
MARCH 22, 2017

AGENDA ITEM 4
ACTION ITEM

SCHOLARSHARE INVESTMENT BOARD

Review and Analysis of Investment Performance for the ScholarShare College Savings Plan for Fourth Quarter 2016 and Resolution to Approve Removal of PIMCO Real Return Fund and PIMCO Income Fund from Watch Status

Recommendation

ScholarShare Investment Board (SIB or Board) staff recommends the Board adopt Resolution No. 2017-02 approving the removal of the PIMCO Real Return Fund and PIMCO Income Fund from “watch” status.

Background

The ScholarShare Investment Board (SIB or Board) and its investment consultant, Pension Consulting Alliance, LLC (PCA), monitor all portfolios in the ScholarShare College Savings Plan (Plan) in accordance with the ScholarShare Monitoring Procedures and Criteria adopted by the Board.

In this item, SIB will review and discuss “Investment Performance Report” (Exhibit A) for the Plan for fourth quarter 2016, provided by TIAA-CREF Tuition Financing, Inc., and PCA’s “Investment Performance Status Report” (Exhibit B) for fourth quarter 2016. PCA’s report compares each underlying fund allocated to the portfolios used in the Plan, to applicable benchmark criteria and labels the current status of funds as “positive,” “acceptable,” “caution,” or “watch.”

For the fourth quarter of 2016:

- 10 underlying funds were in the “positive” status (one of which is on “watch” status), and
- Nine underlying funds were in the “acceptable” status (one of which is on “watch” status).

As outlined in its memo (Exhibit C), PCA is recommending that:

- The PIMCO Real Return Fund and PIMCO Income Fund be removed from “watch” status; and
- No new funds qualify for “watch” status.

Presenters

Jeremy Thiessen, Senior Director, TIAA-CREF Tuition Financing, Inc.
Eric White, Principal, Pension Consulting Alliance, LLC

RESOLUTION NO. 2017-02

**RESOLUTION OF THE SCHOLARSHARE INVESTMENT BOARD
APPROVING THE REMOVAL OF THE
PIMCO REAL RETURN FUND AND PIMCO INCOME FUND
FROM WATCH STATUS**

WHEREAS, the ScholarShare Investment Board (“SIB” or the “Board”) was created under Education Code section 69980 et seq. (the “Golden State ScholarShare Trust Act” or “Act”);

WHEREAS, the Board has a fiduciary responsibility on behalf of the ScholarShare participants and beneficiaries to monitor the investment manager’s mutual funds and investment performance;

WHEREAS, the Board adopted the Golden State ScholarShare College Savings Trust Monitoring Procedures and Criteria (the “Procedures”) to provide guidelines for monitoring the investment manager’s mutual funds and investment performance as part of its fiduciary responsibility on behalf of the ScholarShare participants and beneficiaries;

WHEREAS, following review of organizational changes for the PIMCO Real Return Fund and PIMCO Income Fund (the “Funds”) at the October 2, 2014 Board meeting, the Board approved placement of the Funds on watch status pursuant to the Procedures;

WHEREAS, the SIB staff and Board’s investment consultant (the “Consultant”) have reviewed and analyzed the organizational structure and the investment performance of the Funds through the end of fourth quarter 2016 and determined that the performance of the Funds meets the Benchmarks outlined in the Procedures and the organizational structure of the Funds have remained relatively stable over the last 12 months; and

WHEREAS, pursuant to the Procedures, the Board may remove underlying funds from watch status that meet the Benchmarks.

NOW, THEREFORE, BE IT RESOLVED, that the Board approves the removal of the Funds from watch status.

BE IT FURTHER RESOLVED, that this Resolution becomes effective upon its adoption by the Board.

Attest: _____

Alan Gordon
For Chairperson, State Treasurer John Chiang

Date of Adoption: _____

ScholarShare College Savings Plan

Investment Performance Report

4th Quarter, 2016



SCHOLARSHARE

.....
CALIFORNIA'S 529 COLLEGE SAVINGS PLAN
.....



Key themes

- The election of Donald Trump as the next U.S. president dominated headlines and took many by surprise, but at the same time, brought renewed optimism for economic growth, job creation, corporate tax reform, and the prospect of favorable trade deals.
- First-half U.S. GDP growth of about 1% gave way to a pace closer to 2.5% in the second half. The most recent acceleration is little more than a return to the average trend for this recovery, but it's also a reminder that conditions remain stable for the U.S. economy.

Equities

- Domestic stocks had another good quarter, with eight of eleven sectors advancing. The rally was particularly noticeable in Financials, which was buoyed by the prospects of a favorable interest rate environment, and the U.S. dollar-centric small-cap space.

Fixed Income

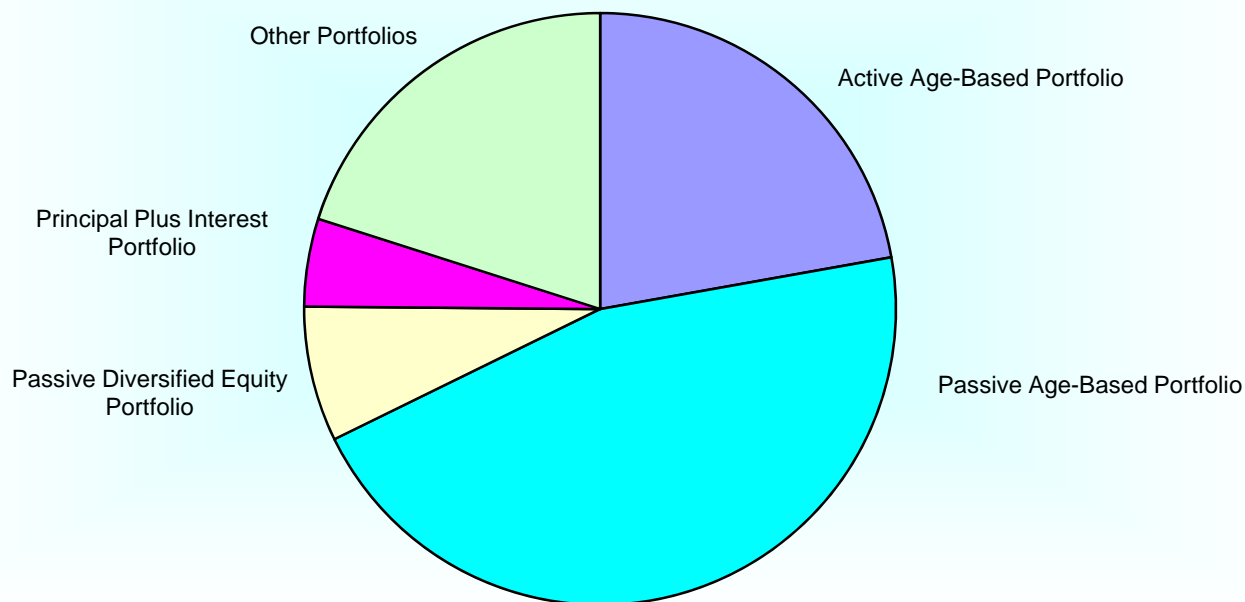
- The U.S. election results sent bond yields higher. By the end of the quarter, yields across the curve were at their highest levels in over a year, also propelled by a 0.25% hike in the Fed Funds target rate. Bond prices fell and produced a challenging quarter for most fixed rate debt.

Past performance is not indicative of future results. You can not invest directly in an index. U.S. Equities – Russell 3000 Index; U.S. Growth Stocks – Russell 1000 Growth Index; U.S. Value Stocks – Russell 1000 Value Index; U.S. Mid Cap Stocks – Russell Midcap Index; U.S. Small-Cap Stocks – Russell 2000 Index; International Developed Markets – MSCI EAFE Index; Emerging Markets – MSCI Emerging Markets Index; Real Estate Stocks – FTSE NAREIT All Equity REITS Index; U.S. Investment Grade Bonds – Bloomberg Barclays U.S. Aggregate Bond Index; U.S. Treasuries – Bloomberg Barclays U.S. Government/Credit Long Index; Inflation-Linked Bonds – Bloomberg Barclays TIPS 1-10 Years Index; High Yield Bonds – BofA Merrill Lynch BB/B Cash Pay Index; Commodities - Bloomberg Commodity Index; Cash - Bloomberg Barclays U.S. 3 month Treasury Bellweathers Index C34631

Asset Class	3 Month	1 Year	3 Year	5 Year
U.S. Equities	4.21	12.74	8.43	14.67
U.S. Growth Stocks	1.01	7.08	8.55	14.50
U.S. Value Stocks	6.68	17.34	8.59	14.80
U.S. Mid-Cap Stocks	3.21	13.80	7.92	14.72
U.S. Small-Cap Stocks	8.83	21.31	6.74	14.46
Int'l Developed Markets	-0.71	1.00	-1.60	6.53
Emerging Markets	-4.16	11.19	-2.55	1.28
Real Estate Stocks	-3.28	8.63	12.66	11.98
U.S. Investment Grade Bonds	-2.98	2.65	3.03	2.23
U.S. Treasuries	-7.84	6.67	7.16	4.07
Inflation-Linked Bonds	-1.47	4.01	1.45	0.70
High Yield Bonds	1.26	14.76	4.89	7.04
Commodities	2.66	11.77	-11.26	-8.95
Cash	0.09	0.35	0.16	0.14
Annualized Tuition Inflation Ending as of 2016-2017 Academic Year* (%)				
Educational Institution		1 Year	3 Year	5 Year
National Average Public 4-Year In-state		2.44	2.79	3.12
National Average Private Nonprofit 4-Year		3.56	3.58	3.73
Consumer Price Index, December 2016		1.89	1.09	1.34

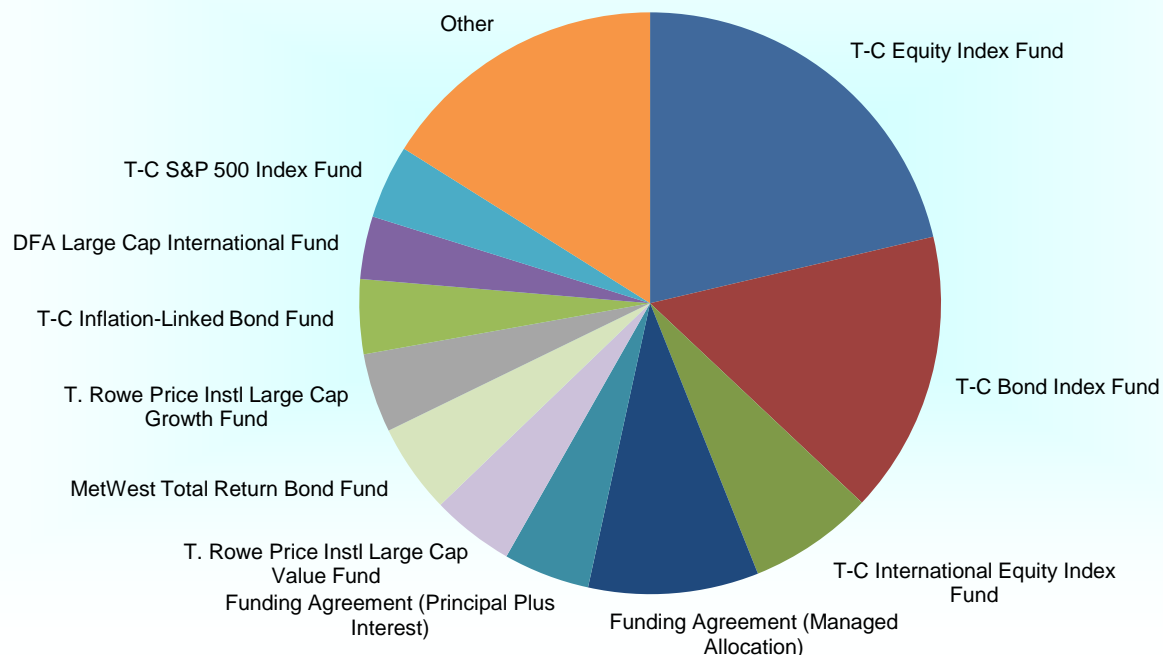
*Data are for the entire academic year and are average total charges for full-time attendance. Tuition and fees were enrollment weighted. SOURCES: CollegeBoard, Trends in College Pricing 2016 and U.S. Department of Labor: Bureau of Labor Statistics

**ScholarShare Assets by Investment Portfolio
as of 12/31/16
Total Assets: \$7.03 Billion**



Portfolio	% of Assets	\$ Millions	Portfolio	% of Assets	\$ Millions
Passive Age-Based Portfolio	45.55%	\$ 3,203	Principal Plus Interest Portfolio	4.80%	\$ 337
Active Age-Based Portfolio	22.20%	\$ 1,561	Other Portfolios (see below)	20.07%	\$ 1,411
Passive Diversified Equity Portfolio	7.39%	\$ 520			
Other Portfolios					
Index U.S. Large Cap Equity Portfolio	4.10%	\$ 288	Active Moderate Growth Portfolio	0.53%	\$ 37
Index U.S. Equity Portfolio	3.95%	\$ 278	Passive Moderate Growth Portfolio	0.47%	\$ 33
Active Diversified Equity Portfolio	2.58%	\$ 182	Passive Conservative Portfolio	0.44%	\$ 31
Social Choice Portfolio	1.99%	\$ 140	Active Conservative Portfolio	0.44%	\$ 31
Active Growth Portfolio	1.67%	\$ 117	Active International Equity Portfolio	0.25%	\$ 18
Passive Growth Portfolio	1.30%	\$ 91	Active Diversified Fixed Income Portfolio	0.24%	\$ 17
Index International Equity Portfolio	1.29%	\$ 91	Passive Diversified Fixed Income Portfolio	0.17%	\$ 12
Index Bond Portfolio	0.65%	\$ 46			

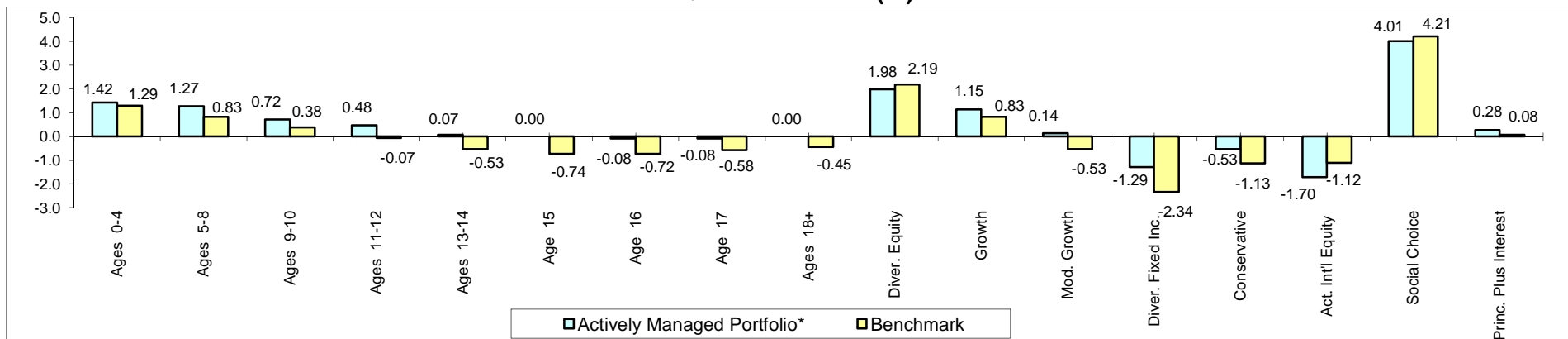
**ScholarShare Assets by Underlying Funds
as of 12/31/16
Total Assets: \$7.03 Billion**



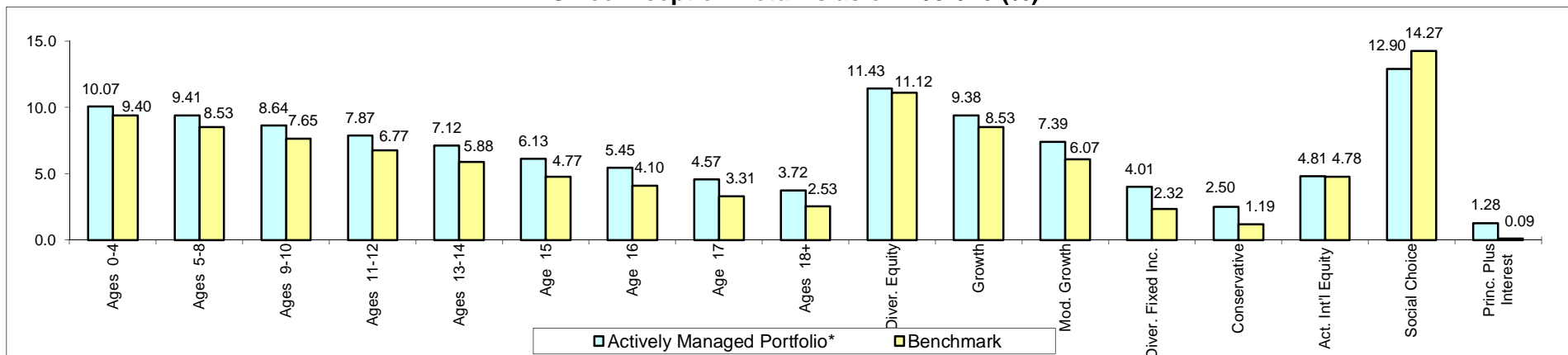
Fund	% of Assets	\$ Millions	Fund	% of Assets	\$ Millions
T-C Equity Index Fund	21.32%	\$ 1,499	T. Rowe Price Instl Large Cap Value Fund	4.59%	\$ 323
T-C Bond Index Fund	15.69%	\$ 1,103	T. Rowe Price Instl Large Cap Growth Fund	4.40%	\$ 309
Funding Agreement (Managed Allocation)	9.47%	\$ 666	T-C Inflation-Linked Bond Fund	4.14%	\$ 291
T-C International Equity Index Fund	6.94%	\$ 488	T-C S&P 500 Index Fund	4.10%	\$ 288
Metropolitan West Total Return Bond Fund	4.97%	\$ 350	DFA Large Cap International Fund	3.50%	\$ 246
Funding Agreement (Principal Plus Interest)	4.80%	\$ 337	Other	16.07%	\$ 1,130
Other Funds					
T-C Real Estate Securities Fund	3.18%	\$ 224	T-C Emerging Markets Equity Index Fund	1.60%	\$ 113
T-C High Yield Bond Fund	2.27%	\$ 160	T-C Small Cap Equity Fund	1.16%	\$ 82
PIMCO Income Fund	2.17%	\$ 152	T. Rowe Price Instl Floating Rate Fund	0.97%	\$ 68
T-C Social Choice Equity Fund	1.99%	\$ 140	DFA Emerging Markets Core Equity Portfolio	0.73%	\$ 52
PIMCO Real Return Fund	1.98%	\$ 139			

Actively Managed Portfolios vs. Composite Benchmarks

Q4 2016 Returns (%)



Since Inception Returns as of 12/31/16 (%)



* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees and State Administrative Fees (5 bps).

- Private monthly payroll growth averaged a solid 163,000 for the quarter. At 4.7%, the unemployment rate sits near a nine-year low.
- Average hourly wages jumped 0.4% in December and 2.9% in 2016—the fastest annual increase in seven years.
- Even as mortgage rates began to climb in the fourth quarter, the housing sector continued to be a source of strength overall: Both new and existing home sales jumped in November, and home prices rose on both a month-to-month and year-over-year basis in October.
- Five out of nine age bands in the Actively Managed Portfolios had positive absolute returns in Q4, two had flat returns, and two had modestly negative returns. All bands outperformed their blended benchmarks.
- Contributing most to absolute returns was the TIAA-CREF Small-Cap Equity Fund, which posted returns of 10.34% for the quarter. Also contributing was the T. Rowe Price Institutional Large Cap Value Fund, adding 5.37%.
- On a relative basis, the PIMCO Income Fund beat its benchmark by 437 basis points in Q4, registering the highest relative returns of all underlying funds in ScholarShare for the fourth quarter.
- Because of strength in the U.S. equity markets following a surprising election, the Social Choice Portfolio had the highest absolute returns of all Actively Managed Portfolios, posting a gain of 4.01% for the quarter.
- The Principal Plus Interest Portfolio outperformed by 20 basis points in Q4.

ScholarShare College Savings Plan Performance Summary
 Actively Managed Portfolios vs. Composite Benchmarks*
 For the Period Ending 12/31/2016

Investment Portfolios	3 Month	YTD	Average Annual Total Return				Inception Date
			1 Year	3 Year	5 Year	Since Inception	
Active Age-Based Portfolios**							
Active Age-Based Portfolio 0-4	1.42%	7.68%	7.68%	5.02%	10.73%	10.07%	11/04/11
Blended Benchmark Returns	1.29%	9.03%	9.03%	5.26%	9.85%	9.40%	
Difference	0.13%	-1.35%	-1.35%	-0.24%	0.88%	0.67%	
Active Age-Based Portfolio 5-8	1.27%	7.51%	7.51%	4.91%	10.01%	9.41%	11/04/11
Blended Benchmark Returns	0.83%	8.42%	8.42%	5.01%	8.92%	8.53%	
Difference	0.44%	-0.91%	-0.91%	-0.10%	1.09%	0.88%	
Active Age-Based Portfolio 9-10	0.72%	6.90%	6.90%	4.61%	9.14%	8.64%	11/04/11
Blended Benchmark Returns	0.38%	7.79%	7.79%	4.76%	7.99%	7.65%	
Difference	0.34%	-0.89%	-0.89%	-0.15%	1.15%	0.99%	
Active Age-Based Portfolio 11-12	0.48%	6.64%	6.64%	4.37%	8.30%	7.87%	11/04/11
Blended Benchmark Returns	-0.07%	7.15%	7.15%	4.49%	7.05%	6.77%	
Difference	0.55%	-0.51%	-0.51%	-0.12%	1.25%	1.10%	
Active Age-Based Portfolio 13-14	0.07%	6.26%	6.26%	4.16%	7.48%	7.12%	11/04/11
Blended Benchmark Returns	-0.53%	6.50%	6.50%	4.21%	6.11%	5.88%	
Difference	0.60%	-0.24%	-0.24%	-0.05%	1.37%	1.24%	
Active Age-Based Portfolio 15	0.00%	5.59%	5.59%	3.80%	6.41%	6.13%	11/04/11
Blended Benchmark Returns	-0.74%	5.48%	5.48%	3.63%	4.93%	4.77%	
Difference	0.74%	0.11%	0.11%	0.17%	1.48%	1.36%	
Active Age-Based Portfolio 16	-0.08%	5.03%	5.03%	3.47%	5.69%	5.45%	11/04/11
Blended Benchmark Returns	-0.72%	4.79%	4.79%	3.19%	4.23%	4.10%	
Difference	0.64%	0.24%	0.24%	0.28%	1.46%	1.35%	
Active Age-Based Portfolio 17	-0.08%	4.22%	4.22%	2.98%	4.76%	4.57%	11/04/11
Blended Benchmark Returns	-0.58%	3.91%	3.91%	2.61%	3.42%	3.31%	
Difference	0.50%	0.31%	0.31%	0.37%	1.34%	1.26%	
Active Age-Based Portfolio 18 & Over	0.00%	3.52%	3.52%	2.52%	3.86%	3.72%	11/04/11
Blended Benchmark Returns	-0.45%	3.04%	3.04%	2.02%	2.62%	2.53%	
Difference	0.45%	0.48%	0.48%	0.50%	1.24%	1.19%	
Active Multi-Fund Investment Portfolios							
Active Diversified Equity Portfolio	1.98%	8.24%	8.24%	5.35%	12.23%	11.43%	11/04/11
Blended Benchmark Returns	2.19%	10.24%	10.24%	5.71%	11.69%	11.12%	
Difference	-0.21%	-2.00%	-2.00%	-0.36%	0.54%	0.31%	
Active Growth Portfolio	1.15%	7.37%	7.37%	4.84%	9.98%	9.38%	11/04/11
Blended Benchmark Returns	0.83%	8.42%	8.42%	5.01%	8.92%	8.53%	
Difference	0.32%	-1.05%	-1.05%	-0.17%	1.06%	0.85%	
Active Moderate Growth Portfolio	0.14%	6.34%	6.34%	4.24%	7.52%	7.39%	11/09/11
Blended Benchmark Returns	-0.53%	6.50%	6.50%	4.21%	6.11%	6.07%	
Difference	0.67%	-0.16%	-0.16%	0.03%	1.41%	1.32%	
Active Conservative Portfolio	-0.53%	2.90%	2.90%	2.14%	2.54%	2.50%	11/04/11
Blended Benchmark Returns	-1.13%	2.04%	2.04%	1.55%	1.20%	1.19%	
Difference	0.60%	0.86%	0.86%	0.59%	1.34%	1.31%	
Active International Equity Portfolio	-1.70%	4.77%	4.77%	-1.79%	5.33%	4.81%	11/10/11
Blended Benchmark Returns	-1.12%	4.49%	4.49%	-1.70%	5.17%	4.78%	
Difference	-0.58%	0.28%	0.28%	-0.09%	0.16%	0.03%	
Active Diversified Fixed Income Portfolio	-1.29%	4.70%	4.70%	3.28%	4.04%	4.01%	11/08/11
Blended Benchmark Returns	-2.34%	3.82%	3.82%	2.98%	2.29%	2.32%	
Difference	1.05%	0.88%	0.88%	0.30%	1.75%	1.69%	
Active Single Fund Investment Portfolios							
Social Choice Portfolio	4.01%	13.41%	13.41%	7.11%	13.44%	12.90%	11/04/11
Benchmark Returns	4.21%	12.74%	12.74%	8.43%	14.67%	14.27%	
Difference	-0.20%	0.67%	0.67%	-1.32%	-1.23%	-1.37%	
Principal Plus Interest Portfolio**	0.28%	1.23%	1.23%	1.23%	1.28%	1.28%	11/04/11
Benchmark Returns	0.08%	0.27%	0.27%	0.11%	0.09%	0.06%	
Difference	0.20%	0.96%	0.96%	1.01%	1.19%	1.22%	

* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees and State Administrative Fees (5 bps).

**The crediting rates of 1.20% for the TC Life Funding Agreement in the Active Age-Based Portfolio and 1.30% for the Principal Plus Interest Portfolio are guaranteed through 12/31/17.

ScholarShare College Savings Plan Performance Summary
Actively Managed Portfolios
Asset Allocation, Fees, and Performance
Q4 2016

Investment Portfolios

Active Age-Based Portfolio Age of Beneficiary	Q4 Portfolio Return	Q4 Blended Benchmk Return	Annual Asset Based Fees (bp)*	T. Rowe Price Instl Large Cap Growth Fund	T. Rowe Price Instl Large Cap Value Fund	T. Rowe Price Instl Floating Rate Fund	TIAA-CREF Small Cap Equity Fund	TIAA-CREF Real Estate Securities Fund	DFA Large Cap International Portfolio	DFA Emerging Markets Core Equity I Portfolio	MetWest Total Return Bond Fund	PIMCO Real Return Instl Fund	PIMCO Income Instl Fund	T-C Life Funding Agreement
Underlying Fund Expenses (bp)				56	57	56	42	51	29	62	44	45	45	-
0 - 4	1.42%	1.29%	56	22.68%	22.68%	2.00%	5.04%	5.60%	19.20%	4.80%	10.00%	4.00%	4.00%	0.00%
5 - 8	1.27%	0.83%	56	19.85%	19.85%	3.00%	4.40%	4.90%	16.80%	4.20%	15.00%	6.00%	6.00%	0.00%
9 - 10	0.72%	0.38%	56	17.01%	17.01%	4.00%	3.78%	4.20%	14.40%	3.60%	20.00%	8.00%	8.00%	0.00%
11 - 12	0.48%	-0.07%	55	14.18%	14.18%	5.00%	3.14%	3.50%	12.00%	3.00%	25.00%	10.00%	10.00%	0.00%
13 - 14	0.07%	-0.53%	55	11.34%	11.34%	6.00%	2.52%	2.80%	9.60%	2.40%	30.00%	12.00%	12.00%	0.00%
15	0.00%	-0.74%	50	8.51%	8.51%	6.00%	1.88%	2.10%	7.20%	1.80%	30.00%	12.00%	12.00%	10.00%
16	-0.08%	-0.72%	45	7.09%	7.09%	5.50%	1.57%	1.75%	6.00%	1.50%	27.50%	11.00%	11.00%	20.00%
17	-0.08%	-0.58%	38	5.67%	5.67%	4.50%	1.26%	1.40%	4.80%	1.20%	22.50%	9.00%	9.00%	35.00%
18+	0.00%	-0.45%	31	4.25%	4.25%	3.50%	0.95%	1.05%	3.60%	0.90%	17.50%	7.00%	7.00%	50.00%
Fund's Performance vs Benchmk Q4 2016 (bp)				75	(131)	(67)	151	(52)	(45)	(94)	44	6	437	20

Active Multi-Fund Investment Portfolios

Active Diversified Equity Portfolio	1.98%	2.19%	57	28.35%	28.35%		6.30%	7.00%	24.00%	6.00%				
Active Growth Portfolio	1.15%	0.83%	56	19.85%	19.85%	3.00%	4.40%	4.90%	16.80%	4.20%	15.00%	6.00%	6.00%	
Active Moderate Growth Portfolio	0.14%	-0.53%	55	11.34%	11.34%	6.00%	2.52%	2.80%	9.60%	2.40%	30.00%	12.00%	12.00%	
Active Diversified Fixed Income Portfolio	-1.29%	-2.34%	54			10.00%					50.00%	20.00%	20.00%	
Active Conservative Portfolio	-0.53%	-1.13%	31			5.00%					25.00%	10.00%	10.00%	50.00%
Active International Equity Portfolio	-1.70%	-1.12%	44						80.00%	20.00%				
Fund's Performance vs Benchmk Q4 2016 (bp)				75	(131)	(67)	151	(52)	(45)	(94)	44	6	437	20

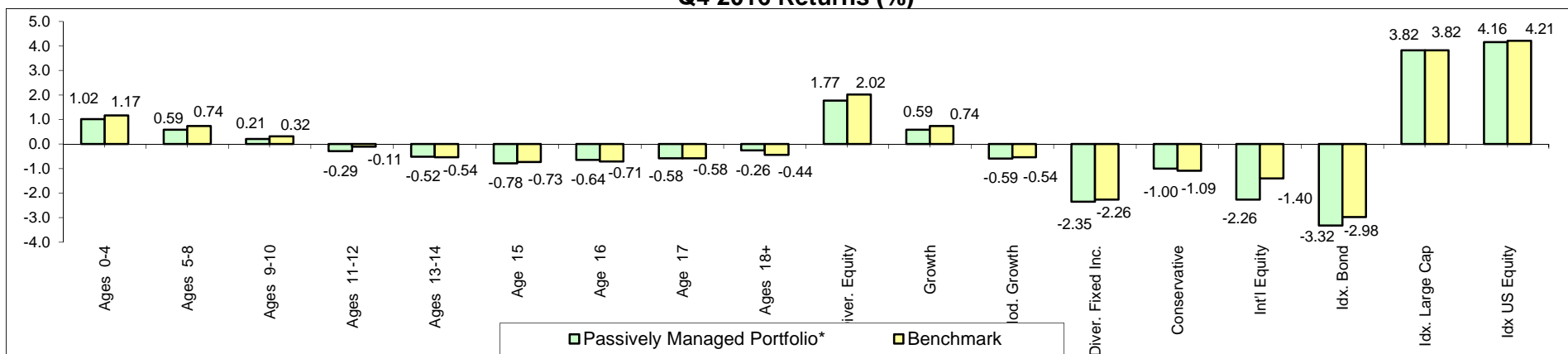
Active Single Fund Investment Portfolios

Investment Portfolios	Q4 Portfolio Return	Q4 Blended Benchmk Return	Annual Asset Based Fees (bp)*	Percent Allocation	Underlying Mutual Fund	Fund's Performance vs Benchmk Q4 2016 (bp)
Social Choice Portfolio	4.01%	4.21%	26	100.00%	TIAA-CREF Social Choice Equity Fund	(16)
Principal Plus Interest Portfolio	0.28%	0.08%	-	100.00%	TIAA-CREF Life Co. Funding Agreement	20

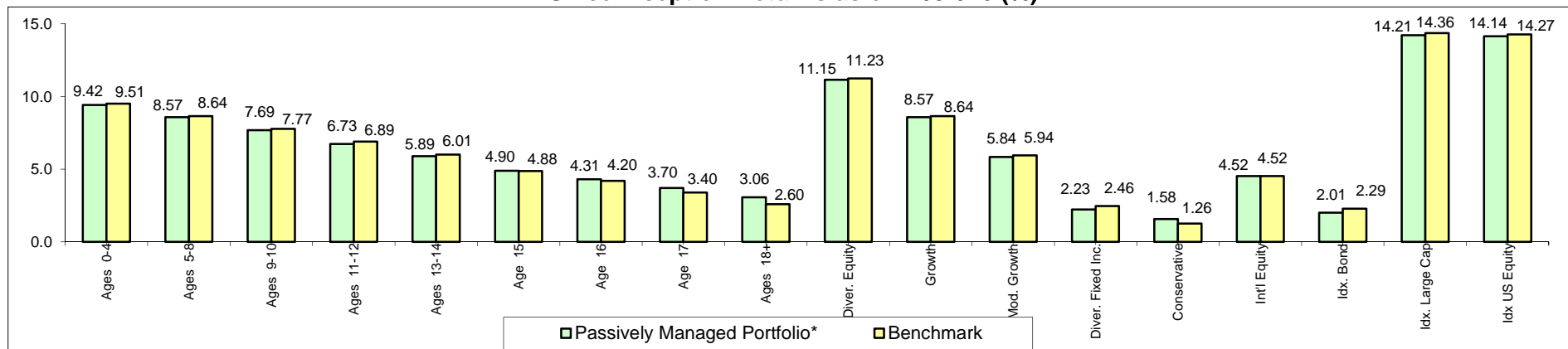
* Asset Based Fees include most recent weighted average Underlying Fund Fees, Program Management Fees and State Administrative Fees (5 bps).

Passively Managed Portfolios vs. Composite Benchmarks

Q4 2016 Returns (%)



Since Inception Returns as of 12/31/16 (%)



* Returns are net of most recent weighted average Underlying Fund Fees and Program Management Fees for the quarter, as well as State Administrative Fees (5 bps) before 11/12/13.

- Of the eight S&P 500 sectors to advance, Financials (+21.1%) performed the best by far, buoyed by the prospects of fewer regulations and a steeper yield curve. Energy (+7.28%) and Telecommunication Services (+4.78%) followed. Real Estate (-4.41%), Health Care (-4%), and Consumer Staples (-2.02%) lagged.
- Meanwhile, the Bloomberg Barclays U.S. Aggregate Bond Index, a proxy for the broad investment-grade bond market, lost 3%—its worst quarter in 35 years—amid a sharp pickup in interest rates.
- Passively Managed Portfolios posted mixed results for the quarter and most modestly trailed their benchmarks after fees.
- The TIAA-CREF Equity Index Fund provided a boost to absolute returns for many portfolios as it posted a gain of 4.18% for the quarter, in line with its benchmark.
- The credit sector outperformed other segments of the fixed income space, and the TIAA-CREF High Yield Fund contributed on both an absolute and relative basis by posting gains of 2.59% in Q4, 133 basis points ahead of its benchmark.
- The Index U.S. Equity Portfolio had the highest absolute returns of all investment portfolios in Q4, returning 4.16%.

