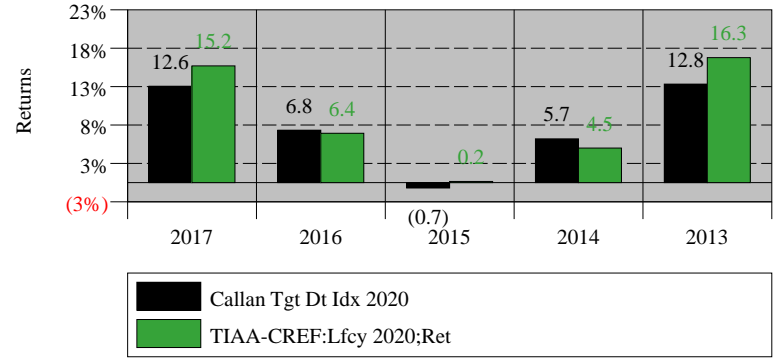
## Callan Tgt Dt Idx 2020 - (Morningstar Target 2020)

Scatter Chart  
for 3 Years Ended December 31, 2017

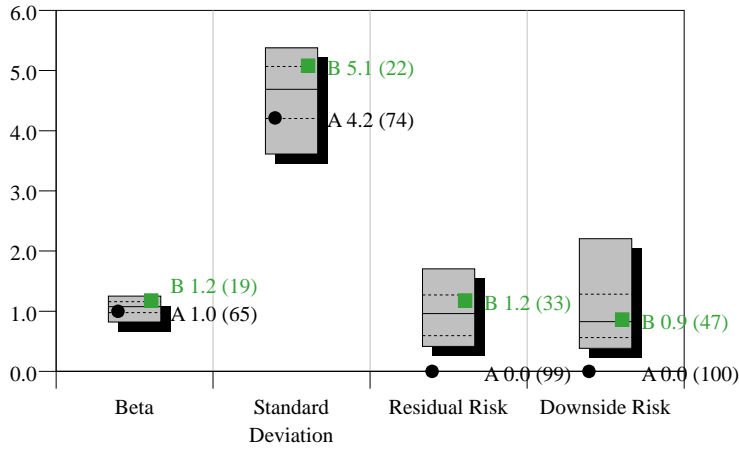


Returns for Various Periods

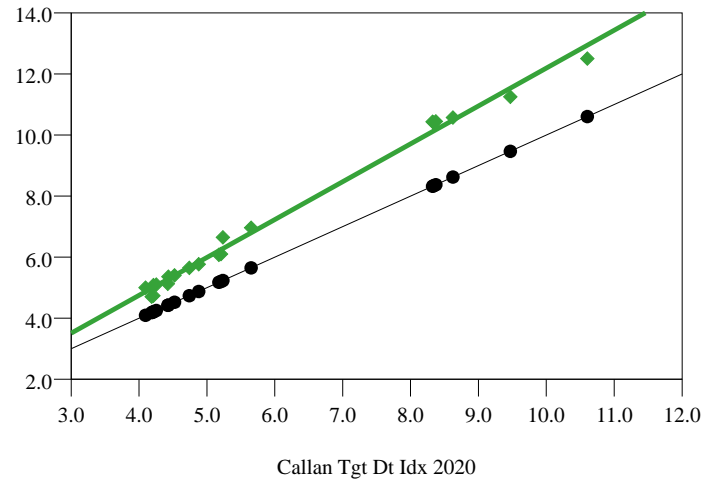
	Year to Date	Last Year	Last 3 Years	Last 5 Years
TIAA-CREF:Lfcy 2020;Ret	15.21 (6)	15.21 (6)	7.10 (7)	8.35 (10)
Callan Tgt Dt Idx 2020	12.57 (55)	12.57 (55)	6.10 (34)	7.33 (48)



Risk Statistics for 3 Years



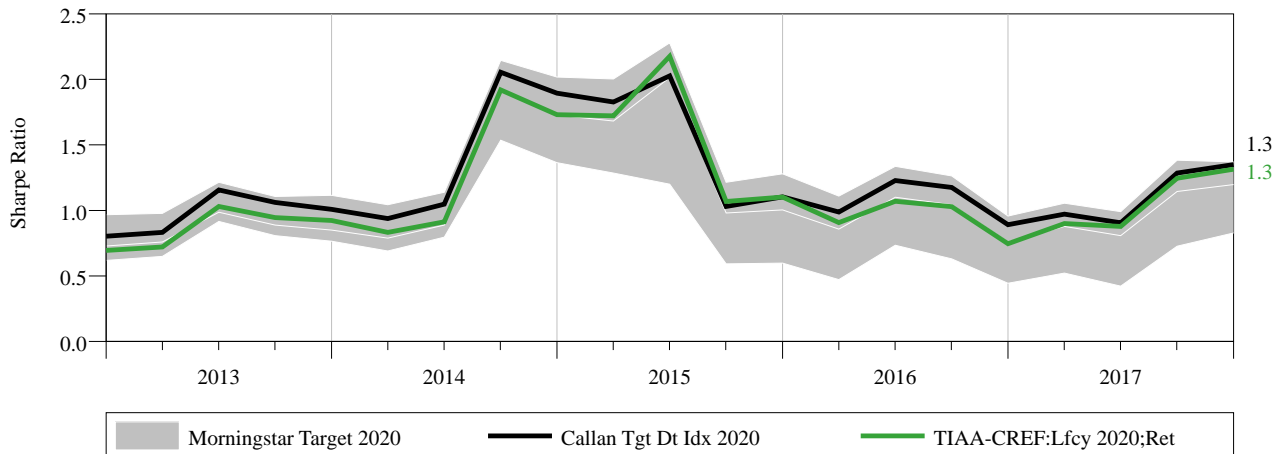
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Lfcy 2020;Ret	(0.01) (20)	1.32 (22)	5.67 (20)	(0.01) (20)	1.16 (13)
Callan Tgt Dt Idx 2020	0.00 (20)	1.35 (15)	5.69 (20)	0.00 (20)	--

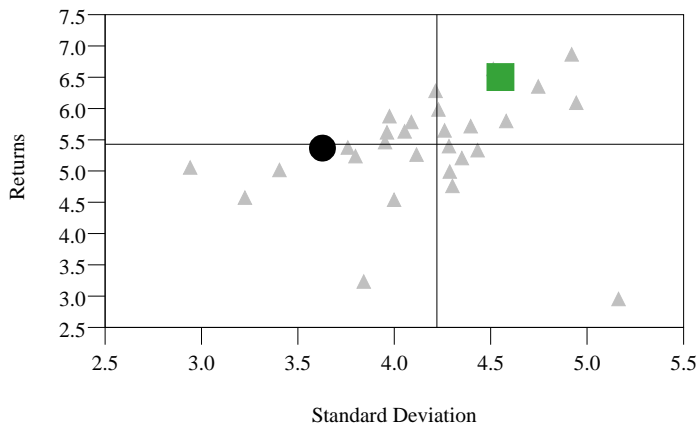
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:Lfcy 2015;Ret

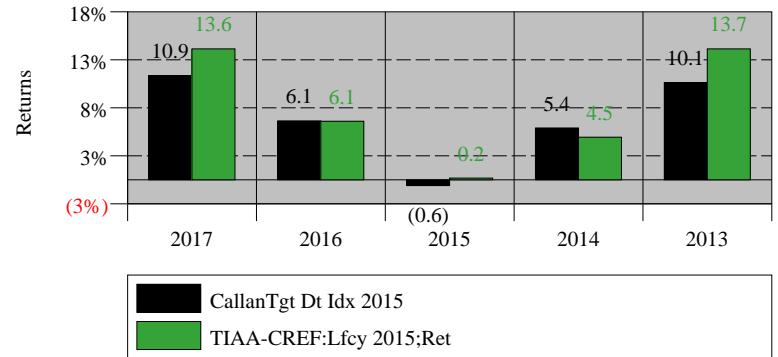
## CallanTgt Dt Idx 2015 - (Morningstar Target 2015)

Scatter Chart  
for 3 Years Ended December 31, 2017

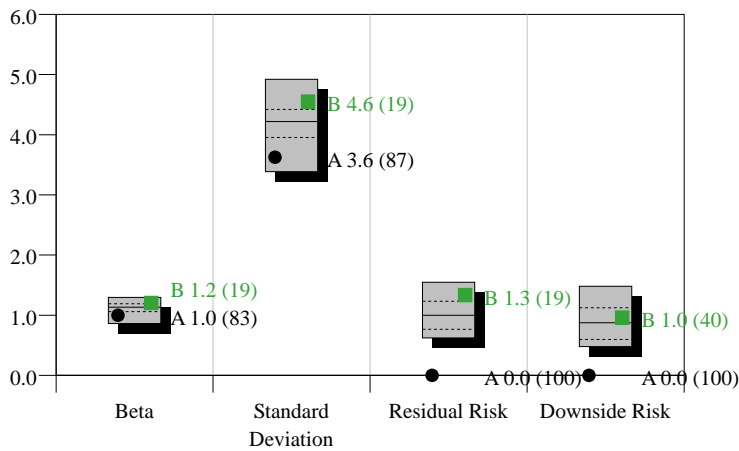


Returns for Various Periods

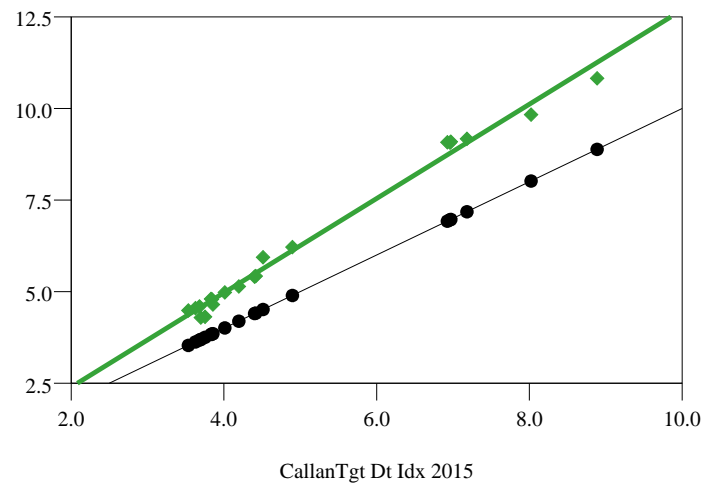
	Year to Date	Last Year	Last 3 Years	Last 5 Years
TIAA-CREF:Lfcy 2015;Ret	13.65 (8)	13.65 (8)	6.50 (8)	7.48 (20)
CallanTgt Dt Idx 2015	10.88 (62)	10.88 (62)	5.37 (56)	6.32 (67)



Risk Statistics for 3 Years



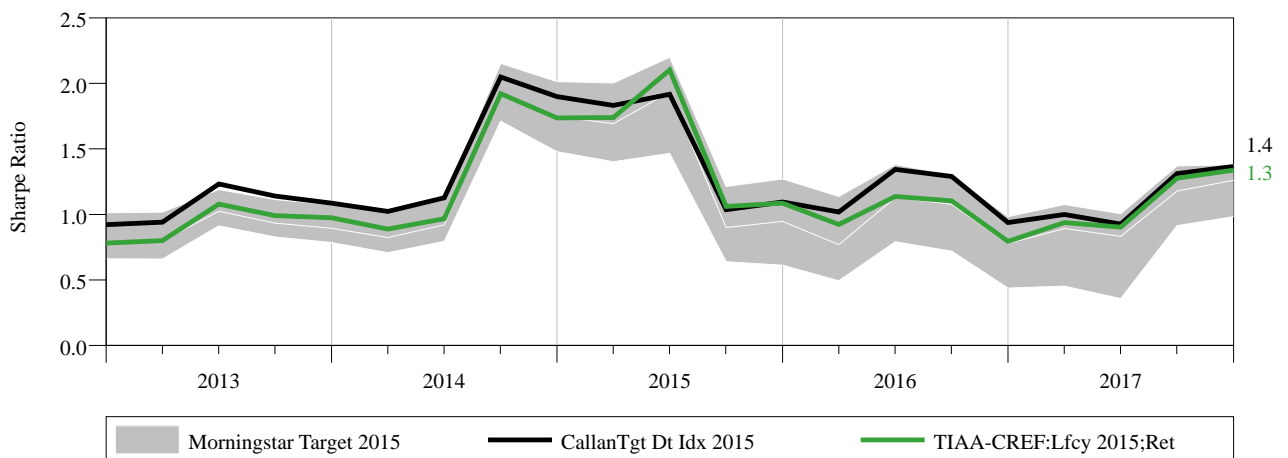
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Lfcy 2015;Ret	0.11 (13)	1.34 (19)	5.05 (14)	0.09 (18)	1.18 (14)
CallanTgt Dt Idx 2015	0.00 (22)	1.37 (15)	4.96 (22)	0.00 (22)	--

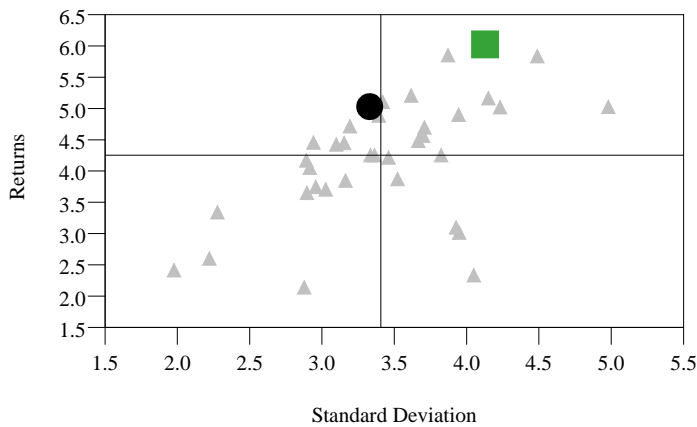
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



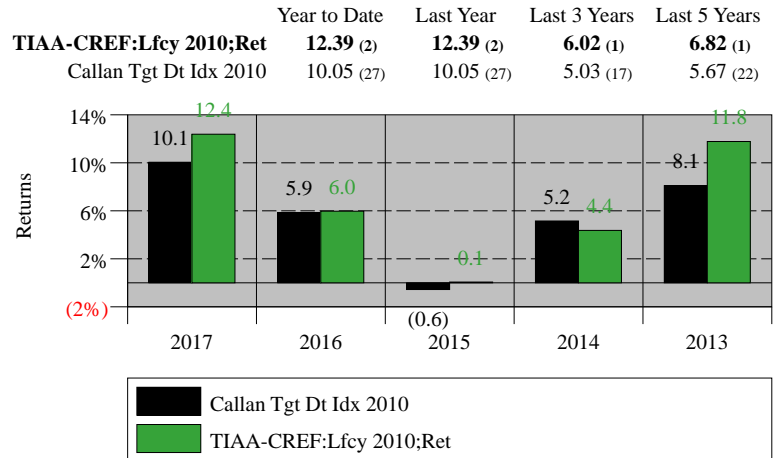
# TIAA-CREF:Lfcy 2010;Ret

## Callan Tgt Dt Idx 2010 - (Morningstar Target Ret)

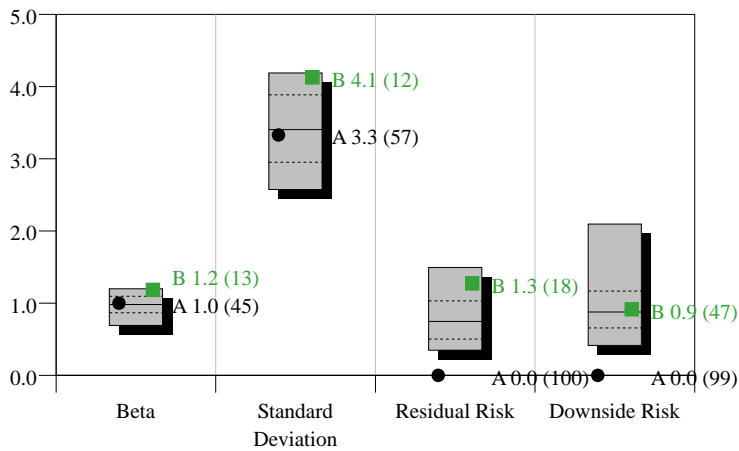
Scatter Chart  
for 3 Years Ended December 31, 2017



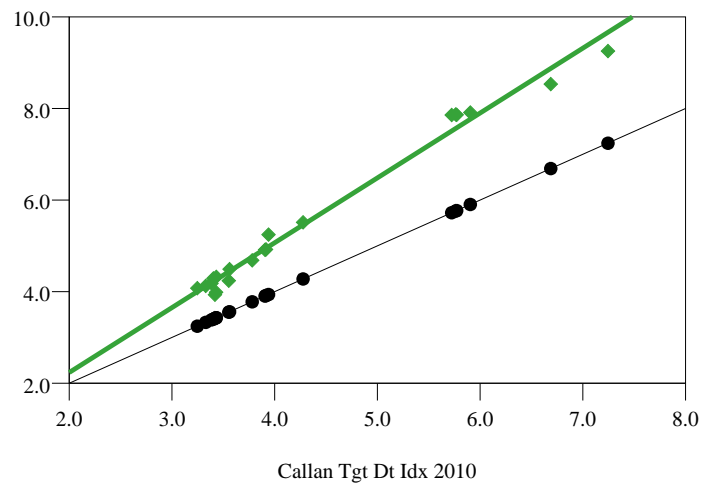
Returns for Various Periods



Risk Statistics for 3 Years



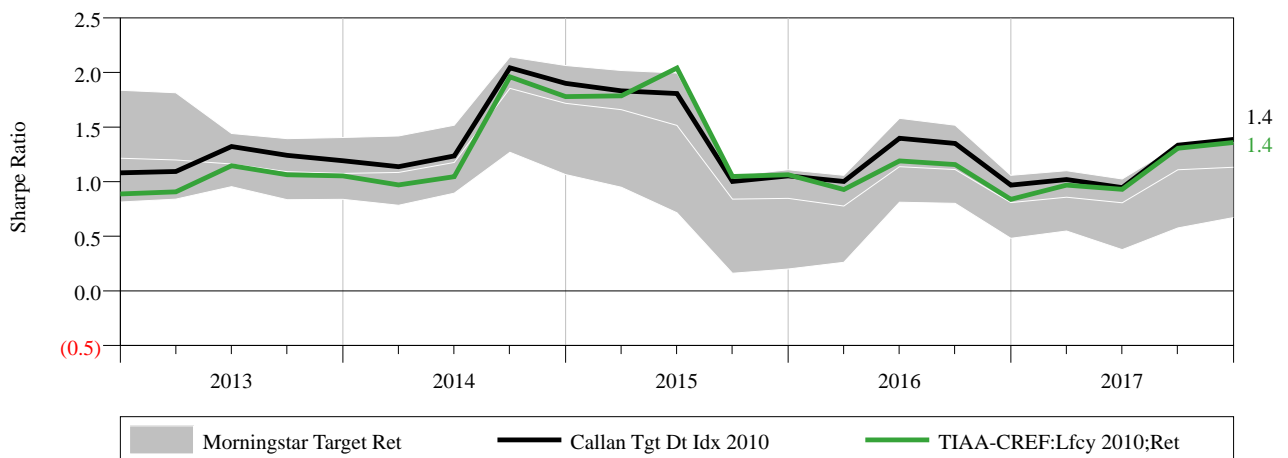
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA-CREF:Lfcy 2010;Ret</b>	<b>0.14</b> (4)	<b>1.36</b> (10)	<b>4.74</b> (4)	<b>0.11</b> (5)	<b>1.09</b> (4)
Callan Tgt Dt Idx 2010	0.00 (8)	1.39 (5)	4.62 (8)	0.00 (8)	--

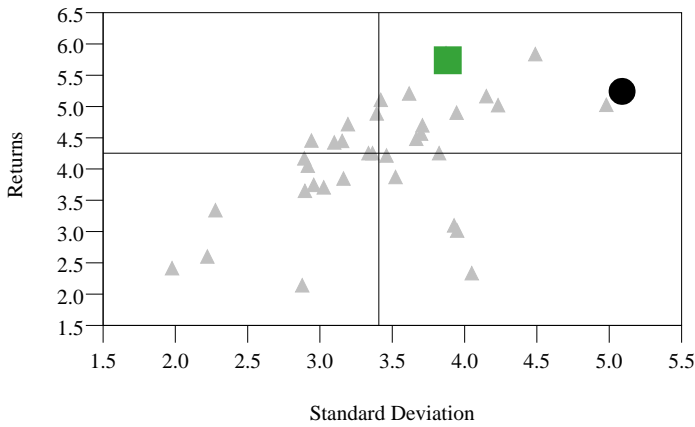
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:Lfcy Ret;Ret

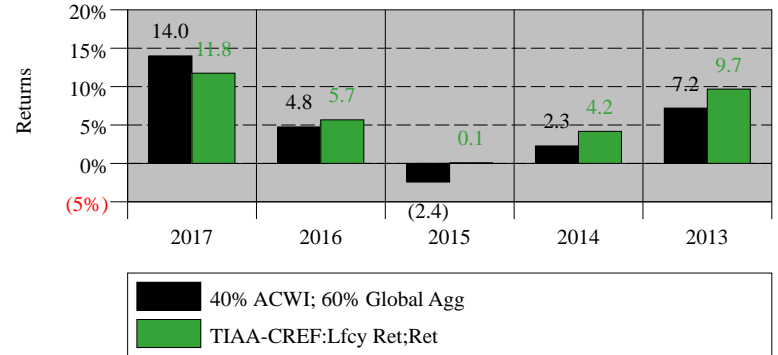
40% ACWI; 60% Global Agg - (Morningstar Target Ret)

Scatter Chart  
for 3 Years Ended December 31, 2017

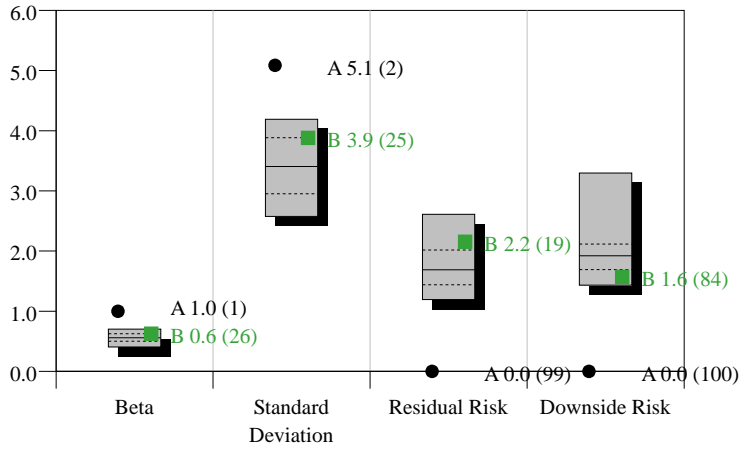


Returns for Various Periods

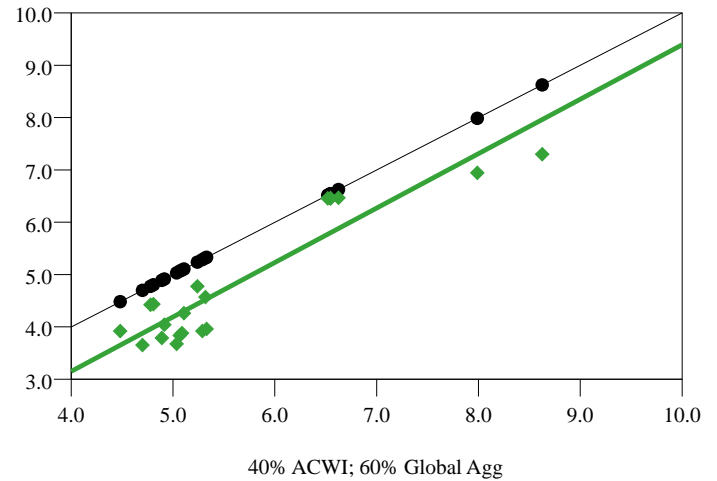
	Year to Date	Last Year	Last 3 Years	Last 5 Years
<b>TIAA-CREF:Lfcy Ret;Ret</b>	<b>11.75 (8)</b>	<b>11.75 (8)</b>	<b>5.74 (6)</b>	<b>6.20 (4)</b>
40% ACWI; 60% Global Agg	14.02 (1)	14.02 (1)	5.24 (8)	5.03 (38)



Risk Statistics for 3 Years



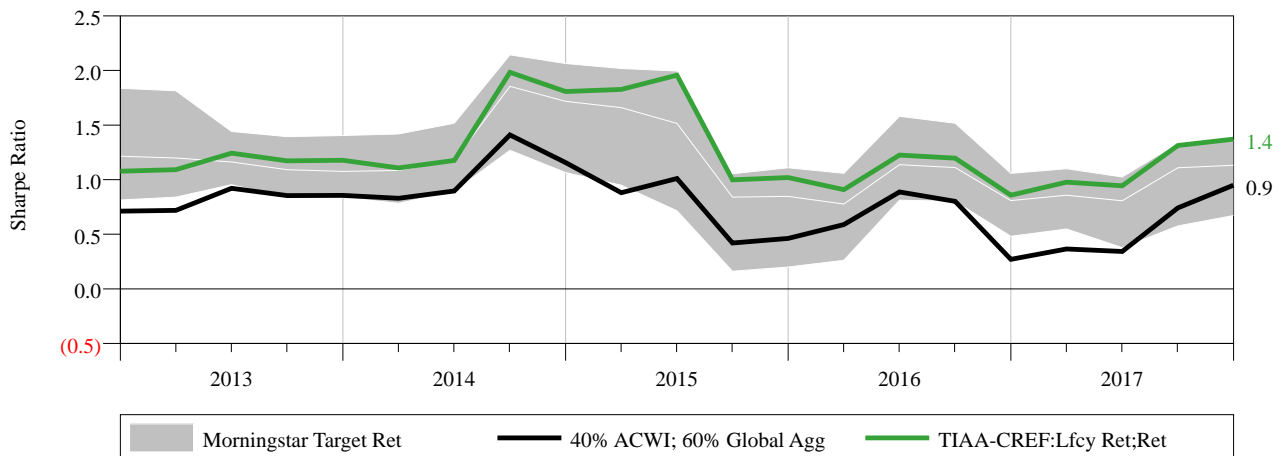
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA-CREF:Lfcy Ret;Ret</b>	<b>2.26 (3)</b>	<b>1.37 (9)</b>	<b>8.51 (7)</b>	<b>1.05 (18)</b>	<b>0.32 (6)</b>
40% ACWI; 60% Global Agg	0.00 (91)	0.95 (85)	4.83 (91)	0.00 (91)	--

