



PORTFOLIO REVIEW

4Q17

Littleton Public Schools

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Prepared by: Thomas Martin

Our History

- Founded in 1996 by Richard Todd and Wendy Dominguez who lead the firm today
- Independent, privately held and employee-owned
- SEC Registered Investment Advisor
- Currently more than \$19 billion in firm assets*

Our Professionals

- 45 employees
- Long-term relationships with top tier managers, vendors, and service providers
- 94% employee retention rate
- Demonstrated ability to hire and retain top quality talent

Alignment of Interest with Our Clients

- 97% client retention
- Conflict-free, independent and objective advocate
- A consistent investment philosophy since the firm's inception
- A client-centered, risk-focused, and performance-driven culture
- Year-over-year revenue growth 19 of the last 20 years
- 2017 Client Survey Results: *Overall Client Satisfaction 4.7* (5-point Scale)

Award-Winning Team

- Innovest named one of the Best Places to Work in the nation, 2017, 2016, 2014, *Pensions & Investments*
- *PLANADVISER* named Innovest Top 100 Retirement Plan Advisors, 2016
- *Forbes* ranked Innovest #3 Fastest Growing RIA Firms, 2016
- Recognized for 403(b) Plan Conversion Campaign, The Eddy Awards, 2016
- *ColoradoBiz* Finalist for the Colorado Top Company Award, 2015
- Top 100 Wealth Managers in the nation, 2015, *Forbes*
- 2014 Retirement Plan Adviser Team of the Year, *PLANSPONSOR*
- 19th Fastest Growing RIA in the nation, 2015, *Financial Advisor*

Fiduciary Expertise

- One of the first investment firms in the Rocky Mountain region rooted in prudent fiduciary principles
- Accreditations through Investment Management Consultants Association and Center for Fiduciary Studies
- Process-oriented approach with a focus on investment and spending policies
- Expert Witness in nearly 60 cases involving fiduciary investment responsibilities
- Numerous fiduciary certifications: AIF™, AIFA™, CIMA®, CFA, QPFC, RF™, RPS

Money Management Experience

- 7 member Investment Committee with median experience of nearly 20 years
- Partners have more than 25 years of experience managing large pension and foundation portfolios
- Disciplined and opportunistic approach to forward-looking portfolio design
- Experts in many investment strategies: active, passive, hedge funds, and other alternatives
- Emphasis on downside risk quantification in developing portfolio design

Client Access and Transparency

- Direct access to Innovest's investment and operational heads at all times
- Routine access to closed products, waived investment minimums, lower product fees, and socially responsible mandates
- Customized asset allocation, benchmarking and reporting

Diverse Client Base

- 250+ clients in 21 states
- Retirement Plans
- Foundations, Endowments and Nonprofits
- Wealthy Families

INNOVEST'S HISTORY WITH LITTLETON PUBLIC SCHOOLS

2014-2017

- Signed contract between LPS and Innovest Portfolio Solutions, LLC in the 4th Quarter of 2014
- Negotiated new contract with TIAA after RFI process
- Assisted with conversion
- Created new investment menu
- Coordinated the education efforts of the rollout
- Designed custom model portfolios as education tool for asset allocation.
- Replaced money market fund due to money market reforms.

2018

- Replaced Blackrock Mid Cap Value fund with Vanguard Selected Value fund.

RETIREMENT PLAN TOPICS AND TRENDS

BEHAVIORAL ECONOMICS

Behavioral economics is the study of why individuals make decisions that are not in their best interest or otherwise contradict economic logic. Specific tactics can be used to capitalize on participants' behavioral tendencies, and drive both plan and participant success.

Inertia

- Much like the properties of physical objects, a person is much more likely to stay in their current situation than they are to make a change
- Procrastination and decision paralysis can leave participants stranded in inopportune investment situations

Plan features can solve for inertia.

Auto-enroll

Active Choice

Auto-escalate

Re-enrollment

Framing

- Communicating information in either a positive or negative way can have a powerful effect in driving participant outcomes
- Framing that draws upon the principles of loss aversion can be impactful – participants will respond to the emotion that certain statements make them feel

I want to participate in the retirement savings plan and give up __% of my pay.

VS.

I want to participate in the retirement savings plan and save __% of my pay to plan for a successful retirement.

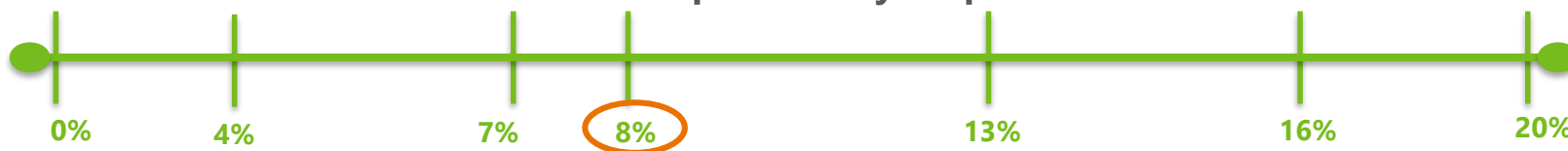
RETIREMENT PLAN TOPICS AND TRENDS

BEHAVIORAL ECONOMICS

Anchoring

- People tend to set value by imprints or anchors in their mind, therefore a value that is introduced is subsequently used as a mental reference point when making decisions
- Initial exposure to a specific number influences future judgments about value

Your peers are deferring 8% to their retirement plan on average. How are you doing in comparison to your peers?



Elect your voluntary deferral rate to the retirement savings plan:

Option A

- 6% of pay
- 8% of pay
- 12% of pay
- Other %

Option B

- 0% of pay
- 3% of pay
- 5% of pay
- Other %

Considerations

- Enrollment process
- Default deferral rates
- Investment menu

LITTLETON PUBLIC SCHOOLS 401(A) PLAN SUMMARY

	Current Structure	Considerations and Next Steps
Plan Provisions	<ul style="list-style-type: none"> • Plan Type: 401(a) • Vesting Schedule: Immediate • Eligibility Requirements: Employment • Roth: N/A • Safe Harbor: N/A • Normal Retirement Age: 65 years 	
Governance	<ul style="list-style-type: none"> • IPS Updated: March 2017 • Governance Documents: • Plan Documents: Established April 2, 1996, Amended and effective July 1, 2012 • Fiduciary Education: • Recordkeeper Contract: TIAA, May 13, 2006, amended 2015 • Innovest Contract: December 2014 	<ul style="list-style-type: none"> • Fiduciary Education
Contributions	<ul style="list-style-type: none"> • Contribution Rate: Dependent on employee classification: Superintendent – Per annual employment contract; Superintendent staff: 2.5% + \$7,496.64; Administrators: 2.5% + \$1,300; Administrative Staff 2.5%; Technical support 2.0% • Match Provision: N/A • Enrollment: Mandatory • Automatic Enrollment: N/A • Auto-Escalation: N/A 	
Distributions	<ul style="list-style-type: none"> • Loans: No • Hardships: No • Installments: Yes • In-Service Withdrawals: No 	
Costs	<ul style="list-style-type: none"> • Fee Leveling: No, fee 0.42% - excess revenue sharing sent to Revenue Credit Account • Annual Plan Fee Analysis: December 2016 • Competitive Pricing April 2015 • Other Fees: Brokerage fees • Share Class Review: March 2017 	
Investments	<ul style="list-style-type: none"> • Investment Direction: Participant • # of Investment Options: 19 • QDIA/DIA: Yes, age-appropriate target date fund • Re-enrollment: No • Managed Accounts: No • Self-Directed Brokerage Window: Yes • GMWB Options: TIAA Traditional 	
Education	<ul style="list-style-type: none"> • Participant Education Plan: TIAA – 27 days of on-site education • Participant Retirement Readiness Review: Yes 	

LITTLETON PUBLIC SCHOOLS 403(b) PLAN SUMMARY

	Current Structure	Considerations and Next Steps
Plan Provisions	<ul style="list-style-type: none"> Plan Type: 403(b) Vesting Schedule: Immediate Eligibility Requirements: Immediately Eligible Roth: Yes, effective July 1, 2017 Safe Harbor: No Normal Retirement Age: 65 years 	
Governance	<ul style="list-style-type: none"> IPS Updated: March 2017 Governance Documents: Plan Documents: Effective: July 1 1983; amended and restated January 1, 2015 Fiduciary Education: Recordkeeper Contract: TIAA, May 13, 2006, amended 2015 Innovest Contract: December 2014 	<ul style="list-style-type: none"> Fiduciary Education
Contributions	<ul style="list-style-type: none"> Contribution Rate: EE - voluntary up to \$18,000; catch-up contribution up to \$6,000 Match Provision: Yes, discretionary set by PERA Enrollment: Participant Elected Automatic Enrollment: No Auto-Escalation: No 	
Distributions	<ul style="list-style-type: none"> Loans: Yes Unforeseen Emergencies: Yes Installments: Yes In-Service Withdrawals: Yes at age 59.5 	
Costs	<ul style="list-style-type: none"> Fee Leveling: No, fee 0.42% - excess revenue sharing sent to Revenue Credit Account Annual Plan Fee Analysis: December 2016 Competitive Pricing April 2015 Other Fees: Brokerage fees Share Class Review: March 2017 	
Investments	<ul style="list-style-type: none"> Investment Direction: Participant # of Investment Options: 19 QDIA/DIA: Yes, age-appropriate target date fund Re-enrollment: No Managed Accounts: No Self-Directed Brokerage Window: Yes GMWB Options: TIAA Traditional 	
Education	<ul style="list-style-type: none"> Participant Education Plan: TIAA, 27 on-site meetings Participant Retirement Readiness Review: Yes 	

LITTLETON PUBLIC SCHOOLS 457(b) PLAN SUMMARY

	Current Structure	Considerations and Next Steps
Plan Provisions	<ul style="list-style-type: none"> • Plan Type: 457(b) • Vesting Schedule: Immediate • Eligibility Requirements: Immediately Eligible • Roth: Yes, effective July 1, 2017 • Safe Harbor: N/A • Normal Retirement Age: Combination of age + years of service credit specified by PERA 	
Governance	<ul style="list-style-type: none"> • IPS Updated: March 2017 • Governance Documents: • Plan Documents: Effective: July 1, 2002; restated July 1, 2005; restated July 1, 2008, amended November 2015 • Fiduciary Education: • Recordkeeper Contract: TIAA, May 13, 2006, amended 2015 • Innovest Contract: December 2014 	<ul style="list-style-type: none"> • Fiduciary Education
Contributions	<ul style="list-style-type: none"> • Contribution Rate: EE – voluntary up to \$18,000; catch up contribution up to \$6,000 • Match Provision: • Enrollment: Participant Elected • Automatic Enrollment: No • Auto-Escalation: No 	
Distributions	<ul style="list-style-type: none"> • Loans: No • Unforeseen Emergencies: No • Installments: Yes • In-Service Withdrawals: No 	
Costs	<ul style="list-style-type: none"> • Fee Leveling: No, fee 0.42% - excess revenue sharing sent to Revenue Credit Account • Annual Plan Fee Analysis: December 2016 • Competitive Pricing April 2015 • Other Fees: Brokerage fees • Share Class Review: March 2017 	
Investments	<ul style="list-style-type: none"> • Investment Direction: Participant • # of Investment Options: 19 • QDIA/DIA: Yes, age-appropriate target date fund • Re-enrollment: No • Managed Accounts: No • Self-Directed Brokerage Window: Yes • GMWB Options: TIAA Traditional 	
Education	<ul style="list-style-type: none"> • Participant Education Plan: TIAA, 27 on-site meetings • Participant Retirement Readiness Review: Yes 	

Littleton Public Schools Combined Annual Fee Review

	Plan	Benchmark*
Plan assets as of 12/31/2016	\$ 8,595,900	Similarly Sized
Investment, Recordkeeping and Administrative Costs	0.63%	1.46%
Estimated Total Plan Expenses	0.95%	N/A

	Provider	Employer Paid		Employee Paid		Total	
		Fee (in \$)	Fee (in %)	Fee (in \$)	Fee (in %)	Fee (in \$)	Fee (in %)
Expense ratio retained by fund manager	Fund Managers			\$ 17,904	0.21%	\$ 17,904	0.21%
Revenue sharing sent to recordkeeper	TIAA			\$ 1,811	0.02%	\$ 1,811	0.02%
Gross Investment Management Fees		\$ -	0.00%	\$ 19,716	0.23%	\$ 19,716	0.23%
Recordkeeping/Administration Fee	TIAA			\$ 34,292	0.40%	\$ 34,292	0.40%
Gross Recordkeeping and Administrative Fees		\$ -	0.00%	\$ 34,292	0.40%	\$ 34,292	0.40%
Total Investment, Recordkeeping and Administrative Costs		\$ -	0.00%	\$ 54,007	0.63%	\$ 54,007	0.63%
Investment Consultant	Innovest	\$ 27,775	0.32%			\$ 27,775	0.32%
Total Plan Expenses		\$ 27,775	0.32%	\$ 54,007	0.63%	\$ 81,782	0.95%

*The plan's estimated investment, recordkeeping and administrative costs of 0.63% as shown above, compare favorably to 401(k) Source data, a universe of 60 similarly sized 401(k) plans with an average investment, recordkeeping and administrative cost of 1.46%.

This review illustrates estimated plan costs based on available data.

401(a) Retirement Plan Statistics and Menu Coverage

Industry Averages*

Average Number Investment Options	19
Average Contribution Rate	5.5%/7.0%*
Average Account Balance	\$114,465

Plan Averages

Number Investment Options	18
Average Contribution Rate	NA
Average Account Balance	\$30,483

*Contribution rate for lower compensated/higher compensated employees as defined by ADP tests
 Source: PCSA's 59th Annual Survey of Profit Sharing and 401(k) Plans (2015)

Menu Coverage

Fixed Income

Metropolitan West Total Return Bond	Vanguard Total Bond Market Index
TIAA Traditional Retirement Choice	

Domestic Equity

	Value	Core	Growth
Large	Dodge & Cox Stock	Vanguard S&P 500 Index	Harbor Capital Appreciation
Mid	Vanguard Selected Value	Vanguard Mid Cap Index	Janus Enterprise
Small	DFA U.S. Small Cap Value	Vanguard Small Cap Index	Voya Small Cap Opportunities

Specialty

TIAA-CREF Social Choice Equity

Cash Equivalents

Vanguard Federal Money Market

International Equity

Value	Core	Growth
American Beacon International	Vanguard Total International Stock Index	American Funds Europacific

Target Date Portfolios

Vanguard Target Retirement Income	Vanguard Target Retirement 2015	Vanguard Target Retirement 2020	Vanguard Target Retirement 2025	Vanguard Target Retirement 2030
Vanguard Target Retirement 2035	Vanguard Target Retirement 2040	Vanguard Target Retirement 2045	Vanguard Target Retirement 2050	Vanguard Target Retirement 2055

403(b) & 457 Retirement Plan Statistics and Menu Coverage

Industry Averages*

Average Number Investment Options	19
Average Contribution Rate	5.5%/7.0%*
Average Account Balance	\$114,465

Plan Averages

Number Investment Options	19
Average Account Balance-403(b)	\$45,199
Average Account Balance-457	\$53,385

*Contribution rate for lower compensated/higher compensated employees as defined by ADP tests
Source: PCSA's 59th Annual Survey of Profit Sharing and 401(k) Plans (2015)

Menu Coverage

Fixed Income

Metropolitan West Total Return Bond	Vanguard Total Bond Market Index
TIAA Traditional Retirement Social Choice Plus	

Domestic Equity

	Value	Core	Growth
Large	Dodge & Cox Stock	Vanguard S&P 500 Index	Harbor Capital Appreciation
Mid	Vanguard Selected Value	Vanguard Mid Cap Index	Janus Enterprise
Small	DFA U.S. Small Cap Value	Vanguard Small Cap Index	Voya Small Cap Opportunities

Specialty

TIAA-CREF Social Choice Equity

Cash Equivalents

Vanguard Federal Money Market

International Equity

Value	Core	Growth
American Beacon International	Vanguard Total International Stock Index	American Funds Europacific

Target Date Portfolios

Vanguard Target Retirement Income	Vanguard Target Retirement 2015	Vanguard Target Retirement 2020	Vanguard Target Retirement 2025	Vanguard Target Retirement 2030
Vanguard Target Retirement 2035	Vanguard Target Retirement 2040	Vanguard Target Retirement 2045	Vanguard Target Retirement 2050	Vanguard Target Retirement 2055

Asset Allocation - 401(a)

Asset Allocation

	Sep-2017		Dec-2017	
	(\$)	%	(\$)	%
Large Cap Equity				
Dodge & Cox Stock	31,908	0.94	33,716	1.00
Vanguard S&P 500	250,777	7.41	198,390	5.90
Harbor Capital Appreciation Instl	80,551	2.38	85,888	2.55
Total Large Cap Equity	363,236	10.73	317,994	9.45
Mid Cap Equity				
BlackRock Mid Cap Value Opportunities	1,777	0.05	1,864	0.06
Vanguard Mid Cap Index	9,312	0.28	9,827	0.29
Janus Enterprise	64,856	1.92	68,366	2.03
Total Mid Cap Equity	75,945	2.24	80,057	2.38
Small Cap Equity				
DFA US Small Cap Value	8,584	0.25	8,843	0.26
Vanguard Small Cap Index	36,201	1.07	38,007	1.13
Voya Small Cap Opportunities	-	0.00	-	0.00
Total Small Cap Equity	44,785	1.32	46,850	1.39
International Equity				
American Beacon Intl Equity Instl	15,548	0.46	16,242	0.48
Vanguard Total Intl Stock Index	113,718	3.36	116,679	3.47
American Funds EuroPacific Gr	60,868	1.80	63,374	1.88
Total International Equity	190,134	5.62	196,295	5.83
Fixed Income				
Met West Total Return	43,472	1.28	33,150	0.99
Vanguard Total Bond Market Idx	26,913	0.79	37,452	1.11
TIAA Traditional Retirement Choice	84,043	2.48	-	0.00
Total Fixed Income	154,428	4.56	70,602	2.10

Asset Allocation

	Sep-2017		Dec-2017	
	(\$)	%	(\$)	%
Specialty				
TIAA-CREF Social Choice	7,032	0.21	7,459	0.22
Cash & Equivalents				
Vanguard Federal Money Market	1,025	0.03	1,027	0.03
Target Date Funds				
Vanguard Target Retirement Income	221,108	6.53	225,362	6.70
Vanguard Target Retirement 2015	280,438	8.28	272,801	8.11
Vanguard Target Retirement 2020	292,108	8.63	298,122	8.86
Vanguard Target Retirement 2025	399,534	11.80	429,591	12.77
Vanguard Target Retirement 2030	295,122	8.72	307,231	9.13
Vanguard Target Retirement 2035	584,350	17.26	610,676	18.15
Vanguard Target Retirement 2040	321,360	9.49	337,075	10.02
Vanguard Target Retirement 2045	126,121	3.72	132,559	3.94
Vanguard Target Retirement 2050	24,406	0.72	25,646	0.76
Vanguard Target Retirement 2055	5,014	0.15	5,268	0.16
Total Target Date Funds	2,549,562	75.29	2,644,331	78.59
LPS 401(a) Total Fund	3,386,147	100.00	3,364,615	100.00

Asset Allocation - 403(b)

Asset Allocation

	Sep-2017		Dec-2017	
	(\$)	%	(\$)	%
Large Cap Equity				
Dodge & Cox Stock	100,324	1.87	109,953	2.15
Vanguard S&P 500	516,482	9.63	557,775	10.92
Harbor Capital Appreciation Instl	179,510	3.35	175,398	3.43
Total Large Cap Equity	796,316	14.85	843,126	16.51
Mid Cap Equity				
BlackRock Mid Cap Value Opportunities	2,825	0.05	3,642	0.07
Vanguard Mid Cap Index	44,751	0.83	53,457	1.05
Janus Enterprise	219,367	4.09	256,427	5.02
Total Mid Cap Equity	266,943	4.98	313,526	6.14
Small Cap Equity				
DFA US Small Cap Value	22,298	0.42	23,628	0.46
Vanguard Small Cap Index	125,095	2.33	145,042	2.84
Voya Small Cap Opportunities	2,432	0.05	2,665	0.05
Total Small Cap Equity	149,825	2.79	171,335	3.35
International Equity				
American Beacon Intl Equity Instl	33,577	0.63	39,114	0.77
Vanguard Total Intl Stock Index	209,046	3.90	224,430	4.39
American Funds EuroPacific Gr	163,839	3.06	184,317	3.61
Total International Equity	406,461	7.58	447,861	8.77
Fixed Income				
Met West Total Return	128,826	2.40	131,884	2.58
Vanguard Total Bond Market Idx	125,118	2.33	127,188	2.49
TIAA Traditional Retirement Choice Plus	621,936	11.60	-	0.00
Total Fixed Income	875,880	16.34	259,073	5.07