ScholarShare College Savings Plan Performance Summary

Passively Managed Portfolios vs. Composite Benchmarks*

For the Period Ending 12/31/2016

Investment Portfolios	3 Month	YTD	Average Annual Total Return				Inception Date
			1 Year	3 Year	5 Year	Since Inception	
Passive Age-Based Portfolio**							
Passive Age-Based Portfolio 0-4	1.02%	8.30%	8.30%	5.09%	9.93%	9.42%	11/04/11
Blended Benchmark Returns	1.17%	8.58%	8.58%	5.25%	9.96%	9.51%	
Difference	-0.15%	-0.28%	-0.28%	-0.16%	-0.03%	-0.09%	
Passive Age-Based Portfolio 5-8	0.59%	7.76%	7.76%	4.87%	7.76%	8.57%	11/04/11
Blended Benchmark Returns	0.74%	8.06%	8.06%	5.01%	9.03%	8.64%	
Difference	-0.15%	-0.30%	-0.30%	-0.14%	-0.03%	-0.07%	
Passive Age-Based Portfolio 9-10	0.21%	7.09%	7.09%	4.58%	8.07%	7.69%	11/04/11
Blended Benchmark Returns	0.32%	7.52%	7.52%	4.76%	8.10%	7.77%	
Difference	-0.11%	-0.43%	-0.43%	-0.18%	-0.03%	-0.08%	
Passive Age-Based Portfolio 11-12	-0.29%	6.55%	6.55%	4.24%	7.05%	6.73%	11/04/11
Blended Benchmark Returns	-0.11%	6.98%	6.98%	4.50%	7.17%	6.89%	
Difference	-0.18%	-0.43%	-0.43%	-0.26%	-0.12%	-0.16%	
Passive Age-Based Portfolio 13-14	-0.52%	6.25%	6.25%	4.06%	6.16%	5.89%	11/04/11
Blended Benchmark Returns	-0.54%	6.42%	6.42%	4.23%	6.23%	6.01%	
Difference	0.02%	-0.17%	-0.17%	-0.17%	-0.07%	-0.12%	
Passive Age-Based Portfolio 15	-0.78%	5.44%	5.44%	3.60%	5.12%	4.90%	11/04/11
Blended Benchmark Returns	-0.73%	5.46%	5.46%	3.65%	5.04%	4.88%	
Difference	-0.05%	-0.02%	-0.02%	-0.05%	0.08%	0.02%	
Passive Age-Based Portfolio 16	-0.64%	4.81%	4.81%	3.26%	4.49%	4.31%	11/04/11
Blended Benchmark Returns	-0.71%	4.78%	4.78%	3.21%	4.33%	4.20%	
Difference	0.07%	0.03%	0.03%	0.05%	0.16%	0.11%	
Passive Age-Based Portfolio 17	-0.58%	4.24%	4.24%	2.87%	3.84%	3.70%	11/04/11
Blended Benchmark Returns	-0.58%	3.92%	3.92%	2.62%	3.50%	3.40%	
Difference	0.00%	0.32%	0.32%	0.25%	0.34%	0.30%	
Passive Age-Based Portfolio 18 & Over	-0.26%	3.55%	3.55%	2.42%	3.18%	3.06%	11/04/11
Blended Benchmark Returns	-0.44%	3.05%	3.05%	2.03%	2.68%	2.60%	
Difference	0.18%	0.50%	0.50%	0.39%	0.50%	0.46%	
Passive Multi-Fund Investment Portfolios							
Passive Diversified Equity Portfolio	1.77%	9.32%	9.32%	5.64%	11.77%	11.15%	11/04/11
Blended Benchmark Returns	2.02%	9.59%	9.59%	5.69%	11.80%	11.23%	
Difference	-0.25%	-0.27%	-0.27%	-0.05%	-0.03%	-0.08%	
Passive Growth Portfolio	0.59%	7.68%	7.68%	4.89%	9.00%	8.57%	11/04/11
Blended Benchmark Returns	0.74%	8.06%	8.06%	5.01%	9.03%	8.64%	
Difference	-0.15%	-0.38%	-0.38%	-0.12%	-0.03%	-0.07%	
Passive Moderate Growth Portfolio	-0.59%	6.27%	6.27%	4.04%	6.16%	5.84%	11/08/11
Blended Benchmark Returns	-0.54%	6.42%	6.42%	4.23%	6.23%	5.94%	
Difference	-0.05%	-0.15%	-0.15%	-0.19%	-0.07%	-0.10%	
Passive Conservative Portfolio	-1.00%	2.65%	2.65%	1.95%	1.61%	1.58%	11/04/11
Blended Benchmark Returns	-1.09%	2.18%	2.18%	1.57%	1.26%	1.26%	
Difference	0.09%	0.47%	0.47%	0.38%	0.35%	0.32%	
Index International Equity Portfolio	-2.26%	3.12%	3.12%	-1.82%	5.63%	4.52%	11/04/11
Blended Benchmark Returns	-1.40%	3.07%	3.07%	-1.70%	5.55%	4.52%	
Difference	-0.86%	0.05%	0.05%	-0.12%	0.08%	0.00%	
Passive Diversified Fixed Income Portfolio	-2.35%	3.99%	3.99%	2.83%	2.19%	2.23%	11/08/11
Blended Benchmark Returns	-2.26%	4.09%	4.09%	3.03%	2.42%	2.46%	
Difference	-0.09%	-0.10%	-0.10%	-0.20%	-0.23%	-0.23%	
Passive Single Fund Investment Portfolios							
Index Bond Portfolio	-3.32%	2.31%	2.31%	2.83%	1.99%	2.01%	11/04/11
Benchmark Returns	-2.98%	2.65%	2.65%	3.03%	2.23%	2.29%	
Difference	-0.34%	-0.34%	-0.34%	-0.20%	-0.24%	-0.28%	
Index U.S. Large Cap Equity Portfolio	3.82%	11.84%	11.84%	8.76%	14.50%	14.21%	11/04/11
Benchmark Returns	3.82%	11.96%	11.96%	8.87%	14.66%	14.36%	
Difference	0.00%	-0.12%	-0.12%	-0.11%	-0.16%	-0.15%	
Index U.S. Equity Portfolio	4.16%	12.71%	12.71%	8.37%	14.55%	14.14%	11/04/11
Benchmark Returns	4.21%	12.74%	12.74%	8.43%	14.67%	14.27%	
Difference	-0.05%	-0.03%	-0.03%	-0.06%	-0.12%	-0.13%	

* Returns are net of most recent weighted average Underlying Fund Fees and Program Management Fees for the quarter, as well as State Administrative Fees (5 bps) before 11/12/13.

**The crediting rate of 1.20% for the TC Life Funding Agreement in the Passive Age-Based Portfolio is guaranteed through 12/31/17.

ScholarShare College Savings Plan Performance Summary
Passively Managed Portfolios
Asset Allocation, Fees, and Performance
Q4 2016

Investment Portfolios

Passive Age-Based Portfolio Age of Beneficiary	Q4 Portfolio Return	Q4 Blended Benchmk Return	Annual Asset Based Fees (bp)*	TIAA-CREF Equity Index Fund	TIAA-CREF International Equity Index Fund	TIAA-CREF Emerging Markets Equity Index Fund	TIAA-CREF Real Estate Securities Fund	TIAA-CREF Bond Index Fund	TIAA-CREF Inflation- Linked Bond Fund	TIAA-CREF High Yield Fund	T-C Life Funding Agreement
Underlying Fund Expenses (bp)				5	6	23	51	12	27	36	0
0 - 4	1.02%	1.17%	14	50.40%	19.20%	4.80%	5.60%	14.00%	4.00%	2.00%	0.00%
5 - 8	0.59%	0.74%	15	44.10%	16.80%	4.20%	4.90%	21.00%	6.00%	3.00%	0.00%
9 - 10	0.21%	0.32%	16	37.80%	14.40%	3.60%	4.20%	28.00%	8.00%	4.00%	0.00%
11 - 12	-0.29%	-0.11%	16	31.50%	12.00%	3.00%	3.50%	35.00%	10.00%	5.00%	0.00%
13 - 14	-0.52%	-0.54%	17	25.20%	9.60%	2.40%	2.80%	42.00%	12.00%	6.00%	0.00%
15	-0.78%	-0.73%	16	18.90%	7.20%	1.80%	2.10%	42.00%	12.00%	6.00%	10.00%
16	-0.64%	-0.71%	15	15.75%	6.00%	1.50%	1.75%	38.50%	11.00%	5.50%	20.00%
17	-0.58%	-0.58%	13	12.60%	4.80%	1.20%	1.40%	31.50%	9.00%	4.50%	35.00%
18 +	-0.26%	-0.44%	11	9.45%	3.60%	0.90%	1.05%	24.50%	7.00%	3.50%	50.00%
Fund's Performance vs Benchmk Q4 2016 (bp)				(3)	(76)	(93)	(52)	(25)	(17)	133	20

Passive Multi-Fund Investment Portfolios

Passive Diversified Equity Portfolio	1.77%	2.02%	13	63.00%	24.00%	6.00%	7.00%				
Passive Growth Portfolio	0.59%	0.74%	15	44.10%	16.80%	4.20%	4.90%	21.00%	6.00%	3.00%	
Passive Moderate Growth Portfolio	-0.59%	-0.54%	17	25.20%	9.60%	2.40%	2.80%	42.00%	12.00%	6.00%	
Passive Diversified Fixed Income Portfolio	-2.35%	-2.26%	20					70.00%	20.00%	10.00%	
Passive Conservative Portfolio	-1.00%	-1.09%	12					35.00%	10.00%	5.00%	50.00%
Index International Equity Portfolio	-2.26%	-1.40%	12		80.00%	20.00%					
Fund's Performance vs Benchmk Q4 2016 (bp)				(3)	(76)	(93)	(52)	(25)	(17)	133	20

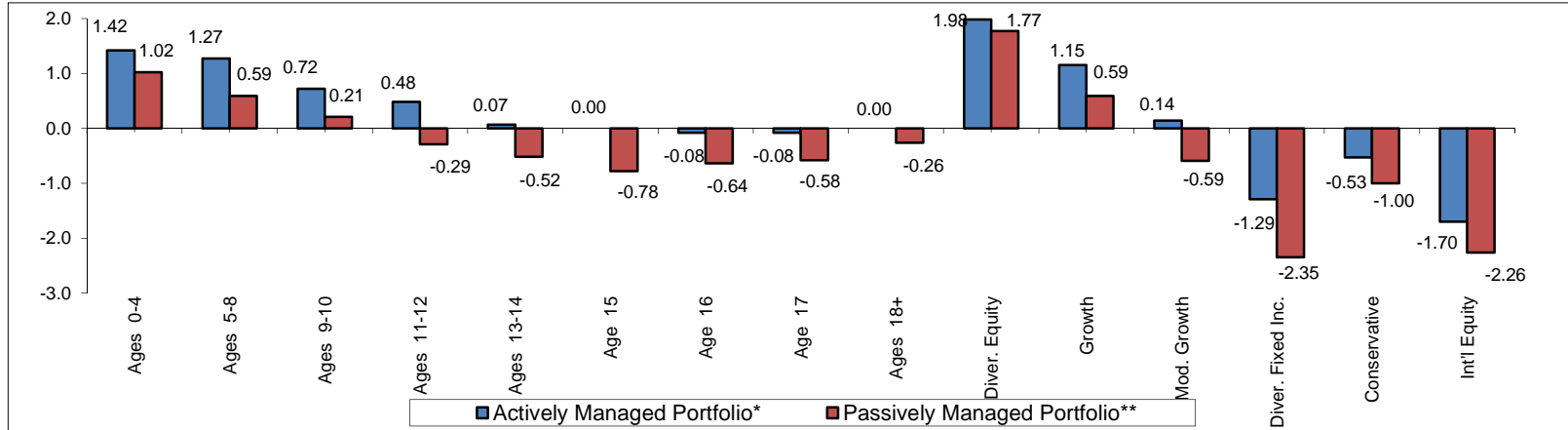
Passive Single Fund Investment Portfolios

Investment Portfolios	Q4 Portfolio Return	Q4 Blended Benchmk Return	Annual Asset Based Fees (bp)*	Percent Allocation	Underlying Mutual Fund	Fund's Performance vs Benchmk Q4 2016 (bp)
Index Bond Portfolio	-3.32%	-2.98%	15	100.00%	TIAA-CREF Bond Index Fund	(25)
Index U.S. Large Cap Equity Portfolio	3.82%	3.82%	9	100.00%	TIAA-CREF S&P 500 Index Fund	(3)
Index U.S. Equity Portfolio	4.16%	4.21%	8	100.00%	TIAA-CREF Equity Index Fund	(3)

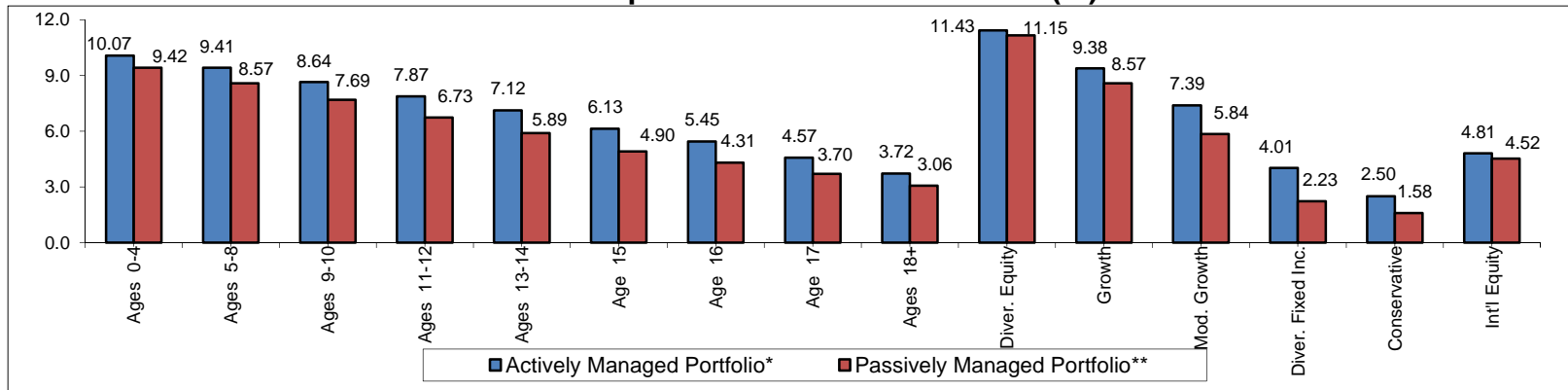
* Asset Based Fees include most recent weighted average Underlying Fund Fees and Program Management Fees.

Actively Managed Portfolios vs. Passively Managed Portfolios

Q4 2016 Returns (%)



Since Inception Returns as of 12/31/16 (%)



* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees, and State Administrative Fees (5 bps).

** Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees, and State Administrative Fees (5 bps) before 11/12/13.

- In Q4, all Actively Managed Portfolios outperformed the Passively Managed Portfolios.
- A few underlying funds in the Active Portfolios outperformed their benchmark, which resulted in higher returns for these portfolios compared to their passive counterparts. For example, the PIMCO Income Fund and TIAA-CREF Small Cap Equity Fund each outperformed their respective benchmark.
- Since Inception returns continue to favor the Actively Managed Portfolios.

ScholarShare College Savings Plan Performance Summary

Underlying Funds vs. Benchmarks

For the Period Ending 12/31/2016

	Average Annual Total Return						Fund Incept. Date
	3 Month	YTD	1 Year	3 Year	5 Year	Life	
TIAA-CREF FUNDS							
T-C Bond Index Fund	-3.23%	2.38%	2.38%	2.90%	2.07%	3.38%	09/14/2009
Bloomberg Barclays U.S. Aggregate Bond Index	-2.98%	2.65%	2.65%	3.03%	2.23%	3.59%	
Difference	-0.25%	-0.27%	-0.27%	-0.13%	-0.16%	-0.21%	
T-C Emerging Markets Equity Index Fund*	-5.09%	11.06%	11.06%	-2.90%	1.00%	0.08%	08/31/2010
MSCI Emerging Markets® Index	-4.16%	11.19%	11.19%	-2.55%	1.28%	0.57%	
Difference	-0.93%	-0.13%	-0.13%	-0.35%	-0.28%	-0.49%	
T-C Equity Index Fund	4.18%	12.76%	12.76%	8.42%	14.62%	5.24%	07/01/1999
Russell 3000 Index	4.21%	12.74%	12.74%	8.43%	14.66%	5.32%	
Difference	-0.03%	0.02%	0.02%	-0.01%	-0.04%	-0.08%	
T-C High Yield Bond Fund	2.59%	16.45%	16.45%	4.74%	6.88%	7.31%	03/31/2006
Merrill Lynch BB/B Cash Pay Index	1.26%	14.76%	14.76%	4.89%	7.04%	7.11%	
Difference	1.33%	1.69%	1.69%	-0.15%	-0.16%	0.20%	
T-C Inflation-Linked Bond Fund	-1.64%	3.65%	3.65%	1.79%	0.50%	4.21%	10/01/2002
Bloomberg Barclays 1-10 Year U.S. TIPS Index	-1.47%	4.01%	4.01%	1.45%	0.70%	3.93%	
Difference	-0.17%	-0.36%	-0.36%	0.34%	-0.20%	0.28%	
T-C International Equity Index Fund*	-1.47%	1.22%	1.22%	-1.63%	6.69%	7.32%	10/01/2002
MSCI EAFE Index	-0.71%	1.00%	1.00%	-1.60%	6.53%	7.32%	
Difference	-0.76%	0.22%	0.22%	-0.03%	0.16%	0.00%	
T-C Real Estate Securities Fund	-3.80%	4.38%	4.38%	11.84%	11.21%	10.61%	10/01/2002
FTSE NAREIT Equity Index	-3.28%	8.63%	8.63%	12.66%	11.97%	11.14%	
Difference	-0.52%	-4.25%	-4.25%	-0.82%	-0.76%	-0.53%	
T-C S&P 500 Index Fund	3.79%	11.87%	11.87%	8.80%	14.57%	9.18%	10/01/2002
S&P 500 Index	3.82%	11.96%	11.96%	8.87%	14.65%	9.27%	
Difference	-0.03%	-0.09%	-0.09%	-0.07%	-0.08%	-0.09%	
T-C Small Cap Equity Fund	10.34%	19.97%	19.97%	8.70%	15.45%	11.28%	10/01/2002
Russell 2000 Index	8.83%	21.31%	21.31%	6.74%	14.45%	11.06%	
Difference	1.51%	-1.34%	-1.34%	1.96%	1.00%	0.22%	
T-C Social Choice Equity Fund	4.05%	13.51%	13.51%	7.22%	13.55%	5.04%	07/01/1999
Russell 3000 Index	4.21%	12.74%	12.74%	8.43%	14.66%	5.32%	
Difference	-0.16%	0.77%	0.77%	-1.21%	-1.11%	-0.28%	
DFA FUNDS							
DFA Emerging Markets Core Equity Portfolio*	-5.10%	12.35%	12.35%	-1.77%	2.14%	6.89%	04/05/2005
MSCI Emerging Markets® Index	-4.16%	11.19%	11.19%	-2.55%	1.28%	6.42%	
Difference	-0.94%	1.16%	1.16%	0.78%	0.86%	0.47%	
DFA Large Cap International Portfolio*	-0.81%	3.16%	3.16%	-1.71%	6.18%	5.30%	07/17/1991
MSCI World Ex US Index	-0.36%	2.75%	2.75%	-1.58%	6.07%	5.41%	
Difference	-0.45%	0.41%	0.41%	-0.13%	0.11%	-0.11%	
METWEST FUNDS							
MetWest Total Return Bond Fund	-2.54%	2.57%	2.57%	2.89%	4.09%	6.27%	07/01/1999
Bloomberg Barclays U.S. Aggregate Bond Index	-2.98%	2.65%	2.65%	3.03%	2.23%	5.15%	
Difference	0.44%	-0.08%	-0.08%	-0.14%	1.86%	1.12%	
PIMCO FUNDS							
PIMCO Income Fund	1.39%	8.72%	8.72%	6.15%	8.89%	9.04%	03/30/2007
Barclays Capital U.S. Aggregate Bond Index	-2.98%	2.65%	2.65%	3.03%	2.23%	4.30%	
Difference	4.37%	6.07%	6.07%	3.12%	6.66%	4.74%	
PIMCO Real Return Fund	-2.35%	5.04%	5.04%	1.85%	0.98%	6.01%	01/29/1997
Bloomberg Barclays U.S. TIPS Index	-2.41%	4.68%	4.68%	2.26%	0.89%	-	
Difference	0.06%	0.36%	0.36%	-0.41%	0.09%	-	
T. ROWE PRICE FUNDS							
T. Rowe Price Instl Floating Rate Fund	1.61%	8.00%	8.00%	3.70%	4.88%	5.44%	01/31/2008
S&P/LSTA Performing Loan Index	2.28%	10.36%	10.36%	4.00%	5.41%	5.60%	
Difference	-0.67%	-2.36%	-2.36%	-0.30%	-0.53%	-0.16%	
T. Rowe Price Instl Large Cap Growth Fund	1.76%	2.85%	2.85%	7.17%	15.88%	8.74%	10/31/2001
Russell 1000 Growth Index	1.01%	7.08%	7.08%	8.55%	14.49%	6.98%	
Difference	0.75%	-4.23%	-4.23%	-1.38%	1.39%	1.76%	
T. Rowe Price Instl Large Cap Value Fund	5.37%	16.20%	16.20%	8.32%	14.94%	8.08%	3/31/2000
Russell 1000 Value Index	6.68%	17.34%	17.34%	8.58%	14.79%	6.64%	
Difference	-1.31%	-1.14%	-1.14%	-0.26%	0.15%	1.44%	

* For funds holding securities traded on foreign exchange that close before the U.S. market, fair value pricing creates tracking error relative to a benchmark index that uses foreign closing prices.

4Q

2016

SCHOLARSHARE COLLEGE SAVINGS PLAN
INVESTMENT PERFORMANCE STATUS REPORT



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AGENDA

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TAKEAWAYS

- Age-based portfolio results were mixed over the most recent quarter. For both actively and passively managed portfolios, early age-bands produced positive results, while mid- to later- age-band returns were flat to negative. All actively managed age-based portfolios outperformed their respective benchmarks.
- US Equity posted gains for the quarter, with small cap generating the strongest results. Notably, the TIAA-CREF Small Cap Equity fund contributed a strong double digit return for the quarter and trailing 1-year period.
- International Equity performed poorly over the quarter, generating negative absolute and relative returns. This offset positive results in US Equity.
- Fixed Income delivered mostly negative returns over the recent quarter, with high yield performing the best. This is reflected in the flat to negative returns of the later age-based portfolios. The TIAA-CREF High Yield Bond fund generated the highest absolute return for the second consecutive quarter. The PIMCO Income fund contributed the most on a benchmark relative basis.

SECTION 1

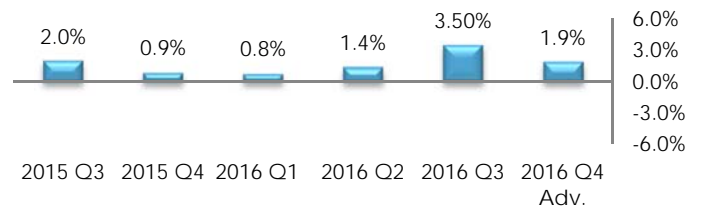
ECONOMIC OVERVIEW

Overview: US GDP growth increased by 1.9% in the fourth quarter. GDP growth during the quarter was driven mostly by consumer spending, private inventory investment, and state and local government spending. The unemployment rate decreased during the fourth quarter to 4.7%. The seasonally adjusted Consumer Price Index for All Urban Consumers increased by 3.4% on an annualized basis during the quarter. Commodities increased during the fourth quarter, and are now up 11.7% over the trailing 1-year period. Global equities were positive for the quarter, 1.3% (MSCI ACWI). The US dollar appreciated against the Euro, Pound, and the Yen. Bond markets produced a negative return over the quarter as the BC Universal decreased by (2.6%).

Economic Growth

- Real GDP increased at an annualized rate of 1.9 percent in the fourth quarter of 2016.
- Real GDP growth was driven by increases in consumer spending, private inventory investment, and state and local government spending.
- GDP growth gains were partially offset during the quarter by declines in exports and federal government spending. Imports, which detract from GDP, increased.

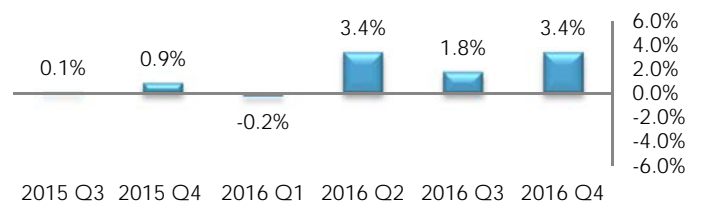
Annualized Quarterly GDP Growth



Inflation

- The Consumer Price Index for All Urban Consumers (CPI-U) increased 3.4 percent in the quarter on an annualized basis after seasonal adjustment.
- Quarterly percentage changes may be adjusted between data publications due to periodic updates in seasonal factors.
- Core CPI-U increased by 2.1 percent for the quarter on an annualized basis after seasonal adjustment.
- Over the last 12 months, core CPI-U increased 2.2 percent after seasonal adjustment.

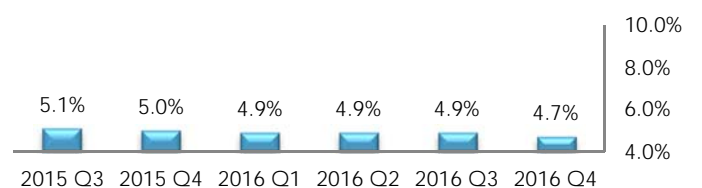
CPI-U After Seasonal Adjustment



Unemployment

- The US economy gained approximately 495,000 jobs in the quarter.
- The unemployment rate decreased to 4.7% at quarter end.
- The majority of jobs gained occurred in education and health services, professional and business services, and health care and social assistance. The majority of jobs lost occurred mining and logging, nondurable goods, and information.

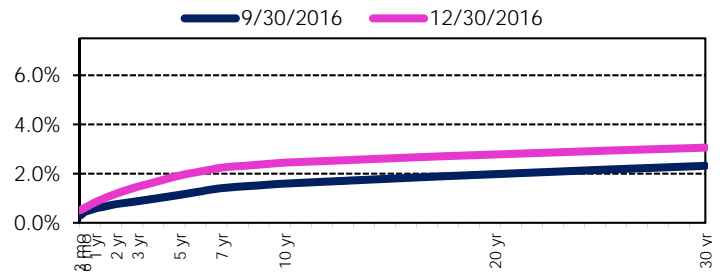
Unemployment Rate



Interest Rates & US Dollar

- US Treasury yields rose on average over the quarter.
- The Federal Reserve has increased the federal funds rate between 0.50 percent and 0.75 percent.
- The US dollar appreciated against the Euro, Pound and the Yen by 6.4%, 4.9%, and 15.4%, respectively.

Treasury Yield Curve Changes

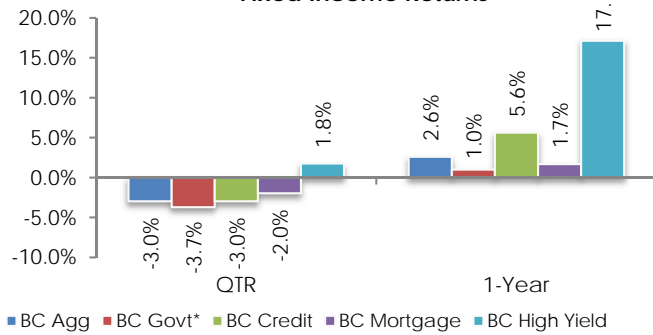


Source: US Treasury Department

Fixed Income

- US bonds delivered mostly negative returns for the quarter, with high yield performing the best, returning 1.8%, while government performed the worst at (-3.7%).
- Over the trailing 1-year period, high yield materially outperformed all other sectors producing a 17.1% return. Credit also performed favorably with a n annual return of 5.6%.

Fixed Income Returns



*US Treasuries and Agencies

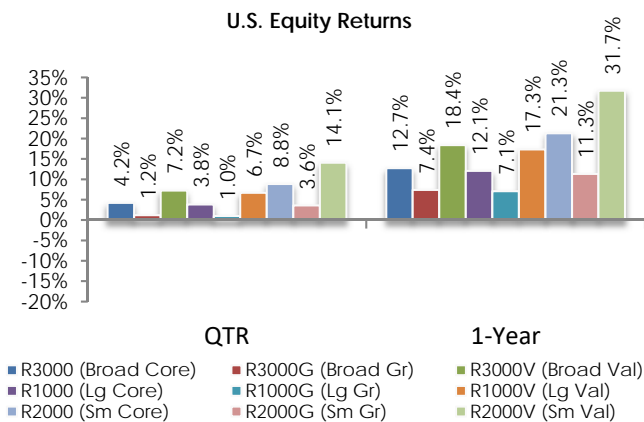
US Fixed Income Sector Performance (BC Aggregate Index)

Sector	Weight	QTR	1 Year
Governments*	40.0%	-3.7%	1.3%
Agencies	3.9%	-2.1%	2.3%
Inv. Grade Credit	25.7%	-2.8%	6.1%
MBS	28.1%	-2.0%	1.7%
ABS	0.5%	-0.7%	2.0%
CMBS	1.7%	-3.0%	3.3%

*US Treasuries and Government Related

US Equities

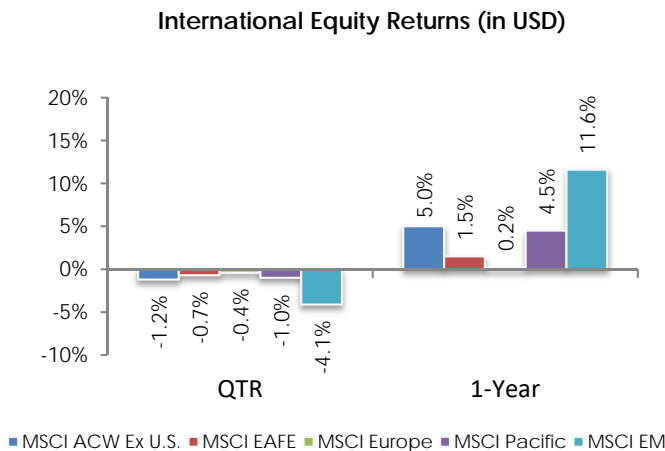
- During the quarter, value stocks dominated growth stocks across the market capitalization spectrum. In terms of market capitalization, small cap stocks provided the strongest returns across styles. Large cap growth stocks returned this quarter’s weakest return at 1.0%, and small cap value provided the best results (+14.1%).
- During the 1-year period, US equities provided positive double digit returns, with the top performer, small cap value, returning 31.7%. Conversely, large cap growth trailed all other market caps and styles with a return of 7.1%.



US Equity Sector Performance (Russell 3000 Index)			
Sector	Weight	QTR	1 Year
Information Tech.	19.9%	2.2%	16.4%
Financials	15.5%	22.3%	23.2%
Health Care	13.0%	-2.9%	1.4%
Consumer Disc.	12.5%	4.1%	8.9%
Industrials	10.9%	9.2%	22.6%
Consumer Staples	8.3%	-1.0%	6.3%
Energy	7.0%	8.4%	33.8%
Real Estate	4.0%	-1.9%	9.7%
Utilities	3.1%	1.0%	17.6%
Materials	3.4%	7.5%	31.0%
Telecomm. Serv.	2.4%	5.7%	24.1%

International Equities

- International equities performed poorly over the quarter as each region provided negative returns. The best performer was Europe, with a return of minus (0.4%). Emerging markets trailed all other regions with a return of minus (4.1%).
- Over the trailing 1-year period, international equities were positive across the board. Emerging markets provided a double digit return of 11.6%, while Europe underperformed all other regions with a 0.2% 1-year return.



International Equity Region Performance (in USD) (MSCI ACW Index ex US)			
Sector	Weight	QTR	1 Year
Europe Ex. UK	31.6%	-0.2%	0.3%
Emerging Markets	22.8%	-4.1%	11.6%
Japan	17.0%	-0.1%	2.7%
United Kingdom	13.0%	-0.9%	-0.0%
Pacific Ex. Japan	8.6%	-2.7%	8.0%
Canada	7.1%	3.4%	25.5%

Market Summary – Long-term Performance*

Indexes	Month	Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Global Equity							
MSCI AC World Index	2.2%	1.3%	8.5%	3.7%	10.0%	4.1%	6.1%
Domestic Equity							
S&P 500	2.0%	3.8%	12.0%	8.9%	14.7%	6.9%	7.7%
Russell 3000	2.0%	4.2%	12.7%	8.4%	14.7%	7.1%	7.9%
Russell 3000 Growth	1.2%	1.2%	7.4%	8.3%	14.4%	8.3%	6.8%
Russell 3000 Value	2.6%	7.2%	18.4%	8.6%	14.8%	5.8%	8.4%
Russell 1000	1.9%	3.8%	12.1%	8.6%	14.7%	7.1%	7.9%
Russell 1000 Growth	1.2%	1.0%	7.1%	8.6%	14.5%	8.3%	6.9%
Russell 1000 Value	2.5%	6.7%	17.3%	8.6%	14.8%	5.7%	8.3%
Russell 2000	2.8%	8.8%	21.3%	6.7%	14.5%	7.1%	8.2%
Russell 2000 Growth	1.4%	3.6%	11.3%	5.1%	13.7%	7.8%	6.3%
Russell 2000 Value	4.1%	14.1%	31.7%	8.3%	15.1%	6.3%	9.7%
Russell Microcap	4.6%	10.0%	20.4%	5.8%	15.6%	5.5%	---
CBOE BXM Index	0.1%	2.6%	7.1%	6.0%	7.2%	4.3%	6.8%
International Equity							
MSCI AC World Index ex USA	2.6%	-1.2%	5.0%	-1.3%	5.5%	1.4%	5.0%
MSCI EAFE	3.4%	-0.7%	1.5%	-1.2%	7.0%	1.2%	4.6%
MSCI Pacific	5.3%	-0.4%	0.2%	-2.6%	6.9%	1.0%	5.8%
MSCI Europe	0.5%	-1.0%	4.5%	1.7%	7.4%	1.8%	2.6%
MSCI EM (Emerging Markets)	0.3%	-4.1%	11.6%	-2.2%	1.6%	2.2%	5.7%
Fixed Income							
BC Universal	0.3%	-2.6%	3.9%	3.3%	2.8%	4.6%	5.5%
Global Agg. - Hedged	0.3%	-2.3%	3.9%	4.1%	3.6%	4.4%	5.3%
BC Aggregate Bond	0.1%	-3.0%	2.6%	3.0%	2.2%	4.3%	5.3%
BC Government	-0.1%	-3.7%	1.0%	2.3%	1.2%	3.9%	4.9%
BC Credit Bond	0.6%	-3.0%	5.6%	4.1%	3.8%	5.3%	5.9%
BC Mortgage Backed Securities	0.0%	-2.0%	1.7%	3.1%	2.1%	4.3%	5.2%
BC High Yield	1.8%	1.8%	17.1%	4.7%	7.4%	7.5%	7.0%
BC WGIL All Maturities - Hedged	1.4%	-2.1%	10.2%	5.9%	3.5%	5.1%	---
Emerging Markets Debt	1.1%	-2.6%	9.9%	5.3%	5.7%	6.7%	8.8%
Real Estate							
NCREIF	0.7%	2.1%	8.8%	12.1%	12.2%	5.8%	9.3%
FTSE NAREIT All Equity Index	4.2%	-2.9%	9.3%	12.4%	12.0%	4.7%	9.1%
Commodity Index							
Bloomberg Commodity Index	1.8%	2.7%	11.7%	-11.3%	-9.0%	-5.6%	0.5%

* Performance is annualized for periods greater than one year.