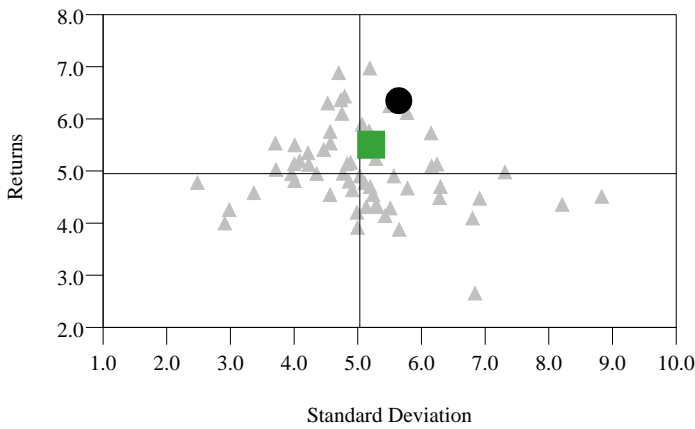
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



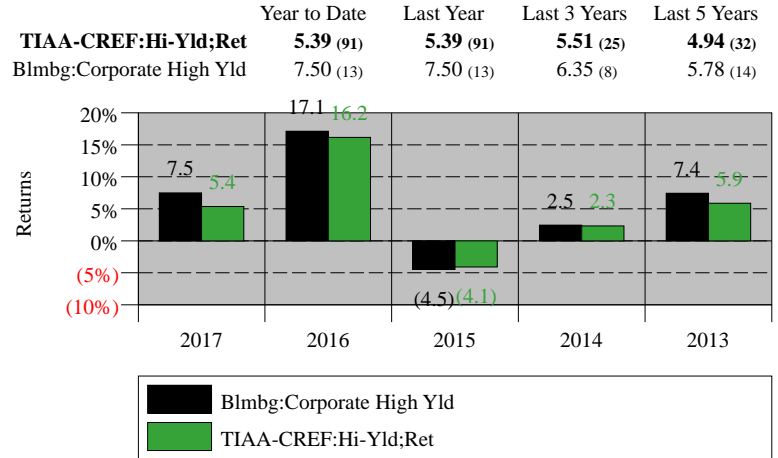
# TIAA-CREF:Hi-Yld;Ret

## Blmbg:Corporate High Yld - (Callan High Yield MFs)

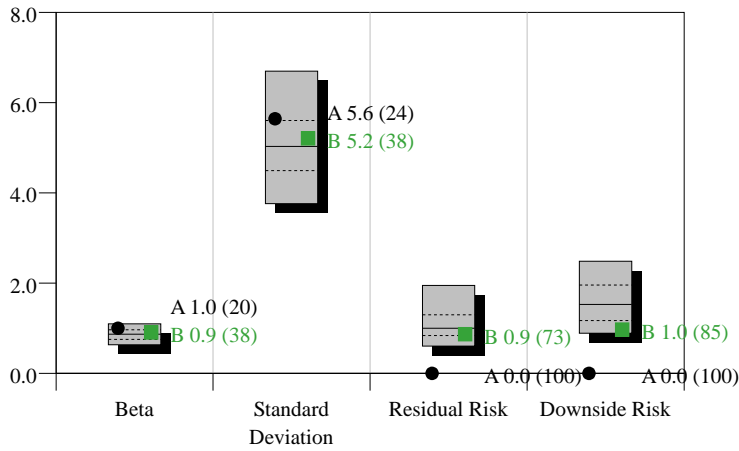
Scatter Chart  
for 3 Years Ended December 31, 2017



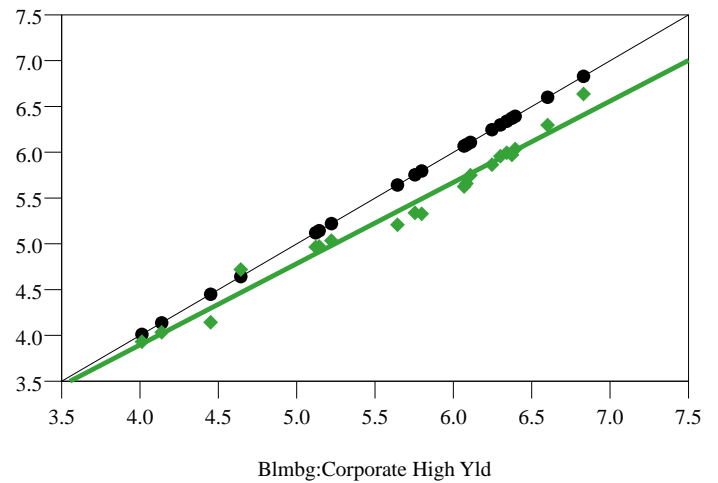
Returns for Various Periods



Risk Statistics for 3 Years



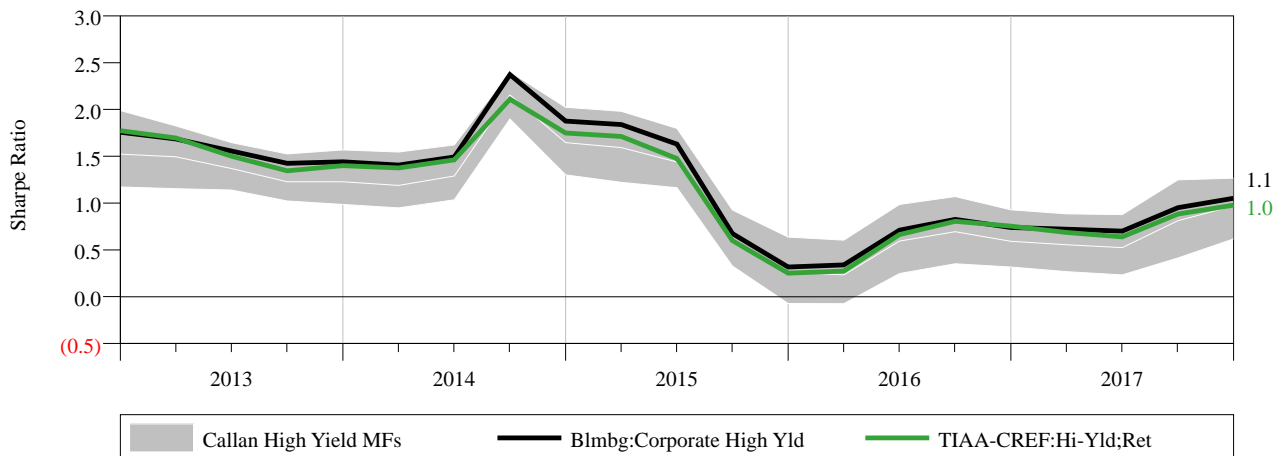
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA-CREF:Hi-Yld;Ret</b>	<b>(0.30)</b> (48)	<b>0.98</b> (47)	<b>5.60</b> (49)	<b>(0.34)</b> (49)	<b>(0.87)</b> (58)
<b>Blmbg:Corporate High Yld</b>	0.00 (43)	1.05 (40)	5.94 (43)	0.00 (43)	--

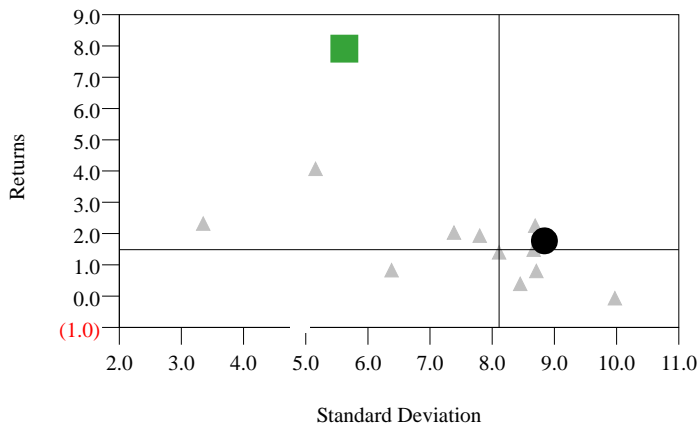
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# T Rowe Price Int:EM Bd

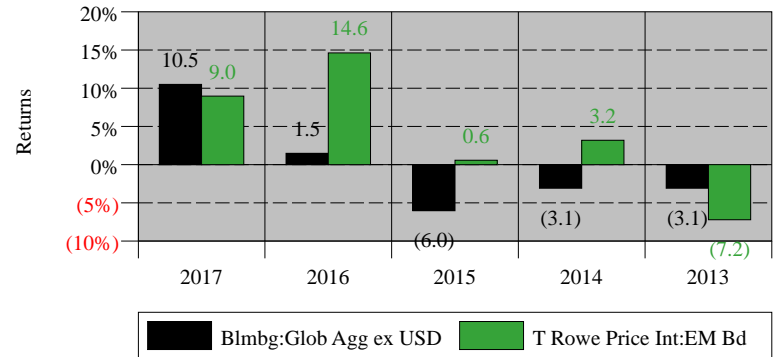
Blmbg:Glob Agg ex USD - (Callan Intl Fixed Inc MF)

Scatter Chart  
for 3 Years Ended December 31, 2017

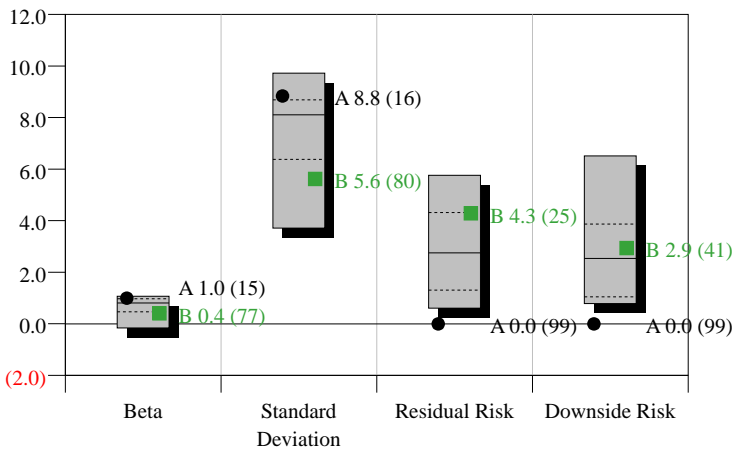


Returns for Various Periods

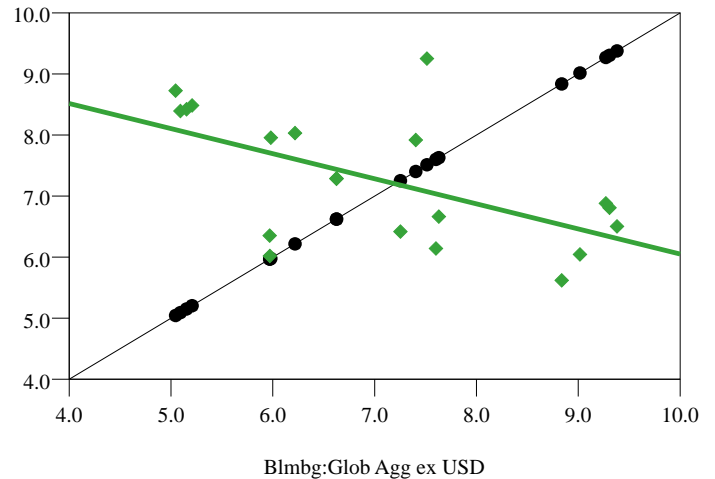
	Year to Date	Last Year	Last 3 Years	Last 5 Years
<b>T Rowe Price Int:EM Bd</b>	<b>8.98</b> (70)	<b>8.98</b> (70)	<b>7.92</b> (3)	<b>3.78</b> (6)
<b>Blmbg:Glob Agg ex USD</b>	10.51 (44)	10.51 (44)	1.77 (45)	<b>(0.20)</b> (68)



Risk Statistics for 3 Years



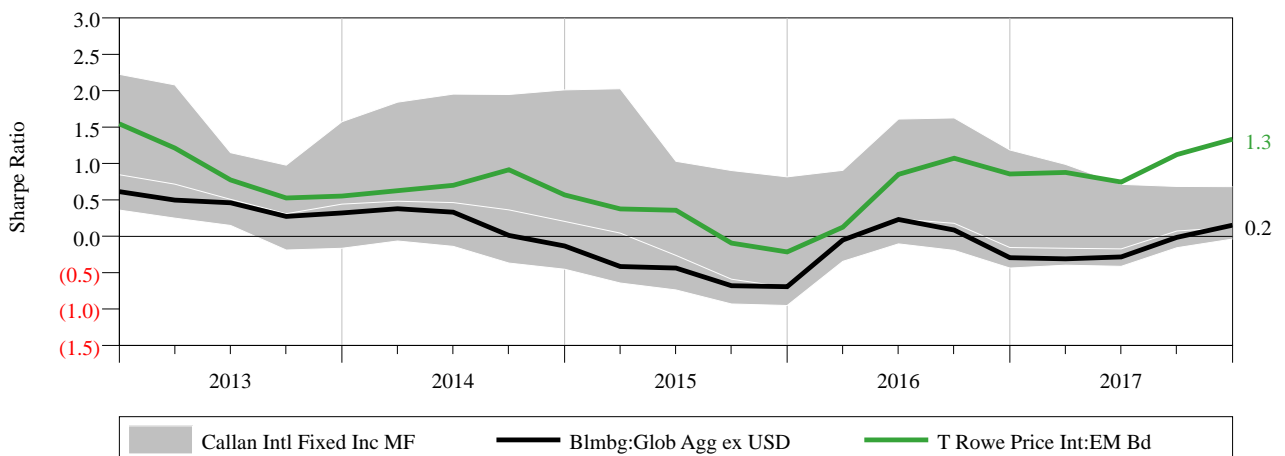
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>T Rowe Price Int:EM Bd</b>	<b>6.89</b> (2)	<b>1.33</b> (2)	<b>18.24</b> (1)	<b>1.61</b> (3)	<b>2.09</b> (1)
<b>Blmbg:Glob Agg ex USD</b>	0.00 (62)	0.15 (47)	1.36 (50)	0.00 (62)	--

Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.

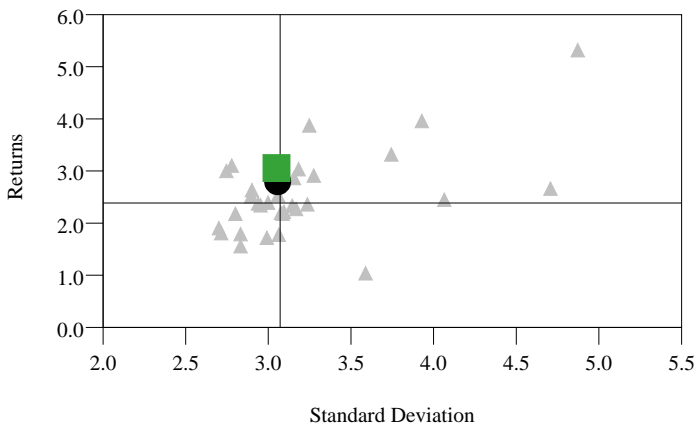




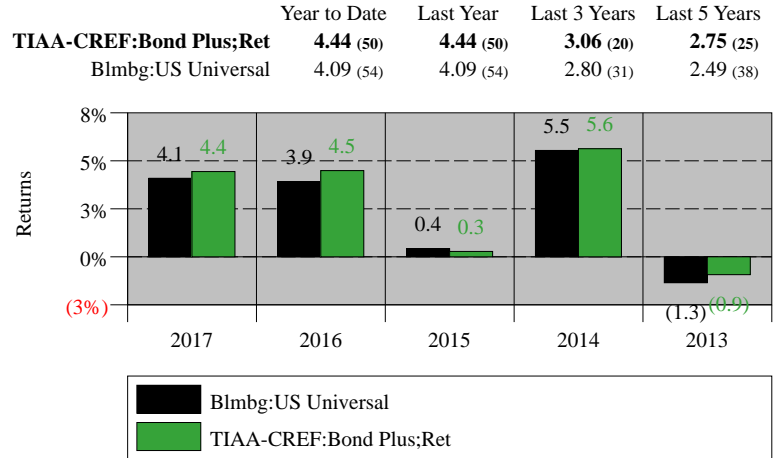
# TIAA-CREF: Bond Plus; Ret

## Blmbg:US Universal - (Callan Core Plus MFs)

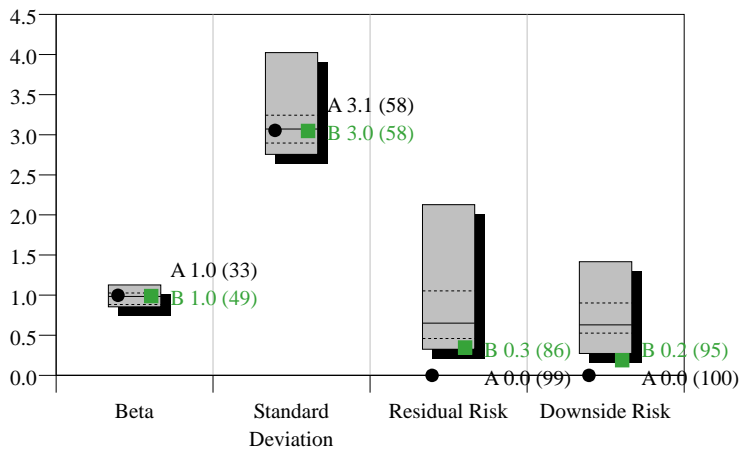
Scatter Chart  
for 3 Years Ended December 31, 2017



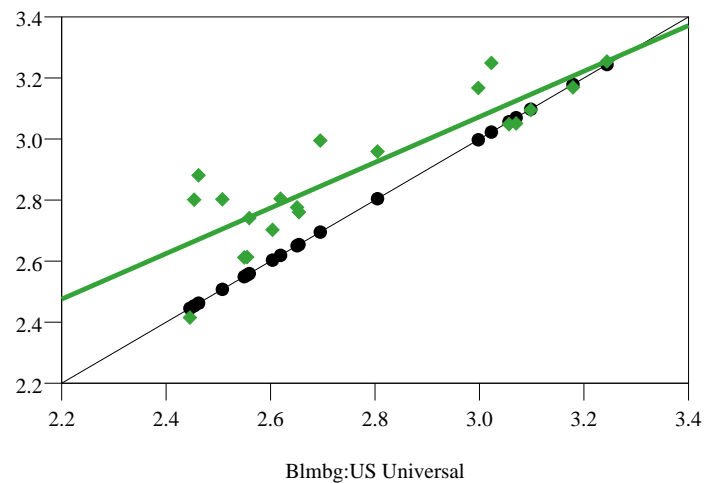
Returns for Various Periods



Risk Statistics for 3 Years



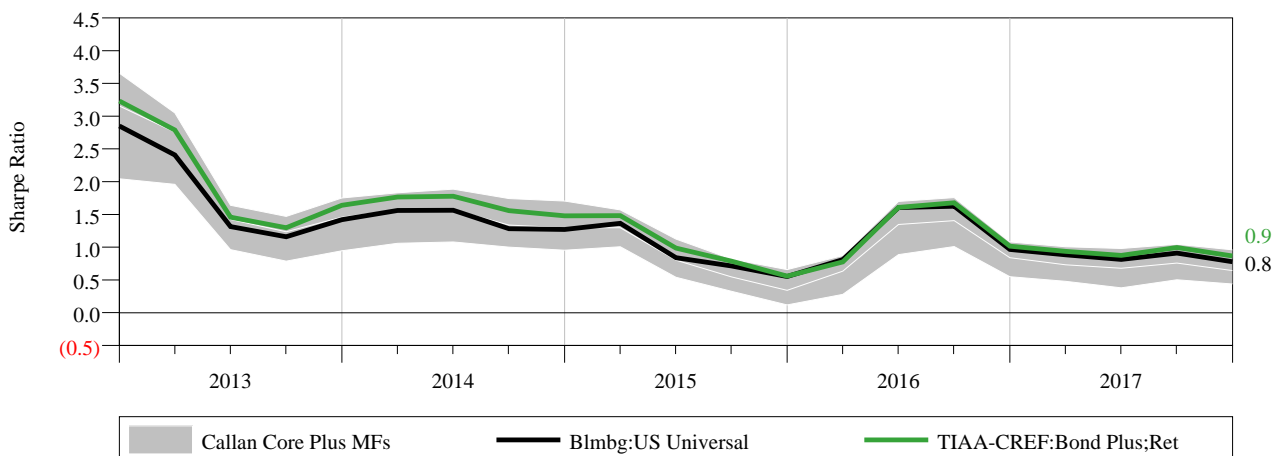
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA-CREF: Bond Plus; Ret</b>	<b>0.28</b> (22)	<b>0.87</b> (19)	<b>2.67</b> (22)	<b>0.81</b> (11)	<b>1.39</b> (12)
Blmbg:US Universal	0.00 (36)	0.78 (24)	2.38 (35)	0.00 (36)	--

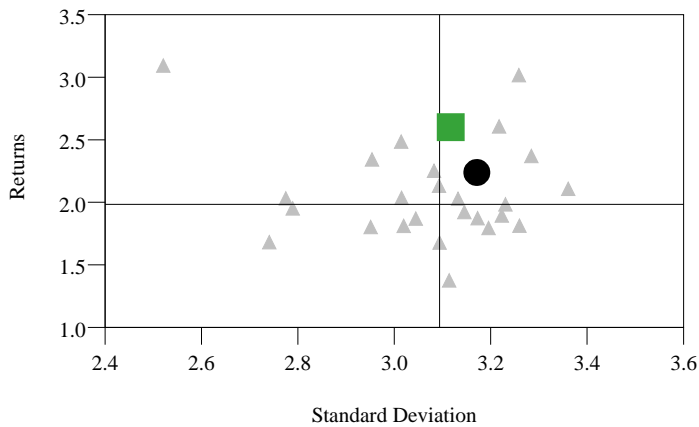
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



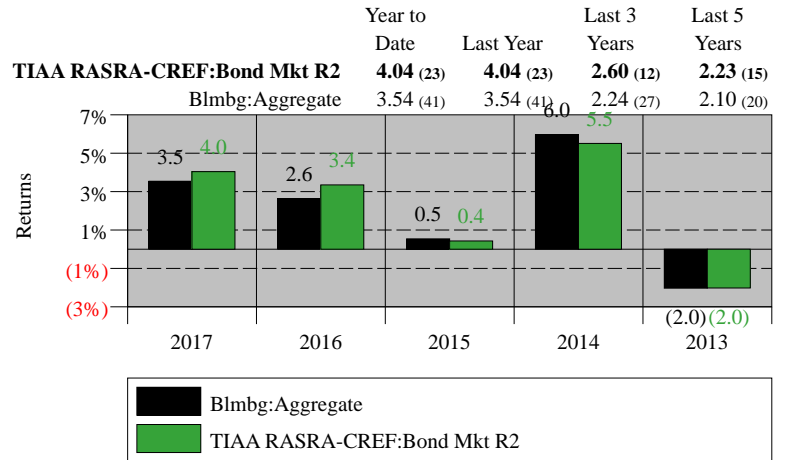
# TIAA RASRA-CREF:Bond Mkt R2

## Blmbg:Aggregate - (Callan Core Bond MFs)

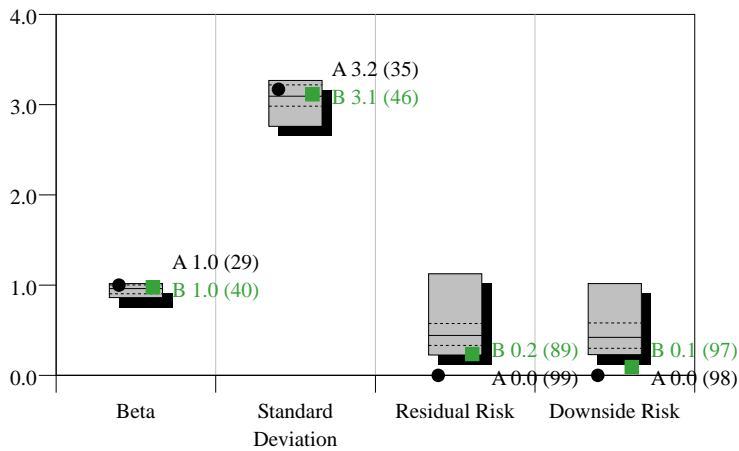
Scatter Chart  
for 3 Years Ended December 31, 2017



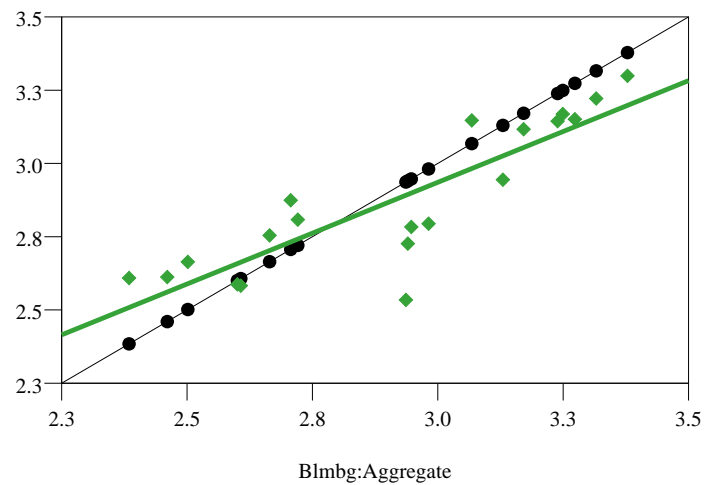
Returns for Various Periods



Risk Statistics for 3 Years



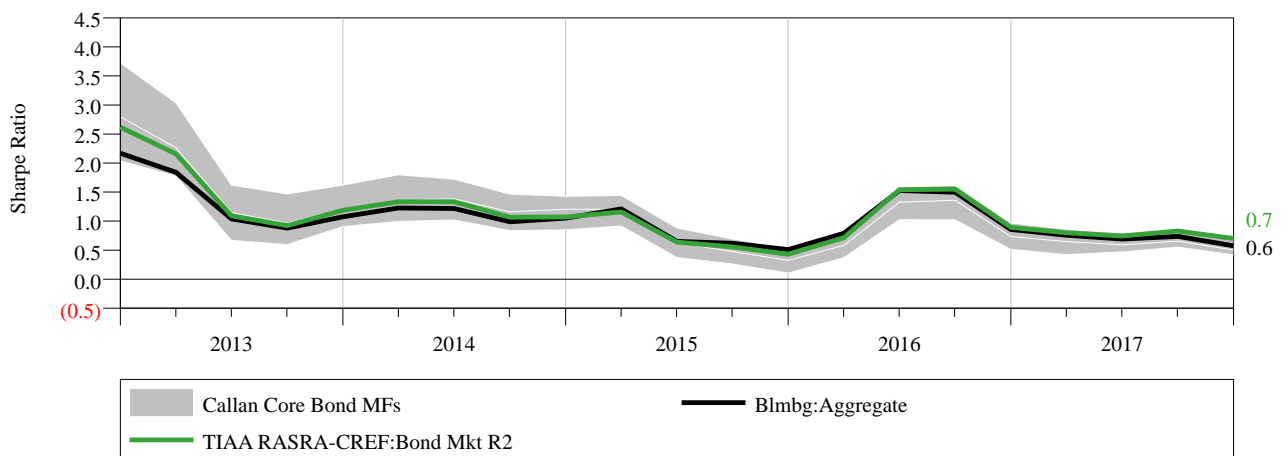
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA RASRA-CREF:Bond Mkt R2</b>	<b>0.40</b> (13)	<b>0.70</b> (11)	<b>2.24</b> (14)	<b>1.67</b> (2)	<b>3.97</b> (1)
<b>Blmbg:Aggregate</b>	0.00 (33)	0.58 (32)	1.83 (33)	0.00 (33)	--

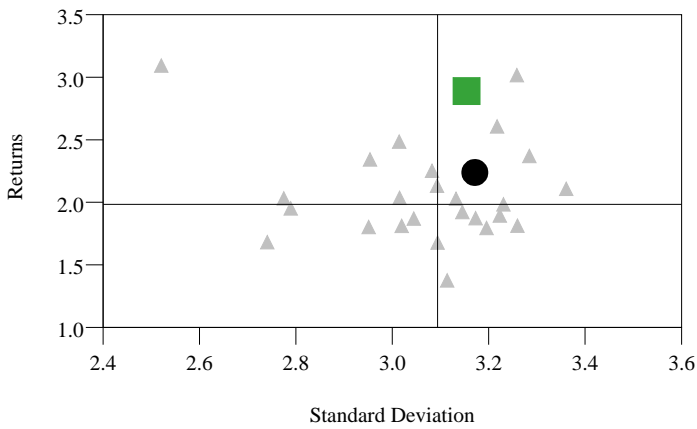
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



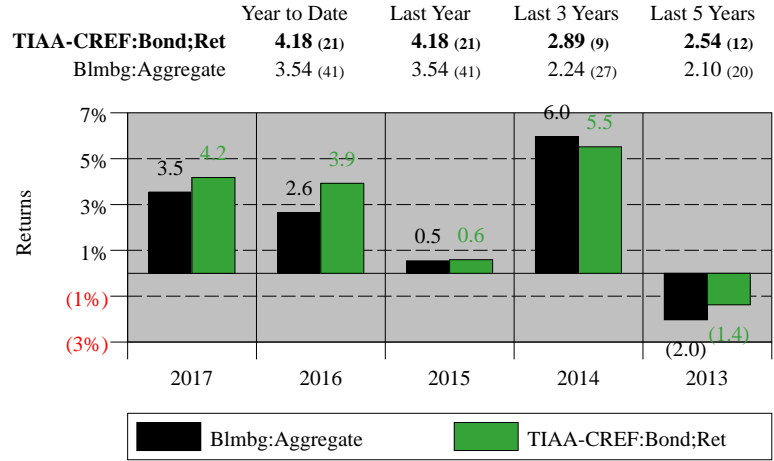
# TIAA-CREF:Bond;Ret

## Blmbg:Aggregate - (Callan Core Bond MFs)

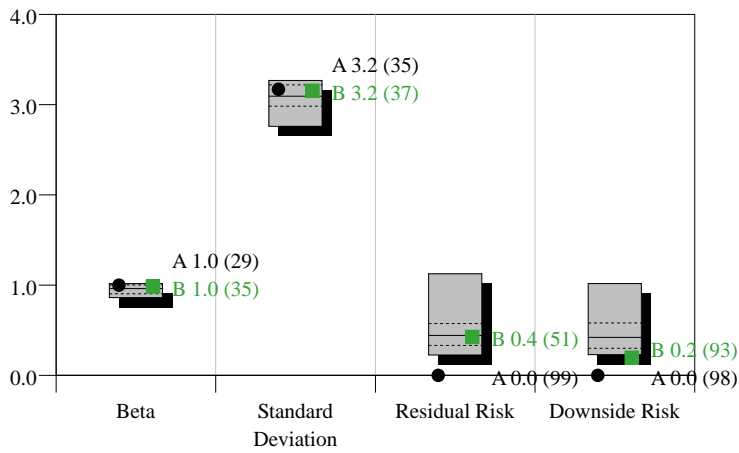
Scatter Chart  
for 3 Years Ended December 31, 2017



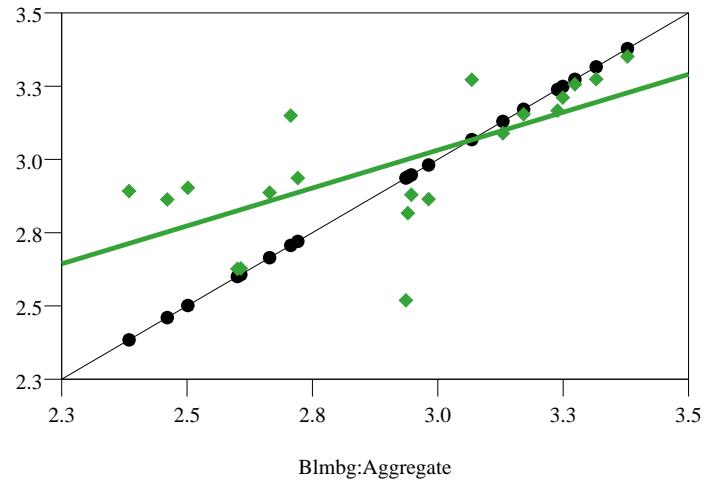
Returns for Various Periods



Risk Statistics for 3 Years



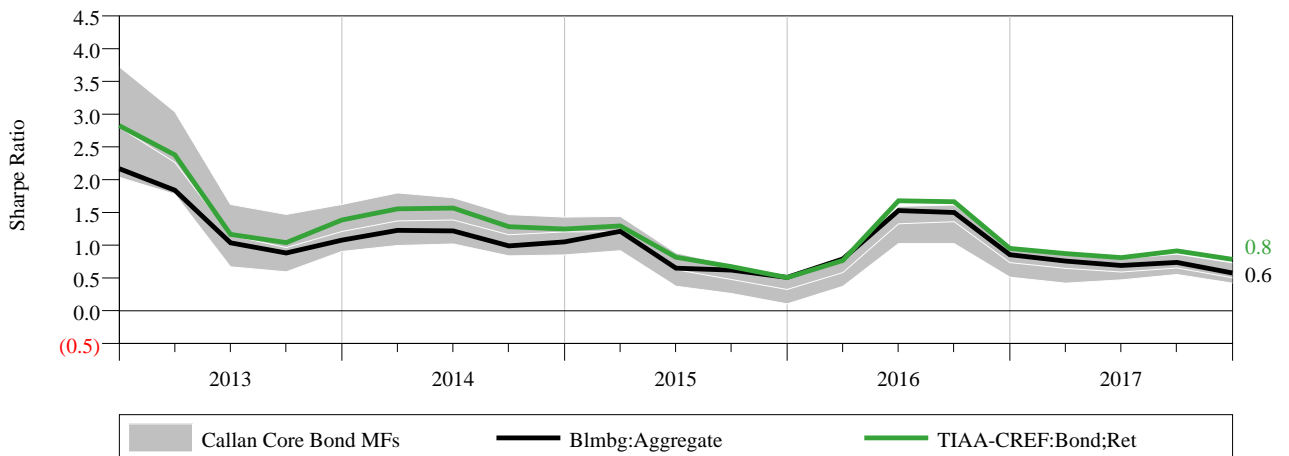
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA-CREF:Bond;Ret</b>	<b>0.67</b> (9)	<b>0.79</b> (8)	<b>2.51</b> (9)	<b>1.56</b> (2)	<b>3.31</b> (4)
<b>Blmbg:Aggregate</b>	0.00 (33)	0.58 (32)	1.83 (33)	0.00 (33)	--

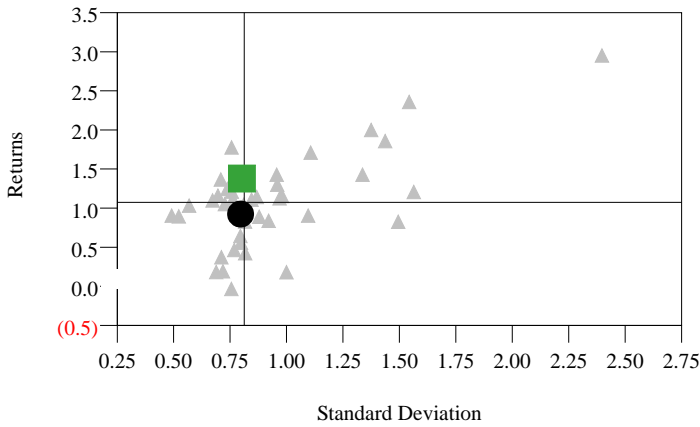
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:Sh-Tm Bd;Ret

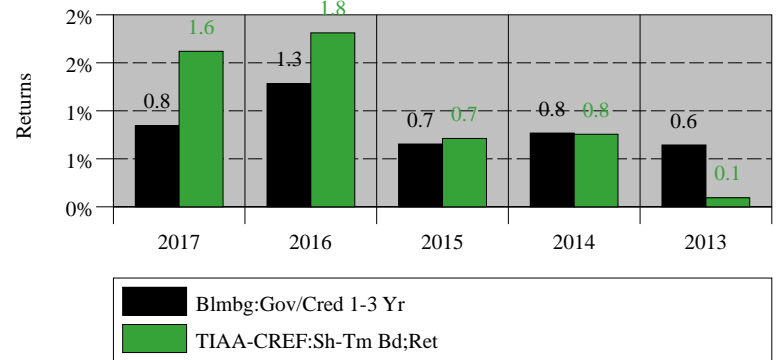
## Blmbg:Gov/Cred 1-3 Yr - (Callan Defensive FI MFs)

Scatter Chart  
for 3 Years Ended December 31, 2017

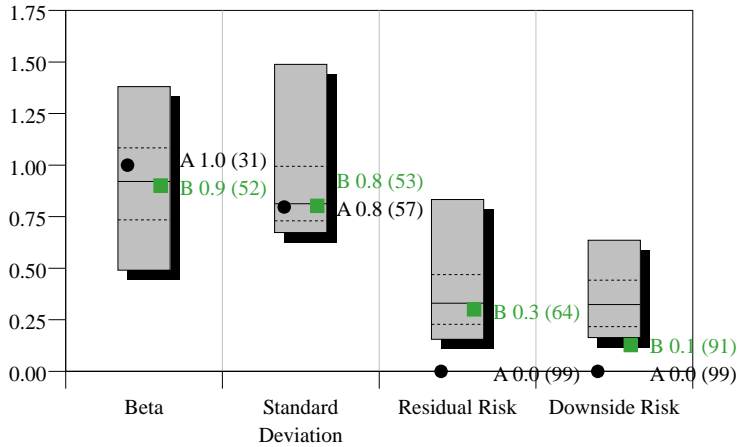


Returns for Various Periods

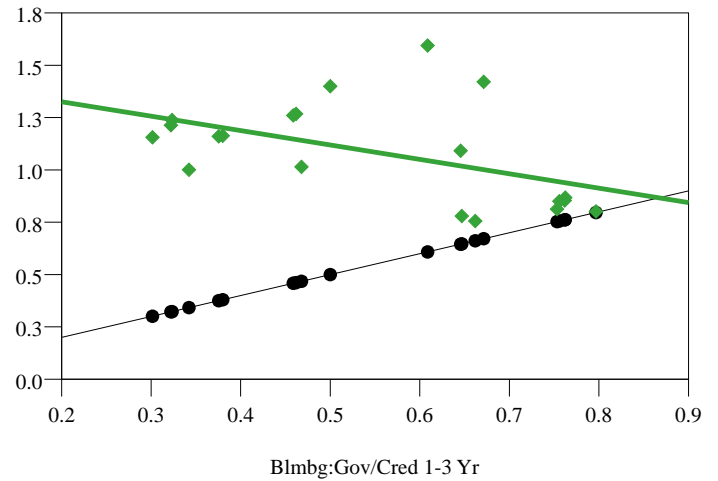
	Year to Date	Last Year	Last 3 Years	Last 5 Years
TIAA-CREF:Sh-Tm Bd;Ret	1.62 (23)	1.62 (23)	1.38 (21)	1.00 (42)
Blmbg:Gov/Cred 1-3 Yr	0.84 (68)	0.84 (68)	0.93 (59)	0.84 (51)



Risk Statistics for 3 Years



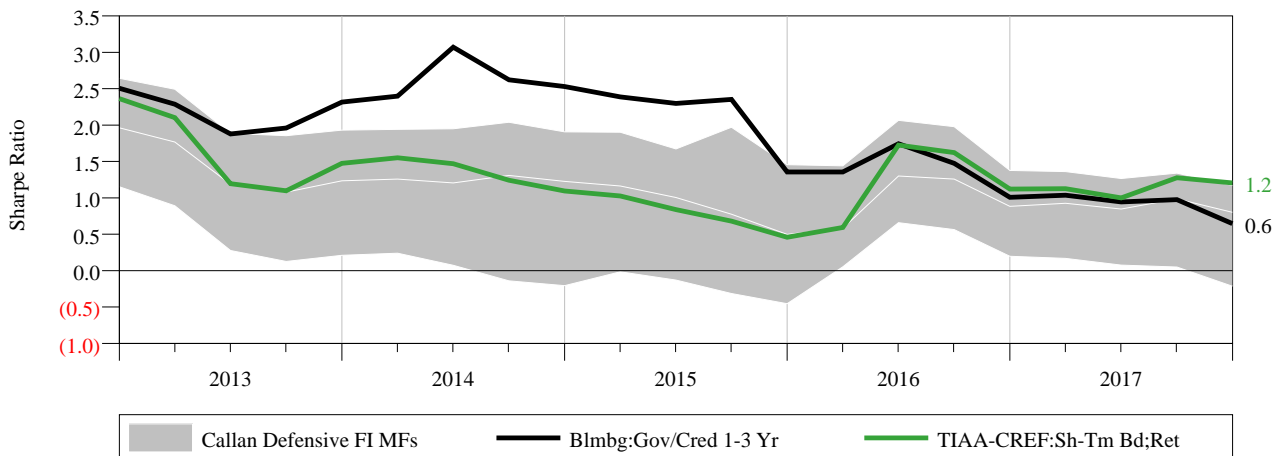
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Sh-Tm Bd;Ret	0.50 (21)	1.21 (9)	1.07 (19)	1.67 (10)	3.54(13)
Blmbg:Gov/Cred 1-3 Yr	0.00 (63)	0.65 (61)	0.51 (58)	0.00 (63)	--

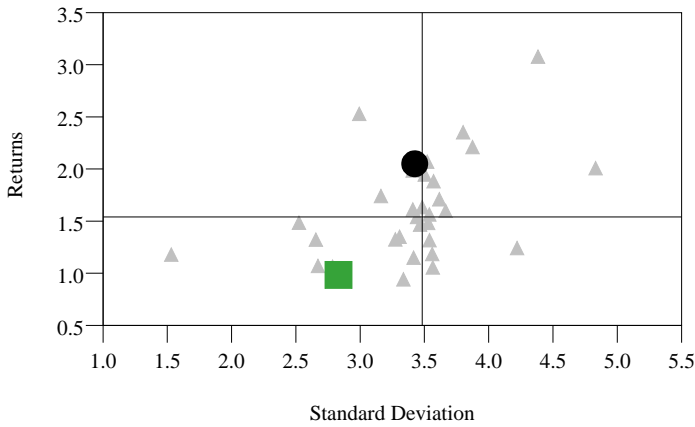
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



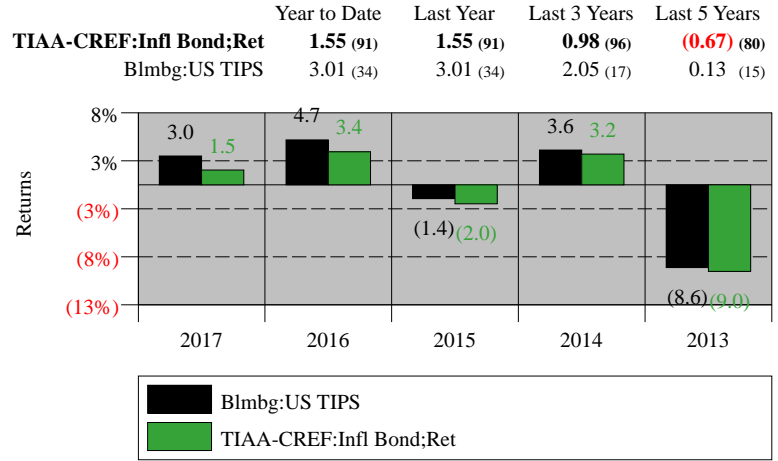
# TIAA-CREF:Infl Bond;Ret

## Blmbg:US TIPS - (Callan TIPS MFs)

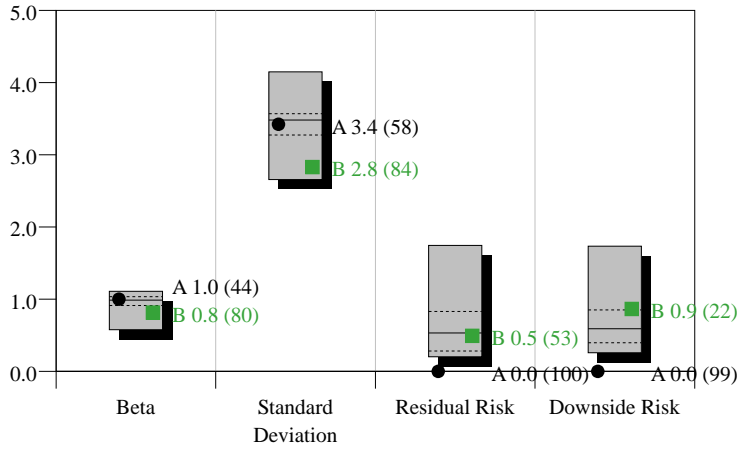
Scatter Chart  
for 3 Years Ended December 31, 2017



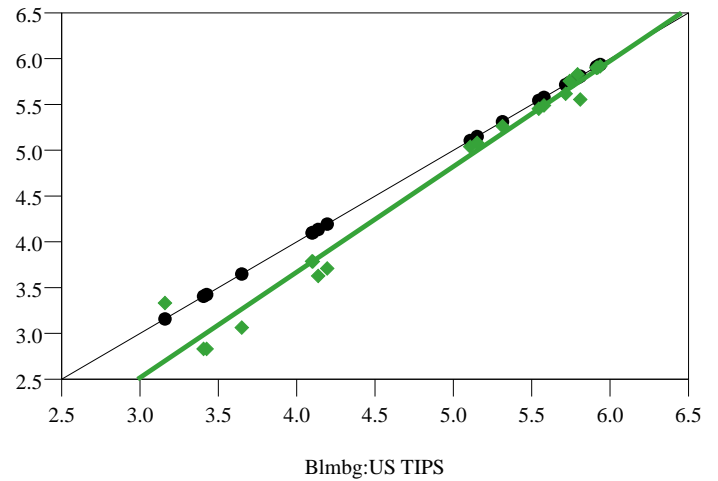
Returns for Various Periods



Risk Statistics for 3 Years



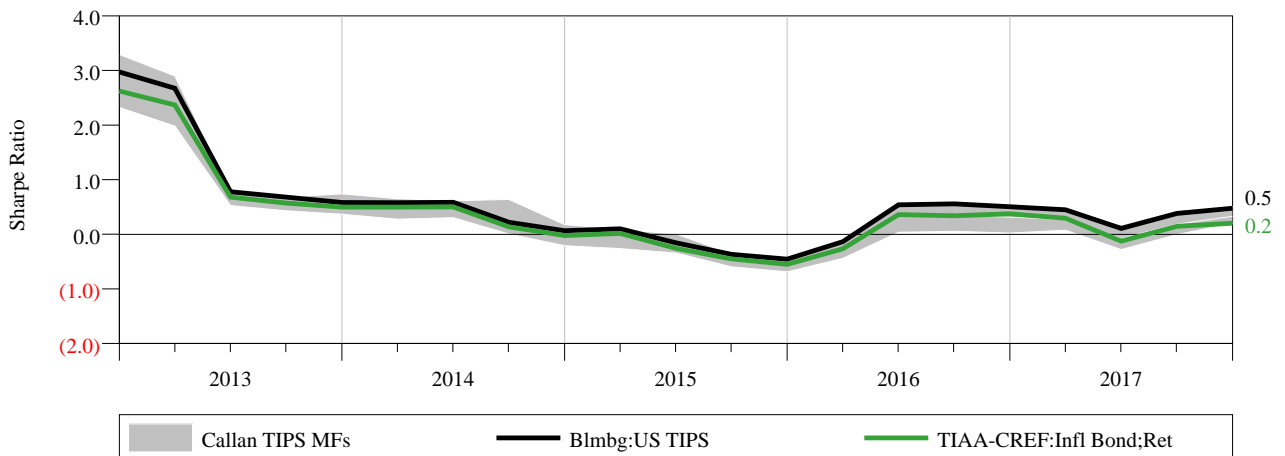
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA-CREF:Infl Bond;Ret	(0.76) (84)	0.20 (90)	0.70 (89)	(1.54) (71)	(1.23) (71)
Blmbg:US TIPS	0.00 (22)	0.48 (15)	1.64 (19)	0.00 (21)	--

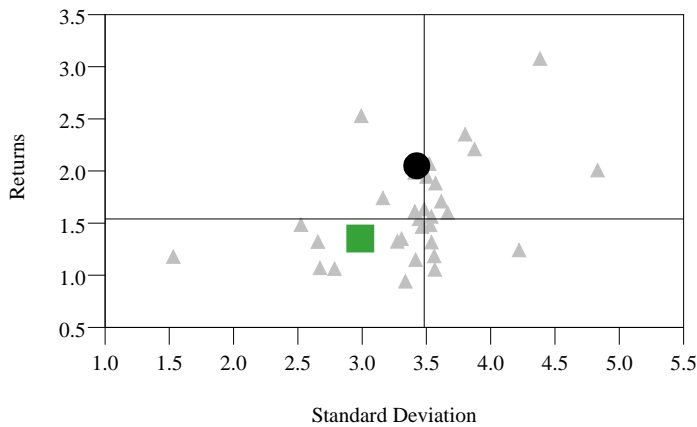
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



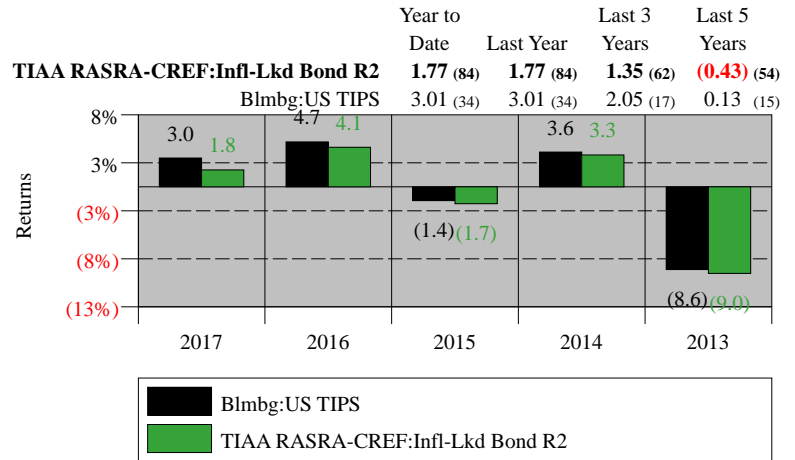
# TIAA RASRA-CREF:Infl-Lkd Bond R2

## Blmbg:US TIPS - (Callan TIPS MFs)

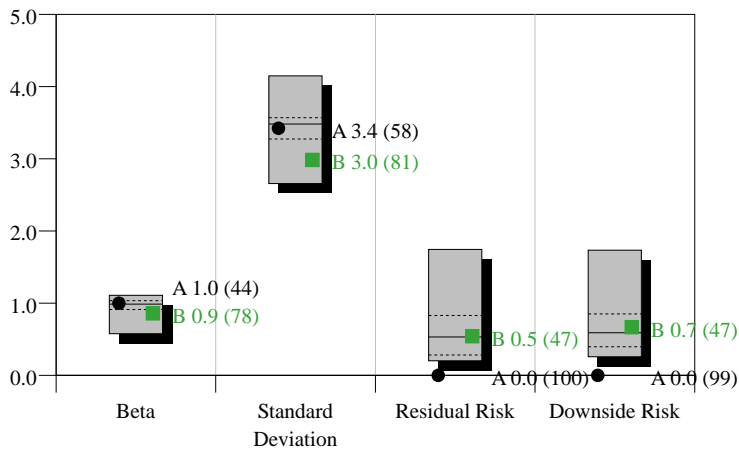
Scatter Chart  
for 3 Years Ended December 31, 2017



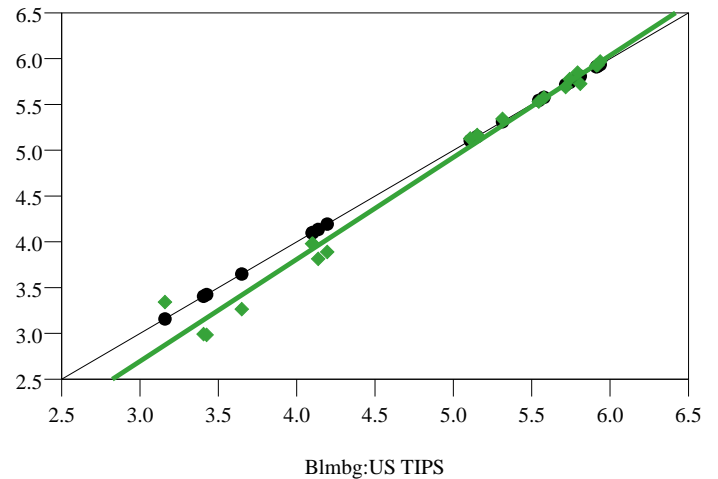
Returns for Various Periods



Risk Statistics for 3 Years



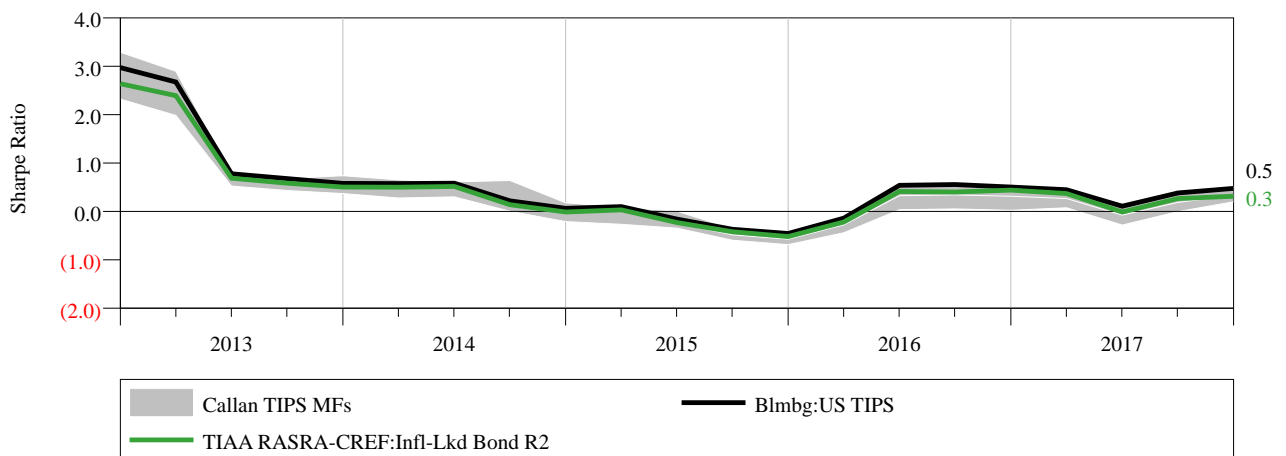
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA RASRA-CREF:Infl-Lkd Bond R2	(0.46) (54)	0.32 (61)	1.10 (61)	(0.86) (54)	(1.04) (61)
Blmbg:US TIPS	0.00 (22)	0.48 (15)	1.64 (19)	0.00 (21)	--

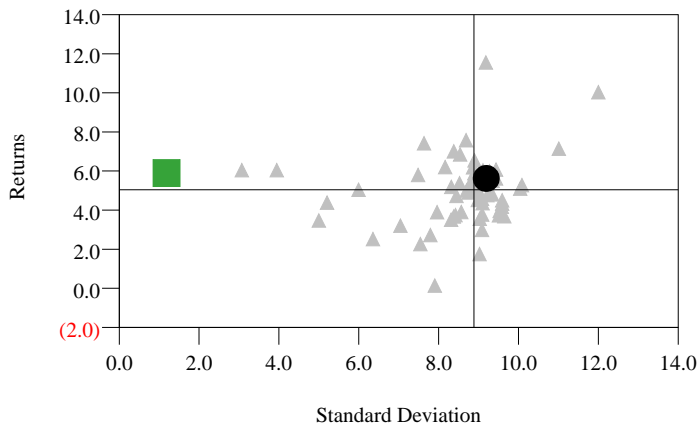
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



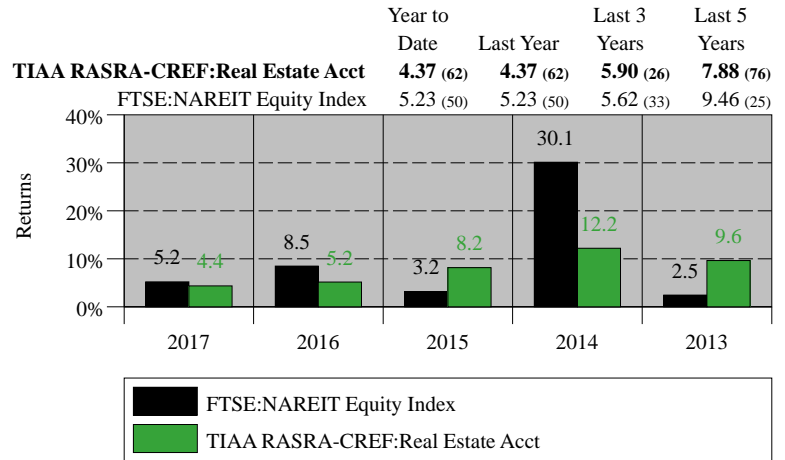
# TIAA RASRA-CREF:Real Estate Acct

## FTSE:NAREIT Equity Index - (Callan Real Estate MFs)

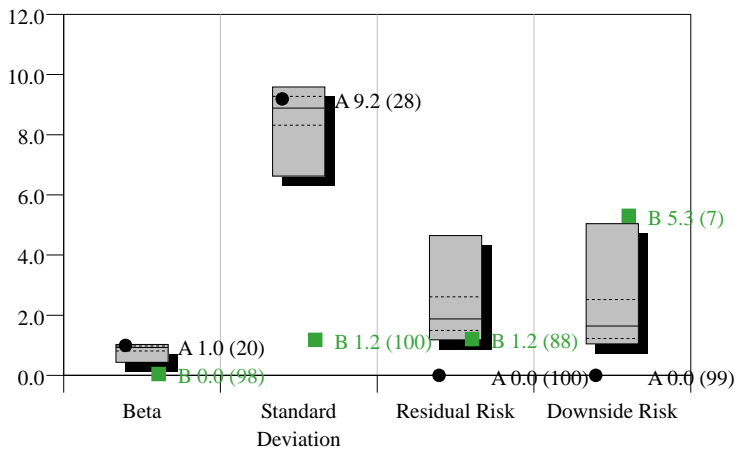
Scatter Chart  
for 3 Years Ended December 31, 2017



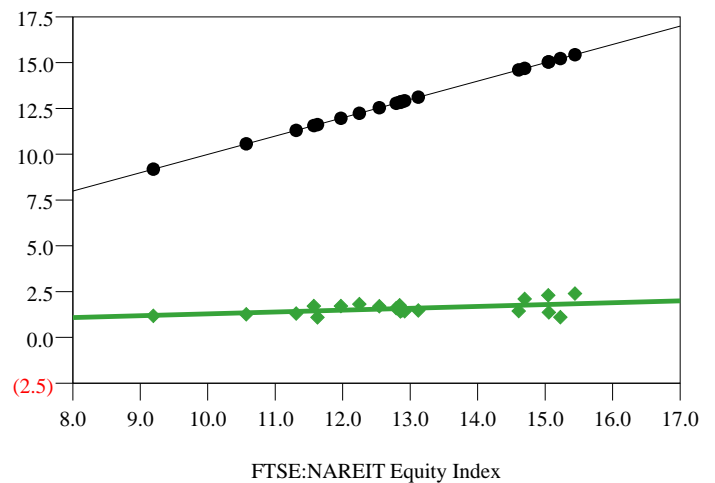
Returns for Various Periods



Risk Statistics for 3 Years



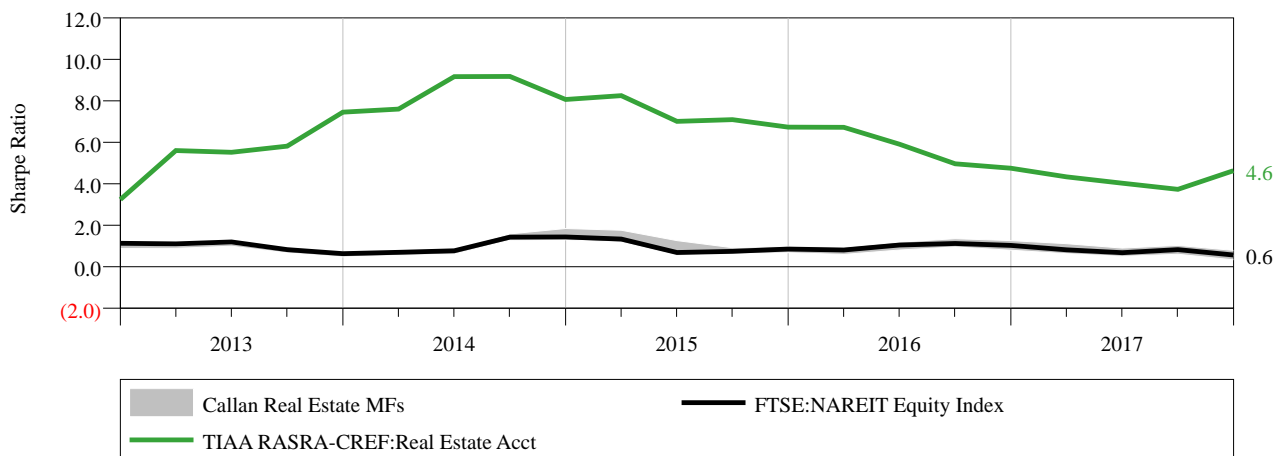
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
TIAA RASRA-CREF:Real Estate Acct	5.20 (6)	4.64 (1)	111.50 (3)	4.29 (1)	0.05 (32)
FTSE:NAREIT Equity Index	0.00 (44)	0.57 (40)	5.21 (44)	0.00 (44)	--

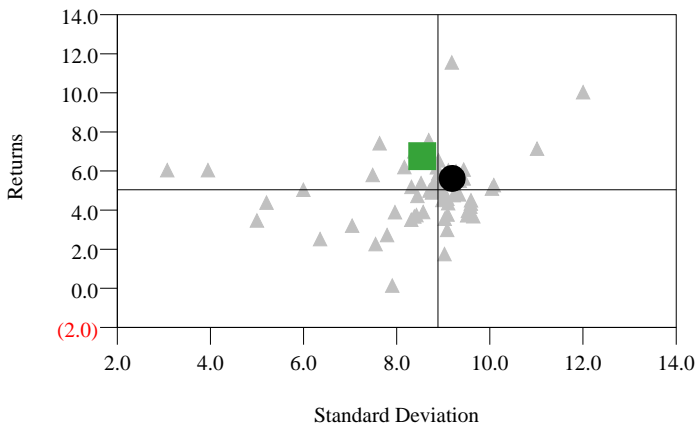
Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# TIAA-CREF:Real Est;Ret

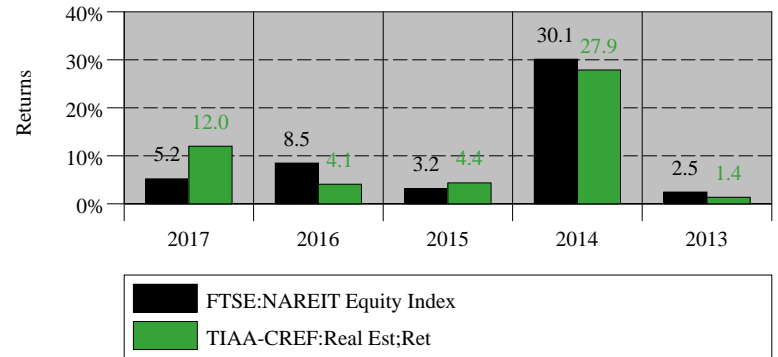
## FTSE:NAREIT Equity Index - (Callan Real Estate MFs)

Scatter Chart  
for 3 Years Ended December 31, 2017

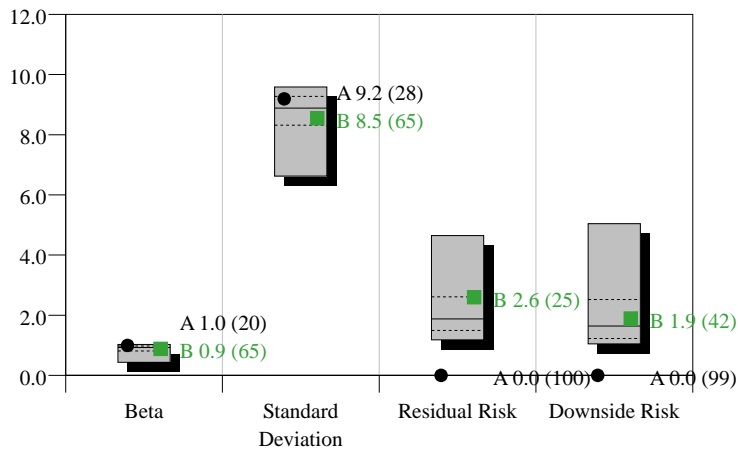


Returns for Various Periods

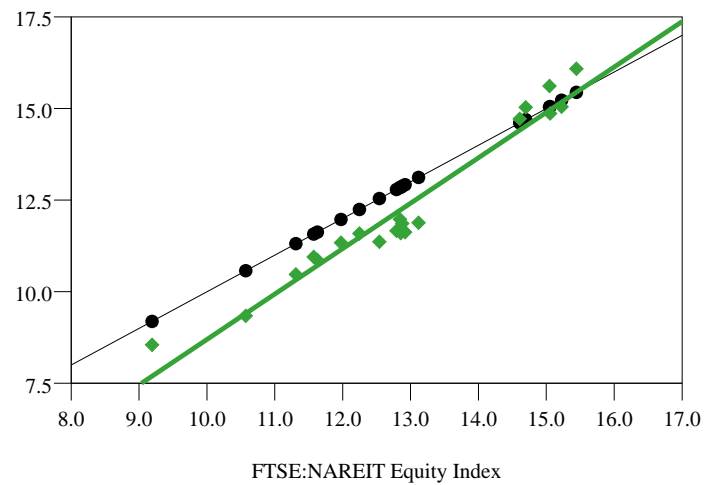
	Year to Date	Last Year	Last 3 Years	Last 5 Years
<b>TIAA-CREF:Real Est;Ret</b>	<b>12.02</b> (6)	<b>12.02</b> (6)	<b>6.77</b> (11)	<b>9.55</b> (21)
FTSE:NAREIT Equity Index	5.23 (50)	5.23 (50)	5.62 (33)	9.46 (25)



Risk Statistics for 3 Years



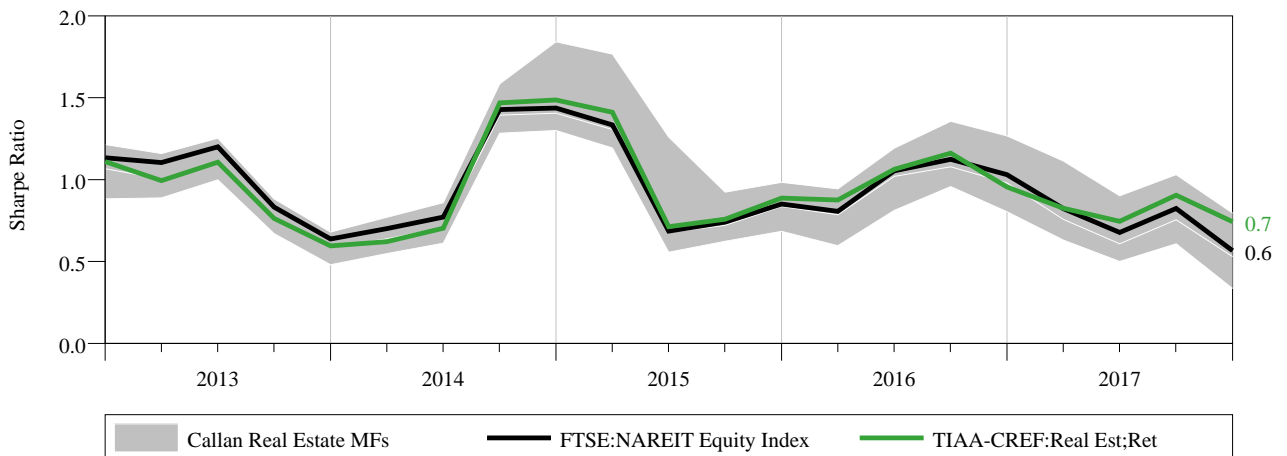
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>TIAA-CREF:Real Est;Ret</b>	<b>1.70</b> (16)	<b>0.74</b> (16)	<b>7.20</b> (19)	<b>0.65</b> (14)	<b>0.60</b> (10)
FTSE:NAREIT Equity Index	0.00 (44)	0.57 (40)	5.21 (44)	0.00 (44)	--

Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.

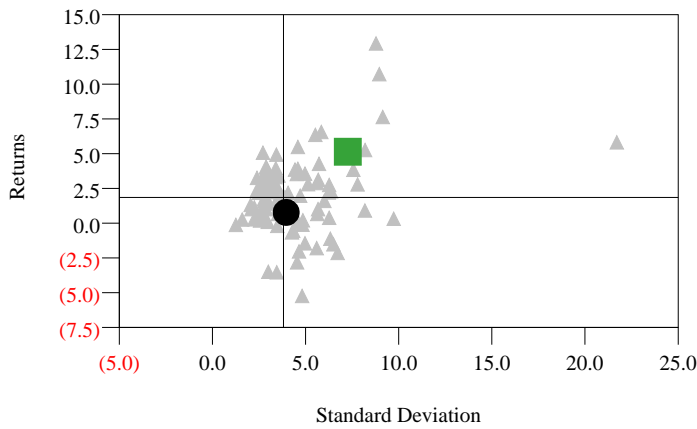




# PIMCO:All Asset;A

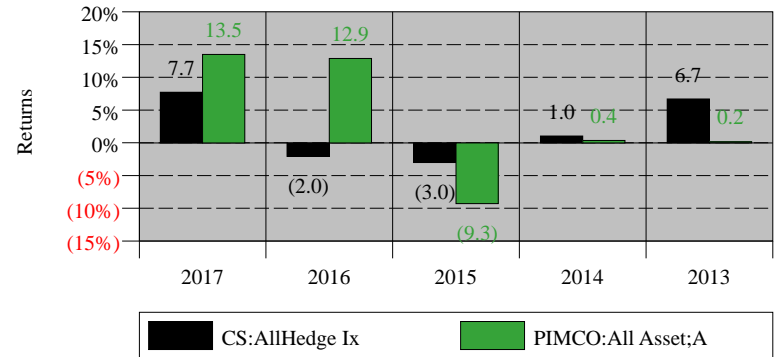
## CS:AllHedge Ix - (Morningstar Multialt)

Scatter Chart  
for 3 Years Ended December 31, 2017

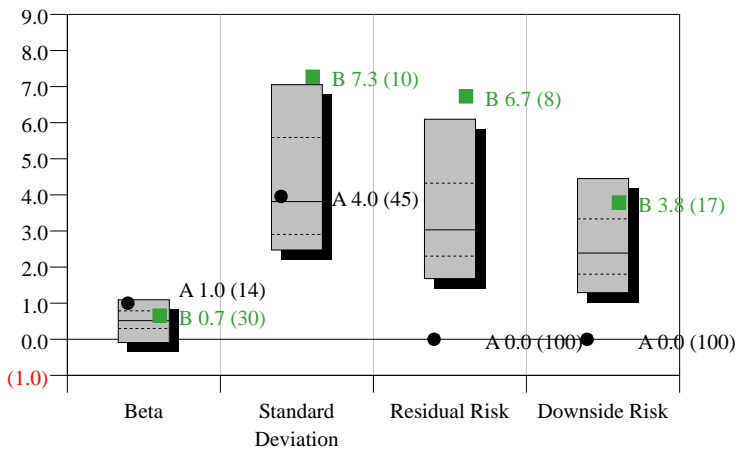


Returns for Various Periods

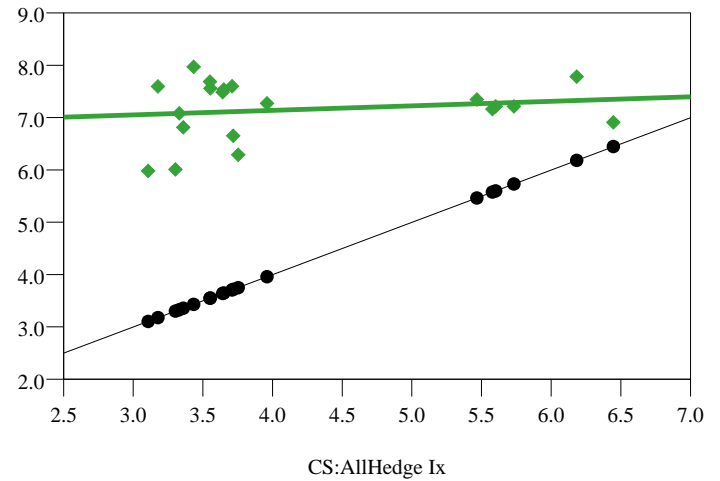
	Year to Date	Last Year	Last 3 Years	Last 5 Years
<b>PIMCO:All Asset;A</b>	<b>13.50</b> (6)	<b>13.50</b> (6)	<b>5.14</b> (9)	<b>3.17</b> (42)
<b>CS:AllHedge Ix</b>	7.72 (22)	7.72 (22)	0.78 (66)	1.99 (71)



Risk Statistics for 3 Years



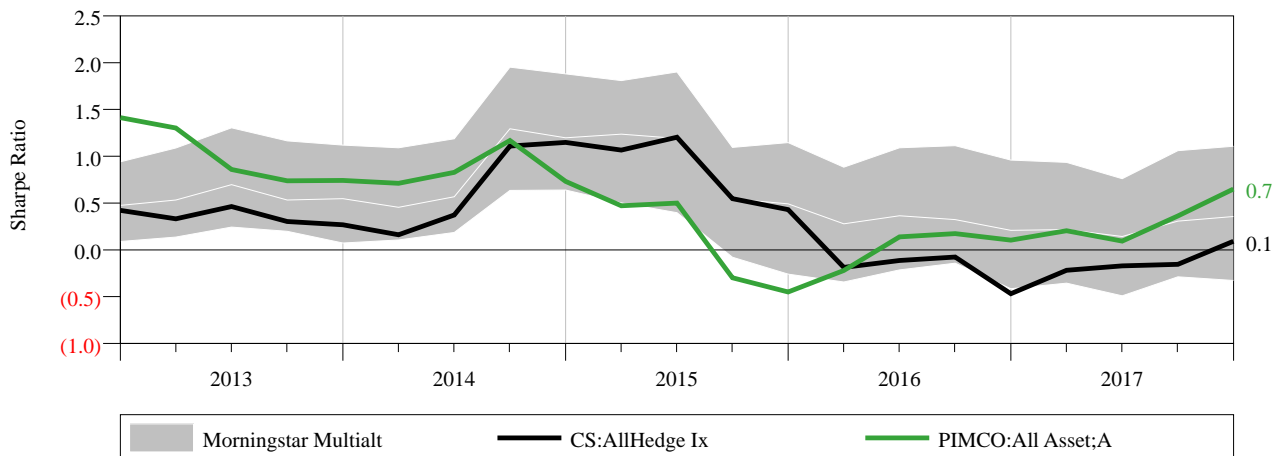
Rolling 12 Quarter Standard Deviation Comparison Chart



Risk Adjusted Statistics for 3 Years

	Alpha	Sharpe Ratio	Treynor Ratio	Information Ratio	Sortino Ratio
<b>PIMCO:All Asset;A</b>	<b>4.70</b> (8)	<b>0.65</b> (32)	<b>7.20</b> (19)	<b>0.70</b> (33)	<b>1.15</b> (27)
<b>CS:AllHedge Ix</b>	0.00 (70)	0.09 (65)	0.37 (68)	0.00 (70)	--

Sharpe Ratio is a measure of the risk-adjusted return of a portfolio. The ratio represents the return gained per unit of risk taken.



