



# Contra Costa Water District OPEB Trust

## Investment Performance Evaluation Report

As of December 31, 2017

Presented by:  
Donald R. Eibsen, CFA

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## Introduction

This report reviews the investment performance of Contra Costa Water District OPEB Trust for the quarter ending December 31, 2017, as well as other periods ending on that date. While the most recent quarter is the focus point of this report, we recommend concentration on longer time periods for the consideration of any changes to the investment policy or manager structure.

Performance measurement in this report is designed to:

- Provide an understanding of the environment in which the funds were managed;
- Verify that the assets were managed in compliance with guidelines;
- Assess the managers' strengths, continuity of style, and the means of achieving the performance; and
- Serve as a communications tool for internal focus, as well as to fulfill fiduciary obligations.

This report is based upon data provided by the individual managers, Wells Fargo, and Morningstar.

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# Plan Overview

## **Net Assets**

- Plan assets totaled \$43.3 million, as of December 31, 2017. This is up from \$41.4 million, as of September 30, 2017.

## **Asset Allocation**

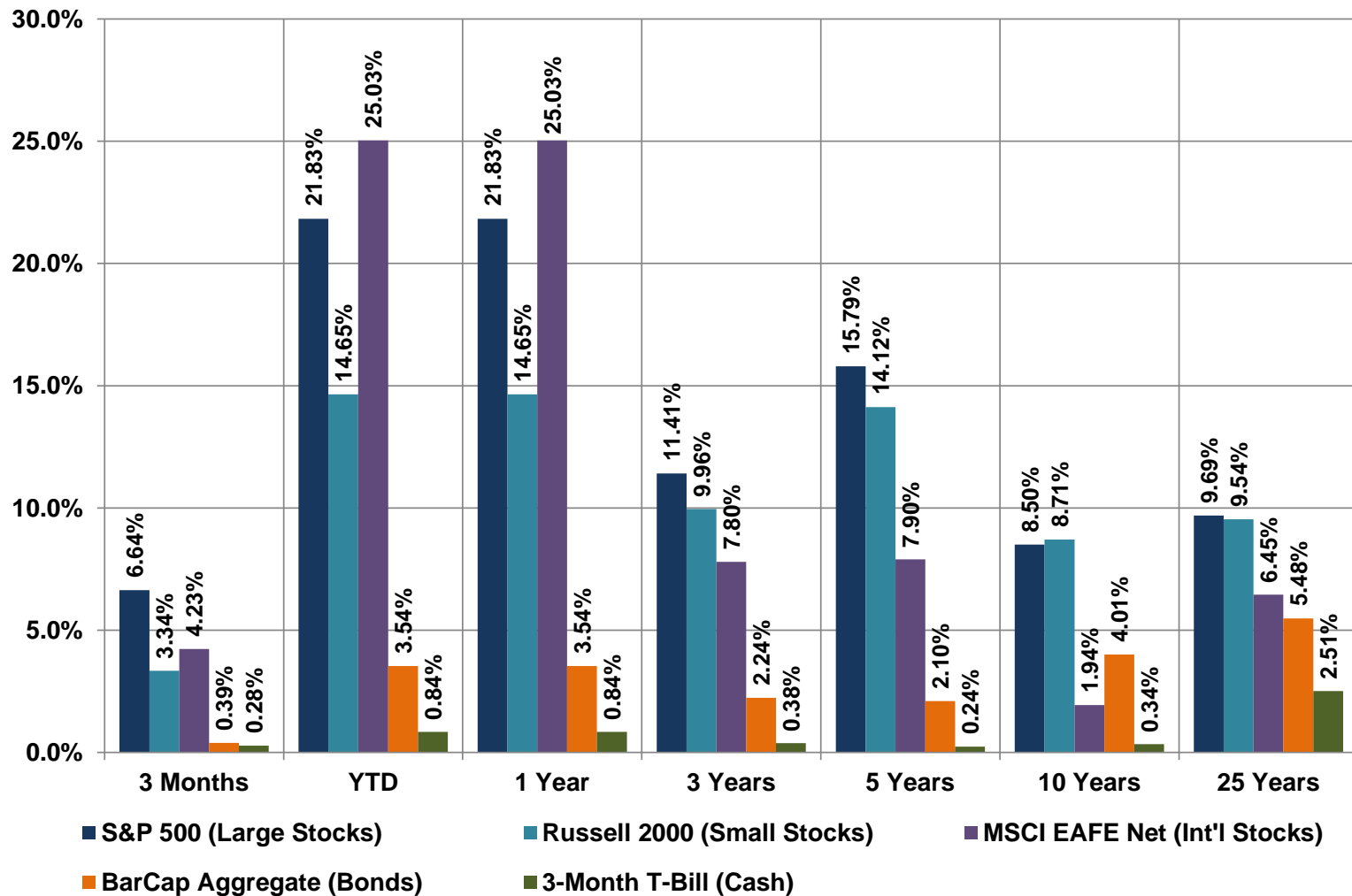
- Plan assets were allocated 30% to Cash/Fixed Income, 5% to International & Emerging Markets Debt, 33% to U.S. Large Cap Equity, 7% to Mid Cap Equity, 5% to Small Cap Equity, 16% to International Equity, and 4% to Real Estate.

## Capital Market Highlights

- U.S. stocks produced positive returns during the fourth quarter with the S&P 500 index returning +6.6%. Bonds were positive during the fourth quarter with the Barclay's Capital US Aggregate index up +0.4%.
- International developed markets continued their strong performance with the MSCI EAFE index returning +4.2% for the quarter. Returns on emerging markets stocks were also strong with the MSCI Emerging Markets index returning +7.4%. Emerging markets debt had a positive fourth quarter with the JP Morgan Emerging Markets Bond index returning +0.5%.
- The Federal Reserve raised short-term interest rates three times in 2017. The first raise was on March 16, the second on June 15, and the third on December 14, all with a 25 bps increase to a range of 1.25%-1.50%. The Fed began to normalize its balance sheet in November by allowing \$6 billion in treasuries and \$4 billion in mortgage-backed securities to roll off monthly, gradually increasing it by the same amount every three months until it reaches \$30 billion of treasuries and \$20 billion of mortgage-backed securities.
- Average hourly earnings continue to trend up with the hourly earnings of all private employees reaching \$26.63 in December, from \$26.39 in September.
- The unemployment rate dropped to 4.1% in September, below the forecast of 4.3% by the end of the year, and well below the Fed's 5% target. This is the lowest rates since February 2001.
- The labor force participation rate is near its lowest levels in 40 years and ended the fourth quarter at 62.7%.
- Inflation finally moved above 2% in 2016 and held above this level over the first quarter of 2017 before dropping to 1.8% at the end of the third quarter due largely to decreasing energy and food prices. At the end of December 2017, inflation had increased to 2.1%, returning to 2016 year-end levels.
- West Texas Intermediate (WTI) oil futures ended the fourth quarter at \$60.42. It has been volatile over the year: from \$50.54 at the beginning of the second quarter, \$45.24 at end of the third quarter, with prices dropping sharply through April, rebounded in May, fell again throughout June, and then started an upward trend in September that carried through the end of the year.

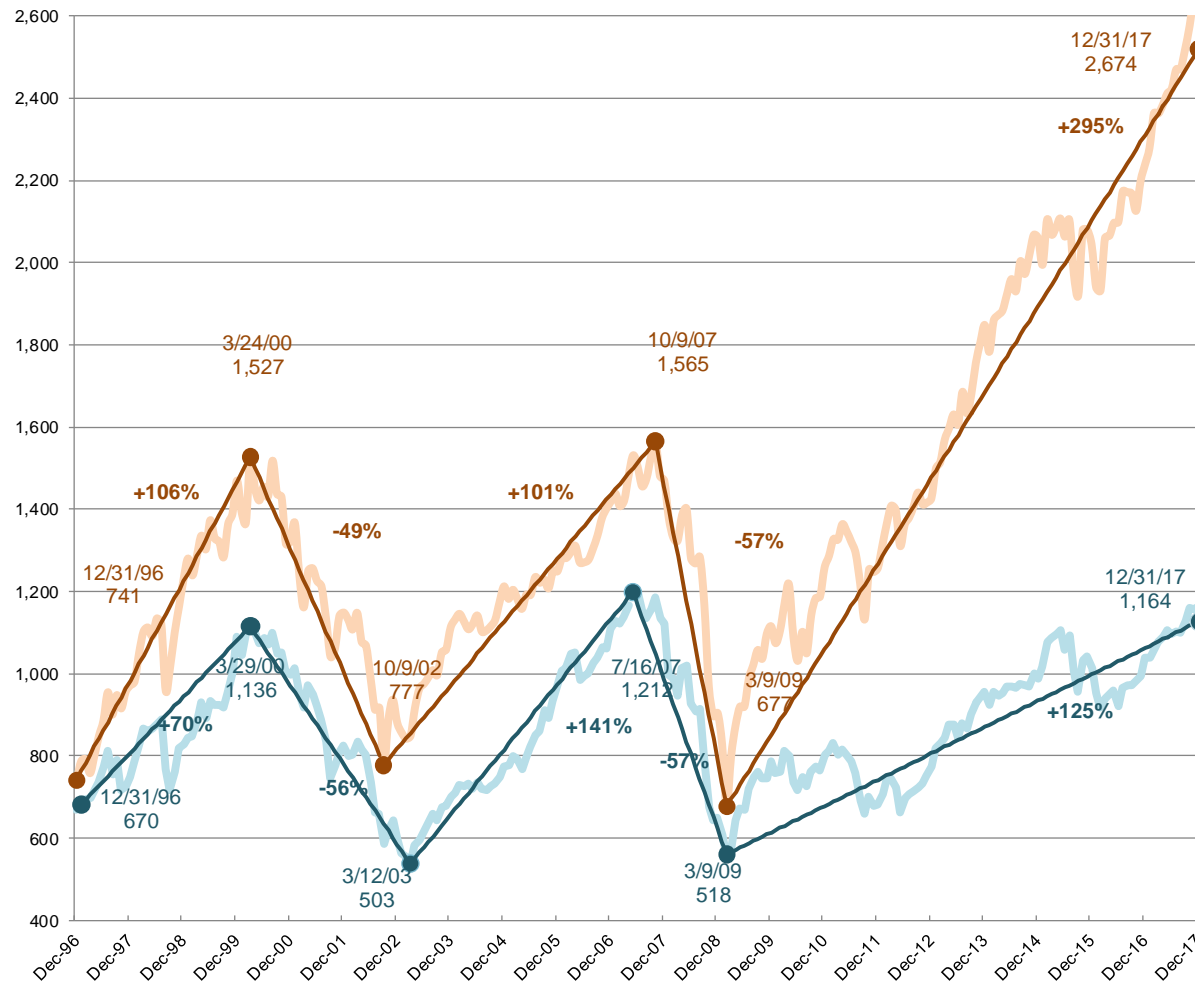
# Capital Market Highlights

Capital Market Performance as of December 31, 2017



# Capital Market Highlights

## S&P 500 and MSCI EAFE at Inflection Points



S&P 500	P/E (fwd)
Dec. 31, 1996	16.0
Mar. 24, 2000	25.6
Oct. 9, 2002	14.1
Oct. 9, 2007	15.2
Mar. 9, 2009	10.3
Dec. 31, 2017	18.2

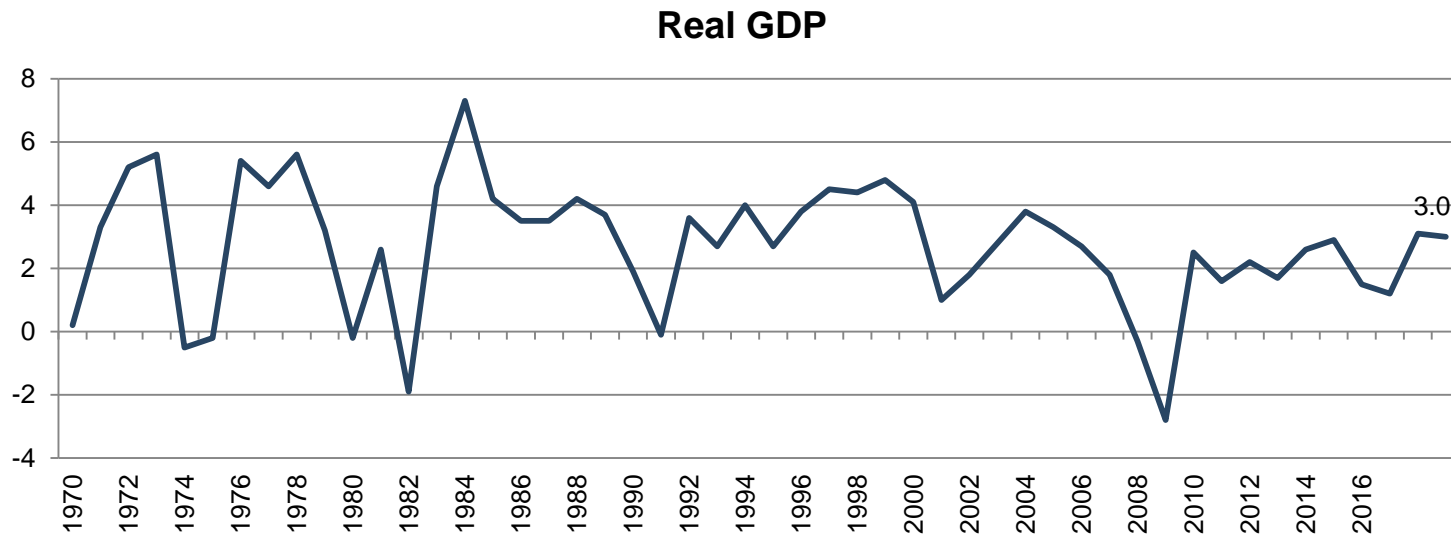
MSCI EAFE	P/E (fwd)
Dec. 31, 1996	19.5
Mar. 29, 2000	28.7
Mar. 12, 2003	13.2
Jul. 16, 2007	14.5
Mar. 9, 2009	10.2
Apr. 27, 2015	18.1
Dec. 31, 2017	14.3

Source: Standard & Poor's,  
Morgan Stanley Capital International,  
J.P Morgan Asset Management

Returns based on S&P 500 Index Price Movement and  
MSCI EAFE Local Currency Index Price Movement

# US Economy

- GDP growth has remained strong through 2017, reaching an annual rate of 3.0 through the third quarter, a slight decrease from a 3.1 in the second quarter. The common theme for growth in 2017 has been strong personal consumption expenditures, exports, inventory investment, nonresidential fixed investment and federal government spending. On the contrary, residential fixed investment, and state and local government spending were the main detractors.
- The Federal Reserve Bank of Atlanta forecasts fourth quarter GDP to be +2.8%, from previous estimate of +2.5%\*. Official fourth quarter GDP numbers have not been released.

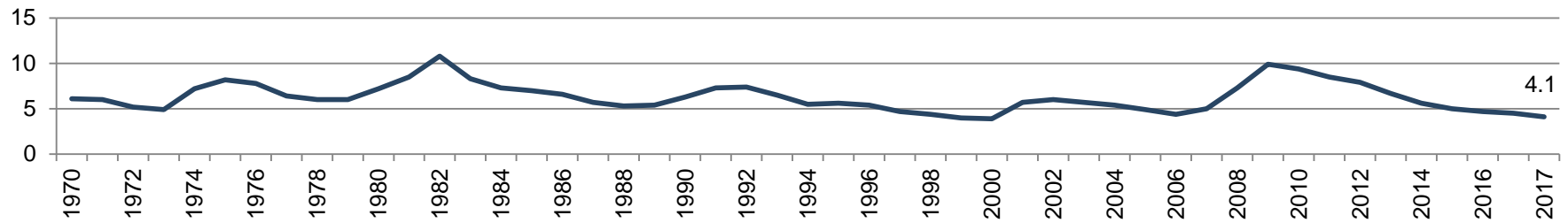


Source: BEA  
 \*updated as of October 6, 2017.

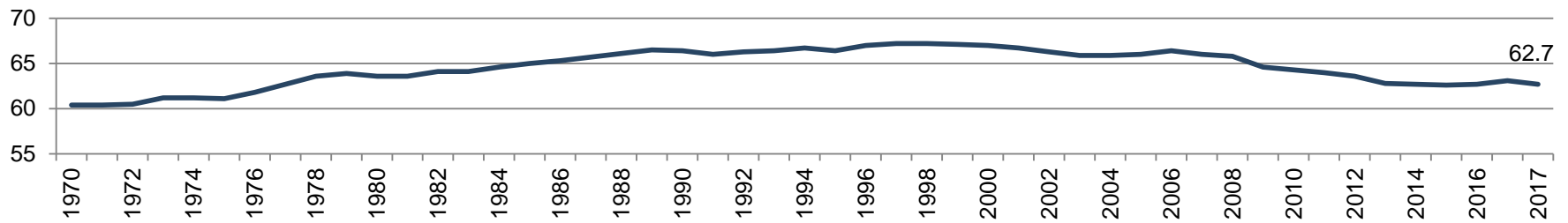


# US Economy

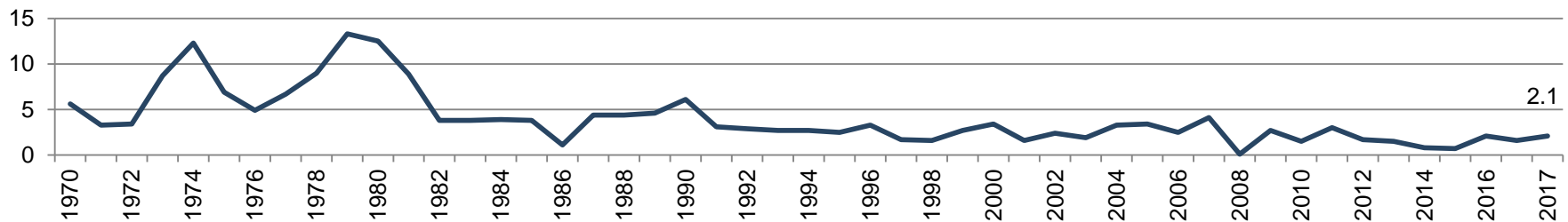
## Unemployment



## Labor Force Participation Rate



## Headline CPI

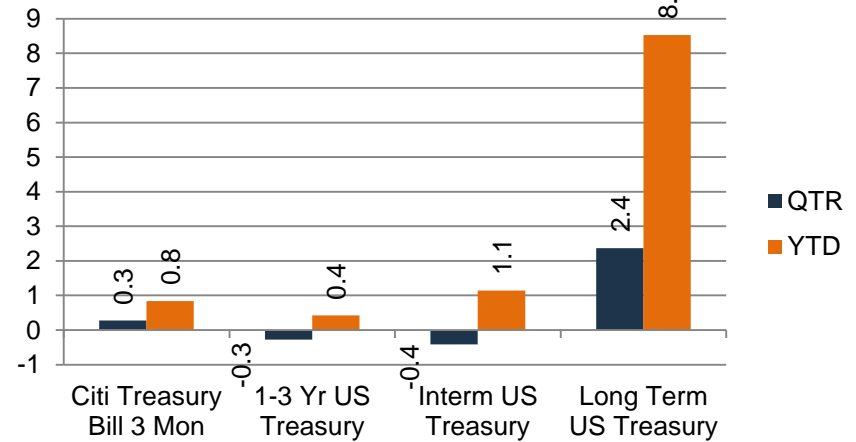


Source: BLS, St. Louis Federal Reserve

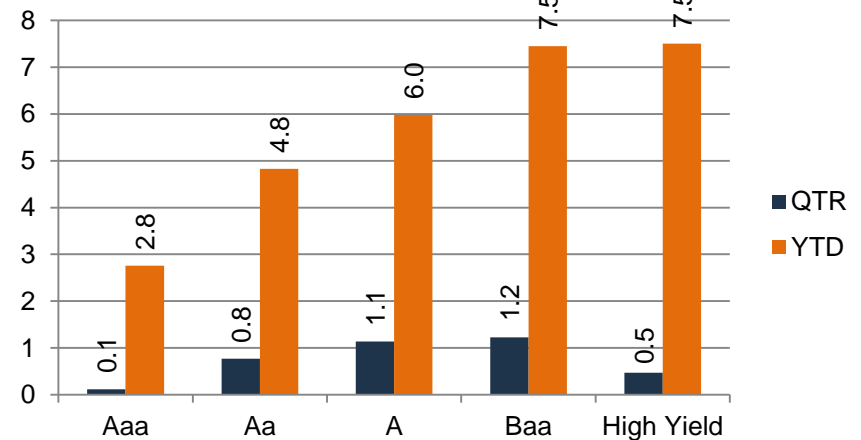
# Fixed Income

- **High Yield** underperformed investment grade credit during the quarter. High Yield returned +0.5% in the fourth quarter vs +1.2% return for investment grade. High yield finished the year +7.5%, outperforming the investment grade credit return of +6.4%.
- **Long Govt/Credit** and **Long Treasuries** continued with positive returns returning +2.8% and +2.4%, respectively. Both indices outperformed their intermediate siblings which returned -0.2% and -0.4%, respectively. Long-term U.S. Treasury yields have declined during the year due to persistently low inflation and continued strong bidding for long-dated bonds from overseas investors, given that U.S. Treasury yields are still well above comparable European and Asian government bond yields.

**Bond Performance by Maturity**



**Bond Performance by Quality**

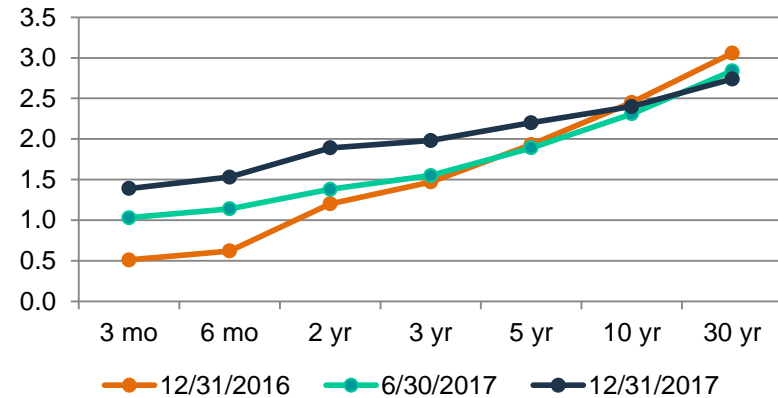


Source: Morningstar, Barclays Indices

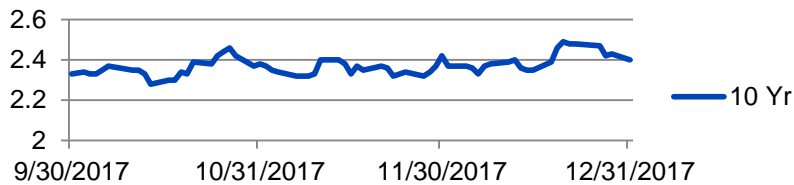
# Fixed Income

- The **Barclays Aggregate Index** returned +0.4% for the quarter and ended the year with a +3.5% return.
- 2017 was a year of limited volatility in rates. The 10-year Treasury yield ended 2017 about 8 bps lower than where it began the year. Moreover, the yield mostly remained between 2.20% and 2.45%, before ending the month at 2.41%. More notable was the shape of the yield curve, which flattened over the course of the year, given Fed tightening and a benign inflation environment.

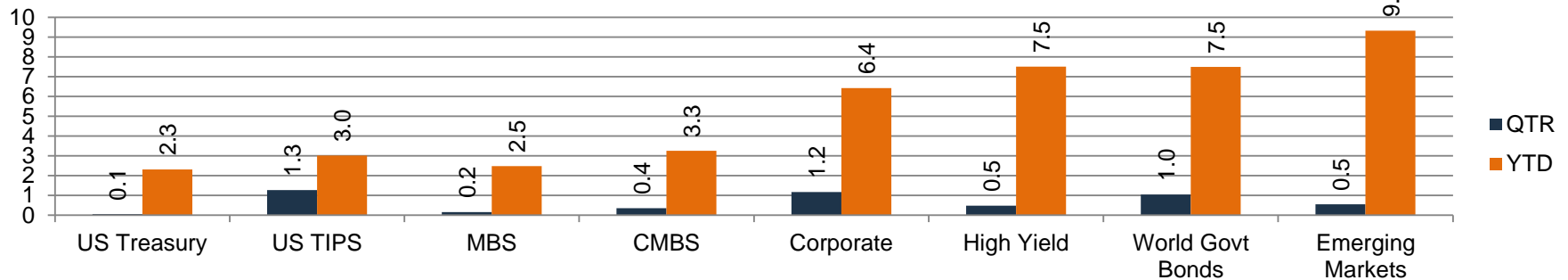
**US Treasury Yield Curve**



**10 Yr Treasury Notes**



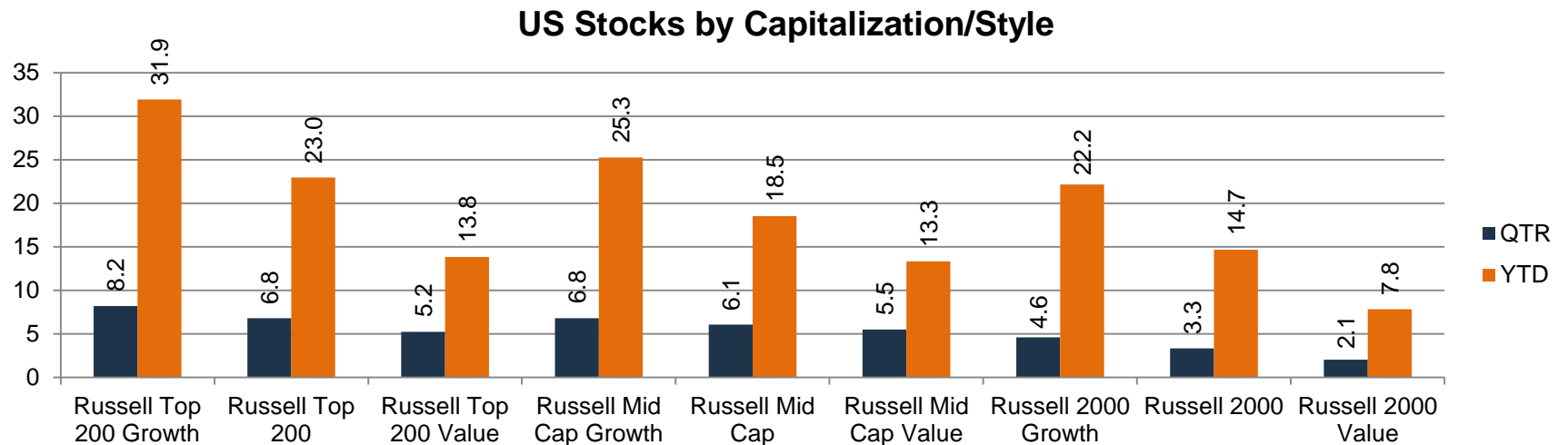
**Bond Performance by Sectors**



Source: Morningstar

# Equities

- US Equities were up for the quarter, with the **S&P 500** returning +6.6% and finished 2017 at +21.83%.
- In terms of market capitalization, large cap equities with growth characteristics (**Russell Top 200 Growth**) were the best performing, returning +8.2% for the quarter, followed by large cap stocks (**Russell Top 200**) and mid-cap growth (**Russell Mid Cap Growth**) both with +6.8%. In comparison, small-cap value and small-cap returned +2.1% and +3.3%, respectively, as measured by the **Russell 2000 Value and Russell 2000**.
- The Dow delivered a return of +10.3% during the fourth quarter.

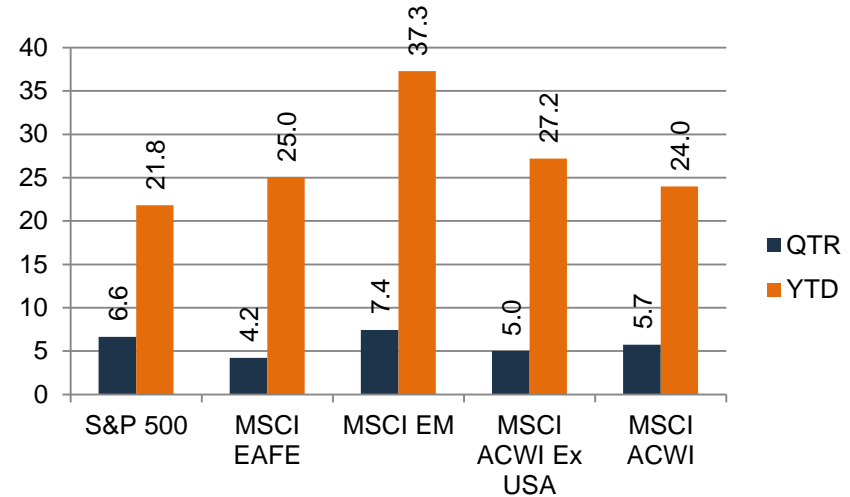


Source: Morningstar

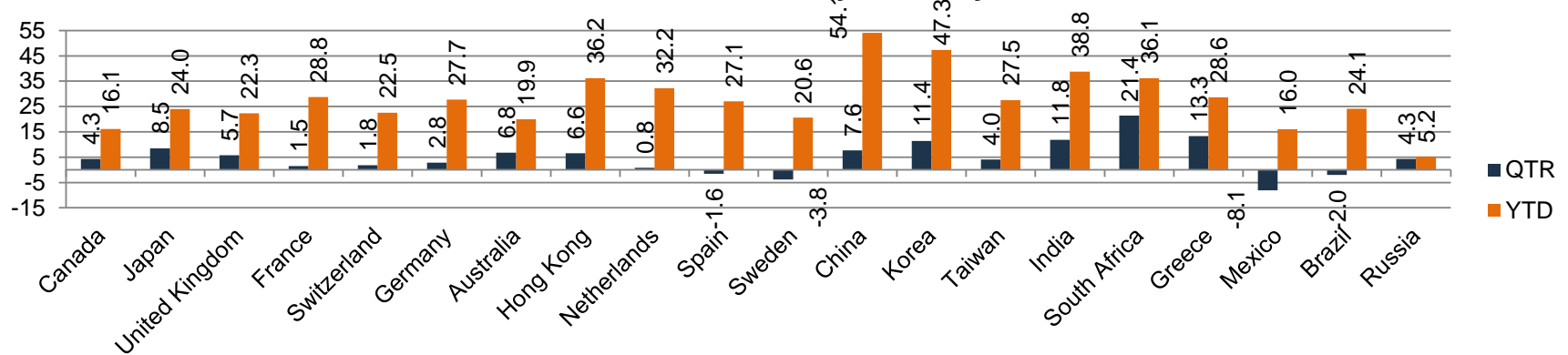
# Equities

- **Emerging Market Equities** continued to be the best performing asset class over the quarter, and YTD, with emerging market equities returning +7.4%. South Africa performed best with +21.4%, Greece returned +13.3%, India went up +11.8%, South Korea returned +11.4%. Both Mexico and Brazil had negative returns for the quarter of -8.1% and -2.0% respectively.
- **International Equities** were led by Japan with a return of +8.5% for the fourth quarter. Australia returned +6.8%, closely followed by Hong Kong with +6.6%. The United Kingdom returned +5.7%, Canada went up +4.3%. Sweden and Spain had negative returns of -3.8% and -1.6% respectively.

**Global Stocks by Region**



**Global Stocks by Country**



Source: Morningstar, MSCI Indices

# Market Indices

For Periods Ended December 31, 2017

Index	3 Months Return	6 Months Return	9 Months Return	1 Year Return	2 Years Return	3 Years Return	4 Years Return	5 Years Return	10 Years Return
S&P 500 Index	6.64	11.42	14.86	21.83	16.79	11.41	11.98	15.79	8.50
Russell 1000 Index	6.59	11.36	14.77	21.69	16.77	11.23	11.73	15.71	8.59
Russell Midcap Index	6.07	9.75	12.72	18.52	16.13	9.58	10.48	14.96	9.11
Russell 2000 Index	3.34	9.20	11.89	14.65	17.93	9.96	8.67	14.12	8.71
Russell 3000 Index	6.34	11.20	14.55	21.13	16.86	11.12	11.48	15.58	8.60
Russell 1000 Growth Index	7.86	14.23	19.56	30.21	18.08	13.79	13.60	17.33	10.00
Russell 1000 Value Index	5.33	8.61	10.07	13.66	15.49	8.65	9.83	14.04	7.10
Russell Midcap Growth Index	6.81	12.45	17.19	25.27	15.95	10.30	10.70	15.30	9.10
Russell Midcap Value Index	5.50	7.76	9.24	13.34	16.62	9.00	10.41	14.68	9.10
Russell 2000 Growth Index	4.59	11.09	15.96	22.17	16.62	10.28	9.09	15.21	9.19
Russell 2000 Value Index	2.05	7.26	7.98	7.84	19.19	9.55	8.19	13.01	8.17
MSCI EAFE Index	4.23	9.86	16.59	25.03	12.38	7.80	4.47	7.90	1.94
MSCI Emerging Markets Index	7.44	15.92	23.18	37.28	23.55	9.10	6.16	4.35	1.68
MSCI All Country World ex USA	5.00	11.48	17.92	27.19	15.29	7.83	4.78	6.80	1.84
NAREIT Equity REITs	1.51	2.46	4.02	5.23	6.86	5.62	11.28	9.46	7.44
Barclays Capital Aggregate Bond Index	0.39	1.24	2.70	3.54	3.09	2.24	3.16	2.10	4.01
Barclays Capital Intermediate G/C Bond Index	-0.20	0.40	1.35	2.14	2.11	1.76	2.10	1.50	3.32
Barclays Capital Long Term G/C Bond Index	2.84	4.41	8.99	10.71	8.67	4.52	8.04	4.43	7.26
Barclays Capital U.S. TIPS	1.26	2.14	1.72	3.01	3.84	2.05	2.45	0.13	3.53
Barclays Capital U.S. Government	0.05	0.43	1.61	2.30	1.67	1.40	2.27	1.28	3.23
Barclays Capital U.S. Corporate Inv Grade	1.17	2.53	5.13	6.42	6.26	3.90	4.78	3.48	5.65
Barclays Capital U.S. Corporate High Yield	0.47	2.45	4.68	7.50	12.21	6.35	5.36	5.78	8.03
Citigroup Non-US WGBI USD	1.57	4.18	8.14	10.33	5.98	1.99	0.81	-0.29	2.44
JP Morgan EMBI Global Diversified USD	1.16	3.82	6.15	10.26	10.20	7.11	7.19	4.58	7.29
JP Morgan GBI EM Global Diversified USD	0.82	4.40	8.18	15.21	12.55	2.53	0.40	-1.55	3.56
Citigroup 90-Day Treasury Bills	0.28	0.54	0.72	0.84	0.56	0.38	0.29	0.24	0.34

Note: Returns greater than one year are annualized.

# Market Indices

## Annual Returns

Index	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
S&P 500 Index	21.83	11.96	1.38	13.69	32.39	16.00	2.11	15.06	26.46	-37.00
Russell 1000 Index	21.69	12.05	0.92	13.24	33.11	16.42	1.50	16.10	28.43	-37.60
Russell Midcap Index	18.52	13.80	-2.44	13.22	34.76	17.28	-1.55	25.48	40.48	-41.46
Russell 2000 Index	14.65	21.31	-4.41	4.89	38.82	16.35	-4.18	26.85	27.17	-33.79
Russell 3000 Index	21.13	12.74	0.48	12.56	33.55	16.42	1.03	16.93	28.34	-37.31
Russell 1000 Growth Index	30.21	7.08	5.67	13.05	33.48	15.26	2.64	16.71	37.21	-38.44
Russell 1000 Value Index	13.66	17.34	-3.83	13.45	32.53	17.51	0.39	15.51	19.69	-36.85
Russell Midcap Growth Index	25.27	7.33	-0.20	11.90	35.74	15.81	-1.65	26.38	46.29	-44.32
Russell Midcap Value Index	13.34	20.00	-4.78	14.75	33.46	18.51	-1.38	24.75	34.21	-38.44
Russell 2000 Growth Index	22.17	11.32	-1.38	5.60	43.30	14.59	-2.91	29.09	34.47	-38.54
Russell 2000 Value Index	7.84	31.74	-7.47	4.22	34.52	18.05	-5.50	24.50	20.58	-28.92
MSCI EAFE Index	25.03	1.00	-0.81	-4.90	22.78	17.32	-12.14	7.75	31.78	-43.38
MSCI Emerging Markets Index	37.28	11.19	-14.92	-2.19	-2.60	18.22	-18.42	18.88	78.51	-53.33
MSCI All Country World ex USA	27.19	4.50	-5.66	-3.87	15.29	16.83	-13.71	11.15	41.45	-45.53
NAREIT Equity REITs	5.23	8.52	3.20	30.14	2.47	18.06	8.29	27.96	27.99	-37.73
Barclays Capital Aggregate Bond Index	3.54	2.65	0.55	5.97	-2.02	4.21	7.84	6.54	5.93	5.24
Barclays Capital Intermediate G/C Bond Index	2.14	2.08	1.07	3.13	-0.86	3.89	5.80	5.89	5.24	5.08
Barclays Capital Long Term G/C Bond Index	10.71	6.67	-3.30	19.31	-8.83	8.78	22.49	10.16	1.92	8.44
Barclays Capital U.S. TIPS	3.01	4.68	-1.44	3.64	-8.61	6.98	13.56	6.31	11.41	-2.35
Barclays Capital U.S. Government	2.30	1.05	0.86	4.92	-2.60	2.02	9.02	5.52	-2.20	12.39
Barclays Capital U.S. Corporate Inv Grade	6.42	6.11	-0.68	7.46	-1.53	9.82	8.15	9.00	18.68	-4.94
Barclays Capital U.S. Corporate High Yield	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21	-26.16
Citigroup Non-US WGBI USD	10.33	1.81	-5.54	-2.68	-4.56	1.51	5.17	5.21	4.39	10.11
JP Morgan EMBI Global Diversified USD	10.26	10.15	1.18	7.43	-5.25	17.44	7.35	12.24	29.82	-12.03
JP Morgan GBI EM Global Diversified USD	15.21	9.94	-14.92	-5.72	-8.98	16.76	-1.75	15.68	21.98	-5.22
Citigroup 90-Day Treasury Bills	0.84	0.27	0.03	0.03	0.05	0.07	0.08	0.13	0.16	1.80

## Asset Allocation

As of December 31, 2017

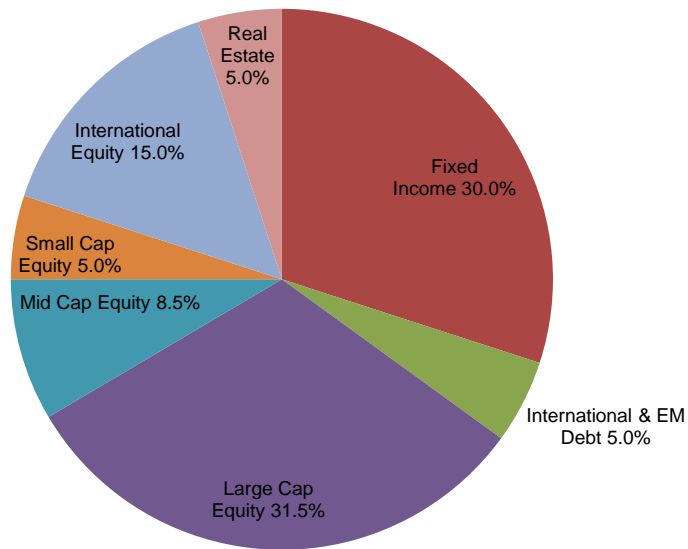
Manager	Cash & Equivalents	Fixed Income	International & EM Debt	Large Cap Equity	Mid Cap Equity	Small Cap Equity	International Equity	Real Estate	Total	Percent of Total
Wells Fargo Money Market	\$1,819,024								\$1,819,024	4.2%
Baird Core Bond I		\$3,530,345							\$3,530,345	8.2%
DoubleLine Total Return Bond I		\$3,462,243							\$3,462,243	8.0%
Vanguard Total Bond Market Idx Adm		\$3,417,576							\$3,417,576	7.9%
Vanguard Intermediate Inv Grade Adm		\$867,449							\$867,449	2.0%
Templeton Global Bond R6			\$2,026,098						\$2,026,098	4.7%
Berkshire Hathaway B				\$1,497,552					\$1,497,552	3.5%
Vanguard Dividend Growth Inv				\$1,851,704					\$1,851,704	4.3%
American Funds Washington Mutual R6				\$1,944,533	\$102,344				\$2,046,877	4.7%
Vanguard Equity Income Adm				\$1,854,258	\$206,029				\$2,060,287	4.8%
Vanguard Total Stock Market Idx Instl				\$6,938,892	\$1,982,541	\$991,270			\$9,912,703	22.9%
Vanguard Explorer Adm					\$462,292	\$693,438			\$1,155,730	2.7%
DFA US Targeted Value I					\$281,174	\$656,072			\$937,246	2.2%
American Funds EuroPacific Growth R6							\$2,876,175		\$2,876,175	6.6%
American Funds New World R6							\$1,453,865		\$1,453,865	3.4%
Vanguard Developed Markets Idx Adm							\$2,482,238		\$2,482,238	5.7%
Vanguard REIT Idx Adm								\$1,859,634	\$1,859,634	4.3%
<b>Total</b>	<b>\$1,819,024</b>	<b>\$11,277,613</b>	<b>\$2,026,098</b>	<b>\$14,086,939</b>	<b>\$3,034,379</b>	<b>\$2,340,781</b>	<b>\$6,812,278</b>	<b>\$1,859,634</b>	<b>\$43,256,746</b>	
<b>Percent of Total</b>	<b>4.2%</b>	<b>26.1%</b>	<b>4.7%</b>	<b>32.6%</b>	<b>7.0%</b>	<b>5.4%</b>	<b>15.7%</b>	<b>4.3%</b>		
<b>Policy Target</b>	<b>0.0%</b>	<b>30.0%</b>	<b>5.0%</b>	<b>31.5%</b>	<b>8.5%</b>	<b>5.0%</b>	<b>15.0%</b>	<b>5.0%</b>		



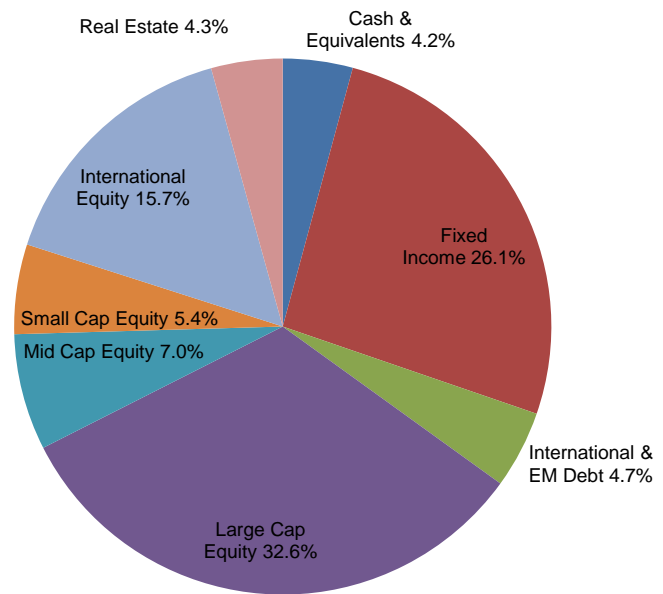
## Policy Target vs. Actual Allocation

As of December 31, 2017

**Policy Targets**



**Asset Allocation**



## Performance Summary – Net of Fees

As of December 31, 2017

Fund/Benchmark	(periods longer than 1 year are annualized)						Standard Deviation		Expense Ratio
	Qtr	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	3 Years	5 Years	
<b>Total Portfolio Return (gross)</b>	<b>3.59</b>	<b>7.18</b>	<b>14.66</b>	<b>6.55</b>	<b>7.78</b>	-	<b>5.50</b>	<b>5.67</b>	-
Custom Benchmark*	3.81	7.25	14.67	7.61	9.29	-	6.06	5.92	-
<b>Wells Fargo Cash Account</b>	-	-	-	-	-	-	-	-	-
Citi Treasury Bill 3 Month	0.28	0.54	0.84	0.38	0.24	0.34	0.11	0.10	-
Avg Money Market	0.17	0.34	0.48	0.20	0.12	0.26	0.08	0.07	0.49
<b>Baird Core Plus Bond Inst</b>	<b>0.56</b>	<b>1.61</b>	<b>4.65</b>	<b>3.15</b>	<b>2.91</b>	<b>5.28</b>	<b>2.81</b>	<b>3.00</b>	<b>0.30</b>
Barclays US Universal	0.41	1.42	4.09	2.80	2.50	4.33	2.68	2.79	-
Avg Intermediate-Term Bond	0.29	1.19	3.71	2.22	2.05	4.06	2.72	2.84	0.77
<b>DoubleLine Total Return Bond I</b>	<b>0.23</b>	<b>1.30</b>	<b>3.79</b>	<b>2.76</b>	<b>2.98</b>	-	<b>1.98</b>	<b>2.30</b>	<b>0.48</b>
<b>Vanguard Total Bond Market Index Adm</b>	<b>0.41</b>	<b>1.14</b>	<b>3.57</b>	<b>2.18</b>	<b>2.02</b>	<b>3.95</b>	<b>3.03</b>	<b>2.98</b>	<b>0.05</b>
Barclays US Agg Bond	0.39	1.24	3.54	2.24	2.10	4.01	2.82	2.85	-
Avg Intermediate-Term Bond	0.29	1.19	3.71	2.22	2.05	4.06	2.72	2.84	0.77
<b>Vanguard Interm-Term Investment-Grade Adm</b>	<b>0.20</b>	<b>1.31</b>	<b>4.27</b>	<b>3.27</b>	<b>2.86</b>	<b>5.18</b>	<b>3.16</b>	<b>3.34</b>	<b>0.10</b>
Barclays US Credit 5-10 Yr	0.44	1.85	5.57	3.81	3.30	5.91	3.72	4.06	-
Avg Corporate Bond	0.88	2.19	5.79	3.61	3.36	5.22	3.86	4.03	0.85
<b>Templeton Global Bond R6</b>	<b>-1.77</b>	<b>-0.56</b>	<b>2.79</b>	<b>1.79</b>	<b>1.94</b>	<b>5.89</b>	<b>6.57</b>	<b>6.00</b>	<b>0.52</b>
Citi WGBI	1.04	2.87	7.49	1.74	0.12	2.67	5.83	5.41	-
Avg World Bond	0.64	2.34	6.87	2.01	0.91	3.47	5.01	5.02	0.94

\*The Custom Index is comprised of 31.5% S&P 500, 8.5% S&P MidCap 400, 5% Russell 2000, 15% MSCI ACWI ex-US, 30% BarCap US Aggregate Bond, 2.5% BarCap Global Agggregate Bond ex-US, 1.25% JPM EM Bond Global Diversified, 1.25% JPM Government Bond EM Global Diversified, and 5% Wilshire US REIT.

\*Prior to 1/1/2016, the Index was comprised of 28% S&P 500, 8% Russell 2000, 14% MSCI ACWI ex-US, 33% BarCap US Aggregate Bond, 7% Wilshire US REIT, and 10% Citi T-bills.

\*Prior to 6/30/14, the Index was comprised of 31.50% S&P 500 Composite, 13.50% Russell 2000, 10% MSCI EAFE, 40% BarCap US Aggregate Bond, and 5% FTSE NAREIT.

Green indicates fund outperformed both benchmarks / Blue indicates fund performed between benchmarks / Red indicates fund underperformed both benchmarks

## Performance Summary – Net of Fees

As of December 31, 2017

Fund/Benchmark	(periods longer than 1 year are annualized)						Standard Deviation		Expense
	Qtr	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	3 Years	5 Years	Ratio
<b>Vanguard Equity-Income Adm</b>	<b>6.35</b>	<b>11.12</b>	<b>18.49</b>	<b>11.12</b>	<b>14.75</b>	<b>8.84</b>	<b>9.31</b>	<b>9.02</b>	<b>0.17</b>
Russell 1000 Value	5.33	8.61	13.66	8.65	14.04	7.10	10.34	9.92	-
Avg Large Value	5.99	9.96	15.94	8.65	13.33	6.92	10.80	10.22	1.02
<b>American Funds Washington Mutual R6</b>	<b>6.52</b>	<b>12.55</b>	<b>20.54</b>	<b>11.13</b>	<b>15.17</b>	<b>8.33</b>	<b>9.75</b>	<b>9.07</b>	<b>0.30</b>
<b>Berkshire Hathaway Inc Class B</b>	<b>8.13</b>	<b>17.03</b>	<b>21.62</b>	<b>9.70</b>	<b>17.18</b>	<b>7.66</b>	<b>12.96</b>	<b>12.61</b>	<b>-</b>
S&P 500	6.64	11.42	21.83	11.41	15.79	8.50	10.07	9.49	-
Avg Large Blend	6.41	10.89	20.44	9.70	14.24	7.61	10.45	9.95	0.98
<b>Vanguard Dividend Growth Inv</b>	<b>5.63</b>	<b>8.54</b>	<b>19.33</b>	<b>9.61</b>	<b>14.14</b>	<b>8.98</b>	<b>9.09</b>	<b>8.83</b>	<b>0.30</b>
Russell 1000	6.59	11.36	21.69	11.23	15.71	8.59	10.11	9.59	-
Avg Large Blend	6.41	10.89	20.44	9.70	14.24	7.61	10.45	9.95	0.98
<b>Vanguard Total Stock Market Idx Instl</b>	<b>6.34</b>	<b>11.17</b>	<b>21.17</b>	<b>11.09</b>	<b>15.55</b>	<b>8.73</b>	<b>10.22</b>	<b>9.74</b>	<b>0.04</b>
Vanguard Tot Stk Mkt Custom Index*	6.34	11.18	21.19	11.09	15.56	8.72	10.21	9.73	-
Avg Large Blend	6.41	10.89	20.44	9.70	14.24	7.61	10.45	9.95	0.98
<b>DFA US Targeted Value I</b>	<b>4.50</b>	<b>9.99</b>	<b>9.59</b>	<b>9.44</b>	<b>14.05</b>	<b>9.28</b>	<b>14.73</b>	<b>14.16</b>	<b>0.37</b>
Russell 2000 Value	2.05	7.26	7.84	9.55	13.01	8.17	14.17	13.88	-
Avg Small Value	3.50	8.40	8.54	8.25	12.23	8.22	14.68	14.18	1.28
<b>Vanguard Explorer Adm</b>	<b>6.02</b>	<b>10.77</b>	<b>23.10</b>	<b>9.87</b>	<b>14.82</b>	<b>8.91</b>	<b>13.12</b>	<b>12.86</b>	<b>0.34</b>
Russell 2500 Growth	6.35	12.49	24.46	10.88	7.27	1.79	13.22	12.98	-
Avg Small Growth	4.70	10.53	21.50	9.97	13.96	8.42	14.00	13.83	1.28

\*Reflects changes to fund's index over time. Wilshire 5000 Tot Mkt Index through 4/22/05; MSCI US Broad Mkt Index through 6/02/13; and the CRSP US Tot Mkt Index thereafter.

## Performance Summary – Net of Fees

As of December 31, 2017

Fund/Benchmark	(periods longer than 1 year are annualized)						Standard Deviation		Expense Ratio
	Qtr	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	3 Years	5 Years	
<b>Vanguard Developed Markets Idx Adm</b>	<b>4.45</b>	<b>10.19</b>	<b>26.40</b>	<b>8.93</b>	<b>8.28</b>	<b>2.34</b>	<b>11.17</b>	<b>11.23</b>	<b>0.07</b>
Vanguard Dev Mkt Custom Index*	4.91	10.84	26.05	8.85	8.27	2.34	11.88	11.47	-
Avg Foreign Large Blend	3.94	9.52	25.12	7.73	7.27	1.79	11.38	11.20	1.07
<b>American Funds Europacific Growth R6</b>	<b>4.23</b>	<b>11.37</b>	<b>31.17</b>	<b>9.66</b>	<b>9.21</b>	<b>3.90</b>	<b>10.81</b>	<b>10.53</b>	<b>0.50</b>
MSCI ACWI Ex USA	5.00	11.48	27.19	7.83	6.80	1.84	12.04	11.50	-
Avg Foreign Large Growth	4.33	11.30	30.87	9.04	8.51	2.75	11.53	11.23	1.21
<b>American Funds New World R6</b>	<b>5.60</b>	<b>13.35</b>	<b>33.06</b>	<b>9.42</b>	<b>6.95</b>	<b>3.41</b>	<b>11.00</b>	<b>10.70</b>	<b>0.64</b>
50% MSCI EAFE / 50% EM	5.83	12.87	31.06	8.55	6.21	1.94	12.90	12.15	-
Avg Emerging Markets	6.27	13.61	34.17	7.95	4.09	1.63	14.40	13.86	1.42
<b>Vanguard REIT Index Adm</b>	<b>1.39</b>	<b>2.29</b>	<b>4.94</b>	<b>5.25</b>	<b>9.24</b>	<b>7.65</b>	<b>13.45</b>	<b>13.70</b>	<b>0.12</b>
MSCI REIT Index	1.04	1.67	3.74	4.03	7.99	6.03	13.37	13.67	-
Avg Real Estate	2.09	2.89	6.22	5.14	8.68	6.76	12.53	12.93	1.20

\*Reflects changes to fund's index over time. FTSE Developed ex North America prior to 12/21/2015 and FTSE Developed ex US All Cap thereafter.

## Annual Returns

Fund/Benchmark	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
<b>Total Portfolio Return (gross)</b>	<b>14.66</b>	<b>8.07</b>	<b>-2.38</b>	<b>5.66</b>	<b>13.77</b>	<b>12.70</b>	<b>2.76</b>	<b>13.27</b>	<b>18.31</b>	-
Custom Benchmark	14.67	8.72	-0.06	7.70	16.17	11.76	3.09	13.63	19.74	-
<b>Wells Fargo Cash Account</b>	-	-	-	-	-	-	-	-	-	-
Citi Treasury Bill 3 Month	0.84	0.27	0.03	0.03	0.05	0.07	0.08	0.13	0.16	1.80
Avg Money Market	0.48	0.09	0.02	0.01	0.02	0.03	0.02	0.04	0.17	2.00
<b>Baird Core Plus Bond Inst</b>	<b>4.65</b>	<b>4.73</b>	<b>0.14</b>	<b>6.59</b>	<b>-1.32</b>	<b>7.95</b>	<b>7.89</b>	<b>9.81</b>	<b>15.36</b>	<b>-1.79</b>
Barclays US Universal	4.09	3.91	0.43	5.56	-1.35	5.53	7.40	7.16	8.60	2.38
Avg Intermediate-Term Bond	3.71	3.23	-0.26	5.18	-1.42	7.01	5.86	7.72	13.97	-4.70
<b>DoubleLine Total Return Bond I</b>	<b>3.79</b>	<b>2.17</b>	<b>2.32</b>	<b>6.73</b>	<b>0.02</b>	<b>9.16</b>	<b>9.51</b>	-	-	-
<b>Vanguard Total Bond Market Index Adm</b>	<b>3.57</b>	<b>2.60</b>	<b>0.40</b>	<b>5.89</b>	<b>-2.15</b>	<b>4.15</b>	<b>7.69</b>	<b>6.54</b>	<b>6.04</b>	<b>5.15</b>
Barclays US Agg Bond	3.54	2.65	0.55	5.97	-2.02	4.21	7.84	6.54	5.93	5.24
Avg Intermediate-Term Bond	3.71	3.23	-0.26	5.18	-1.42	7.01	5.86	7.72	13.97	-4.70
<b>Vanguard Interm-Term Investment-Grade Adm</b>	<b>4.27</b>	<b>3.93</b>	<b>1.63</b>	<b>5.91</b>	<b>-1.27</b>	<b>9.24</b>	<b>7.62</b>	<b>10.59</b>	<b>17.87</b>	<b>-6.06</b>
Barclays US Credit 5-10 Yr	5.57	5.23	0.69	7.38	-2.05	11.26	8.21	10.54	18.96	-4.66
Avg Corporate Bond	5.79	6.51	-1.39	6.93	-1.06	11.06	7.46	10.00	22.61	-7.90
<b>Templeton Global Bond R6</b>	<b>2.79</b>	<b>6.78</b>	<b>-3.91</b>	<b>1.97</b>	<b>2.36</b>	<b>15.81</b>	<b>-2.37</b>	<b>12.68</b>	<b>18.86</b>	<b>6.28</b>
Citi WGBI	7.49	1.60	-3.57	-0.48	-4.00	1.65	6.35	5.17	2.55	10.89
Avg World Bond	6.87	3.63	-4.00	1.72	-2.62	8.09	3.39	6.35	13.12	-1.57

Green indicates fund outperformed both benchmarks / Blue indicates fund performed between benchmarks / Red indicates fund underperformed both benchmarks

## Annual Returns

Fund/Benchmark	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
<b>Vanguard Equity-Income Adm</b>	<b>18.49</b>	<b>14.82</b>	<b>0.86</b>	<b>11.38</b>	<b>30.19</b>	<b>13.58</b>	<b>10.69</b>	<b>14.99</b>	<b>17.26</b>	<b>-30.86</b>
Russell 1000 Value	13.66	17.34	-3.83	13.45	32.53	17.51	0.39	15.51	19.69	-36.85
Avg Large Value	15.94	14.81	-4.05	10.21	31.21	14.57	-0.75	13.66	24.13	-37.09
<b>American Funds Washington Mutual R6</b>	<b>20.54</b>	<b>13.73</b>	<b>0.12</b>	<b>11.53</b>	<b>32.34</b>	<b>12.85</b>	<b>7.35</b>	<b>13.69</b>	<b>19.24</b>	<b>-33.10</b>
<b>Berkshire Hathaway Inc Class B</b>	<b>21.62</b>	<b>23.43</b>	<b>-12.06</b>	<b>26.64</b>	<b>32.17</b>	<b>17.56</b>	<b>-4.76</b>	<b>21.90</b>	<b>2.24</b>	<b>-32.14</b>
S&P 500	21.83	11.96	1.38	13.69	32.39	16.00	2.11	15.06	26.46	-37.00
Avg Large Blend	20.44	10.37	-1.07	10.96	31.50	14.96	-1.27	14.01	28.17	-37.79
<b>Vanguard Dividend Growth Inv</b>	<b>19.33</b>	<b>7.53</b>	<b>2.62</b>	<b>11.85</b>	<b>31.53</b>	<b>10.39</b>	<b>9.43</b>	<b>11.42</b>	<b>21.74</b>	<b>-25.57</b>
Russell 1000	21.69	12.05	0.92	13.24	33.11	16.42	1.50	16.10	28.43	-37.60
Avg Large Blend	20.44	10.37	-1.07	10.96	31.50	14.96	-1.27	14.01	28.17	-37.79
<b>Vanguard Total Stock Market Idx Instl</b>	<b>21.17</b>	<b>12.67</b>	<b>0.42</b>	<b>12.56</b>	<b>33.49</b>	<b>16.42</b>	<b>1.09</b>	<b>17.23</b>	<b>28.83</b>	<b>-36.94</b>
Vanguard Tot Stk Mkt Custom Index	21.19	12.68	0.40	12.58	33.54	16.44	1.08	17.28	28.76	-37.04
Avg Large Blend	20.44	10.37	-1.07	10.96	31.50	14.96	-1.27	14.01	28.17	-37.79
<b>DFA US Targeted Value I</b>	<b>9.59</b>	<b>26.86</b>	<b>-5.72</b>	<b>2.94</b>	<b>43.03</b>	<b>19.19</b>	<b>-6.29</b>	<b>29.01</b>	<b>31.87</b>	<b>-33.78</b>
Russell 2000 Value	7.84	31.74	-7.47	4.22	34.52	18.05	-5.50	24.50	20.58	-28.92
Avg Small Value	8.54	25.99	-6.71	3.34	36.22	16.00	-4.45	26.17	31.32	-32.24
<b>Vanguard Explorer Adm</b>	<b>23.10</b>	<b>12.47</b>	<b>-4.22</b>	<b>4.08</b>	<b>44.59</b>	<b>15.07</b>	<b>-1.72</b>	<b>27.64</b>	<b>36.45</b>	<b>-40.29</b>
Russell 2500 Growth	24.46	9.73	-0.19	7.05	40.65	16.13	-1.57	28.86	41.66	-41.50
Avg Small Growth	21.50	11.20	-2.41	2.44	40.91	13.15	-3.55	26.98	35.46	-41.55

## Annual Returns

Fund/Benchmark	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
<b>Vanguard Developed Markets Idx Adm</b>	<b>26.40</b>	<b>2.45</b>	<b>-0.18</b>	<b>-5.66</b>	<b>22.06</b>	<b>18.56</b>	<b>-12.51</b>	<b>8.36</b>	<b>28.27</b>	<b>-41.27</b>
Vanguard Dev Mkt Custom Index	26.05	2.87	-0.53	-5.04	21.47	17.98	-12.45	8.68	33.41	-43.44
Avg Foreign Large Blend	25.12	0.79	-1.59	-4.98	19.44	18.29	-13.97	10.24	31.24	-43.99
<b>American Funds Europacific Growth R6</b>	<b>31.17</b>	<b>1.01</b>	<b>-0.48</b>	<b>-2.29</b>	<b>20.58</b>	<b>19.64</b>	<b>-13.31</b>	<b>9.76</b>	<b>39.35</b>	<b>-40.53</b>
MSCI ACWI Ex USA	27.19	4.50	-5.66	-3.87	15.29	16.83	-13.71	11.15	41.45	-45.53
Avg Foreign Large Growth	30.87	-2.14	0.95	-3.92	18.58	17.70	-12.30	14.78	38.02	-46.56
<b>American Funds New World R6</b>	<b>33.06</b>	<b>4.31</b>	<b>-5.62</b>	<b>-3.29</b>	<b>10.46</b>	<b>20.22</b>	<b>-13.82</b>	<b>17.73</b>	<b>52.53</b>	<b>-46.32</b>
50% MSCI EAFE / 50% EM	31.06	6.10	-8.02	-3.54	9.55	17.79	-15.31	13.24	54.03	-48.48
Avg Emerging Markets	34.17	8.47	-13.79	-3.01	-0.14	18.15	-19.86	19.26	73.81	-54.44
<b>Vanguard REIT Index Adm</b>	<b>4.94</b>	<b>8.50</b>	<b>2.39</b>	<b>30.32</b>	<b>2.42</b>	<b>17.69</b>	<b>8.62</b>	<b>28.49</b>	<b>29.76</b>	<b>-36.98</b>
MSCI REIT Index	3.74	7.14	1.28	28.82	1.26	16.47	7.48	26.97	26.27	-39.05
Avg Real Estate	6.22	6.89	2.41	28.03	1.55	17.60	7.51	27.08	31.26	-39.55

## Performance Analytics

As of December 31, 2017

Fund/Benchmark	5 - Year							10 Year Batting Average
	Sharpe Ratio	Alpha	Beta	Tracking Error	Information Ratio	Upside Capture	Downside Capture	
<b>Vanguard Equity-Income Adm</b>	<b>1.55</b>	<b>0.25</b>	<b>0.92</b>	<b>2.42</b>	<b>-0.43</b>	<b>94</b>	<b>96</b>	<b>44</b>
Avg Large Value	1.27	-1.92	0.99	3.97	-0.66	92	106	44
<b>American Funds Washington Mutual R6</b>	<b>1.58</b>	<b>0.36</b>	<b>0.94</b>	<b>1.90</b>	<b>-0.33</b>	<b>95</b>	<b>93</b>	<b>44</b>
<b>Vanguard Dividend Growth Inv</b>	<b>1.52</b>	<b>0.19</b>	<b>0.89</b>	<b>2.92</b>	<b>-0.57</b>	<b>89</b>	<b>87</b>	<b>50</b>
<b>Vanguard Total Stock Mkt Idx Adm</b>	<b>1.51</b>	<b>-0.46</b>	<b>1.02</b>	<b>1.16</b>	<b>-0.21</b>	<b>100</b>	<b>104</b>	<b>55</b>
Avg Large Blend	1.37	-1.35	1.00	2.59	-1.32	96	106	42
<b>DFA US Targeted Value I</b>	<b>0.98</b>	<b>-3.68</b>	<b>1.18</b>	<b>8.84</b>	<b>-0.20</b>	<b>104</b>	<b>134</b>	<b>53</b>
Avg Small Value	0.89	-4.11	1.10	9.62	-0.38	95	130	50
<b>Vanguard Explorer Adm</b>	<b>1.12</b>	<b>-2.84</b>	<b>1.16</b>	<b>6.83</b>	<b>-0.14</b>	<b>107</b>	<b>132</b>	<b>54</b>
Avg Small Growth	1.01	-2.51	1.09	9.12	-0.20	101	127	52
<b>Vanguard Developed Markets Idx Adm</b>	<b>0.74</b>	<b>1.69</b>	<b>0.95</b>	<b>2.59</b>	<b>0.57</b>	<b>100</b>	<b>90</b>	<b>51</b>
Avg Foreign Large Blend	0.67	0.97	0.92	3.78	0.13	95	90	49
<b>American Funds Europacific Growth R6</b>	<b>0.87</b>	<b>3.06</b>	<b>0.87</b>	<b>3.67</b>	<b>0.66</b>	<b>97</b>	<b>78</b>	<b>51</b>
Avg Foreign Large Growth	0.76	2.32	0.89	4.76	0.34	96	82	52
<b>American Funds New World R6</b>	<b>0.66</b>	<b>0.89</b>	<b>0.88</b>	<b>3.72</b>	<b>0.04</b>	<b>90</b>	<b>84</b>	<b>56</b>
Avg Emerging Markets	0.34	-2.28	1.00	7.87	-0.35	93	111	51
<b>Vanguard REIT Index Adm</b>	<b>0.69</b>	<b>3.47</b>	<b>0.57</b>	<b>13.17</b>	<b>-0.12</b>	<b>63</b>	<b>36</b>	<b>56</b>
Avg Real Estate	0.70	2.64	0.60	12.21	-0.18	64	45	54

Reported modern portfolio theory (MPT) statistics are calculated with respect to the S&P 500 Index for domestic equity funds. Statistics are calculated relative to the MSCI EAFE Index for international equity funds.



## Peer Group Rankings

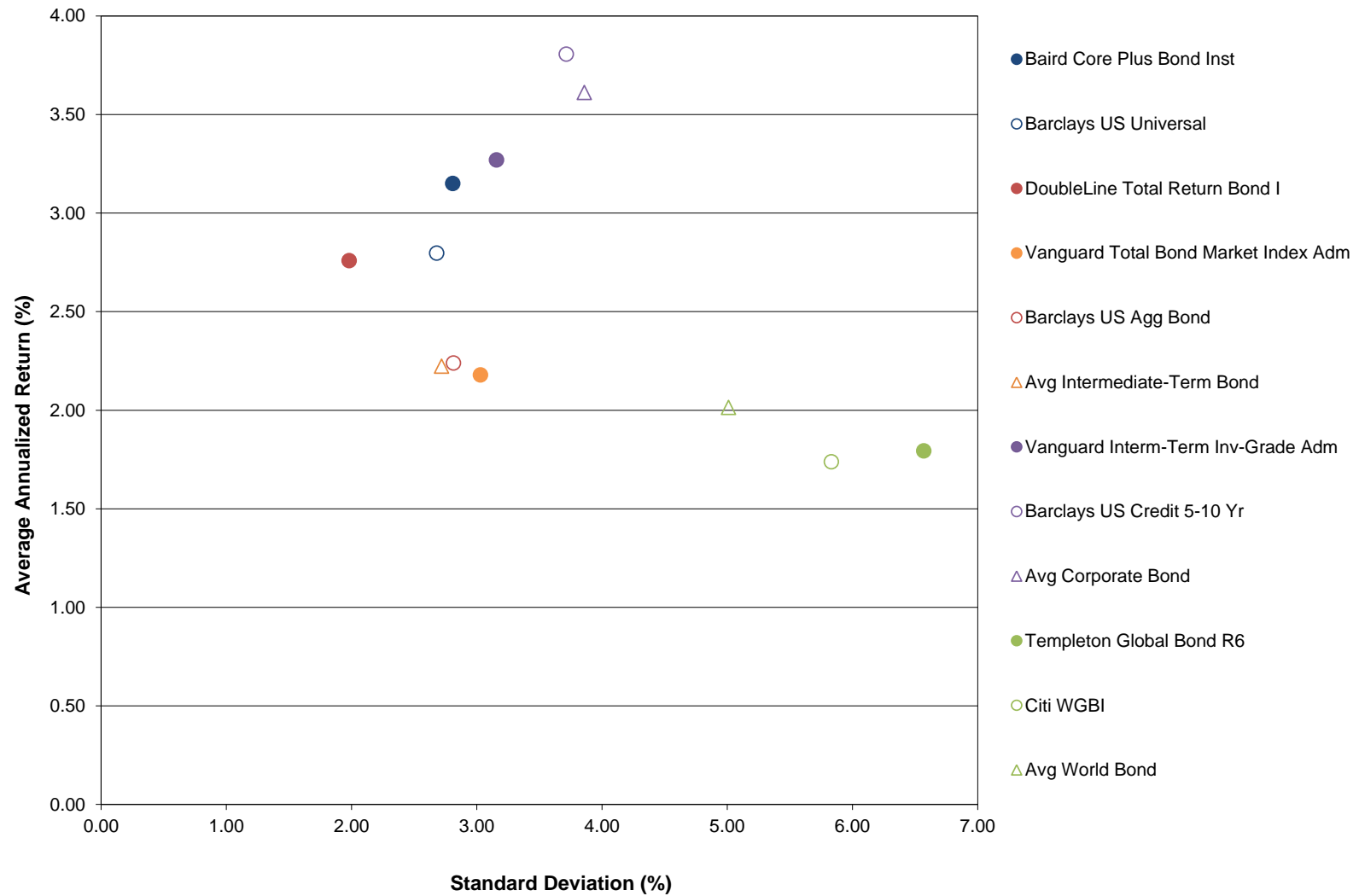
As of December 31, 2017

Yellow shading indicates above median performance in Morningstar peer group (1 = Best Ranking / 100 = Worst Ranking)

Fund	Morningstar Category	3 Months	YTD	1 Year	3 Years	5 Years	10 Years
Baird Core Plus Bond Inst	Intermediate-Term Bond	16	18	18	8	11	7
DoubleLine Total Return Bond I	Intermediate-Term Bond	63	48	48	23	8	
Vanguard Total Bond Market Index Adm	Intermediate-Term Bond	33	55	55	53	51	61
Vanguard Interm-Term Investment-Grade Adm	Corporate Bond	80	73	73	63	69	51
Templeton Global Bond R6	World Bond	98	82	82	53	24	3
Vanguard Equity-Income Adm	Large Value	40	23	23	6	20	8
American Funds Washington Mutual R6	Large Value	37	10	10	6	11	14
Vanguard Dividend Growth Inv	Large Blend	80	70	70	62	63	10
Vanguard Total Stock Market Idx Instl	Large Blend	60	45	45	25	22	14
DFA US Targeted Value I	Small Value	25	40	40	37	24	31
Vanguard Explorer Adm	Small Growth	25	41	41	54	36	38
Vanguard Developed Markets Idx Adm	Foreign Large Blend	28	35	35	18	22	30
American Funds Europacific Growth R6	Foreign Large Growth	51	44	44	32	27	24
American Funds New World R6	Diversified Emerging Mkts	67	59	59	31	9	11
Vanguard REIT Index Adm	Real Estate	76	57	57	46	26	26

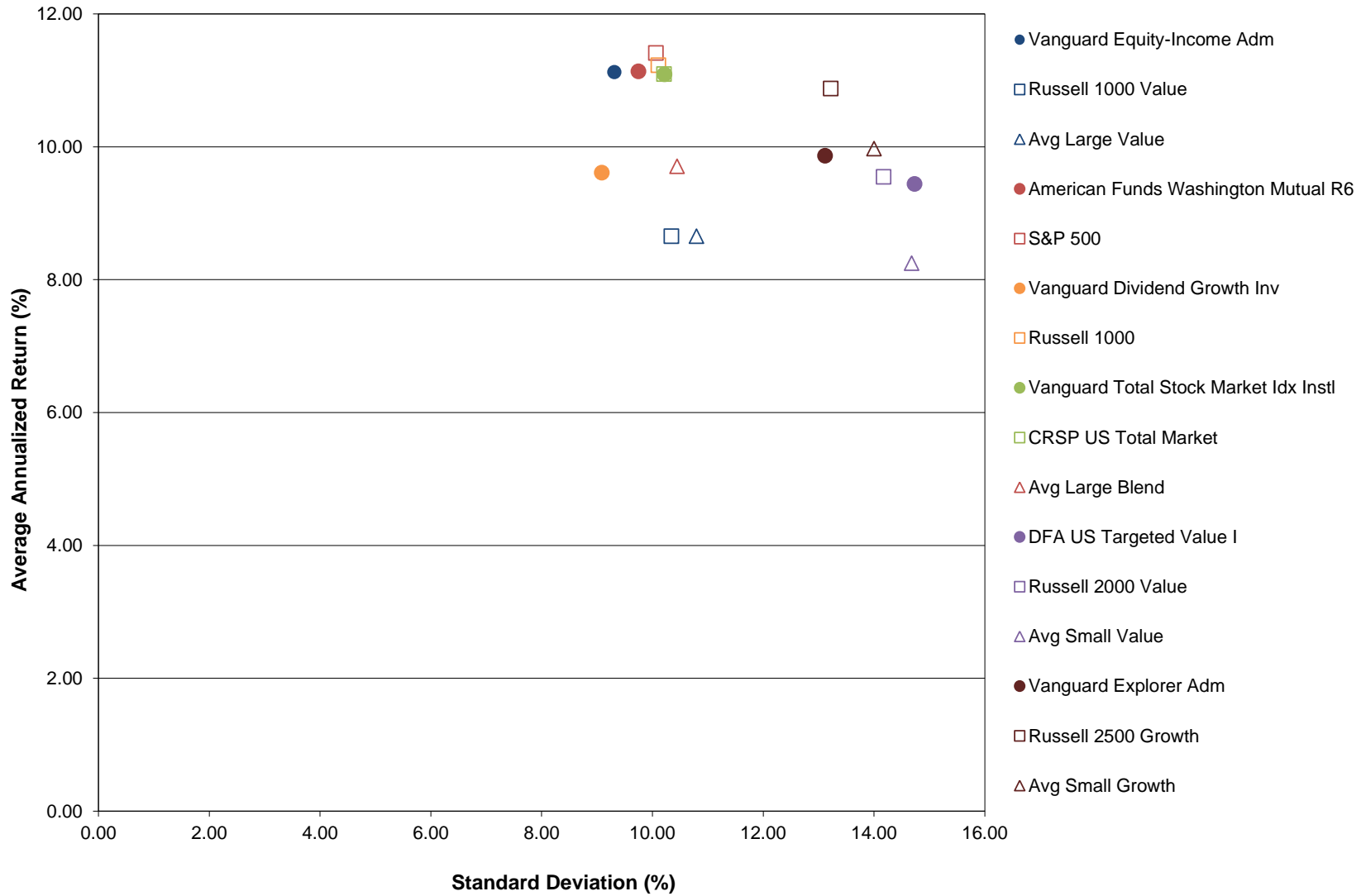
## Risk/Return Comparison

For the Three-Year Period Ending December 31, 2017



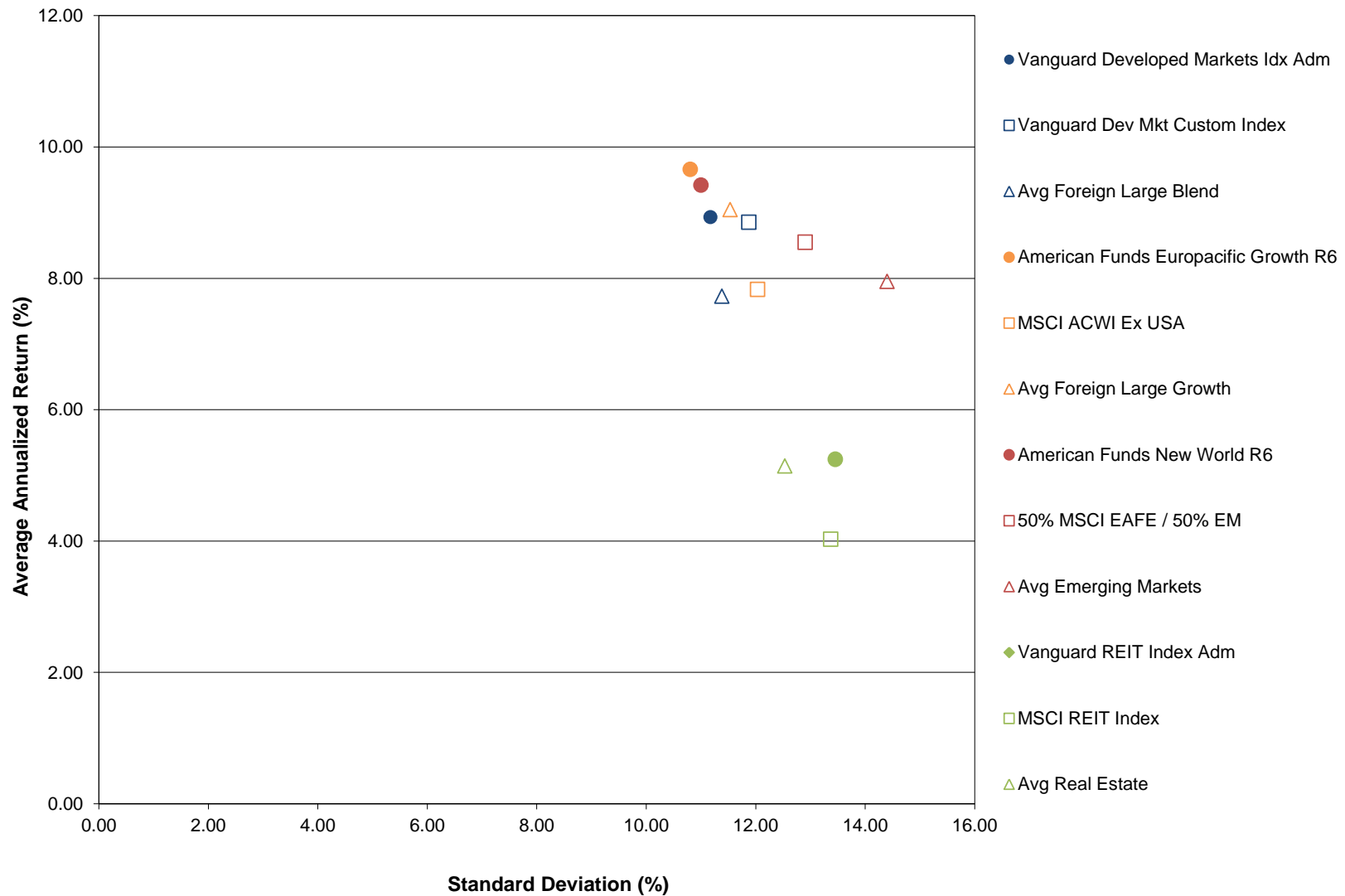
## Risk/Return Comparison

For the Three-Year Period Ending December 31, 2017



## Risk/Return Comparison

For the Three-Year Period Ending December 31, 2017



## Equity Fund Portfolio Characteristics

As of December 31, 2017

Fund/Benchmark	Geo Avg Market Cap \$MM	P/E Ratio	P/B Ratio	Total Number of Holdings	% Assets in Top 10 Holdings	Turnover Ratio	% Non- US Equity	% Emerging Mkts Equity
<b>Vanguard Equity-Income Adm</b>	<b>\$101,100</b>	<b>22.0</b>	<b>2.8</b>	<b>191</b>	<b>28</b>	<b>28</b>	<b>9</b>	<b>0</b>
Russell 1000 Value	\$63,947	20.2	2.1	-	23	-	1	0
Avg Large Value	\$101,023	20.4	2.5	516	33	59	5	0
<b>American Funds Washington Mutual R6</b>	<b>\$110,318</b>	<b>23.6</b>	<b>3.3</b>	<b>200</b>	<b>30</b>	<b>21</b>	<b>10</b>	<b>1</b>
S&P 500	\$102,806	24.0	3.4	-	20	-	1	0
Avg Large Blend	\$126,023	23.7	3.4	563	32	54	3	1
<b>Vanguard Dividend Growth Inv</b>	<b>\$95,902</b>	<b>24.1</b>	<b>4.4</b>	<b>49</b>	<b>30</b>	<b>27</b>	<b>8</b>	<b>0</b>
Russell 1000	\$78,901	23.6	3.3	-	18	-	1	1
Avg Large Blend	\$126,023	23.7	3.4	563	32	54	3	1
<b>Vanguard Total Stock Market Idx Instl</b>	<b>\$54,925</b>	<b>22.6</b>	<b>3.0</b>	<b>3,645</b>	<b>16</b>	<b>4</b>	<b>1</b>	<b>0</b>
CRSP US Total Market	\$59,061	23.7	3.2	-	16	-	1	0
Avg Large Blend	\$126,023	23.7	3.4	563	32	54	3	1
<b>DFA US Targeted Value I</b>	<b>\$2,473</b>	<b>19.3</b>	<b>1.5</b>	<b>1,424</b>	<b>7</b>	<b>23</b>	<b>1</b>	<b>0</b>
Russell 2000 Value	\$1,668	20.2	1.5	-	5	-	2	0
Avg Small Value	\$3,332	19.9	1.8	510	24	80	3	0
<b>Vanguard Explorer Adm</b>	<b>\$4,170</b>	<b>25.5</b>	<b>3.7</b>	<b>563</b>	<b>8</b>	<b>76</b>	<b>3</b>	<b>1</b>
Russell 2000 Growth	\$2,309	26.1	4.3	-	6	-	0	0
Avg Small Growth	\$4,035	32.3	4.4	522	25	74	3	0

## Equity Fund Portfolio Characteristics

As of December 31, 2017

Fund/Benchmark	Geo Avg Market Cap \$MM	P/E Ratio	P/B Ratio	Total Number of Holdings	% Assets in Top 10 Holdings	Turnover Ratio	% Non- US Equity	% Emerging Mkts Equity
<b>Vanguard Developed Markets Idx Adm</b>	<b>\$24,207</b>	<b>16.9</b>	<b>1.7</b>	<b>3,835</b>	<b>9</b>	<b>11</b>	<b>96</b>	<b>0</b>
FTSE Developed ex US All Cap	\$25,774	17.2	1.7	-	9	-	99	1
Avg Foreign Large Blend	\$45,269	18.5	2.0	754	15	54	89	7
<b>American Funds Europacific Growth R6</b>	<b>\$49,692</b>	<b>19.7</b>	<b>2.2</b>	<b>386</b>	<b>22</b>	<b>36</b>	<b>90</b>	<b>25</b>
MSCI ACWI Ex USA	\$38,496	17.2	1.8	-	10	-	99	19
Avg Foreign Large Growth	\$39,115	22.2	2.9	795	14	56	91	13
<b>American Funds New World R6</b>	<b>\$32,817</b>	<b>20.7</b>	<b>2.7</b>	<b>582</b>	<b>15</b>	<b>37</b>	<b>75</b>	<b>46</b>
50% MSCI EAFE / 50% EM	\$38,759	16.6	1.8	-	-	-	99	37
Avg Emerging Markets	\$33,771	15.9	2.3	737	26	62	94	72
<b>Vanguard REIT Index Adm</b>	<b>\$10,444</b>	<b>29.6</b>	<b>2.3</b>	<b>156</b>	<b>38</b>	<b>7</b>	<b>0</b>	<b>0</b>
MSCI REIT Index	\$10,088	28.5	2.2	-	34	-	0	0
Avg Real Estate	\$15,029	30.2	2.5	401	52	77	1	0

## Equity Fund Style Allocation

As of December 31, 2017

Vanguard Equity-Income Adm	American Funds Washington Mutual R6	Vanguard Dividend Growth Inv	Vanguard Total Stock Market Idx I
44	32	19	24
27	26	41	24
19	36	38	25
6	3	2	6
2	0	0	6
0	0	0	3
0	0	0	3

DFA US Targeted Value I	Vanguard Explorer Adm	Vanguard Developed Markets Idx Adm	American Funds Europacific Growth R6
0	0	28	17
0	0	27	31
0	3	24	48
14	5	6	1
10	10	6	1
3	30	5	2
33	9	1	0
29	14	1	0
11	29	1	0

American Funds New World R6	Vanguard REIT Index Adm	Style Legend
14	0	54 >50%
26	17	27 >25%
49	14	19 >10%
2	14	Large Value
3	25	Large Core
4	9	Large Growth
0	8	Mid Value
1	11	Mid Core
1	2	Mid Growth
		Small Value
		Small Core
		Small Growth

## Equity Fund Sector Allocation

As of December 31, 2017

Fund/Benchmark	Energy	Materials	Industrials	Consumer Discretionary	Consumer Staples	Healthcare	Financials	Real Estate	Information Technology	Telecom Services	Utilities
<b>Vanguard Equity-Income Adm</b>	<b>11.2</b>	<b>4.2</b>	<b>10.4</b>	<b>4.8</b>	<b>12.1</b>	<b>13.4</b>	<b>17.0</b>	<b>0.7</b>	<b>15.1</b>	<b>4.2</b>	<b>6.9</b>
Russell 1000 Value	10.5	3.0	8.3	7.0	8.4	13.7	27.4	4.4	8.9	2.9	5.6
Avg Large Value	10.1	3.1	10.2	9.6	8.9	13.3	23.4	2.4	11.3	3.1	4.5
<b>American Funds Washington Mutual R6</b>	<b>10.6</b>	<b>5.1</b>	<b>13.5</b>	<b>11.0</b>	<b>7.0</b>	<b>12.7</b>	<b>16.1</b>	<b>0.6</b>	<b>18.0</b>	<b>2.8</b>	<b>2.6</b>
S&P 500	6.0	3.0	10.3	12.6	7.9	13.9	14.9	2.7	24.2	1.9	2.7
Avg Large Blend	5.8	3.4	11.6	12.5	8.5	14.4	14.3	2.8	22.9	1.5	2.4
<b>Vanguard Dividend Growth Inv</b>	<b>4.5</b>	<b>4.1</b>	<b>18.9</b>	<b>13.2</b>	<b>16.9</b>	<b>15.2</b>	<b>12.3</b>	<b>4.6</b>	<b>10.4</b>	<b>0.0</b>	<b>0.0</b>
Russell 1000	5.6	3.3	10.5	13.0	7.4	13.3	15.1	3.3	23.9	1.9	2.8
Avg Large Blend	5.8	3.4	11.6	12.5	8.5	14.4	14.3	2.8	22.9	1.5	2.4
<b>Vanguard Total Stock Market Idx Instl</b>	<b>5.8</b>	<b>3.4</b>	<b>11.1</b>	<b>12.4</b>	<b>7.4</b>	<b>13.4</b>	<b>15.2</b>	<b>3.9</b>	<b>22.6</b>	<b>1.9</b>	<b>3.0</b>
CRSP US Total Market	5.6	3.4	11.0	12.8	7.1	13.6	15.2	3.6	23.1	1.8	2.8
Avg Large Blend	5.8	3.4	11.6	12.5	8.5	14.4	14.3	2.8	22.9	1.5	2.4
<b>DFA US Targeted Value I</b>	<b>10.5</b>	<b>5.9</b>	<b>21.3</b>	<b>16.8</b>	<b>2.6</b>	<b>5.4</b>	<b>24.0</b>	<b>0.4</b>	<b>11.8</b>	<b>0.6</b>	<b>0.7</b>
Russell 2000 Value	6.5	4.6	12.3	10.9	2.7	6.8	31.1	9.7	8.7	0.5	6.2
Avg Small Value	5.5	8.1	18.8	10.5	3.6	5.2	26.1	7.7	10.6	0.4	3.6
<b>Vanguard Explorer Adm</b>	<b>1.9</b>	<b>5.5</b>	<b>19.5</b>	<b>14.6</b>	<b>2.7</b>	<b>17.6</b>	<b>8.1</b>	<b>3.5</b>	<b>25.3</b>	<b>0.6</b>	<b>0.7</b>
Russell 2000 Growth	1.3	4.6	17.9	13.7	2.5	24.6	6.2	3.1	24.3	1.0	0.7
Avg Small Growth	2.0	3.8	19.6	14.5	2.0	22.6	10.4	3.1	20.6	0.4	1.0



## Equity Fund Sector Allocation

As of December 31, 2017

Fund/Benchmark	Energy	Materials	Industrials	Consumer Discretionary	Consumer Staples	Healthcare	Financials	Real Estate	Information Technology	Telecom Services	Utilities
<b>Vanguard Developed Markets Idx Adm</b>	<b>6.3</b>	<b>8.9</b>	<b>14.9</b>	<b>12.4</b>	<b>10.0</b>	<b>8.8</b>	<b>20.6</b>	<b>3.8</b>	<b>8.1</b>	<b>3.3</b>	<b>2.9</b>
FTSE Developed ex US All Cap	6.0	8.8	15.1	12.3	9.7	8.8	21.5	3.7	7.9	3.2	2.8
Avg Foreign Large Blend	5.4	7.7	14.6	12.5	10.7	9.0	20.9	2.6	10.1	3.9	2.5
<b>American Funds Europacific Growth R6</b>	<b>6.0</b>	<b>7.2</b>	<b>9.0</b>	<b>13.0</b>	<b>9.4</b>	<b>6.6</b>	<b>19.5</b>	<b>1.2</b>	<b>22.1</b>	<b>3.2</b>	<b>2.8</b>
MSCI ACWI Ex USA	6.7	8.2	12.1	11.2	9.2	7.4	23.7	3.2	11.8	3.7	2.8
Avg Foreign Large Growth	2.9	5.9	16.2	14.0	12.6	9.9	17.6	0.9	17.8	1.4	0.8
<b>American Funds New World R6</b>	<b>5.7</b>	<b>7.9</b>	<b>8.4</b>	<b>14.6</b>	<b>9.2</b>	<b>6.9</b>	<b>16.2</b>	<b>1.0</b>	<b>24.3</b>	<b>1.9</b>	<b>4.0</b>
50% MSCI EAFE / 50% EM	6.2	7.8	10.0	11.1	8.5	6.3	23.0	3.1	17.2	4.2	2.7
Avg Emerging Markets	5.6	6.1	5.1	12.1	8.6	3.1	24.0	2.5	26.7	4.3	1.9
<b>Vanguard REIT Index Adm</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>100.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Avg Real Estate	0.0	0.2	0.2	1.8	0.0	0.0	0.1	97.3	0.3	0.0	0.0

## General Characteristics

As of December 31, 2017

Fund	Manager	Manager Tenure (avg/long)	Total Assets (\$MM)	Morningstar Rating Overall	Morningstar Analyst Rating	Ticker	Expense Ratio
Baird Core Plus Bond Inst	Mary Ellen Stanek (6)*	17/17	16,237.1	★★★★★	Silver	BCOIX	0.30
DoubleLine Total Return Bond I	Philip A. Barach (2)*	8/8	53,222.7	★★★★	Neutral	DBLTX	0.48
Vanguard Total Bond Market Index Adm	Joshua C. Barrickman	5/5	199,792.0	★★★	Silver	VBTLX	0.05
Vanguard Interm-Term Investment-Grade Adm	Gregory S. Nassour	10/10	28,779.2	★★★	Silver	VFIDX	0.10
Templeton Global Bond R6	Michael J. Hasenstab (2)*	12/16	38,758.2	★★★	Gold	FBNRX	0.52
Vanguard Equity-Income Adm	James P. Stetler (3)*	9/14	31,520.2	★★★★★	Silver	VEIRX	0.17
American Funds Washington Mutual R6	Alan N. Berro (7)*	8/21	97,379.9	★★★★★	Gold	RWMGX	0.30
Vanguard Dividend Growth Inv	Donald J. Kilbride	12/12	33,331.7	★★★★	Gold	VDIGX	0.30
Vanguard Total Stock Market Idx Instl	Gerard C. O'Reilly (2)*	13/23	667,234.8	★★★★	Gold	VITSX	0.04
DFA US Targeted Value I	Jed S. Fogdall (3)*	5/6	10,972.1	★★★★	Gold	DFFVX	0.37
Vanguard Explorer Adm	Kenneth L. Abrams (11)*	5/24	13,759.4	★★★★	Bronze	VEVRX	0.34
Vanguard Developed Markets Idx Adm	Christine D. Franquin (2)*	3/5	107,464.9	★★★★	Silver	VTMGX	0.07
American Funds Europacific Growth R6	Mark E. Denning (9)*	14/26	149,035.3	★★★★	Gold	RERGX	0.50
American Funds New World R6	Mark E. Denning (10)*	10/19	33,905.6	★★★★★	Gold	RNWGX	0.64
Vanguard REIT Index Adm	Gerard C. O'Reilly (2)*	12/22	64,193.1	★★★	Silver	VGSLX	0.12

\* Longest tenured manager listed with total number of fund managers listed in parentheses

## Glossary of Key Terms

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

**Average Credit Quality** gives a snapshot of the portfolio's overall credit quality. It is an average of each bond's credit rating, adjusted for its relative weighting in the portfolio. For corporate bond and municipal bond funds, Morningstar also shows the percentage of fixed-income securities that fall within each credit-quality rating, as assigned by Standard & Poor's or Moody's. Because it's rare to find individual bonds in a portfolio with a rating below B, the average credit quality of bond funds in Morningstar's database ranges from AAA (highest) to B (lowest). AAA bonds carry the highest credit rating, while bonds issued by speculative companies usually carry the lowest credit ratings. For taxable bonds, anything at or below BB is considered a high-yield or junk bond. For the purpose of Morningstar's calculations, U.S. government bonds are considered AAA and other nonrated bonds generally are considered B.

**Average Duration** is a measure of a fund's interest-rate sensitivity. The longer a fund's duration, the more sensitive the fund is to shifts in interest rates. Duration is determined by a formula that includes coupon rates and bond maturities. Small coupons tend to increase duration, while shorter maturities and higher coupons shorten duration.

**Average Maturity** is a weighted average of all the maturities of the bonds in a portfolio, computed by weighting each bond's effective maturity by the market value of the security. Average effective maturity takes into consideration all mortgage prepayments, puts, and adjustable coupons. Longer-maturity funds are generally considered more interest-rate sensitive than their shorter counterparts.

**Batting Average** is a measure of a manager's ability to consistently beat the market. It is calculated by dividing the number of months in which the manager beat or matched an index by the total number of months in the period. For example, a manager who meets or outperforms the market every month in a given period would have a batting average of 100. A manager who beats the market half of the time would have a batting average of 50.

**Beta** is a measure of systematic risk with respect to a benchmark. Systematic risk is the tendency of the value of the fund and the value of benchmark to move together. Beta measures the sensitivity of the fund's excess return (total return minus the risk-free return) with respect to the benchmark's excess return that results from their systematic co-movement. It is the ratio of what the excess return of the fund would be to the excess return of the benchmark if there were no fund-specific sources of return. If beta is greater than one, movements in value of the fund that are associated with movements in the value of the benchmark tend to be amplified. If beta is one, they tend to be the same, and if beta is less than one, they tend to be dampened. If such movements tend to be in opposite directions, beta is negative. Beta is measured as the slope of the regression of the excess return on the fund as the dependent variable and the excess return on the benchmark as the independent variable. The beta of the market is 1.00 by definition. Morningstar calculates beta by comparing a portfolio's excess return over T-bills to the benchmark's excess return over T-bills, so a beta of 1.10 shows that the portfolio has performed 10% better than its benchmark in up markets and 10% worse in down markets, assuming all other factors remain constant. Conversely, a beta of 0.85 indicates that the portfolio's excess return is expected to perform 15% worse than the benchmark's excess return during up markets and 15% better during down markets.

**Downside Capture Ratio** measures a manager's performance in down markets relative to the market (benchmark) itself. For example, if the ratio is 90%, the manager has captured 90% of the down-market and outperformed the market on the downside.

**Geometric Average Market Cap** provides a measure of the size of the companies in which the fund invests. It is the weighted mean of the market capitalizations of the stocks in the fund's portfolio and is calculated by raising the market capitalization of each stock to a power equal to that stock's stake in the portfolio. The resulting numbers are multiplied together to produce the geometric mean of the market caps of the stocks in the portfolio, which is reported as average market capitalization.

**Information Ratio** is a risk-adjusted performance measure. The information ratio is a special version of the Sharpe Ratio in that the benchmark is typically the fund's performance benchmark instead of the risk free rate. A higher information ratio indicates higher active returns per unit of active risk while a lower information ratio may indicate low levels of active returns, high levels of active risk or both.

**Morningstar Analyst Rating** is based on the Morningstar analyst's conviction in the fund's ability to outperform its peer group and/or relevant benchmark on a risk-adjusted basis over the long term. The 5 ratings include Gold, Silver, Bronze, Neutral, and Negative. If a fund receives a positive rating of Gold, Silver, or Bronze, it means Morningstar analysts think highly of the fund and expect it to outperform over a full market cycle of at least five years.

**Morningstar Star Rating** funds are ranked within their Morningstar categories according to their risk-adjusted return (after accounting for all sales charges and expenses), and stars are assigned such that the distribution reflects a classic bell-shaped curve with the largest section in the center. The 10% of funds in each category with the highest risk-adjusted return receive five stars, the next 22.5% receive four stars, the middle 35% receive three stars, the next 22.5% receive two stars, and the bottom 10% receive one star.

**P/B Ratio** is the weighted average of the price/book ratios of all the stocks in a portfolio. The P/B ratio of a company is calculated by dividing the market price of its stock by the company's per-share book value. Stocks with negative book values are excluded from this calculation. In theory, a high P/B ratio indicates that the price of the stock exceeds the actual worth of the company's assets, while a low P/B ratio indicates that the stock is a bargain. In practice, book value is an accounting number and for a variety of reasons may not reflect the actual value assigned to a company or security by market participants.

**P/E Ratio** is the weighted average of the price/earnings ratios of all the stocks in a portfolio. A fund's price/earnings ratio can act as a gauge of the fund's investment strategy in the current market climate, and whether it has a value or growth orientation. Companies in those industries enjoying a surge of popularity tend to have high P/E ratios, reflecting a growth orientation. More staid industries tend to have low P/E ratios, reflecting a value orientation. Morningstar generates this figure in-house on a monthly basis, based on the most-recent portfolio holdings submitted by the fund and stock statistics gleaned from our internal U.S. equities databases. Negative P/Es are not used, and any P/E greater than 60 is capped at 60 in the calculation of the average.

**Peer Group Ranking** is the fund's total-return percentile rank relative to all funds that have the same Morningstar Category. Morningstar categorizes funds based on their portfolio holdings (portfolio statistics and compositions over the past 3 years). The highest (or most favorable) percentile rank is 1 and the lowest (or least favorable) percentile rank is 100. The top-performing fund in a category will always receive a rank of 1.

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

**Standard Deviation** is a statistical measurement of dispersion about an average, which, for a mutual fund, depicts how widely the returns varied over a certain period of time. Investors use the standard deviation of historical performance to try to predict the range of returns that are most likely for a given fund. When a fund has a high standard deviation, the predicted range of performance is wide, implying greater volatility.

**Total Return** is determined by taking the change in net asset value, reinvesting all income and capital-gains distributions, and dividing by the starting net asset value (NAV). Reinvestments are made using the actual reinvestment NAV, and daily payoffs are reinvested monthly. Total return is expressed as a percentage.

**Tracking Error** is a measure of the volatility of excess returns relative to a benchmark.

**Turnover Ratio** is a measure of the fund's trading activity which is computed by taking the lesser of purchases or sales (excluding all securities with maturities of less than one year) and dividing by average monthly net assets. A turnover ratio of 100% or more does not necessarily suggest that all securities in the portfolio have been traded. In practical terms, the resulting percentage loosely represents the percentage of the portfolio's holdings that have changed over the past year. A low turnover figure (20% to 30%) would indicate a buy-and-hold strategy while a high turnover (more than 100%) would indicate an investment strategy involving considerable buying and selling of securities.

**Upside Capture Ratio** measures a manager's performance in up markets relative to the market (benchmark) itself. For example, if the ratio is 110%, the manager has captured 110% of the up-market and outperformed the market on the upside.

## Sector Definitions

- **Energy Sector:** The Energy Sector comprises companies whose businesses are dominated by either of the following activities: The construction or provision of oil rigs, drilling equipment and other energy related service and equipment, including seismic data collection. Companies engaged in the exploration, production, marketing, refining, and/or transportation of oil and gas products, coal and other consumer fuels.
- **Materials Sector:** The Materials Sector encompasses a wide range of commodity-related manufacturing industries. Included in this sector are companies that manufacture chemicals, construction materials, glass, paper, forest products and related packaging products, and metals, minerals and mining companies, including producers of steel.
- **Industrials Sector:** The Industrials Sector includes companies whose businesses are dominated by one of the following activities: The manufacture and distribution of capital goods, including aerospace and defense, construction, engineering and building products, electrical equipment and industrial machinery. The provision of commercial services and supplies, including printing, employment, environmental and office services. The provision of transportation services, including airlines, couriers, marine, road and rail and transportation infrastructure.
- **Consumer Discretionary Sector:** The Consumer Discretionary Sector encompasses those industries that tend to be the most sensitive to economic cycles. Its manufacturing segment includes automotive, household durable goods, textiles and apparel and leisure equipment. The services segment includes hotels, restaurants and other leisure facilities, media production and services, and consumer retailing and services.
- **Consumer Staples Sector:** The Consumer Staples Sector comprises companies whose businesses are less sensitive to economic cycles. It includes manufacturers and distributors of food, beverages and tobacco and producers of non-durable household goods and personal products. It also includes food and drug retailing companies as well as hypermarkets and consumer super centers.
- **Health Care Sector:** The Health Care Sector encompasses two main industry groups. The first includes companies who manufacture health care equipment and supplies or provide health care related services, including distributors of health care products, providers of basic health-care services, and owners and operators of health care facilities and organizations. The second regroups companies primarily involved in the research, development, production and marketing of pharmaceuticals and biotechnology products.
- **Financials Sector:** The Financials Sector contains companies involved in banking, thrifts & mortgage finance, specialized finance, consumer finance, asset management and custody banks, investment banking and brokerage and insurance. It also includes Financial Exchanges & Data and Mortgage REITs.
- **Real Estate Sector:** The Real Estate Sector contains companies engaged in real estate development and operation. It also includes companies offering real estate related services and Equity Real Estate Investment Trusts (REITs).
- **Information Technology Sector:** The Information Technology Sector covers the following areas: firstly, Technology Software and Services, including companies that primarily develop software in various fields such as the Internet, applications, systems, database management and/or home entertainment, and companies that provide information technology consulting and services, as well as data processing and outsourced services; secondly, Technology Hardware and Equipment, including manufacturers and distributors of communications equipment, computers and peripherals, electronic equipment and related instruments; and thirdly, Semiconductors and Semiconductor Equipment Manufacturers.

- **Telecommunications Services Sector:** The Telecommunications Services Sector contains companies that provide communications services primarily through a fixed-line, cellular, wireless, high bandwidth and/or fiber optic cable network.
- **Utilities Sector:** The Utilities Sector encompasses those companies considered electric, gas or water utilities, or companies that operate as independent producers and/or distributors of power.

## Regional Definitions

- **North America:** United States and Canada
- **Emerging Central & Latin America:** Mexico and Central and South America
- **United Kingdom:** England, Northern Ireland, Scotland, Wales
- **Developed Europe:** Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain
- **Emerging Europe:** Russia and other Eastern European countries
- **Africa/Middle East:** Africa and Western Asian countries
- **Japan:** Japan
- **Australasia:** Australia and New Zealand
- **Developed Asia:** Hong Kong, Singapore, South Korea
- **Emerging Asia:** China, India, Indonesia, Malaysia, Philippines, Thailand

# CONDUENT



**Client has the authority to select investments and investment managers. Past performance is not indicative of future results. We do not guarantee the performance of any investment, fund, or manager.**

This report was prepared by Conduent HR Consulting, LLC, a Conduent Company  
420 Lexington Ave, 10th Floor, New York, NY 10170-2220

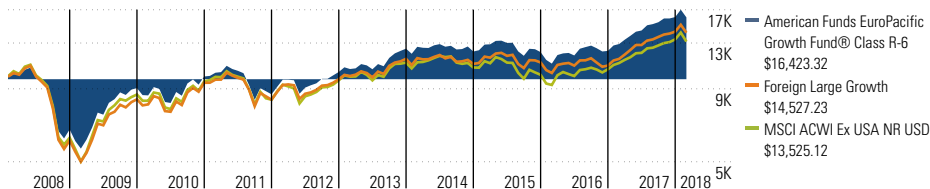


# American Funds EuroPacific Growth Fund® Class R-6 RERGX

Morningstar Analyst Rating **Gold**

NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
56.15	↑0.16   0.29	1.08	163.4	Open	\$250	None	0.50%	★★★★	Foreign Large Growth	Large Growth Growth

## Growth of 10,000 02-12-2008 - 02-12-2018



## 3 Year Average Morningstar Risk Measures



## Investment Strategy

The investment seeks long-term growth of capital. The fund invests primarily in common stocks of issuers in Europe and the Pacific Basin that the investment adviser believes have the potential for growth. Growth stocks are stocks that the investment adviser believes have the potential for above-average capital appreciation. It normally will invest at least 80% of its net assets in securities of issuers in Europe and the Pacific Basin. The fund may invest a portion of its assets in common stocks and other securities of companies in emerging markets.

## Pillars

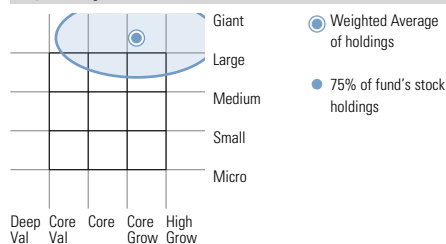
Process	Positive
Performance	Positive
People	Positive
Parent	Positive
Price	Positive
Rating	<b>Gold</b>

## Performance 02-12-2018

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000	9,973	9,579	12,449	12,785	15,012	16,156
Fund	-0.27	-4.21	24.49	8.53	8.46	4.91
+/- MSCI ACWI Ex USA NR USD	1.53	1.07	5.11	2.09	2.81	2.09
+/- Category	0.59	0.28	1.06	1.00	0.85	0.99
% Rank in Cat	26	31	35	29	25	—
# of Funds in Cat	424	424	401	325	291	207

\* Currency is displayed in BASE

## Style Map

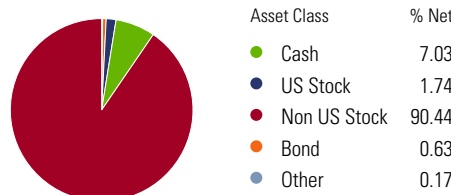


## Top Holdings 12-31-2017

	Weight %	Last Price	Day Chg %	52 Week Range	
⊕ Samsung Electronics Co Ltd	3.25	— BASE	2.61 ↑	1,854,000.00 - 2,876,000.00	
⊕ AIA Group Ltd	2.62	61.30 BASE	0.00 ↓	47.15 - 69.15	
⊕ British American Tobacco PLC	2.54	— BASE	-1.87 ↓	2,879.89 - 17,365.43	
⊖ Taiwan Semiconductor Manufacturing Co Ltd	2.04	236.50 BASE	1.72 ↑	183.00 - 266.00	
⊖ Alibaba Group Holding Ltd ADR	2.03	179.25 BASE	1.02 ↑	100.11 - 206.20	
% Assets in Top 5 Holdings		12.47			

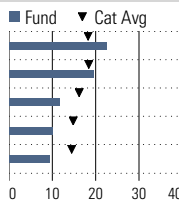
⊕ Increase ⊖ Decrease ✱ New to Portfolio

## Asset Allocation



## Top Sectors 12-31-2017

	Fund	3 Yr High	3 Yr Low	Cat Avg
📱 Technology	22.50	22.50	16.40	17.33
🏦 Financial Services	19.55	20.32	18.98	17.49
🛒 Consumer Cyclical	11.55	12.76	11.19	15.26
🛡️ Consumer Defensive	9.94	9.94	9.39	13.88
⚙️ Industrials	9.39	10.58	9.39	13.55



## Dividend and Capital Gains Distributions

Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
12-21-2017	55.70	1.1693	0.0000	0.0000	0.5026	1.6719
06-14-2017	51.95	0.9630	0.0000	0.0000	0.1654	1.1284
12-22-2016	44.95	0.0000	0.0000	0.0000	0.7373	0.7373
12-23-2015	45.72	0.5900	0.0000	0.0000	0.9665	1.5565
12-26-2014	47.56	0.0000	0.0000	0.0000	0.8240	0.8240

## Management

	Start Date
Mark E. Denning	12-31-1991
Carl M. Kawaja	06-01-2001
Nicholas J. Grace	06-01-2002
Sung Lee	06-01-2002
Jesper Lyckeus	06-01-2004
Jonathan Knowles	06-01-2006
Andrew B. Suzman	06-01-2007
Christopher M. Thomsen	06-01-2008
Lawrence Kymisis	06-01-2014

# American Funds EuroPacific Growth Fund® Class R-6 RERGX

## Analysis

### Still a reliable choice.

By Gregg Wolper 10/2/2017

American Funds EuroPacific Growth remains impressive: It has a very experienced management group, an appealingly low cost, a strong performance record, and a reliable parent. It retains its Morningstar Analyst Rating of Gold.

All but one of this fund's nine managers, who run sleeves of the portfolio independently, have been on the roster for at least nine years, several for much longer. In theory, combining many managers with differing styles could result in a bland overall portfolio, but it hasn't here. While the top of the portfolio certainly includes many household names, the fund's consistently heavy stake in emerging markets--much higher than those of most peers--itself shows that the fund goes its own way. Sector weightings also differ markedly from those of the MSCI ACWI ex-US Index and the foreign large-growth Morningstar Category averages.

Another advantage enjoyed by this fund is its relatively low cost. At 0.85%, the expense ratio for its A shares is 45 basis points below the median for front-load funds in the foreign large-cap Morningstar Categories. Other share classes are also far cheaper than nearly all actively managed competitors.

That low cost is made possible in part by a massive asset base--currently around \$150 billion--which could raise concerns. Many funds that have had major growth spurts change their styles to accommodate the bulk, and performance suffers. That possibility should not be ignored here; the fund did own a greater percentage of mid-caps 15 to 20 years ago when it was much smaller. But it still has mid-single-digit exposure to such stocks and that hasn't changed in more than 10 years, nor has the cash stake expanded. Meanwhile, outperformance has continued. The fund has beaten the index and the foreign large-growth and foreign large-blend Morningstar Category averages not just for the trailing 15-year period but also the

three- and five-year stretches, when it already had more than \$120 billion.

This fund will have down periods due if nothing else to its hefty emerging-markets stake, but it remains a strong choice.

### Process Pillar: Positive

This fund has grown to an extraordinary size over the years, but, other than reducing the percentage of assets devoted to mid-caps, the overall approach has remained largely intact over the years. American's multimanager approach lets managers independently run their own sleeves of the portfolio. Each does so in line with his own style, and their combination fulfills the fund's growth mandate while also muting overall volatility. The managers don't shy away from risk, though; emerging-markets stakes are usually relatively high. The fund receives a Positive Process rating.

The managers' investment styles range from concentrated growth to more-diffuse, value-oriented strategies. High portfolio turnover, however, is frowned upon. The fund's annual turnover has a typical range of 25%-35%; managers often hold positions for many years. This long-term orientation is an advantage. The managers can develop multiyear investment theses and buy stocks that may take several years to work out, rather than worry about finding stocks with a near-term catalyst. The below-average turnover also helps keep trading costs in check.

The fund's managers have this freedom, in part, because their compensation is based on weighted one-, three-, five-, and eight-year rolling averages, with greater emphasis on the five- and eight-year periods. This is a longer time horizon than most other firms use to evaluate managers.



It is not surprising to see that this fund had a sizable chunk of assets in emerging-markets stocks in its June 2017 portfolio, for that has been a consistent trait for many years. Still, the latest percentage was even higher than usual for the fund.

### Morningstar's Take

Morningstar Analyst Rating



### Morningstar Pillars

Process	 Positive
Performance	 Positive
People	 Positive
Parent	 Positive
Price	 Positive

### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum

 Gold  Silver  Bronze **Neutral** **Negative**

### Fund Performance

	Total Return %	+/- Category
YTD	0.02	0.75
2017	31.17	0.30
2016	1.01	3.16
2015	-0.48	-1.44
2014	-2.29	1.63

# American Funds EuroPacific Growth Fund® Class R-6 RERGX

## Analysis

Its roughly 30% stake in emerging markets (using MSCI's classification, which includes South Korea and Taiwan) was about twice as high as the foreign-large-growth Morningstar Category average and was even bigger than the weighting in the fund's emerging-markets-heavy benchmark, the MSCI All-Country World ex-U.S. Index. A substantial overweighting in Indian stocks as well as a notable stake in Chinese Internet companies--which have been on fire this year--and other Asian tech firms accounted for a good portion of the fund's emerging-markets weight.

Although portfolio turnover at this fund is moderate--in the 25% to 35% range per year--the managers certainly don't stand still. A noteworthy example is drugmaker Novo Nordisk NVO, which was the top holding at the end of 2015 with nearly 5% of assets. Shares were sold regularly after that, however, and by June 2017 that firm made up just 0.5% of assets. Over the same time period, another pharma firm, Novartis NVS, dropped to 0.8% from 2.3% of assets. The fund had underweightings in the healthcare and consumer defensive sectors in the June 2017 portfolio, while having an overweighting in the technology arena. No individual stock had more than 3% of assets.

### Performance Pillar: + Positive

Strong long-term, risk-adjusted results earn the fund a Positive Performance rating. Its 9.1% annualized return during the trailing 15 years through August 2017 beats the MSCI All-Country World ex-U.S. Index and the foreign large-growth Morningstar Category by more than a percentage point and the foreign large-blend Morningstar Category (the fund was classified in that group until late 2014) by 2 percentage points.

The fund has achieved this record without suffering excessive volatility. Although it usually has relatively high exposure to emerging markets, the fund has consistently been less volatile than the index. The fund also held up well during the bear markets of 2001-02 and 2007-09. In both, it helped to build the fund's stakes in cash and bonds to

more than 10% of assets combined. Without a similar buffer in 2011, the fund had middling returns during the market's May to late-September plunge. It did regain its usual pattern in 2014 and 2015, though, losing much less than the index in those years.

The fund's asset base has expanded greatly over the 15-year period, so it is important to note that, unlike some funds, this one has not suffered a performance decline as it grew to its massive size. The fund's trailing three- and five-year returns beat the index and both category averages--by substantial margins, in fact. And it has been less volatile than peers over these more recent periods, as well.

### People Pillar: + Positive

American Funds' multimanager approach helps this fund handle its massive asset base. The fund's Positive People rating reflects its systemic strengths as well as the managers' experience, ability, and aligned interests.

Capital Group, the parent of American Funds, splits the fund's assets between subsidiaries Capital World Investors and Capital Research Global Investors. Carl Kawaja heads up the whole fund and CWI's team, which includes Nicholas Grace, Jonathan Knowles, and Andrew Suzman, while Mark Denning heads up CRGI's side, composed of Sung Lee, Jesper Lyckeus, Christopher Thomsen, and Lawrence Kymisis. Each manager oversees a separate sleeve of the portfolio, with Kawaja and Denning helping to ensure that their respective teams are balanced across different investing styles. For example, Knowles likes firms with high returns on invested capital and runs a very top-heavy portfolio of about 30 stocks; Kawaja is more opportunistic and spreads his bets across roughly 50 stocks. It is a veteran group. Thomsen is the least-experienced manager and yet he has been in the industry for roughly two decades. The CWI and CRGI teams are each supported by about 25 analysts, with each analyst group also responsible for its own slice of the portfolio.

All nine managers have at least \$100,000 of their

own money in the fund, with three investing more than \$1 million.

### Parent Pillar: + Positive

With roots tracing to 1931, Capital Group has long been a standard-bearer in asset management. Widely known in the United States for its American Funds open-end lineup, the active manager boasts some of the industry's more reliable equity and allocation offerings. The firm's multimanager system is key to its success. Dividing each fund into independently run sleeves lets managers invest in line with their styles, enhancing diversification and reducing volatility of the overall portfolio. The funds' analyst-led research portfolios help develop the next generation and recruit top talent with the promise of running money from the start. The result is an investment culture marked by lengthy tenures, strong manager co-investment, and competitive long-term records.

Capital Group has improved its fixed-income approach through greater coordination and the addition of veteran managers, but the firm still must show it can achieve the kind of excellence in that asset class that it has with equities. Capacity monitoring, a perennial issue given the funds' massive asset bases, could become a more pressing concern if the firm's efforts to grow its business in Europe and Asia succeed or if U.S. fund flows shift back to active management. In the meantime, investors benefit from Capital Group's modest fees, consistent results, and sound stewardship. The firm earns a Positive Parent rating.

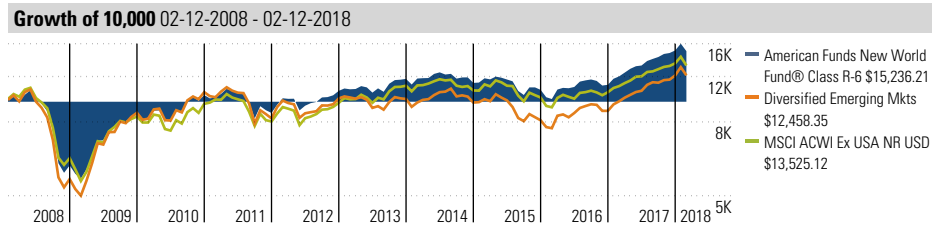
### Price Pillar: + Positive

Low fees earn the fund a Positive Price Pillar rating. The A shares' 0.85% fiscal 2017 expense ratio was 45 basis points below the median for foreign large-cap funds with a front load. That easily ranked in the cheapest decile of those peers. In addition, nearly all of the fund's other share classes had expense ratios that landed in the cheapest quintile versus similarly distributed rivals; the few that didn't fell in the second-least-expensive quintile.

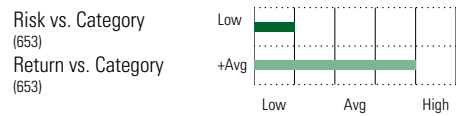
# American Funds New World Fund® Class R-6 RNWGX

Morningstar Analyst Rating  
**Gold**

NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
66.79	↑0.30   0.45	1.23	35.6	Open	\$250	None	0.64%	★★★★★	Diversified Emerging Mkts	Large Growth Mkts



### 3 Year Average Morningstar Risk Measures



### Investment Strategy

The investment seeks long-term capital appreciation. The fund invests primarily in common stocks of companies with significant exposure to countries with developing economies and/or markets. Under normal market conditions, the fund will invest at least 35% of its assets in equity and debt securities of issuers primarily based in qualified countries that have developing economies and/or markets.

### Pillars

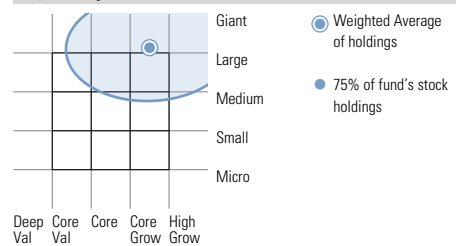
Process	Positive
Performance	Positive
People	Positive
Parent	Positive
Price	Positive
Rating	<b>Gold</b>

### Performance 02-13-2018

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000	9,987	9,634	12,407	12,713	13,625	15,031
Fund	-0.13	-3.66	24.07	8.33	6.38	4.16
+/- MSCI ACWI Ex USA NR USD	1.32	1.28	4.82	2.13	0.67	1.30
+/- Category	-0.91	-0.46	-0.70	1.03	2.52	1.46
% Rank in Cat	82	71	58	37	11	—
# of Funds in Cat	854	858	794	654	467	185

\* Currency is displayed in BASE

### Style Map

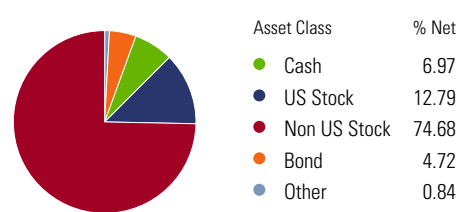


### Top Holdings 12-31-2017

	Weight %	Last Price	Day Chg %	52 Week Range
⊕ Samsung Electronics Co Ltd	2.07	— BASE	2.61 ↑	1,854,000.00 - 2,876,000.00
Reliance Industries Ltd	2.03	924.70 BASE	1.01 ↑	511.00 - 990.95
⊖ Tencent Holdings Ltd	1.72	427.40 BASE	1.18 ↑	202.20 - 476.60
⊕ AIA Group Ltd	1.57	61.30 BASE	0.00 ↓	47.15 - 69.15
⊖ Taiwan Semiconductor Manufacturing Co Ltd	1.57	236.50 BASE	1.72 ↑	183.00 - 266.00
% Assets in Top 5 Holdings	8.95			

⊕ Increase ⊖ Decrease ✱ New to Portfolio

### Asset Allocation



### Top Sectors 12-31-2017

	Fund	3 Yr High	3 Yr Low	Cat Avg	
📱 Technology	21.68	21.68	18.48	24.43	Bar chart showing Fund vs Cat Avg
🏦 Financial Services	17.97	17.97	16.13	23.82	
🛒 Consumer Cyclical	14.64	14.64	13.96	13.07	
🛒 Consumer Defensive	9.54	10.80	9.54	9.67	
⚙️ Industrials	8.53	9.04	6.47	5.50	

### Dividend and Capital Gains Distributions

Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
12-21-2017	66.33	0.6381	0.0000	0.0000	0.8766	1.5147
12-22-2016	50.87	0.0000	0.0000	0.0000	0.7056	0.7056
12-23-2015	50.34	0.0000	0.0000	0.0000	0.5173	0.5173
12-26-2014	53.86	2.6330	0.0000	0.0000	0.7286	3.3616
12-26-2013	58.13	0.6140	0.0000	0.0000	0.7999	1.4139

### Management

	Start Date
Mark E. Denning	06-17-1999
Robert W. Lovelace	06-17-1999
Carl M. Kawaja	01-01-2005
Wahid Butt	01-01-2008
Nicholas J. Grace	01-01-2008
Winnie Kwan	01-01-2009
Christopher M. Thomsen	01-01-2009
Robert H. Neithart	01-01-2012
Jonathan Knowles	01-01-2016
Bradford F. Freer	01-01-2017

# American Funds New World Fund® Class R-6 RNWGX

## Analysis

### Poised to outperform over a full market cycle.

By Andrew Daniels, CFA, CMA 2/12/2018

American Funds New World's relatively conservative approach, skilled management, and low fees make it a standout emerging-markets option. It retains its Morningstar Analyst Rating of Gold.

Capital Group, the parent of American Funds, divides this fund's assets between 10 managers who independently run their own sleeves. The managers are an experienced group, averaging 28 years of industry experience, 25 with Capital Group. Overall, American Funds' multimanager approach is a systemic strength; this and strong analyst benches help to mitigate key-person risk.

Management taps emerging markets' growth through a revenue-centric approach. If a firm gets at least 20% of its revenue or profit from the developing world, then it is fair game—provided that at least 35% of fund assets are invested directly in emerging-markets securities, which does include some bonds. The team believes that while emerging markets are growing faster than developed markets, emerging-markets firms aren't necessarily the best way to capitalize on that growth. In September 2017, emerging-markets equity exposure (including South Korea and Taiwan) stood at 52%. But judged by revenue sources, the equity portfolio received 61% of its revenues from emerging-markets regions.

The fund has delivered over the long haul. During the trailing 10 years ended January 2018, its 4.4% annualized gain beat the MSCI Emerging Markets Index's 3.9% gain as well as 75% of its diversified emerging-markets Morningstar Category peers. Its Sharpe ratio of 0.32 during the same period outpaced the index's 0.27 and 84% of peers. That risk-adjusted record illustrates the fund's strengths, as its mandate helps it lead when emerging markets falter. For example, during the 2015-16 bear market, its 19.9% loss was much less than the index's 34.1% loss. On the contrary, investors should note that the fund won't do as well when emerging-markets rally. That was

the case in 2017, when the fund's 32.6% gain trailed the index's 37.3% gain as well as 61% of its peers.

All told, the fund's many strengths make it poised to outperform over a full market cycle.

#### Process Pillar: Positive

This fund earns a Positive Process rating for its relatively low-risk approach to emerging markets.

Rather than being a pure play on emerging-markets equity, it often keeps more than a third of its assets invested in developed-markets stocks (excluding South Korea and Taiwan) and between 5% and 15% in emerging-markets debt. Those two elements have made the fund far less volatile than most peers without sacrificing too much upside.

Management's revenue-centric approach to investing means that results are driven more by emerging-markets growth than might otherwise be the case. The team believes that while emerging markets are growing faster than developed markets, emerging-markets firms aren't necessarily the best way to capitalize on that growth. In some cases, the fund's developed-markets holdings, which must derive at least 20% of their revenues or profits from emerging markets, may be better positioned.

American Funds' multimanager system lets the fund's 10 managers play to their strengths. Each manager independently runs a sleeve of the portfolio, which helps to enhance diversification and further mute overall volatility. They are also long-term-oriented, so portfolio turnover remains relatively low. While the managers have the flexibility to hedge currency exposure, they tend to do so only when such risks look high.

As of September 2017, the portfolio held 52% of its equity assets in emerging-markets-domiciled stocks (including South Korea and Taiwan), much less than the MSCI Emerging Markets Index's 100%. Judging by revenue sources, however, the portfolio has more emerging-markets exposure. Indeed, the equity portfolio received approximately

### Morningstar's Take

Morningstar Analyst Rating



### Morningstar Pillars

Process	 Positive
Performance	 Positive
People	 Positive
Parent	 Positive
Price	 Positive

### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum



### Fund Performance

	Total Return %	+/- Category
YTD	-0.13	-0.91
2017	33.06	-1.11
2016	4.31	-4.16
2015	-5.62	8.17
2014	-3.29	-0.28

# American Funds New World Fund® Class R-6 RNWGX

## Analysis

60% of its revenues from emerging markets, compared with the index's 80%.

Management has long been underweight China relative to the index. As of December 2017, the portfolio's 13% exposure to China was 18 percentage points less than the index's. Instead, the team has recently been finding value in Brazil: The portfolio's 8% allocation to Brazilian stocks was up from 3% three years earlier. For example, the fund initiated a position in iron ore miner Vale SA VALE and significantly increased its stake in oil state-owned enterprise Petroleo Brasileiro SA Petrobras PBR during the second half of 2017. Both firms have relatively new management teams in place to help curb high debt loads and improve operational efficiencies.

The fund's cash stake has ranged from 2% to 10% during the past five years, but it can reach mid- to upper teens in extreme market conditions, like late 2007. As of December 2017, the cash stake stood at 7% of assets--up from 2% one year earlier--suggesting that management is more cautious after 2017's strong market rally.

### Performance Pillar: + Positive

This fund has delivered over the long haul, warranting a Positive Performance rating.

During the trailing 10-year period ended January 2018, the fund's 4.4% annualized return beat the MSCI Emerging Markets Index's 3.9% gain as well as 75% of its diversified emerging-markets peers. The fund's mandate makes it significantly less volatile than its bogies, contributing to strong risk-adjusted results. Indeed, its Sharpe ratio of 0.32 during the same period outpaced the index's 0.27 and 84% of its peers.

The fund's 7.3% gain during the trailing five years ended January 2018 beat the index's 5.7% gain and 83% of its peers. And its Sharpe ratio of 0.68 trounced the index's 0.43 as well as 93% of its peers. The record illustrates the fund's strengths, as it tends to perform best when emerging markets falter. Indeed, during the 2015-16 bear market, the fund's 19.9% loss was much less than the

index's 34.1% loss. More broadly, during the past 15 years, the fund outperformed in 93% of the 40 rolling three-year periods in which the index posted losses.

On the contrary, investors should note that the fund won't do as well when emerging-markets rally. That was the case in 2017, when the fund's 32.6% gain trailed the index's 37.3% gain as well as 61% of its peers. The fund's substantial underweighting to strong-performing Chinese stocks was the primary culprit.

### People Pillar: + Positive

This fund earns a Positive People rating, reflecting its parent company's systemic strengths as well as management's experience, ability, and aligned interests.

Capital Group, the parent of American Funds, splits the fund's equity stake between subsidiaries Capital International Investors (CII), Capital World Investors (CWI), and Capital Research Global Investors (CRGI). CII's Robert Lovelace co-heads the fund with CWI's Nicholas Grace, while Mark Denning oversees CRGI's side. Robert Neithart runs the fixed-income stake. The managers independently run sleeves of the portfolio; Lovelace, Grace, and Denning also ensure that their investing styles complement one another.

After stepping off the fund for two years, Carl Kawaja rejoined the management team in January 2018. His addition brings the total number of managers to 10. Overall, the team is quite experienced. The managers average 28 years of industry experience, 25 with Capital Group. Within their respective divisions, the managers are each supported by deep analyst teams. In fact, approximately 80 of these analysts contribute to their own slices of the portfolio as well. American Funds' multi-manager system and deep analyst benches limit key-person risk.

All 10 managers invest in the strategy alongside fundholders, including seven with more than \$500,000 invested. This helps align management's interests with investors'.

### Parent Pillar: + Positive

With roots tracing to 1931, Capital Group has long been a standard-bearer in asset management. Widely known in the United States for its American Funds open-end lineup, the active manager boasts some of the industry's more reliable equity and allocation offerings. The firm's multimanager system is key to its success. Dividing each fund into independently run sleeves lets managers invest in line with their styles, enhancing diversification and reducing volatility of the overall portfolio. The funds' analyst-led research portfolios help develop the next generation and recruit top talent with the promise of running money from the start. The result is an investment culture marked by lengthy tenures, strong manager co-investment, and competitive long-term records.

Capital Group has improved its fixed-income approach through greater coordination and the addition of veteran managers, but the firm still must show it can achieve the kind of excellence in that asset class that it has with equities. Capacity monitoring, a perennial issue given the funds' massive asset bases, could become a more pressing concern if the firm's efforts to grow its business in Europe and Asia succeed or if U.S. fund flows shift back to active management. In the meantime, investors benefit from Capital Group's modest fees, consistent results, and sound stewardship. The firm earns a Positive Parent rating.

### Price Pillar: + Positive

Low fees earn this fund a Positive Price rating.

This fund's front-load A shares hold approximately 40% of assets, charge 1.04%, and earn a Morningstar Fee Level of Low. By comparison, the median net expense ratio for the emerging-markets stock front-load peer group is 1.58%.

The fund's no-load F2 shares hold approximately 25% of assets, charge 0.75%, and also earn a Low fee level. That's much lower than the 1.37% median net expense ratio for the no-load peer group. In all, 16 of the fund's 17 share classes sport Low fee levels versus similarly distributed rivals.

# American Funds New World Fund® Class R-6 RNWGX

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## Analysis

Trading costs are also quite competitive. Brokerage commissions of 0.07% of average net assets in fiscal 2017 fell well below the 0.17% category median.

# American Funds Washington Mutual Investors Fund Class R-6

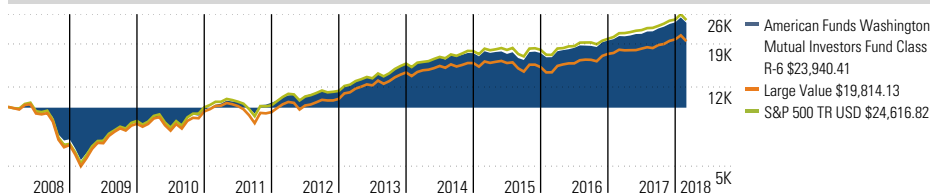
## RWGMGX

Morningstar Analyst Rating

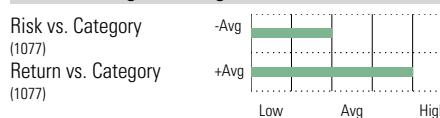
Gold

NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
45.58	↑0.11   0.24	1.93	101.0	Open	\$250	None	0.30%	★★★★★	Large Value	Large Blend

### Growth of 10,000 02-12-2008 - 02-12-2018



### 3 Year Average Morningstar Risk Measures



### Investment Strategy

The investment seeks to produce income and to provide an opportunity for growth of principal consistent with sound common stock investing. The fund invests primarily in common stocks of established companies that are listed on, or meet the financial listing requirements of, the New York Stock Exchange and have a strong record of earnings and dividends. Its advisor strives to maintain a fully invested, diversified portfolio, consisting primarily of high-quality common stocks.

### Pillars

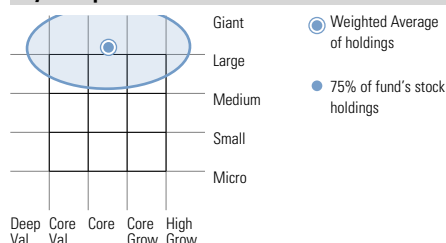
Process	Positive
Performance	Positive
People	Positive
Parent	Positive
Price	Positive
Rating	Gold

### Performance 02-12-2018

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000	9,956	9,579	11,709	13,497	19,169	23,704
Fund	-0.44	-4.21	17.09	10.51	13.90	9.01
+/- S&P 500 TR USD	0.03	0.34	0.12	-0.10	-0.28	-0.33
+/- Category	1.35	1.15	5.79	2.93	2.59	1.54
% Rank in Cat	7	8	5	3	2	—
# of Funds in Cat	1,313	1,314	1,227	1,055	943	670

\* Currency is displayed in BASE

### Style Map

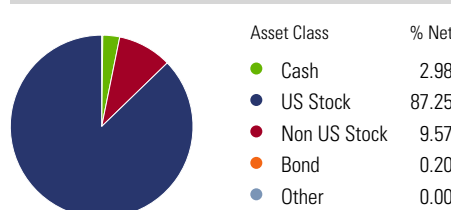


### Top Holdings 12-31-2017

	Weight %	Last Price	Day Chg %	52 Week Range
Microsoft Corp	6.11	89.83 BASE	0.79 ↑	63.62 - 96.07
The Home Depot Inc	3.72	183.72 BASE	-0.19 ↓	139.05 - 207.60
Boeing Co	3.01	343.16 BASE	-0.19 ↓	166.35 - 361.45
Intel Corp	2.80	44.46 BASE	-0.83 ↓	33.23 - 50.85
Lockheed Martin Corp	2.73	350.23 BASE	1.28 ↑	261.02 - 361.79
% Assets in Top 5 Holdings	18.37			

⊕ Increase ⊖ Decrease ✱ New to Portfolio

### Asset Allocation



### Top Sectors 12-31-2017

	Fund	3 Yr High	3 Yr Low	Cat Avg	Fund	Cat Avg
Financial Services	17.18	17.18	12.25	23.10	17.18	23.10
Technology	16.59	16.59	12.74	11.71	16.59	11.71
Industrials	13.81	16.42	13.81	9.98	13.81	9.98
Healthcare	13.22	13.22	13.08	13.49	13.22	13.49
Energy	10.59	12.34	9.48	9.85	10.59	9.85

### Dividend and Capital Gains Distributions

Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
12-18-2017	45.66	1.4834	0.0000	0.0000	0.3027	1.7861
09-15-2017	43.96	0.0000	0.0000	0.0000	0.2255	0.2255
06-16-2017	42.75	1.0450	0.0000	0.0000	0.2245	1.2695
03-17-2017	42.95	0.0000	0.0000	0.0000	0.2234	0.2234
12-19-2016	41.36	1.8250	0.0000	0.0000	0.2465	2.0715

### Management

	Start Date
Alan N. Berro	07-01-1997
Jeffrey T. Lager	07-01-2004
J. David Carpenter	07-01-2010
Alan J. Wilson	07-01-2013
Jin Lee	07-01-2014
Eric H. Stern	11-01-2014
Brady L. Enright	07-01-2016



# American Funds Washington Mutual Investors Fund Class R-6 RWMGX

## Analysis

### A reliable long-term option.

By Alec Lucas, Ph.D. 12/22/2017

American Funds Washington Mutual earns a Morningstar Analyst Rating of Gold for its ability to preserve and grow investors' capital.

The fund's strict investment criteria keep its portfolio centered on investment-grade companies with a long history of paying dividends and strong prospects for continuing to do so. The managers are picky and price conscious in timing their purchases, however, and often buy such companies amid a cloud of uncertainty. Top-five holding Boeing BA, for example, has been a big contributor to the fund's strong showing thus far in 2017, and yet the managers built most this position in 2012 when the market fretted about the reliability of Boeing's then much-anticipated 787 aircraft, the first commercial aircraft to make extensive use of lightweight, fuel-efficient carbon composites.

The fund's nearly \$100 billion asset base inclines the portfolio to mega-cap stocks, but that hasn't kept the fund from standing out. As of September 2017, the fund's 7.7% aerospace and defense stake, which included Boeing and fellow top-five holding Lockheed Martin LMT, ranked in the large-value Morningstar Category's top decile.

In its hunt for bargains, the fund can sometimes be too aggressive. The fund, for example, added to ConocoPhillips COP and General Electric GE in early 2016 and late 2017, respectively, just prior to dividend cuts that hurt both companies' share prices. However, the fund's buy-and-hold approach means even additions that seem ill-timed at first can still work out over the long term.

The fund consistently holds up better than the S&P 500 in turbulent conditions. Indeed, since 2000, the portfolio has been more resilient than the benchmark in every major market downturn. In the 2015-16 correction, for example, the fund's 10.7% peak-to-trough loss was 2.2 percentage points better than the boggy's.

Losing less in downturns and keeping up in rallies has led to a strong risk-adjusted record since longest-tenured manager Alan Berro started here in 1997. With a time-tested approach and strong management team, the fund should continue to build on that record.

### Process Pillar: Positive

This fund's inclusion requirements are the strictest among American Funds' large-cap offerings, but they've proven their worth and merit a Positive Process Pillar rating. Founded in 1952, the fund's investing criteria are rooted in rules formed in the Great Depression's aftermath to ensure prudent management of trust funds. Potential investments must clear a number of hurdles, including largely shunning the sale of alcohol and tobacco products. Firms must meet New York Stock Exchange listing requirements, even if they are not listed on the exchange. S&P 500 constituents, however, must make up 90% of the portfolio, which naturally leads to extensive overlap with the index. In 2010, American raised the limit on foreign holdings to 10% of assets from 5%, but the fund still remains one of its purest plays on U.S. large-cap stocks.

The fund's focus on income is similarly old-school, as it pursues yield in a disciplined way. It aims for a dividend yield greater than that of the S&P 500, but the fund largely sticks to investment-grade companies with a long history of paying dividends. In fact, only 5% of the portfolio may be invested in non-dividend-paying companies. Plus, firms must have paid their dividends in eight of the past 10 years and earned them in four of the past five years, which generally disqualifies those that have borrowed to cover their dividend in lieu of an earnings shortfall.



This fund has a sturdy portfolio. As of September 2017, its \$105 billion average market cap ranks among the large-value category's highest. So too does having 51.1% of assets invested in stocks with a wide Morningstar Economic Moat Rating. Plus, the overall portfolio's average return on assets during the past year ranks within the category's top quintile. The fund's focus on well-cap-

### Morningstar's Take

Morningstar Analyst Rating



### Morningstar Pillars

Process	 Positive
Performance	 Positive
People	 Positive
Parent	 Positive
Price	 Positive

### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum

 Gold  Silver  Bronze **Neutral**  Negative

### Fund Performance

	Total Return %	+/- Category
YTD	-0.20	1.35
2017	20.54	4.59
2016	13.73	-1.08
2015	0.12	4.17
2014	11.53	1.32

# American Funds Washington Mutual Investors Fund Class R-6 RWMGX

## Analysis

itized mega-caps shows in its below average Morningstar Risk ratings for the short and long term.

The fund's dividend requirements can have a big effect on its sector weightings. At year-end 2006, nearly one fourth of the fund's assets were in financials firms that at that point still had histories of steady payouts, like Bank of America BAC. As the 2007-08 credit crisis deepened, the fund's financials stake fell to a low of 7.5% of assets in mid-2009, as Bank of America and about 20 other financials firms cut or eliminated their dividends and thus dropped off the fund's eligibility list. That kept the fund from buying battered bank stocks, which rebounded strongly in 2009's last three quarters and more recently in late 2016. As of September 2017, the fund had 14.5% of its assets in financials, versus 26% for the Russell 1000 Value Index.

The fund's investing criteria also keep it from owning alcohol or tobacco companies. It can, however, hold defense stocks, like Lockheed Martin LMT, a top-10 name since September 2014.

### Performance Pillar: + Positive

The fund receives a Positive Performance rating for its strong record. From longest-tenured manager Alan Berro's July 1997 start date through November 2017, the fund's 8% annualized gain beat the S&P 500 and typical large-value peer by 0.5 and 1.4 percentage points, respectively, with lower volatility than both.

The portfolio's grounding in mega-cap dividend payers has a big impact on the fund's short-term relative performance. When more-speculative fare leads the way, the fund tends to lag. That was the case in the late 1990s, 2009, and 2012. The fund's 12.5% gain in 2012, for example, trailed the index by 3.5 percentage points and finished in the category's bottom quartile.

In turbulent conditions, however, the fund tends to hold up better than most. It outperformed in the early 2000s bear market and the 2007-09 credit crisis, as well as in years in which the market ex-

perienced a sharp drop. In 2011, trading lightly in financials helped the fund to a top-decile 7% gain, which beat the index by nearly 5 percentage points. