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Capital Market Review

Third Quarter 2016

October Surprise

ECONOMY

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Real GDP grew a surprisingly strong 2.9% in the third quarter, the best rate in two years. But the days of consumers driving the expansion are likely behind us, although investments in nonresidential construction rose after earlier weakness.

With a Little Help From My Friends

FUND SPONSOR

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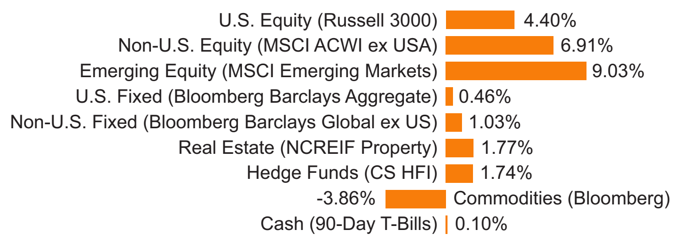
The second quarter's worst performer, endowments and foundations, beat other fund types in the third quarter with a 3.69% gain. Last quarter's champs, corporate funds, finished last. Surprisingly, small funds beat large and medium funds.

Broad Market Quarterly Returns



Sources: Bloomberg Barclays, Bloomberg, Citigroup, Credit Suisse Hedge Index, Merrill Lynch, MSCI, NCREIF, Russell Investment Group

Sell in May? No Way!

U.S. EQUITY

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The **S&P 500 Index** hit a new high and rose every month during the third quarter, ending up 3.85%. Small capitalization companies outperformed large cap (**Russell 2000 Index** +9.05% vs. **Russell 1000 Index** +4.03%), while growth outpaced value in all capitalizations.

Calm After the Storm

NON-U.S. EQUITY

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Global stock markets hit highs as anxieties about the Brexit vote dwindled; even eurozone markets did well as it became clear that the U.K.'s decision to leave the European Union would not be catastrophic. Consistent with investors' risk-on mentality, emerging markets outpaced their developed peers.

Hut, Hut ... Hike!

U.S. FIXED INCOME

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The yield on the benchmark 10-year Treasury note hit a record low of 1.37% in July, but ended the third quarter slightly higher. High yield corporates were the strongest performer, while Treasuries ended the quarter in the red. Investment-grade corporate bond issuance set a record.

Globe-Trotting for Yield

NON-U.S. FIXED INCOME

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Sovereign bond markets strengthened during the third quarter, with emerging market bonds outmuscling the developed markets as investors sought yield. Major currencies were mixed as the British pound suffered following the Brexit. And there is now over $12 trillion of negative-yielding debt globally.

Returns Take a Summer Vacation

REAL ESTATE

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Both the **NCREIF Property Index** (+1.77%) and the **NCREIF Open End Diversified Core Equity Index** (+1.83%) turned in their worst performances since the first quarter of 2010. Global REITs did better than U.S. REITs; worries over a Fed rate hike appeared to be stronger than the post-Brexit fallout.

Sticker Shock

PRIVATE EQUITY

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Markets maintained healthy liquidity in the third quarter. Private equity fundraising fell, but year-to-date numbers are very close to last year's. The number of new buyout investments increased slightly, but venture capital investments fell. And the IPO window for buyouts and VC remained open, if just a crack.

Can't Stop the Feeling

HEDGE FUNDS

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Hedge funds showed modest returns during the quarter, with emerging markets the best-performing strategy. Choppy markets caught managed-futures funds a bit flat-footed. In Callan's database, the median *Callan Long/Short Equity FOF* (+4.26%) outpaced the *Callan Absolute Return FOF* (+2.10%).

DC Participants Seek Cover

DEFINED CONTRIBUTION

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DC plan balances increased 1.67% in the second quarter, according to the Callan DC Index™. Although the Index rose 1.90%, target date funds outpaced it, gaining 2.02%. Unusually, money flowed out of DC plans, by 23 basis points, rather than into them as typically happens.

October Surprise

ECONOMY | Jay Kloepfer

Real gross domestic product (GDP) grew 2.9% in the third quarter, much stronger than expected, providing a pleasant surprise in a year filled with unpleasant ones. Third-quarter growth was by far the strongest this year and the best quarterly rate in two years. Personal consumption has been driving growth in the U.S. for the past several years, but while consumption accounted for half of the growth in the third quarter, its influence weakened.

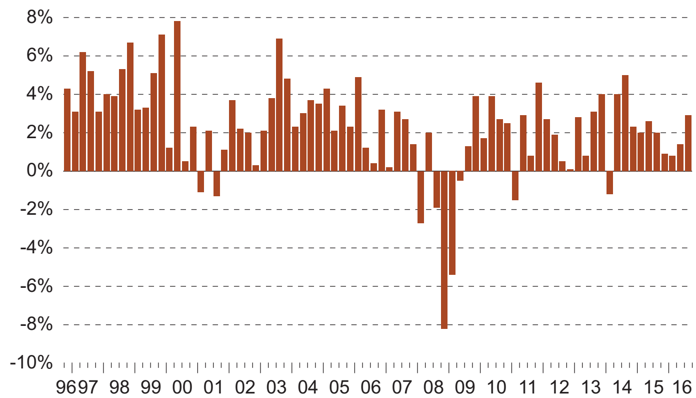
Other third-quarter surprises included: a reversal in nonresidential fixed investment; continued growth in software and information processing; an uptick in federal government spending; strength in exports; and a return to inventory investment. Drags came from a decline in residential investment and weakness in state and local government spending, along with an increase in imports, which are a negative in the calculation of GDP.

Political and economic shocks—China's industrial recession, Brexit, the U.S. election—have increased uncertainty and hampered global growth, making many businesses increasingly risk averse. Add the uncertainty stemming from the global monetary policy experiment still underway—not the least of which involves the guessing game regarding the Fed's interest rate policy—and expectations for U.S. growth soured as the year unfolded.

Real GDP came in very weak in the first quarter and disappointed again in the second, coinciding with the Brexit vote in late June when the U.K. chose to leave the European Union. Consensus expectations for the third quarter had GDP growth falling below 2%, even dipping to 1.5% as recently as September. However, the job market remained sound, consumer sentiment stayed buoyant, and the anticipated turnarounds in inventory and nonresidential fixed investment actually materialized.

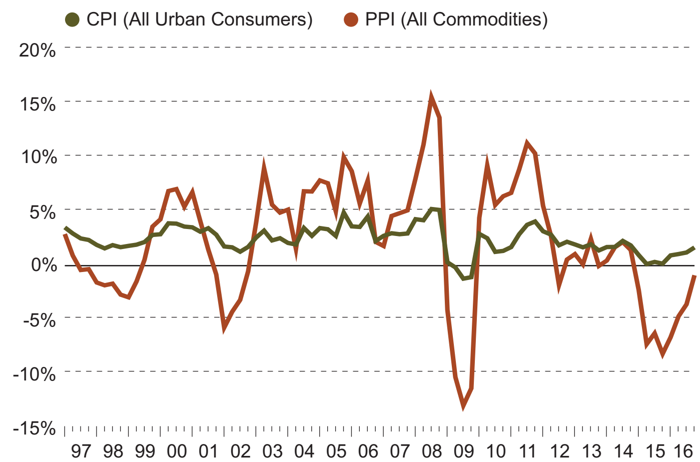
The days of consumer spending driving this expansion are likely behind us. Consumption slowed from a robust 4.3% gain in the second quarter to 2.1% in the third; this will likely be the norm going forward. Consumers enjoyed a real shot in the arm from strong job gains for several years and a "dividend" from

Quarterly Real GDP Growth (20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

low commodity prices. The U.S. economy created an average of 178,000 jobs per month through the first three quarters of 2016. While solid, this is a deceleration from the 211,000 rate in the first nine months of 2015. Although support from the job market and commodity prices is waning, households are still benefiting from increases in real wages, disposable incomes, and asset values.

Highly anticipated reversals in inventory and nonresidential fixed investing provided meaningful gains to the economy in the third quarter. The U.S. has suffered through an extended inventory correction, causing an outsized impact on overall growth: inventory contraction cut 1.2% from GDP growth in the second quarter, the fifth straight quarterly hit. Inventory investment turned the corner, adding 0.6% to third-quarter GDP. After a six-quarter collapse, investment in mining and petroleum structures began to revive in the third quarter, and the drilling rig count bounced up from an all-time low in the second quarter. This investment in the energy sector, along with gains in other types of structures, pushed nonresidential fixed investment up 3.1%.

Similar gains eluded residential construction, however, where demand appears robust, but supply and financing constraints are hampering the recovery. Real residential investment had been making progress for five years, but fell 7.7% in the second quarter and 6.2% in the third. Demand for housing appears to be solid, but sales of both existing and new homes fell during the third quarter. Potential homebuyers are still hampered by restricted access to mortgage financing, and homebuilders increasingly report challenges to hiring craft labor for projects.

The Fed refrained from raising interest rates over the summer, concerned about economic uncertainty and negative sentiment in the capital markets. The markets now expect the Fed to raise the short-term federal funds rate 25 basis points in December, and perhaps twice more in 2017, but these are fewer increases than previously predicted. In addition, the long-term equilibrium federal funds rate target has been cut from 3% to 2.6%.

Are central banks around the globe running out of ammunition? Rather than a dearth of ammunition, it seems the effectiveness of monetary policy is diminishing and with it the credibility of central banks. After the Great Recession, central bankers showed a remarkable willingness to try unorthodox policies, including quantitative easing (QE) and negative interest rates. But persistent banking problems (particularly in Europe and Japan) have made QE less effective, as central bank funds are used to rebuild bank balance sheets rather than for lending. In addition, tight fiscal policies have offset potential gains from monetary stimulus. And all regions have seen a drop in productivity growth, reducing the effectiveness of monetary or fiscal stimulation.

The Long-Term View

Index	2016 3rd Qtr	Periods ended Dec. 31, 2015 Year	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	4.40	0.48	12.18	7.35	10.03
S&P 500	3.85	1.38	12.57	7.31	9.82
Russell 2000	9.05	-4.41	9.19	6.80	10.50
Non-U.S. Equity					
MSCI EAFE	6.43	-0.81	3.60	3.03	5.40
MSCI Emerging Markets	9.03	-14.92	-4.80	3.61	–
S&P ex-U.S. Small Cap	7.98	5.92	5.51	5.33	6.80
Fixed Income					
Bloomberg Barclays Agg	0.46	0.55	3.25	4.51	6.15
90-Day T-Bill	0.10	0.05	0.07	1.24	2.93
Bloomberg Barclays Long G/C	1.24	-3.30	6.98	6.45	8.08
Citi Non-U.S. Government	0.59	-5.54	-1.30	3.05	5.37
Real Estate					
NCREIF Property	1.77	13.33	12.18	7.76	8.05
FTSE NAREIT Equity	-1.43	3.20	11.96	7.41	12.13
Alternatives					
CS Hedge Fund	1.74	-0.71	3.55	4.97	–
Cambridge PE*	–	8.50	12.41	11.50	15.59
Bloomberg Commodity	-3.86	-24.66	-13.47	-6.43	–
Gold Spot Price	-0.27	-10.46	-5.70	7.41	4.02
Inflation – CPI-U	0.17	0.73	1.53	1.86	2.30

*Private equity data is time-weighted return for period. Most recent quarterly data not available.
Sources: Bloomberg Barclays, Bloomberg, Citigroup, Credit Suisse, FTSE, MSCI, NCREIF, Russell Investment Group, Standard & Poor's, Thomson/Cambridge, Bureau of Economic Analysis.