# Section IV



# Investment Fee & Expense Disclosure

JUNIATA COLLEGE

Activity for the Reporting Period: 10/01/2017 to 12/31/2017

FUND NAME	FUND ID	TICKER	ASSET CLASS	ASSETS AS OF 12/31/2017	AVERAGE ASSETS FOR THE REPORTING PERIOD	NET EXPENSE RATIO <sup>1</sup>		PLAN SERVICES EXPENSE <sup>1</sup>	
						(%)	(\$)	(%)	(\$)
CREF Stock R2	CO	QCSTPX	Equities	\$20,517,499.25	\$20,225,087.75	0.430%	\$21,741.97	0.200%	\$10,112.54
CREF Growth R2	CU	QCGRPX	Equities	\$6,132,698.27	\$6,009,988.32	0.375%	\$5,634.36	0.200%	\$3,004.99
CREF Equity Index R2	CY	QCEQPX	Equities	\$3,145,147.62	\$3,045,088.77	0.335%	\$2,550.26	0.200%	\$1,522.54
CREF Global Equities R2	CT	QCGLPX	Equities	\$3,143,401.63	\$3,049,262.33	0.440%	\$3,354.19	0.200%	\$1,524.63
TIAA-CREF Lg-Cap Val Idx-Rtmt	XF	TRCVX	Equities	\$1,772,757.73	\$1,768,356.28	0.310%	\$1,370.48	0.250%	\$1,105.22
TIAA-CREF Intl Eq Idx-Rtmt <sup>5</sup>	XC	TRIEX	Equities	\$1,585,389.27	\$1,552,043.02	0.310%	\$1,202.83	0.250%	\$970.03
TIAA-CREF Lg-Cap Val-Rtmt	XE	TRLCX	Equities	\$1,453,597.80	\$1,386,203.16	0.660%	\$2,287.24	0.250%	\$866.38
TIAA-CREF Mid-Cap Val-Rtmt	XJ	TRVRX	Equities	\$1,302,137.55	\$1,289,998.61	0.660%	\$2,128.50	0.250%	\$806.25
TIAA-CREF Sm-Cap Eq-Rtmt	XN	TRSEX	Equities	\$1,300,123.25	\$1,251,685.59	0.670%	\$2,096.57	0.250%	\$782.30
Vanguard Emr Mkts Stk Idx Adm	AA	VEMAX	Equities	\$960,324.14	\$920,689.63	0.140%	\$322.24	0.000%	\$0.00
AF EuroPacific Growth Fund R4 <sup>4</sup>	BI	REREX	Equities	\$912,423.42	\$842,070.84	0.850%	\$1,789.40	0.350%	\$736.81
TIAA-CREF Lg-Cap Gr Idx-Rtmt	XD	TRIRX	Equities	\$709,214.34	\$676,678.79	0.310%	\$524.43	0.250%	\$422.92
TIAA-CREF Real Est Secs-Rtmt <sup>4</sup>	XL	TRRSX	Equities	\$698,457.66	\$680,617.90	0.760%	\$1,293.17	0.250%	\$425.39
TIAA-CREF Eq Index-Rtmt	XV	TIQRX	Equities	\$682,581.31	\$659,327.16	0.300%	\$494.50	0.250%	\$412.08
TIAA-CREF Intl Eq-Rtmt <sup>5</sup>	XB	TRERX	Equities	\$549,315.17	\$531,052.48	0.740%	\$982.45	0.250%	\$331.91
TIAA-CREF S&P 500 Idx-Rtmt	XR	TRSPX	Equities	\$501,502.62	\$446,890.53	0.300%	\$335.17	0.250%	\$279.31
TIAA-CREF Social Ch Eq-Rtmt	XQ	TRSCX	Equities	\$496,502.24	\$396,752.76	0.440%	\$436.43	0.250%	\$247.97
TIAA-CREF Gr & Inc-Rtmt	XA	TRGIX	Equities	\$473,852.02	\$458,511.73	0.670%	\$768.01	0.250%	\$286.57
VICTORY SYC SMALL COMP OPP A	UU	SSGSX	Equities	\$302,691.30	\$319,006.39	1.260%	\$1,004.87	0.500%	\$398.76
TIAA-CREF Sm-Cap Bl Idx-Rtmt	XM	TRBIX	Equities	\$274,635.14	\$251,375.20	0.310%	\$194.82	0.250%	\$157.11
TIAA-CREF Mid-Cap Gr-Rtmt	XH	TRGMX	Equities	\$164,504.87	\$167,199.21	0.720%	\$300.96	0.250%	\$104.50
Prudential Jennison Small Co Z <sup>4</sup>	NE	PSCZX	Equities	\$121,415.05	\$116,764.32	0.810%	\$236.45	0.250%	\$72.98
TIAA-CREF Lg-Cap Gr-Rtmt	XW	TILRX	Equities	\$56,146.01	\$56,390.00	0.680%	\$95.86	0.250%	\$35.24
CREF Bond Market R2	CR	QCBMPX	Fixed Income	\$3,063,423.75	\$2,907,625.25	0.400%	\$2,907.63	0.200%	\$1,453.81
CREF Inflation-Linked Bond R2	CW	QCILPX	Fixed Income	\$1,247,053.36	\$1,319,697.00	0.350%	\$1,154.73	0.200%	\$659.85
TIAA-CREF Bond Plus-Rtmt <sup>4</sup>	XZ	TCBRX	Fixed Income	\$972,408.33	\$958,865.83	0.560%	\$1,342.41	0.250%	\$599.29
TIAA-CREF High-Yield-Rtmt <sup>4,5</sup>	XY	TIHRX	Fixed Income	\$633,647.63	\$621,819.84	0.610%	\$948.28	0.250%	\$388.64
TIAA-CREF Bond-Rtmt <sup>4</sup>	XT	TIDRX	Fixed Income	\$439,137.42	\$444,946.28	0.560%	\$622.92	0.250%	\$278.09
TIAA-CREF Infl-Lnkd Bond-Rtmt <sup>4</sup>	XS	TIKRX	Fixed Income	\$268,978.01	\$267,933.94	0.520%	\$348.31	0.250%	\$167.46
TIAA-CREF Short-Term Bond-Rtmt <sup>4</sup>	Y1	TISRX	Fixed Income	\$80,852.39	\$77,674.34	0.520%	\$100.98	0.250%	\$48.55



# Investment Fee & Expense Disclosure

Activity for the Reporting Period: 10/01/2017 to 12/31/2017

FUND NAME	FUND		ASSET CLASS	ASSETS AS OF 12/31/2017	AVERAGE ASSETS FOR THE REPORTING PERIOD	NET EXPENSE RATIO <sup>1</sup>		PLAN SERVICES EXPENSE <sup>1</sup>	
	ID	TICKER				(%)	(\$)	(%)	(\$)
T Rowe Price Emerging Mkts Bnd <sup>4 9</sup>	PN	PREMX	Fixed Income	\$71,875.07	\$84,822.03	0.920%	\$195.09	0.150%	\$31.81
TIAA Traditional RA <sup>2</sup>	T1	TIAA#	Guaranteed	\$20,167,987.59	\$20,274,066.43	0.470%	\$23,822.03	0.150%	\$7,602.77
TIAA Traditional RA MDO <sup>2</sup>	TL	TIAA#	Guaranteed	\$5,880,040.87	\$5,890,878.88	0.470%	\$6,921.78	0.150%	\$2,209.08
TIAA Traditional RA TPA <sup>2</sup>	TD	TIAA#	Guaranteed	\$2,488,446.91	\$2,459,825.07	0.470%	\$2,890.29	0.150%	\$922.43
TIAA Traditional GSRA <sup>2</sup>	T4	TIAA#	Guaranteed	\$2,264,583.32	\$2,132,382.98	0.470%	\$2,505.55	0.150%	\$799.64
TIAA Traditional SRA <sup>2</sup>	T3	TIAA#	Guaranteed	\$1,564,782.90	\$1,569,904.37	0.470%	\$1,844.64	0.150%	\$588.71
TIAA Traditional RA IPRO <sup>2</sup>	TF	TIAA#	Guaranteed	\$1,525,277.73	\$1,527,530.39	0.470%	\$1,794.85	0.150%	\$572.82
TIAA Traditional SRA MDO <sup>2</sup>	TN	TIAA#	Guaranteed	\$235,717.93	\$237,021.24	0.470%	\$278.50	0.150%	\$88.88
TIAA Traditional GSRA MDO <sup>2</sup>	TP	TIAA#	Guaranteed	\$182,823.79	\$182,722.49	0.470%	\$214.70	0.150%	\$68.52
TIAA Traditional RCP 1 <sup>2</sup>	TA	TIAA#	Guaranteed	\$2.28	\$1,654.06	0.470%	\$1.94	0.150%	\$0.62
CREF Money Market R2	CP	QCMMPX	Money Market	\$412,633.11	\$411,752.93	0.340%	\$349.99	0.200%	\$205.88
TIAA-CREF Money Market-Rtmt <sup>4</sup>	XU	TIEXX	Money Market	\$62,457.13	\$37,489.53	0.390%	\$36.55	0.250%	\$23.43
CREF Social Choice R2	CQ	QCSCPX	Multi-Asset	\$5,624,989.55	\$5,520,623.94	0.375%	\$5,175.58	0.200%	\$2,760.31
TIAA-CREF Lifecycle 2035-Rtmt <sup>4</sup>	L6	TCLRXX	Multi-Asset	\$2,474,000.48	\$2,392,436.30	0.680%	\$4,067.14	0.250%	\$1,495.27
TIAA-CREF Lifecycle 2040-Rtmt <sup>4</sup>	L7	TCLOX	Multi-Asset	\$2,281,950.95	\$2,190,242.68	0.690%	\$3,778.17	0.250%	\$1,368.90
TIAA-CREF Lifecycle 2025-Rtmt <sup>4</sup>	L4	TCLFX	Multi-Asset	\$1,581,698.84	\$1,531,355.43	0.660%	\$2,526.74	0.250%	\$957.10
TIAA-CREF Lifecycle 2030-Rtmt <sup>4</sup>	L5	TCLNX	Multi-Asset	\$1,432,951.83	\$1,386,672.96	0.670%	\$2,322.68	0.250%	\$866.67
TIAA-CREF Lifecycle 2045-Rtmt <sup>4</sup>	L9	TTFRX	Multi-Asset	\$1,326,908.46	\$1,258,793.31	0.700%	\$2,202.89	0.250%	\$786.75
TIAA-CREF Lifecycle 2020-Rtmt <sup>4</sup>	L3	TCLTX	Multi-Asset	\$915,860.39	\$891,919.76	0.650%	\$1,449.37	0.250%	\$557.45
TIAA-CREF Lifecycle 2050-Rtmt <sup>4</sup>	LB	TLFRX	Multi-Asset	\$891,519.37	\$848,430.78	0.700%	\$1,484.75	0.250%	\$530.27
TIAA-CREF Lifecycle 2015-Rtmt <sup>4</sup>	L2	TCLIX	Multi-Asset	\$537,318.70	\$521,836.75	0.640%	\$834.94	0.250%	\$326.15
TIAA-CREF Lifecycle 2055-Rtmt <sup>4</sup>	ZJ	TTRLX	Multi-Asset	\$353,351.71	\$329,944.19	0.700%	\$577.40	0.250%	\$206.22
TIAA-CREF Lifecycle 2010-Rtmt <sup>4</sup>	L1	TCLEX	Multi-Asset	\$273,670.70	\$285,305.36	0.630%	\$449.36	0.250%	\$178.32
PIMCO All Asset Fund A <sup>4</sup>	IW	PASAX	Multi-Asset	\$6,945.91	\$6,697.10	1.320%	\$22.10	0.400%	\$6.70
TIAA-CREF Managed Alloc-Rtmt <sup>4</sup>	XX	TITRX	Multi-Asset	\$6,582.91	\$6,429.43	0.650%	\$10.45	0.250%	\$4.02
TIAA-CREF Lfcyle Rtmt Inc-Rtmt <sup>4</sup>	LD	TLIRX	Multi-Asset	\$5,821.11	\$5,732.49	0.630%	\$9.03	0.250%	\$3.58
TIAA-CREF Lifecycle 2060-Rtmt <sup>4</sup>	CJ	TLXRX	Multi-Asset	\$3,125.20	\$1,954.63	0.700%	\$3.42	0.250%	\$1.22
TIAA-CREF Self Directed Acct	SD	SDA01#	Other	\$76,338.57	\$73,861.18	0.000%	\$0.00	0.000%	\$6.63
TIAA Real Estate	X1	QREARX	Real Estate	\$4,927,168.26	\$4,896,911.35	0.850%	\$10,405.94	0.240%	\$2,938.15
<b>ESTIMATED TOTAL / AVERAGE</b>				<b>\$111,538,650.12</b>	<b>\$109,658,801.29</b>	<b>0.123%</b>	<b>\$134,746.29</b>	<b>0.050%</b>	<b>\$54,310.42</b>



# Summary of Fees and Compensation for Your Plan

**JUNIATA COLLEGE**

**Activity for the Reporting Period: 10/01/2017 to 12/31/2017**

<b>PLAN FEES AND COMPENSATION PAID TO TIAA-CREF AND BUNDLED SERVICE PROVIDERS</b>	<b>YOUR FEES AND COMPENSATION IN DOLLARS</b>	<b>YOUR FEES AND COMPENSATION AS A PERCENTAGE OF ASSETS</b>	<b>PERCENT OF TOTAL PLAN FEES AND COMPENSATION</b>
Investment Fee & Expense	\$134,746.27	0.123%	96.80%
Direct Fees	\$0.00	0.000%	0.00%
Self-Directed Brokerage - Recordkeeping Offset	\$6.63	0.000%	0.00%
TIAA Traditional Net Plan Loan Interest Expense	\$112.54	0.000%	0.08%
Float	\$322.54	0.000%	0.23%
Transactional Fund Earnings (TFE)	\$0.23	0.000%	0.00%
<b>TOTAL PLAN FEES AND COMPENSATION PAID TO TIAA-CREF AND BUNDLED SERVICE PROVIDERS</b>	<b>\$135,188.21</b>	<b>0.123%</b>	<b>97.11%</b>
<b>TOTAL NET PLAN FEES AND COMPENSATION PAID TO TIAA-CREF AND BUNDLED SERVICE PROVIDERS</b>	<b>\$135,188.21</b>	<b>0.123%</b>	<b>97.11%</b>
<b>PLAN FEES AND COMPENSATION PAID TO OTHER SERVICE PROVIDERS</b>	<b>YOUR FEES AND COMPENSATION IN DOLLARS</b>	<b>YOUR FEES AND COMPENSATION AS A PERCENTAGE OF ASSETS</b>	<b>PERCENT OF TOTAL PLAN FEES AND COMPENSATION</b>
Direct Fees	\$4,006.58	0.004%	2.88%
<b>TOTAL PLAN FEES AND COMPENSATION PAID TO OTHER SERVICE PROVIDERS</b>	<b>\$4,006.58</b>	<b>0.004%</b>	<b>2.88%</b>
<b>TOTAL PLAN FEES AND COMPENSATION PAID TO TIAA-CREF AND BUNDLED SERVICE PROVIDERS AND OTHER SERVICE PROVIDERS</b>	<b>\$139,194.79</b>	<b>0.127%</b>	<b>99.99%</b>



# Revenue Credit Account Report

JUNIATA COLLEGE

Activity for the Reporting Period: 10/01/2017 to 12/31/2017

<b>OPENING BALANCE AS OF 10/01/2017</b>	<b>\$3,994.14</b>
PLAN SERVICING CREDITS DURING PERIOD	\$0.00
PLAN SERVICING CREDIT ADJUSTMENTS DURING PERIOD	\$0.00
PLAN SERVICING CREDITS ALLOCATED TO PARTICIPANTS	\$0.00
PLAN SERVICING CREDITS ALLOCATION ADJUSTMENTS	\$0.00
INVESTMENT INCOME DURING PERIOD	\$14.72
FEES DURING PERIOD	(\$4,006.58)
MISCELLANEOUS ADJUSTMENTS	\$0.00
<b>CLOSING BALANCE AS OF 12/31/2017</b>	<b>\$2.28</b>

### DETAILS OF PLAN SERVICING CREDITS and ADJUSTMENTS

INVESTMENT OPTION	DESCRIPTION	TRANSACTION DATE	AMOUNT
<b>TOTAL</b>			<b>\$0.00</b>

### DETAILS OF FEES DURING PERIOD

FIRM NAME	FEE TYPE	TRANSACTION DATE	AMOUNT
Juniata College	Professional Services Fee	11/08/2017	\$4,006.58
<b>TOTAL</b>			<b>\$4,006.58</b>



# Fund Usage and Diversification

## Balances and Counts by Fund and Contract Type

**JUNIATA COLLEGE**

**For the Period Ending 12/31/2017**

Investment Name	Participant Control		Plan Control		Total	
	Ending Market value	# Participants	Ending Market Value	# Participants	Ending Market Value	# Participants
TIAA Traditional	\$34,309,660.33	455	\$0.00	0	\$34,309,660.33	455
CREF Stock R2	\$20,517,499.27	298	\$0.00	0	\$20,517,499.27	298
CREF Money Market R2	\$412,633.15	42	\$0.00	0	\$412,633.15	42
CREF Social Choice R2	\$5,624,989.59	77	\$0.00	0	\$5,624,989.59	77
CREF Bond Market R2	\$3,063,423.75	125	\$0.00	0	\$3,063,423.75	125
CREF Global Equities R2	\$3,143,401.61	148	\$0.00	0	\$3,143,401.61	148
CREF Growth R2	\$6,132,698.15	146	\$0.00	0	\$6,132,698.15	146
CREF Equity Index R2	\$3,145,147.63	69	\$0.00	0	\$3,145,147.63	69
CREF Inflation-Linked Bond R2	\$1,247,053.32	97	\$0.00	0	\$1,247,053.32	97
TIAA Real Estate	\$4,927,168.20	250	\$0.00	0	\$4,927,168.20	250
TIAA-CREF Bond Plus-Rtmt	\$972,408.26	43	\$0.00	0	\$972,408.26	43
TIAA-CREF Bond-Rtmt	\$439,137.42	34	\$0.00	0	\$439,137.42	34
TIAA-CREF Eq Index-Rtmt	\$682,581.31	18	\$0.00	0	\$682,581.31	18
TIAA-CREF Gr & Inc-Rtmt	\$473,851.98	33	\$0.00	0	\$473,851.98	33
TIAA-CREF High-Yield-Rtmt	\$633,647.65	40	\$0.00	0	\$633,647.65	40
TIAA-CREF Infl-Lnkd Bond-Rtmt	\$268,978.00	12	\$0.00	0	\$268,978.00	12
TIAA-CREF Intl Eq Idx-Rtmt	\$1,585,389.23	91	\$0.00	0	\$1,585,389.23	91
TIAA-CREF Intl Eq-Rtmt	\$549,315.13	40	\$0.00	0	\$549,315.13	40
TIAA-CREF Lfcyle Rtmt Inc-Rtmt	\$5,821.10	3	\$0.00	0	\$5,821.10	3
TIAA-CREF Lg-Cap Gr Idx-Rtmt	\$709,214.35	42	\$0.00	0	\$709,214.35	42
TIAA-CREF Lg-Cap Gr-Rtmt	\$56,146.02	7	\$0.00	0	\$56,146.02	7
TIAA-CREF Lg-Cap Val Idx-Rtmt	\$1,772,757.83	79	\$0.00	0	\$1,772,757.83	79
TIAA-CREF Lg-Cap Val-Rtmt	\$1,453,597.79	82	\$0.00	0	\$1,453,597.79	82
TIAA-CREF Lifecycle 2010-Rtmt	\$273,670.69	23	\$0.00	0	\$273,670.69	23
TIAA-CREF Lifecycle 2015-Rtmt	\$537,318.70	22	\$0.00	0	\$537,318.70	22
TIAA-CREF Lifecycle 2020-Rtmt	\$915,860.40	19	\$0.00	0	\$915,860.40	19
TIAA-CREF Lifecycle 2025-Rtmt	\$1,581,698.85	36	\$0.00	0	\$1,581,698.85	36
TIAA-CREF Lifecycle 2030-Rtmt	\$1,432,951.83	37	\$0.00	0	\$1,432,951.83	37
TIAA-CREF Lifecycle 2035-Rtmt	\$2,474,000.49	50	\$0.00	0	\$2,474,000.49	50
TIAA-CREF Lifecycle 2040-Rtmt	\$2,281,950.95	61	\$0.00	0	\$2,281,950.95	61
TIAA-CREF Lifecycle 2045-Rtmt	\$1,326,908.43	46	\$0.00	0	\$1,326,908.43	46
TIAA-CREF Lifecycle 2050-Rtmt	\$891,519.45	58	\$0.00	0	\$891,519.45	58
TIAA-CREF Lifecycle 2055-Rtmt	\$353,351.78	36	\$0.00	0	\$353,351.78	36
TIAA-CREF Managed Alloc-Rtmt	\$6,582.91	1	\$0.00	0	\$6,582.91	1
TIAA-CREF Mid-Cap Gr-Rtmt	\$164,504.86	28	\$0.00	0	\$164,504.86	28
TIAA-CREF Mid-Cap Val-Rtmt	\$1,302,137.46	84	\$0.00	0	\$1,302,137.46	84
TIAA-CREF Money Market-Rtmt	\$62,457.13	4	\$0.00	0	\$62,457.13	4
TIAA-CREF Real Est Secs-Rtmt	\$698,457.73	92	\$0.00	0	\$698,457.73	92
TIAA-CREF S&P 500 Idx-Rtmt	\$501,502.64	30	\$0.00	0	\$501,502.64	30
TIAA-CREF Short-Term Bond-Rtmt	\$80,852.40	7	\$0.00	0	\$80,852.40	7
TIAA-CREF Sm-Cap BI Idx-Rtmt	\$274,635.16	32	\$0.00	0	\$274,635.16	32
TIAA-CREF Sm-Cap Eq-Rtmt	\$1,300,123.25	84	\$0.00	0	\$1,300,123.25	84
TIAA-CREF Social Ch Eq-Rtmt	\$496,502.26	26	\$0.00	0	\$496,502.26	26
AF EuroPacific Growth Fund R4	\$912,423.42	61	\$0.00	0	\$912,423.42	61
Prudential Jennison Small Co Z	\$121,415.03	16	\$0.00	0	\$121,415.03	16



## Fund Usage and Diversification

### Balances and Counts by Fund and Contract Type

**JUNIATA COLLEGE**

**For the Period Ending 12/31/2017**

Investment Name	Participant Control		Plan Control		Total	
	Ending Market value	# Participants	Ending Market Value	# Participants	Ending Market Value	# Participants
T Rowe Price Emerging Mkts Bnd	\$71,875.06	9	\$0.00	0	\$71,875.06	9
VICTORY SYC SMALL COMP OPP A	\$302,691.33	42	\$0.00	0	\$302,691.33	42
TIAA-CREF Lifecycle 2060-Rtmt	\$3,125.19	3	\$0.00	0	\$3,125.19	3
Vanguard Emr Mkts Stk Idx Adm	\$960,324.21	94	\$0.00	0	\$960,324.21	94
PIMCO All Asset Fund A	\$6,945.91	2	\$0.00	0	\$6,945.91	2
TIAA-CREF Self Directed Acct	\$76,338.57	1	\$0.00	0	\$76,338.57	1
<b>Total</b>	<b>\$111,538,647.16</b>	<b>819</b>	<b>\$0.00</b>	<b>0</b>	<b>\$111,538,647.16</b>	<b>819</b>





# Fund Usage and Diversification

## Fund Utilization by Age Group – All Participants

For the Period Ending 12/31/2017

Investment Name	<25		25 – 34		35 – 44		45 – 54		55 – 64		65+		Total	
	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part
<b>Participant Control</b>														
TIAA Traditional	\$0.00	0	\$127,565.08	6	\$717,089.52	56	\$2,349,297.28	91	\$9,072,803.69	149	\$22,042,904.76	153	\$34,309,660.33	455
CREF Stock R2	\$0.00	0	\$113,636.85	6	\$876,134.91	46	\$3,101,849.27	69	\$5,894,885.89	88	\$10,530,992.35	89	\$20,517,499.27	298
CREF Money Market R2	\$0.00	0	\$192.18	2	\$8,789.41	3	\$182,461.77	16	\$49,996.53	8	\$171,193.26	13	\$412,633.15	42
CREF Social Choice R2	\$0.00	0	\$0.00	0	\$212,812.75	11	\$1,894,068.18	31	\$923,216.50	21	\$2,594,892.16	14	\$5,624,989.59	77
CREF Bond Market R2	\$0.00	0	\$601.10	2	\$122,464.27	21	\$325,459.92	33	\$992,785.74	46	\$1,622,112.72	23	\$3,063,423.75	125
CREF Global Equities R2	\$0.00	0	\$6,967.04	4	\$282,592.78	22	\$946,714.35	52	\$1,192,205.54	43	\$714,921.90	27	\$3,143,401.61	148
CREF Growth R2	\$0.00	0	\$17,867.24	6	\$497,804.56	26	\$2,147,750.96	43	\$2,483,769.40	49	\$985,505.99	22	\$6,132,698.15	146
CREF Equity Index R2	\$0.00	0	\$1,604.62	1	\$307,356.37	10	\$972,501.89	22	\$881,270.72	23	\$982,414.03	13	\$3,145,147.63	69
CREF Inflation-Linked Bond R2	\$0.00	0	\$144.73	1	\$103,257.84	17	\$68,107.98	13	\$485,214.68	38	\$590,328.09	28	\$1,247,053.32	97
TIAA Real Estate	\$0.00	0	\$14,370.70	9	\$369,001.27	48	\$858,898.66	66	\$1,449,651.41	77	\$2,235,246.16	50	\$4,927,168.20	250
TIAA-CREF Bond Plus-Rtmt	\$0.00	0	\$0.00	0	\$15,064.64	3	\$60,579.73	8	\$469,510.48	23	\$427,253.41	9	\$972,408.26	43
TIAA-CREF Bond-Rtmt	\$0.00	0	\$120.35	1	\$11,125.71	5	\$76,403.61	10	\$104,457.12	9	\$247,030.63	9	\$439,137.42	34
TIAA-CREF Eq Index-Rtmt	\$0.00	0	\$1,861.62	2	\$8,054.18	1	\$130,099.31	6	\$542,566.20	9	\$0.00	0	\$682,581.31	18
TIAA-CREF Gr & Inc-Rtmt	\$0.00	0	\$16,919.78	2	\$34,816.21	4	\$95,076.11	13	\$164,460.07	11	\$162,579.81	3	\$473,851.98	33
TIAA-CREF High-Yield-Rtmt	\$0.00	0	\$192.58	1	\$9,479.47	3	\$37,956.41	8	\$249,385.48	22	\$336,633.71	6	\$633,647.65	40
TIAA-CREF Infl-Lnkd Bond-Rtmt	\$0.00	0	\$0.00	0	\$419.05	1	\$10,100.90	2	\$6,296.90	4	\$252,161.15	5	\$268,978.00	12
TIAA-CREF Intl Eq Idx-Rtmt	\$0.00	0	\$17,589.86	4	\$137,208.51	10	\$273,799.11	25	\$819,802.92	37	\$336,988.83	15	\$1,585,389.23	91
TIAA-CREF Intl Eq-Rtmt	\$0.00	0	\$2,309.79	2	\$14,805.81	5	\$129,265.93	14	\$334,253.76	11	\$68,679.84	8	\$549,315.13	40
TIAA-CREF Lfcyle Rtmt Inc-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$5,821.10	3	\$0.00	0	\$5,821.10	3
TIAA-CREF Lg-Cap Gr Idx-Rtmt	\$0.00	0	\$1,657.79	1	\$74,210.98	6	\$277,805.28	13	\$266,920.32	20	\$88,619.98	2	\$709,214.35	42
TIAA-CREF Lg-Cap Gr-Rtmt	\$0.00	0	\$0.00	0	\$352.27	1	\$28,361.35	5	\$27,432.40	1	\$0.00	0	\$56,146.02	7
TIAA-CREF Lg-Cap Val Idx-Rtmt	\$0.00	0	\$26,432.02	5	\$145,220.62	11	\$231,214.58	16	\$854,722.16	34	\$515,168.45	13	\$1,772,757.83	79
TIAA-CREF Lg-Cap Val-Rtmt	\$0.00	0	\$10,642.33	3	\$122,424.74	12	\$281,672.38	21	\$758,231.22	32	\$280,627.12	14	\$1,453,597.79	82
TIAA-CREF Lifecycle 2010-Rtmt	\$0.00	0	\$0.00	0	\$347.84	1	\$6,754.86	4	\$24,727.84	3	\$241,840.15	15	\$273,670.69	23
TIAA-CREF Lifecycle 2015-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$79,869.68	4	\$457,449.02	18	\$537,318.70	22
TIAA-CREF Lifecycle 2020-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$915,860.40	19	\$0.00	0	\$915,860.40	19
TIAA-CREF Lifecycle 2025-Rtmt	\$0.00	0	\$0.00	0	\$13,276.72	1	\$544,620.14	8	\$1,023,801.99	27	\$0.00	0	\$1,581,698.85	36
TIAA-CREF Lifecycle 2030-Rtmt	\$0.00	0	\$0.00	0	\$120,068.52	2	\$1,259,604.29	32	\$53,279.02	3	\$0.00	0	\$1,432,951.83	37
TIAA-CREF Lifecycle 2035-Rtmt	\$0.00	0	\$0.00	0	\$564,261.04	14	\$1,892,321.42	35	\$17,418.03	1	\$0.00	0	\$2,474,000.49	50
TIAA-CREF Lifecycle 2040-Rtmt	\$0.00	0	\$44,979.99	5	\$2,099,535.36	52	\$137,435.60	4	\$0.00	0	\$0.00	0	\$2,281,950.95	61
TIAA-CREF Lifecycle 2045-Rtmt	\$0.00	0	\$209,495.09	9	\$1,064,836.02	34	\$52,577.32	3	\$0.00	0	\$0.00	0	\$1,326,908.43	46
TIAA-CREF Lifecycle 2050-Rtmt	\$0.00	0	\$850,285.88	56	\$0.00	0	\$41,233.57	2	\$0.00	0	\$0.00	0	\$891,519.45	58
TIAA-CREF Lifecycle 2055-Rtmt	\$6,159.83	3	\$347,191.95	33	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$353,351.78	36
TIAA-CREF Managed Alloc-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$6,582.91	1	\$0.00	0	\$0.00	0	\$6,582.91	1
TIAA-CREF Mid-Cap Gr-Rtmt	\$0.00	0	\$1,560.26	2	\$25,216.72	6	\$77,451.89	10	\$32,660.40	7	\$27,615.59	3	\$164,504.86	28
TIAA-CREF Mid-Cap Val-Rtmt	\$0.00	0	\$11,799.87	4	\$69,484.45	15	\$329,542.74	24	\$600,526.57	27	\$290,783.83	14	\$1,302,137.46	84
TIAA-CREF Money Market-Rtmt	\$0.00	0	\$96.08	1	\$0.00	0	\$62,361.05	3	\$0.00	0	\$0.00	0	\$62,457.13	4
TIAA-CREF Real Est Secs-Rtmt	\$0.00	0	\$5,093.50	4	\$38,230.34	12	\$125,816.05	26	\$373,992.99	36	\$155,324.85	14	\$698,457.73	92
TIAA-CREF S&P 500 Idx-Rtmt	\$0.00	0	\$12,342.72	3	\$11,614.41	2	\$256,621.47	13	\$184,390.19	10	\$36,533.85	2	\$501,502.64	30
TIAA-CREF Short-Term Bond-Rtmt	\$0.00	0	\$144.01	1	\$1,428.30	1	\$28,976.22	2	\$50,303.87	3	\$0.00	0	\$80,852.40	7
TIAA-CREF Sm-Cap Bl Idx-Rtmt	\$0.00	0	\$7,669.02	4	\$36,225.16	5	\$84,450.74	11	\$142,597.68	11	\$3,692.56	1	\$274,635.16	32
TIAA-CREF Sm-Cap Eq-Rtmt	\$0.00	0	\$10,261.85	3	\$70,465.48	14	\$259,572.14	20	\$506,656.72	32	\$453,167.06	15	\$1,300,123.25	84
TIAA-CREF Social Ch Eq-Rtmt	\$0.00	0	\$534.69	1	\$9,591.64	1	\$99,644.38	13	\$158,636.24	6	\$228,095.31	5	\$496,502.26	26
AF EuroPacific Growth Fund R4	\$0.00	0	\$5,763.39	4	\$46,823.68	7	\$237,445.21	24	\$251,050.29	15	\$371,340.85	11	\$912,423.42	61
Prudential Jennison Small Co Z	\$0.00	0	\$0.00	0	\$8,424.94	1	\$42,221.19	8	\$69,631.78	6	\$1,137.12	1	\$121,415.03	16
T Rowe Price Emerging Mkts Bnd	\$0.00	0	\$317.11	2	\$0.00	0	\$17,893.56	4	\$32,757.91	2	\$20,906.48	1	\$71,875.06	9
VICTORY SYC SMALL COMP OPP A	\$0.00	0	\$2,863.33	2	\$13,020.94	5	\$38,246.67	11	\$171,707.79	18	\$76,852.60	6	\$302,691.33	42
Vanguard Emr Mkts Stk Idx Adm	\$0.00	0	\$11,196.52	4	\$89,624.29	11	\$227,305.43	28	\$501,583.81	40	\$130,614.16	11	\$960,324.21	94
PIMCO All Asset Fund A	\$0.00	0	\$0.00	0	\$0.00	0	\$4,560.58	1	\$2,385.33	1	\$0.00	0	\$6,945.91	2
TIAA-CREF Lifecycle 2060-Rtmt	\$3,125.19	3	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$3,125.19	3
TIAA-CREF Self Directed Acct	\$0.00	0	\$0.00	0	\$0.00	0	\$76,338.57	1	\$0.00	0	\$0.00	0	\$76,338.57	1



# Fund Usage and Diversification

## Fund Utilization by Age Group – All Participants

For the Period Ending 12/31/2017

Investment Name	<25		25 – 34		35 – 44		45 – 54		55 – 64		65+		Total	
	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part
<b>Participant Control Total</b>	\$9,285.02	6	\$1,882,270.92	111	\$8,352,961.72	148	\$20,389,022.96	177	\$33,223,498.76	194	\$47,681,607.78	183	\$111,538,647.16	819
<b>Total</b>	\$9,285.02	6	\$1,882,270.92	111	\$8,352,961.72	148	\$20,389,022.96	177	\$33,223,498.76	194	\$47,681,607.78	183	\$111,538,647.16	819



# Fund Usage and Diversification

## Fund Utilization by Age Group - Active Participants

For the Period Ending 12/31/2017

Active

Investment Name	<25		25 – 34		35 – 44		45 – 54		55 – 64		65+		Total	
	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part
<b>Participant Control</b>														
TIAA Traditional	\$0.00	0	\$7,187.46	3	\$578,208.84	25	\$1,719,721.51	49	\$5,659,773.41	71	\$6,696,698.72	33	\$14,661,589.94	181
CREF Stock R2	\$0.00	0	\$11,933.05	3	\$648,285.46	18	\$2,483,142.85	39	\$4,886,196.34	61	\$3,371,981.39	24	\$11,401,539.09	145
CREF Money Market R2	\$0.00	0	\$192.18	2	\$3,480.94	1	\$135,924.58	6	\$15,573.77	2	\$22,953.50	3	\$178,124.97	14
CREF Social Choice R2	\$0.00	0	\$0.00	0	\$189,786.70	6	\$1,698,641.47	21	\$750,205.65	13	\$1,856,553.27	8	\$4,495,187.09	48
CREF Bond Market R2	\$0.00	0	\$601.10	2	\$104,504.56	10	\$260,113.58	24	\$901,943.28	34	\$1,028,053.03	10	\$2,295,215.55	80
CREF Global Equities R2	\$0.00	0	\$2,556.92	2	\$255,911.68	11	\$766,041.10	32	\$1,061,189.79	30	\$316,339.53	11	\$2,402,039.02	86
CREF Growth R2	\$0.00	0	\$4,558.47	3	\$429,419.53	15	\$1,882,442.00	26	\$2,037,405.62	32	\$737,259.75	9	\$5,091,085.37	85
CREF Equity Index R2	\$0.00	0	\$1,604.62	1	\$294,817.56	7	\$841,583.33	12	\$796,146.20	14	\$665,651.61	5	\$2,599,803.32	39
CREF Inflation-Linked Bond R2	\$0.00	0	\$144.73	1	\$100,103.27	11	\$67,602.53	12	\$453,648.83	31	\$401,484.37	15	\$1,022,983.73	70
TIAA Real Estate	\$0.00	0	\$9,903.97	7	\$329,814.01	24	\$806,022.84	49	\$1,301,274.50	58	\$1,113,373.50	20	\$3,560,388.82	158
TIAA-CREF Bond Plus-Rtmt	\$0.00	0	\$0.00	0	\$14,778.45	2	\$59,091.97	6	\$450,947.88	19	\$356,056.70	4	\$880,875.00	31
TIAA-CREF Bond-Rtmt	\$0.00	0	\$120.35	1	\$10,786.71	4	\$76,403.61	10	\$82,176.36	6	\$194,180.59	4	\$363,667.62	25
TIAA-CREF Eq Index-Rtmt	\$0.00	0	\$1,861.62	2	\$8,054.18	1	\$129,555.98	5	\$539,577.03	8	\$0.00	0	\$679,048.81	16
TIAA-CREF Gr & Inc-Rtmt	\$0.00	0	\$16,919.78	2	\$32,074.26	2	\$85,135.44	11	\$101,483.96	8	\$113,476.31	1	\$349,089.75	24
TIAA-CREF High-Yield-Rtmt	\$0.00	0	\$192.58	1	\$8,518.55	2	\$36,653.06	7	\$226,718.70	17	\$324,745.29	4	\$596,828.18	31
TIAA-CREF Infl-Lnkd Bond-Rtmt	\$0.00	0	\$0.00	0	\$419.05	1	\$10,100.90	2	\$1,169.79	2	\$240,687.99	3	\$252,377.73	8
TIAA-CREF Intl Eq Idx-Rtmt	\$0.00	0	\$12,997.28	3	\$133,372.38	8	\$256,062.68	20	\$729,456.34	25	\$193,069.80	6	\$1,324,958.48	62
TIAA-CREF Intl Eq-Rtmt	\$0.00	0	\$2,258.66	1	\$12,720.44	2	\$110,475.24	10	\$301,263.95	7	\$47,677.29	4	\$474,395.58	24
TIAA-CREF Lfcyle Rtmt Inc-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$2,150.34	1	\$0.00	0	\$2,150.34	1
TIAA-CREF Lg-Cap Gr Idx-Rtmt	\$0.00	0	\$1,657.79	1	\$74,210.98	6	\$270,428.25	10	\$238,292.99	14	\$81,721.61	1	\$666,311.62	32
TIAA-CREF Lg-Cap Gr-Rtmt	\$0.00	0	\$0.00	0	\$352.27	1	\$28,361.35	5	\$27,432.40	1	\$0.00	0	\$56,146.02	7
TIAA-CREF Lg-Cap Val Idx-Rtmt	\$0.00	0	\$17,027.60	4	\$139,824.79	9	\$207,975.24	12	\$725,993.13	24	\$296,692.49	5	\$1,387,513.25	54
TIAA-CREF Lg-Cap Val-Rtmt	\$0.00	0	\$6,285.43	2	\$120,008.12	9	\$272,850.87	18	\$635,706.29	22	\$205,396.20	7	\$1,240,246.91	58
TIAA-CREF Lifecycle 2010-Rtmt	\$0.00	0	\$0.00	0	\$347.84	1	\$5,616.72	3	\$6,770.51	1	\$12,724.99	5	\$25,460.06	10
TIAA-CREF Lifecycle 2015-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$79,869.68	4	\$318,296.80	11	\$398,166.48	15
TIAA-CREF Lifecycle 2020-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$837,280.18	14	\$0.00	0	\$837,280.18	14
TIAA-CREF Lifecycle 2025-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$448,554.14	5	\$932,256.18	20	\$0.00	0	\$1,380,810.32	25
TIAA-CREF Lifecycle 2030-Rtmt	\$0.00	0	\$0.00	0	\$120,068.52	2	\$1,226,157.70	28	\$7,437.05	1	\$0.00	0	\$1,353,663.27	31
TIAA-CREF Lifecycle 2035-Rtmt	\$0.00	0	\$0.00	0	\$411,606.48	10	\$1,757,635.81	29	\$17,418.03	1	\$0.00	0	\$2,186,660.32	40
TIAA-CREF Lifecycle 2040-Rtmt	\$0.00	0	\$19,635.81	2	\$2,002,230.92	41	\$137,435.60	4	\$0.00	0	\$0.00	0	\$2,159,302.33	47
TIAA-CREF Lifecycle 2045-Rtmt	\$0.00	0	\$209,495.09	9	\$946,062.37	28	\$42,481.59	2	\$0.00	0	\$0.00	0	\$1,198,039.05	39
TIAA-CREF Lifecycle 2050-Rtmt	\$0.00	0	\$561,639.05	32	\$0.00	0	\$41,233.57	2	\$0.00	0	\$0.00	0	\$602,872.62	34
TIAA-CREF Lifecycle 2055-Rtmt	\$6,159.83	3	\$298,695.41	23	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$304,855.24	26
TIAA-CREF Managed Alloc-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$6,582.91	1	\$0.00	0	\$0.00	0	\$6,582.91	1
TIAA-CREF Mid-Cap Gr-Rtmt	\$0.00	0	\$1,560.26	2	\$23,865.36	5	\$69,993.99	8	\$20,254.69	5	\$26,669.22	2	\$142,343.52	22
TIAA-CREF Mid-Cap Val-Rtmt	\$0.00	0	\$7,030.71	3	\$63,672.47	10	\$306,375.73	20	\$513,297.63	20	\$163,967.61	7	\$1,054,344.15	60
TIAA-CREF Money Market-Rtmt	\$0.00	0	\$96.08	1	\$0.00	0	\$62,361.05	3	\$0.00	0	\$0.00	0	\$62,457.13	4
TIAA-CREF Real Est Secs-Rtmt	\$0.00	0	\$2,975.80	3	\$36,581.58	9	\$118,492.60	20	\$333,275.46	25	\$112,270.26	6	\$603,595.70	63
TIAA-CREF S&P 500 Idx-Rtmt	\$0.00	0	\$12,342.72	3	\$8,499.42	1	\$223,461.32	10	\$157,921.72	8	\$25,637.10	1	\$427,862.28	23
TIAA-CREF Short-Term Bond-Rtmt	\$0.00	0	\$144.01	1	\$1,428.30	1	\$28,976.22	2	\$42,285.36	2	\$0.00	0	\$72,833.89	6
TIAA-CREF Sm-Cap Bl Idx-Rtmt	\$0.00	0	\$7,669.02	4	\$36,225.16	5	\$84,450.74	11	\$130,904.15	9	\$0.00	0	\$259,249.07	29
TIAA-CREF Sm-Cap Eq-Rtmt	\$0.00	0	\$5,171.69	2	\$64,118.26	10	\$257,609.00	18	\$422,471.93	22	\$302,912.79	7	\$1,052,283.67	59
TIAA-CREF Social Ch Eq-Rtmt	\$0.00	0	\$534.69	1	\$9,591.64	1	\$96,579.19	11	\$149,493.90	4	\$185,136.44	2	\$441,335.86	19
AF EuroPacific Growth Fund R4	\$0.00	0	\$970.07	3	\$44,614.46	6	\$216,636.88	19	\$191,876.86	9	\$281,580.14	5	\$735,678.41	42
Prudential Jennison Small Co Z	\$0.00	0	\$0.00	0	\$8,424.94	1	\$37,776.39	6	\$65,910.03	5	\$0.00	0	\$112,111.36	12
T Rowe Price Emerging Mkts Bnd	\$0.00	0	\$317.11	2	\$0.00	0	\$16,306.04	3	\$32,757.91	2	\$20,906.48	1	\$70,287.54	8
VICTORY SYC SMALL COMP OPP A	\$0.00	0	\$2,863.33	2	\$12,033.96	4	\$24,147.31	7	\$161,737.85	14	\$64,692.32	2	\$265,474.77	29
Vanguard Emr Mkts Stk Idx Adm	\$0.00	0	\$6,822.21	3	\$87,052.44	9	\$209,369.56	22	\$434,468.20	29	\$54,993.01	4	\$792,705.42	67
PIMCO All Asset Fund A	\$0.00	0	\$0.00	0	\$0.00	0	\$4,560.58	1	\$0.00	0	\$0.00	0	\$4,560.58	1
TIAA-CREF Lifecycle 2060-Rtmt	\$3,125.19	3	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$3,125.19	3



## Fund Usage and Diversification

### Fund Utilization by Age Group - Active Participants

For the Period Ending 12/31/2017

Investment Name	<25		25 – 34		35 – 44		45 – 54		55 – 64		65+		Total	
	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part
TIAA-CREF Self Directed Acct	\$0.00	0	\$0.00	0	\$0.00	0	\$76,338.57	1	\$0.00	0	\$0.00	0	\$76,338.57	1
<b>Participant Control Total</b>	<b>\$9,285.02</b>	<b>6</b>	<b>\$1,235,966.65</b>	<b>70</b>	<b>\$7,365,876.85</b>	<b>92</b>	<b>\$17,703,463.59</b>	<b>107</b>	<b>\$26,463,413.87</b>	<b>99</b>	<b>\$19,833,840.10</b>	<b>41</b>	<b>\$72,611,846.08</b>	<b>415</b>
<b>Total</b>	<b>\$9,285.02</b>	<b>6</b>	<b>\$1,235,966.65</b>	<b>70</b>	<b>\$7,365,876.85</b>	<b>92</b>	<b>\$17,703,463.59</b>	<b>107</b>	<b>\$26,463,413.87</b>	<b>99</b>	<b>\$19,833,840.10</b>	<b>41</b>	<b>\$72,611,846.08</b>	<b>415</b>



# Fund Usage and Diversification

## Fund Utilization by Age Group - Terminated Participants

For the Period Ending 12/31/2017

Terminated														
Investment Name	<25		25 – 34		35 – 44		45 – 54		55 – 64		65+		Total	
	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part
<b>Participant Control</b>														
TIAA Traditional	\$0.00	0	\$120,377.62	3	\$138,880.68	31	\$629,575.77	42	\$3,413,030.28	78	\$15,346,206.04	120	\$19,648,070.39	274
CREF Stock R2	\$0.00	0	\$101,703.80	3	\$227,849.45	28	\$618,706.42	30	\$1,008,689.55	27	\$7,159,010.96	65	\$9,115,960.18	153
CREF Money Market R2	\$0.00	0	\$0.00	0	\$5,308.47	2	\$46,537.19	10	\$34,422.76	6	\$148,239.76	10	\$234,508.18	28
CREF Social Choice R2	\$0.00	0	\$0.00	0	\$23,026.05	5	\$195,426.71	10	\$173,010.85	8	\$738,338.89	6	\$1,129,802.50	29
CREF Bond Market R2	\$0.00	0	\$0.00	0	\$17,959.71	11	\$65,346.34	9	\$90,842.46	12	\$594,059.69	13	\$768,208.20	45
CREF Global Equities R2	\$0.00	0	\$4,410.12	2	\$26,681.10	11	\$180,673.25	20	\$131,015.75	13	\$398,582.37	16	\$741,362.59	62
CREF Growth R2	\$0.00	0	\$13,308.77	3	\$68,385.03	11	\$265,308.96	17	\$446,363.78	17	\$248,246.24	13	\$1,041,612.78	61
CREF Equity Index R2	\$0.00	0	\$0.00	0	\$12,538.81	3	\$130,918.56	10	\$85,124.52	9	\$316,762.42	8	\$545,344.31	30
CREF Inflation-Linked Bond R2	\$0.00	0	\$0.00	0	\$3,154.57	6	\$505.45	1	\$31,565.85	7	\$188,843.72	13	\$224,069.59	27
TIAA Real Estate	\$0.00	0	\$4,466.73	2	\$39,187.26	24	\$52,875.82	17	\$148,376.91	19	\$1,121,872.66	30	\$1,366,779.38	92
TIAA-CREF Bond Plus-Rtmt	\$0.00	0	\$0.00	0	\$286.19	1	\$1,487.76	2	\$18,562.60	4	\$71,196.71	5	\$91,533.26	12
TIAA-CREF Bond-Rtmt	\$0.00	0	\$0.00	0	\$339.00	1	\$0.00	0	\$22,280.76	3	\$52,850.04	5	\$75,469.80	9
TIAA-CREF Eq Index-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$543.33	1	\$2,989.17	1	\$0.00	0	\$3,532.50	2
TIAA-CREF Gr & Inc-Rtmt	\$0.00	0	\$0.00	0	\$2,741.95	2	\$9,940.67	2	\$62,976.11	3	\$49,103.50	2	\$124,762.23	9
TIAA-CREF High-Yield-Rtmt	\$0.00	0	\$0.00	0	\$960.92	1	\$1,303.35	1	\$22,666.78	5	\$11,888.42	2	\$36,819.47	9
TIAA-CREF Infl-Lnk Bond-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$5,127.11	2	\$11,473.16	2	\$16,600.27	4
TIAA-CREF Intl Eq Idx-Rtmt	\$0.00	0	\$4,592.58	1	\$3,836.13	2	\$17,736.43	5	\$90,346.58	12	\$143,919.03	9	\$260,430.75	29
TIAA-CREF Intl Eq-Rtmt	\$0.00	0	\$51.13	1	\$2,085.37	3	\$18,790.69	4	\$32,989.81	4	\$21,002.55	4	\$74,919.55	16
TIAA-CREF Lfcyle Rtmt Inc-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$3,670.76	2	\$0.00	0	\$3,670.76	2
TIAA-CREF Lg-Cap Gr Idx-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$7,377.03	3	\$28,627.33	6	\$6,898.37	1	\$42,902.73	10
TIAA-CREF Lg-Cap Val Idx-Rtmt	\$0.00	0	\$9,404.42	1	\$5,395.83	2	\$23,239.34	4	\$128,729.03	10	\$218,475.96	8	\$385,244.58	25
TIAA-CREF Lg-Cap Val-Rtmt	\$0.00	0	\$4,356.90	1	\$2,416.62	3	\$8,821.51	3	\$122,524.93	10	\$75,230.92	7	\$213,350.88	24
TIAA-CREF Lifecycle 2010-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$1,138.14	1	\$17,957.33	2	\$229,115.16	10	\$248,210.63	13
TIAA-CREF Lifecycle 2015-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$139,152.22	7	\$139,152.22	7
TIAA-CREF Lifecycle 2020-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$78,580.22	5	\$0.00	0	\$78,580.22	5
TIAA-CREF Lifecycle 2025-Rtmt	\$0.00	0	\$0.00	0	\$13,276.72	1	\$96,066.00	3	\$91,545.81	7	\$0.00	0	\$200,888.53	11
TIAA-CREF Lifecycle 2030-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$33,446.59	4	\$45,841.97	2	\$0.00	0	\$79,288.56	6
TIAA-CREF Lifecycle 2035-Rtmt	\$0.00	0	\$0.00	0	\$152,654.56	4	\$134,685.61	6	\$0.00	0	\$0.00	0	\$287,340.17	10
TIAA-CREF Lifecycle 2040-Rtmt	\$0.00	0	\$25,344.18	3	\$97,304.44	11	\$0.00	0	\$0.00	0	\$0.00	0	\$122,648.62	14
TIAA-CREF Lifecycle 2045-Rtmt	\$0.00	0	\$0.00	0	\$118,773.65	6	\$10,095.73	1	\$0.00	0	\$0.00	0	\$128,869.38	7
TIAA-CREF Lifecycle 2050-Rtmt	\$0.00	0	\$288,646.83	24	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$288,646.83	24
TIAA-CREF Lifecycle 2055-Rtmt	\$0.00	0	\$48,496.54	10	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$48,496.54	10
TIAA-CREF Mid-Cap Gr-Rtmt	\$0.00	0	\$0.00	0	\$1,351.36	1	\$7,457.90	2	\$12,405.71	2	\$946.37	1	\$22,161.34	6
TIAA-CREF Mid-Cap Val-Rtmt	\$0.00	0	\$4,769.16	1	\$5,811.98	5	\$23,167.01	4	\$87,228.94	7	\$126,816.22	7	\$247,793.31	24
TIAA-CREF Real Est Secs-Rtmt	\$0.00	0	\$2,117.70	1	\$1,648.76	3	\$7,323.45	6	\$40,717.53	11	\$43,054.59	8	\$94,862.03	29
TIAA-CREF S&P 500 Idx-Rtmt	\$0.00	0	\$0.00	0	\$3,114.99	1	\$33,160.15	3	\$26,468.47	2	\$10,896.75	1	\$73,640.36	7
TIAA-CREF Short-Term Bond-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$8,018.51	1	\$0.00	0	\$8,018.51	1
TIAA-CREF Sm-Cap Bl Idx-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$11,693.53	2	\$3,692.56	1	\$15,386.09	3
TIAA-CREF Sm-Cap Eq-Rtmt	\$0.00	0	\$5,090.16	1	\$6,347.22	4	\$1,963.14	2	\$84,184.79	10	\$150,254.27	8	\$247,839.58	25
TIAA-CREF Social Ch Eq-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$3,065.19	2	\$9,142.34	2	\$42,958.87	3	\$55,166.40	7
AF EuroPacific Growth Fund R4	\$0.00	0	\$4,793.32	1	\$2,209.22	1	\$20,808.33	5	\$59,173.43	6	\$89,760.71	6	\$176,745.01	19
Prudential Jennison Small Co Z	\$0.00	0	\$0.00	0	\$0.00	0	\$4,444.80	2	\$3,721.75	1	\$1,137.12	1	\$9,303.67	4
T Rowe Price Emerging Mkts Bnd	\$0.00	0	\$0.00	0	\$0.00	0	\$1,587.52	1	\$0.00	0	\$0.00	0	\$1,587.52	1
VICTORY SYC SMALL COMP OPP A	\$0.00	0	\$0.00	0	\$986.98	1	\$14,099.36	4	\$9,969.94	4	\$12,160.28	4	\$37,216.56	13
PIMCO All Asset Fund A	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$2,385.33	1	\$0.00	0	\$2,385.33	1
Vanguard Emr Mkts Stk Idx Adm	\$0.00	0	\$4,374.31	1	\$2,571.85	2	\$17,935.87	6	\$67,115.61	11	\$75,621.15	7	\$167,618.79	27
<b>Participant Control Total</b>	<b>\$0.00</b>	<b>0</b>	<b>\$646,304.27</b>	<b>41</b>	<b>\$987,084.87</b>	<b>56</b>	<b>\$2,685,559.37</b>	<b>70</b>	<b>\$6,760,084.89</b>	<b>95</b>	<b>\$27,847,767.68</b>	<b>142</b>	<b>\$38,926,801.08</b>	<b>404</b>



## Fund Usage and Diversification

### Fund Utilization by Age Group - Terminated Participants

For the Period Ending 12/31/2017

Investment Name	<25		25 – 34		35 – 44		45 – 54		55 – 64		65+		Total	
	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part
<b>Total</b>	\$0.00	0	\$646,304.27	41	\$987,084.87	56	\$2,685,559.37	70	\$6,760,084.89	95	\$27,847,767.68	142	\$38,926,801.08	404



# Fund Usage and Diversification

## Fund Diversification by Age Group and Status

For the Period Ending 12/31/2017

	Number of Funds Invested										Total
	1	2	3	4	5	6	7	8	9	10+	
Active Participant Count											
<b>Participant Control</b>											
<25	6	0	0	0	0	0	0	0	0	0	6
25_34	57	6	1	0	0	1	0	2	0	3	70
35_44	56	9	1	4	4	5	0	1	1	11	92
45_54	39	11	5	5	6	6	4	5	1	25	107
55_64	18	8	6	14	9	5	2	3	2	32	99
65+	8	4	3	6	5	4	2	1	0	8	41
<b>Participant Control Active</b>											
Total	184	38	16	29	24	21	8	12	4	79	415
<b>Total Active Participants</b>											
Total	184	38	16	29	24	21	8	12	4	79	415
Terminated Participant Count											
<b>Participant Control</b>											
25_34	36	3	0	0	0	1	0	0	0	1	41
35_44	21	6	7	8	6	3	0	0	3	2	56
45_54	25	10	12	5	7	4	0	1	0	6	70
55_64	50	11	7	7	3	3	0	2	0	12	95
65+	72	30	12	9	6	0	2	0	1	10	142
<b>Participant Control Terminated</b>											
Total	204	60	38	29	22	11	2	3	4	31	404
<b>Total Terminated Participants</b>											
Total	204	60	38	29	22	11	2	3	4	31	404



# Fund Usage and Diversification

## Fund Diversification by Age Group and Status

For the Period Ending 12/31/2017

	Number of Funds Invested										Total
	1	2	3	4	5	6	7	8	9	10+	
<b>Plan Total Participant Count</b>											
<b>Active</b>											
<25	6	0	0	0	0	0	0	0	0	0	6
25_34	57	6	1	0	0	1	0	2	0	3	70
35_44	56	9	1	4	4	5	0	1	1	11	92
45_54	39	11	5	5	6	6	4	5	1	25	107
55_64	18	8	6	14	9	5	2	3	2	32	99
65+	8	4	3	6	5	4	2	1	0	8	41
<b>Total Active Participants</b>	<b>184</b>	<b>38</b>	<b>16</b>	<b>29</b>	<b>24</b>	<b>21</b>	<b>8</b>	<b>12</b>	<b>4</b>	<b>79</b>	<b>415</b>
<b>Plan Total Participant Count</b>											
<b>Terminated</b>											
25_34	36	3	0	0	0	1	0	0	0	1	41
35_44	21	6	7	8	6	3	0	0	3	2	56
45_54	25	10	12	5	7	4	0	1	0	6	70
55_64	50	11	7	7	3	3	0	2	0	12	95
65+	72	30	12	9	6	0	2	0	1	10	142
<b>Total Terminated Participants</b>	<b>204</b>	<b>60</b>	<b>38</b>	<b>29</b>	<b>22</b>	<b>11</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>31</b>	<b>404</b>
<b>Total</b>	<b>388</b>	<b>98</b>	<b>54</b>	<b>58</b>	<b>46</b>	<b>32</b>	<b>10</b>	<b>15</b>	<b>8</b>	<b>110</b>	<b>819</b>





## Fund Usage and Diversification

### Number of Participants in a Single Investment by Fund

For the Period Ending 12/31/2017

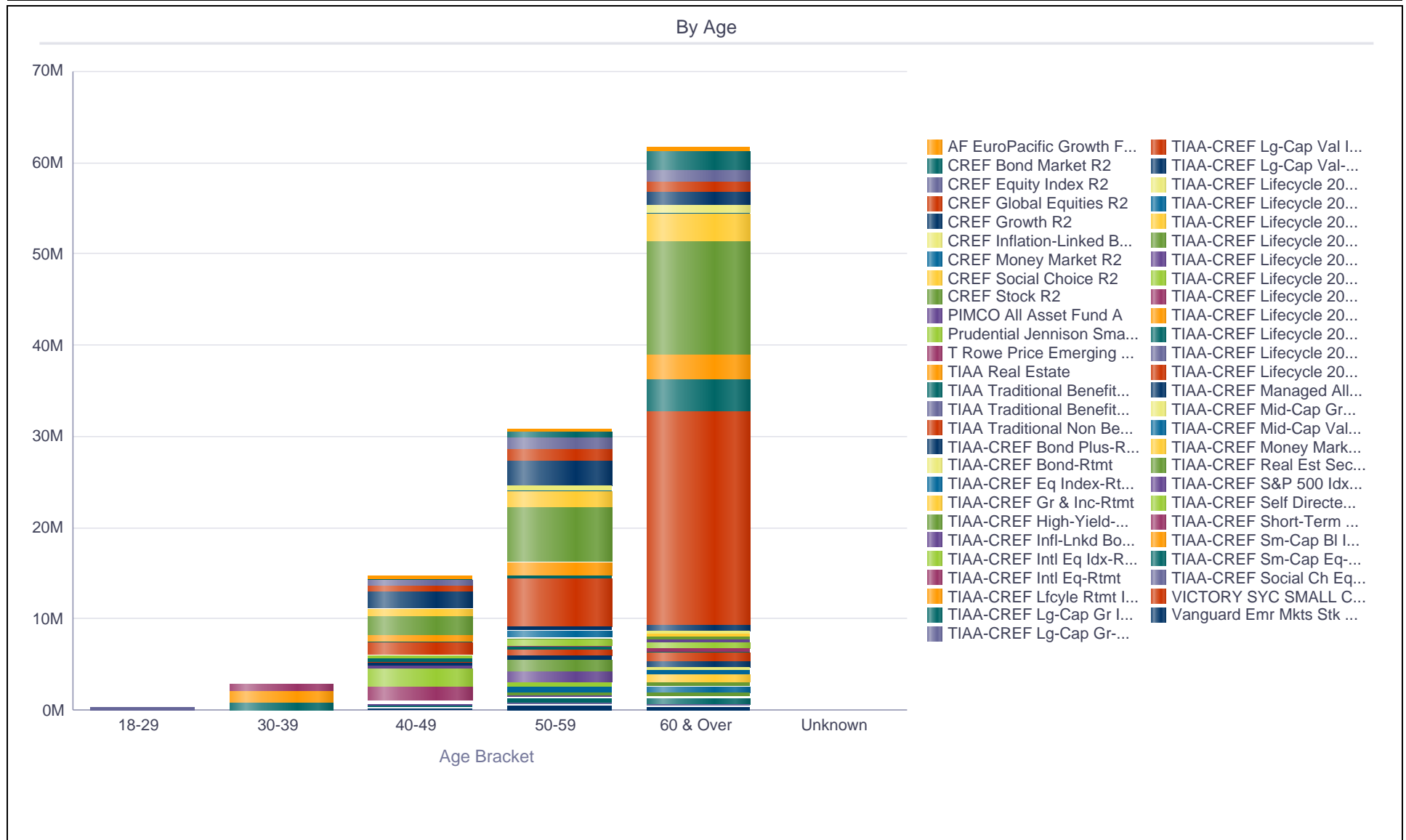
Investment Name	Participant Control	Plan Control	Total Plan
TIAA Traditional	118	0	118
CREF Stock R2	11	0	11
CREF Money Market R2	4	0	4
CREF Social Choice R2	6	0	6
CREF Growth R2	1	0	1
CREF Equity Index R2	4	0	4
TIAA Real Estate	1	0	1
TIAA-CREF Bond Plus-Rtmt	1	0	1
TIAA-CREF Gr & Inc-Rtmt	1	0	1
TIAA-CREF Lifecycle 2010-Rtmt	2	0	2
TIAA-CREF Lifecycle 2015-Rtmt	7	0	7
TIAA-CREF Lifecycle 2020-Rtmt	7	0	7
TIAA-CREF Lifecycle 2025-Rtmt	18	0	18
TIAA-CREF Lifecycle 2030-Rtmt	17	0	17
TIAA-CREF Lifecycle 2035-Rtmt	29	0	29
TIAA-CREF Lifecycle 2040-Rtmt	38	0	38
TIAA-CREF Lifecycle 2045-Rtmt	35	0	35
TIAA-CREF Lifecycle 2050-Rtmt	52	0	52
TIAA-CREF Lifecycle 2055-Rtmt	33	0	33
TIAA-CREF Lifecycle 2060-Rtmt	3	0	3
<b>Total</b>	<b>388</b>	<b>0</b>	<b>388</b>



# Asset Allocation Statistics

JUNIATA COLLEGE

For the Period Ending 12/31/2017





# Investment Fee & Expense Disclosure

JUNIATA COLLEGE

Activity for the Reporting Period: 10/01/2017 to 12/31/2017

FUND NAME	FUND		ASSET CLASS	ASSETS AS OF 12/31/2017	AVERAGE ASSETS FOR THE REPORTING PERIOD	NET EXPENSE RATIO <sup>1</sup>		PLAN SERVICES EXPENSE <sup>1</sup>	
	ID	TICKER				(%)	(\$)	(%)	(\$)
CREF Growth R2	CU	QCGRPX	Equities	\$40,307.19	\$39,304.15	0.375%	\$36.85	0.200%	\$19.65
CREF Global Equities R2	CT	QCGLPX	Equities	\$37,667.33	\$36,699.31	0.440%	\$40.37	0.200%	\$18.35
CREF Stock R2	CO	QCSTPX	Equities	\$3,904.75	\$3,805.07	0.430%	\$4.09	0.200%	\$1.90
TIAA-CREF Intl Eq Idx-Rtmt <sup>5</sup>	XC	TRIEX	Equities	\$2,106.06	\$2,064.36	0.310%	\$1.60	0.250%	\$1.29
TIAA-CREF Lg-Cap Val Idx-Rtmt	XF	TRCVX	Equities	\$1,736.90	\$1,688.37	0.310%	\$1.31	0.250%	\$1.06
TIAA-CREF Lg-Cap Gr Idx-Rtmt	XD	TRIRX	Equities	\$1,594.92	\$1,551.85	0.310%	\$1.20	0.250%	\$0.97
TIAA-CREF Lg-Cap Val-Rtmt	XE	TRLCX	Equities	\$1,526.14	\$1,487.01	0.660%	\$2.45	0.250%	\$0.93
Vanguard Emr Mkts Stk Idx Adm	AA	VEMAX	Equities	\$1,372.88	\$1,330.71	0.140%	\$0.47	0.000%	\$0.00
TIAA-CREF Sm-Cap Eq-Rtmt	XN	TRSEX	Equities	\$1,365.60	\$1,337.78	0.670%	\$2.24	0.250%	\$0.84
AF EuroPacific Growth Fund R4 <sup>4</sup>	BI	REREX	Equities	\$769.62	\$759.33	0.850%	\$1.61	0.350%	\$0.66
Prudential Jennison Small Co Z <sup>4</sup>	NE	PSCZX	Equities	\$587.37	\$569.59	0.810%	\$1.15	0.250%	\$0.36
TIAA-CREF Real Est Secs-Rtmt <sup>4</sup>	XL	TRRSX	Equities	\$558.69	\$553.22	0.760%	\$1.05	0.250%	\$0.35
TIAA-CREF S&P 500 Idx-Rtmt	XR	TRSPX	Equities	\$0.00	\$0.00	0.300%	\$0.00	0.250%	\$0.00
VICTORY SYC SMALL COMP OPP A	UU	SSGSX	Equities	\$0.00	\$0.00	1.260%	\$0.00	0.500%	\$0.00
CREF Equity Index R2	CY	QCEQPX	Equities	\$0.00	\$0.00	0.335%	\$0.00	0.200%	\$0.00
TIAA-CREF Mid-Cap Gr-Rtmt	XH	TRGMX	Equities	\$0.00	\$0.00	0.720%	\$0.00	0.250%	\$0.00
TIAA-CREF Intl Eq-Rtmt <sup>5</sup>	XB	TRERX	Equities	\$0.00	\$0.00	0.740%	\$0.00	0.250%	\$0.00
TIAA-CREF Lg-Cap Gr-Rtmt	XW	TILRX	Equities	\$0.00	\$0.00	0.680%	\$0.00	0.250%	\$0.00
TIAA-CREF Gr & Inc-Rtmt	XA	TRGIX	Equities	\$0.00	\$0.00	0.670%	\$0.00	0.250%	\$0.00
TIAA-CREF Mid-Cap Val-Rtmt	XJ	TRVRX	Equities	\$0.00	\$0.00	0.660%	\$0.00	0.250%	\$0.00
TIAA-CREF Sm-Cap BI Idx-Rtmt	XM	TRBIX	Equities	\$0.00	\$0.00	0.310%	\$0.00	0.250%	\$0.00
TIAA-CREF Social Ch Eq-Rtmt	XQ	TRSCX	Equities	\$0.00	\$0.00	0.440%	\$0.00	0.250%	\$0.00
TIAA-CREF Eq Index-Rtmt	XV	TIQRX	Equities	\$0.00	\$0.00	0.300%	\$0.00	0.250%	\$0.00
CREF Bond Market R2	CR	QCBMPX	Fixed Income	\$1,090.09	\$1,086.96	0.400%	\$1.09	0.200%	\$0.54
TIAA-CREF Infl-Lnkd Bond-Rtmt <sup>4</sup>	XS	TIKRX	Fixed Income	\$0.00	\$0.00	0.520%	\$0.00	0.250%	\$0.00
T Rowe Price Emerging Mkts Bnd <sup>4 9</sup>	PN	PREMX	Fixed Income	\$0.00	\$0.00	0.920%	\$0.00	0.150%	\$0.00
CREF Inflation-Linked Bond R2	CW	QCILPX	Fixed Income	\$0.00	\$0.00	0.350%	\$0.00	0.200%	\$0.00
TIAA-CREF High-Yield-Rtmt <sup>4 5</sup>	XY	TIHRX	Fixed Income	\$0.00	\$0.00	0.610%	\$0.00	0.250%	\$0.00
TIAA-CREF Short-Term Bond-Rtmt <sup>4</sup>	Y1	TISRX	Fixed Income	\$0.00	\$0.00	0.520%	\$0.00	0.250%	\$0.00
TIAA-CREF Bond Plus-Rtmt <sup>4</sup>	XZ	TCBRX	Fixed Income	\$0.00	\$0.00	0.560%	\$0.00	0.250%	\$0.00



# Investment Fee & Expense Disclosure

Activity for the Reporting Period: 10/01/2017 to 12/31/2017

FUND NAME	FUND		ASSET CLASS	ASSETS AS OF 12/31/2017	AVERAGE ASSETS FOR THE REPORTING PERIOD	NET EXPENSE RATIO <sup>1</sup>		PLAN SERVICES EXPENSE <sup>1</sup>	
	ID	TICKER				(%)	(\$)	(%)	(\$)
TIAA-CREF Bond-Rtmt <sup>4</sup>	XT	TIDRX	Fixed Income	\$0.00	\$0.00	0.560%	\$0.00	0.250%	\$0.00
TIAA Traditional GSRA <sup>2</sup>	T4	TIAA#	Guaranteed	\$136,553.53	\$136,035.18	0.470%	\$159.84	0.150%	\$51.01
TIAA Traditional RCP 1 <sup>2</sup>	TA	TIAA#	Guaranteed	\$0.00	\$0.00	0.470%	\$0.00	0.150%	\$0.00
TIAA Traditional GSRA MDO <sup>2</sup>	TP	TIAA#	Guaranteed	\$0.00	\$0.00	0.470%	\$0.00	0.150%	\$0.00
CREF Money Market R2	CP	QCMMPX	Money Market	\$0.00	\$0.00	0.340%	\$0.00	0.200%	\$0.00
TIAA-CREF Money Market-Rtmt <sup>4</sup>	XU	TIEXX	Money Market	\$0.00	\$0.00	0.390%	\$0.00	0.250%	\$0.00
TIAA-CREF Lifecycle 2045-Rtmt <sup>4</sup>	L9	TFRX	Multi-Asset	\$0.00	\$0.00	0.700%	\$0.00	0.250%	\$0.00
TIAA-CREF Managed Alloc-Rtmt <sup>4</sup>	XX	TITRX	Multi-Asset	\$0.00	\$0.00	0.650%	\$0.00	0.250%	\$0.00
TIAA-CREF Lifecycle 2040-Rtmt <sup>4</sup>	L7	TCLOX	Multi-Asset	\$0.00	\$0.00	0.690%	\$0.00	0.250%	\$0.00
TIAA-CREF Lfcyle Rtmt Inc-Rtmt <sup>4</sup>	LD	TLIRX	Multi-Asset	\$0.00	\$0.00	0.630%	\$0.00	0.250%	\$0.00
PIMCO All Asset Fund A <sup>4</sup>	IW	PASAX	Multi-Asset	\$0.00	\$0.00	1.320%	\$0.00	0.400%	\$0.00
TIAA-CREF Lifecycle 2050-Rtmt <sup>4</sup>	LB	TLFRX	Multi-Asset	\$0.00	\$0.00	0.700%	\$0.00	0.250%	\$0.00
TIAA-CREF Lifecycle 2030-Rtmt <sup>4</sup>	L5	TCLNX	Multi-Asset	\$0.00	\$0.00	0.670%	\$0.00	0.250%	\$0.00
TIAA-CREF Lifecycle 2015-Rtmt <sup>4</sup>	L2	TCLIX	Multi-Asset	\$0.00	\$0.00	0.640%	\$0.00	0.250%	\$0.00
TIAA-CREF Lifecycle 2025-Rtmt <sup>4</sup>	L4	TCLFX	Multi-Asset	\$0.00	\$0.00	0.660%	\$0.00	0.250%	\$0.00
TIAA-CREF Lifecycle 2055-Rtmt <sup>4</sup>	ZJ	TTRLX	Multi-Asset	\$0.00	\$0.00	0.700%	\$0.00	0.250%	\$0.00
TIAA-CREF Lifecycle 2010-Rtmt <sup>4</sup>	L1	TCLEX	Multi-Asset	\$0.00	\$0.00	0.630%	\$0.00	0.250%	\$0.00
TIAA-CREF Lifecycle 2060-Rtmt <sup>4</sup>	CJ	TLXRX	Multi-Asset	\$0.00	\$0.00	0.700%	\$0.00	0.250%	\$0.00
TIAA-CREF Lifecycle 2020-Rtmt <sup>4</sup>	L3	TCLTX	Multi-Asset	\$0.00	\$0.00	0.650%	\$0.00	0.250%	\$0.00
TIAA-CREF Lifecycle 2035-Rtmt <sup>4</sup>	L6	TCLRX	Multi-Asset	\$0.00	\$0.00	0.680%	\$0.00	0.250%	\$0.00
CREF Social Choice R2	CQ	QCSCPX	Multi-Asset	\$0.00	\$0.00	0.375%	\$0.00	0.200%	\$0.00
TIAA-CREF Self Directed Acct	SD	SDA01#	Other	\$0.00	\$0.00	0.000%	\$0.00	0.000%	\$0.00
TIAA Real Estate	X1	QREARX	Real Estate	\$77,810.27	\$77,186.38	0.850%	\$164.02	0.240%	\$46.31
<b>ESTIMATED TOTAL / AVERAGE</b>				<b>\$308,951.34</b>	<b>\$305,459.27</b>	<b>0.137%</b>	<b>\$419.34</b>	<b>0.047%</b>	<b>\$144.22</b>

<sup>1</sup> Net expense ratio percentages are from the most recent prospectuses available to TIAA prior to the end of the reporting period. The plan services expense is a component of and not in addition to the net expense ratio percentage and estimated dollar amounts. Net expense ratio and plan services expense dollars are calculated using the average assets for the reporting period.

<sup>2</sup> The TIAA Traditional Annuity is not an investment for purposes of federal securities laws; it is a guaranteed insurance contract. Therefore, unlike a variable annuity or mutual fund, the TIAA Traditional Annuity does not include an identifiable expense ratio. Each premium allocated to the TIAA Traditional Annuity buys a definite amount of lifetime income for participants based on the rate schedule in effect at the time the premium is paid. In addition, the TIAA Traditional Annuity provides a guarantee of principal, a guaranteed minimum rate of interest and the potential for additional amounts of interest when declared by TIAA's Board of Trustees. Additional amounts, when declared, remain in effect for the "declaration year" that begins each March 1 for accumulating annuities and January 1 for lifetime payout annuities. Additional amounts are not guaranteed for future years. The recent expense provision in the formula for determining TIAA



## Summary of Fees and Compensation for Your Plan

JUNIATA COLLEGE

Activity for the Reporting Period: 10/01/2017 to 12/31/2017

<b>PLAN FEES AND COMPENSATION PAID TO TIAA-CREF AND BUNDLED SERVICE PROVIDERS</b>	<b>YOUR FEES AND COMPENSATION IN DOLLARS</b>	<b>YOUR FEES AND COMPENSATION AS A PERCENTAGE OF ASSETS</b>	<b>PERCENT OF TOTAL PLAN FEES AND COMPENSATION</b>
Investment Fee & Expense	\$419.35	0.137%	100.00%
Direct Fees	\$0.00	0.000%	0.00%
Transactional Fund Earnings (TFE)	\$0.00	0.000%	0.00%
<b>TOTAL PLAN FEES AND COMPENSATION PAID TO TIAA-CREF AND BUNDLED SERVICE PROVIDERS</b>	<b>\$419.35</b>	<b>0.137%</b>	<b>100.00%</b>
<b>TOTAL NET PLAN FEES AND COMPENSATION PAID TO TIAA-CREF AND BUNDLED SERVICE PROVIDERS</b>	<b>\$419.35</b>	<b>0.137%</b>	<b>100.00%</b>



## Fund Usage and Diversification

### Balances and Counts by Fund and Contract Type

**JUNIATA COLLEGE**

**For the Period Ending 12/31/2017**

Investment Name	Participant Control		Plan Control		Total	
	Ending Market value	# Participants	Ending Market Value	# Participants	Ending Market Value	# Participants
TIAA Traditional	\$136,553.54	2	\$0.00	0	\$136,553.54	2
CREF Stock R2	\$3,904.75	1	\$0.00	0	\$3,904.75	1
CREF Bond Market R2	\$1,090.09	1	\$0.00	0	\$1,090.09	1
CREF Global Equities R2	\$37,667.33	1	\$0.00	0	\$37,667.33	1
CREF Growth R2	\$40,307.19	1	\$0.00	0	\$40,307.19	1
TIAA Real Estate	\$77,810.27	2	\$0.00	0	\$77,810.27	2
TIAA-CREF Intl Eq Idx-Rtmt	\$2,106.06	1	\$0.00	0	\$2,106.06	1
TIAA-CREF Lg-Cap Gr Idx-Rtmt	\$1,594.92	1	\$0.00	0	\$1,594.92	1
TIAA-CREF Lg-Cap Val Idx-Rtmt	\$1,736.90	1	\$0.00	0	\$1,736.90	1
TIAA-CREF Lg-Cap Val-Rtmt	\$1,526.14	1	\$0.00	0	\$1,526.14	1
TIAA-CREF Real Est Secs-Rtmt	\$558.69	1	\$0.00	0	\$558.69	1
TIAA-CREF Sm-Cap Eq-Rtmt	\$1,365.60	1	\$0.00	0	\$1,365.60	1
AF EuroPacific Growth Fund R4	\$769.62	1	\$0.00	0	\$769.62	1
Prudential Jennison Small Co Z	\$587.37	1	\$0.00	0	\$587.37	1
Vanguard Emr Mkts Stk Idx Adm	\$1,372.88	1	\$0.00	0	\$1,372.88	1
<b>Total</b>	<b>\$308,951.35</b>	<b>2</b>	<b>\$0.00</b>	<b>0</b>	<b>\$308,951.35</b>	<b>2</b>



# Fund Usage and Diversification

## Fund Utilization by Age Group – All Participants

For the Period Ending 12/31/2017

Investment Name	<25		25 – 34		35 – 44		45 – 54		55 – 64		65+		Total	
	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part
<b>Participant Control</b>														
TIAA Traditional	\$0.00	0	\$0.00	0	\$0.00	0	\$912.40	1	\$0.00	0	\$135,641.14	1	\$136,553.54	2
CREF Stock R2	\$0.00	0	\$0.00	0	\$0.00	0	\$3,904.75	1	\$0.00	0	\$0.00	0	\$3,904.75	1
CREF Bond Market R2	\$0.00	0	\$0.00	0	\$0.00	0	\$1,090.09	1	\$0.00	0	\$0.00	0	\$1,090.09	1
CREF Global Equities R2	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$37,667.33	1	\$37,667.33	1
CREF Growth R2	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$40,307.19	1	\$40,307.19	1
TIAA Real Estate	\$0.00	0	\$0.00	0	\$0.00	0	\$1,653.42	1	\$0.00	0	\$76,156.85	1	\$77,810.27	2
TIAA-CREF Intl Eq Idx-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$2,106.06	1	\$0.00	0	\$0.00	0	\$2,106.06	1
TIAA-CREF Lg-Cap Gr Idx-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$1,594.92	1	\$0.00	0	\$0.00	0	\$1,594.92	1
TIAA-CREF Lg-Cap Val Idx-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$1,736.90	1	\$0.00	0	\$0.00	0	\$1,736.90	1
TIAA-CREF Lg-Cap Val-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$1,526.14	1	\$0.00	0	\$0.00	0	\$1,526.14	1
TIAA-CREF Real Est Secs-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$558.69	1	\$0.00	0	\$0.00	0	\$558.69	1
TIAA-CREF Sm-Cap Eq-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$1,365.60	1	\$0.00	0	\$0.00	0	\$1,365.60	1
AF EuroPacific Growth Fund R4	\$0.00	0	\$0.00	0	\$0.00	0	\$769.62	1	\$0.00	0	\$0.00	0	\$769.62	1
Prudential Jennison Small Co Z	\$0.00	0	\$0.00	0	\$0.00	0	\$587.37	1	\$0.00	0	\$0.00	0	\$587.37	1
Vanguard Emr Mkts Stk Idx Adm	\$0.00	0	\$0.00	0	\$0.00	0	\$1,372.88	1	\$0.00	0	\$0.00	0	\$1,372.88	1
<b>Participant Control Total</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$19,178.84</b>	<b>1</b>	<b>\$0.00</b>	<b>0</b>	<b>\$289,772.51</b>	<b>1</b>	<b>\$308,951.35</b>	<b>2</b>
<b>Total</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$19,178.84</b>	<b>1</b>	<b>\$0.00</b>	<b>0</b>	<b>\$289,772.51</b>	<b>1</b>	<b>\$308,951.35</b>	<b>2</b>



# Fund Usage and Diversification

## Fund Utilization by Age Group - Active Participants

For the Period Ending 12/31/2017

Active

Investment Name	<25		25 – 34		35 – 44		45 – 54		55 – 64		65+		Total	
	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part	Ending Market Value	# Part
<b>Participant Control</b>														
TIAA Traditional	\$0.00	0	\$0.00	0	\$0.00	0	\$912.40	1	\$0.00	0	\$135,641.14	1	\$136,553.54	2
CREF Stock R2	\$0.00	0	\$0.00	0	\$0.00	0	\$3,904.75	1	\$0.00	0	\$0.00	0	\$3,904.75	1
CREF Bond Market R2	\$0.00	0	\$0.00	0	\$0.00	0	\$1,090.09	1	\$0.00	0	\$0.00	0	\$1,090.09	1
CREF Global Equities R2	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$37,667.33	1	\$37,667.33	1
CREF Growth R2	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$40,307.19	1	\$40,307.19	1
TIAA Real Estate	\$0.00	0	\$0.00	0	\$0.00	0	\$1,653.42	1	\$0.00	0	\$76,156.85	1	\$77,810.27	2
TIAA-CREF Intl Eq Idx-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$2,106.06	1	\$0.00	0	\$0.00	0	\$2,106.06	1
TIAA-CREF Lg-Cap Gr Idx-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$1,594.92	1	\$0.00	0	\$0.00	0	\$1,594.92	1
TIAA-CREF Lg-Cap Val Idx-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$1,736.90	1	\$0.00	0	\$0.00	0	\$1,736.90	1
TIAA-CREF Lg-Cap Val-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$1,526.14	1	\$0.00	0	\$0.00	0	\$1,526.14	1
TIAA-CREF Real Est Secs-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$558.69	1	\$0.00	0	\$0.00	0	\$558.69	1
TIAA-CREF Sm-Cap Eq-Rtmt	\$0.00	0	\$0.00	0	\$0.00	0	\$1,365.60	1	\$0.00	0	\$0.00	0	\$1,365.60	1
AF EuroPacific Growth Fund R4	\$0.00	0	\$0.00	0	\$0.00	0	\$769.62	1	\$0.00	0	\$0.00	0	\$769.62	1
Prudential Jennison Small Co Z	\$0.00	0	\$0.00	0	\$0.00	0	\$587.37	1	\$0.00	0	\$0.00	0	\$587.37	1
Vanguard Emr Mkts Stk Idx Adm	\$0.00	0	\$0.00	0	\$0.00	0	\$1,372.88	1	\$0.00	0	\$0.00	0	\$1,372.88	1
<b>Participant Control Total</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$19,178.84</b>	<b>1</b>	<b>\$0.00</b>	<b>0</b>	<b>\$289,772.51</b>	<b>1</b>	<b>\$308,951.35</b>	<b>2</b>
<b>Total</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$0.00</b>	<b>0</b>	<b>\$19,178.84</b>	<b>1</b>	<b>\$0.00</b>	<b>0</b>	<b>\$289,772.51</b>	<b>1</b>	<b>\$308,951.35</b>	<b>2</b>





## Fund Usage and Diversification

### Fund Diversification by Age Group and Status

For the Period Ending 12/31/2017

	Number of Funds Invested										Total	
	1	2	3	4	5	6	7	8	9	10+		
Active Participant Count												
<b>Participant Control</b>												
45_54	0	0	0	0	0	0	0	0	0	0	1	1
65+	0	0	0	1	0	0	0	0	0	0	0	1
<b>Participant Control Active</b>												
Total	0	0	0	1	0	0	0	0	0	0	1	2
<b>Total Active Participants</b>	0	0	0	1	0	0	0	0	0	0	1	2



# Fund Usage and Diversification

## Fund Diversification by Age Group and Status

For the Period Ending 12/31/2017

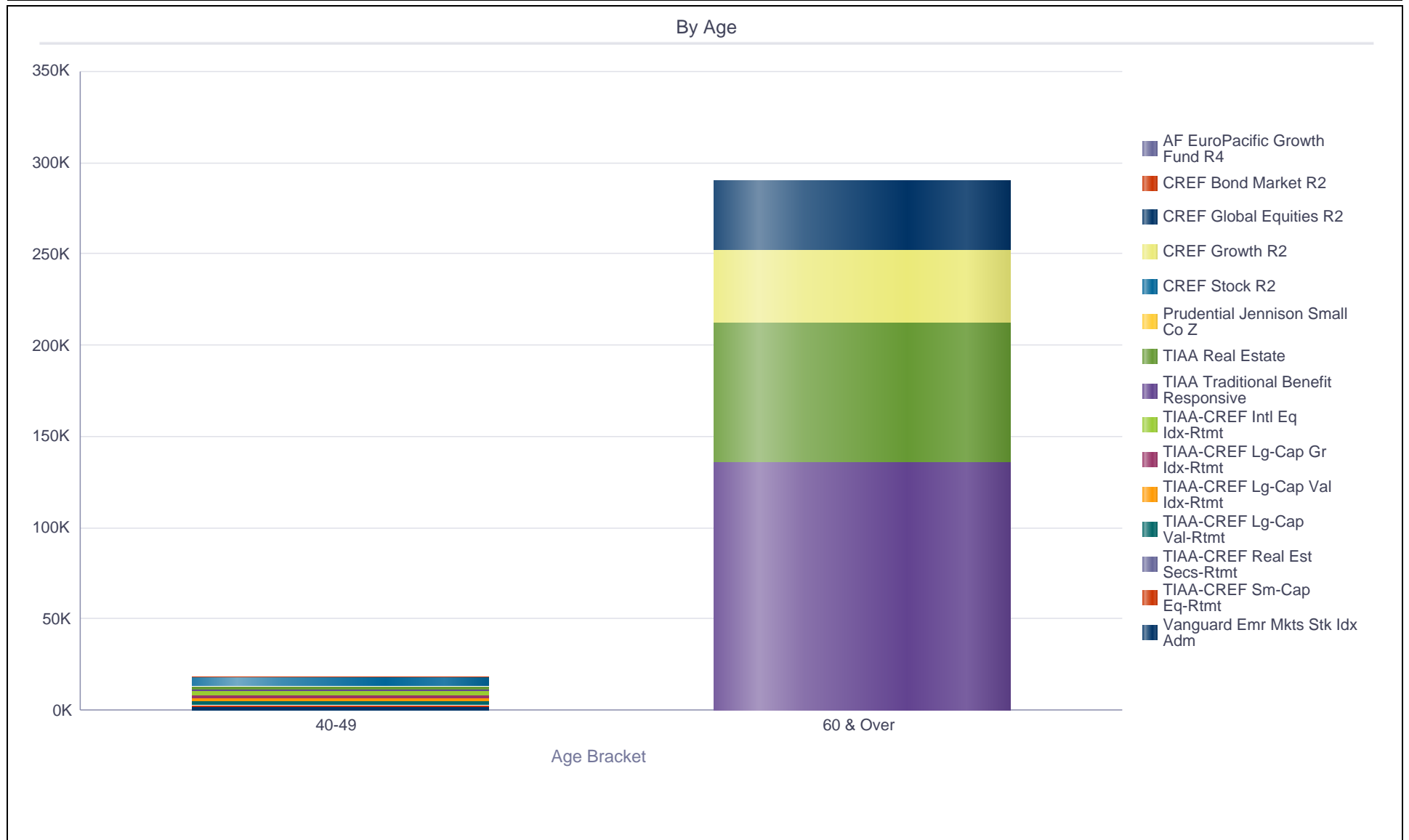
	Number of Funds Invested										Total	
	1	2	3	4	5	6	7	8	9	10+		
<b>Plan Total Participant Count</b>												
<b>Active</b>												
<b>45_54</b>	0	0	0	0	0	0	0	0	0	0	1	1
<b>65+</b>	0	0	0	1	0	0	0	0	0	0	0	1
<b>Total Active Participants</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>



# Asset Allocation Statistics

JUNIATA COLLEGE

For the Period Ending 12/31/2017



# Section V

# Strategic Action Summary 2017

In addition to regularly scheduled Plan Reviews and required Plan Administration, the following items were accomplished or are on the agenda for the calendar year:

- 1<sup>st</sup> Quarter (1/1/2017 – 3/31/2017)
- 2<sup>nd</sup> Quarter (4/1/2017 – 6/30/2017)
- 3<sup>rd</sup> Quarter (7/1/2017 – 9/30/2017)
  - Fiduciary Training
  - Made decision to transition to the TIAA RC Platform
  - Negotiate fees with TIAA as part of transition to RC Platform
- 4<sup>th</sup> Quarter (10/1/2017 – 12/31/2017)
  - Present new fund lineup for Board Approval
  - Discuss goals for next year

# Strategic Action Summary 2018

In addition to regularly scheduled Plan Reviews and required Plan Administration, the following items were accomplished or are on the agenda for the calendar year:

- 1<sup>st</sup> Quarter (1/1/2018 – 3/31/2018)
  - Review Capital Market Expectations
- 2<sup>nd</sup> Quarter (4/1/2018 – 6/30/2018)
- 3<sup>rd</sup> Quarter (7/1/2018 – 9/30/2018)
- 4<sup>th</sup> Quarter (10/1/2018 – 12/31/2018)
  - Discuss goals for next year

# Cornerstone Update

# 2017 Firm Accomplishments

- Total Assets under management (AUM): ~\$5.6 billion as of 12/31/2017
  - Retirement Plan AUM: \$3.3 billion
    - Additions in 2017: \$592 million
  - Private Wealth AUM: \$808 million
    - Additions in 2017: \$87 million
  - 11% firmwide AUM growth over 2016
- Expanding Markets:
  - Government 457(b), Private Wealth, ESOP Repurchase Obligation Funding, Non-Qualified Deferred Comp/SERP Plans, Long Term Care
- Notable Mentions<sup>1</sup>:
  - Wall St Journal
  - Barron's – “Best Institutional Consultants”
  - Pension & Investments – “Best Places to Work”
  - NAPA Top DC Advisor Teams

<sup>1</sup> For details on how the rankings were determined, please see the section entitled “Rankings Explained”



# 2018 Initiatives

- Participant Financial Wellness
- “C” Suite - Executive Financial Planning
- Risk Management Initiatives
- Green Initiative – Paperless Office
- Delivery of Current Market-related Thought Capital
- Plan Sponsor Survey for Retirement Plan Clients

# Plan Sponsor Client Survey

- Run by *Business Health*, an independent research firm
- Anonymous responses
- Just 9 questions
- Less than 5 minutes to complete
- The email will come from [loyalty@cornerstone-companies.com](mailto:loyalty@cornerstone-companies.com)
- Please share your thoughts regarding our work, expertise and capabilities
- Comments are encouraged and greatly appreciated

This exercise is of great importance to us  
and we appreciate your feedback, it is invaluable.

# Tax Law Update

## Key Components:

- Personal Tax Rates have largely decreased
- Corporate tax rates were lowered to 21% flat rate
- Repatriation of corporate cash is not subject to large penalties
- Standard Deductions nearly doubled to \$12K & \$24K for single & married filers respectively
- SALT (State & Local Taxes) > \$10K not eligible for itemized deduction
- Capital gains tax rates remain unchanged
- AMT increase phase-out exemption to \$500K & \$1MM for single & married respectively
- Mortgage interest deductions not to exceed \$750K in mortgage debt
- 529 Accounts can be utilized for primary education tuition

## Key Notes:

- Sunset for most personal tax law changes is year 2025
- Potential to add \$1.5 trillion to the deficit

# Rankings Explained

Inclusion in rankings and surveys does not imply anything about a particular client's experience or investment results with Cornerstone Advisors Asset Management, LLC or Cornerstone Institutional Investors, LLC

## **2017 Barron's Top Investment Consultants**

The Barron's Top Investment Consultant list was based on a range of criteria, including institutional investment assets managed by the company's financial advising team; revenue generated by those assets; the number of clients the team serves; the number of team members and their regulatory records; and the advanced, professional designations and accomplishments of the team.

## **2016 Pensions & Investments Largest Investment Consultants Ranking**

The Pensions & Investment Largest Investments Consultant list ranks firms based on institutional assets under advisement. The data gathered is based off of June 30, 2015 assets under management.

## **2016 Financial Advisor Magazine (FA Mag) RIA Ranking**

FA Magazine invites all independent registered investment advisors to participate who meet certain criteria. Firms are ranked based on assets under management as of year-end 2015 ADV filings. To be eligible for the ranking, firms must be independent registered investment advisors and file their own ADV statement with the SEC and provide financial planning and related services to individual clients. Corporate RIA firms and investment advisor representatives (IARs) are not eligible for this ranking.

## **2017 Best Places to Work in Money Management**

Pensions & Investments partnered with Best Companies Group, an independent research firm specializing in identifying great places to work, to conduct a two-part survey of employers and their employees. The first part, worth 25 percent of the total score, consisted of evaluating each nominated company's workplace policies, practices, philosophy, systems, and demographics. The second part, worth 75 percent of the total evaluation, involved an employee survey designed to measure employee experience. For a complete list of the 2017 Pensions & Investments Best Places to Work in Money Management winners and write-ups, go to [www.pionline.com/BPTW2017](http://www.pionline.com/BPTW2017).

## **NAPA Top DC Advisor Teams for 2017**

For more information on inclusion in this list, please go to <http://www.napa-net.org/news/inside-napa/awards-and-honors/announcing-napas-top-dc-advisor-firms>.

# Our Retirement Planning Team

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# Glossary

## MARKET INDICES

- **Citigroup 90-Day Treasury Bill Index** is an unmanaged index that tracks short-term U.S. government debt instruments.
- **Barclays Capital Aggregate Bond Index** is a market capitalization-weighted index, meaning the securities in the index are weighted according to the market size of each bond type. Most U.S. traded investment grade bonds are represented. Municipal bonds and Treasury Inflation-Protected Securities (TIPS) are excluded, due to tax treatment issues. The index includes US Treasury Securities (non TIPS), Government agency bonds, Mortgage backed bonds, Corporate bonds, and a small amount of foreign bonds traded in U.S.
- **Barclays Capital 1-3 Year Government/Credit Index** is a total return index that incorporates all bonds in both the Treasury Bond Index and the Agency Bond Index, as well as U.S. corporate and some foreign debentures and secured notes, with maturities of one to three years.
- **Barclays Capital 1-3 Year U.S. Government Index** is a broad measure of the performance of short-term government bonds.
- **Barclays Capital Global Aggregate Bond** provides a broad-based measure of the global investment-grade fixed-rate debt markets. The three major components of this index are the US Aggregate, the Pan-European Aggregate, and the Asian-Pacific Aggregate Indices. The Global Aggregate Bond Index ex-US excludes the US Aggregate component.
- **Barclays Capital Global Emerging Markets Bond Index** consists of the US dollar (USD)-denominated fixed- and floating-rate US Emerging Markets Index and the fixed-rate Pan-European Emerging Markets Index, which is primarily made up of GBP- and EUR-denominated securities. The index includes emerging-markets debt from the following regions: Americas, Europe, Asia, Middle East, and Africa. An emerging market is defined as any country that has a long-term foreign currency debt sovereign rating of Baa1/BBB+/BBB+ or below using the middle rating of Moody's, S&P, and Fitch.
- **Barclays Capital High Yield Index** covers the universe of fixed rate, non-investment grade debt, including corporate and non-corporate sectors. Pay-in-kind (PIK) bonds, Eurobonds, and debt issues from countries designated as emerging markets are excluded, but Canadian and global bonds (SEC registered) of issuers in non-emerging market countries are included. Original issue zero coupon bonds, step-up coupon structures, and 144-As are also included.
- **Barclays Capital Intermediate Term Government Bond Index** is comprised of approximately 1,000 issues of U.S. Government Treasury and Agency Securities.
- **Barclays Capital U.S. Long Government Index** includes fixed income securities issued by the U.S. Treasury (not including inflation-protected bonds) and U.S. government agencies and instrumentalities, as well as corporate or dollar-denominated foreign debt guaranteed by the U.S. government, with maturities greater than 10 years.
- **Barclays Capital U.S. Long Government/Credit Bond Index** measures the investment return of all medium and larger public issues of U.S. Treasury, agency, investment-grade corporate, and investment-grade international dollar-denominated bonds with maturities longer than 10 years. The average maturity is approximately 20 years.
- **Barclays Capital U.S. Treasury Inflation-Protected Securities (TIPS) Index** is a market value-weighted index that tracks inflation-protected securities issued by the US Treasury. To prevent the erosion of purchasing power, TIPS are indexed to the non-seasonally adjusted Consumer Price Index for All Urban Consumers, or the CPI-U (CPI).
- **Barclays Capital U.S. Universal Bond Index** represents the union of the U.S. Aggregate Index, U.S. Corporate High-Yield Index, Investment-Grade 144A Index, Eurodollar Index, U.S. Emerging Markets Index, and the non-ERISA eligible portion of the CMBS Index. The index covers USD-denominated, taxable bonds that are rated either investment-grade or below investment-grade. Some U.S. Universal Index constituents may be eligible for one or more of its contributing subcomponents that are not mutually exclusive. These securities are not double-counted in the index.
- **Dow Jones-UBS Commodity Index (DJ-UBSCI)** is composed of futures contracts on physical commodities. Unlike equities, which typically entitle the holder to a continuing stake in a corporation, commodity futures contracts normally specify a certain date for the delivery of the underlying physical commodity. In order to avoid the delivery process and maintain a long futures position, nearby contracts must be sold and contracts that have not yet reached the delivery period must be purchased. This process is known as "rolling" a futures position.
- **Dow Jones U.S. Real Estate Index** represents Real Estate Investment Trusts (REIT) and other companies that invest directly or indirectly in real estate through development, management or ownership, including property agencies.

# Glossary Continued

- **Merrill Lynch Convertible Bond Index** represents various markets of convertible bonds and provides reliable benchmarks for asset allocation and portfolio management. There are three groups of indexes; the first two, the G300 Global Convertible Master Index and the Global Investment Grade Convertible Master Index, concentrate the larger more liquid issues, and tend to be the most appropriate for benchmarking. The third series of indexes, the Regional All Convertibles Master Indexes, are rules-driven and allow for more detailed analysis.
- **MSCI All Country World Index** is a market capitalization weighted equity index of stocks traded in 47 world markets.
- **MSCI EAFE Growth Index** is a market capitalization-weighted index that measures the performance of the leading growth stocks in 21 developed countries outside of North America. (The 21 countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, Australia, New Zealand, Hong Kong, Japan and Singapore.)
- **MSCI EAFE Index** is a free float-adjusted market capitalization index designed to measure developed market equity performance, excluding the U.S. and Canada. The MSCI EAFE Index consists of the following 21 developed market country indices: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland and the United Kingdom.
- **MSCI EAFE Small Cap Index** is an unmanaged, free float-adjusted, market-weighted index of small capitalization companies in each industry group of each country represented by the MSCI EAFE Index, which is designed to measure the equity market performance of developed markets outside of the U.S. & Canada.
- **MSCI EAFE Value Index** is an unmanaged index of value stocks of companies located in Europe, Australasia and the Far East.
- **MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance of emerging markets. The MSCI Emerging Markets Index consisted of the following 21 emerging market country indices: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey.
- **MSCI Global Small Cap Index** provides an exhaustive representation of the small cap size segment. The indices target companies that are in the Investable Market Index (IMI) but that are not in the Standard Index in each market. The indices cover 24 Developed Markets, 21 Emerging Markets and 26 Frontier Markets.
- **Russell 1000 Growth Index** is a market capitalization weighted index that measures the performance of those Russell 1000 companies with higher price-to-book ratio and higher forecasted growth values.
- **Russell 1000 Value Index** is a large cap value index measuring the performance of the largest 1,000 U.S. incorporated companies with lower price-to-book ratios and lower forecasted growth values.
- **Russell 2000 Index** is composed of the 2000 smallest stocks in the Russell 3000® Index and is widely regarded in the industry as the premier measure of small-cap stock performance.
- **Russell 2000 Growth Index** measures the performance of the Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.
- **Russell 2000 Value Index** is an unmanaged, market-value weighted, value-oriented index comprised of small stocks that have relatively low price to book ratios and lower forecasted growth values.
- **Russell Midcap Growth Index** measures the performance of the Russell Midcap companies with higher price-to-book ratios and higher forecasted growth values.
- **Russell Midcap Index** is a market capitalization weighted index representing the smallest 800 companies in the Russell 1000 Index. The average Russell Midcap Index member has a market cap of \$8 billion to \$10 billion, with a median value of \$4 billion to \$5 billion.
- **Russell Midcap Value Index** measures the performance of those Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values.
- **S&P 500 Index** is a capitalization-weighted index of 500 stocks. The S&P 500 Index is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.

# Definitions

- **Alpha** is a measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. A positive Alpha figure indicates the portfolio has performed better than its beta would predict. In contrast, a negative Alpha indicates the portfolio has underperformed, given the expectations established by beta.
- **Annualized Total Return** is the average amount of money earned by an investment each year over a given time period. An annualized total return provides only a snapshot of an investment's performance and does not give investors any indication of its volatility.
- **Beta** is a quantitative measure of the volatility of a given stock, mutual fund, or portfolio, relative to their respective peer group. Specifically, the performance the stock, fund or portfolio has experienced in the last 3 years as their peer group moved 1% up or down. A beta above 1 is more volatile than their respective peer group, while a beta below 1 is less volatile.
- **Consumer Price Index** is a measure of the average change in prices for a fixed market basket of goods and services. This market basket is based on the spending patterns of urban wage earners and clerical workers, who represent 40 percent of the total civilian population.
- **Down Market Capture Ratio** is the percentage of the total market movement achieved by a manager during a period in which the benchmark decreases.
- **Downside Risk** differentiates between "good" risk (upside volatility) and "bad" risk (downside volatility).
- **Expense Ratio** includes management fees, distribution (12b-1) fees, other expenses, and any fee waivers or expense reimbursements.
- **Inception Date** is the date on which an investment began its operations.
- **Information Ratio** is a risk statistic that measures the excess return per unit of residual "non-market" risk in a portfolio.
- **Manager Tenure** is the number of years that the current manager has been the portfolio manager for the investment product. For products with more than one manager, the tenure of the manager who has been with the product the longest is shown.
- **Median Market Cap** is the midpoint of Market Capitalization (market price multiplied by the number of shares outstanding) of the stocks in a portfolio. Half the stocks in the portfolio will have higher market capitalizations; half will have lower.
- **Peer Group % Rankings** is a standardized ranking in which the funds are ranked from 1 to 100 (1 being the best and 100 being the worst) based on their return compared to that of their peers. The rest of the observations are placed an equal distance from each other. All the percentile ranks are based on the peer group (Morningstar or Callan Associates Category).
- **Quadrant Rank** is a measure that encompasses both risk and return. It is calculated by comparing the return and standard deviation (A statistical measurement of dispersion about an average, which, for a fund, depicts how widely the returns varied over a certain period of time) to the return and standard deviation of the peer group. This allows a graph to be generated where items are plotted in one of four quadrants. Each quadrant represents an explanation of the manager's ability to produce returns relative to the risk they take.
- **Residual Risk** is the unsystematic, firm-specific, or diversifiable risk of a security or portfolio.
- **Sharpe Ratio** is a commonly used measure of risk-adjusted return. It is calculated by subtracting the "risk-free" return (usually 3-Month Treasury Bill) from the portfolio return and dividing the resulting "excess return" by the portfolio's risk level (standard deviation). The result is a measure of return gained per unit of risk taken.



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