Asset Allocation

	Sep-2017		Dec-2017	
	(\$)	%	(\$)	%
Specialty				
TIAA-CREF Social Choice	41,254	0.77	48,546	0.95
Cash & Equivalents				
Vanguard Federal Money Market	9,367	0.17	9,875	0.19
Target Date Funds				
Vanguard Target Retirement Income	304,846	5.69	310,077	6.07
Vanguard Target Retirement 2015	84,438	1.58	86,584	1.70
Vanguard Target Retirement 2020	505,833	9.44	529,446	10.37
Vanguard Target Retirement 2025	594,510	11.09	644,211	12.61
Vanguard Target Retirement 2030	171,866	3.21	186,506	3.65
Vanguard Target Retirement 2035	484,736	9.04	527,718	10.33
Vanguard Target Retirement 2040	447,087	8.34	481,065	9.42
Vanguard Target Retirement 2045	79,257	1.48	88,293	1.73
Vanguard Target Retirement 2050	138,900	2.59	156,807	3.07
Vanguard Target Retirement 2055	3,476	0.06	3,960	0.08
Total Target Date Funds	2,814,949	52.51	3,014,666	59.02
LPS 403(b) Total Fund	5,360,995	100.00	5,108,008	100.00

Asset Allocation - 457

Asset Allocation

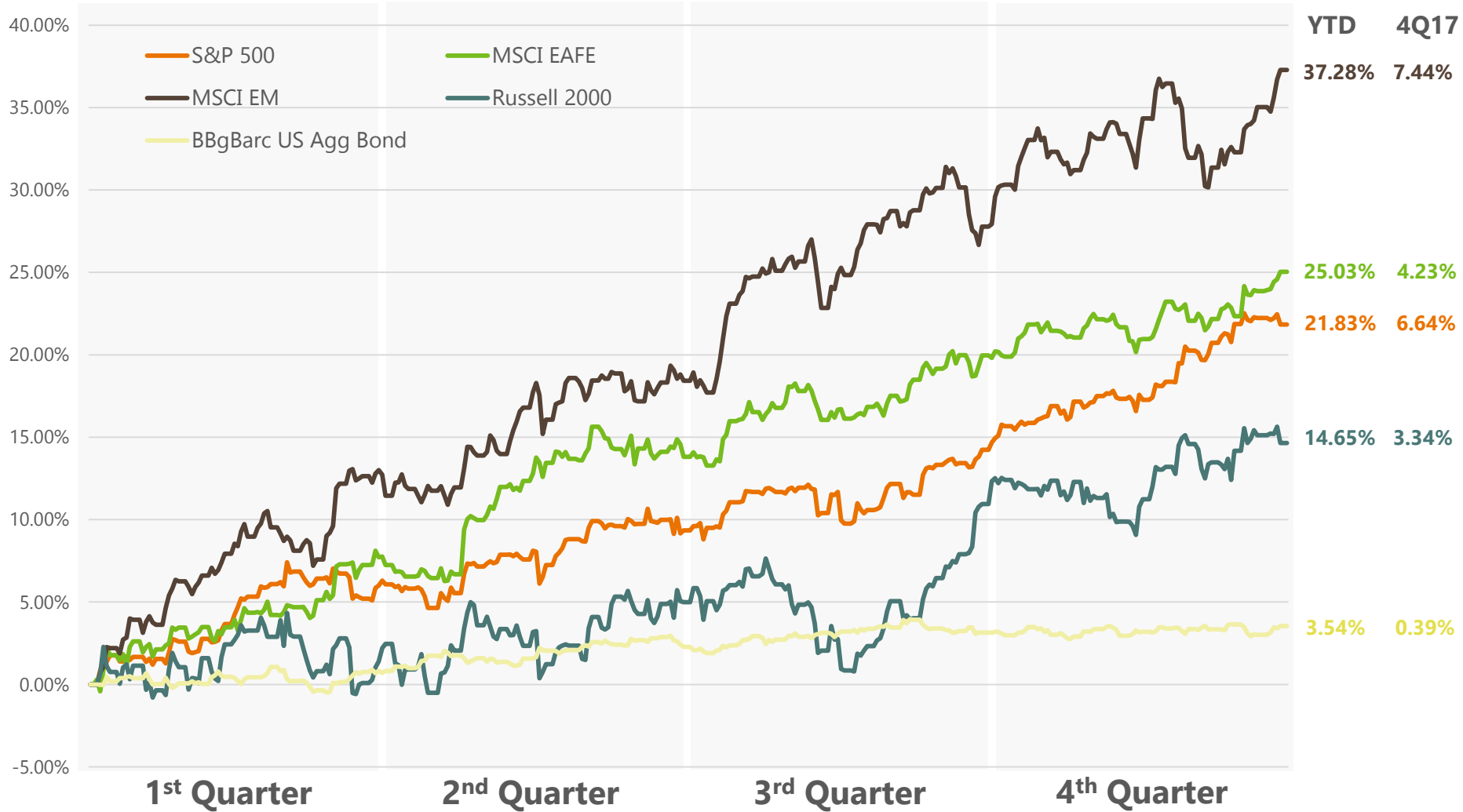
	Sep-2017		Dec-2017	
	(\$)	%	(\$)	%
Large Cap Equity				
Dodge & Cox Stock	24,276	1.11	26,823	1.26
Vanguard S&P 500	106,961	4.91	118,144	5.54
Harbor Capital Appreciation Instl	588,004	27.00	406,191	19.03
Total Large Cap Equity	719,241	33.03	551,158	25.83
Mid Cap Equity				
BlackRock Mid Cap Value Opportunities	947	0.04	1,029	0.05
Vanguard Mid Cap Index	4,024	0.18	4,265	0.20
Janus Enterprise	36,893	1.69	39,787	1.86
Total Mid Cap Equity	41,863	1.92	45,081	2.11
Small Cap Equity				
DFA US Small Cap Value	831	0.04	887	0.04
Vanguard Small Cap Index	37,075	1.70	42,225	1.98
Voya Small Cap Opportunities	1,088	0.05	1,123	0.05
Total Small Cap Equity	38,994	1.79	44,235	2.07
International Equity				
American Beacon Intl Equity Instl	25	0.00	52	0.00
Vanguard Total Intl Stock Index	60,267	2.77	66,181	3.10
American Funds EuroPacific Gr	32,673	1.50	34,963	1.64
Total International Equity	92,965	4.27	101,197	4.74
Fixed Income				
Met West Total Return	39,220	1.80	40,416	1.89
Vanguard Total Bond Market Idx	66,360	3.05	68,938	3.23
TIAA Traditional Retirement Choice Plus	142,236	6.53	-	0.00
Total Fixed Income	247,816	11.38	109,354	5.12

Asset Allocation

	Sep-2017		Dec-2017	
	(\$)	%	(\$)	%
Specialty				
TIAA-CREF Social Choice	3,015	0.14	3,282	0.15
Cash & Equivalents				
Vanguard Federal Money Market	5,266	0.24	234,559	10.99
Target Date Funds				
Vanguard Target Retirement Income	217,791	10.00	168,986	7.92
Vanguard Target Retirement 2015	281,209	12.91	294,657	13.81
Vanguard Target Retirement 2020	204,764	9.40	211,815	9.93
Vanguard Target Retirement 2025	62,766	2.88	69,170	3.24
Vanguard Target Retirement 2030	35,969	1.65	37,445	1.75
Vanguard Target Retirement 2035	-	0.00	-	0.00
Vanguard Target Retirement 2040	84,711	3.89	93,481	4.38
Vanguard Target Retirement 2045	71,417	3.28	95,018	4.45
Vanguard Target Retirement 2050	69,684	3.20	74,531	3.49
Vanguard Target Retirement 2055	-	0.00	-	0.00
Total Target Date Funds	1,028,311	47.23	1,045,103	48.97
LPS 457 Total Fund	2,177,470	100.00	2,133,967	100.00

THE MARKETS

2017 Investment Returns

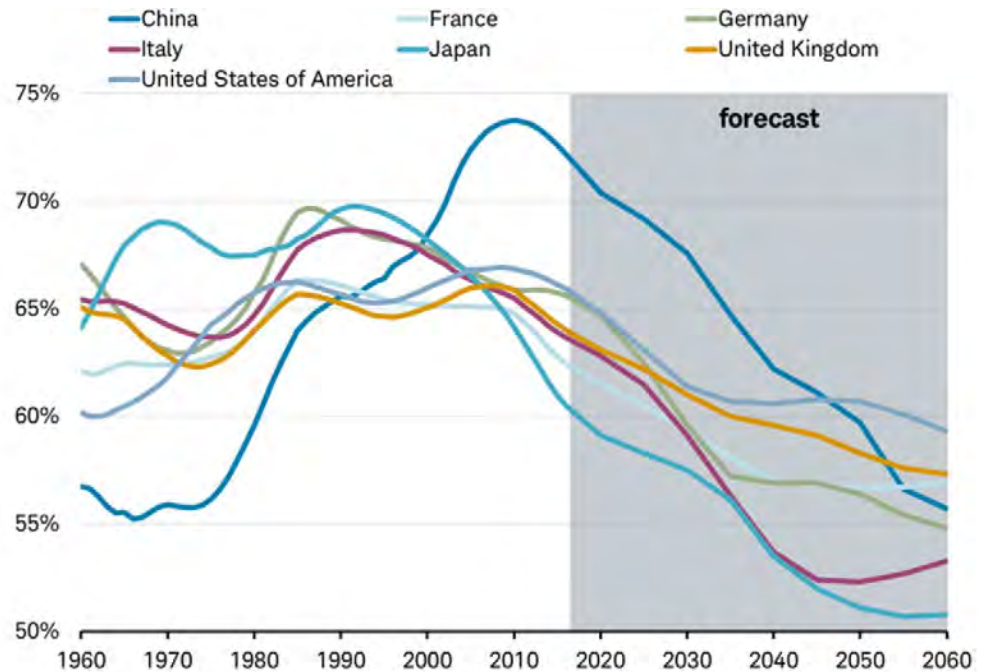


ECONOMICS: DEMOGRAPHIC HEADWINDS

- The working-age population is declining, which will likely reduce tax receipts and increase pressure on government spending on healthcare and income security programs.
- Lack of political courage to address persistent budget deficits is likely to persist and add to already high debt levels.
- Growth of the middle class, particularly in emerging economies, could help counteract unfavorable demographic ramifications on global growth.
- Despite long-term threats resulting from demographic challenges, recession risk is low in the near-term.