SECTION 2

INVESTMENT MARKET RISK METRICS

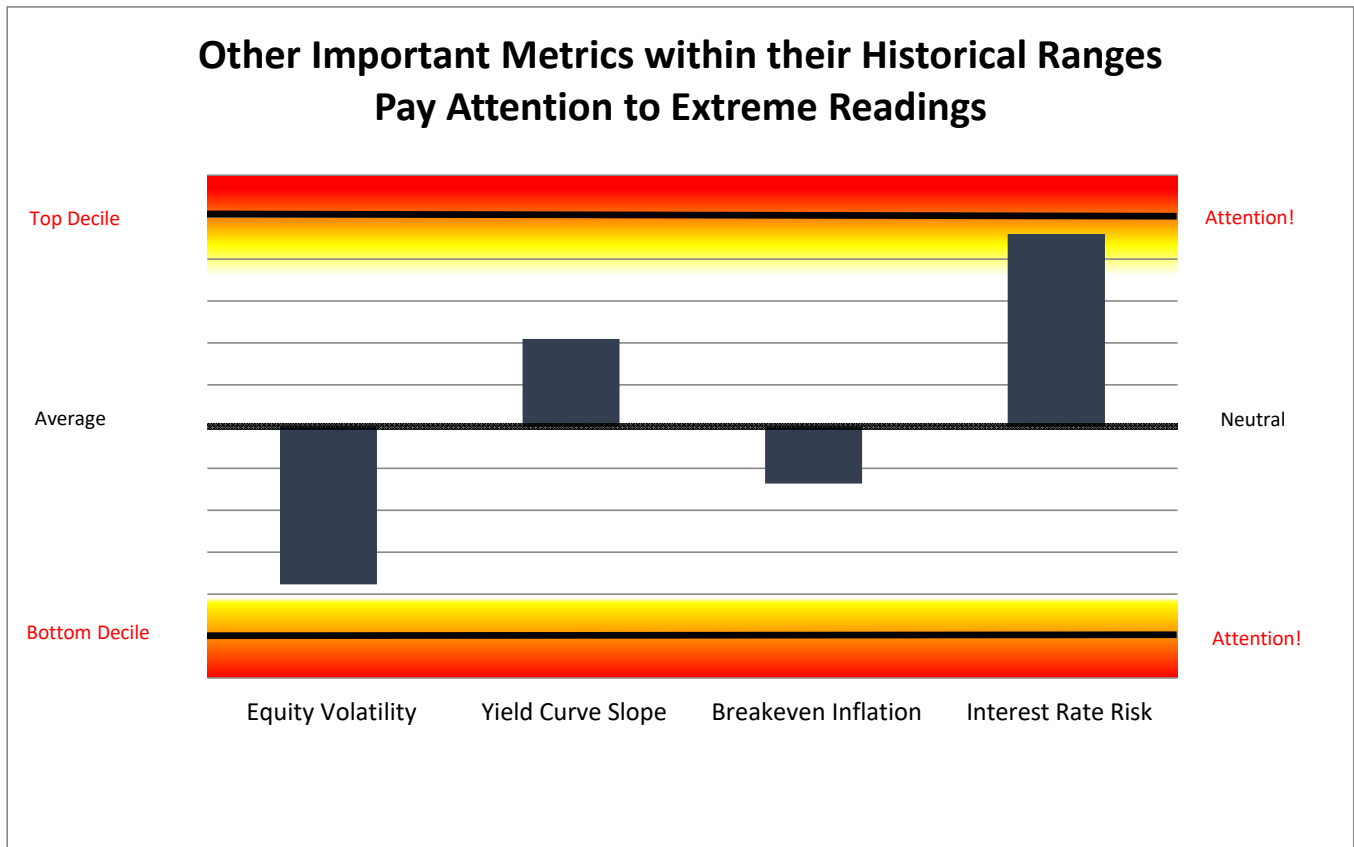
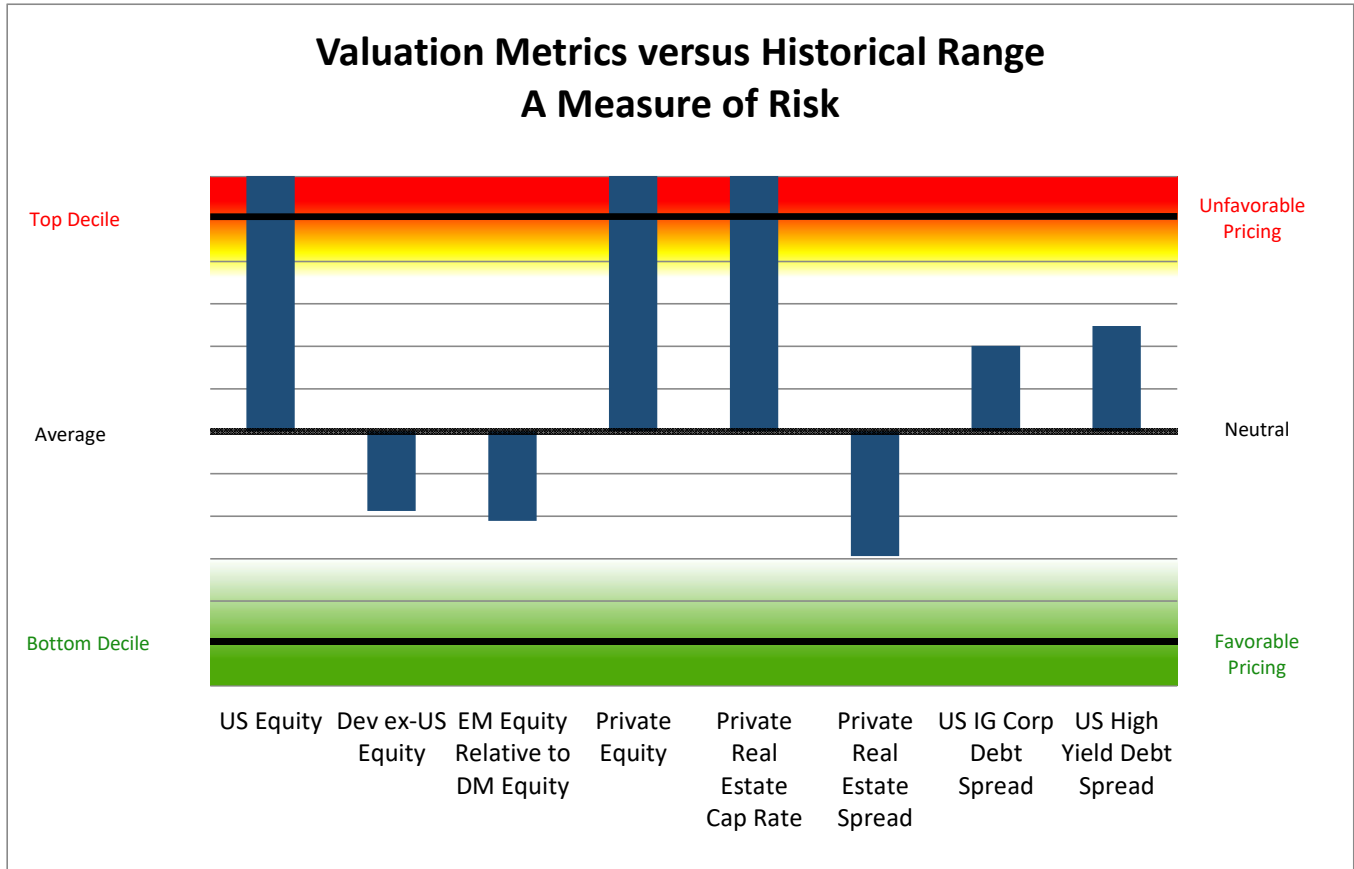


Takeaways

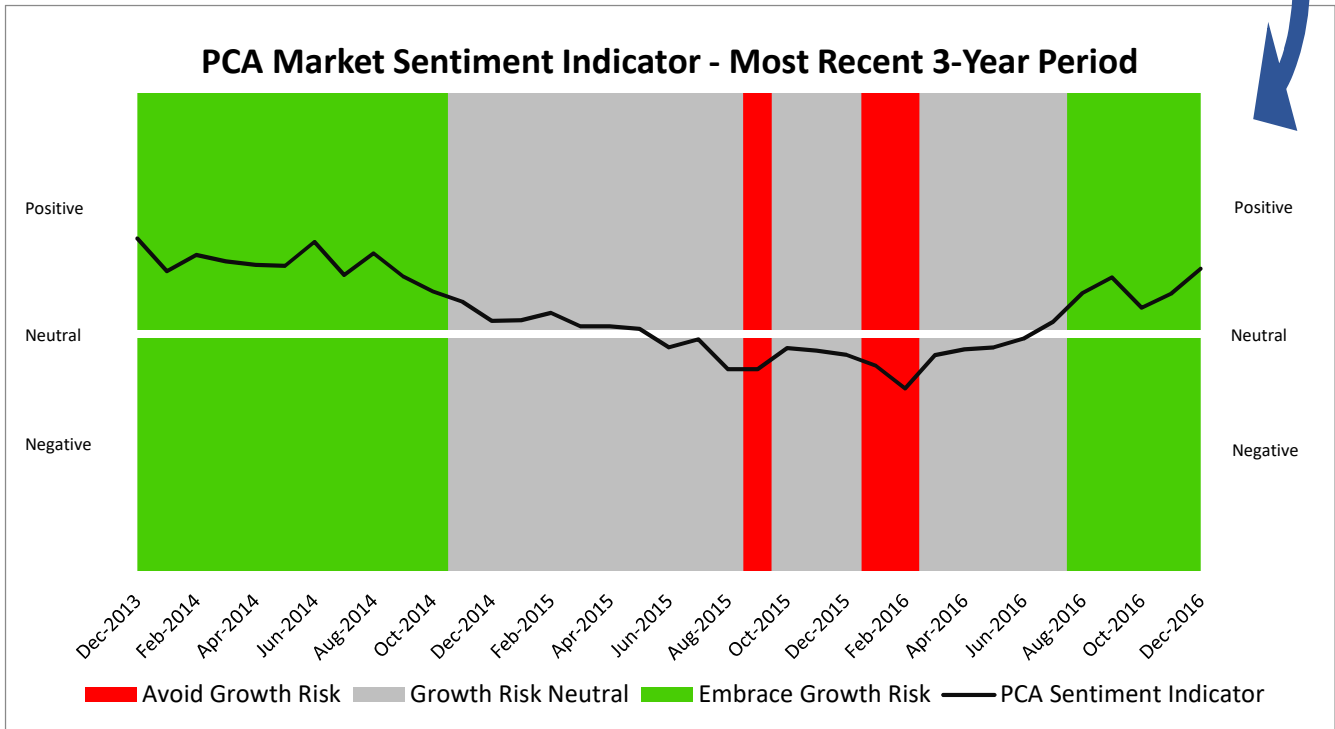
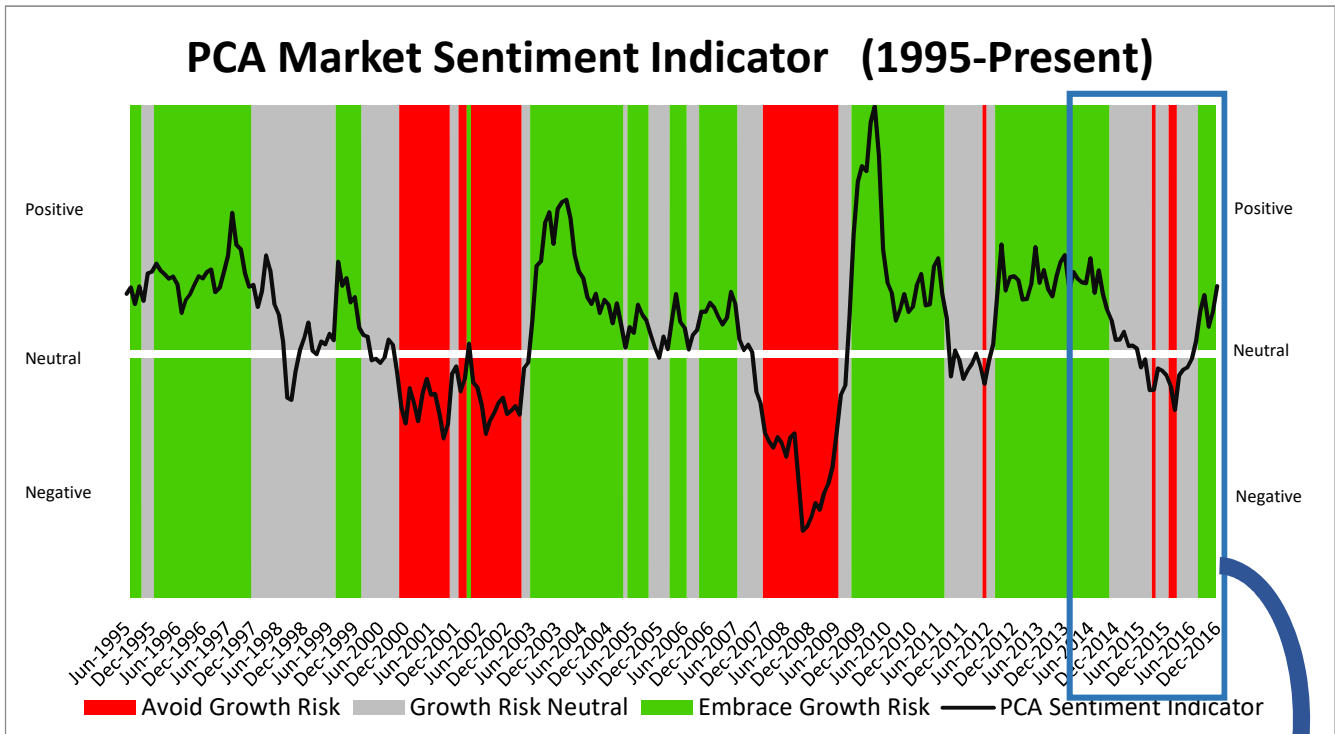
- PCA's sentiment indicator became significantly more positive by year end, as risk assets rallied hard from earlier in the year. The sentiment indicator remains **green**.
- U.S. public equity and private equity valuation became even more extended.
- U.S. credit spreads narrowed in both investment grade and high yield.
- Non-U.S. developed and emerging market valuations are historically cheap relative to their own histories, and relative to U.S. levels, even after appreciating into year end.
- The 10-year Treasury interest rate moved up sharply from earlier in the year to 2.5%.
- Fundamental momentum remains positive in most US markets and rents are expected to move up with interest rates. However, historically high private-real-estate valuations may be worth examining, given the 100 basis point rise in rates since October. Real estate financing tends to be driven by expectations for the 10-year Treasury rates.
- Inflation indicators moved up at year end, off of decade low levels.
- Real yields moved up and into positive territory for the first time in over a year, indicating growth concerns easing somewhat in the U.S.
- The yield curve slope steepened, potentially indicting higher levels of uncertainty concerning rates / growth / inflation to come, with the new administration's policies intermediate to long term.

¹See Appendix for the rationale for selection and calculation methodology used for the risk metrics.

Risk Overview



Market Sentiment



Information Behind Current Sentiment Reading

Bond Spread Momentum Trailing-Twelve Months

Positive	■
Positive	■
Agree	■

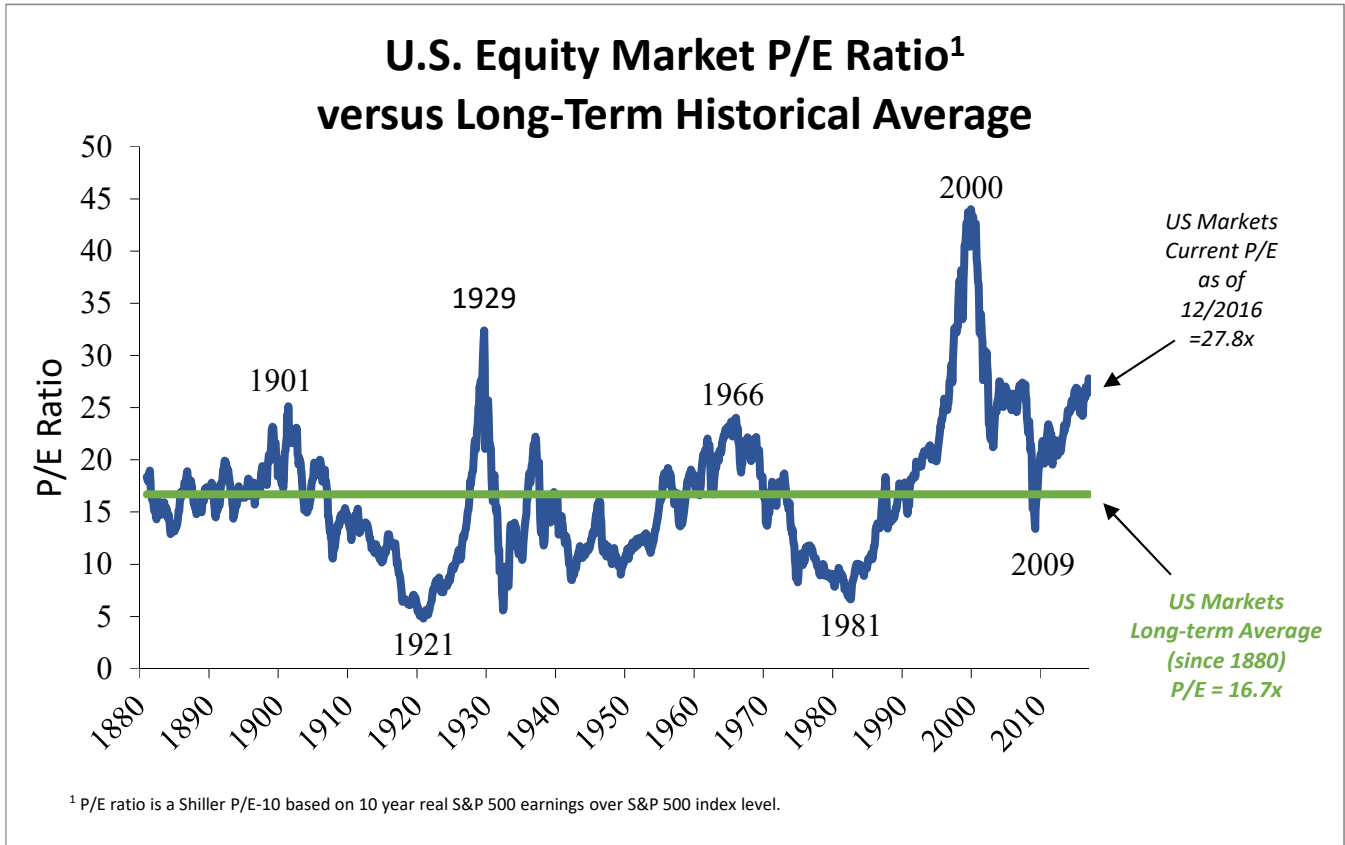
Equity Return Momentum Trailing-Twelve Months

Agreement Between Bond Spread and Equity Spread Momentum Measures?

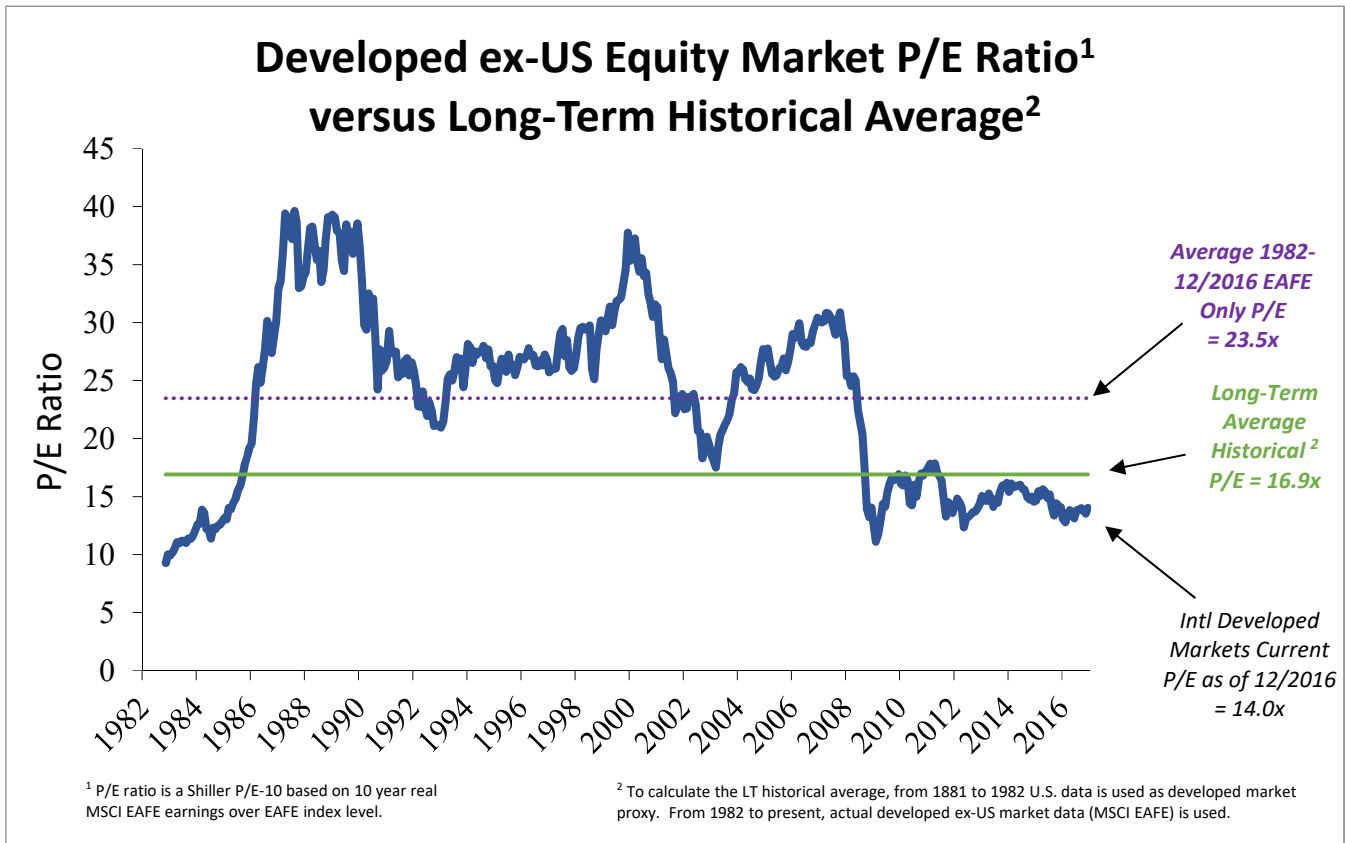
Growth Risk Visibility (Current Overall Sentiment)

Positive	■
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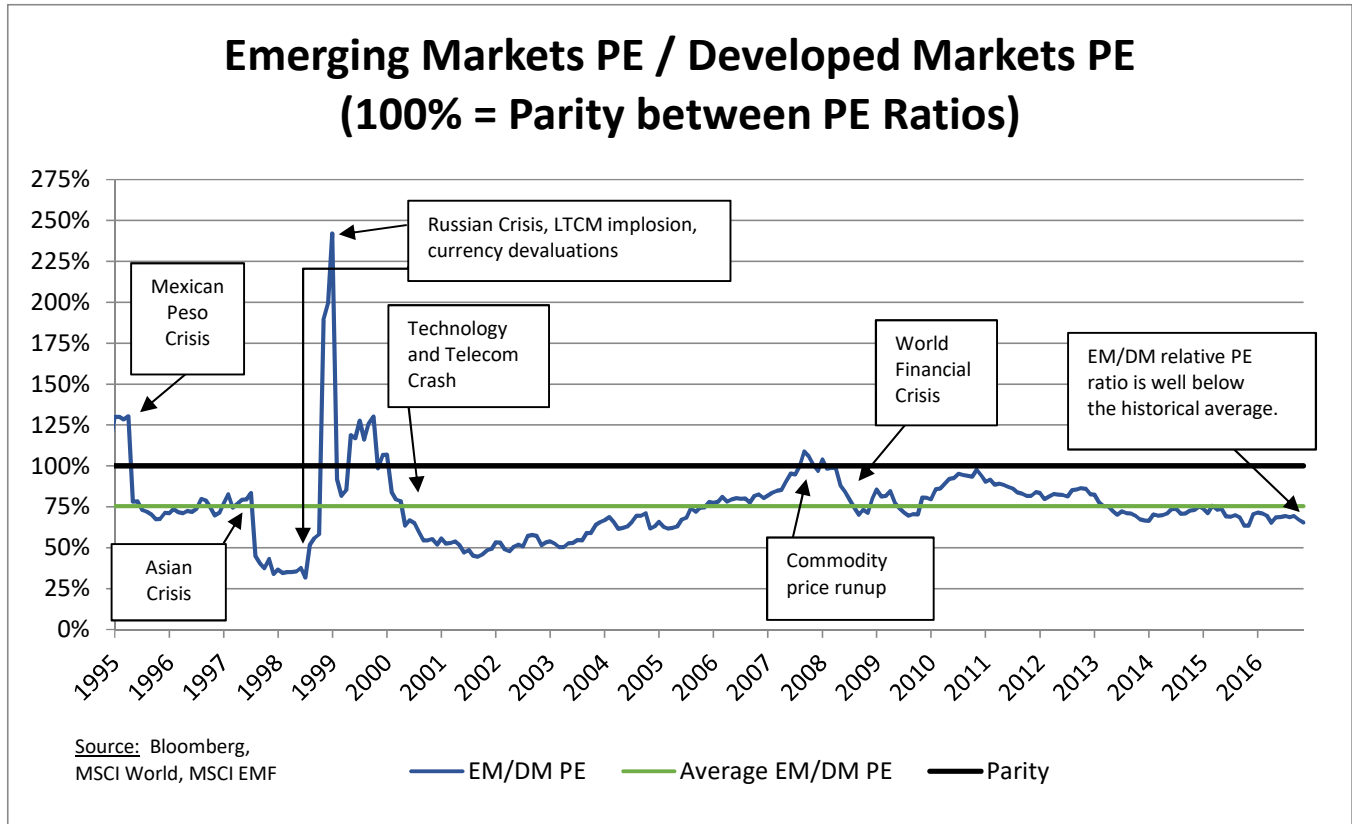
Developed Public Equity Markets



(Please note the different time scales)

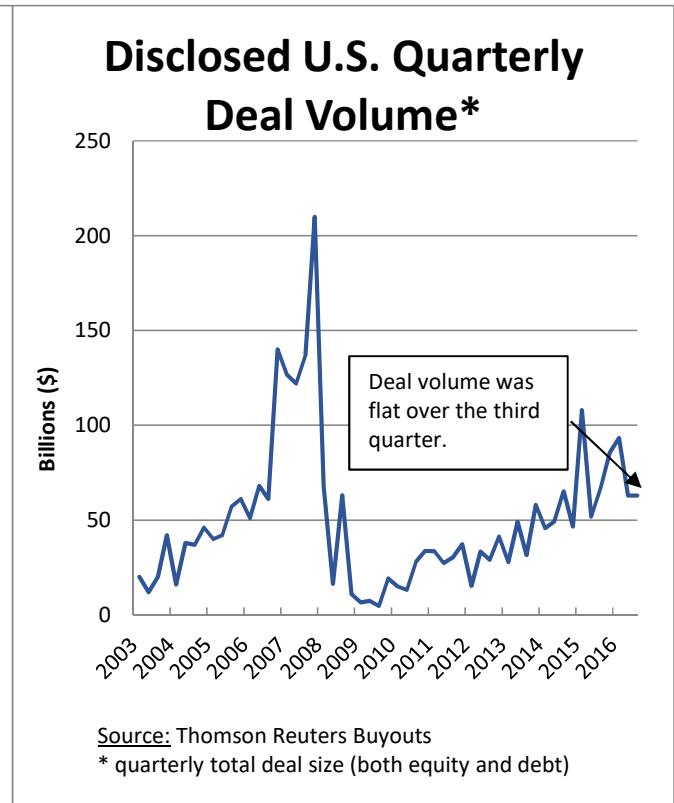
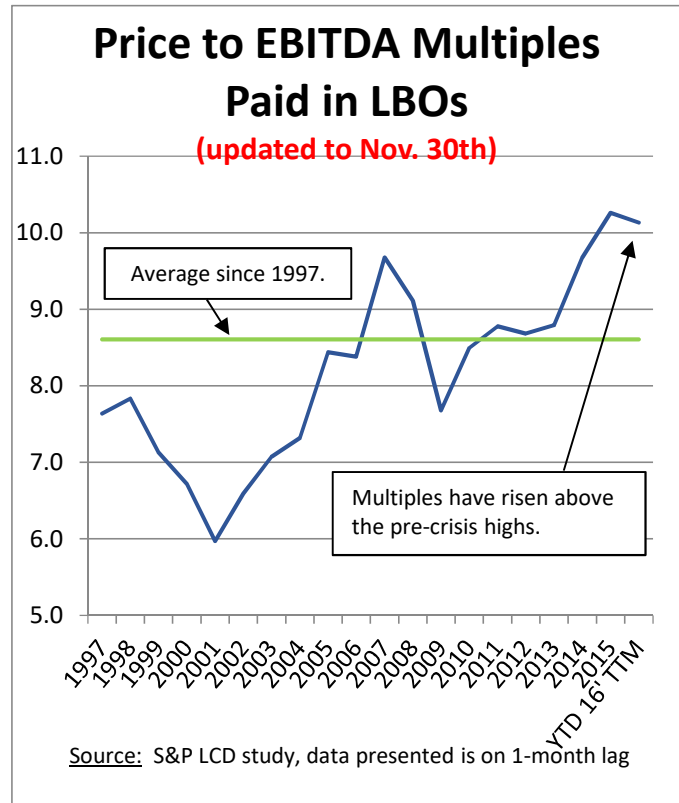


Emerging Market Public Equity Markets



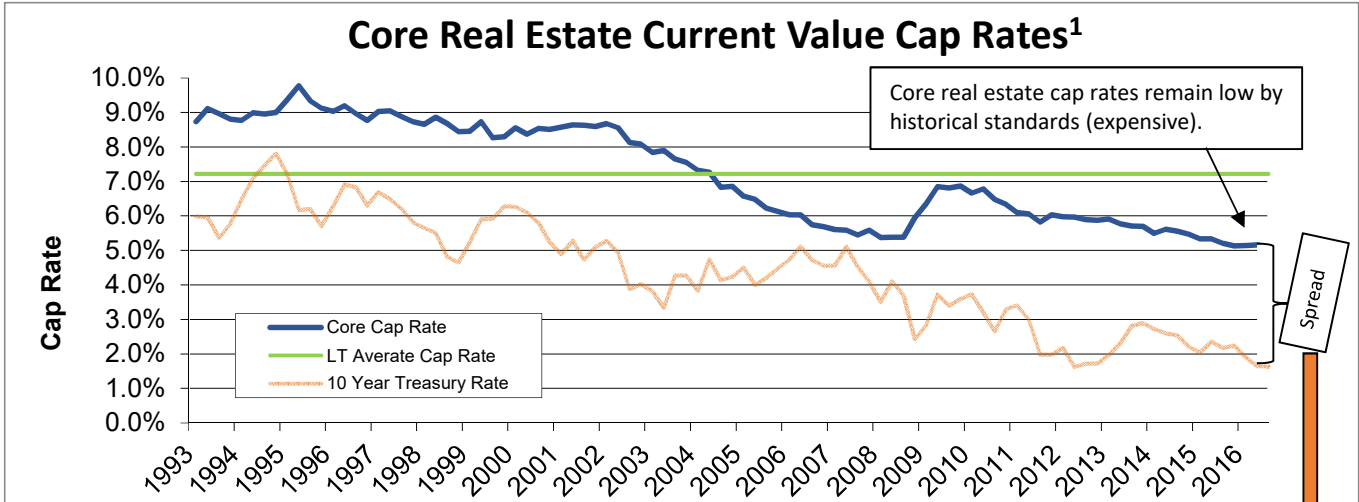
US Private Equity

Quarterly Data, Updated to Sep. 30th.

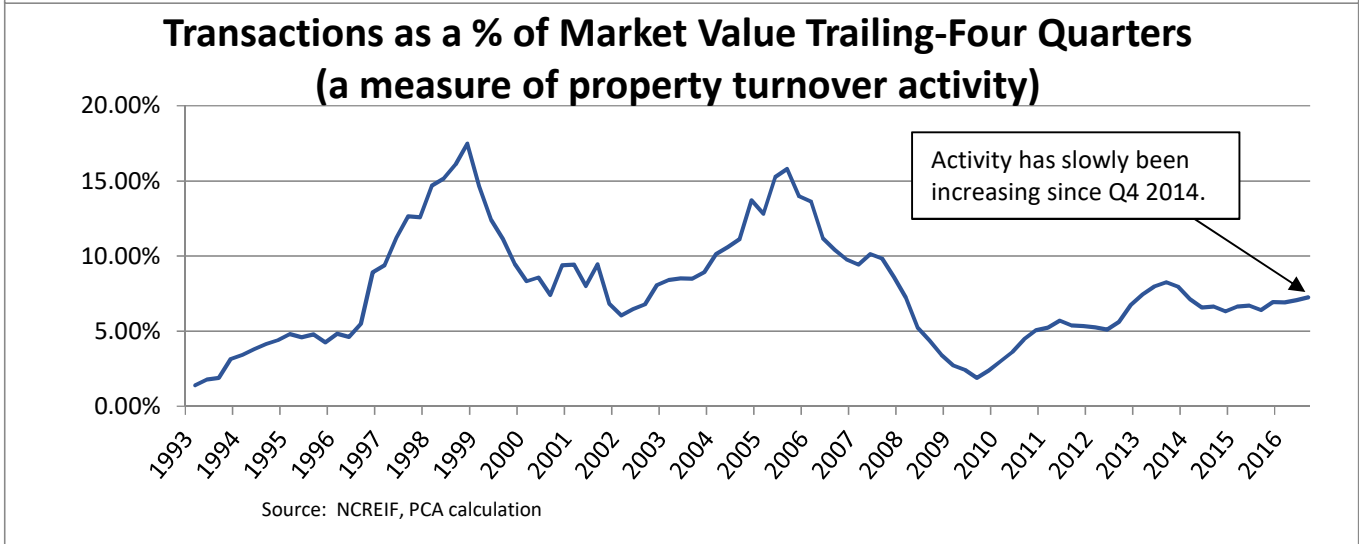
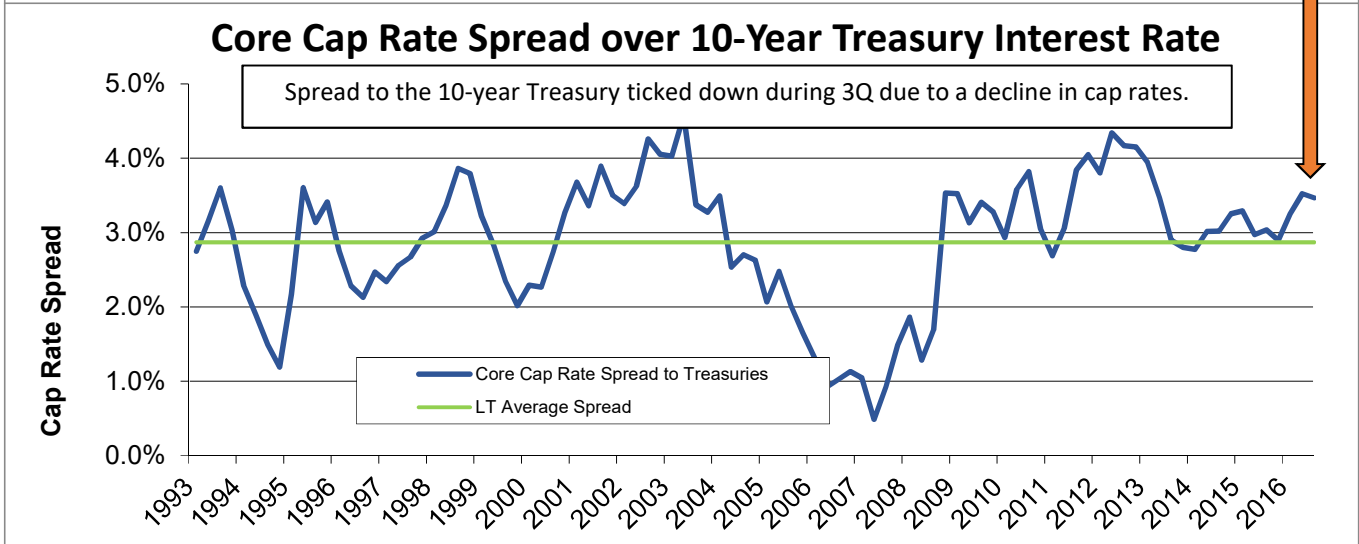


Private Real Estate Markets

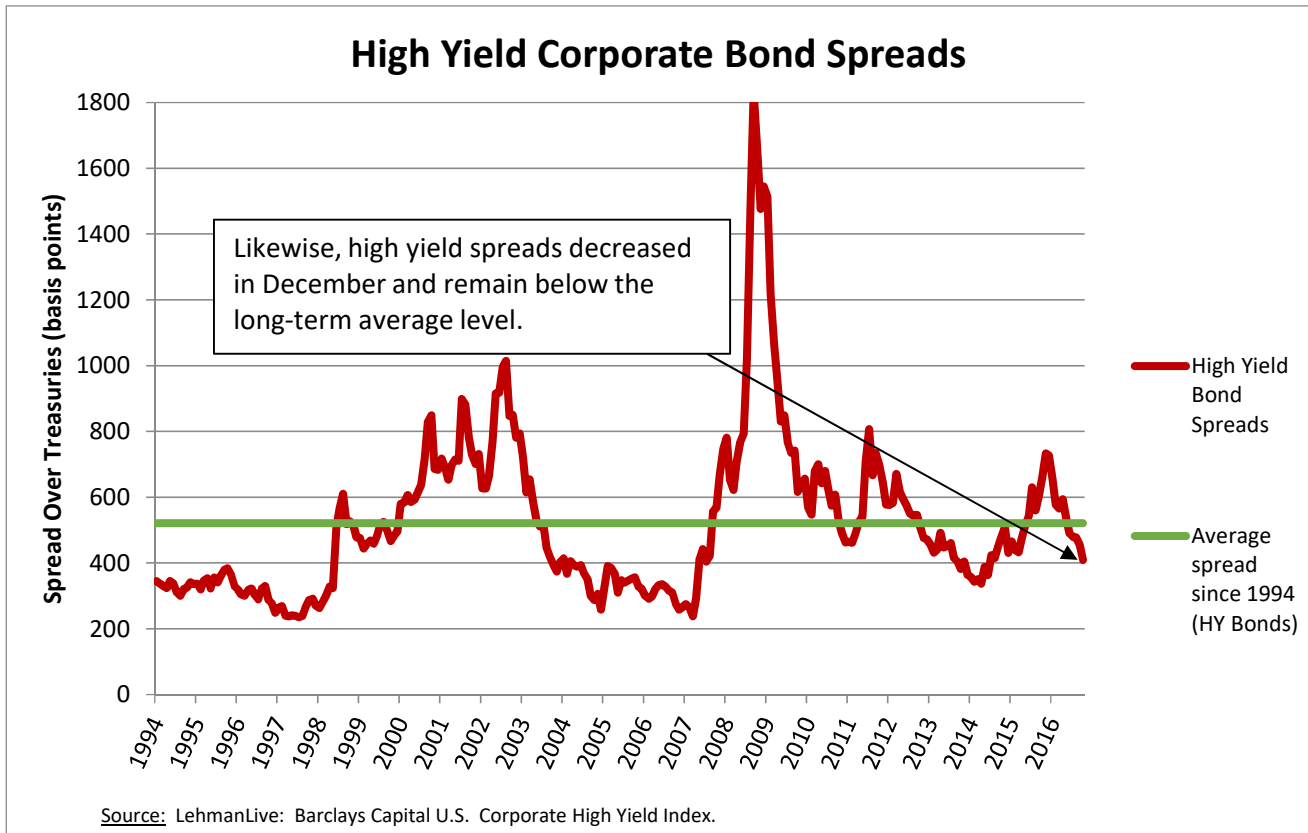
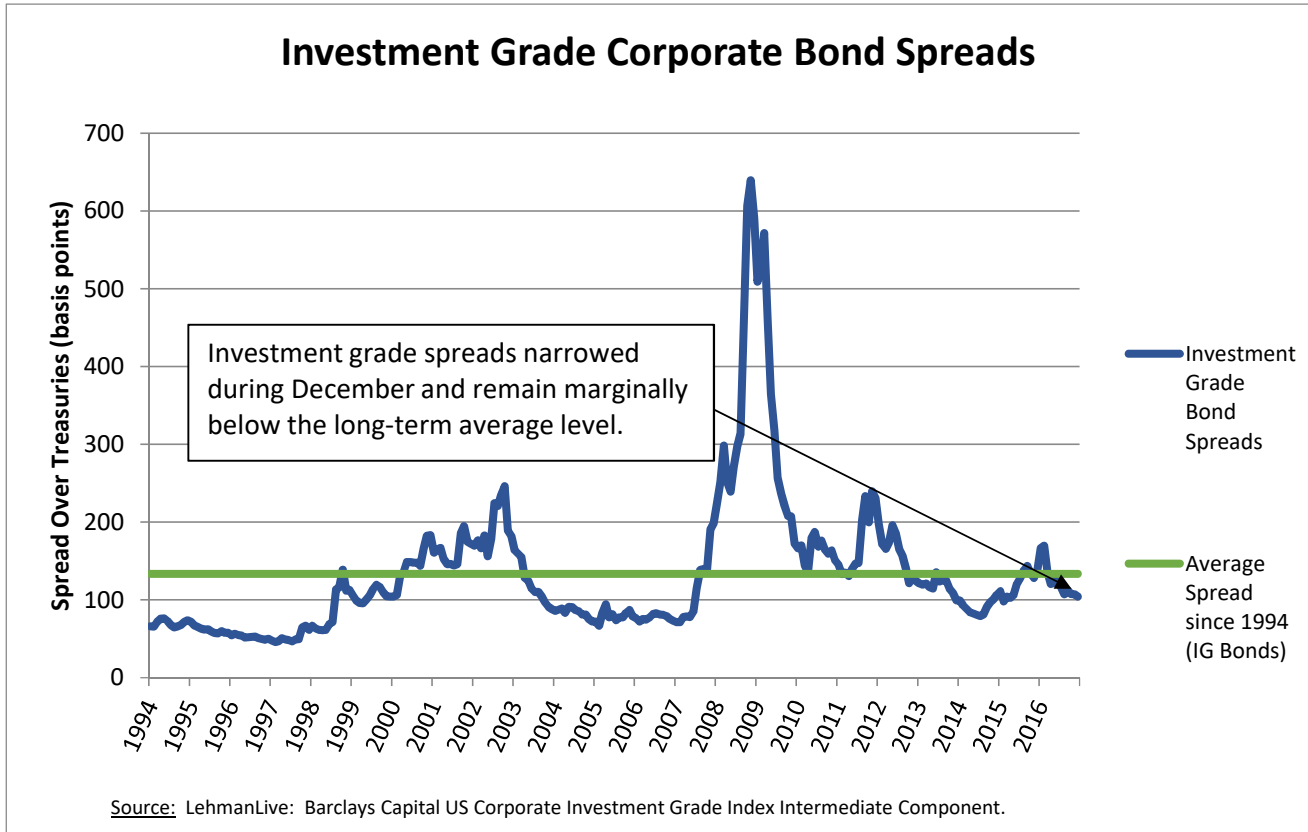
Quarterly Data, Updated to Sep. 30th



Sources: NCREIF, www.ustreas.gov ¹A cap rate is the current annual income of the property divided by an estimate of the current value of the property. It is the current yield of the property. Low cap rates indicate high valuations.

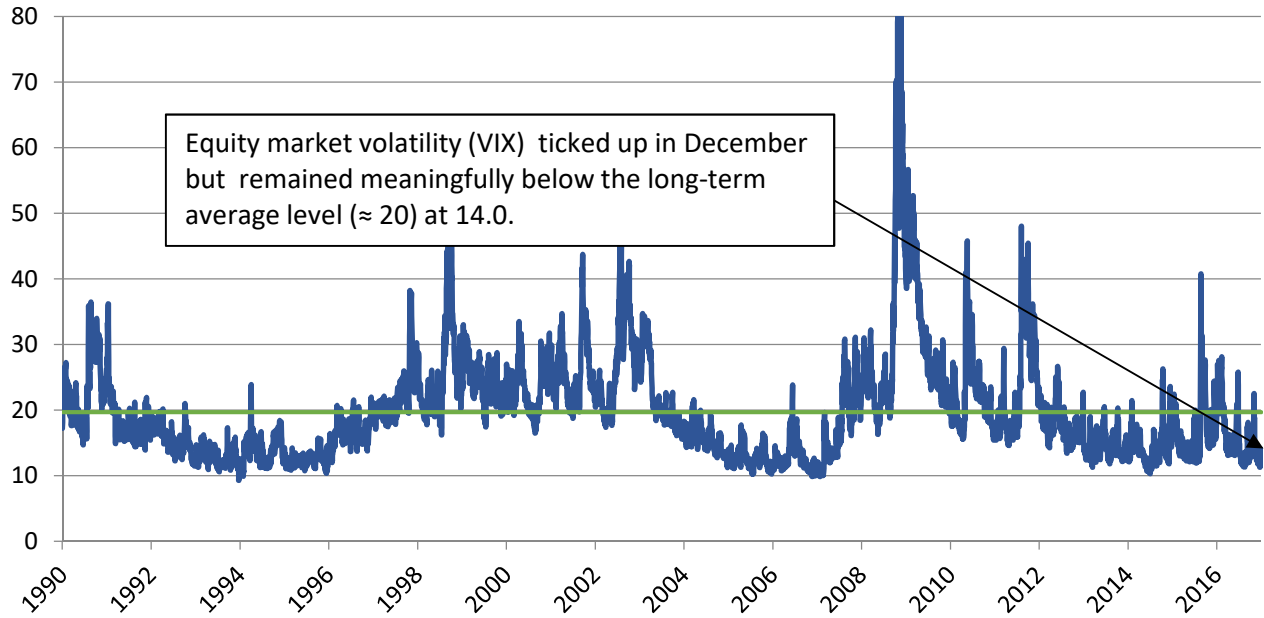


Credit Markets US Fixed Income



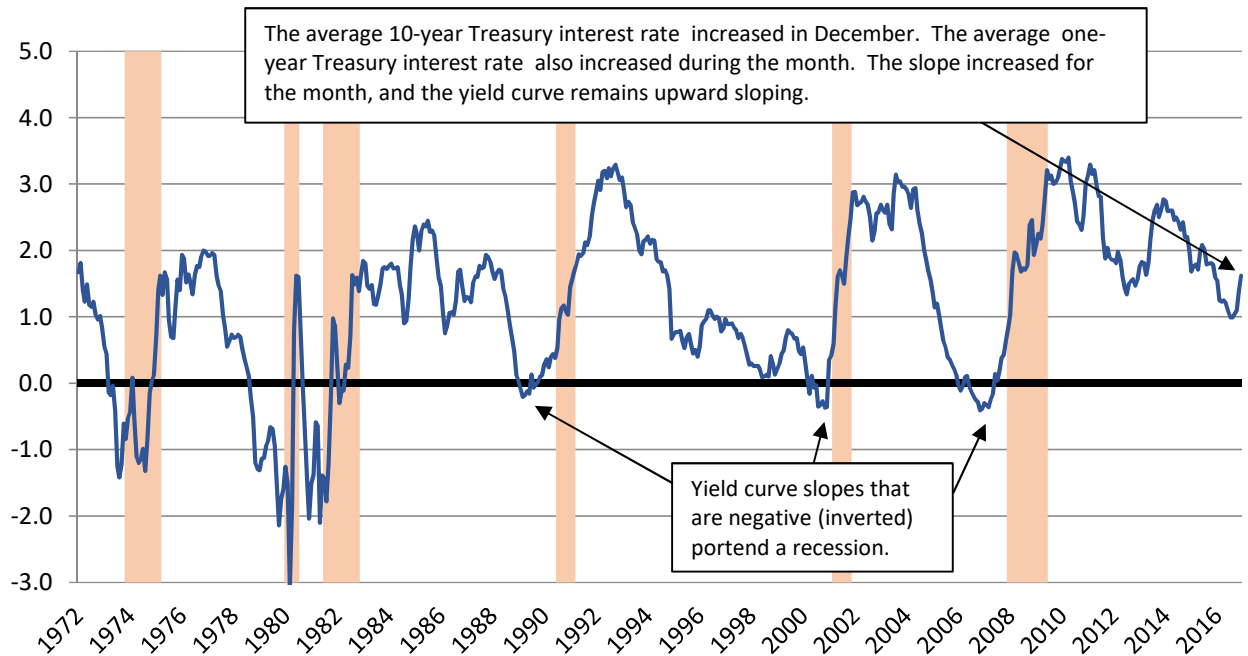
Other Market Metrics

VIX - a measure of equity market fear / uncertainty



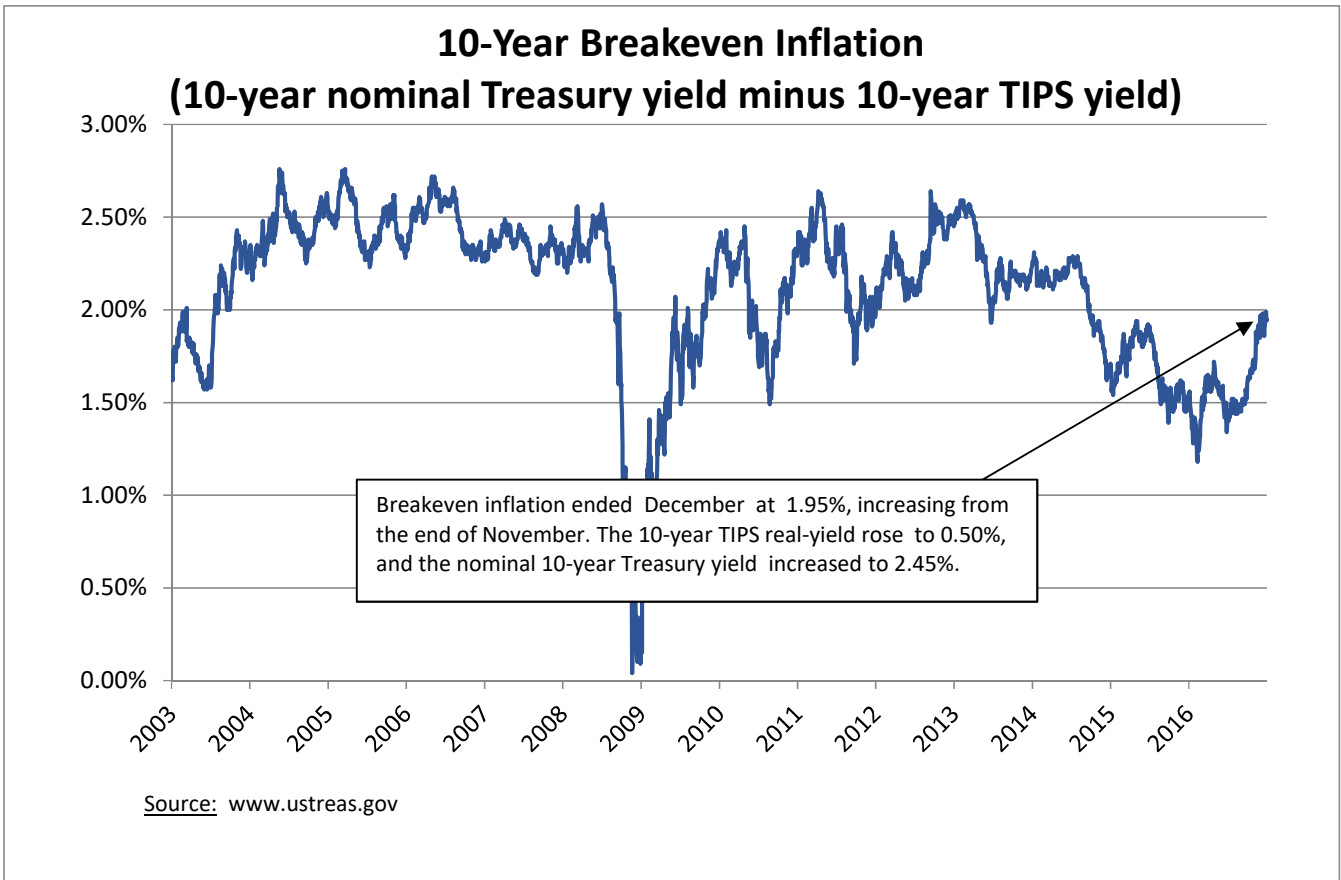
Source: <http://www.cboe.com/micro/vix/historical.aspx>

Yield Curve Slope

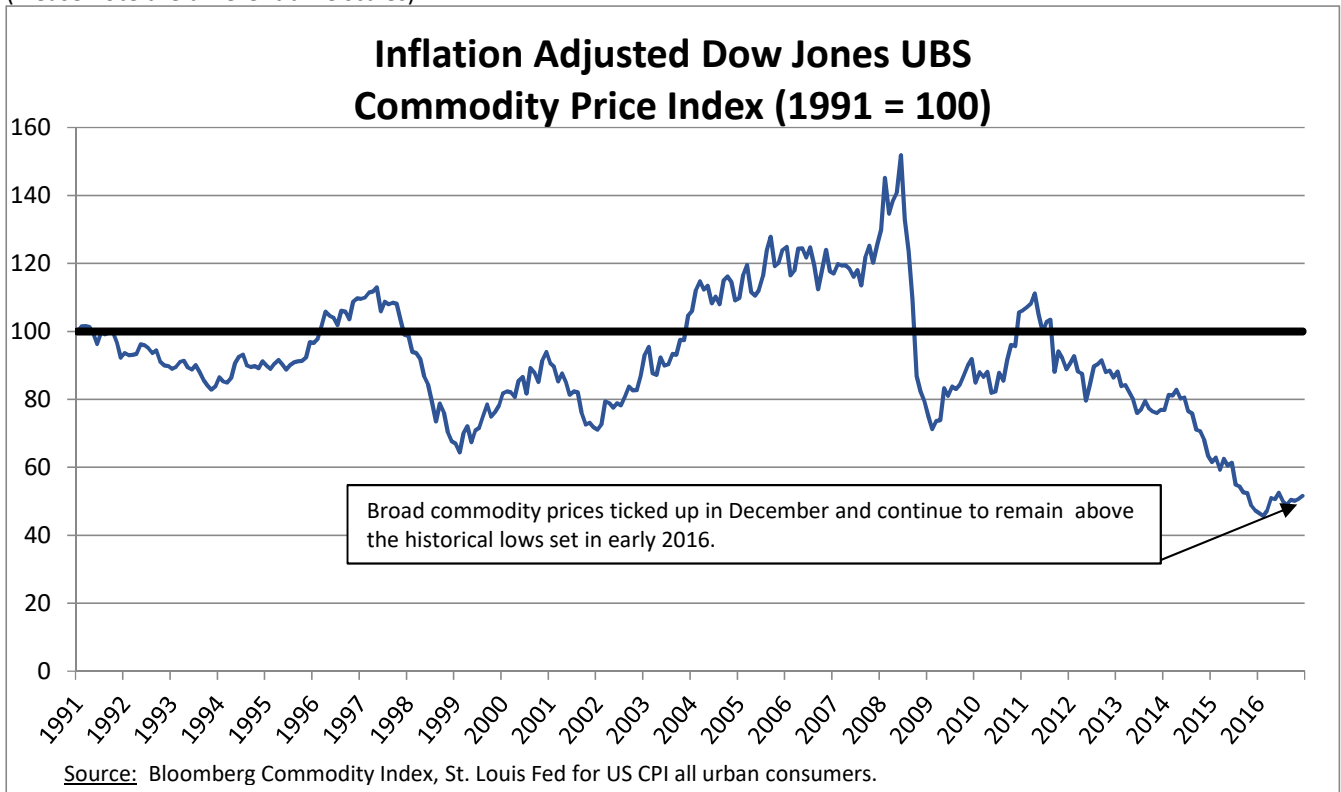


Source: www.ustreas.gov (10 yr treasury yield minus 1 year treasury yield)

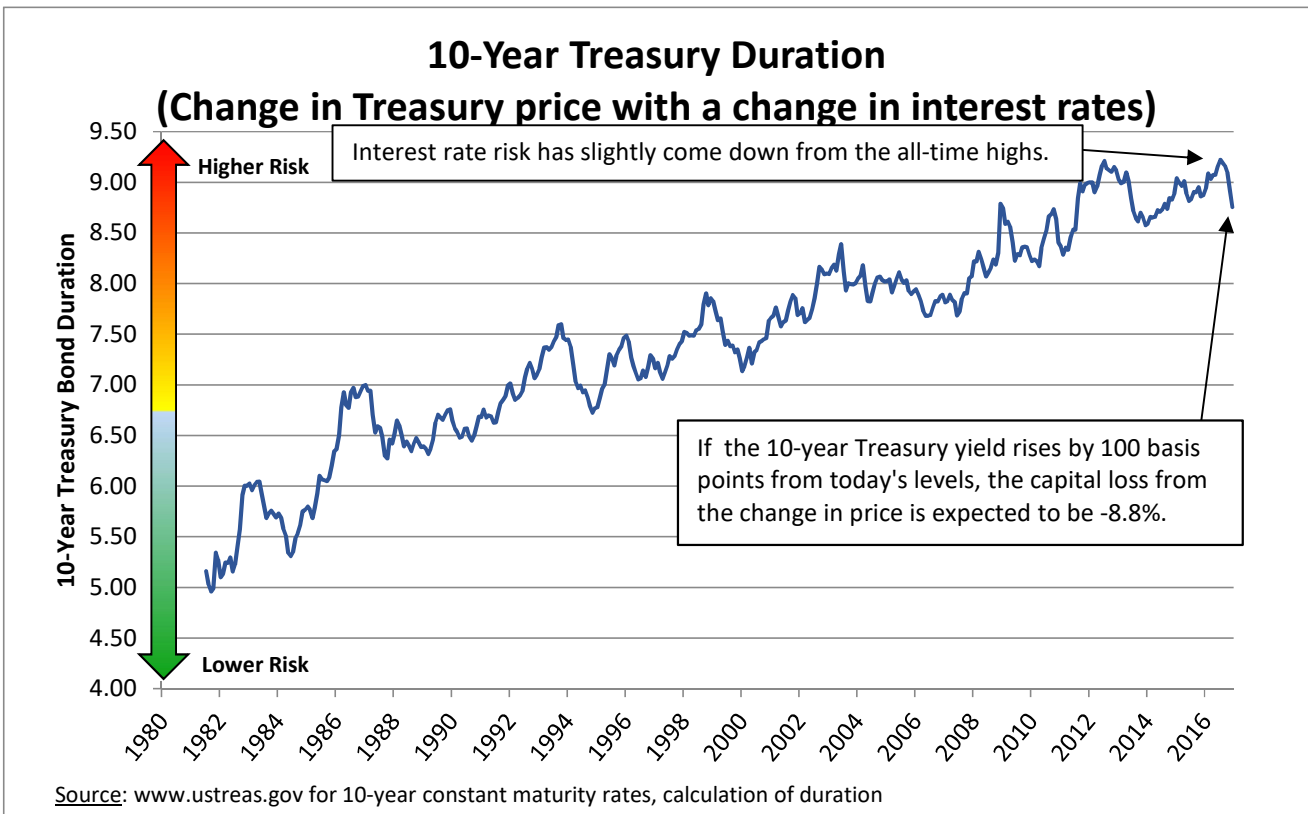
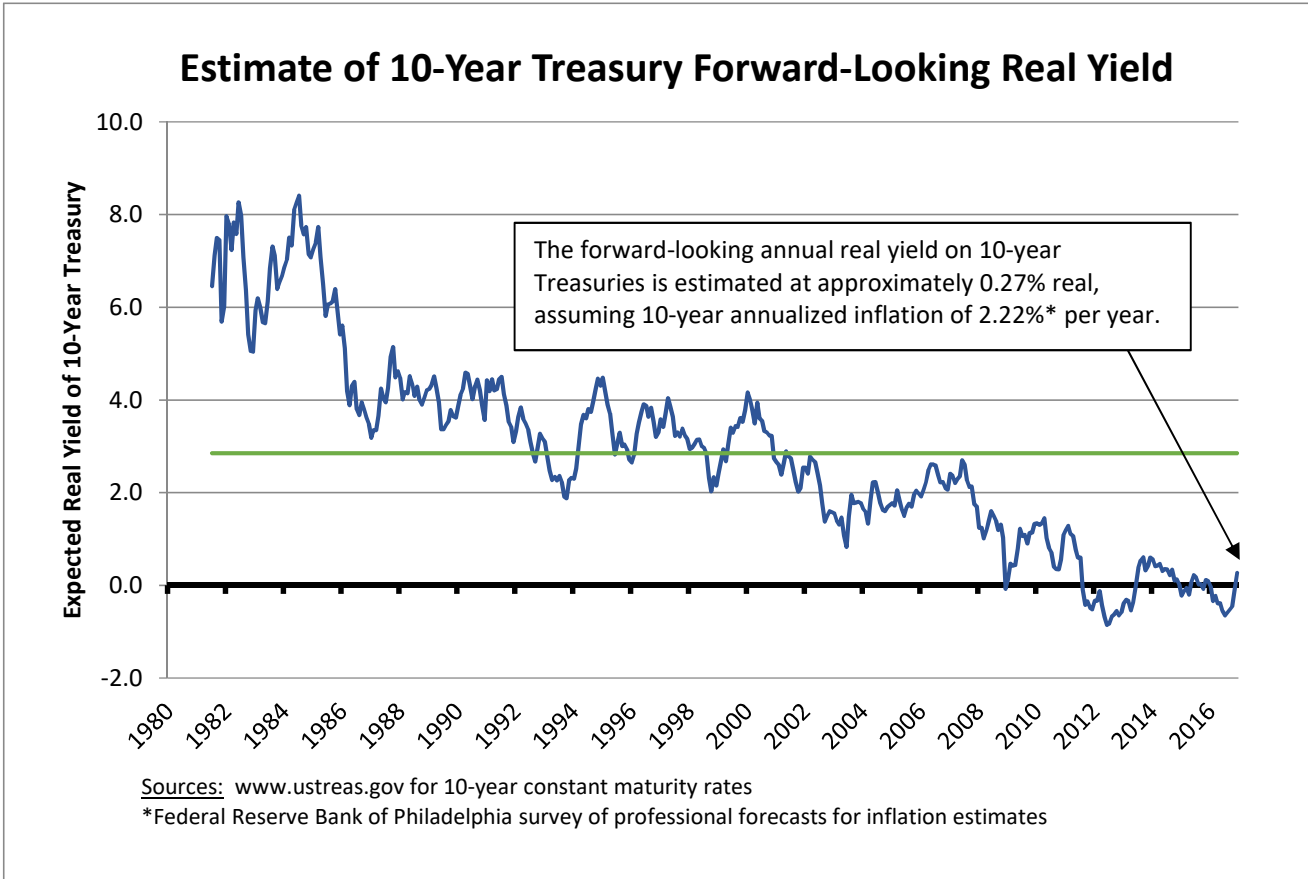
Measures of Inflation Expectations



(Please note the different time scales)



Measures of U.S. Treasury Interest Rate Risk



Appendix

Appendix

METRIC DESCRIPTION, RATIONALE FOR SELECTION AND CALCULATION METHODOLOGY

US Equity Markets:

Metric: P/E ratio = Price / "Normalized" earnings for the S&P 500 Index

To represent the price of US equity markets, we have chosen the S&P 500 index. This index has the longest published history of price, is well known, and also has reliable, long-term, published quarterly earnings. The price= P of the P/E ratio is the current price of the market index (the average daily price of the most recent full month for the S&P 500 index). Equity markets are very volatile. Prices fluctuate significantly during normal times and extremely during periods of market stress or euphoria. Therefore, developing a measure of earnings power (E) which is stable is vitally important, if the measure is to provide insight. While equity prices can and do double, or get cut in half, real earnings power does not change nearly as much. Therefore, we have selected a well known measure of real, stable earnings power developed by Yale Professor Robert Shiller known as the Shiller E-10. The calculation of E-10 is simply the average real annual earnings over the past 10 years. Over 10 years, the earnings shenanigans and boom and bust levels of earnings tend to even out (and often times get restated). Therefore, this earnings statistic gives a reasonably stable, slow-to-change estimate of average real earnings power for the index. Professor Shiller's data and calculation of the E-10 are available on his website at <http://www.econ.yale.edu/~shiller/data.htm>. We have used his data as the base for our calculations. Details of the theoretical justification behind the measure can be found in his book *Irrational Exuberance* [Princeton University Press 2000, Broadway Books 2001, 2nd ed., 2005].

Developed Equity Markets Excluding the US:

Metric: P/E ratio = Price / "Normalized" earnings for the MSCI EAFE Index

To represent the price of non-US developed equity markets, we have chosen the MSCI EAFE index. This index has the longest published history of price for non-US developed equities. The price= P of the P/E ratio is the current price of the market index (the average daily price of the most recent full month for the MSCI EAFE index). The price level of this index is available starting in December 1969. Again, for the reasons described above, we elected to use the Shiller E-10 as our measure of earnings (E). Since 12/1972, a monthly price earnings ratio is available from MSCI. Using this quoted ratio, we have backed out the implied trailing-twelve month earnings of the EAFE index for each month from 12/1972 to the present. These annualized earnings are then inflation adjusted using CPI-U to represent real earnings in US dollar terms for each time period. The Shiller E-10 for the EAFE index (10 year average real earnings) is calculated in the same manner as detailed above.

However, we do not believe that the pricing and earnings history of the EAFE markets are long enough to be a reliable representation of pricing history for developed market equities outside of the US. Therefore, in constructing the Long-Term Average Historical P/E for developed ex-US equities for comparison purposes, we have elected to use the US equity market as a developed market proxy, from 1881 to 1982. This lowers the Long-Term Average Historical P/E considerably. We believe this methodology provides a more realistic historical comparison for a market with a relatively short history.

Appendix

METRIC DESCRIPTION, RATIONALE FOR SELECTION AND CALCULATION METHODOLOGY

Emerging Market Equity Markets:

Metric: Ratio of Emerging Market P/E Ratio to Developed Market P/E Ratio

To represent the Emerging Markets P/E Ratio, we have chosen the MSCI Emerging Market Free Index, which has P/E data back to January 1995 on Bloomberg. To represent the Developed Markets PE Ratio, we have chosen the MSCI World Index, which also has data back to January 1995 on Bloomberg. Although there are issues with published, single time period P/E ratios, in which the denominator effect can cause large movements, we feel that the information contained in such movements will alert investors to market activity that they will want to interpret.

US Private Equity Markets:

Metrics: S&P LCD Average EBITDA Multiples Paid in LBOs and US Quarterly Deal Volume

The Average Purchase Price to EBITDA multiples paid in LBOs is published quarterly by S&P in their LCD study. This is the total price paid (both equity and debt) over the trailing-twelve month EBITDA (earnings before interest, taxes, depreciation and amortization) as calculated by S&P LCD. This is the relevant, high-level pricing metric that private equity managers use in assessing deals. Data is published monthly.

US quarterly deal volume for private equity is the total deal volume in \$ billions (both equity and debt) reported in the quarter by Thomson Reuters Buyouts. This metric gives a measure of the level of activity in the market. Data is published quarterly.

U.S Private Real Estate Markets:

Metrics: US Cap Rates, Cap Rate Spreads, and Transactions as a % of Market Value

Real estate cap rates are a measure of the price paid in the market to acquire properties versus their annualized income generation before financing costs (NOI=net operating income). The data, published by NCREIF, describes completed and leased properties (core) on an unleveraged basis. We chose to use current value cap rates. These are capitalization rates from properties that were revalued during the quarter. This data relies on estimates of value and therefore tends to be lagging (estimated prices are slower to rise and slower to fall than transaction prices). The data is published quarterly.