Recent Quarterly Economic Indicators

	3Q16	2Q16	1Q16	4Q15	3Q15	2Q15	1Q15	4Q14
Employment Cost–Total Compensation Growth	2.3%	2.3%	1.9%	2.0%	2.0%	2.0%	2.6%	2.2%
Nonfarm Business–Productivity Growth	0.6%*	-0.6%	-0.6%	-1.7%	2.0%	3.1%	-0.8%	-1.7%
GDP Growth	2.9%	1.4%	0.8%	0.9%	2.0%	2.6%	2.0%	2.3%
Manufacturing Capacity Utilization	75.0%	74.9%	75.3%	75.4%	75.6%	75.5%	75.5%	76.0%
Consumer Sentiment Index (1966=100)	90.3	92.4	91.5	91.3	90.8	94.2	95.5	89.8

*Estimate.
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan.

With a Little Help From My Friends

FUND SPONSOR | Kitty Lin

In a sharp shift from last quarter, endowments and foundations turned around and performed better than all other institutional fund types, with a median +3.69% return. Corporate funds, last quarter's best performer, brought up the rear at +3.28%. The median return for all fund types was +3.44%, according to Callan's database.

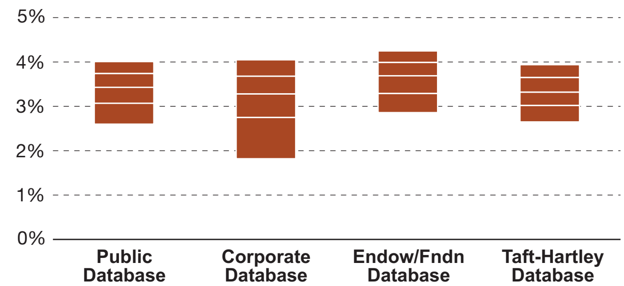
Interestingly, the rankings shifted slightly when looking at the top 10% of returns. Endowments and foundations still topped the list (+4.25%), but Taft-Hartley funds ranked last (+3.94%). Still, corporate funds and Taft-Hartley funds have done best over longer time periods. Corporates are on top over the last 15 years (+6.89% annualized) while Taft-Hartley funds edged them out over the last five years (+9.84%).

The outperformance from endowments/foundations stemmed from their "friends" in the stock market: non-U.S equities. The **MSCI ACWI ex-USA Index** gained 6.91% in the third quarter, compared to +4.03% for the **Russell 1000 Index**. That came despite the shock of the U.K.'s Brexit vote to leave the European Union.

The underperformance from corporate funds stemmed from higher allocations to U.S. fixed income; in fact, both U.S. and non-U.S. fixed income markets continued to show lackluster performance (**Bloomberg Barclays Aggregate Index**: +0.46%, **Citi Non-U.S. World Government Bond Index**: +0.59%). The decision of central banks in Europe and Japan not to cut rates and the upcoming U.S. election may have contributed to the disappointing returns for both in the quarter. As fixed income markets look less attractive these days, corporate funds increased their allocation of cash compared to the previous quarter.

By size, returns varied much less. Both large (more than $1 billion in assets) and medium funds ($100 million to $1 billion) gained 3.43%, but surprisingly small funds (less than $100 million) outpaced both, at +3.47%. Over the long haul large funds were the champs, +7.05% over 15 years versus +6.58% for medium funds and +6.35% for small funds.

Callan Fund Sponsor Returns for the Quarter



	Public Database	Corporate Database	Endow/Fndn Database	Taft-Hartley Database
10th Percentile	4.01	4.05	4.25	3.94
25th Percentile	3.74	3.68	3.99	3.65
Median	3.43	3.28	3.69	3.32
75th Percentile	3.07	2.75	3.29	3.02
90th Percentile	2.60	1.82	2.86	2.65

Source: Callan

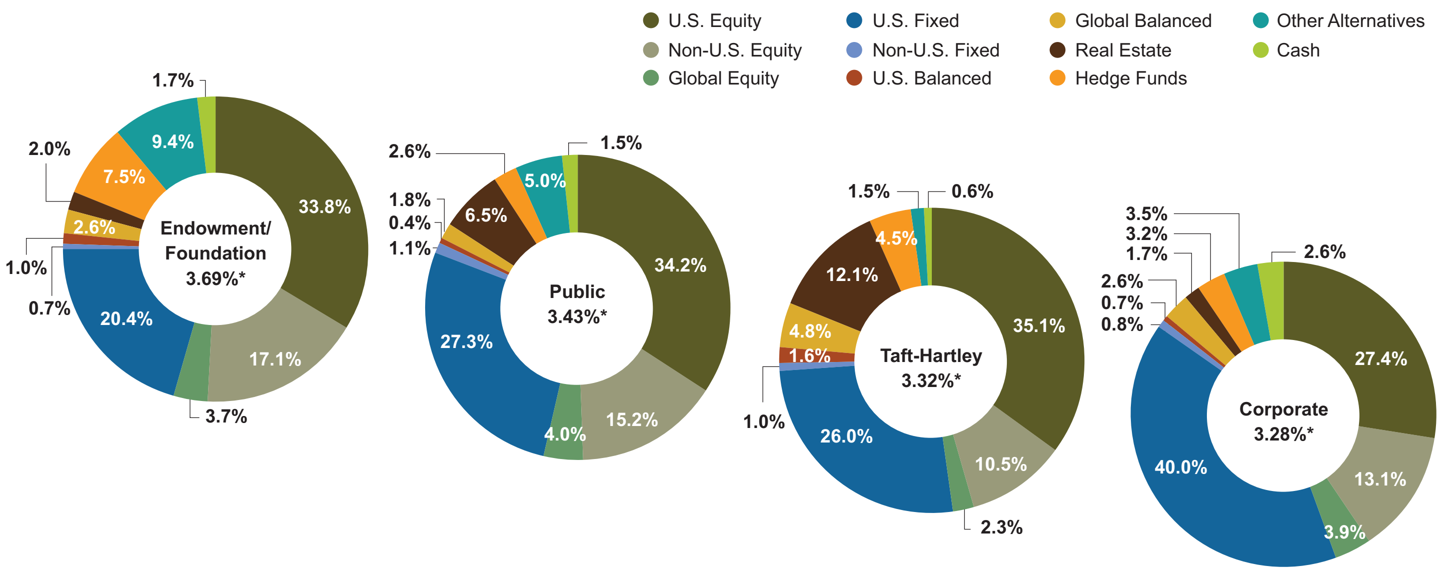
Callan Database Median Returns* for Periods ended September 30, 2016

Fund Sponsor	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Public Funds	3.43	6.65	9.63	6.12	9.30	5.66	6.72
Corporate Funds	3.28	7.64	10.22	6.29	9.22	5.91	6.89
Endowments/Foundations	3.69	6.13	8.81	4.99	8.52	5.39	6.54
Taft-Hartley	3.32	6.49	9.45	6.74	9.84	5.58	6.26

*Returns less than one year are not annualized.

Source: Callan. Callan's database includes the following groups: public defined benefit, corporate defined benefit, endowments/foundations, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

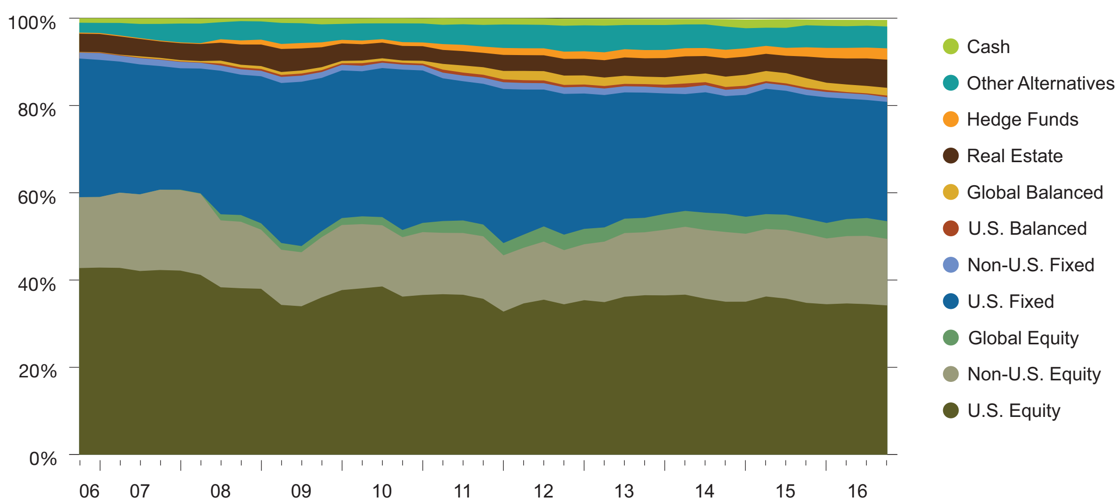
Callan Fund Sponsor Average Asset Allocation



*Latest median quarter return.
Note: charts may not sum to 100% due to rounding.
Source: Callan

Callan Public Fund Database Average Asset Allocation

(10 Years)



Source: Callan. Callan's database includes the following groups: public defined benefit, corporate defined benefit, endowments/foundations, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

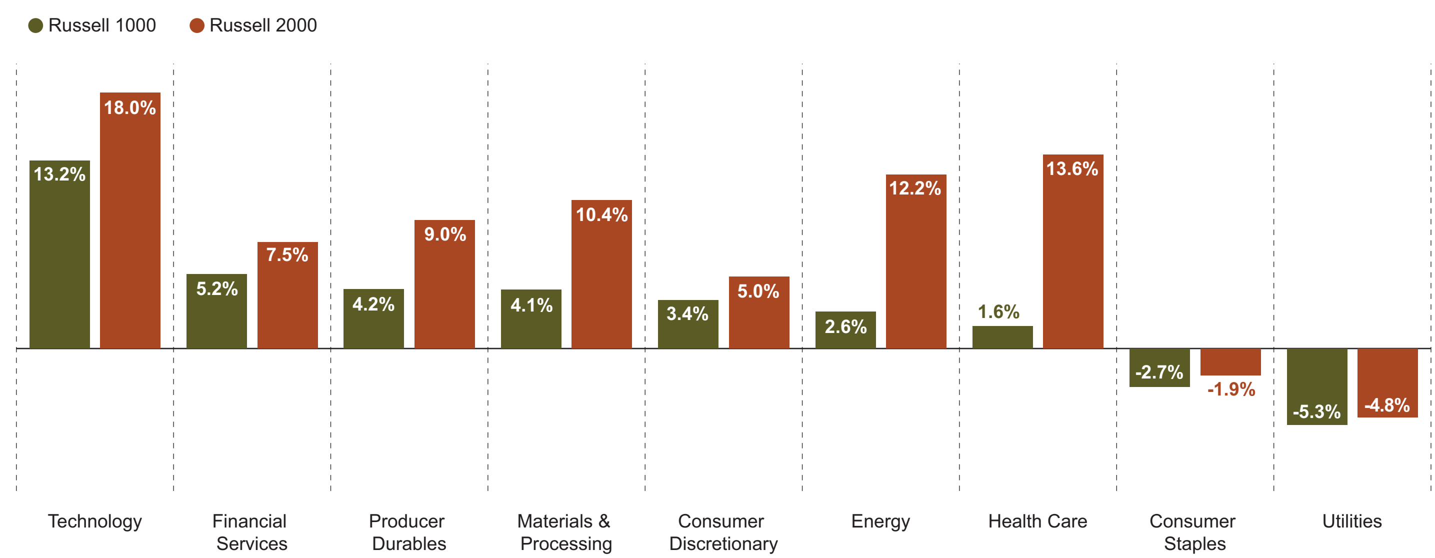
Sell in May? No Way!