Working-Age Population

As a % of Total Population in Each Country

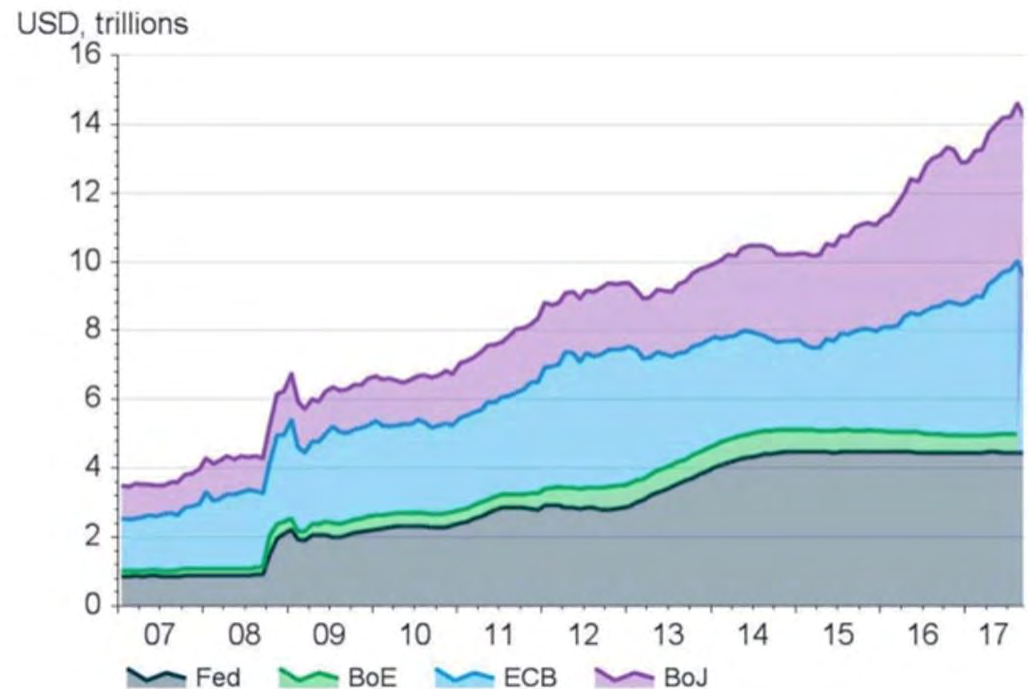


"Working age" defined as those age 15 through 64. Reported 10/29/2017. Sources: Charles Schwab and World Bank data.

ECONOMICS: MONETARY UNCERTAINTY

- Quantitative easing was implemented in the years following the global financial crisis to help stabilize the world economy.
- The unwinding of up to \$14 trillion in central banks' quantitative easing assets has considerable unknown consequences.
- World economies are reaching full capacity, which has historically led to moderate inflationary pressures and higher short-term interest rates globally.

Central Banks' Assets



Sources: Central Banks, Thomson Reuters Datastream, and Fathom Consulting. Reported Sept. 2017.

ASSET CLASS FUNDAMENTALS

Equity Valuations Drive Long-Term Returns

U.S.

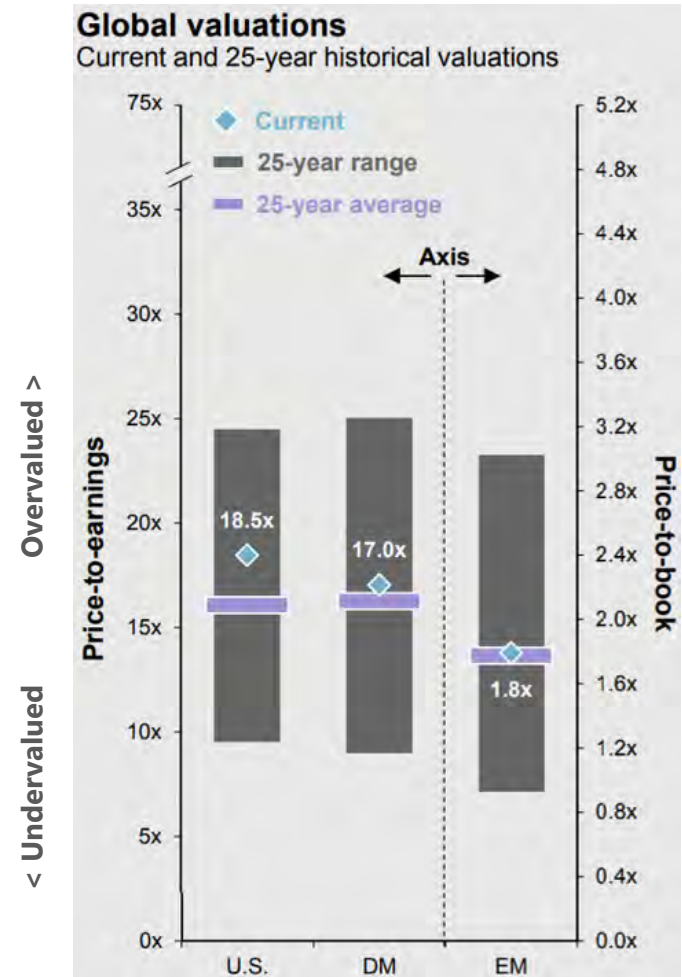
Above long-term averages

Developed Markets

Slightly above long-term averages

Emerging Markets

At long-term averages

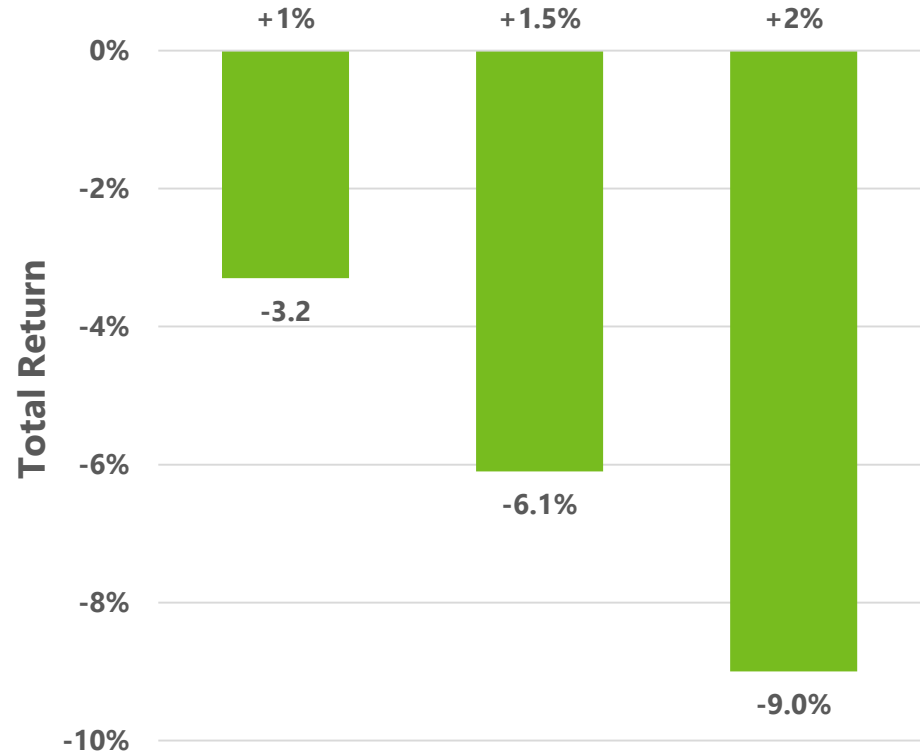


DM = Developed Markets; EM = Emerging Markets
Valuations refer to NTMA P/E for U.S. and Developed Markets, and P/B for Emerging Markets. Data as of 12/31/2017. Sources: IBES, FactSet, MSCI, Standard & Poor's, and J.P. Morgan Asset Management.

ASSET CLASS FUNDAMENTALS, CONTINUED

- It is anticipated that the Fed will continue its policy of modest rate hikes into 2018.
- Rate increases are often positive for equities, but can cause bond prices to fall over concerns of higher inflation.
- This chart shows how an interest rate hike can affect returns of U.S. aggregate bonds, if spreads hold steady.

Impact of Spike in Interest Rates on High-Quality Bonds



Source: Bloomberg Barclays. Bloomberg Barclays Aggregate Bond Index used in projections. J.P. Morgan Asset Management as of 12/31/2017.

PERIODIC TABLE OF RETURNS 2008 - 2017

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Annualized Return '08 -'17	Annualized Std. Dev. '08 -'17	
High	U.S. Fixed Income 5.24%	MLPs 85.04%	MLPs 34.98%	MLPs 16.99%	Emerging Markets 18.23%	U.S. Equity 33.55%	Real Estate 31.78%	Real Estate 4.23%	MLPs 18.74%	Emerging Markets 37.28%	U.S. Equity 8.60%	Real Estate 25.64%	High
	Hedge Funds -21.37%	Emerging Markets 78.51%	Real Estate 28.60%	Real Estate 9.24%	Real Estate 17.59%	MLPs 29.48%	U.S. Equity 12.56%	U.S. Fixed Income 0.55%	U.S. Equity 12.74%	Int'l Equity 25.03%	Real Estate 7.28%	Emerging Markets 23.58%	
	Diversified Portfolio -32.94%	Diversified Portfolio 32.43%	Emerging Markets 18.88%	U.S. Fixed Income 7.84%	Int'l Equity 17.32%	Int'l Equity 22.78%	MLPs 7.61%	U.S. Equity 0.48%	Emerging Markets 11.19%	U.S. Equity 21.13%	MLPs 6.78%	MLPs 20.63%	
	U.S. Equity -37.31%	Int'l Equity 31.78%	U.S. Equity 16.93%	U.S. Equity 1.03%	U.S. Equity 16.42%	Diversified Portfolio 17.59%	Diversified Portfolio 6.76%	Hedge Funds -0.27%	Diversified Portfolio 7.64%	Diversified Portfolio 14.33%	Diversified Portfolio 5.46%	Int'l Equity 19.62%	
	MLPs -38.55%	Real Estate 28.60%	Diversified Portfolio 14.54%	Diversified Portfolio -0.98%	Diversified Portfolio 12.64%	Hedge Funds 8.96%	U.S. Fixed Income 5.97%	Int'l Equity -0.81%	Real Estate 7.24%	Hedge Funds 7.75%	U.S. Fixed Income 4.01%	U.S. Equity 16.69%	
	Real Estate -39.20%	U.S. Equity 28.34%	Int'l Equity 7.75%	Hedge Funds -5.72%	Hedge Funds 4.79%	Real Estate 1.86%	Hedge Funds 3.37%	Diversified Portfolio -2.94%	U.S. Fixed Income 2.65%	Real Estate 4.18%	Int'l Equity 1.94%	Diversified Portfolio 13.42%	
	Int'l Equity -43.38%	Hedge Funds 11.47%	U.S. Fixed Income 6.54%	Int'l Equity -12.14%	U.S. Fixed Income 4.21%	U.S. Fixed Income -2.02%	Emerging Markets -2.19%	Emerging Markets -14.92%	Int'l Equity 1.00%	U.S. Fixed Income 3.54%	Emerging Markets 1.68%	Hedge Funds 6.62%	
Low	Emerging Markets -53.33%	U.S. Fixed Income 5.93%	Hedge Funds 5.70%	Emerging Markets -18.42%	MLPs 4.21%	Emerging Markets -2.60%	Int'l Equity -4.90%	MLPs -31.74%	Hedge Funds 0.51%	MLPs -8.81%	Hedge Funds 1.08%	U.S. Fixed Income 3.26%	Low

U.S. Equities: Russell 3000, MLPs: Alerian MLP Infrastructure, Real Estate: Wilshire US REIT, U.S. Fixed Income: BbgBarc US Agg, Int'l Equity: MSCI EAFE, Emerging Markets: MSCI EM, Hedge Funds: HFRI Fund of Funds Composite

Diversified Portfolio: Russell 3000: 31%, MSCI EAFE: 18%, MSCI EM: 6%, BbgBarc US Agg: 10%, Wilshire US REIT: 7%, Alerian MLP Infrastructure: 7%, HFRI Fund of Funds Composite: 15%, CSFB Leveraged Loans: 6%

Source: Innovest Portfolio Solutions.

GLOBAL EQUITY INDICES

4th Quarter 2017

Domestic Equity			
	Value	Core	Growth
Large	6.3%	6.6%	6.8%
Mid	5.5%	6.1%	6.8%
Small	2.0%	3.3%	4.6%
Developed International Equity			
	Value	Core	Growth
	3.2%	4.2%	5.2%
Emerging Markets			
	7.4%		

YTD as of December 31, 2017

Domestic Equity			
	Value	Core	Growth
Large	15.4%	21.8%	27.4%
Mid	13.3%	18.5%	25.3%
Small	7.8%	14.6%	22.2%
Developed International Equity			
	Value	Core	Growth
	21.4%	25.0%	28.9%
Emerging Markets			
	37.3%		

1 Year

Domestic Equity			
	Value	Core	Growth
Large	15.4%	21.8%	27.4%
Mid	13.3%	18.5%	25.3%
Small	7.8%	14.6%	22.2%
Developed International Equity			
	Value	Core	Growth
	21.4%	25.0%	28.9%
Emerging Markets			
	37.3%		

3 Year Annualized

Domestic Equity			
	Value	Core	Growth
Large	9.5%	11.4%	12.9%
Mid	9.0%	9.6%	10.3%
Small	9.5%	10.0%	10.3%
Developed International Equity			
	Value	Core	Growth
	6.4%	7.8%	9.2%
Emerging Markets			
	9.1%		

5 Years Annualized

Domestic Equity			
	Value	Core	Growth
Large	14.2%	15.8%	17.0%
Mid	14.7%	15.0%	15.3%
Small	13.0%	14.1%	15.2%
Developed International Equity			
	Value	Core	Growth
	7.0%	7.9%	8.8%
Emerging Markets			
	4.4%		

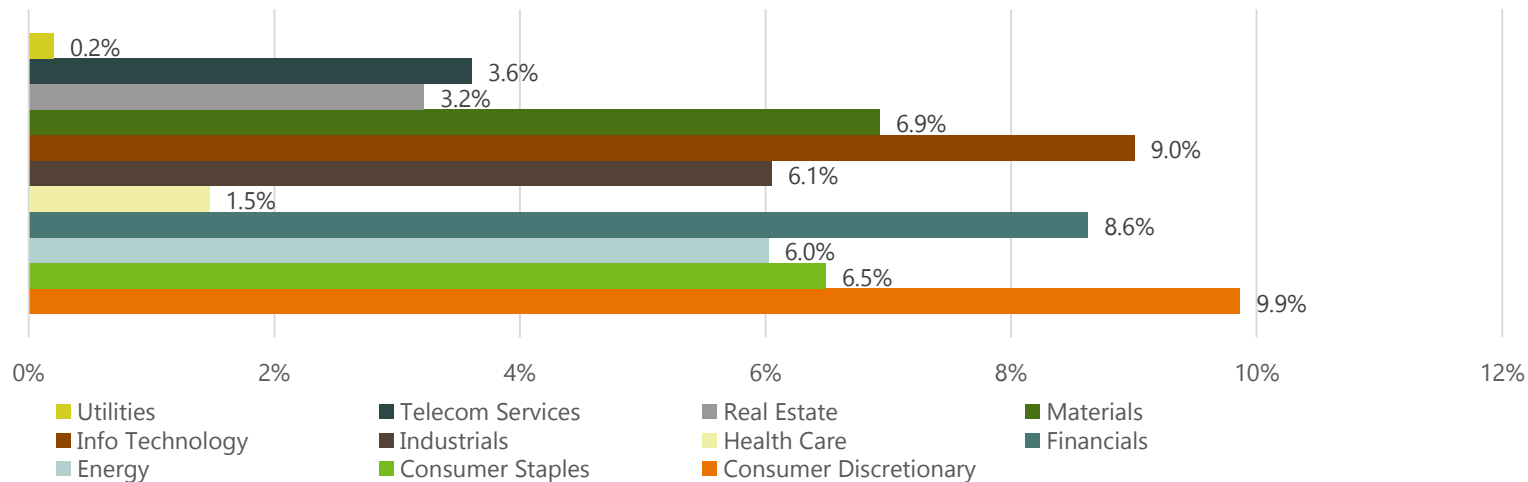
10 Years Annualized

Domestic Equity			
	Value	Core	Growth
Large	6.8%	8.5%	10.0%
Mid	9.1%	9.1%	9.1%
Small	8.2%	8.7%	9.2%
Developed International Equity			
	Value	Core	Growth
	1.1%	1.9%	2.7%
Emerging Markets			
	1.7%		

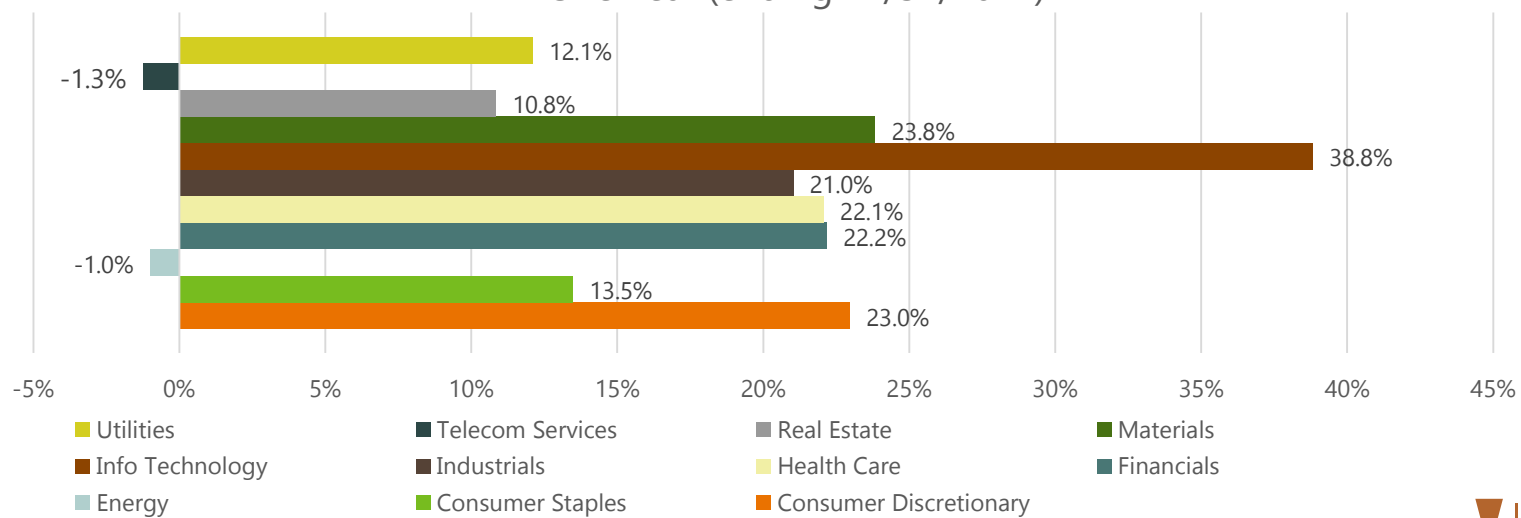
Returns sourced from the S&P 500, S&P 500 Value, S&P 500 Growth, Russell Mid Cap, Russell Mid Cap Value, Russell Mid Cap Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EAFE Value, MSCI EAFE Growth, and MSCI EM indices. Dark green indicates returns at or greater than 10%, light green indicates returns 0-4%, light pink indicates returns 0% to -5%, light dark red indicates returns down more than 10. Returns for time periods of 3 years or longer are annualized. Source: Morningstar Direct.

DOMESTIC EQUITY SECTOR PERFORMANCE

Fourth Quarter 2017



One Year (ending 12/31/2017)



Returns are based off return data for the eleven sectors according to the S&P 500. Source: Morningstar Direct.

FIXED INCOME AND ADDITIONAL ASSET CLASSES

FIXED INCOME INDICES

Barclays Agg U.S. Bond					
QTD	YTD	1 Year	3 Year	5 Year	10 Year
0.4%	3.5%	3.5%	2.2%	2.1%	4.0%

Barclays U.S. Government 1-3 Year					
QTD	YTD	1 Year	3 Year	5 Year	10 Year
-0.3%	0.4%	0.4%	0.6%	0.6%	1.5%

Barclays Municipal Bond					
QTD	YTD	1 Year	3 Year	5 Year	10 Year
0.7%	5.4%	5.4%	3.0%	3.0%	4.5%

Credit Suisse Leveraged Loan					
QTD	YTD	1 Year	3 Year	5 Year	10 Year
1.2%	4.2%	4.2%	4.5%	4.3%	4.6%

Barclays U.S. Corporate High Yield					
QTD	YTD	1 Year	3 Year	5 Year	10 Year
0.5%	7.5%	7.5%	6.4%	5.8%	8.0%

Credit Spreads				
Category	Median	Current	High	Low
FR Corp Loans	540	405	2474	222
High Yield Corporate	480	358	2147	241

ADDITIONAL ASSET CLASSES

HFRI Fund of Fund Index					
QTD	YTD	1 Year	3 Year	5 Year	10 Year
2.0%	7.7%	7.7%	2.6%	4.0%	1.1%

Bloomberg Commodity					
QTD	YTD	1 Year	3 Year	5 Year	10 Year
4.7%	1.7%	1.7%	-5.0%	-8.5%	-6.8%

Alerian MLP Infrastructure					
QTD	YTD	1 Year	3 Year	5 Year	10 Year
-1.8%	-8.8%	-8.8%	-9.6%	0.6%	6.8%

S&P Developed Property					
QTD	YTD	1 Year	3 Year	5 Year	10 Year
3.9%	13.2%	13.2%	6.4%	8.0%	4.6%

Returns sourced from the BBgBarc US Agg Bond, BBgBarc US Corporate High Yield, BBgBarc US Govt 1-3 Yr, Credit Suisse Leveraged Loan, BBgBarc Municipal, Bloomberg Commodity, Alerian MLP Infrastructure, HFRI Fund of Fund Index, and the S&P Developed Property indices. Dark green indicates returns at or greater than 4%, light green indicates returns 0-4%, light pink indicates returns 0% to -5%, light dark red indicates returns down more than 10%. Returns for time periods of 3 years or longer are annualized. Source: Morningstar Direct and InvestmentMetrics. Credit spreads source: Eaton Vance and Factset as of 12/31/17. Spread history measures past 15 years. All fixed-income spreads are measured in basis points and measure option-adjusted yield spread relative to comparable US Treasuries using daily data. Loan index spread represents the three-year discounted spread over LIBOR. Floating-Rate Loans represented by S&P/LSTA Leveraged Loan Index. High Yield represented by BofA Merrill Lynch US High Yield index. Dark green indicates current spreads greater than 1.25x the median, light green indicates spreads from 0.76 to 1.24x the median, and red indicates spreads at 0.75x the median or less.

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Table of Returns

	Last Quarter	2017	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Large Cap Equity									
Dodge & Cox Stock	5.75 (50)	18.33 (23)	18.33 (23)	11.08 (4)	16.29 (1)	13.91 (2)	7.71 (19)	19.76 (5)	10/01/2015
S&P 500 Value	6.33 (38)	15.36 (59)	15.36 (59)	9.47 (23)	14.24 (27)	12.48 (26)	6.80 (45)	17.46 (24)	
IM U.S. Large Cap Value Equity (MF) Median	5.74	16.22	16.22	8.47	13.32	11.52	6.62	15.96	
Vanguard S&P 500									
Vanguard S&P 500	6.64 (38)	21.79 (37)	21.79 (37)	11.38 (18)	15.75 (15)	13.72 (14)	8.49 (18)	18.28 (20)	10/01/2015
S&P 500 Index	6.64 (38)	21.83 (36)	21.83 (36)	11.41 (17)	15.79 (14)	13.76 (14)	8.50 (18)	18.32 (19)	
IM U.S. Large Cap Core Equity (MF) Median	6.41	20.84	20.84	10.11	14.52	12.45	7.57	16.77	
Harbor Capital Appreciation Instl									
Harbor Capital Appreciation Instl	7.22 (27)	36.59 (6)	36.59 (6)	14.47 (9)	17.81 (10)	14.89 (12)	10.15 (11)	18.34 (24)	10/01/2015
S&P 500 Growth	6.80 (44)	27.44 (70)	27.44 (70)	12.86 (30)	17.00 (20)	14.81 (13)	9.99 (13)	18.65 (18)	
IM U.S. Large Cap Growth Equity (MF) Median	6.67	29.47	29.47	11.78	15.72	13.07	8.53	16.97	
Mid Cap Equity									
BlackRock Mid Cap Value									
BlackRock Mid Cap Value	4.91 (61)	8.82 (85)	8.82 (85)	7.62 (59)	12.20 (77)	10.53 (69)	8.30 (48)	14.46 (50)	10/01/2015
Russell Midcap Value Index	5.50 (42)	13.34 (44)	13.34 (44)	9.00 (31)	14.68 (20)	12.76 (13)	9.10 (29)	16.22 (32)	
IM U.S. Mid Cap Value Equity (MF) Median	5.22	12.62	12.62	7.97	13.44	11.40	8.16	14.45	
Vanguard Mid Cap Index									
Vanguard Mid Cap Index	5.64 (45)	19.25 (19)	19.25 (19)	9.38 (33)	15.01 (13)	12.55 (17)	8.92 (23)	15.09 (49)	10/01/2015
CRSP U.S. Mid Cap TR Index	5.65 (44)	19.30 (18)	19.30 (18)	9.42 (30)	15.07 (12)	12.72 (14)	8.79 (26)	15.13 (47)	
IM U.S. Mid Cap Core Equity (MF) Median	5.50	15.42	15.42	8.47	13.40	10.97	7.84	14.90	
Janus Enterprise									
Janus Enterprise	5.52 (58)	26.65 (31)	26.65 (31)	13.74 (3)	16.67 (10)	N/A	N/A	19.40 (3)	10/01/2015
Russell Midcap Growth Index	6.81 (29)	25.27 (43)	25.27 (43)	10.30 (37)	15.30 (23)	12.78 (20)	9.10 (21)	16.12 (32)	
IM U.S. Mid Cap Growth Equity (MF) Median	5.77	24.69	24.69	9.68	13.56	11.38	7.73	14.86	
Small Cap Equity									
DFA US Small Cap Value									
DFA US Small Cap Value	3.13 (47)	7.21 (54)	7.21 (54)	8.23 (43)	13.31 (34)	11.20 (15)	8.80 (21)	16.17 (53)	10/01/2015
Russell 2000 Value Index	2.05 (80)	7.84 (49)	7.84 (49)	9.55 (32)	13.01 (39)	10.84 (27)	8.17 (46)	18.37 (32)	
IM U.S. Small Cap Value Equity (MF) Median	3.10	7.52	7.52	7.97	11.76	10.19	7.96	16.50	
Vanguard Small Cap Index									
Vanguard Small Cap Index	5.10 (1)	16.24 (15)	16.24 (15)	9.84 (49)	14.44 (39)	12.34 (27)	9.68 (20)	16.79 (54)	10/01/2015
CRSP U.S. Small Cap TR Index	5.10 (1)	16.24 (15)	16.24 (15)	9.81 (50)	14.54 (34)	12.60 (23)	10.03 (11)	16.77 (55)	
IM U.S. Small Cap Core Equity (MF) Median	2.54	11.02	11.02	9.70	13.62	11.06	7.59	17.01	
Voya Small Cap Opportunities									
Voya Small Cap Opportunities	3.40 (39)	18.49 (35)	18.49 (35)	9.78 (42)	N/A	N/A	N/A	16.51 (39)	10/01/2015
Russell 2000 Growth Index	4.59 (11)	22.17 (28)	22.17 (28)	10.28 (39)	15.21 (24)	12.34 (23)	9.19 (35)	16.82 (38)	
IM U.S. Small Cap Growth Equity (MF) Median	3.07	15.27	15.27	9.13	13.21	10.98	7.90	14.82	
International Equity									
American Beacon Intl Equity Instl									
American Beacon Intl Equity Instl	4.57 (17)	24.81 (36)	24.81 (36)	7.13 (23)	7.33 (20)	6.27 (13)	2.35 (18)	11.78 (48)	10/01/2015
MSCI EAFE Value Index (Net)	3.24 (73)	21.44 (83)	21.44 (83)	6.35 (62)	6.95 (28)	5.41 (40)	1.15 (43)	12.74 (7)	
IM International Large Cap Value Equity (MF) Median	3.63	23.93	23.93	6.56	6.42	5.18	0.79	11.77	

TIAA Traditional Annuity Returns show current quarter's credit rate.

Table of Returns

	Last Quarter	2017	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Vanguard Total Intl Stock Index	4.88 (46)	27.55 (58)	27.55 (58)	8.53 (48)	7.12 (51)	5.19 (54)	N/A	15.08 (47)	10/01/2015
FTSE Global ex USA All Cap Index	5.40 (40)	27.77 (56)	27.77 (56)	8.80 (43)	7.66 (41)	5.62 (46)	2.66 (38)	15.80 (41)	
IM International Equity (MF) Median	4.67	28.78	28.78	8.35	7.13	5.38	2.08	14.64	
American Funds EuroPacific Gr	4.23 (37)	31.17 (16)	31.17 (16)	9.66 (10)	9.21 (5)	7.05 (10)	N/A	14.81 (15)	10/01/2015
MSCI EAFE Growth Index (Net)	5.24 (4)	28.86 (44)	28.86 (44)	9.15 (24)	8.78 (11)	6.60 (25)	2.67 (46)	13.61 (35)	
IM International Large Cap Growth Equity (MF) Median	4.07	28.07	28.07	8.11	7.15	5.88	2.57	12.48	
Fixed Income									
Met West Total Return	0.38 (41)	3.43 (58)	3.43 (58)	2.05 (59)	2.51 (16)	4.19 (5)	5.59 (1)	2.43 (59)	10/01/2015
Bloomberg Barclays U.S. Aggregate Index	0.39 (39)	3.54 (52)	3.54 (52)	2.24 (43)	2.10 (39)	3.20 (49)	4.01 (48)	2.48 (55)	
IM U.S. Broad Market Core Fixed Income (MF) Median	0.35	3.58	3.58	2.16	1.96	3.19	3.97	2.58	
Vanguard Total Bond Market Idx	0.40 (36)	3.56 (52)	3.56 (52)	2.18 (49)	2.02 (46)	3.12 (57)	3.95 (52)	2.45 (56)	10/01/2015
Bloomberg Barclays U.S. Aggregate Index	0.39 (39)	3.54 (52)	3.54 (52)	2.24 (43)	2.10 (39)	3.20 (49)	4.01 (48)	2.48 (55)	
IM U.S. Broad Market Core Fixed Income (MF) Median	0.35	3.58	3.58	2.16	1.96	3.19	3.97	2.58	
TIAA Traditional Annuity RC-401(a)	1.07 (4)	4.33 (1)	4.33 (1)	4.21 (1)	4.11 (1)	4.06 (1)	4.25 (1)	4.24 (1)	10/01/2015
Ryan 3 Yr GIC Master Index	0.42 (88)	1.60 (95)	1.60 (95)	1.38 (100)	1.25 (100)	1.45 (100)	2.29 (73)	1.47 (91)	
IM U.S. GIC/Stable Value (SA+CF) Median	0.48	1.86	1.86	1.79	1.78	2.05	2.48	1.82	
TIAA Traditional Annuity RCP-403(b) & 457	0.88 (4)	3.56 (1)	3.56 (1)	3.43 (1)	3.34 (1)	3.28 (1)	3.45 (1)	3.46 (1)	10/01/2015
Ryan 3 Yr GIC Master Index	0.42 (88)	1.60 (95)	1.60 (95)	1.38 (100)	1.25 (100)	1.45 (100)	2.29 (73)	1.47 (91)	
IM U.S. GIC/Stable Value (SA+CF) Median	0.48	1.86	1.86	1.79	1.78	2.05	2.48	1.82	
Specialty									
TIAA-CREF:Soc Ch Eq;Inst	6.19 (46)	20.93 (43)	20.93 (43)	10.24 (32)	14.89 (38)	12.51 (38)	8.38 (24)	17.97 (15)	10/01/2015
S&P 500 Index	6.64 (32)	21.83 (30)	21.83 (30)	11.41 (9)	15.79 (15)	13.76 (10)	8.50 (21)	18.32 (9)	
IM U.S. Multi-Cap Core Equity (MF) Median	6.03	20.33	20.33	9.41	14.39	11.98	7.35	15.75	
Cash & Equivalents									
Vanguard Federal Money Market	0.27 (12)	0.81 (15)	0.81 (15)	0.38 (13)	0.24 (13)	0.17 (14)	0.41 (16)	4.24 (36)	08/01/1981
90 Day U.S. Treasury Bill	0.28 (9)	0.86 (12)	0.86 (12)	0.38 (13)	0.25 (12)	0.20 (11)	0.38 (23)	4.30 (25)	
IM U.S. Taxable Money Market (MF) Median	0.19	0.55	0.55	0.20	0.12	0.09	0.28	4.15	
Target Date Funds									
Vanguard Target Retirement Income	2.03 (59)	8.47 (73)	8.47 (73)	4.46 (69)	4.95 (83)	5.46 (72)	4.91 (41)	6.61 (82)	10/01/2015
Vanguard Target Income Composite Index	2.14 (56)	8.68 (72)	8.68 (72)	4.66 (64)	5.15 (82)	5.63 (70)	4.99 (38)	6.86 (78)	
IM Retirement Income (MF) Median	2.26	10.63	10.63	5.17	6.87	6.35	4.78	8.57	
Vanguard Target Retirement 2015	2.73 (42)	11.50 (44)	11.50 (44)	5.62 (41)	7.25 (30)	7.01 (27)	5.23 (10)	8.80 (57)	10/01/2015
Vanguard Target 2015 Composite Index	2.84 (33)	11.61 (41)	11.61 (41)	5.82 (29)	7.46 (21)	7.16 (21)	5.29 (6)	9.10 (41)	
IM Mixed-Asset Target 2015 (MF) Median	2.65	11.40	11.40	5.52	6.76	6.50	4.45	8.95	

TIAA Traditional Annuity Returns show current quarter's credit rate.

Table of Returns

	Last Quarter	2017	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Vanguard Target Retirement 2020	3.36 (17)	14.08 (15)	14.08 (15)	6.61 (8)	8.50 (6)	7.87 (7)	5.62 (5)	10.55 (16)	10/01/2015
Vanguard Target 2020 Composite Index	3.52 (9)	14.22 (11)	14.22 (11)	6.83 (5)	8.75 (3)	8.13 (3)	5.76 (3)	10.85 (9)	
IM Mixed-Asset Target 2020 (MF) Median	3.00	12.63	12.63	5.77	6.74	6.40	4.45	9.53	
Vanguard Target Retirement 2025	3.87 (12)	15.94 (22)	15.94 (22)	7.31 (16)	9.36 (11)	8.46 (15)	5.79 (14)	11.77 (18)	10/01/2015
Vanguard Target 2025 Composite Index	4.01 (4)	16.08 (19)	16.08 (19)	7.51 (7)	9.61 (5)	8.72 (8)	5.95 (9)	12.09 (12)	
IM Mixed-Asset Target 2025 (MF) Median	3.46	14.95	14.95	6.54	7.93	7.40	4.96	10.93	
Vanguard Target Retirement 2030	4.21 (27)	17.52 (33)	17.52 (33)	7.85 (23)	10.13 (12)	8.99 (13)	5.92 (14)	12.82 (25)	10/01/2015
Vanguard Target 2030 Composite Index	4.41 (16)	17.66 (29)	17.66 (29)	8.06 (16)	10.40 (6)	9.25 (7)	6.08 (12)	13.17 (18)	
IM Mixed-Asset Target 2030 (MF) Median	4.01	16.91	16.91	7.19	8.78	7.83	4.95	12.07	
Vanguard Target Retirement 2035	4.62 (33)	19.12 (40)	19.12 (40)	8.39 (31)	10.90 (16)	9.51 (19)	6.18 (20)	13.90 (30)	10/01/2015
Vanguard Target 2035 Composite Index	4.81 (17)	19.25 (37)	19.25 (37)	8.61 (24)	11.18 (7)	9.78 (11)	6.33 (16)	14.25 (20)	
IM Mixed-Asset Target 2035 (MF) Median	4.44	18.72	18.72	7.96	9.66	8.50	5.45	13.34	
Vanguard Target Retirement 2040	5.00 (25)	20.71 (28)	20.71 (28)	8.91 (24)	11.47 (9)	9.92 (12)	6.49 (13)	14.96 (18)	10/01/2015
Vanguard Target 2040 Composite Index	5.22 (12)	20.86 (23)	20.86 (23)	9.16 (16)	11.80 (5)	10.22 (6)	6.64 (10)	15.33 (8)	
IM Mixed-Asset Target 2040 (MF) Median	4.74	19.71	19.71	8.11	10.08	8.67	5.27	13.92	
Vanguard Target Retirement 2045	5.22 (24)	21.42 (26)	21.42 (26)	9.17 (27)	11.64 (12)	10.04 (18)	6.56 (18)	15.34 (19)	10/01/2015
Vanguard Target 2045 Composite Index	5.42 (7)	21.55 (22)	21.55 (22)	9.41 (13)	11.96 (6)	10.33 (9)	6.72 (14)	15.72 (5)	
IM Mixed-Asset Target 2045 (MF) Median	4.85	20.65	20.65	8.65	10.52	9.05	5.73	14.57	
Vanguard Target Retirement 2050	5.19 (33)	21.39 (34)	21.39 (34)	9.16 (27)	11.63 (12)	10.03 (15)	6.56 (15)	15.33 (19)	10/01/2015
Vanguard Target 2050 Composite Index	5.42 (13)	21.55 (27)	21.55 (27)	9.41 (14)	11.96 (7)	10.33 (8)	6.72 (14)	15.72 (6)	
IM Mixed-Asset Target 2050 (MF) Median	4.99	20.75	20.75	8.52	10.61	9.02	5.52	14.56	
Vanguard Target Retirement 2055	5.18 (35)	21.38 (44)	21.38 (44)	9.11 (38)	11.60 (18)	10.05 (22)	N/A	15.32 (28)	10/01/2015
Vanguard Target 2055 Composite Index	5.42 (16)	21.55 (36)	21.55 (36)	9.41 (20)	11.96 (12)	10.33 (13)	N/A	15.72 (12)	
IM Mixed-Asset Target 2055+ (MF) Median	5.05	21.23	21.23	8.83	10.84	9.33	N/A	14.80	

TIAA Traditional Annuity Returns show current quarter's credit rate.

Manager Score Card

	Criteria								Costs		
	Organization	People	Philosophy & Process	Style Consistency	Asset Base	Performance	Expenses	Overall	Exp Ratio (%)	Median Exp Ratio (%)	Ratio of Exp to Median (%)
Dodge & Cox Stock (DODGX)	■	■	■	■	■	■	■	■	0.52	1.04	50.00
Vanguard 500 Index;Adm (VFIAX)	■	■	■	■	■	■	■	■	0.04	0.99	4.04
Harbor:Cap Apprec;Inst (HACAX)	■	■	■	■	■	■	■	■	0.65	1.08	60.19
BlackRock:Md Cp Div;I (MARFX)	■	■	■	■	■	■	■	■	0.85	1.10	77.27
Vanguard Md-Cp Idx;Adm (VIMAX)	■	■	■	■	■	■	■	■	0.06	1.12	5.36
Jns Hndsn:Enterprise;N (JDMNX)	■	■	■	■	■	■	■	■	0.68	1.23	55.28
DFA US Small Cap Val;I (DFS VX)	■	■	■	■	■	■	■	■	0.52	1.31	39.69
Vanguard Sm-Cp Idx;Adm (VSMAX)	■	■	■	■	■	■	■	■	0.06	1.23	4.88
Voya:SmCp Oppty;R6 (ISOZX)	■	■	■	■	■	■	■	■	0.97	1.36	71.32
Am Beacon:Intl Eq;Inst (AAIEX)	■	■	■	■	■	■	■	■	0.70	1.14	61.40
Vanguard Tot I Stk;Adm (VTIAX)	■	■	■	■	■	■	■	■	0.10	1.09	9.17
American Funds EuPc;R6 (RERGX)	■	■	■	■	■	■	■	■	0.50	1.16	43.10
Met West:Total Return;I (MWTIX)	■	■	■	■	■	■	■	■	0.44	0.74	59.46
Vanguard Tot Bd;Adm (VBTLX)	■	■	■	■	■	■	■	■	0.05	0.74	6.76
TIAA-Traditional	■	■	■	■	■	■	■	■	0.00	0.00	0.00
TIAA-CREF:Soc Ch Eq;Inst (TISCX)	■	■	■	■	■	■	■	■	0.19	1.09	17.43
Vanguard Fed MM;Inv (VMFXX)	■	■	■	■	■	■	■	■	0.11	0.55	16.36
Vanguard Target Date (VTHR)	■	■	■	■	■	■	■	■	0.15	0.87	17.24

■	No/Minimum Concerns	■	New No/Minimum Concerns
■	Minor Concern	■	Upgrade to Minor Concern
■	Major Concern	■	Downgrade to Minor Concern
■	Under Review	■	New Major Concern

Manager	Score Factor	Comments
Harbor:Cap Apprec;Inst (HACAX)	Style Consistency	The fund has a significant overweight to IT and recently it's weighting in the sector has hit the highest level since inception. The significant overweight warrants additional monitoring and due diligence, although we remain confident in the manager's ability to perform over the long term.
BlackRock:Md Cp Div;I (MARFX)	People	Because of a change of the entire investment team in mid-2017, we are recommending that clients replace it.
BlackRock:Md Cp Div;I (MARFX)	Philosophy & Process	Both the investment team and the investment approach changed in mid-2017, and so we are recommending that clients replace the fund.
BlackRock:Md Cp Div;I (MARFX)	Asset Base	The fund lost about one-third of its assets in 2017.
BlackRock:Md Cp Div;I (MARFX)	Performance	This fund's performance has been hampered by stock selection, especially in the consumer discretionary, materials, and industrials sectors.
BlackRock:Md Cp Div;I (MARFX)	Overall	Due to the dramatic changes to the fund, we are recommending that clients replace it.
Jns Hndsn:Enterprise;N (JDMNX)	Organization	Janus Capital Group and Henderson Group completed their merger during the second quarter of 2017. We will continue to monitor the newly formed firm, Janus Henderson Investors, to ensure the strategy's philosophy, process, and team remain unaffected by the merger.
Voya:SmCp Oppty;R6 (ISOZX)	Asset Base	The fund has experienced significant inflows over a short period of time. In response to inflows, the fund is now closed to large mandates, which was a prudent decision by management.

The Expense Ratio and Median Expense Ratio for Hedge Fund of Funds and Private Equity Fund of Funds excludes underlying fund expenses; the expenses shown are only at the Fund of Funds level.

Manager Score Card

Manager	Score Factor	Comments
TIAA-Traditional	Organization	TIAA was recently portrayed in the media as having questionable sales practices for the individuals who provide advice and guidance to plan participants. Innovest had an open conversation about this portrayal with TIAA. We believe that the article's allegations of conflicts are concerning but likely fall into the category of "normal" during the course of business for a large, diversified, and evolving financial organization. That said, there is a pending subpoena related to their sales practices by the New York Attorney General's Office. While a subpoena is only a formal request for information and constitutes no wrongdoing, we believe the combination of headline risk illustrated through this article, and the ongoing subpoena warrant a minor concern. We will continue to monitor this situation going forward.
TIAA-Traditional	Exp Ratio (Basis Points)	Expenses cannot be determined as it is a spread product.
TIAA-CREF:Soc Ch Eq;Inst (TISCX)	Organization	TIAA was recently portrayed in the media as having questionable sales practices for the individuals who provide advice and guidance to plan participants. Innovest had an open conversation about this portrayal with TIAA. We believe that the article's allegations of conflicts are concerning but likely fall into the category of "normal" during the course of business for a large, diversified, and evolving financial organization. That said, there is a pending subpoena related to their sales practices by the New York Attorney General's Office. While a subpoena is only a formal request for information and constitutes no wrongdoing, we believe the combination of headline risk illustrated through this article, and the ongoing subpoena warrant a minor concern. We will continue to monitor this situation going forward.

The Expense Ratio and Median Expense Ratio for Hedge Fund of Funds and Private Equity Fund of Funds excludes underlying fund expenses; the expenses shown are only at the Fund of Funds level.

Asset Allocation - 401(a) Legacy

	Sep-2017		Dec-2017	
	(\$)	%	(\$)	%
Large Cap Equity				
CREF Equity Index	87,420	3.79	82,632	3.36
CREF Growth	98,903	4.28	106,008	4.31
Total Large Cap Equity	186,323	8.07	188,640	7.68
Global Equity				
CREF Global Equities	211,262	9.15	223,610	9.10
CREF Stock	708,250	30.67	747,279	30.41
Total Global Equity	919,513	39.82	970,889	39.50
Fixed Income				
CREF Bond Market	41,153	1.78	41,324	1.68
CREF Inflation-Linked Bond	10,460	0.45	10,514	0.43
Total Fixed Income	51,613	2.24	51,837	2.11
Fixed Account				
TIAA Traditional GRA	800,504	34.67	891,475	36.27
Real Estate				
TIAA Real Estate	155,234	6.72	157,123	6.39
Specialty Equity				
CREF Social Choice	47,950	2.08	49,566	2.02
Cash				
CREF Money Market	147,953	6.41	148,129	6.03
LPS 401(a) Legacy Total Fund	2,309,088	100.00	2,457,658	100.00

Asset Allocation - 403(b) Legacy

	Sep-2017		Dec-2017	
	(\$)	%	(\$)	%
Large Cap Equity				
CREF Equity Index	489,752	6.21	513,882	5.95
CREF Growth	275,426	3.49	306,071	3.55
Large Cap Equity	765,178	9.71	819,953	9.50
Global Equity				
CREF Global Equities	487,068	6.18	517,379	5.99
CREF Stock	1,993,902	25.30	2,044,235	23.68
Global Equity	2,480,970	31.48	2,561,614	29.67
Fixed Income				
CREF Bond Market	228,832	2.90	225,215	2.61
CREF Inflation-Linked Bond	94,977	1.21	93,805	1.09
Fixed Income	323,809	4.11	319,020	3.70
Fixed Account				
TIAA Traditional GSRA	3,512,671	44.57	4,126,934	47.81
Real Estate				
TIAA Real Estate	391,021	4.96	389,583	4.51
Specialty Equity				
CREF Social Choice	220,477	2.80	227,820	2.64
Cash & Equivalents				
CREF Money Market	179,695	2.28	179,909	2.08
Loan Default Fund	7,560	0.10	7,639	0.09
Cash & Equivalents	187,255	2.38	187,549	2.17
LPS 403(b) Legacy	7,881,381	100.00	8,632,472	100.00

Asset Allocation - 457 Legacy

	Sep-2017		Dec-2017	
	(\$)	%	(\$)	%
Large Cap Equity				
CREF Equity Index	98,237	4.00	100,039	3.82
CREF Growth	101,313	4.13	108,916	4.16
Total Large Cap Equity	199,550	8.12	208,955	7.98
Global Equity				
CREF Global Equities	46,408	1.89	48,855	1.87
CREF Stock	344,812	14.04	351,961	13.45
Total Global Equity	391,220	15.93	400,816	15.31
Fixed Income				
CREF Bond Market	60,820	2.48	59,718	2.28
CREF Inflation-Linked Bond	35,527	1.45	34,232	1.31
Total Fixed Income	96,347	3.92	93,950	3.59
Fixed Account				
TIAA Traditional GSRA	1,612,682	65.66	1,758,695	67.20
Real Estate				
TIAA Real Estate	104,122	4.24	102,853	3.93
Specialty Equity				
CREF Social Choice	43,912	1.79	43,819	1.67
Cash				
CREF Money Market	8,174	0.33	8,183	0.31
457(b) Legacy Total Fund	2,456,008	100.00	2,617,271	100.00

Table of Returns

	Last Quarter	2017	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Large Cap Equity									
CREF Equity Index	6.25	20.75	20.75	10.77	15.16	13.08	8.21	9.58	05/01/1994
S&P 500 Index	6.64	21.83	21.83	11.41	15.79	13.76	8.50	9.94	
CREF Growth									
CREF Growth	7.85	31.74	31.74	12.95	17.21	14.59	9.38	8.83	05/01/1994
S&P 500 Growth	6.80	27.44	27.44	12.86	17.00	14.81	9.99	10.38	
Global Equity									
CREF Global Equities	5.99	24.70	24.70	9.26	11.58	9.52	4.98	7.87	05/01/1992
MSCI World (net)	5.51	22.40	22.40	9.26	11.64	9.58	5.03	7.68	
CREF Stock									
CREF Stock	5.69	23.33	23.33	10.05	12.63	10.57	6.41	9.92	08/01/1952
MSCI AC World IMI (Net)	5.72	23.95	23.95	9.52	11.00	8.82	4.97	N/A	
Fixed Income									
CREF Bond Market	0.48	4.04	4.04	2.60	2.23	3.33	3.81	5.88	04/01/1990
Bloomberg Barclays U.S. Aggregate Index	0.39	3.54	3.54	2.24	2.10	3.20	4.01	6.12	
CREF Inflation-Linked Bond									
CREF Inflation-Linked Bond	0.56	1.78	1.78	1.35	-0.43	2.38	3.00	4.96	06/01/1997
Bloomberg Barclays U.S. TIPS Index	1.26	3.01	3.01	2.05	0.13	2.92	3.53	5.44	
Fixed Account									
TIAA Traditional GRA-401(a)	1.00	4.07	4.07	3.93	3.80	3.73	3.91	3.74	06/01/2010
Ryan 3 Yr GIC Master Index	0.42	1.60	1.60	1.38	1.25	1.45	2.29	1.59	
TIAA Traditional GSRA-403(b) & 457									
TIAA Traditional GSRA-403(b) & 457	0.77	3.59	3.59	3.80	3.72	3.68	N/A	3.66	04/01/2012
Ryan 3 Yr GIC Master Index	0.42	1.60	1.60	1.38	1.25	1.45	2.29	1.27	
Real Estate									
TIAA Real Estate	1.29	4.36	4.36	5.90	9.04	9.75	3.05	6.61	11/01/1995
NCREIF ODCE	2.07	7.62	7.62	10.42	11.53	12.07	5.03	9.24	
Specialty Equity									
CREF Social Choice	3.43	14.18	14.18	6.66	8.63	7.96	6.01	8.39	04/01/1990
20%S&P500,20%S&P500V,60%BCAgg	2.86	10.47	10.47	5.83	7.47	7.45	6.18	7.94	
Cash & Equivalents									
CREF Money Market	0.25	0.75	0.75	0.36	0.22	0.17	0.46	1.88	08/01/1999
90 Day U.S. Treasury Bill	0.28	0.86	0.86	0.38	0.25	0.20	0.38	1.77	

TIAA Traditional Annuity Returns show current quarter's credit rate.