Spreads between the cap rate (described above) and the 10-year nominal Treasury yield, indicate a measure of the cost of properties versus a current measure of the cost of financing.

Transactions as a % of Market Value Trailing-Four Quarters is a measure of property turnover activity in the NCREIF Universe. This quarterly metric is a measure of activity in the market.

Credit Markets US Fixed Income:

Metric: Spreads

The absolute level of spreads over treasuries and spread trends (widening / narrowing) are good indicators of credit risk in the fixed income markets. Spreads incorporate estimates of future default, but can also be driven by technical dislocations in the fixed income markets. Abnormally narrow spreads (relative to historical levels) indicate higher levels of valuation risk, wide spreads indicate lower levels of valuation risk and / or elevated default fears. Investment grade bond spreads are represented by the Barclays Capital US Corporate Investment Grade Index Intermediate Component. The high yield corporate bond spreads are represented by the Barclays Capital US Corporate High Yield Index.

Appendix

METRIC DESCRIPTION, RATIONALE FOR SELECTION AND CALCULATION METHODOLOGY

Measure of Equity Market Fear / Uncertainty

Metric: VIX – Measure of implied option volatility for U.S. equity markets

The VIX is a key measure of near-term volatility conveyed by implied volatility of S&P 500 index option prices. VIX increases with uncertainty and fear. Stocks and the VIX are negatively correlated. Volatility tends to spike when equity markets fall.

Measure of Monetary Policy

Metric: Yield Curve Slope

We calculate the yield curve slope as the 10 year treasury yield minus the 1 year treasury yield. When the yield curve slope is zero or negative, this is a signal to pay attention. A negative yield curve slope signals lower rates in the future, caused by a contraction in economic activity. Recessions are typically preceded by an inverted (negatively sloped) yield curve. A very steep yield curve (2 or greater) indicates a large difference between shorter-term interest rates (the 1 year rate) and longer-term rates (the 10 year rate). This can signal expansion in economic activity in the future, or merely higher future interest rates.

Measures of US Inflation Expectations

Metrics: Breakeven Inflation and Inflation Adjusted Commodity Prices

Inflation is a very important indicator impacting all assets and financial instruments. Breakeven inflation is calculated as the 10 year nominal treasury yield minus the 10 year real yield on US TIPS (treasury inflation protected securities). Abnormally low long-term inflation expectations are indicative of deflationary fears. A rapid rise in breakeven inflation indicates an acceleration in inflationary expectations as market participants sell nominal treasuries and buy TIPS. If breakeven inflation continues to rise quarter over quarter, this is a signal of inflationary worries rising, which may cause Fed action and / or dollar decline.

Commodity price movement (above the rate of inflation) is an indication of anticipated inflation caused by real global economic activity putting pressure on resource prices. We calculate this metric by adjusted in the Dow Jones UBS Commodity Index (formerly Dow Jones AIG Commodity Index) by US CPI-U. While rising commodity prices will not necessarily translate to higher US inflation, higher US inflation will likely show up in higher commodity prices, particularly if world economic activity is robust.

These two measures of anticipated inflation can, and often are, conflicting.

Measures of US Treasury Bond Interest Rate Risk

Metrics: 10-Year Treasury Forward-Looking Real Yield and 10-Year Treasury Duration

The expected annualized real yield of the 10 year U.S. Treasury Bond is a measure of valuation risk for U.S. Treasuries. A low real yield means investors will accept a low rate of expected return for the certainty of receiving their nominal cash flows. PCA estimates the expected annualized real yield by subtracting an estimate of expected 10 year inflation (produced by the Survey of Professional Forecasters as collected by the Federal Reserve Bank of Philadelphia), from the 10 year Treasury constant maturity interest rate.

Duration for the 10-Year Treasury Bond is calculated based on the current yield and a price of 100. This is a measure of expected percentage movements in the price of the bond based on small movements in percentage yield. We make no attempt to account for convexity.

Definition of “extreme” metric readings

A metric reading is defined as “extreme” if the metric reading is in the top or bottom decile of its historical readings. These “extreme” reading should cause the reader to pay attention. These metrics have reverted toward their mean values in the past.

PCA Market Sentiment Indicator

Explanation, Construction and Q&A

By:

Pension Consulting Alliance, LLC.

John Linder, CFA, CPA

Neil Rue, CFA

PCA has created the PCA Market Sentiment Indicator (PMSI) to complement our valuation-focused PCA Investment Market Risk Metrics. This measure of sentiment is meant to capture significant and persistent shifts in long-lived market trends of economic growth risk, either towards a risk-seeking trend or a risk-aversion trend.

This paper explores:

- What is the PCA Market Sentiment Indicator (PMSI)?
- How do I read the indicator graph?
- How is the PCA Market Sentiment Indicator (PMSI) constructed?
- What do changes in the indicator mean?



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PCA Market Sentiment Indicator

PCA has created a market sentiment indicator for monthly publication (the PMSI – see below) to complement PCA's Investment Market Risk Metrics.

PCA's Investment Market Risk Metrics, which rely significantly on standard market measures of relative valuation, often provide valid early signals of increasing long-term risk levels in the global investment markets. However, as is the case with numerous valuation measures, the Risk Metrics may convey such risk concerns long before a market corrections take place. The PMSI helps to address this early-warning bias by measuring whether the markets are beginning to acknowledge key Risk Metrics trends, and / or indicating non-valuation based concerns. Once the PMSI indicates that the market sentiment has shifted, it is our belief that investors should consider significant action, particularly if confirmed by the Risk Metrics. Importantly, PCA believes the Risk Metrics and PMSI should always be used in conjunction with one another and never in isolation. The questions and answers below highlight and discuss the basic underpinnings of the PCA PMSI:

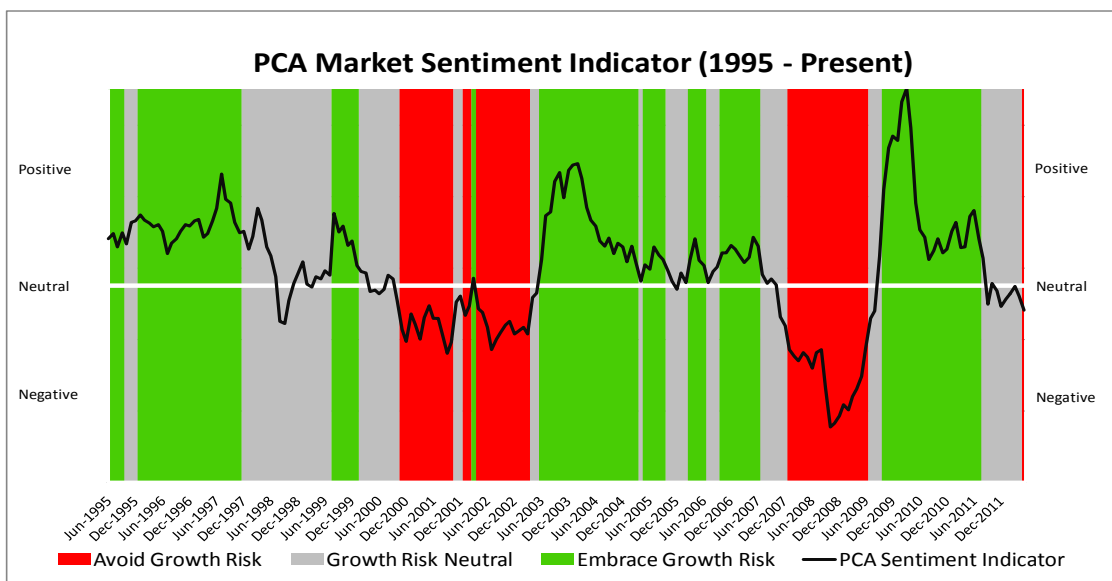
What is the PCA Market Sentiment Indicator (PMSI)?

The PMSI is a measure meant to gauge the market's sentiment regarding economic growth risk. Growth risk cuts across most financial assets, and is the largest risk exposure that most portfolios bear. The PMSI takes into account the momentum (trend over time, positive or negative) of the economic growth risk exposure of publicly traded stocks and bonds, as a signal of the future direction of growth risk returns; either positive (risk seeking market sentiment), or negative (risk averse market sentiment).

How do I read the PCA Market Sentiment Indicator (PMSI) graph?

Simply put, the PMSI is a color coded indicator that signals the market's sentiment regarding economic growth risk. It is read left to right chronologically. A green indicator on the PMSI indicates that the market's sentiment towards growth risk is positive. A gray indicator indicates that the market's sentiment towards growth risk is neutral or inconclusive. A red indicator indicates that the market's sentiment towards growth risk is negative. The black line on the graph is the level of the PMSI. The degree of the signal above or below the neutral reading is an indication the signal's current strength.

Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.



PCA Market Sentiment Indicator

How is the PCA Market Sentiment Indicator (PMSI) Constructed?

The PMSI is constructed from two sub-elements representing investor sentiment in stocks and bonds:

1. Stock return momentum: Return momentum for the S&P 500 Equity Index (trailing 12-months)
2. Bond yield spread momentum: Momentum of bond yield spreads (excess of the measured bond yield over the identical duration U.S. Treasury bond yield) for corporate bonds (trailing 12-months) for both investment grade bonds (75% weight) and high yield bonds (25% weight). The scale of this measure is adjusted to match that of the stock return momentum measure.

The black line reading on the graph is calculated as the average of the stock return momentum measure and the bonds spread momentum measure. The color reading on the graph is determined as follows:

1. If both stock return momentum and bond spread momentum are positive = GREEN (positive)
2. If one of the momentum indicators is positive, and the other negative = GRAY (inconclusive)
3. If both stock return momentum and bond spread momentum are negative = RED (negative)

What does the PCA Market Sentiment Indicator (PMSI) mean? Why might it be useful?

There is strong evidence that time series momentum is significant and persistent. In particular, across an extensive array of asset classes, the sign of the trailing 12-month return (positive or negative) is indicative of future returns (positive or negative) over the next 12 month period. The PMSI is constructed to measure this momentum in stocks and corporate bond spreads. A reading of green or red is agreement of both the equity and bond measures, indicating that it is likely that this trend (positive or negative) will continue over the next 12 months. When the measures disagree, the indicator turns gray. A gray reading does not necessarily mean a new trend is occurring, as the indicator may move back to green, or into the red from there. The level of the reading (black line) and the number of months at the red or green reading, gives the user additional information on which to form an opinion, and potentially take action.

ⁱ Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.

ⁱⁱ "Time Series Momentum" Moskowitz, Ooi, Pedersen, August 2010
<http://pages.stern.nyu.edu/~lpederse/papers/TimeSeriesMomentum.pdf>

SECTION 3

REVIEW OF SCHOLARSHARE POLICY

REVIEW OF SCHOLARSHARE POLICY

Active Funds

<u>Fund</u>	<u>Asset Class</u>	<u>Benchmark</u>
T. Rowe Price Instl Large Cap Growth	Domestic Equity	Russell 1000 Growth TR USD
T. Rowe Price Instl Large Cap Value	Domestic Equity	Russell 1000 Value TR USD
TIAA-CREF Small Cap Equity	Domestic Equity	Russell 2000 TR USD
TIAA-CREF Social Choice Equity	Domestic Equity	Russell 3000 TR USD
TIAA-CREF Real Estate Securities	Domestic Equity	FTSE NAREIT All Equity REITs TR
DFA Large Cap International	International Equity	MSCI World ex US NR USD
DFA Emerging Markets Core Equity	International Equity	MSCI EM NR USD
Metropolitan West Total Return Bond	Fixed Income	BBg BarCap US Agg Bond TR USD
PIMCO Real Return	Fixed Income	BBg BarCap US Trsy US TIPS TR USD
PIMCO Income	Fixed Income	BBg BarCap US Agg Bond TR USD
TIAA-CREF Inflation-Linked Bond	Fixed Income	BBg BarCap US TIPS 1-10 year TR USD
T. Rowe Price Institutional Floating Rate	High Yield	S&P/LSTA Performing Loan TR
TIAA-CREF High Yield Bond	High Yield	BofA ML US HY C Pay BB-B Constd TR

Passive Funds

<u>Fund</u>	<u>Asset Class</u>	<u>Benchmark</u>
TIAA-CREF Equity Index	Domestic Equity	Russell 3000 TR USD
TIAA-CREF S&P 500 Index	Domestic Equity	S&P 500 TR
TIAA-CREF International Equity Index	International Equity	MSCI EAFE NR USD
TIAA-CREF Emerging Markets Equity Index	International Equity	MSCI EM NR USD
TIAA-CREF Bond Index	Fixed Income	BBg BarCap US Agg Bond TR USD

T-C Life Funding Agreements

T-C Life Funding Agreements*	---	---
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*Investment through a funding agreement with TIAA-CREF Life Insurance Company. Not benchmarked to an index, rather, portfolio performance is monitored using a set of qualitative guidelines.

REVIEW OF SCHOLARSHARE POLICY

Performance Criteria for Placing a Fund on Watch

Actively Managed Funds

Asset Class	Short-Term (rolling 12-month periods)	Medium-term (rolling 36-month periods)	Long-term (> 60 months)
Domestic Equity	Fund return < bench return -3.5% for 6 consecutive months	Fund return < bench return -1.75% for 6 consecutive months	VRR< 0.97 for 6 consecutive months
International Equity	Fund return < bench return -4.5% for 6 consecutive months	Fund return < bench return -2.0% for 6 consecutive months	VRR< 0.97 for 6 consecutive months
Fixed Income	Fund return < bench return -1.0% for 6 consecutive months	Fund return < bench return -0.5% for 6 consecutive months	VRR< 0.98 for 6 consecutive months
High Yield	Fund return < bench return -6.5% for 6 consecutive months	Fund return < bench return -3.25% for 6 consecutive months	VRR< 0.96 for 6 consecutive months

Passively Managed Funds

Asset Class	Short-Term (rolling 12-month periods)	Medium-term (rolling 36-month periods)	Long-term (rolling 60-month periods)
Domestic Equity	Tracking Error > 0.30% for 6 consecutive months	Tracking Error> 0.25% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.30% for 6 consecutive months
International Equity	Tracking Error > 0.75% for 6 consecutive months	Tracking Error> 0.70% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.30% for 6 consecutive months
Fixed Income	Tracking Error > 0.40% for 6 consecutive months	Tracking Error> 0.55% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.35% for 6 consecutive months

- [1] Return discounts from a benchmark return based on 2/3rds of the typical tracking error estimates of the specified type of fund manager.
- [2] Annualized return is the average annual return of either the manager or its benchmark.
- [3] VRR – Value Relative Ratio – is calculated as: Manager Cumulative Return / Benchmark Cumulative Return.
- [4] Tracking error is a measure of the volatility of the average annual difference between the manager's return and the benchmark's return.

REVIEW OF SCHOLARSHARE POLICY

Performance Criteria for Placing a Fund on Watch (Continued)

T-C Life Funding Agreements (based on non-investment performance criteria)

Fund Name	Financial Strength	Mortgage Portfolio	Bond Portfolio	Account Diversification
T-C Life Funding Agreements	Moody's = Aaa Standard & Poor's = AAA A.M. Best = A+++ Fitch = AAA	100% in Good Standing	At least 90% Investment Grade	Portfolio is diversified across asset classes and types

The T-C Life Funding Agreements are measured against a set of non-investment performance criteria (see above) in a published TIAA-CREF report every quarter.

REVIEW OF SCHOLARSHARE POLICY

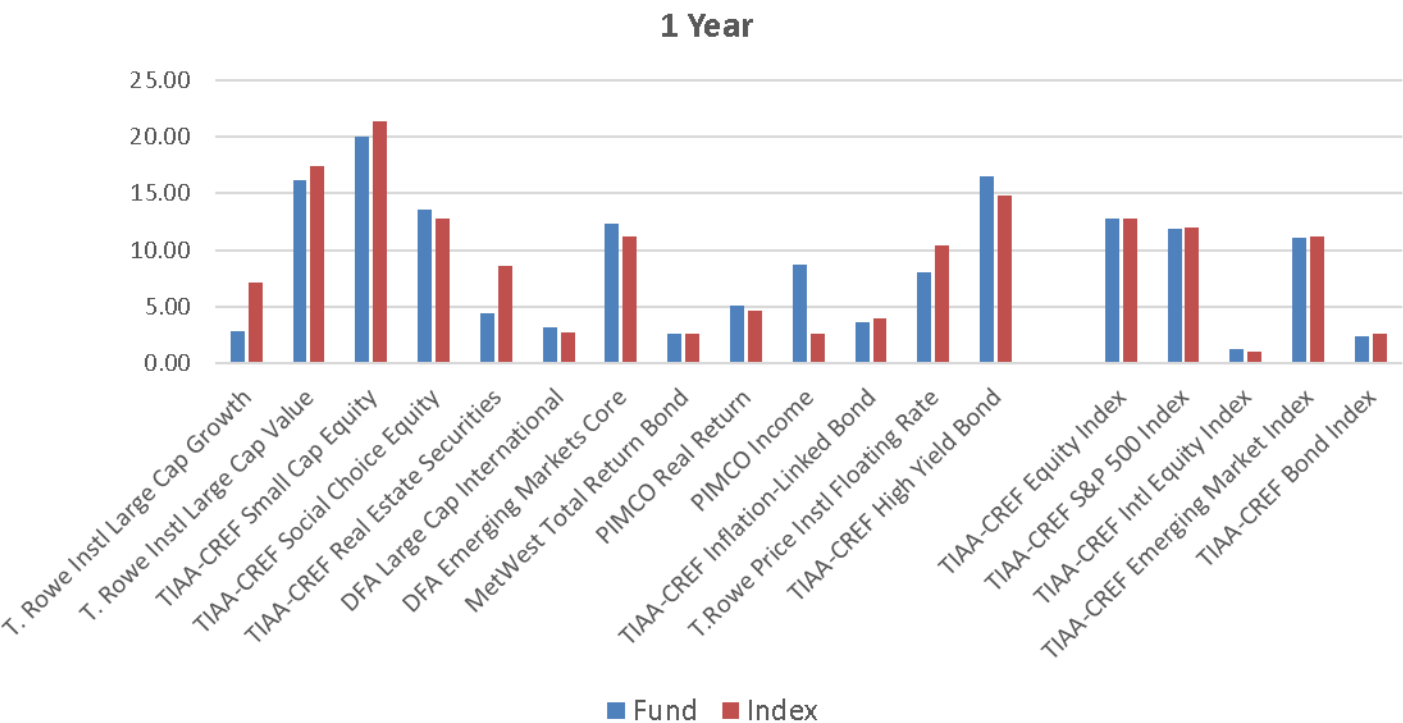
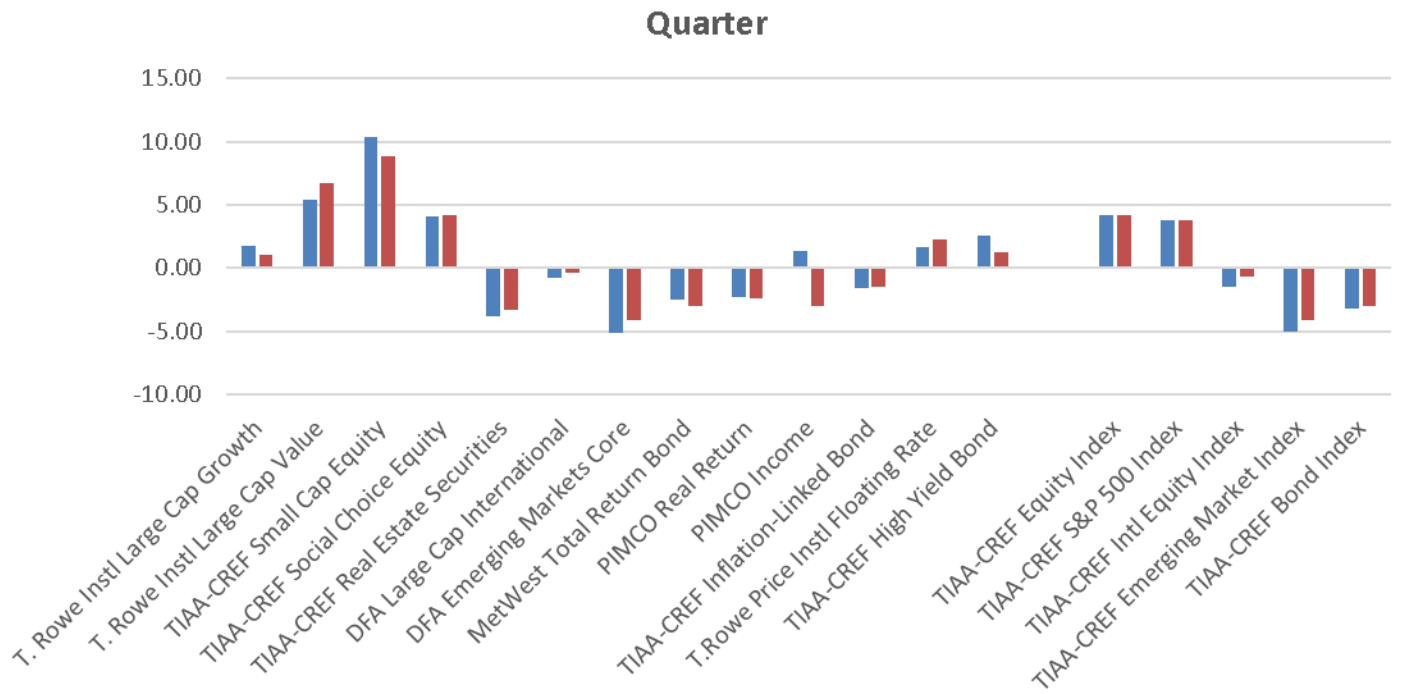
Investment Status Schedule

Performance Category	Actively Managed Portfolios	Passively Managed Portfolios
Positive	<ul style="list-style-type: none"> Performance exceeds the benchmark. 	<ul style="list-style-type: none"> Performance exceeds the benchmark (first 1-12 month period), or Tracking error is within the allowable range¹ (short, medium, and long time periods).
Acceptable	<ul style="list-style-type: none"> Performance meets or is under the benchmark and is within the allowable range. 	<ul style="list-style-type: none"> Performance does not exceed the benchmark but is within the allowable range (first 1-12 month period only).
Caution	<ul style="list-style-type: none"> Performance is below allowable range but either: <ul style="list-style-type: none"> i) for less than six consecutive months, or ii) the Board has not taken (or decided not to take) a formal action to place the asset class or individual fund portfolio on Watch even though performance has been below allowable range for six months or longer. 	<ul style="list-style-type: none"> Tracking error falls outside of the allowable range but either <ul style="list-style-type: none"> i) for less than six consecutive months, or ii) the Board has not voted to place the asset class or stand alone fund on Watch
Watch ²	<ul style="list-style-type: none"> Performance is below allowable range for more than six consecutive months and the Board has formally voted to place the asset class or individual fund on Watch. 	<ul style="list-style-type: none"> Tracking error falls outside of the allowable range for more than six consecutive months and the Board has formally voted to place the asset class or individual fund portfolio on Watch.

¹ Ranges are shown in the Investment Performance Criteria Schedules.

² The amount of time generally required before an investment is put on watch.

SUMMARY OF FUND PERFORMANCE 12/31/16



SUMMARY OF FUND PERFORMANCE STATUS

Program	Total Funds	Positive	Acceptable	Caution	Watch [^]
Number of Funds	19	11	8	--	2
Percentage	100%	58%	42%	--	11%
Fund Status ↑	--	--	2	--	--
Fund Status ↓	--	--	--	--	--
Domestic Equity Funds	7	3	4	--	--
Intl Equity Funds	4	4	--	--	--
Fixed Income Funds	5	2	3	--	2
High Yield Funds	2	1	1	--	--
Funding Agreement	1	1	--	--	--

[^]Includes funds on Watch and new funds qualifying for Watch status. Number has not been adjusted to remove funds no longer qualifying for Watch.

- All of the Program's funds have either a Positive or Acceptable performance status
- Fund status changes:
 - The status of 2 funds improved over the quarter
 - The status of 1 fund declined over the quarter
- 2 funds remain and/or qualify for Watch status as of 12/31/2016
 - This represents \$291.8 million (4.2%) in Program assets

SUMMARY OF FUND PERFORMANCE STATUS

Funds	Prior Quarter		Current Quarter	
	Status	On Watch	Status	On Watch
Active Funds				
T. Rowe Price Instl Large Cap Growth	Caution		Acceptable	
T. Rowe Price Instl Large Cap Value	Positive		Positive	
TIAA-CREF Small Cap Equity	Acceptable		Acceptable	
TIAA-CREF Social Choice Equity	Acceptable		Acceptable	
TIAA-CREF Real Estate Securities	Caution		Acceptable	
DFA Large Cap International	Positive		Positive	
DFA Emerging Markets Core Equity	Positive		Positive	
Metropolitan West Total Return Bond	Acceptable		Acceptable	
PIMCO Real Return	Acceptable	10/1/14	Acceptable	10/1/14
PIMCO Income	Positive	10/1/14	Positive	10/1/14
TIAA-CREF Inflation-Linked Bond	Acceptable		Acceptable	
T. Rowe Price Instl Floating Rate	Positive		Acceptable	
TIAA-CREF High-Yield Bond	Acceptable		Acceptable	
Passive Funds				
TIAA-CREF Equity Index	Positive		Positive	
TIAA-CREF S&P 500 Index	Positive		Positive	
TIAA-CREF International Equity Index	Positive		Positive	
TIAA-CREF Emerging Markets Index	Positive		Positive	
TIAA-CREF Bond Index	Positive	4/1/16	Positive	
T-C Life Funding Agreements				
T-C Life Funding Agreements	Positive		Positive	

- Current status is based on Short-Term (rolling 12-month) and Medium-Term (rolling 36-month) evaluation results.
- According to the Investment Status Schedule on the previous page, the portfolio's overall "Current Status" equals the lowest status as achieved by one or more of the criteria during the quarter.

SUMMARY OF FUND ASSETS

Assets as of 12/31/2016

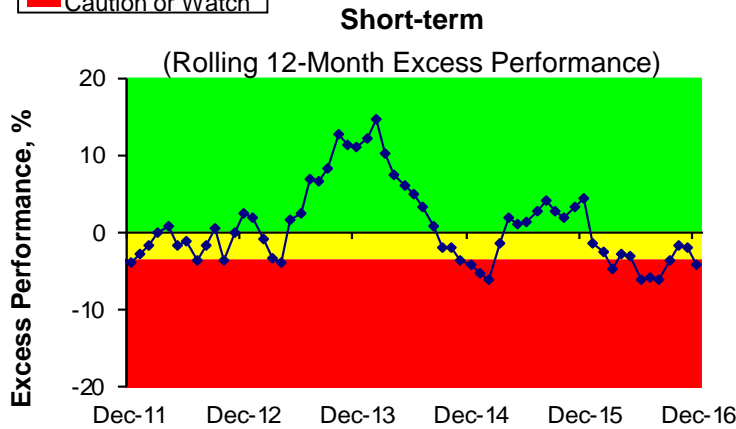
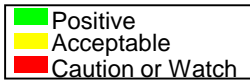
Funds	Assets (\$)	% of Total
Active Funds		
T. Rowe Price Instl Large Cap Growth	309,398,415	4.40%
T. Rowe Price Instl Large Cap Value	322,815,987	4.59%
TIAA-CREF Small Cap Equity	81,703,571	1.16%
TIAA-CREF Social Choice Equity	140,024,513	1.99%
TIAA-CREF Real Estate Securities	223,643,324	3.18%
DFA Large Cap International	245,990,984	3.50%
DFA Emerging Markets Core Equity	51,604,452	0.73%
Metropolitan West Total Return Bond	349,561,233	4.97%
PIMCO Real Return	139,343,414	1.98%
PIMCO Income	152,480,025	2.17%
TIAA-CREF Inflation-Linked Bond	291,263,472	4.14%
T. Rowe Price Instl Floating Rate	68,470,581	0.97%
TIAA-CREF High-Yield Bond	159,799,840	2.27%
Active Funds Total	2,536,099,812	36.07%
Passive Funds		
TIAA-CREF Equity Index	1,500,816,332	21.34%
TIAA-CREF S&P 500 Index	287,971,695	4.10%
TIAA-CREF International Equity Index	488,214,088	6.94%
TIAA-CREF Emerging Markets Index	112,692,846	1.60%
TIAA-CREF Bond Index	1,102,929,474	15.68%
Passive Funds Total	3,492,624,434	49.67%
T-C Life Funding Agreements		
T-C Life Funding Agreements	1,003,253,674	14.27%
TOTAL	7,031,977,920	100%

SECTION 4

SENSITIVITY ANALYSES

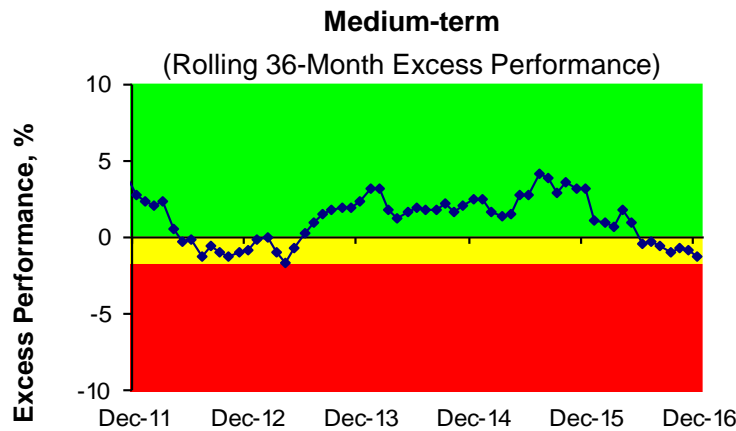
ACTIVE FUNDS

T. ROWE PRICE INSTL. LARGE CAP GROWTH FUND



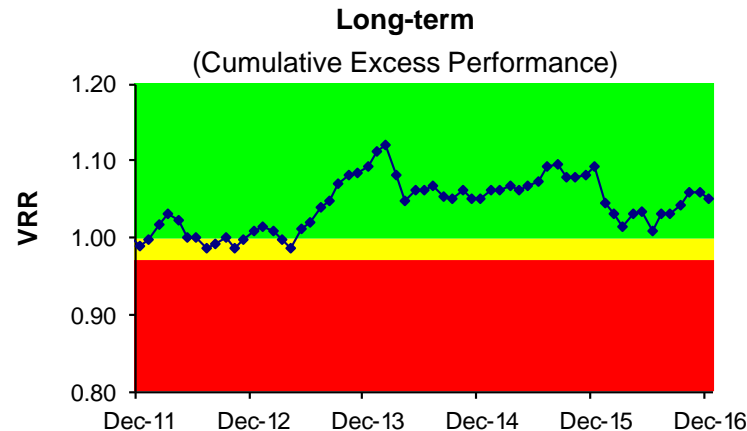
- Short-term performance briefly improved to the Acceptable range before ending the period in the Caution range

← probationalary performance band -3.5%



- Medium-term performance remained in the Acceptable range

← probationalary performance band -1.75%



- The Fund reached its 5-year Program inception as of December 2016

← probationalary performance band VRR < 0.97

Annualized Performance Results (net of fund management fees)

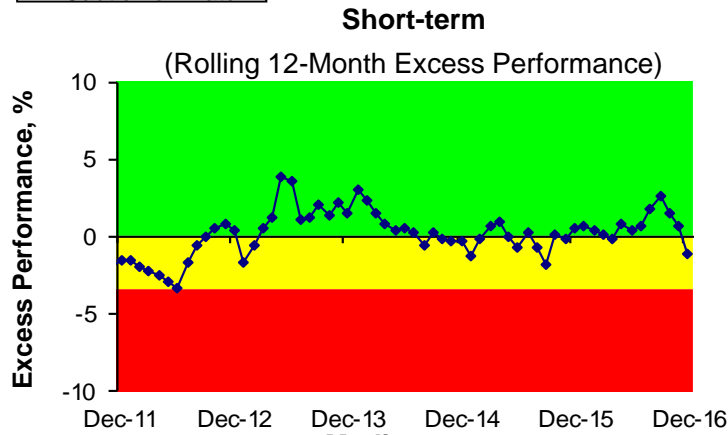
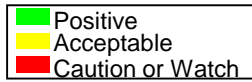
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
T. Rowe Price Instl Large Cap Growth	2.85	7.17	15.89	15.62
Russell 1000 Growth TR	7.08	8.55	14.50	14.66
Peer Rank (Percentile)	51	25	5	6

Current Status
Acceptable

Source: Morningstar Direct

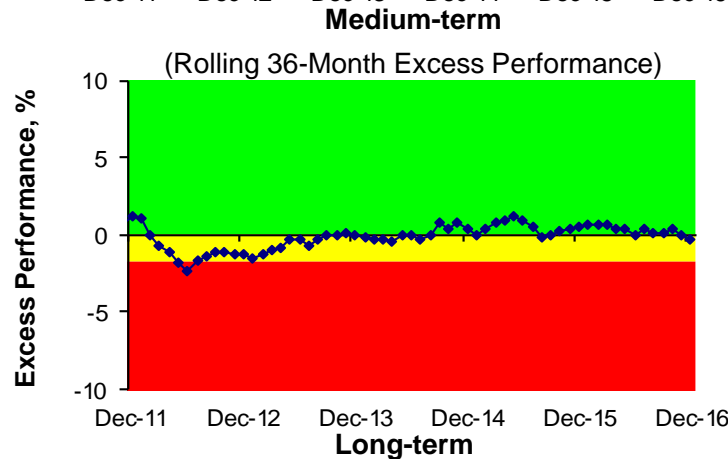
Peer Group = US OE Large Growth

T. ROWE PRICE INSTL. LARGE CAP VALUE FUND



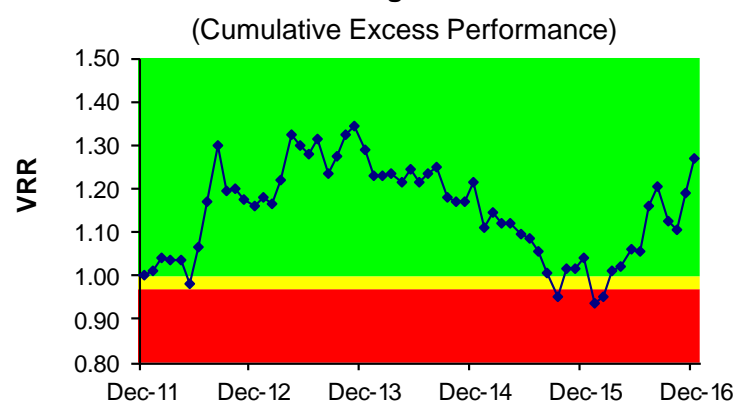
- Short-term performance ended the period in the Acceptable range

← probationary performance band -3.5%



- Medium-term performance ended the period in the Acceptable range

← probationary performance band -1.75%



- The Fund reached its 5-year Program inception as of December 2016

← probationary performance band VRR < 0.97

Annualized Performance Results (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
T. Rowe Price Instl Large Cap Value	16.20	8.32	14.95	15.65
Russell 1000 Value TR	17.34	8.59	14.80	15.49
Peer Rank (Percentile)	29	15	10	8

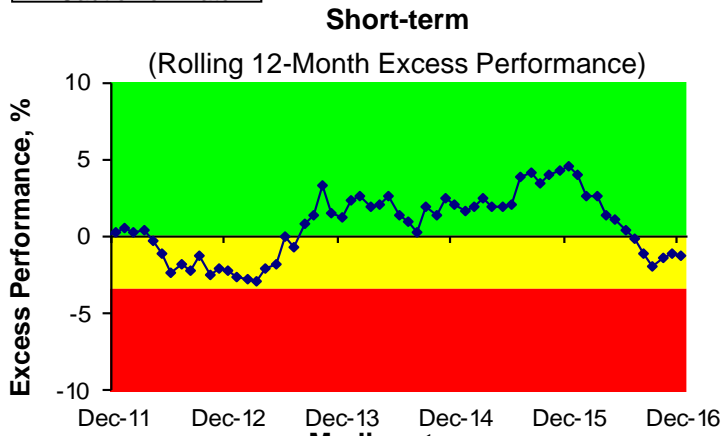
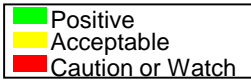
Current Status

Positive

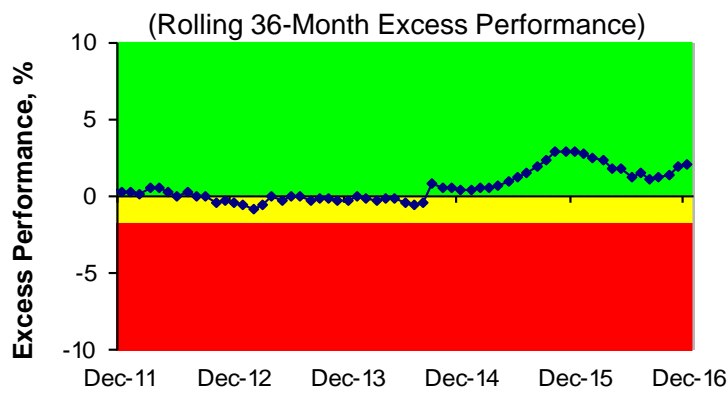
Source: Morningstar Direct

Peer Group = US OE Large Value

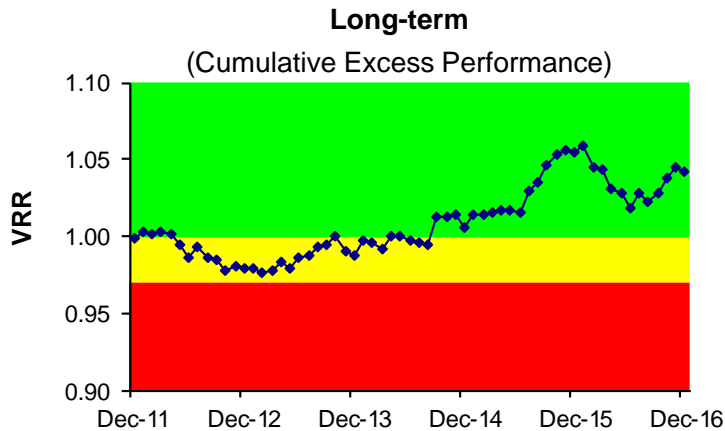
TIAA-CREF SMALL CAP EQUITY FUND



- Short-term performance continued in the Acceptable range
- ← probationary performance band -3.5%



- Medium-term performance remained in the Positive range
- ← probationary performance band -1.75%



- The Fund reached its 5-year Program inception as of December 2016
- ← probationary performance band VRR < 0.97

Annualized Performance Results (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF Small Cap Equity	19.97	8.70	15.45	15.74
Russell 2000 TR	21.31	6.74	14.46	14.82
Peer Rank (Percentile)	11	4	6	6

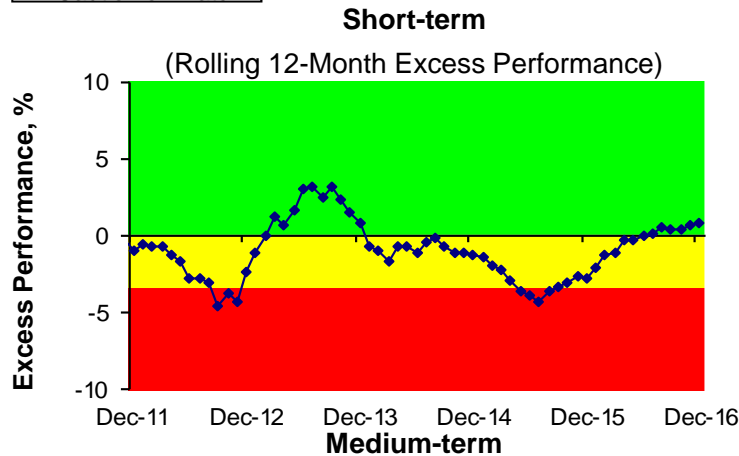
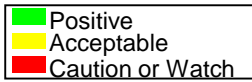
Source: Morningstar Direct

Peer Group = US OE Small Growth

Current Status

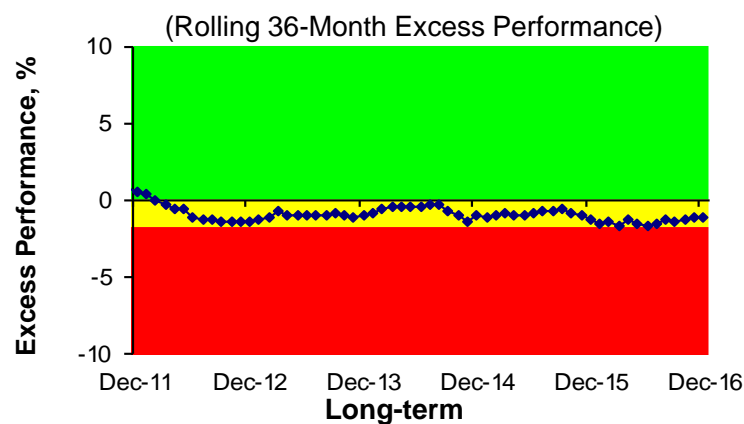
Acceptable

TIAA-CREF SOCIAL CHOICE EQUITY FUND



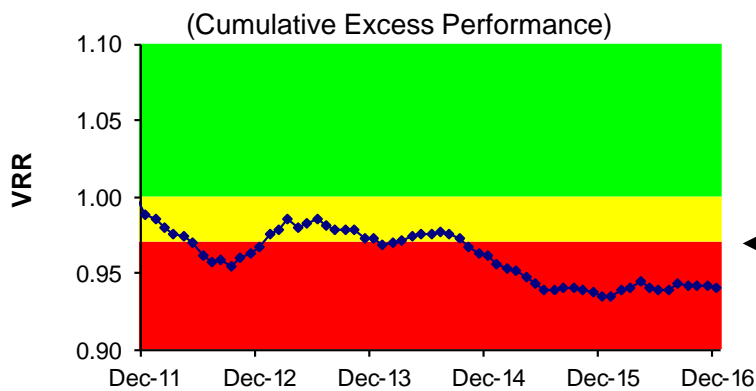
- Short-term performance continued in the Positive range

← probationary performance band -3.5%



- Medium-term performance remained in the Acceptable range

← probationary performance band -1.75%



- The Fund reached its 5-year Program inception as of December 2016. Long-term criteria for placing the Fund on Watch to take effect as of 2Q2017.

← probationary performance band VRR < 0.97

Annualized Performance Results (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF Social Choice Equity	13.51	7.22	13.56	13.76
Russell 3000 TR	12.74	8.43	14.67	15.09
Peer Rank (Percentile)	13	51	52	55

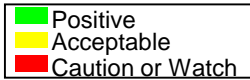
Current Status

Acceptable

Source: Morningstar Direct

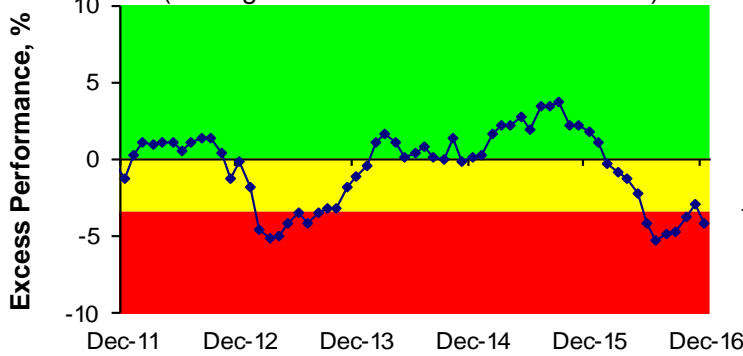
Peer Group = US OE Large Cap Blend

TIAA-CREF REAL ESTATE SECURITIES FUND



Short-term

(Rolling 12-Month Excess Performance)

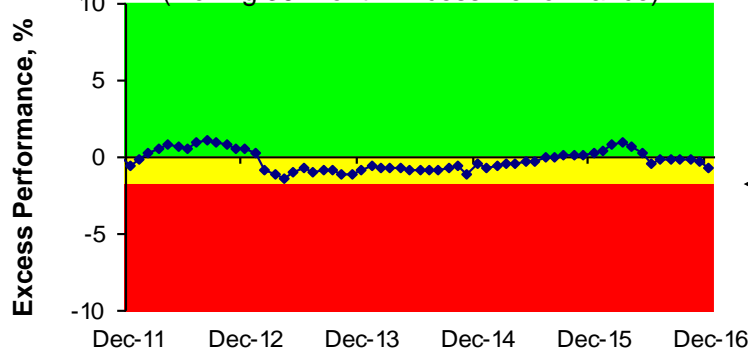


- Short-term performance briefly climbed to the Acceptable range before ending the period in the Caution range

← probationary performance band -3.5%

Medium-term

(Rolling 36-Month Excess Performance)

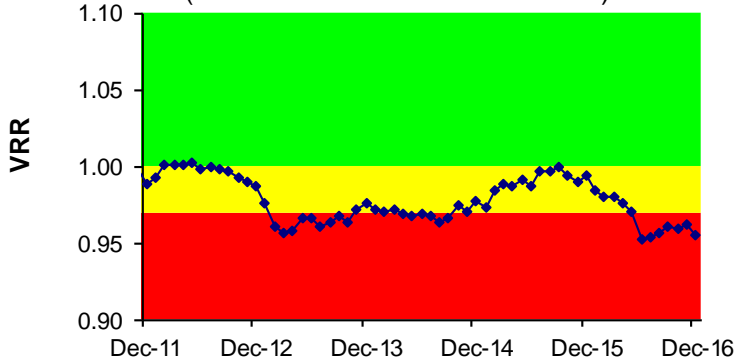


- Medium-term performance continued in the Acceptable range

← probationary performance band -1.75%

Long-term

(Cumulative Excess Performance)



- The Fund reached its 5-year Program inception as of December 2016. Long-term criteria for placing the Fund on Watch to take effect as of 2Q2017.

← probationary performance band VRR < 0.97

Annualized Performance Results (net of fund management fees)

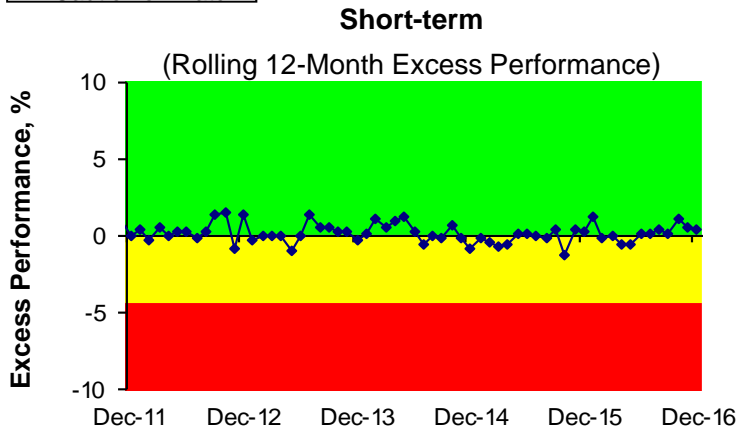
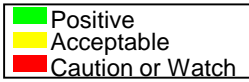
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF Real Estate Securities	4.38	11.85	11.21	12.03
FTSE NAREIT All Equity REITs TR	8.63	12.66	11.98	12.93
Peer Rank (Percentile)	85	58	37	41

Source: Morningstar Direct

Peer Group = US OE Real Estate

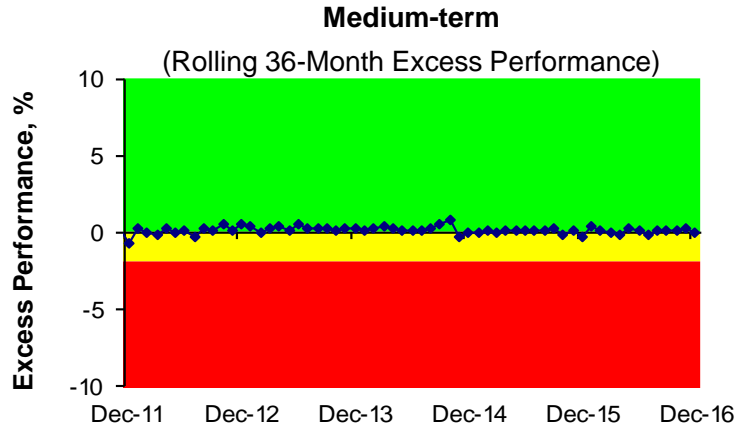
Current Status
Acceptable

DFA LARGE CAP INTERNATIONAL PORTFOLIO



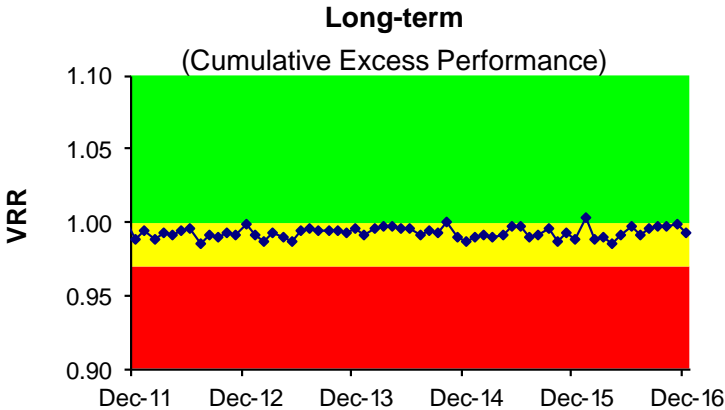
- Short-term performance remained in the Positive range

← probationary performance band -4.5%



- Medium-term performance ended the period in the Acceptable range

← probationary performance band -2.0%



- The Fund reached its 5-year Program inception as of December 2016

← probationary performance band VRR < 0.97

Annualized Performance Results (net of fund management fees)

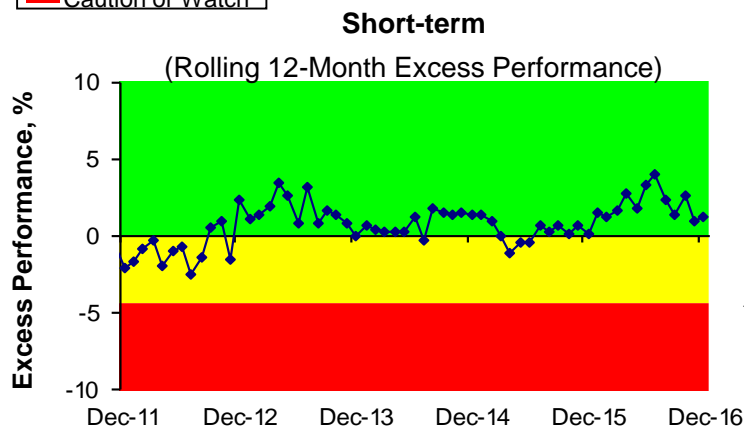
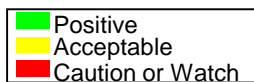
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
DFA Large Cap International	3.16	-1.71	6.18	6.24
MSCI World ex US NR USD	2.75	-1.59	6.07	6.14
Peer Rank (Percentile)	21	42	42	39

Current Status
Positive

Source: Morningstar Direct

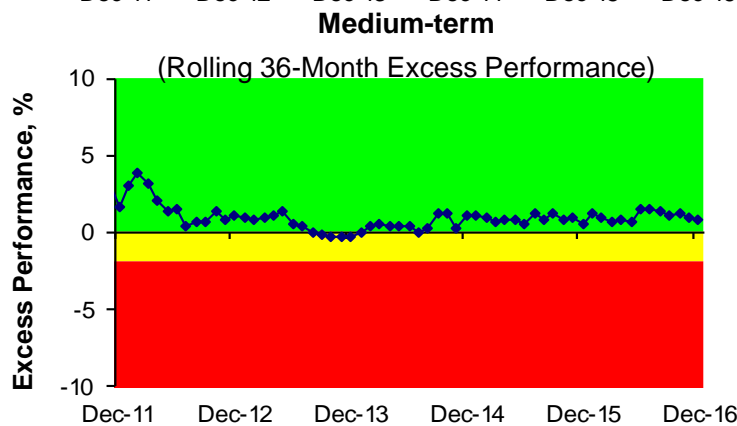
Peer Group = US OE Foreign Large Blend

DFA EMERGING MARKETS CORE EQUITY PORTFOLIO



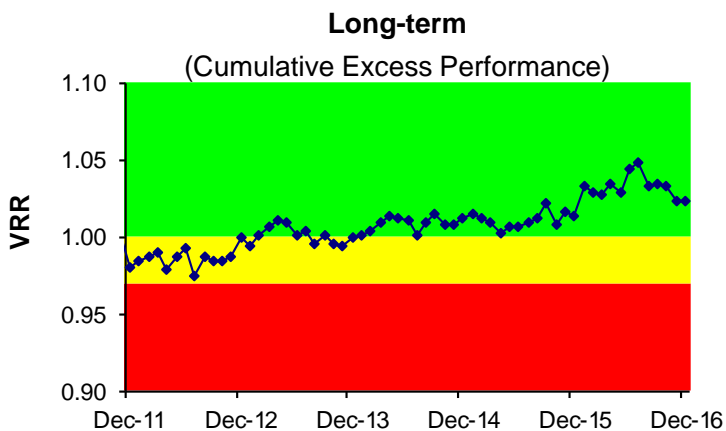
- Short-term performance remained in the Positive range

← probationary performance band -4.5%



- Medium-term performance continued in the Positive range

← probationary performance band -2.0%



- The Fund reached its 5-year Program inception as of December 2016

← probationary performance band VRR < 0.97

Annualized Performance Results (net of fund management fees)

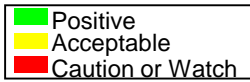
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
DFA Emerging Markets Core Equity	12.35	-1.77	2.14	1.68
MSCI EM NR USD	11.19	-2.55	1.28	0.89
Peer Rank (Percentile)	20	27	39	38

Current Status
Positive

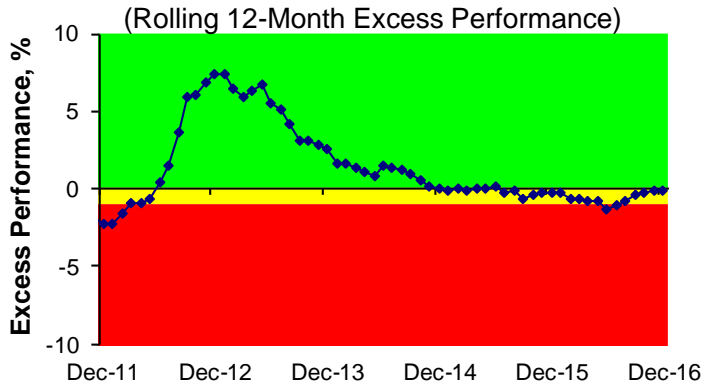
Source: Morningstar Direct

Peer Group = US OE Diversified Emerging Markets

METROPOLITAN WEST TOTAL RETURN BOND FUND



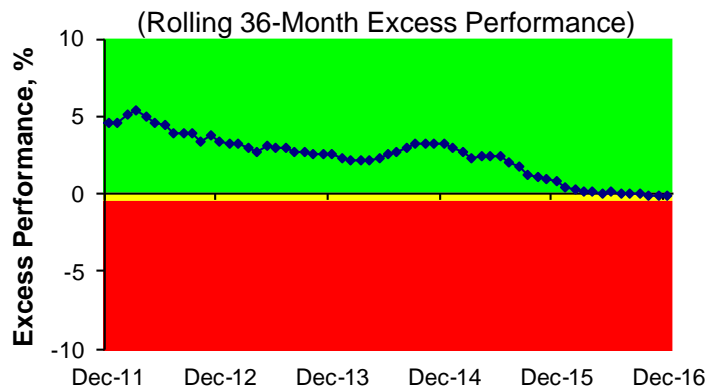
Short-term



- Short-term performance remained in the Acceptable range

← probationary performance band -1.0%

Medium-term



- Medium-term performance continued in the Acceptable range

← probationary performance band -0.5%

- Long-term criteria to take effect 4Q 2020

Annualized Performance Results (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (10/2015)
Met West Total Return Bond Fund	2.46	2.88	4.07	1.40
BBg BC US Aggregate TR	2.65	3.03	2.23	1.47
Peer Rank (Percentile)	69	45	6	62

Current Status

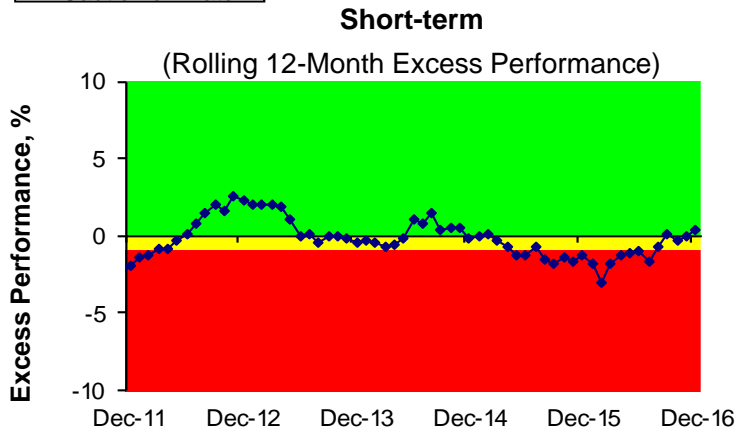
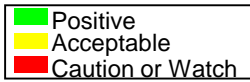
Acceptable

Source: Morningstar Direct

Peer Group = US OE Intermediate-Term Bond

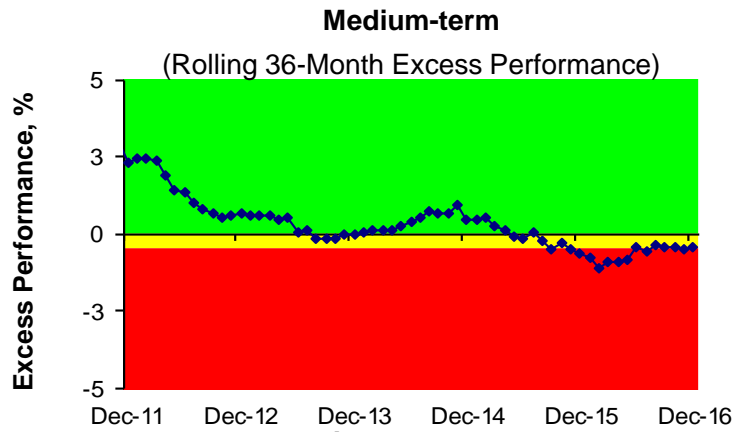
PIMCO REAL RETURN FUND

* On "Watch" due to organizational and performance concerns



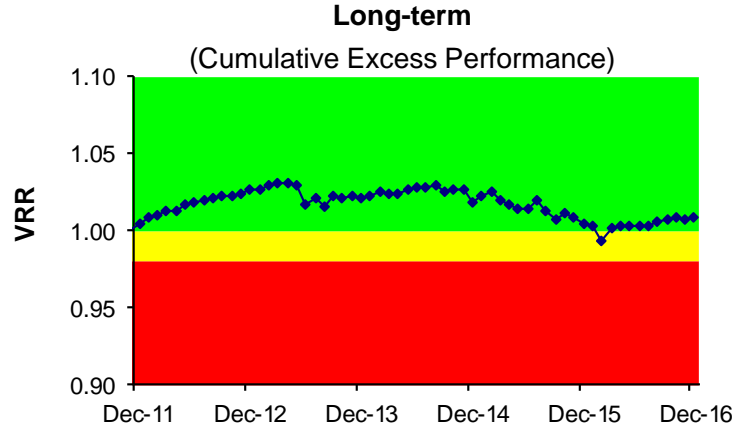
- Short-term performance climbed to the Positive range at the end of the period

← probationary performance band -1.0%



- Medium-term performance remained in the Acceptable range

← probationary performance band -0.5%



- The Fund reached its 5-year Program inception as of December 2016

← probationary performance band VRR < 0.98

Annualized Performance Results (net of fund management fees)

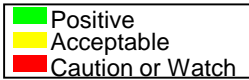
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
PIMCO Real Return Institutional	5.04	1.85	0.98	1.07
BBg BC US Treasury US TIPS TR	4.68	2.26	0.89	0.95
Peer Rank (Percentile)	23	29	14	13

Current Status
Acceptable

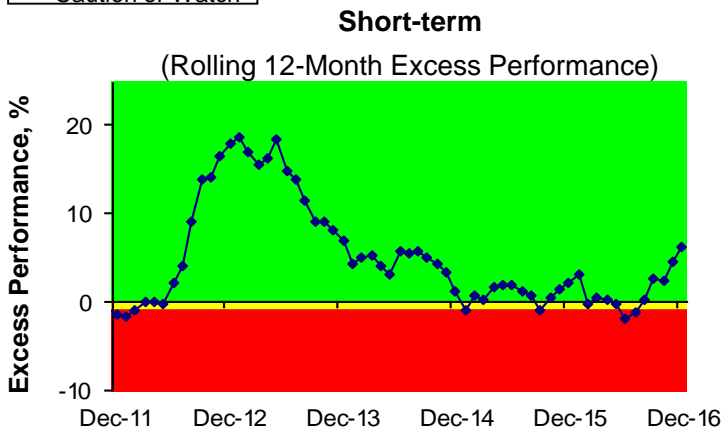
Source: Morningstar Direct

Peer Group = US OE Inflation-Protected Bond

PIMCO INCOME FUND

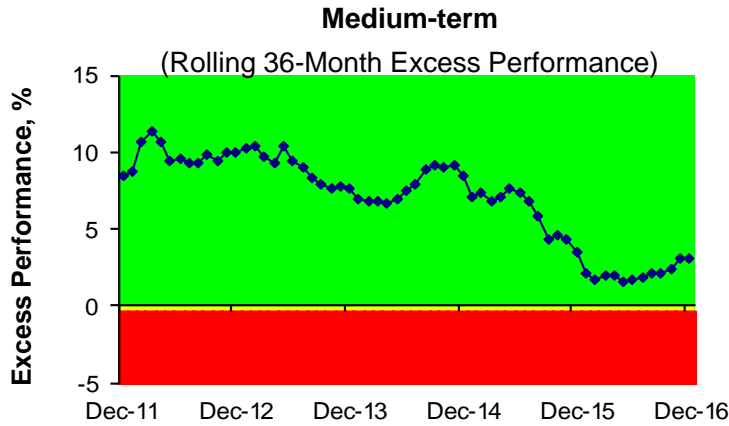


* On "Watch" due to organizational concerns



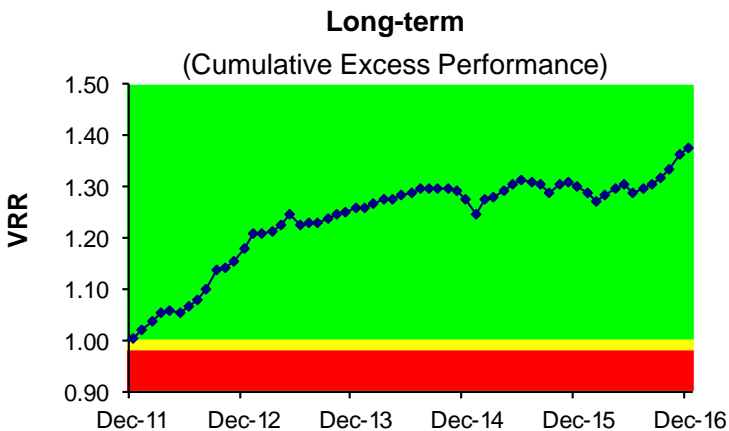
- Short-term performance continued in the Positive range

← probationary performance band -1.0%



- Medium-term performance remained in the Positive range

← probationary performance band -0.5%



- The Fund reached its 5-year Program inception as of December 2016

← probationary performance band VRR < 0.98

Annualized Performance Results (net of fund management fees)

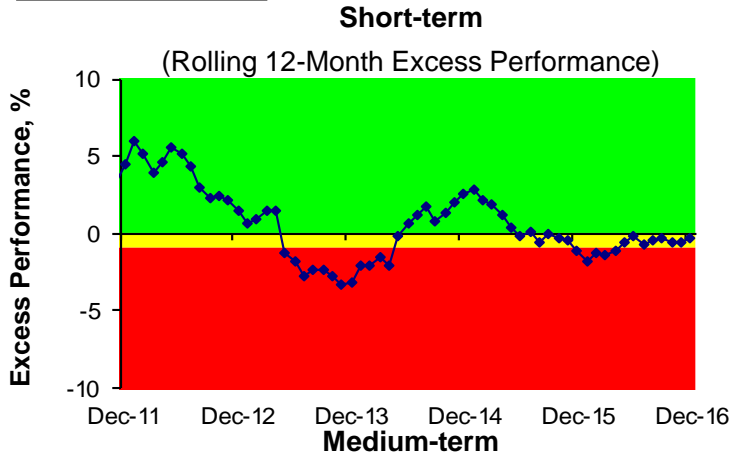
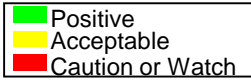
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
PIMCO Income Institutional	8.72	6.15	8.90	8.93
BBg BC US Aggregate Bond TR	2.65	3.03	2.23	2.35
Peer Rank (Percentile)	31	4	2	1

Current Status
Positive

Source: Morningstar Direct

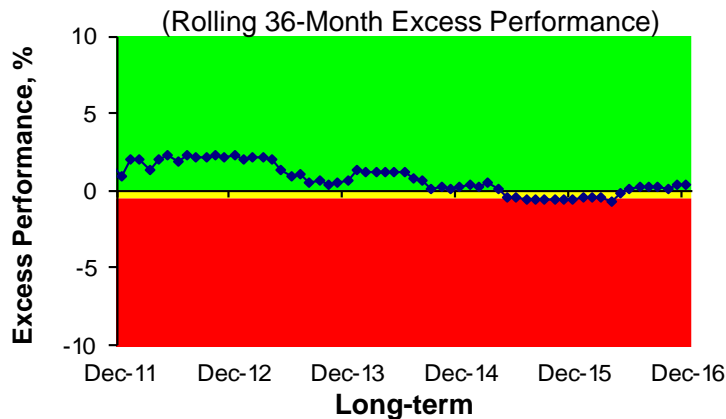
Peer Group = US OE Multisector Bond

TIAA-CREF INFLATION-LINKED BOND FUND



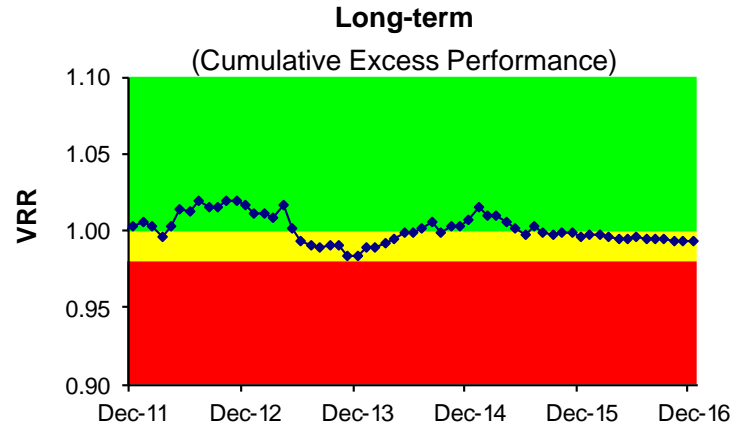
- Short-term performance remained in the Acceptable range

← probationary performance band -1.0%



- Medium-term performance remained in the Positive range

← probationary performance band -0.5%



- The Fund reached its 5-year Program inception as of December 2016

← probationary performance band VRR < 0.98

Annualized Performance Results (net of fund management fees)

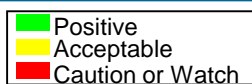
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF Inflation-Linked Bond	3.65	1.79	0.50	0.57
BBg BC US TIPS 1-10 year TR	4.01	1.45	0.70	0.73
Peer Rank (Percentile)	69	31	42	41

Current Status
Acceptable

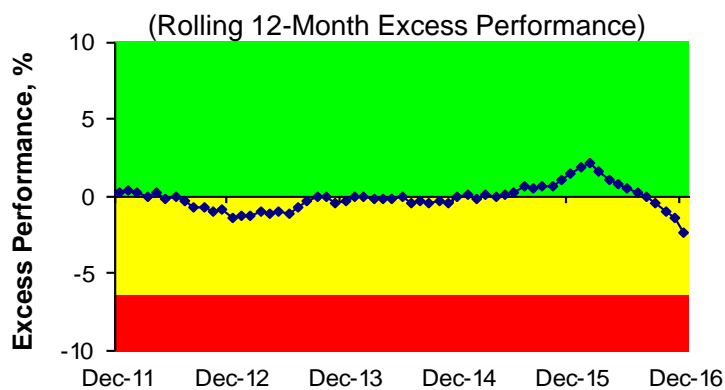
Source: Morningstar Direct

Peer Group = US OE Inflation-Protected Bond

T. ROWE PRICE INSTL. FLOATING RATE FUND



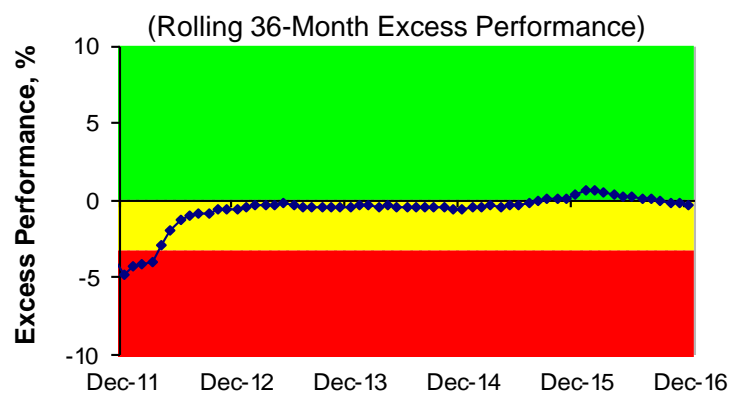
Short-term



- Short-term performance continued in the Acceptable range

← probationary performance band -6.5%

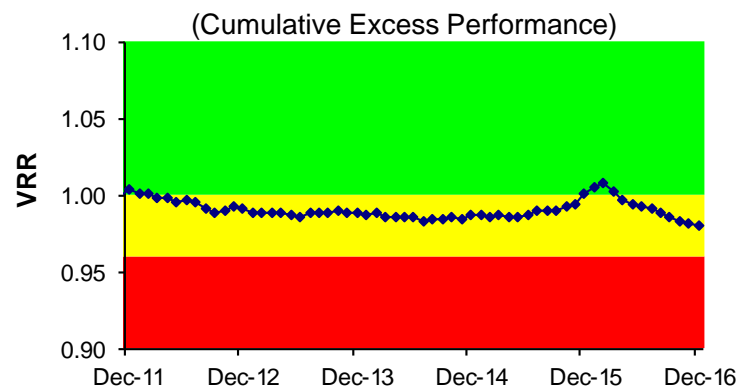
Medium-term



- Medium-term performance ended the period slightly below the benchmark, placing in the Acceptable range

← probationary performance band -3.25%

Long-term



- The Fund reached its 5-year Program inception as of December 2016

← probationary performance band VRR < 0.96

Annualized Performance Results (net of fund management fees)

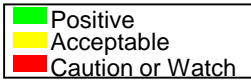
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
T. Rowe Price Instl Floating Rate	8.00	3.70	4.89	4.87
S&P/LSTA Performing Loan TR	10.36	4.00	5.41	5.28
Peer Rank (Percentile)	65	11	33	30

Current Status
Acceptable

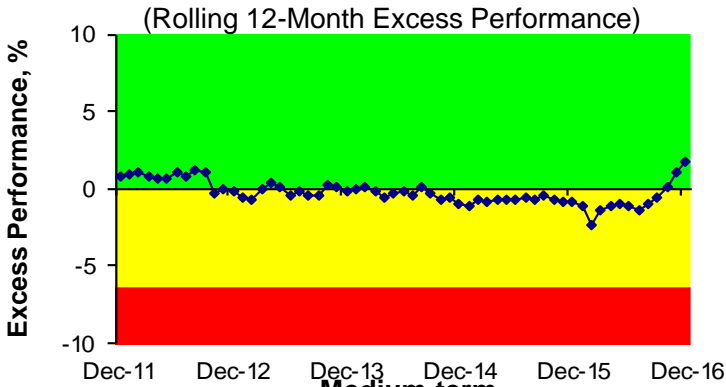
Source: Morningstar Direct

Peer Group = US OE Bank Loan

TIAA-CREF HIGH YIELD BOND FUND



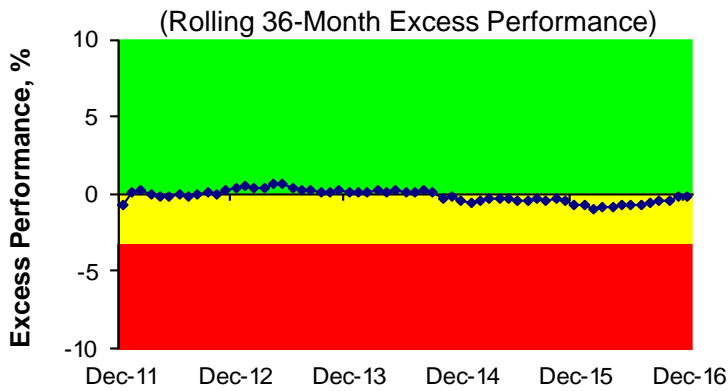
Short-term



- Short-term performance improved to the Positive range during the period

← probationalary performance band -6.5%

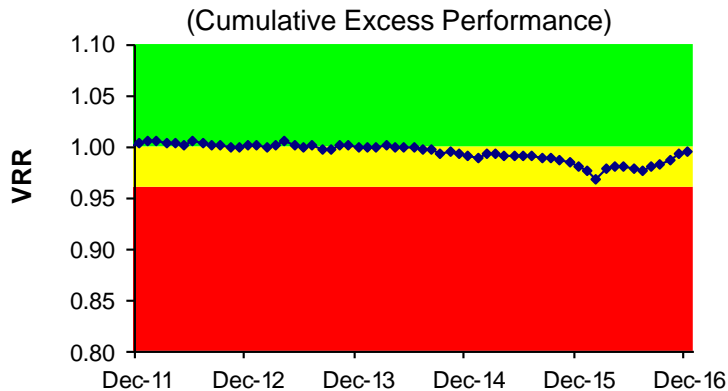
Medium-term



- Medium-term performance continued in the Acceptable range

← probationalary performance band -3.25%

Long-term



- The Fund reached its 5-year Program inception as of December 2016

← probationalary performance band VRR < 0.96

Annualized Performance Results (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF High Yield	16.45	4.74	6.88	7.16
BofA ML US HY C Pay BB-B Const'd TR	14.76	4.89	7.04	7.25
Peer Rank (Percentile)	11	10	26	25

Current Status
Acceptable

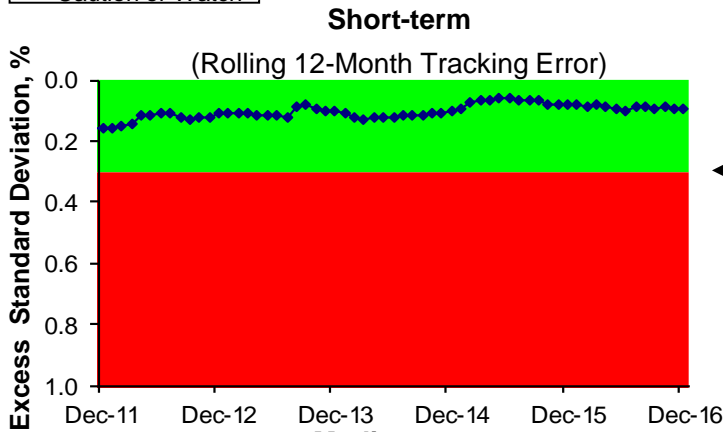
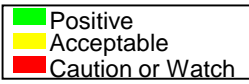
Source: Morningstar Direct

Peer Group = US OE High Yield Bond

SENSITIVITY ANALYSES

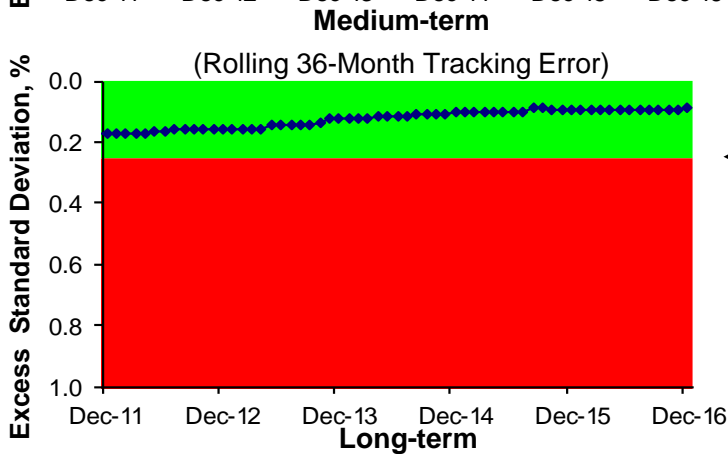
PASSIVE FUNDS

TIAA-CREF EQUITY INDEX FUND



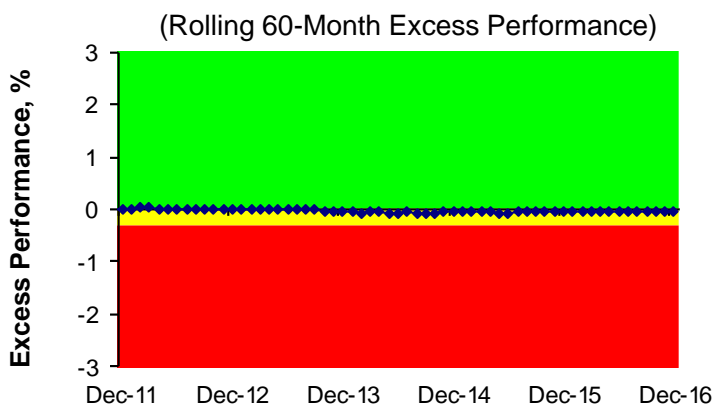
Acceptable tracking error

← probationary performance band 0.3%



Acceptable tracking error

← probationary performance band 0.25%



The Fund reached its 5-year Program inception as of December 2016

← probationary performance band -0.30%

Annualized Performance Results (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF Equity Index	12.76	8.42	14.63	15.04
Russell 3000 TR	12.74	8.43	14.67	15.09
Peer Rank (Percentile)	18	15	16	15

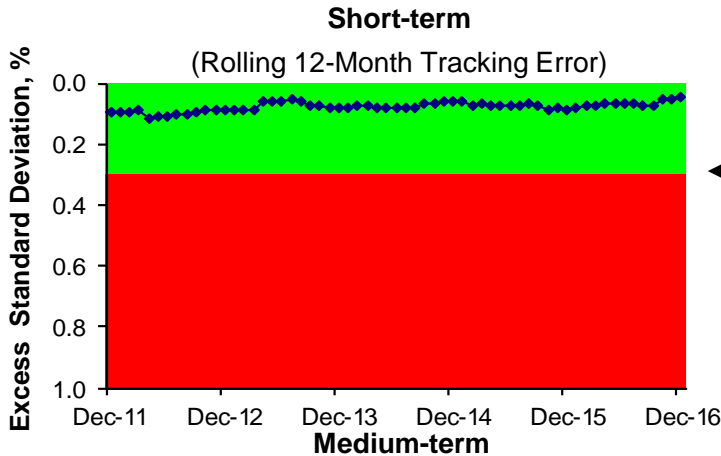
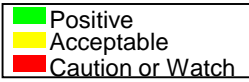
Source: Morningstar Direct

Peer Group = US OE Large Blend

Current Status

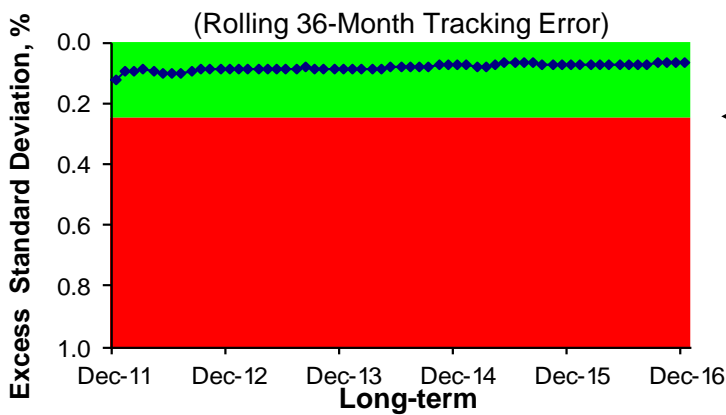
Positive

TIAA-CREF S&P 500 INDEX FUND



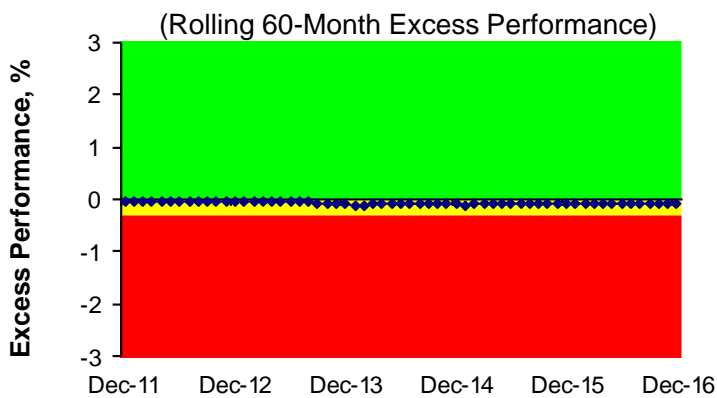
Acceptable tracking error

← probationary performance band 0.3%



Acceptable tracking error

← probationary performance band 0.25%



The Fund reached its 5-year Program inception as of December 2016

← probationary performance band -0.30%

Annualized Performance Results (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF S&P 500 Index	11.87	8.80	14.58	15.04
S&P 500 Index TR	11.96	8.87	14.66	15.12
Peer Rank (Percentile)	27	6	17	15

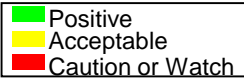
Source: Morningstar Direct

Peer Group = US OE Large Blend

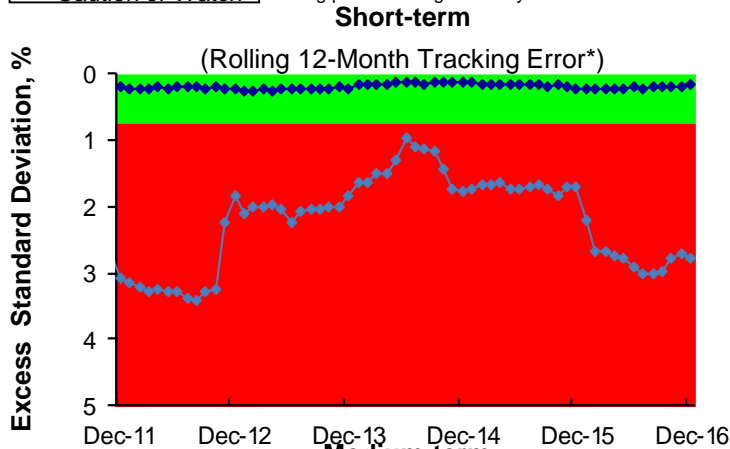
Current Status

Positive

TIAA-CREF INTERNATIONAL EQUITY INDEX FUND



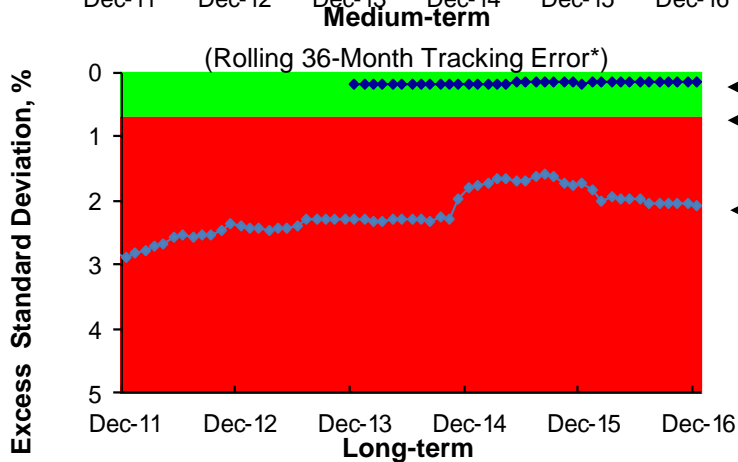
*Increased tracking error is due primarily to the Fund's "fair market value" adjustment procedures, which increases or decreases the Fund's actual closing price to compensate for pricing differences between international markets. This results in increased tracking error during periods of high volatility.



▪ Acceptable tracking error

← actual (trailing 12 mo. based on data since January 2011)
 ← probationary performance band 0.75%

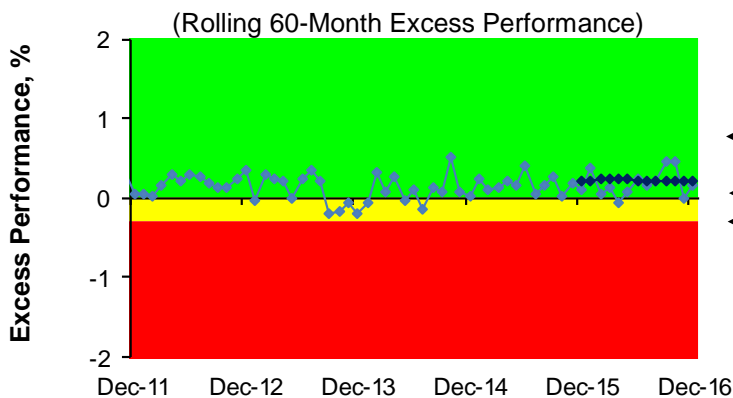
← adjusted for fair market value estimates



▪ Acceptable tracking error

← actual (trailing 36 mo. based on data since January 2011)
 ← probationary performance band 0.70%

← adjusted for fair market value estimates



▪ The Fund reached its 5-year Program inception as of December 2016

← actual (trailing 60 mo. based on data since January 2011)

← adjusted for fair market value estimates

← probationary performance band -0.30%

Annualized Performance Results (net of fund management fees)

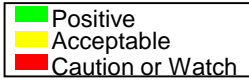
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF International Equity Index	1.22	-1.63	6.69	6.70
MSCI EAFE Index NR	1.00	-1.60	6.53	6.59
Peer Rank (Percentile)	41	40	28	26

Current Status
Positive

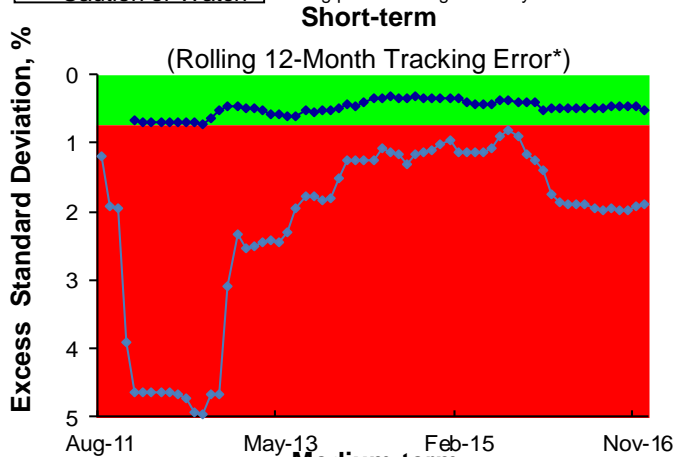
Source: Morningstar Direct

Peer Group = US OE Foreign Large Blend

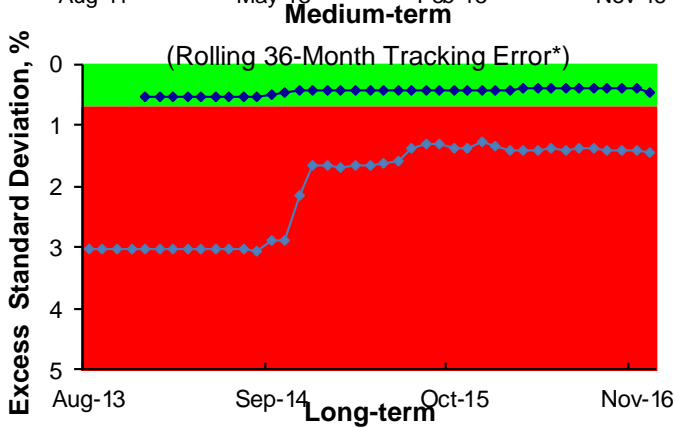
TIAA-CREF EMERGING MARKETS EQUITY INDEX FUND



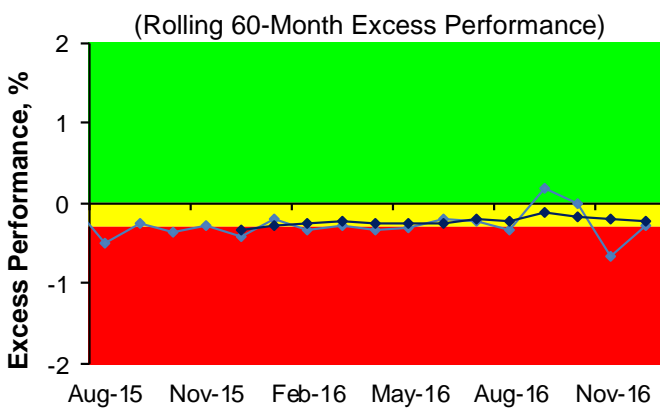
*Increased tracking error is due primarily to the Fund's "fair market value" adjustment procedures, which increases or decreases the Fund's actual closing price to compensate for pricing differences between international markets. This results in increased tracking error during periods of high volatility.



- Acceptable tracking error
- actual (trailing 12 mo. based on data since January 2011)
- probationary performance band 0.75%
- adjusted for fair market value estimates



- Acceptable tracking error
- actual (trailing 36 mo. based on data since January 2011)
- probationary performance band 0.70%
- adjusted for fair market value estimates



- The Fund reached its 5-year Program inception as of December 2016
- actual (trailing 60 mo. based on data since January 2011)
- probationary performance band -0.30%
- adjusted for fair market value estimates

Annualized Performance Results (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF Emerging Markets Equity Index	11.06	-2.90	1.00	0.61
MSCI EM NR USD	11.19	-2.55	1.28	0.89
Peer Rank (Percentile)	31	51	65	65

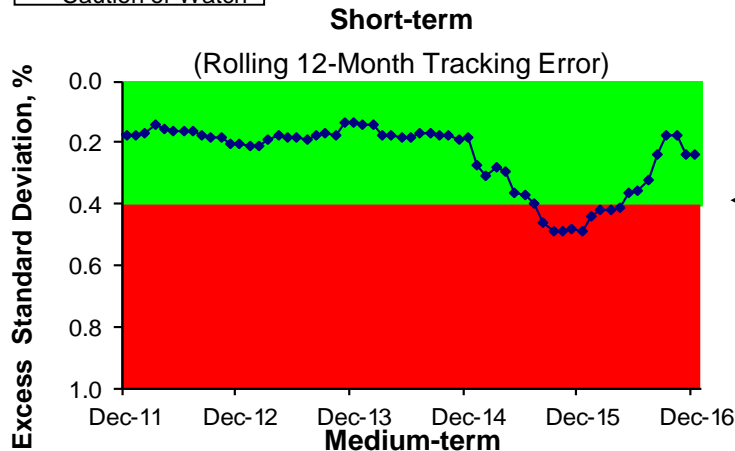
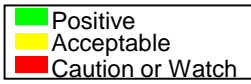
Source: Morningstar Direct

Peer Group = US OE Diversified Emerging Markets

Current Status

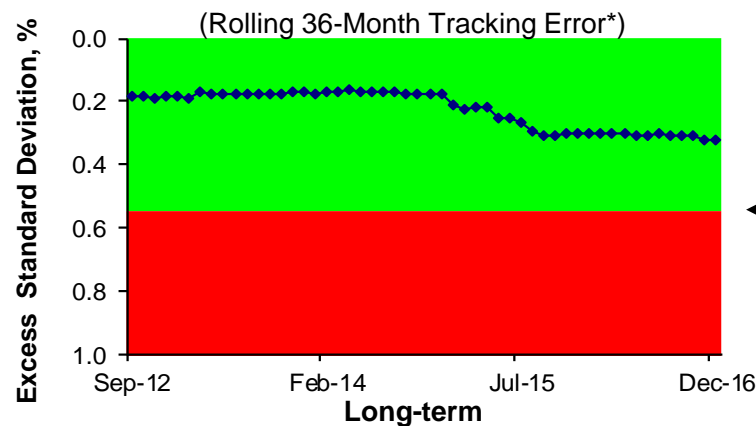
Positive

TIAA-CREF BOND INDEX FUND



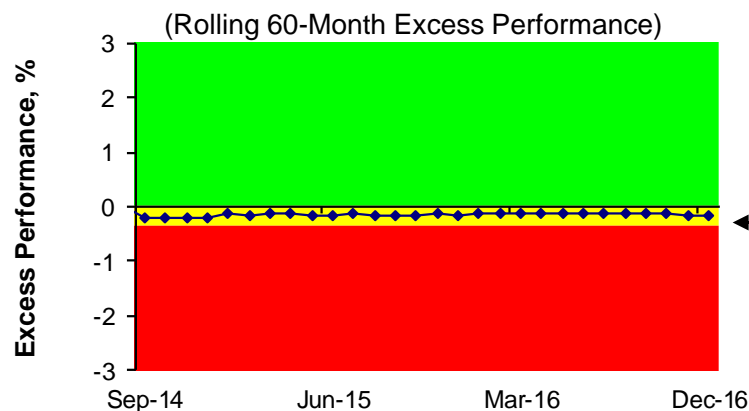
▪ Acceptable tracking error

← probationary performance band 0.4%



▪ Acceptable tracking error

← probationary performance band 0.55%



▪ The Fund reached its 5-year Program inception as of December 2016

← probationary performance band -0.35%

Annualized Performance Results (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF Bond Index	2.38	2.90	2.07	2.19
BBg BC US Aggregate Bond TR	2.65	3.03	2.23	2.35
Peer Rank (Percentile)	71	43	75	75

Source: Morningstar Direct

Peer Group = US OE Intermediate-Term Bond

Current Status

Positive

T-C LIFE FUNDING AGREEMENTS



T-C LIFE FUNDING AGREEMENTS

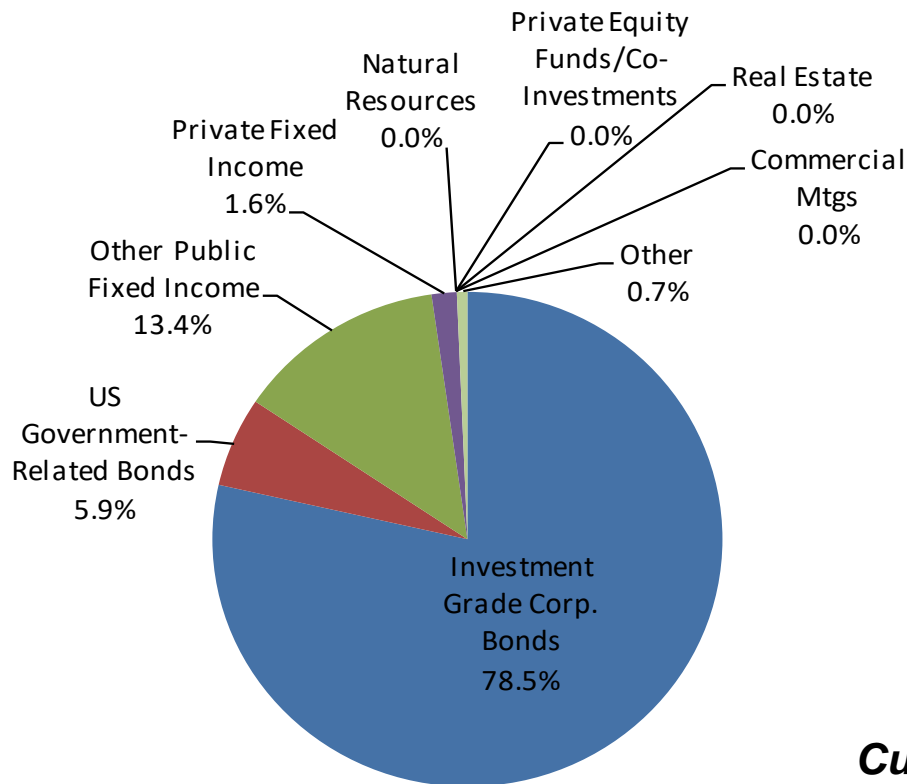
(based on non-investment performance criteria)

Criteria	Status as of 12/31/2016	Status as of 9/30/2016	Status as of 6/30/2016	Status as of 3/31/2016
Financial Strength	Moody's = Aa1 Standard & Poor's = AA+ A.M. Best = A++ Fitch = AAA	Moody's = Aa1 Standard & Poor's = AA+ A.M. Best = A++ Fitch = AAA	Moody's = Aa1 Standard & Poor's = AA+ A.M. Best = A++ Fitch = AAA	Moody's = Aa1 Standard & Poor's = AA+ A.M. Best = A++ Fitch = AAA
Mortgage Portfolio	100% in Good Standing*	100% in Good Standing*	100% in Good Standing*	100% in Good Standing*
Bond Portfolio	98.60% in Investment Grade (at least 90%)	98.40% in Investment Grade (at least 90%)	98.10% in Investment Grade (at least 90%)	97.80% in Investment Grade (at least 90%)
Account Diversification	Portfolio is diversified across asset classes and types (see chart below)	Portfolio is diversified across asset classes and types (see chart below)	Portfolio is diversified across asset classes and types (see chart below)	Portfolio is diversified across asset classes and types (see chart below)

*Portfolio did not contain any commercial mortgages.

Note, prior-period investment status will shift to the right.

Source: TIAA-CREF



Current Status

Positive

SECTION 5

SUMMARY POINTS

SUMMARY POINTS

	Criteria Utilized for Performance Watch Status			
	On Watch	Short-term	Medium-term	Long-term
T. Rowe Price Instl Large Cap Growth	No	---	---	N/A
T. Rowe Price Instl Large Cap Value	No	---	---	N/A
TIAA-CREF Small Cap Equity	No	---	---	N/A
TIAA-CREF Social Choice Equity	No	---	---	N/A
TIAA-CREF Real Estate Securities	No	---	---	N/A
DFA Large Cap International	No	---	---	N/A
DFA Emerging Markets Core Equity	No	---	---	N/A
Metropolitan West Total Return Bond	No	---	---	N/A
PIMCO Real Return	Yes - Org./Perf.	---	---	N/A
PIMCO Income	Yes - Org.	---	---	N/A
TIAA-CREF Inflation-Linked Bond	No	---	---	N/A
T. Rowe Price Instl Floating Rate	No	---	---	N/A
TIAA-CREF High Yield Bond	No	---	---	N/A
TIAA-CREF Equity Index	No	---	---	N/A
TIAA-CREF S&P 500 Index	No	---	---	N/A
TIAA-CREF International Eq Index	No	---	---	N/A
TIAA-CREF Emerging Markets Eq Index	No	---	---	N/A
TIAA-CREF Bond Index	No	---	---	N/A
T-C Life Funding Agreements	No	---	---	N/A
Total	2 of 19	0 of 18 eligible portfolios	0 of 18 eligible portfolios	0 of 0 eligible portfolios

- Performance-based watch status criteria is on a *relative* basis
 - Absolute results may still be negative

- Criteria set up to evaluate managers over differing time periods

- The following funds remain on “Watch” status for organizational concerns:
 - PIMCO Real Return
 - PIMCO Income

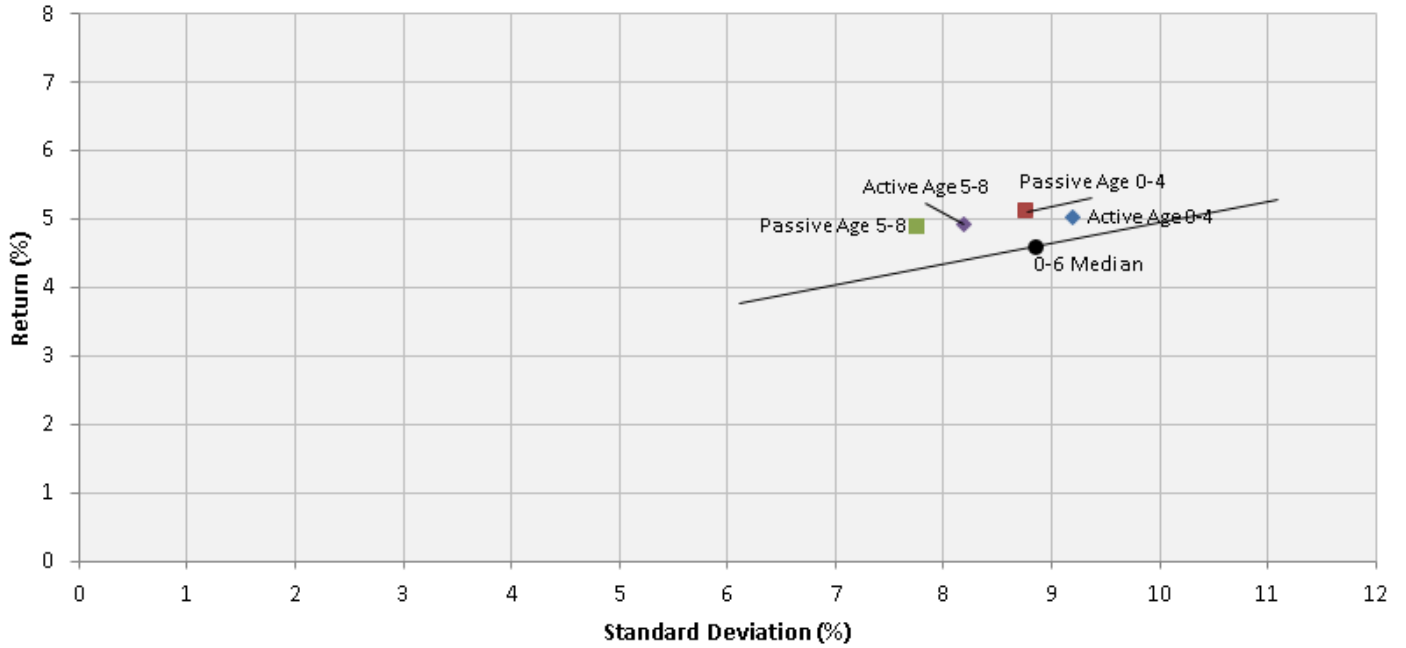
SECTION 6

AGE-BASED FUND ANALYSIS

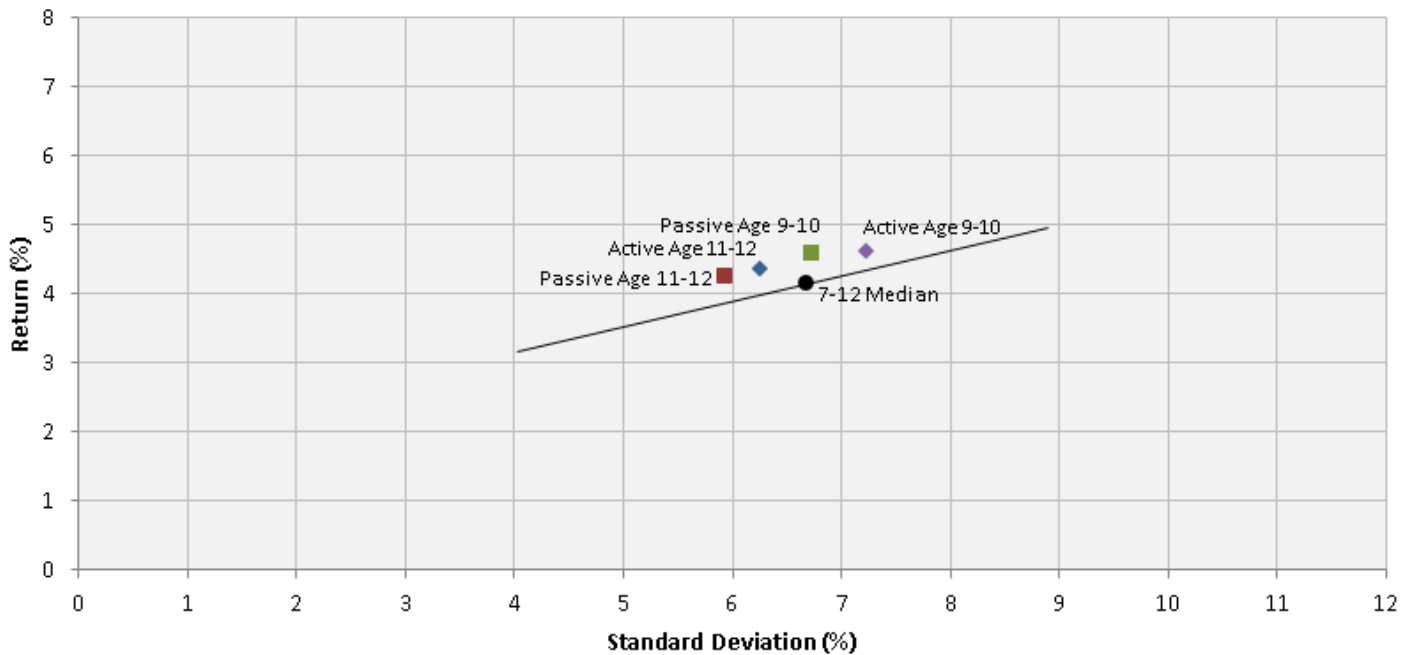


SCHOLARSHARE AGE-BASED FUND – RISK/RETURN

AGE 0-6 : 3-YEAR (as of 12/31/2016)



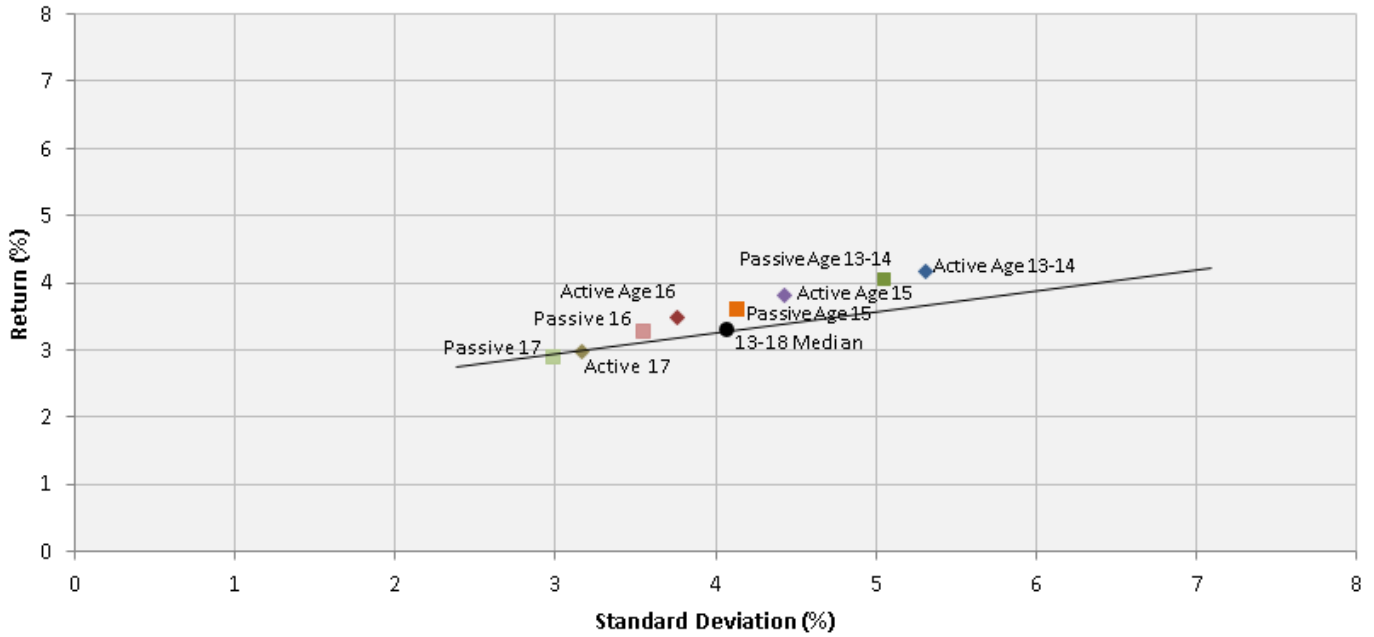
AGE 7-13 : 3-YEAR (as of 12/31/2016)



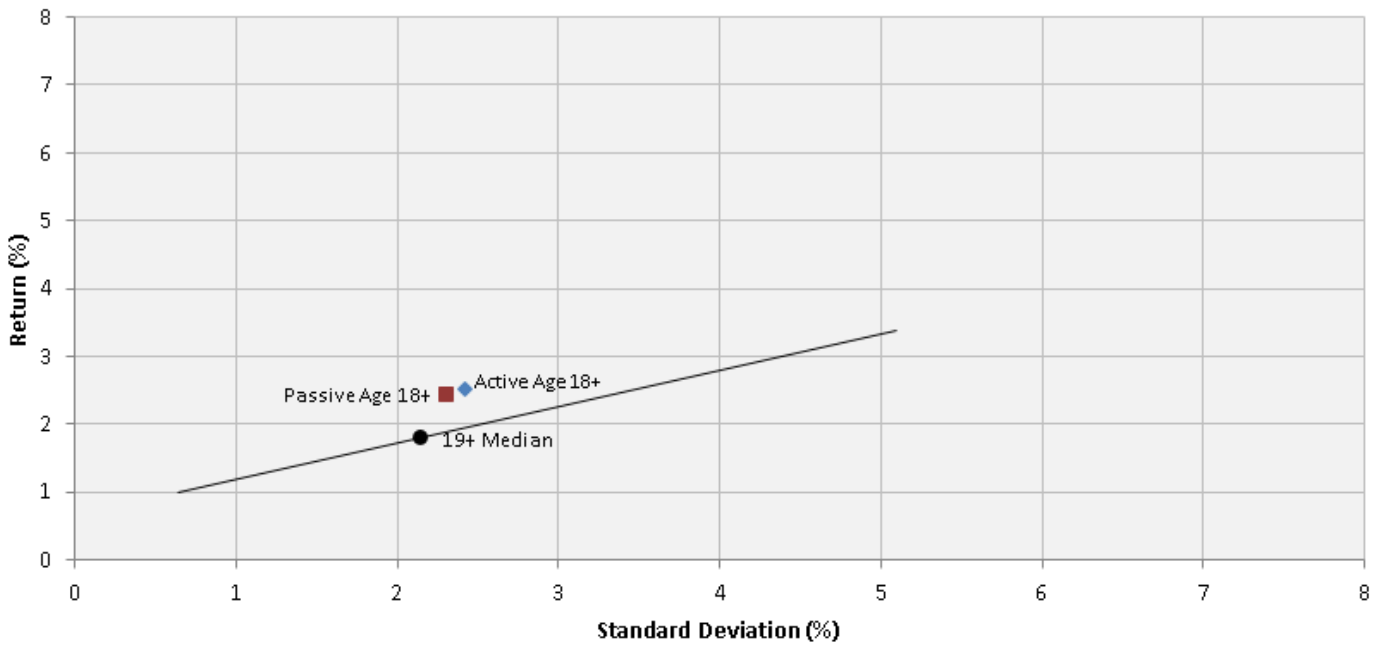
Source: Morningstar

SCHOLARSHARE AGE-BASED FUND – RISK/RETURN

AGE 13-18 : 3-YEAR (as of 12/31/2016)



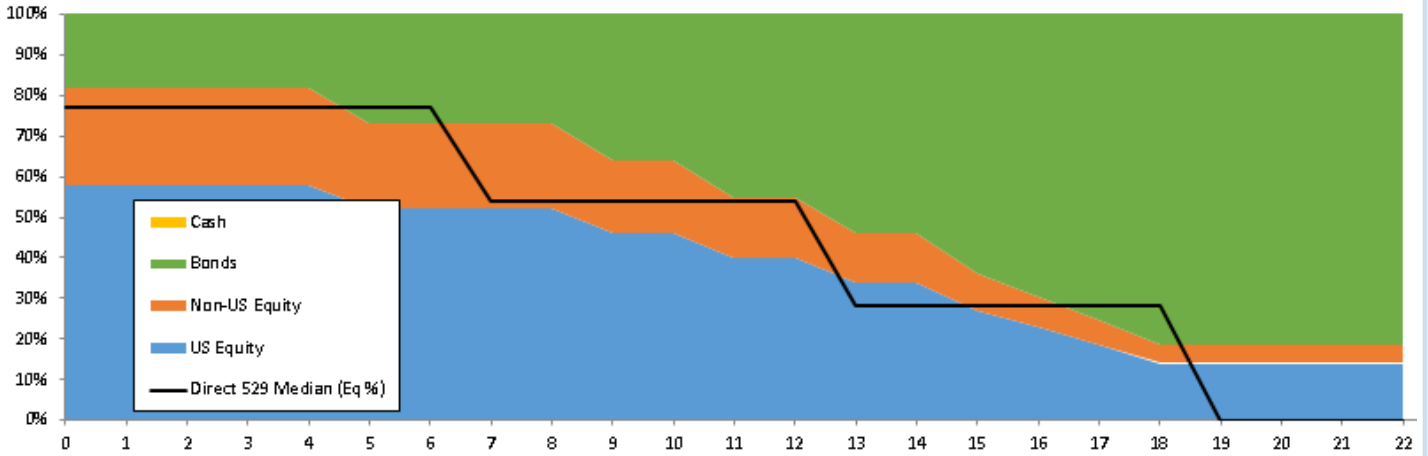
AGE 19+ : 3-YEAR (as of 12/31/2016)



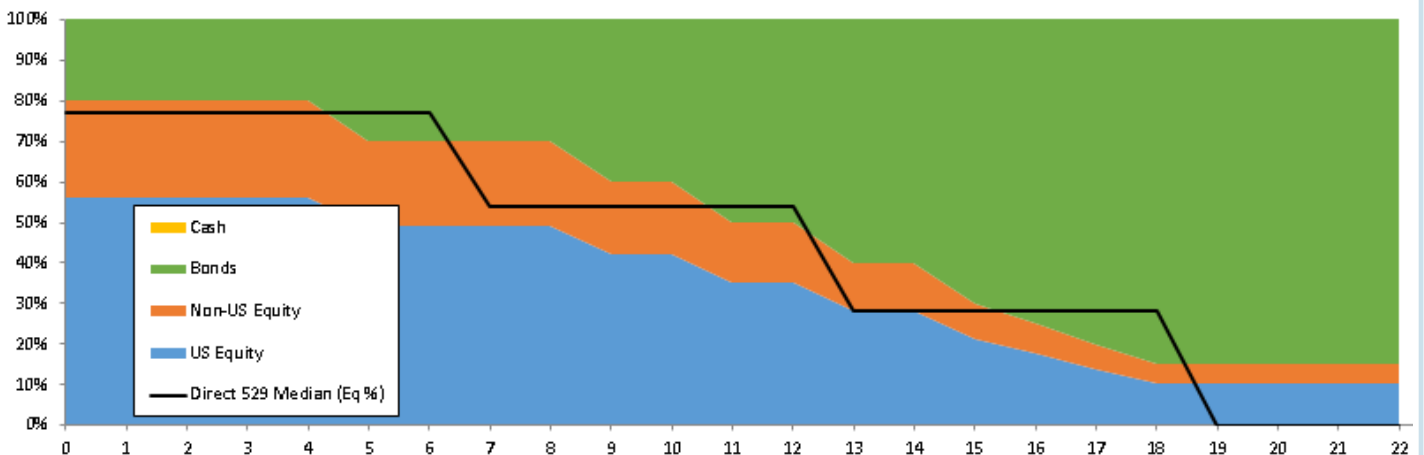
Source: Morningstar

SCHOLARSHARE AGE-BASED GLIDEPATH

ACTIVE AGE-BASED PORTFOLIO



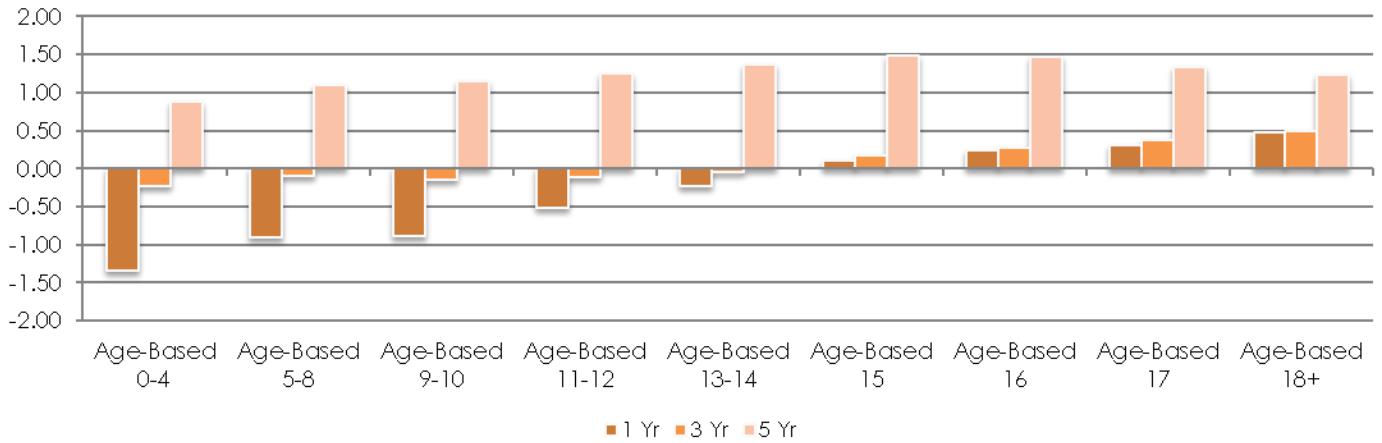
PASSIVE AGE-BASED PORTFOLIO



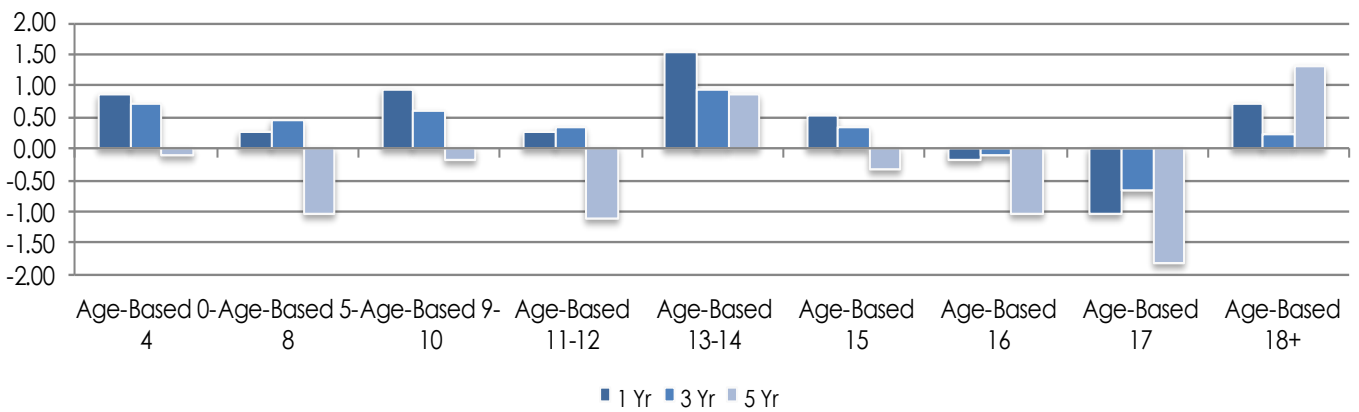
SCHOLARSHARE AGE-BASED ATTRIBUTION

ACTIVE AGE-BASED PORTFOLIO

Contribution to Return From Selection



Contribution to Return From Allocation



APPENDIX

GLOSSARY

Annualized Return – The average annual return of either the manager or its benchmark.

Excess Performance – Manager returns in excess of the benchmark returns.

Standard Deviation – A measure of dispersion of a set of data from its mean.

Excess Standard Deviation – A measure of the volatility of the average annual difference between the manager's return and the benchmark's return, same as tracking error.

VRR – Value Relative Ratio – Is calculated as: $\text{Manager Cumulative Return} / \text{Benchmark Cumulative Return}$.

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Date: February 16, 2017
To: ScholarShare Investment Board (SIB)
From: Pension Consulting Alliance, LLC (PCA)
CC: Allan Emkin – PCA; Eric White, CFA – PCA; Kay Ceserani – PCA
RE: Review of Underlying Funds Qualifying for “Watch” Status

Summary

PCA has conducted a review of the underlying funds in the ScholarShare College Savings Plan. The review included a quantitative analysis of the underlying funds based on specific performance criteria (as per the *Monitoring Procedures and Criteria*) as well as a qualitative analysis, including a review of organizational concerns, stability of personnel, changes in investment objectives, etc. This memo summarizes the period from October 1, 2016 through December 31, 2016.

At the end of the period, **two funds, the PIMCO Income Fund and the PIMCO Real Return Fund, remain on “Watch” status for organizational and/or performance concerns, and no new funds qualify for “Watch” status.** PIMCO's organizational and upper-management structures have remained relatively stable over the last 12 months and the portfolio managers for both funds have remained intact. Additionally, performance of both funds have continued to place within acceptable limits over recent trailing time periods. At this time, PCA recommends the PIMCO Income Fund and the PIMCO Real Return Fund be removed from “Watch”. Each of these funds is discussed in more detail on the following pages.

**Performance of Funds on Watch Status
As of 12/31/2016**

Funds on Watch Status	Plan Assets (\$mil)	Board Action Date	Watch Status Start Date	Number of Months Since Watch Began	Excess Perf. Since Watch Began	Perf. / Org. Concerns
PIMCO Income Fund	\$152.5	10/02/2014	10/01/2014	27	2.74%	Org.
PIMCO Real Return Fund	\$139.3	10/02/2014	10/01/2014	27	-0.76%	Org./Perf.*

*The PIMCO Real Return Fund was placed on “Watch” status for organizational concerns in October 2014. As of the period ended March 31, 2016, the fund also qualified for “Watch” status for performance concerns upon breaching the short-term *Monitoring Procedures and Criteria*.

Background

At the October 2, 2014 Board meeting, the Board approved the recommendation to place the following three funds on “Watch” status to be closely monitored due to material organizational changes: i) PIMCO Total Return Fund, ii) PIMCO Income Fund, and iii) PIMCO Real Return Fund. The Board also authorized the Executive Director of SIB to take necessary action, with the

recommendation of PCA and TIAA Tuition Financing, Inc. (TFI), to remove any or all of the three PIMCO funds for replacement by actively-managed bond fund(s) with comparable risk return characteristics. On October 10, 2014, in accordance with the ScholarShare *Monitoring Procedures and Criteria* and upon recommendation of PCA and TFI, assets were transferred from the PIMCO Total Return Fund to the TIAA-CREF Bond Plus Fund. With that fund replacement completed, the remaining two funds on "Watch" status include the PIMCO Income Fund and the PIMCO Real Return Fund.

New Funds Qualifying for "Watch" Status

PCA has conducted a review of the underlying funds in the ScholarShare College Savings Plan (see also the 4Q2016 ScholarShare College Savings Plan Investment Performance Status Report) and determined that no additional funds qualify for "Watch" status at this time.

Funds Currently on "Watch" Status

The PIMCO Income Fund and the PIMCO Real Return Fund were placed on "Watch" status for organizational concerns upon the departure of the firm's CIO and founder, Bill Gross, in September 2014. Since the departure of Mr. Gross, the firm had experienced various other portfolio manager departures and high-level organizational restructurings (e.g., investment committee changes). Furthermore, in October 2015, attorneys for Mr. Gross filed a lawsuit against PIMCO. The lawsuit stated a complaint for 1) constructive termination, 2) breach of contract, and 3) breach of covenant of good faith and fair dealing. With regard to the allegations within the lawsuit, the accusation of unethical fee practices within the PIMCO mutual fund business raised concern.

Despite these events, PIMCO's portfolio management capabilities have been generally stable over the last year. Assets under management have remained at approximately \$1.5 trillion over this time period¹ (ending 12/31/2016), and the firm's upper-management personnel and structuring has been largely unchanged, with the exception of a new CEO. In particular, Emmanuel Roman became CEO of the firm effective November 2016, and Douglas M. Hodge, who took over as CEO after the resignation of prior CEO Mohamed A. El-Erian in early 2014, remains at the firm as a managing director and senior advisor. Additionally, while the lawsuit that was filed by Mr. Gross remains pending, it does not appear to be negatively impacting the firm nor gaining material attention by regulators.

While there are various elements of uncertainty that remain, PCA believes that the majority of headwinds presented to the firm are behind them. PCA recommends the Plan's PIMCO funds be removed from "Watch" status for organizational concerns. These funds are discussed in more detail below.

¹ 9/30/2014 Total AUM = \$1.876 trillion; 9/30/2015 Total AUM = \$1.473 trillion; 12/31/2016 Total AUM = \$1.467 trillion
source: eVestment Alliance

PIMCO Income Fund

The Fund was placed on "Watch" status for organizational concerns upon the departure of the firm's CIO and founder, Bill Gross, in September 2014.

Investment Role in Program

The fund is a portfolio of a broad range of intermediate-duration bonds that is actively managed to maximize current income while maintaining a relatively low risk profile. It also has a secondary goal of capital appreciation. The strategy utilizes multiple sectors of the bond market in an effort to generate a competitive and consistent distribution yield and monthly dividend. Managed to pursue efficient income generation, the strategy also focuses on PIMCO total-return ideas in an effort to maximize capital appreciation and risk-adjusted returns relative to its peers. This approach seeks to provide consistent income over the long term.

History and Organizational Structure

PIMCO (Pacific Investment Management Company) was founded in 1971 and started as a subsidiary of Pacific Life Insurance Company to manage separate accounts for institutional clients. In 2000, PIMCO was acquired by AllianzSE, a large global financial services company based in Germany. PIMCO currently operates as a separate and autonomous subsidiary of Allianz. PIMCO is currently one of the world's largest fixed income managers with offices around the globe.

Investment Team

Daniel Ivascyn has been the lead portfolio manager of the fund since its inception in 2007. Mr. Ivascyn was named Group Chief Investment Officer in October 2014 upon the departure of the firm's former CIO and founder, Bill Gross. He is also the head of the mortgage credit portfolio management team and a lead portfolio manager for PIMCO's credit hedge fund and mortgage opportunistic strategies. Mr. Ivascyn is a member of PIMCO's Executive Committee and a member of the Investment Committee. Morningstar named him Fixed-Income Fund Manager of the Year (US) for 2013.

Mr. Ivascyn is supported by Alfred Murata who has been co-portfolio manager on the fund since March 2013. Mr. Murata joined PIMCO in 2001. With Mr. Ivascyn, Morningstar named Mr. Murata Fixed-Income Fund Manager of the Year (U.S.) for 2013.

Investment Philosophy and Approach

PIMCO's investment philosophy for the Income strategy revolves around the principle of diversification. By diversifying strategies, or relying on multiple sources of value, they are confident that they will be able to generate a solid track record with a high degree of consistency. They seek to add value through the use of "top-down" strategies such as exposure to interest rates, or duration, changing volatility, yield curve positioning and sector rotation. These strategies are deployed from a macro view of the portfolio that are driven by PIMCO's secular outlook of the forces likely to influence the economy and financial markets over the next three to five years and their cyclical views of two-to-four quarter trends. "Bottom-up" strategies drive PIMCO's security-selection process and help identify and analyze undervalued securities and securities that pay high income. Here, they employ advanced proprietary analytics and expertise in all major fixed-income sectors. By combining perspectives from both the portfolio and security levels, they attempt to add value consistently over time within acceptable levels of portfolio risk.

PIMCO's investment process starts with an annual Secular Forum at which their investment professionals from around the globe gather with industry experts for a discussion about the future of the global economy and financial markets. The goal of this Forum is to look beyond the current business cycle and determine how secular forces will play out over the next three to five years. Quarterly, PIMCO holds Economic Forums to evaluate growth and inflation over the next six to nine months.

Following the Secular and Economic Forums, the Investment Committee, comprised of senior portfolio managers as well as PIMCO's Chief Economist and headed by PIMCO's Group Chief Investment Officer and CIOs, develops key portfolio strategies. They consider both the "top-down" conclusions emanating from the Forum, as well as the "bottom-up" market intelligence provided by teams of sector specialist portfolio managers. Through an interactive series of meetings, the Investment Committee defines a set of consistent strategies that are then implemented across all PIMCO strategies.

Portfolios are then continuously monitored for adherence to the current model portfolio structure, and historical measures such as volatility (close to benchmark) and tracking error (moderate) affirm PIMCO's adherence to a diversified, moderate risk style.

Buy and sell decisions are executed in order to optimize the risk/return and the relative value characteristics of the portfolio. PIMCO does not employ automated or mechanical selling procedures. Securities are sold when the credit analysis indicates that a company or a particular issue will become fundamentally flawed. Current holdings are constantly re-evaluated for their relative attractiveness versus investments available in the marketplace. Securities are sold when they individually no longer represent good value, when superior risk/return potential exists in substitute positions (factoring in transaction costs), or when they no longer fit with the macroeconomic or structural strategies in the portfolio.

Performance

Since being placed on "Watch" status 27 months ago, the PIMCO Income Fund has outperformed its benchmark, the Bloomberg Barclays US Aggregate Bond Index, by 2.7% and ranked at the top of its Multisector Bond peer category. Over the recent quarter, the fund outperformed the benchmark by 4.37% as exposure to high yield and investment grade corporate debt contributed to the strategy's performance. Holdings of securitized credit, primarily non-Agency MBS, and select holdings of USD-denominated emerging market debt also added value. Recent results were additionally aided by the portfolio's long US dollar bias versus the Japanese yen. Performance over the trailing 1-, 3-, and 5-year periods exceeded the benchmark by 6.07%, 3.12%, and 6.67%, respectively; these results placed above the median versus its peers and notably ranked in the top ten percentile over the longer time periods. Short- and medium-term performance results remain within acceptable limits.

Trailing Performance Results, Net of Fees

Ending December 31, 2016

Fund	Quarter	1 Year	3 Years	5 Years	Since Addition (11/20/2011)	Since Watch (10/01/2014)
PIMCO Income Fund	1.39	8.72	6.15	8.90	8.93	4.96
<i>Bbg BC US Aggregate Bond</i>	<i>-2.98</i>	<i>2.65</i>	<i>3.03</i>	<i>2.23</i>	<i>2.35</i>	<i>2.22</i>
Difference	4.37	6.07	3.12	6.67	6.58	2.74
Percentile Rank*	7	31	4	2	1	4

*Morningstar Multisector Bond Universe. 1 = Best, 100 = Worst.

Recommendation

At this time, **PCA recommends that the PIMCO Income Fund be removed from “Watch” status** for organizational concerns.

PIMCO Real Return Fund

The Fund was placed on “Watch” status for organizational concerns upon the departure of the firm’s CIO and founder, Bill Gross, in September 2014. As of the period ended March 31, 2016, the Fund also qualified for “Watch” status for performance concerns upon breaching the short-term investment monitoring guidelines; however, following that breach, the fund no longer breached the investment monitoring guidelines over the two most recent quarter-end periods.

Investment Role in Program

The fund is an actively managed strategy that provides investors exposure to US Treasury Inflation Protected Securities (TIPS). The fund seeks to provide high correlation to the broad TIPS market and consistently outperforms the benchmark by leveraging PIMCO’s disciplined investment process, global investment team, and focus on risk management. The strategy can invest in up to 20% of assets outside of the US TIPS market.

History and Organizational Structure

PIMCO (Pacific Investment Management Company) was founded in 1971 and started as a subsidiary of Pacific Life Insurance Company to manage separate accounts for institutional clients. In 2000, PIMCO was acquired by AllianzSE, a large global financial services company based in Germany. PIMCO currently operates as a separate and autonomous subsidiary of Allianz. PIMCO is currently one of the world’s largest fixed income managers with offices around the globe.

Investment Team

Mihir Worah, Managing Director and CIO of Real Return and Asset Allocation, has been the lead portfolio manager of the fund since December 2007. Mr. Worah is a member of PIMCO’s Investment Committee and Executive Committee and oversees portfolio management of the US. He serves as a generalist portfolio manager who manages a variety of fixed income, commodity and multi-asset portfolios. Mr. Worah is also responsible for overseeing the firm’s US-based investment personnel. In January 2015, PIMCO announced Jeramie Banet was added as a co-Portfolio Manager to the Real Return fund. Mr. Banet first joined PIMCO in 2011 and re-joined the firm in 2014.

The Real Return portfolio management team is responsible for adapting the firm’s “top-down” views into TIPS portfolios and further incorporates TIPS-specific “bottom-up” views to create a well-diversified portfolio.

The management team is supported by additional commodities specialists and has access to a number of other sector teams across the firm.

Investment Philosophy and Approach

PIMCO’s Real Return investment philosophy is centered on the goal of delivering the strategic characteristics of the TIPS asset class in a way that enhances total real returns. The TIPS market provides a robust opportunity set to add active alpha, and PIMCO’s long-term track record is reflective of this. To accomplish the dual goals of providing exposure to the TIPS asset class and

delivering active excess returns, the firm's Real Return investment philosophy is based on the following four key points:

- 1) Look to obtain the most cost efficient exposure to the TIPS market. PIMCO seeks better execution than rules-based, price indifferent passive investors. The firm also seeks to intelligently manage portfolio exposures around recurring structural factors that affect the TIPS market, such as index rebalancing and auctions.
- 2) Benefit from a diversified set of "top-down" and "bottom-up" strategies. PIMCO seeks to position TIPS portfolios to benefit from changing "top-down" macroeconomic conditions, such as global rates of growth and inflation, and from a range of "bottom-up" strategies, which relate to inflation and issue specific opportunities unique to the TIPS market.
- 3) Quantify and actively monitor all active positions. The excess return potential of each active position is weighed against its potential risk and scaled accordingly, so as to preserve the strategic characteristics of the TIPS asset class while enhancing investors' real return potential.
- 4) Provide index-like characteristics with above-index returns. Portfolio returns should exhibit high correlation to the TIPS index with a higher level of return.

PIMCO's investment process is oriented to identify and implement global macro "top-down" opportunities and complement that with TIPS specific "bottom-up" strategies to create a well-diversified portfolio around a core strategic position in dedicated TIPS exposure. The firm's "top-down" views are driven by quarterly economic forums. Annually, all PIMCO investment professionals gather for a secular forum in which they identify forces that are likely to affect US and world economies and financial markets over a three to five year horizon. During the other three quarterly intervals, PIMCO investment professionals convene for cyclical forums in which they identify shorter-term economic forces that are likely to prevail over a three to 12-month horizon. The conclusions of these forums are further refined by the Portfolio Management group during an all-day "strategy meeting" in which each specialty desk contributes more detailed sector views. PIMCO's Investment Committee ultimately distills these views into a "model portfolio" that provides a risk position framework that can be adapted by each specialty portfolio manager. This model portfolio provides guidance with respect to duration, curve, country, sector, volatility and currency positioning.

PIMCO does not have any systematic selling procedures. Securities are sold subject to portfolio manager discretion while keeping portfolios directionally consistent with the Investment Committee's "model portfolio" themes. Current holdings are constantly re-evaluated for their relative attractiveness versus investments available in the marketplace. The expected length of an active "top down" position is generally consistent with the three to 12- month time horizon of the firm's cyclical views. "Bottom up" strategies, which are more micro in nature, may have a shorter expected payoff horizon.

Performance

Since being placed on "Watch" status 27 months ago, the PIMCO Real Return fund has trailed its benchmark, the Bloomberg Barclays US Treasury US TIPS Index, by (0.76%) and ranked near the median versus its peers in the Inflation-Protected Bond category. Over the latest quarter, the portfolio performed in-line with the benchmark as gains from US nominal interest rate strategies and US breakeven inflation exposure was offset by positioning in spread sectors and US real interest rate strategies. Exposure to emerging market currencies also contributed to the recent

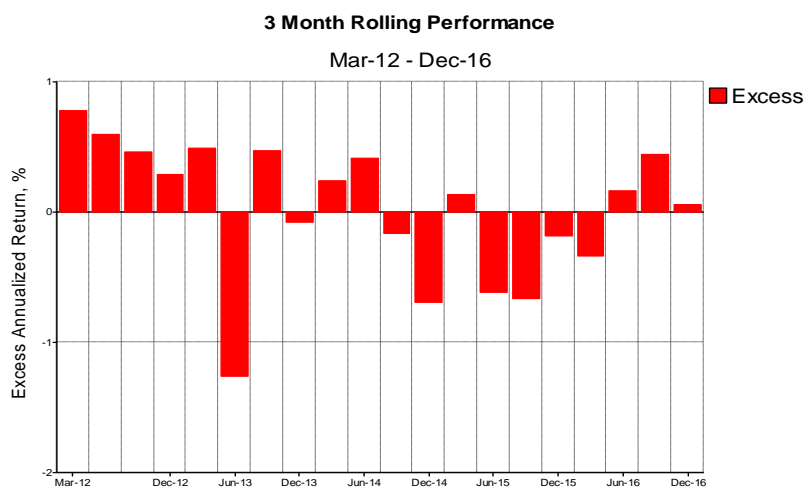
quarter's results. The fund's improved recent relative performance has led to 1-year results outperforming the benchmark by 0.36%; the fund no longer qualifies for "Watch" status for performance reasons.

Trailing Performance Results, Net of Fees
Ending December 31, 2016

Fund	Quarter	1 Year	3 Years	5 Years	Since Addition (11/20/2011)	Since Watch (10/01/2014)
PIMCO Real Return	-2.35	5.04	1.85	0.98	1.07	0.63
<i>Bbg BC US Treasury US TIPS</i>	<i>-2.41</i>	<i>4.68</i>	<i>2.26</i>	<i>0.89</i>	<i>0.95</i>	<i>1.39</i>
Difference	0.06	0.36	-0.41	0.09	0.12	-0.76
Percentile Rank*	59	23	29	14	13	51

*Morningstar Inflation-Protected Bond Universe. 1 = Best, 100 = Worst.

When looking at quarterly excess results since being added to the Program, the fund has struggled versus its benchmark since the second half of the 2014.



Relative underperformance in 2015 mostly occurred in the second and third quarters. Exposure to inflation-linked bonds in Italy in the second quarter and commodity-driven weakness in stakes on US inflation in the third quarter were a drag on relative results. At times, PIMCO's strategy has led to significant off-index positions, resulting in large deviations from basic index allocations. The fund has been recovering from this stumble over recent quarters. The portfolio underperformed the benchmark by (0.41%) over the 3-year period but modestly exceeded the benchmark by 0.09% over the 5-year period; these results ranked in the 29th and 14th percentile versus their peers, respectively.

Recommendation

At this time, **PCA recommends that the PIMCO Real Return Fund be removed from "Watch" status** for organizational and performance concerns.

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