U.S. EQUITY | Mark Wood, CFA

The **S&P 500 Index** climbed to its all-time high of 2,193 on August 15 and finished the quarter up 3.85%, ending in positive territory for the fourth quarter in a row. The early days of the quarter were characterized by a strong rebound in equity markets following the late June vote in the U.K. to leave the European Union (Brexit). Market volatility (as measured by VIX) spiked in the immediate aftermath but retreated just as quickly as investors absorbed the shock. The swift pivot, coupled with optimism over U.S. economic prospects and easing fears on China, led to a risk-on environment. July produced the strongest returns of the quarter across market capitalizations; August and September traded in a narrow (but ultimately positive) range as markets anticipated the Fed's interest rate decision in mid-September, which was to forego a rate hike. Foreign developed market indices outperformed the S&P 500 and, consistent with the quarter's risk-on theme, emerging markets were the top performers.

Size was the single biggest determinant of performance. Smaller companies did better—micro, small, and mid-capitalization companies outpaced large-cap stocks (**Russell Microcap Index**: +11.25%, **Russell 2000 Index**: +9.05%, **Russell Midcap Index**: +4.52%, and **Russell 1000 Index**: +4.03%). Additionally, after two strong quarters value underperformed growth in all capitalizations (**Russell 2000 Value Index**: +8.87% and **Russell 2000 Growth Index**: +9.22%). The dispersion in style returns was narrow across market capitalizations, with the widest (110 bps) in large cap (**Russell 1000 Growth** minus **Russell 1000 Value**). Defensive and high-dividend yield exposures sold off during the third quarter but have performed well year-to-date due to the increased global economic uncertainty earlier in 2016.

Economic Sector Quarterly Performance



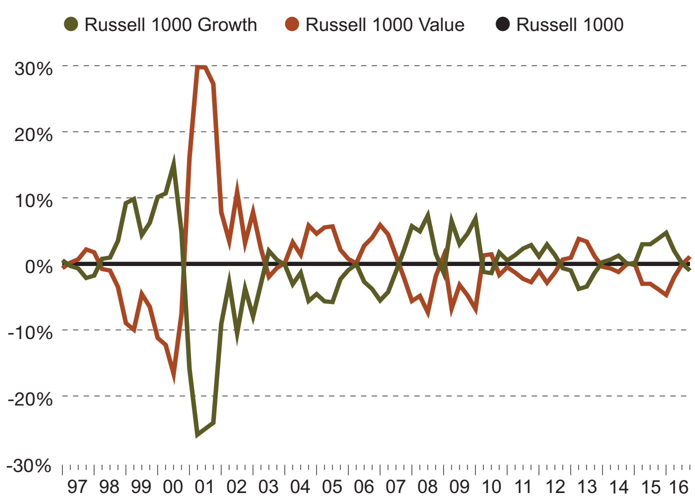
Source: Russell Investment Group

Note: As of the fourth quarter of 2015, the Capital Market Review reports sector-specific returns using the Russell Global Sectors (RGS) classification system rather than the Global Industry Classification Standard (GICS) system. RGS uses a three-tier classification system containing nine sectors; GICS uses a four-tier system containing 11 sectors.

Sector performance reflected the shift in risk attitudes. Among the worst-performing sectors in the S&P 500 during the quarter were Utilities (-0.7%), Consumer Staples (-0.7%), and Telecom (+1.0%)—all sectors associated with lower volatility and higher dividend yields. After a strong performance in the second quarter, Energy retreated, posting a 1.9% loss for the quarter. The more growth-oriented, risk-on sectors, Technology (+7.9%) and Health Care (+4.9%), were the top performers. In a new development, REITs and other listed real estate companies were extracted from the Financials sector and elevated to a new Real Estate sector in the Global Industry Classification Standard (GICS). The new sector, representing 3.1% of the S&P 500, had a tough start, finishing down 2.1%.

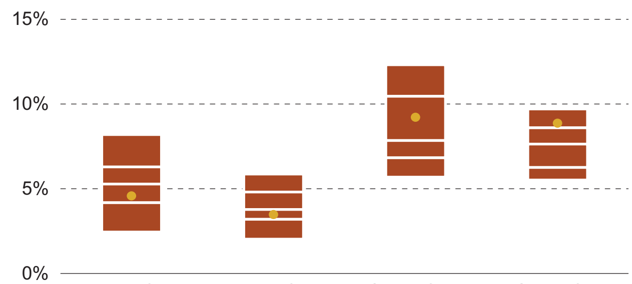
The U.S. equity market continued to rise, even as investor sentiment wavered between positive and negative over the course of the quarter. Active managers continue to find it a difficult environment to outperform as macro factors dominated price activity and performance in equity markets.

Rolling One-Year Relative Returns (vs. Russell 1000)



Source: Russell Investment Group

Callan Style Group Quarterly Returns



	Large Cap Growth Style	Large Cap Value Style	Small Cap Growth Style	Small Cap Value Style
10th Percentile	8.20	5.87	12.32	9.71
25th Percentile	6.29	4.81	10.46	8.60
Median	5.28	3.78	7.85	7.64
75th Percentile	4.18	3.20	6.83	6.26
90th Percentile	2.45	2.03	5.69	5.52
	R1000 Growth	**R1000 Value**	**R2000 Growth**	**R2000 Value**
Benchmark ●	4.58	3.48	9.22	8.87

Sources: Callan, Russell Investment Group

U.S. Equity Index Characteristics as of September 30, 2016

	S&P 500	Rus 3000	Rus 1000	Rus Midcap	Rus 2500	Rus 2000
Number of Issues	507	2,955	994	794	2,459	1,961
Wtd Avg Mkt Cap ($bn)	134.8	112.6	121.7	12.6	4.0	1.8
Price/Book Ratio	2.7	2.6	2.7	2.4	2.1	2.0
Forward P/E Ratio	16.9	17.4	17.2	18.9	19.2	19.8
Dividend Yield	2.1%	2.0%	2.0%	1.7%	1.6%	1.5%
5-Yr Earnings (forecasted)	12.5%	12.5%	12.5%	11.2%	12.0%	13.5%

Sources: Russell Investment Group, Standard & Poor's.

Callan Style Median and Index Returns* for Periods ended September 30, 2016

Large Cap Equity	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Large Cap Core Style	**4.55**	**5.71**	**12.77**	**10.64**	**16.13**	**7.39**	**7.80**
Russell 3000	4.40	8.18	14.96	10.44	16.36	7.37	7.61
Russell 1000	4.03	7.92	14.93	10.78	16.41	7.40	7.48
S&P 500	3.85	7.84	15.43	11.16	16.37	7.24	7.15
Large Cap Growth Style	**5.28**	**3.69**	**11.27**	**10.85**	**16.24**	**8.94**	**7.55**
Russell 1000 Growth	4.58	6.00	13.76	11.83	16.60	8.85	7.35
Large Cap Value Style	**3.78**	**7.61**	**13.71**	**8.99**	**15.88**	**6.54**	**8.08**
Russell 1000 Value	3.48	10.00	16.20	9.70	16.15	5.85	7.46
Mid Cap Equity	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Mid Cap Core Style	**4.98**	**7.80**	**11.05**	**9.88**	**16.81**	**8.65**	**10.96**
Russell Midcap	4.52	10.26	14.25	9.70	16.67	8.32	10.44
Mid Cap Growth Style	**4.05**	**4.30**	**6.98**	**6.98**	**14.55**	**8.62**	**9.53**
Russell Midcap Growth	4.59	6.84	11.24	8.90	15.85	8.51	9.66
Mid Cap Value Style	**4.82**	**9.73**	**13.35**	**9.30**	**16.62**	**8.48**	**10.99**
Russell Midcap Value	4.45	13.72	17.26	10.49	17.38	7.89	10.72
Small Cap Equity	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Small Cap Core Style	**7.62**	**10.07**	**14.32**	**8.51**	**17.63**	**8.55**	**11.31**
Russell 2000	9.05	11.46	15.47	6.71	15.82	7.07	9.26
Small Cap Growth Style	**7.85**	**6.52**	**8.73**	**5.47**	**15.82**	**9.13**	**9.81**
Russell 2000 Growth	9.22	7.48	12.12	6.58	16.15	8.29	8.90
Small Cap Value Style	**7.64**	**12.74**	**15.90**	**7.92**	**17.11**	**8.05**	**11.63**
Russell 2000 Value	8.87	15.49	18.81	6.77	15.45	5.78	9.38
Smid Cap Equity	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Smid Cap Core Style	**6.32**	**9.21**	**12.42**	**7.64**	**16.34**	**9.96**	**–**
Russell 2500	6.56	10.80	14.44	7.77	16.30	7.95	10.07
Smid Cap Growth Style	**6.03**	**4.73**	**8.39**	**6.01**	**15.25**	**9.23**	**9.85**
Russell 2500 Growth	6.98	6.95	11.02	7.43	16.20	8.82	9.52
Smid Cap Value Style	**6.39**	**12.17**	**14.71**	**7.37**	**16.23**	**8.56**	**11.41**
Russell 2500 Value	6.18	14.51	17.68	8.05	16.29	6.92	10.17
Russell 3000 Sectors	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Consumer Discretionary	3.50	4.52	8.99	9.57	19.01	10.11	–
Consumer Staples	-2.67	7.48	15.77	13.92	15.95	11.57	–
Energy	2.87	17.69	16.60	-4.26	4.72	3.84	–
Financial Services	5.44	4.35	10.18	9.69	17.97	0.87	–
Health Care	2.40	0.92	9.82	14.21	20.52	10.82	–
Materials & Processing	4.98	16.18	25.84	7.17	14.12	6.94	–
Producer Durables	4.61	10.99	18.76	9.54	17.48	7.29	–
Technology	13.49	13.07	22.76	16.28	17.08	10.27	–
Utilities	-5.31	17.12	21.88	11.87	12.44	7.07	–

*Returns less than one year are not annualized.
Sources: Callan, Russell Investment Group, Standard & Poor's.

Calm After the Storm

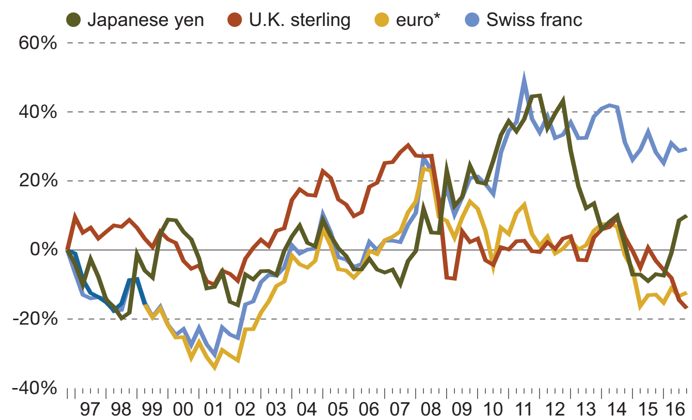
NON-U.S. EQUITY | Irina Sushch

Following two highly volatile quarters, the third quarter of 2016 bucked the trend—volatility was exceptionally low as investors appeared complacent about continued accommodative central bank policies and steady, albeit slow, economic growth. A risk-on rally led to stock market highs as anxieties about the U.K.'s Brexit vote to exit the European Union dwindled.

In this environment, the **MSCI ACWI ex USA Index** rose 6.91%. In contrast to the previous quarter, economically sensitive sectors fared best, particularly Information Technology (+15.50%) and Materials (+12.56%). Health Care was the only sector in the red (-1.96%), although its defensive counterparts, Utilities (+0.20%) and Telecommunications (+0.43%), faltered as well. Consistent with the quarter's risk-on theme, emerging markets (**MSCI Emerging Markets Index**: +9.03%) outpaced their developed peers (**MSCI World ex USA Index**: +6.29%), even excluding Canada (**MSCI EAFE Index**: +6.43%). The **MSCI ACWI ex USA Value Index** (+7.79%) overcame the **MSCI ACWI ex USA Growth Index** (+6.06%) for the first time since the second quarter of 2014. Small-cap stocks shot up into the black (**MSCI ACWI ex USA Small Cap Index**: +7.91%), finishing near the top among major non-U.S. indices.

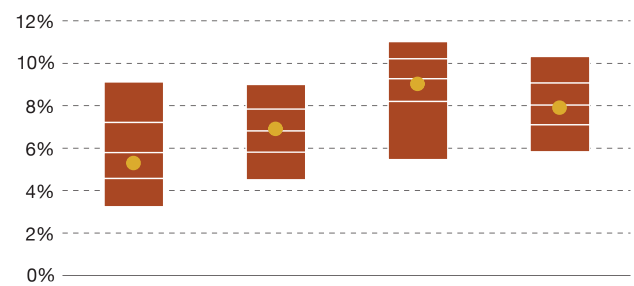
Equity markets across Europe crashed following the unexpected vote for Brexit but regained ground quickly as it became clear that the aftermath of the referendum was not immediately catastrophic. British Prime Minister David Cameron resigned and was replaced by Theresa May, who pledged that the U.K. would go through with exiting the European Union, but not hastily. The Bank of England sprang into action to support the economy, and the European Central Bank offered reassurance that it too would work to bolster growth. The **MSCI Europe Index** climbed 5.40%, with the strong performers including Austria (+16.66%), Germany (+10.01%), Spain (+9.32%), the Netherlands (+9.11%), and even the U.K. (+3.98%). Their vigor was attributed to better-than-expected earnings from Information Technology giants, improving commodity prices, rallying financial stocks, and a swell of M&A activity. European

Major Currencies' Cumulative Returns (vs. U.S. Dollar)



* German mark returns before 1Q99
Source: MSCI

Callan Style Group Quarterly Returns



	Global Eq Style	Non-U.S. Eq Style	Emg Mkt Style	Non-U.S. SC Style
10th Percentile	9.08	8.96	10.98	10.28
25th Percentile	7.17	7.80	10.17	9.03
Median	5.75	6.77	9.23	7.99
75th Percentile	4.53	5.77	8.16	7.06
90th Percentile	3.20	4.47	5.42	5.79
	MSCI ACWI	MSCI ACWI ex USA	MSCI Emg Mkts	MSCI ACWI ex USA SC
Benchmark ●	5.30	6.91	9.03	7.91

Sources: Callan, MSCI

Health Care stocks stumbled (-3.09%) due to intensified global scrutiny during the U.S. election; Denmark, where a large health care company makes up approximately 20% of the country's index, was particularly hard hit, dropping 6.27%.

Southeast Asia and the Pacific enjoyed a buoyant quarter as well; the **MSCI Pacific Index** was up 8.46%. Japanese equities rallied during the quarter, ascending 8.60% due to new central bank policies and a fresh stimulus package. Additionally, Consumer Discretionary, IT, and Materials stocks surged due to strong earnings growth in several gaming and automobile companies. Australia (+7.91%) and New Zealand (+12.44%) also performed well as megabanks and commodities gained ground.

Emerging markets shot up in the accommodative macroeconomic environment (MSCI Emerging Markets Index: +9.03%). The top sector was IT, surging 16.08%. The stocks of smartphone manufacturers and technology component suppliers soared, boosting the Asian markets, including Taiwan (+11.70%) and South Korea (+10.98%). China was one of the biggest beneficiaries (+13.92%), thanks to its burgeoning internet giants. Latin America was relatively sluggish this quarter (+5.37%) but was propped up by Brazil, which shot up another 11.31%, skyrocketing 62.90% year-to-date. Hopes for economic change run high under Michel Temer, who replaced the impeached Dilma Rousseff as president. Russia (+8.43%) did not miss out on the rally. However, the Philippines, Turkey, and Malaysia were all in the red as political turmoil continued to afflict the countries (-5.33%, -5.26%, and -1.52%, respectively). Mexico also dwindled 2.24% as the peso fell 5% against the dollar.

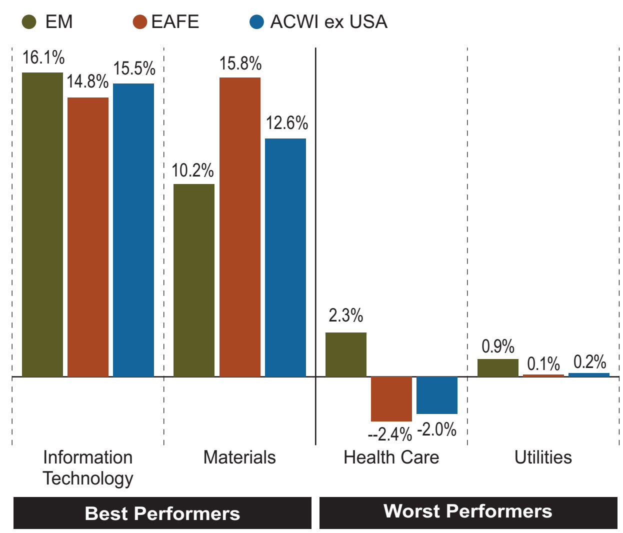
Quarterly Returns for Non-U.S. Developed Countries

	Equity Index			
Country	**(US$)**	**(Local Currency)**	**Local Currency**	**Weight***
Australia	7.91%	5.00%	2.77%	5.13%
Austria	16.66%	15.32%	1.16%	0.13%
Belgium	5.00%	3.80%	1.16%	0.96%
Canada	4.85%	6.10%	-1.18%	6.72%
Denmark	-6.27%	-7.26%	1.07%	1.23%
Finland	7.42%	6.19%	1.16%	0.70%
France	6.36%	5.14%	1.16%	6.81%
Germany	10.01%	8.75%	1.16%	6.31%
Hong Kong	11.92%	11.89%	0.03%	2.45%
Ireland	7.42%	6.20%	1.16%	0.33%
Israel	-1.97%	-3.96%	2.64%	0.50%
Italy	2.21%	1.04%	1.16%	1.33%
Japan	8.60%	7.20%	1.31%	16.70%
Netherlands	9.11%	7.96%	1.16%	2.35%
New Zealand	12.44%	10.12%	2.11%	0.14%
Norway	6.28%	1.51%	4.70%	0.45%
Portugal	6.28%	5.07%	1.16%	0.10%
Singapore	-0.15%	1.13%	-1.29%	0.89%
Spain	9.32%	8.07%	1.16%	2.13%
Sweden	7.48%	8.68%	-1.11%	1.97%
Switzerland	2.62%	2.12%	0.50%	6.29%
U.K.	3.98%	7.00%	-2.83%	13.23%

*Weight in the MSCI ACWI ex USA Index

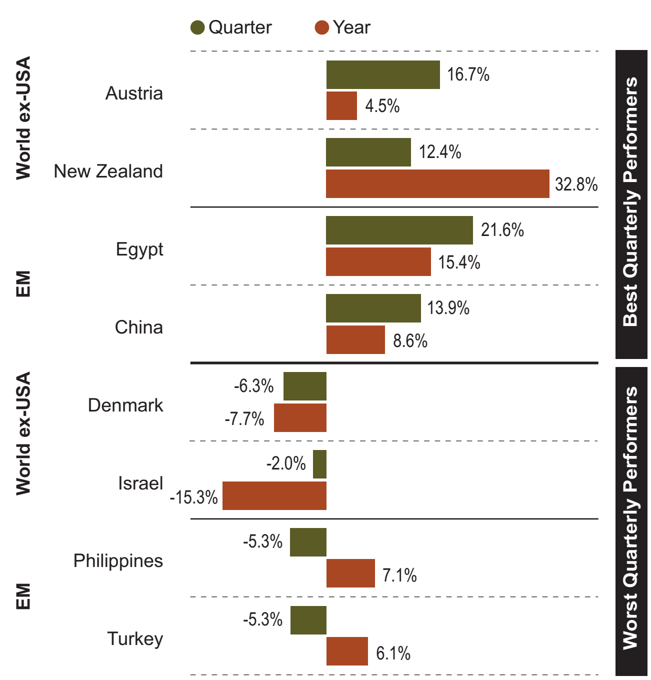
Sources: MSCI, Russell Investment Group, Standard & Poor's.

Quarterly Returns: Strong and Struggling Sectors



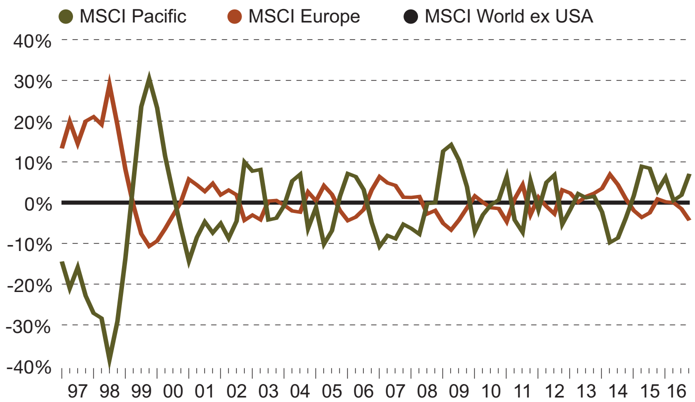
Source: MSCI

Quarterly and Annual Country Performance Snapshot



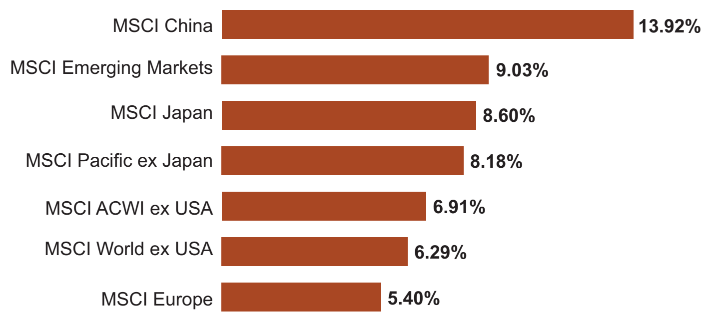
Source: MSCI

Rolling One-year Relative Returns (vs. MSCI World ex USA)



Source: MSCI

Regional Quarterly Performance (U.S. Dollar)



Source: MSCI

Callan Style Median and Index Returns* for Periods ended September 30, 2016

Global Equity	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Global Equity Style	**5.75**	**5.48**	**11.23**	**6.25**	**12.38**	**5.57**	**7.80**
MSCI World	4.87	5.55	11.36	5.85	11.63	4.47	6.29
MSCI ACWI	5.30	6.60	11.96	5.17	10.63	4.34	6.47
Non-U.S. Equity	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Non-U.S. Style	**6.77**	**3.14**	**7.94**	**2.16**	**8.75**	**3.20**	**7.81**
MSCI World ex USA	6.29	3.12	7.16	0.33	6.89	1.88	5.96
MSCI ACWI ex USA	6.91	5.82	9.26	0.18	6.04	2.16	6.56
Regional Equity	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
MSCI China	13.92	8.58	12.95	3.90	8.24	7.78	13.08
MSCI Europe ex UK	6.03	-0.36	2.90	0.01	8.17	1.53	6.02
MSCI Japan	8.60	2.54	12.13	3.33	7.36	1.05	4.27
MSCI Japan (local)	7.20	-13.68	-5.19	4.42	13.38	-0.49	3.15
MSCI Pacific	8.46	5.26	14.74	2.31	7.31	2.50	6.08
MSCI Pacific (local)	6.97	-7.17	0.77	4.39	11.86	0.99	4.47
MSCI Pacific ex Japan	8.18	10.86	20.05	0.42	7.07	5.85	10.99
MSCI Pacific ex Japan (local)	6.52	7.03	13.34	4.95	10.29	5.31	8.55
MSCI United Kingdom	3.98	0.80	1.53	-1.80	5.99	1.40	5.02
MSCI United Kingdom (local)	7.00	14.37	18.39	5.68	9.91	5.15	5.89
Emerging/Frontier Markets	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Emerging Market Style	**9.23**	**16.44**	**18.41**	**0.81**	**4.83**	**5.23**	**12.93**
MSCI Emerging Markets	9.03	16.02	16.78	-0.56	3.03	3.94	11.55
MSCI Emerging Markets (local)	7.59	11.30	12.96	4.33	6.95	5.94	11.97
MSCI Frontier Markets	2.65	2.16	0.91	-0.17	4.64	-0.26	–
Global/Non-U.S. Small Cap Equity	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Non-U.S. Small Cap Style	**7.99**	**4.51**	**11.38**	**6.12**	**12.77**	**6.33**	**12.20**
MSCI World Small Cap	7.24	9.70	14.34	6.18	13.38	6.30	10.31
MSCI ACWI Small Cap	7.28	9.66	14.21	5.67	12.47	6.59	10.52
MSCI World ex USA Small Cap	8.00	7.26	13.50	4.15	9.72	4.11	9.97
MSCI ACWI ex USA Small Cap	7.91	7.70	13.38	3.52	8.60	4.58	10.47

*Returns less than one year are not annualized.
Sources: Callan, MSCI.

Hut, Hut ... Hike!

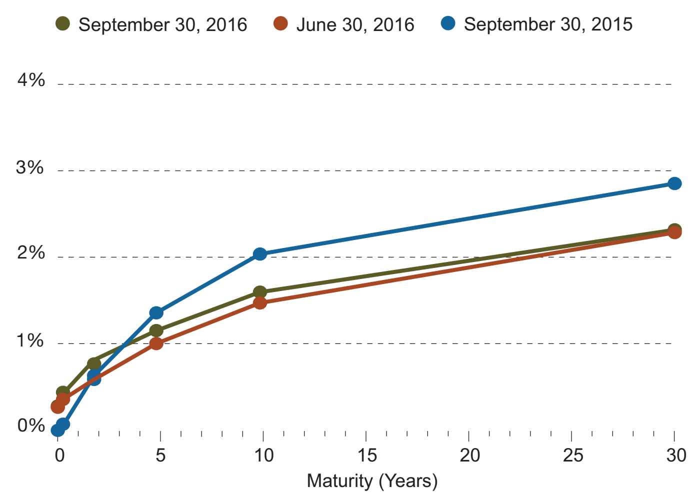
U.S. FIXED INCOME | Rufash Lama

For the quarter, the **Bloomberg Barclays High Yield Index** grew 5.55% while the **Bloomberg Barclays U.S. Aggregate Index** managed to rise a mere 0.46%.

Driven by Brexit-induced concerns, the yield on the benchmark 10-year Treasury note hit a record low of 1.37% in July; however, it rose for the remainder of the quarter and closed at 1.60%. While the Fed left the federal funds rate unchanged in the third quarter, its announcement was noteworthy because of the high level of disagreement; the three dissenting votes were the most since December 2014. Based on federal funds futures contracts, traders are betting there is a 78% chance of a rate hike at the next meeting in December after the Fed's decision to hold rates steady again in November.

Yields varied across the maturity spectrum during the quarter: While Treasury rates rose along the entire yield curve in August, the curve steepened in September as the 2-year fell by 4 basis points to 0.76% and the 30-year rose by 8 basis points to end at 2.32%. Intermediate Treasuries (-0.26%) outperformed long Treasuries (-0.36%) during the quarter.

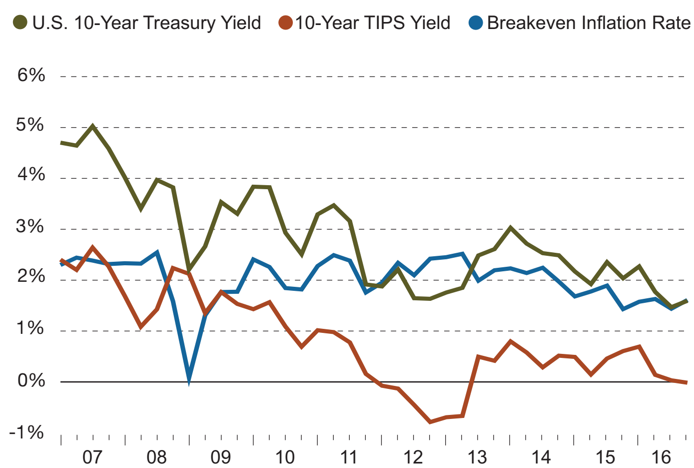
U.S. Treasury Yield Curves



Source: Bloomberg

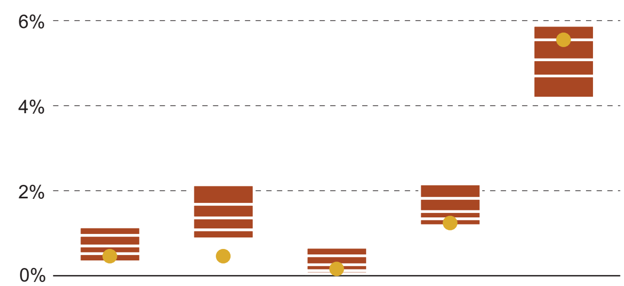
Credit spreads tightened during the quarter and yields inched toward historic lows. Their +5.55% return made high-yield corporates the strongest performer during the quarter. Despite record issuances in August, the credit sector gained 1.23% for the quarter and outperformed MBS (+0.60%) and CMBS (+0.59%). Industrials beat Utilities and Financials on a

Historical 10-Year Yields



Source: Bloomberg

Callan Style Group Quarterly Returns



	Core Bond Style	Core Plus Style	Interm Style	Ext Maturity G/C Style	High Yld Style
10th Percentile	1.15	2.14	0.67	2.16	5.89
25th Percentile	0.95	1.68	0.47	1.82	5.55
Median	0.70	1.36	0.26	1.51	5.08
75th Percentile	0.52	1.08	0.12	1.34	4.70
90th Percentile	0.33	0.87	0.05	1.18	4.18

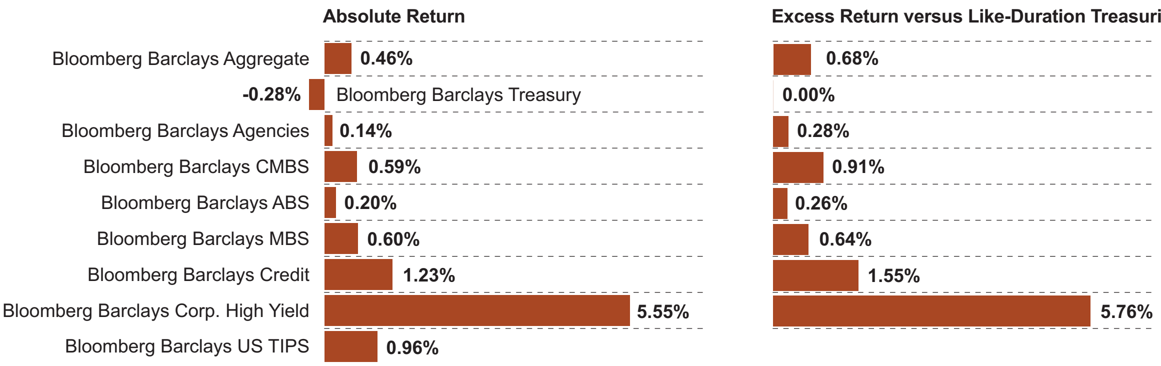
	Bloomberg Barclays Agg	Bloomberg Barclays Agg	Bloomberg Barclays Interm Agg	Bloomberg Barclays Long G/C	Bloomberg Barclays High Yld
Benchmark ●	0.46	0.46	0.16	1.24	5.55

Source: Bloomberg Barclays, Callan

duration-adjusted basis. Further, on a duration-adjusted basis, credit securities outperformed Treasuries by 155 basis points. Treasuries ended the quarter in the red (-0.28%).

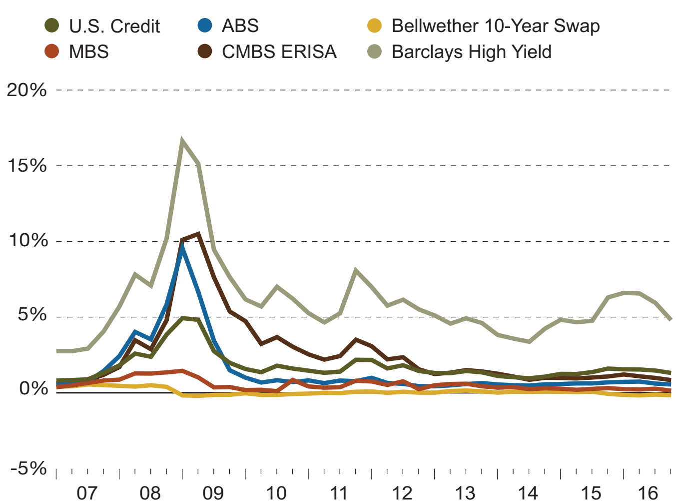
Investment-grade corporate issuance totaled $340 billion for the quarter, setting a record. By the end of September, year-to-date corporate investment-grade bond issuance was 8% ahead of last year's pace. And the record supplies were met with strong demand as investors snapped up bonds. CMBS and municipal markets also demonstrated robust supply. And despite low yields and heavy issuance of CMBS securities in September, they outperformed Treasuries by 91 bps.

Fixed Income Index Quarterly Returns



Source: Bloomberg Barclays

Effective Yield Over Treasuries



Source: Bloomberg Barclays

U.S. Fixed Income Index Characteristics as of Sept. 30, 2016

Bloomberg Barclays Indices	Yield to Worst	Mod Adj Duration	Avg Maturity
Bloomberg Barclays Aggregate	1.96	5.51	7.82
Bloomberg Barclays Universal	2.39	5.39	7.68
Bloomberg Barclays Gov/Credit	1.92	6.72	8.99
1-3 Year	1.04	1.91	1.98
Intermediate	1.51	4.09	4.44
Long-Term	3.32	15.57	24.32
Bloomberg Barclays Long Credit	4.04	14.04	23.92
Bloomberg Barclays Corp High Yield	6.17	4.05	6.33
Bloomberg Barclays TIPS	1.62	6.59	8.61
Bloomberg Barclays Muni Bond 1-5 Year	1.15	2.72	3.22
Bloomberg Barclays Muni 1-10 Year	1.38	4.02	5.88
Bloomberg Barclays Municipal	1.82	5.52	13.08

Source: Bloomberg Barclays

Callan Style Median and Index Returns* for Periods ended September 30, 2016

Broad Fixed Income	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Core Bond Style	**0.70**	**6.15**	**5.65**	**4.36**	**3.73**	**5.31**	**5.25**
Core Bond Plus Style	**1.36**	**7.16**	**6.55**	**4.61**	**4.55**	**5.77**	**5.91**
Bloomberg Barclays Aggregate	0.46	5.80	5.19	4.03	3.08	4.79	4.80
Bloomberg Barclays Universal	0.96	6.69	6.11	4.27	3.62	5.00	5.12
Long-Term	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Extended Maturity Credit Style	**2.50**	**17.00**	**16.11**	**10.05**	**7.94**	**8.07**	**–**
Bloomberg Barclays Long Credit	2.26	16.50	15.73	9.53	7.05	7.63	7.74
Extended Maturity Gov/Credit Style	**1.51**	**16.12**	**15.14**	**10.30**	**6.96**	**8.38**	**8.01**
Bloomberg Barclays Long Gov/Credit	1.24	15.74	14.66	10.08	6.32	7.84	7.61
Intermediate-Term	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Intermediate Style	**0.26**	**4.31**	**3.83**	**3.05**	**2.85**	**4.62**	**4.62**
Bloomberg Barclays Interm Gov/Credit	0.16	4.24	3.52	2.80	2.45	4.17	4.22
Short-Term	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Defensive Style	**0.15**	**1.94**	**1.72**	**1.47**	**1.48**	**2.89**	**3.01**
Bloomberg Barclays Gov/Credit 1-3 Yr	0.02	1.68	1.31	1.09	1.05	2.59	2.80
Bank Loans	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Bank Loan Style	**2.86**	**7.43**	**5.70**	**3.78**	**5.55**	**4.91**	**5.03**
Credit Suisse Leveraged Loans	3.10	7.46	5.35	3.60	5.30	4.24	4.79
High Yield	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
High Yield Style	**5.08**	**12.70**	**10.86**	**5.20**	**8.28**	**7.64**	**8.61**
Bloomberg Barclays Corp High Yield	5.55	15.11	12.73	5.28	8.34	7.71	8.63
Unconstrained	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Unconstrained Fixed Style	**2.21**	**3.95**	**4.56**	**2.36**	**3.87**	**4.60**	**6.44**
90 Day T-Bill + 3%	0.84	2.48	3.27	3.12	3.11	3.92	4.38
Stable Value	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Stable Value Style	**0.48**	**1.42**	**1.88**	**1.76**	**1.94**	**2.85**	**3.58**
iMoneyNet Mutual Fund Avg	0.03	0.08	0.09	0.04	0.03	0.82	–
TIPS	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Inflation-Linked Style	**1.00**	**7.28**	**6.62**	**2.40**	**1.96**	**4.58**	**5.50**
Bloomberg Barclays TIPS	0.96	7.27	6.58	2.40	1.93	4.48	5.39
Municipal	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Short Municipal Style	**-0.04**	**0.75**	**0.82**	**0.83**	**0.94**	**1.81**	**1.96**
Bloomberg Barclays Municipal 1-5 Yr	-0.16	1.38	1.59	1.74	1.67	3.07	3.09
Intermediate Municipal Style	**-0.26**	**3.28**	**4.64**	**4.13**	**3.52**	**3.91**	**4.00**
Bloomberg Barclays Municipal 1-10 Yr	-0.11	2.58	3.40	3.34	2.95	4.04	4.02
Long Municipal Style	**-0.21**	**4.14**	**5.83**	**5.74**	**4.95**	**5.03**	**5.19**
Bloomberg Barclays Municipal	-0.30	4.01	5.58	5.54	4.48	4.75	4.89

*Returns for less than one year are not annualized.

Sources: Bloomberg Barclays, Callan, Citigroup, Merrill Lynch

Globe-Trotting for Yield

NON-U.S. FIXED INCOME | Kyle Fekete

In an extraordinary effort to stimulate economic growth and inflation, the Bank of Japan introduced a 0% yield-target for 10-year bonds, aiming to exceed its 2% inflation objective. The central bank also intends to maintain its negative short rate stance in an effort to steepen the yield curve and thus help increase profitability for banks. The bank's governor termed the new policy a "reinforcement" of its quantitative easing (QE) program. Central banks have typically targeted short-term rates in QE programs, focusing on maturities of less than a year. Yield on Japan's 10-year government bond settled at -0.09% at the end of the quarter.

Overall, the European sovereign bond market was flat as the European Central Bank left interest rates unchanged. The **Bloomberg Barclays Global Aggregate Index** rose 0.82% (+0.53% hedged). The ECB committed to a monthly QE program of buying €80 billion in government bonds, asset-backed securities, and corporate debt through March 2017; however, President Mario Draghi announced a review of the program to ensure investable assets would not dry up. Yield on the German 10-year bund notched up a basis point to -0.12%. There is now over $12 trillion of negative-yielding debt globally, with Japan accounting for nearly half and Western Europe—namely France, Germany, and the Netherlands—the other half. Investors' sustained hunt for yield was evident in European bond pricing as periphery government Treasuries tended to decline more than their core eurozone counterparts. The Spanish and Italian 10-year yields declined 28 bps and 7 bps to 0.88% and 1.91%, respectively. The euro increased 1.16% against the U.S. dollar.

Quarterly Returns for Non-U.S. Government Indices

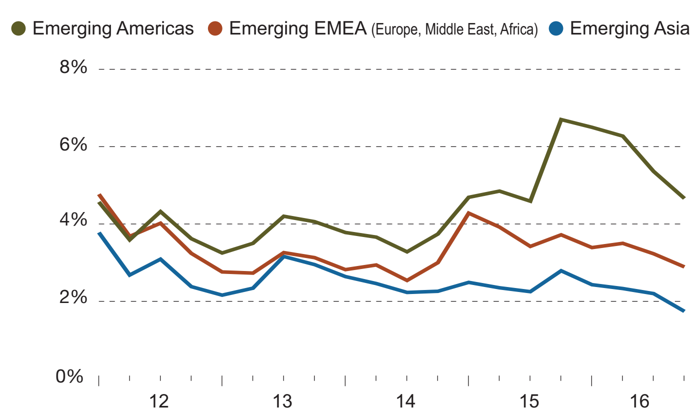
Country	Country Debt ($)	Country Debt	Local Currency	Weight*
Australia	3.60%	0.80%	2.77%	2.29%
Austria	1.81%	0.65%	1.16%	1.74%
Belgium	1.48%	0.32%	1.16%	2.93%
Canada	-0.67%	0.52%	-1.18%	2.32%
Denmark	0.96%	-0.10%	1.07%	0.82%
Finland	1.67%	0.51%	1.16%	0.67%
France	1.37%	0.21%	1.16%	11.72%
Germany	0.98%	-0.18%	1.16%	8.60%
Ireland	2.28%	1.11%	1.16%	0.95%
Italy	2.31%	1.14%	1.16%	11.07%
Japan	-0.92%	-2.19%	1.31%	34.89%
Malaysia	-0.66%	1.90%	-2.51%	0.53%
Mexico	-4.22%	0.47%	-4.67%	0.98%
Netherlands	1.29%	0.13%	1.16%	2.70%
Norway	3.53%	-1.12%	4.70%	0.30%
Poland	3.81%	0.30%	3.50%	0.71%
Singapore	0.22%	1.52%	-1.29%	0.45%
South Africa	10.29%	3.56%	6.50%	0.55%
Spain	3.39%	2.21%	1.16%	6.45%
Sweden	-0.63%	0.48%	-1.11%	0.52%
Switzerland	-0.08%	-0.57%	0.50%	0.27%
U.K.	-0.37%	2.52%	-2.83%	8.54%

*Weight in the Citi Non-U.S. World Government Bond Index.
Source: Citigroup

Despite the economic and political uncertainty the Brexit vote left in its wake, when U.K. voters chose to leave the European Union and the British pound plummeted 2.83%, data released showed no immediate negative effect on confidence or productivity. Yield on the 10-year gilt fell 12 bps to +0.75%.

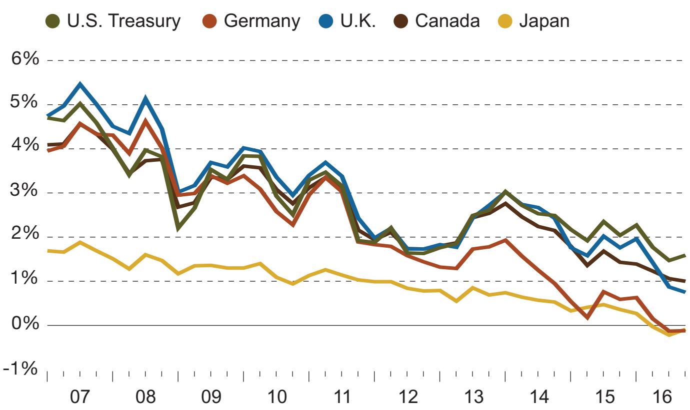
The developing markets advanced for the fourth straight quarter in spite of multiple political headwinds, including the

Emerging Spreads Over Developed (By Region)

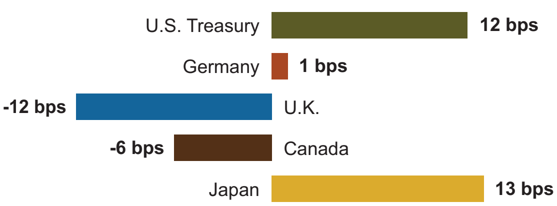


Source: Bloomberg Barclays

10-Year Global Government Bond Yields



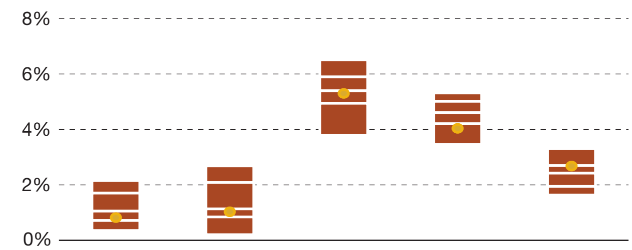
Change in 10-Year Yields from 2Q16 to 3Q16



Source: Bloomberg

impeachment of Brazil's president and the failed Turkish coup. The hard currency **J.P. Morgan EMBI Global Index** climbed 4.04%. Local currency debt, as measured by the **J.P. Morgan GBI-EM Global Diversified Index**, ticked up 2.68%.

Callan Style Group Quarterly Returns



	Global Fixed Style	Non-U.S. Fixed Style	Global High Yld Style	Em Debt Style (US$)	Em Debt Style (local)
10th Percentile	2.18	2.71	6.54	5.34	3.33
25th Percentile	1.73	2.11	5.92	5.04	2.72
Median	1.08	1.16	5.42	4.63	2.45
75th Percentile	0.74	0.87	4.97	4.23	1.97
90th Percentile	0.38	0.23	3.81	3.48	1.66
	Barclays Gl Agg	**Barclays Gl Agg ex US**	**Barclays High Yld**	**JPM EMBI Gl Div**	**JPM GBI-EM Gl Div**
Benchmark	0.82	1.03	5.3	4.04	2.68

Sources: Bloomberg Barclays, Callan, JPMorgan Chase

Callan Style Median and Index Returns* for Periods ended September 30, 2016

Global Fixed Income	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Global Fixed Income Style	**1.08**	**9.70**	**8.88**	**2.39**	**2.15**	**4.91**	**6.14**
Bloomberg Barclays Global Aggregate	0.82	9.85	8.83	2.13	1.74	4.26	5.13
Global Fixed Income Style (hedged)	**1.05**	**6.96**	**7.26**	**5.52**	**4.95**	**5.44**	**5.64**
Bloomberg Barclays Global Aggregate (hedged)	0.53	6.44	6.54	5.05	4.26	4.73	4.73
High Yield	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Global High Yield Style	**5.42**	**13.65**	**12.46**	**3.91**	**7.61**	**7.03**	**9.74**
Bloomberg Barclays Global High Yield	5.30	14.49	13.51	4.97	8.56	7.87	9.43
Non-U.S. Fixed Income	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Non-U.S. Fixed Income Style	**1.16**	**12.95**	**11.41**	**1.52**	**2.01**	**4.48**	**6.26**
Bloomberg Barclays Global Aggregate ex US	1.03	13.09	11.67	0.75	0.70	3.82	5.41
Emerging Markets Fixed Income	**Quarter**	**YTD**	**Year**	**3 Years**	**5 Years**	**10 Years**	**15 Years**
Emerging Debt Style (US$)	**4.63**	**16.27**	**18.15**	**7.02**	**7.81**	**8.13**	**11.06**
JPM EMBI Global Diversified	4.04	14.77	16.20	8.20	7.76	7.73	9.57
Emerging Debt Style (local)	**2.45**	**16.95**	**16.83**	**-2.14**	**0.22**	**5.21**	**7.25**
JPM GBI-EM Global Diversified	2.68	17.07	17.06	-2.58	0.06	5.52	–
Emerging Debt Blend Style	**3.59**	**15.14**	**16.15**	**2.13**	**3.94**	**8.07**	**12.69**
JPM EMBI Gl Div/JPM GBI-EM Gl Div	3.36	16.11	16.83	2.81	3.95	6.72	–
Emerging Debt Corporate Style	**3.59**	**12.81**	**13.05**	**6.55**	**8.08**	**–**	**–**
JPM CEMBI	3.25	12.57	13.34	6.38	7.31	7.16	–

*Returns less than one year are not annualized.
Sources: Bloomberg Barclays, Callan, JPMorgan

Returns Take a Summer Vacation

REAL ESTATE | Kevin Nagy

The **NCREIF Property Index*** gained 1.77% during the second quarter (1.16% from income and 0.60% from appreciation), its worst performance since the first quarter of 2010. In addition, appreciation fell for the sixth consecutive quarter.

In a repeat of the second quarter, Industrial (+2.89%) and Retail (+1.98%) topped property sector performance, and Office (+1.26%) and Hotels (+1.35%) were the worst performers again. The West region led the way (+2.19%) while the Midwest (+1.46%) was the weakest. Transaction volume was $9.6 billion, a 7% increase over the previous quarter and a 20% increase over the same period in 2015. Appraisal capitalization rates fell to 4.48%, an all-time low. The spread between appraisal capitalization rates and transaction capitalization rates widened to 180 basis points, the largest since the third quarter of 2009.

Occupancy rates continued to climb, setting a new 15-year high at 93.22%. Retail and Apartment occupancy rates fell slightly; Industrial and Office rates increased. Apartments were the only property type to experience a drop year-to-date.

The preliminary return for the **NCREIF Open End Diversified Core Equity Index*** was 1.83%; 0.90% of that was income and 0.94% from appreciation. This surpassed last quarter as the lowest since the first quarter of 2010. Income returns stayed in line with past quarters, but appreciation reached its lowest level since the first quarter of 2010. Low long-term interest rates have been a strong tailwind for U.S. real estate performance in recent quarters, but expectations of a Fed rate increase have sucked the wind from its sails.

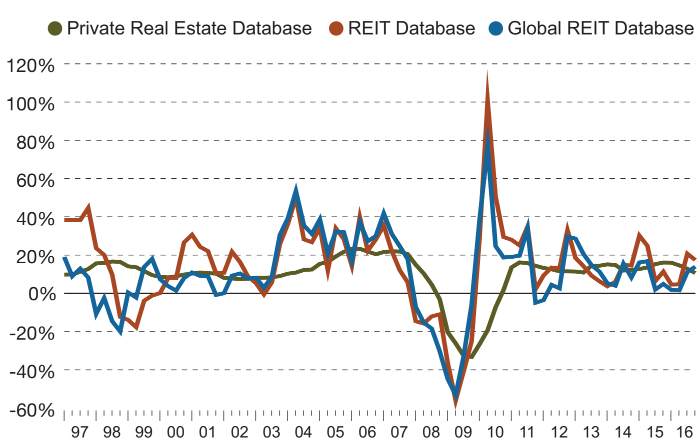
Global real estate investment trusts (REITs), tracked by the **FTSE EPRA/NAREIT Developed REIT Index** (USD), outperformed their U.S. counterparts and posted a 1.46% return. U.S. REITs, as measured by the **FTSE NAREIT Equity REITs Index**, lost 1.43% for the quarter.

*Index subreturns are calculated separately from index return and may not total.

In the U.S., REITs started the quarter strong, riding the post-Brexit bounce that followed the U.K.'s surprise vote to leave the European Union. The gains would not last, however, as mixed economic data fueled concerns of a Federal Reserve rate increase. Timber (+7.72%), Industrial (+6.67%), and Office (+3.24%) were the strongest-performing sectors for the quarter. Specialty (-9.93%), Data Centers (-9.02%), and Retail (-2.62%) were some of the laggards. Self-storage (-12.20%) struggled for the second straight quarter and was the worst performing sector. Investors appeared to be shifting money into more economically sensitive U.S. stocks, which generally performed well on the back of modest long-term yield increases. Anticipation of a Fed rate hike also prompted some investors to sell out of crowded defensive positions such as REITs into more cyclical stocks. As of September 30, U.S. REITs were trading at a 12.3% premium to net asset value, more than a 500 basis point increase over the previous quarter.

As the dust settles from the initial shock of Brexit, the impact on U.K. real estate is beginning to be apparent. Transaction evidence shows City of London and West End offices were the most affected due to uncertainty about the city's future as a financial hub. Industrial assets were the least affected. Outside of the U.K., the Nordic countries were the strongest performers.

Rolling One-Year Returns

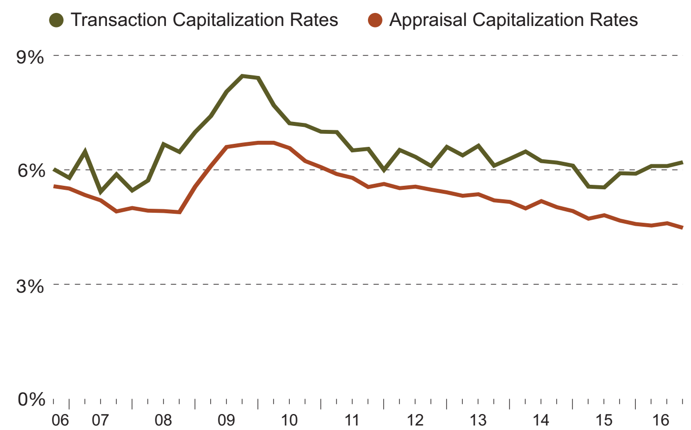


Source: Callan

Signs that the economies of Norway and Finland may finally be on the cusp of growth have led to record levels of investment and increases in property value. France also performed well as the economy recovered from a sluggish second quarter and employment growth propelled office returns upward.

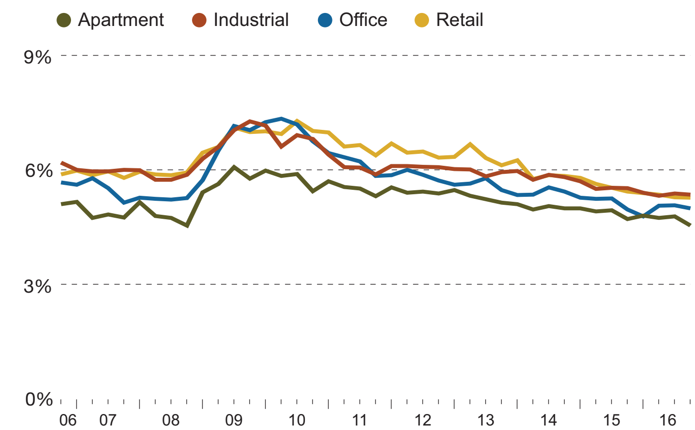
Collateralized mortgage-backed securities (CMBS) issuance for the quarter was $19.5 billion, a huge jump from the $12.1 billion in the second quarter. While issuance was up quarter-over-quarter, it was still down compared to the third quarter of 2015 ($25.3 billion).

NCREIF Transaction and Appraisal Capitalization Rates



Source: NCREIF
Note: Transaction capitalization rate is equal weighted.

NCREIF Capitalization Rates by Property Type



Source: NCREIF
Note: Capitalization rates are appraisal-based.

Callan Database Median and Index Returns* for Periods ended September 30, 2016

Private Real Estate	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Real Estate Database (net of fees)	**1.62**	**5.85**	**9.34**	**11.64**	**11.74**	**4.58**	**7.33**
NCREIF Property	1.77	6.13	9.22	11.31	11.18	7.22	8.93
NFI-ODCE (value wtd. net)	1.83	5.80	9.08	11.42	11.34	5.05	7.03
Public Real Estate	**Quarter**	**YTD**	**Year**	**3 years**	**5 Years**	**10 Years**	**15 Years**
REIT Database	**-1.15**	**9.61**	**17.67**	**14.49**	**16.28**	**7.05**	**12.57**
FTSE NAREIT Equity	-1.43	11.75	19.86	14.22	15.91	6.35	11.38
Global Public Real Estate	**Quarter**	**YTD**	**Year**	**3 years**	**5 Years**	**10 Years**	**15 Years**
Global REIT Database	**1.36**	**9.06**	**13.66**	**9.14**	**13.77**	**4.73**	**10.87**
FTSE EPRA/NAREIT Developed REIT	1.46	10.97	15.85	8.60	13.17	4.16	10.67
Global ex U.S. Public Real Estate	**Quarter**	**YTD**	**Year**	**3 years**	**5 Years**	**10 Years**	**15 Years**
Global ex-U.S. REIT Database	**4.51**	**7.75**	**8.49**	**2.98**	**11.00**	**2.41**	**–**
EPRA/NAREIT Dev REITs ex-U.S.	4.28	10.44	11.66	3.21	10.42	2.57	10.59

*Returns for less than one year are not annualized.
All REIT returns are reported gross in USD.
Sources: Callan, NAREIT, NCREIF, The FTSE Group. NCREIF statistics are the product of direct queries and may fluctuate over time.

Sticker Shock

PRIVATE EQUITY | Gary Robertson

Third-quarter fundraising commitments totaled $38.6 billion with 143 new partnerships formed, Private Equity Analyst reported. The number of new funds dropped by 27% from 196 in the second quarter, and dollar volume plummeted 62% from $102.2 billion. But this year is tracking closely to 2015, trailing by only $3 billion (1%) in commitments and 41 (6%) in new partnerships.

The investment pace by funds into companies maintained momentum, according to Buyouts newsletter, totaling 385 transactions, up 8% from 356 in the second quarter but down 5% from 406 a year ago. The announced aggregate dollar volume was $39 billion, up 4% from $37.6 billion in the second quarter and up significantly from the $11.6 billion a year ago. Just eight deals with announced values of $1 billion or more closed in the quarter, but that was up from six in the second quarter.

New investments in venture capital companies totaled 1,796 rounds and $15 billion of announced volume, according to the National Venture Capital Association. The number of rounds decreased 11% from 2,026 in the second quarter, and the dollar volume dropped 32% from $22.1 billion.

Regarding exits, Buyouts reports there were 142 private M&A exits of buyout-backed companies, with 38 deals disclosing values totaling $27.5 billion. The M&A exits count was up 20% from 118 in the second quarter, and the announced value increased 12% from $24.6 billion. There were two buyout-backed IPOs floating an aggregate $551.6 million, down from three floating $1.6 billion in the second quarter.

Funds Closed January 1 to September 30, 2016

Strategy	No. of Funds	Amt ($mm)	Percent
Venture Capital	274	32,312	17%
Buyouts	171	122,487	63%
Subordinated Debt	11	3,220	2%
Distressed Debt	17	17,250	9%
Secondary and Other	15	12,284	6%
Fund-of-funds	28	6,451	3%
Totals	**516**	**194,004**	**100%**

Source: Private Equity Analyst

Venture-backed M&A exits totaled 192 transactions, with a disclosed dollar volume of $13.4 billion. The number of private sale exits increased 19% from 161 in the second quarter, but the announced dollar volume declined 17% from the second quarter's $16.1 billion. There were 14 VC-backed IPOs in the third quarter with a combined float of $1 billion. For comparison, the second quarter of 2016 had 13 IPOs and total issuance of $876.1 million.

Private Equity Performance Database (%) (Pooled Horizon IRRs through March 31, 2016*)

Strategy	3 Months	Year	3 Years	5 Years	10 Years	15 Years	20 Years
All Venture	-2.4	6.6	20.6	15.0	10.4	5.3	23.2
Growth Equity	-0.1	6.0	12.7	10.5	11.1	10.3	13.9
All Buyouts	2.1	9.7	12.8	11.5	10.9	12.3	12.7
Mezzanine	3.0	8.0	9.3	10.2	9.6	8.5	9.4
Distressed	0.6	0.4	7.8	8.3	9.3	10.6	10.6
All Private Equity	**0.8**	**7.5**	**13.3**	**11.5**	**10.6**	**10.2**	**13.5**
S&P 500	1.4	1.8	11.8	11.6	7.0	6.0	8.0
Russell 3000	1.0	-0.3	11.2	11.0	6.9	6.4	8.0

Private equity returns are net of fees.
Sources: Standard & Poor's, Thomson/Cambridge
*Most recent data available at time of publication.

Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of *Capital Market Review* and other Callan publications.

Can’t Stop the Feeling

HEDGE FUNDS | Jim McKee

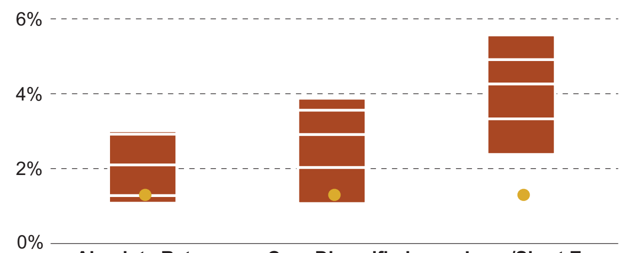
Despite the somber mood spurred by the Brexit vote closing out the prior quarter, capital markets got back on the dance floor in the third quarter. Central bankers let it be known that their music of easy money policies would not stop. **MSCI Emerging Markets** (+9.03%) led the beat upward, but the **S&P 500** (+3.85%) hit another record high. Higher income continued to be alluring as the **Bloomberg Barclays Corporate High Yield Index** jumped 5.55%.

Highlighting raw hedge fund performance without implementation costs, the **Credit Suisse Hedge Fund Index** (CS HFI) rose 1.74% in the third quarter. As a benchmark of actual hedge fund portfolios, the median manager in the **Callan Hedge Fund-of-Funds Database** advanced 2.92%, net of all fees.

Within CS HFI, the best-performing strategy last quarter was *Emerging Markets* (+4.20%), supported by strong debt and equity markets amid growing economies. Tightening credit spreads and improving fundamentals supported *Convertible Arb* (+3.83%), *Event-Driven Multi-Strategy* (+3.06%), and *Distressed* (+2.75%). Aided by strong equity tailwinds, *Long/Short Equity* gained 1.88%. Choppy markets caught the trend-following crowds of *Managed Futures* (-3.23%) a bit flat-footed.

Within Callan’s Hedge Fund-of-Funds Database, the median *Callan Long/Short Equity FOF* (+4.26%) outpaced the *Callan Absolute Return FOF* (+2.10%). With diversifying exposures to both non-directional and directional styles, the *Core Diversified FOF* gained 2.91%.

Callan Style Group Quarterly Returns



	Absolute Return FOF Style	Core Diversified FOF Style	Long/Short Eq FOF Style
10th Percentile	3.01	3.88	5.57
25th Percentile	2.92	3.56	4.91
Median	2.10	2.91	4.26
75th Percentile	1.28	2.03	3.33
90th Percentile	1.08	1.07	2.38
T-Bills + 5% ●	1.32	1.32	1.32

Sources: Callan, Merrill Lynch

Callan Database Median and Index Returns* for Periods ended September 30, 2016

	Quarter	YTD	Year	3 Years	5 Years	10 Years	15 Years
Hedge Fund-of-Funds Database	**2.92**	**0.19**	**0.55**	**2.64**	**5.03**	**3.70**	**4.84**
CS Hedge Fund Index	1.74	0.09	-0.03	2.53	4.25	4.21	5.81
CS Equity Market Neutral	1.59	-1.98	-2.02	1.17	2.12	-2.45	0.75
CS Convertible Arbitrage	3.83	6.16	5.54	2.14	4.01	3.98	4.55
CS Fixed Income Arbitrage	2.61	2.39	2.42	2.88	4.59	3.50	4.23
CS Multi-Strategy	2.55	3.21	3.74	5.86	7.33	5.66	6.79
CS Distressed	2.75	2.71	0.91	1.59	5.43	4.20	7.02
CS Risk Arbitrage	2.30	5.08	5.93	1.71	2.61	3.59	3.71
CS Event-Driven Multi-Strategy	3.06	-0.51	-3.04	-0.56	3.71	4.11	6.13
CS Long/Short Equity	1.88	-3.23	-1.70	3.99	6.56	4.76	6.12
CS Dedicated Short Bias	-12.06	-18.35	-21.86	-8.80	-15.43	-10.95	-9.05
CS Global Macro	0.58	-0.97	-0.36	1.68	2.34	5.75	7.98
CS Managed Futures	-3.23	-1.26	-2.30	6.80	0.98	4.09	4.93
CS Emerging Markets	4.20	4.74	7.67	3.48	4.99	4.62	8.76

*Returns less than one year are not annualized. Sources: Callan, Credit Suisse.

DC Participants Seek Cover

DEFINED CONTRIBUTION | Tom Szkwarla

DC plan balances increased a solid 1.67% in the second quarter, according to the Callan DC Index™. But participants sought cover, shifting money from equities into fixed income and stable value. This is atypical behavior. Generally, DC plan participants tend to follow the market, heading to equities when the stock market rises.

Turnover—or net transfer activity levels—has also been below average this year, coming in at 0.55% in the second quarter and 0.45% in the first. Historical turnover since inception is 0.65% for the Index.

Although the Index rose smartly for the quarter—gaining 1.90%—target date funds still managed to marginally outpace the typical DC investor, gaining 2.02%. Since inception, the DC Index has trailed the Age 45 Target Date Fund by 70 basis points annually, averaging a 5.15% annual return.

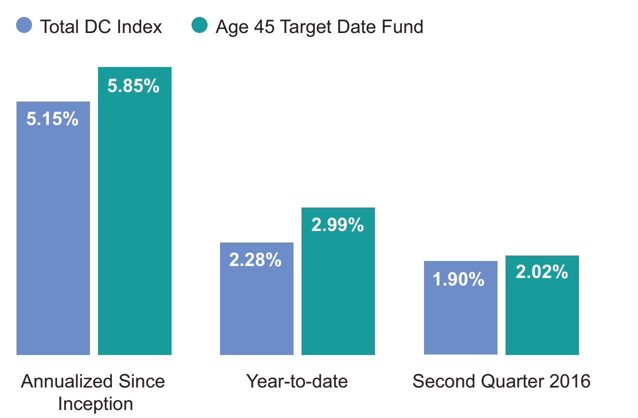
Money flowed out of DC plans during the quarter to the tune of 23 basis points. Historically, inflows (participant and plan sponsor contributions) have accounted for approximately 30% of total growth in plan balances (2.24% annualized). Altogether, participant balances have increased 7.39% annually since inception of the Index.

The DC Index's allocation to target date funds continued to increase in the quarter, reaching 26.9% of total DC assets. Meanwhile, U.S. large cap equity dropped to its lowest allocation since the fourth quarter of 2011.

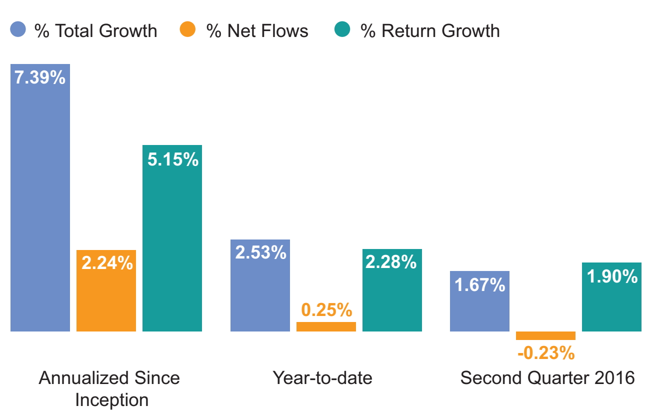
Target date funds are the fifth most prevalent asset class in DC plans (89% offer them), and when offered attract the lion's share of assets, at 31% on average.

The Callan DC Index is an equally weighted index tracking the cash flows and performance of nearly 90 plans, representing more than one million DC participants and over $135 billion in assets. The Index is updated quarterly and is available on Callan's website, as is the quarterly DC Observer newsletter.

Investment Performance*



Growth Sources*



Net Cash Flow Analysis (Second Quarter 2016)
(Top Two and Bottom Two Asset Gatherers)

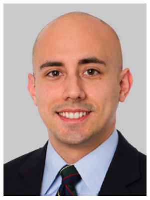
Asset Class	Flows as % of Total Net Flows
Target Date Funds	47.68%
U.S. Fixed	22.94%
Company Stock	-22.66%
U.S. Large Cap	-39.59%
Total Turnover**	**0.55%**

Source: Callan DC Index
Data provided here is the most recent available at time of publication.

* DC Index inception date is January 2006.

** Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

Authors



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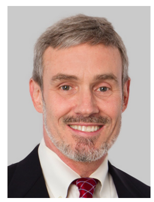

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The *Capital Market Review* is a quarterly macroeconomic indicator newsletter that provides thoughtful insights on the economy and recent performance in the equity, fixed income, alternatives, international, real estate, and other capital markets.

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About Callan

Callan was founded as an employee-owned investment consulting firm in 1973. Ever since, we have empowered institutional clients with creative, customized investment solutions that are uniquely backed by proprietary research, exclusive data, ongoing education and decision support. Today, Callan advises on more than $2 trillion in total assets, which makes us among the largest independently owned investment consulting firms in the U.S. We use a client-focused consulting model to serve public and private pension plan sponsors, endowments, foundations, operating funds, smaller investment consulting firms, investment managers, and financial intermediaries. For more information, please visit www.callan.com.

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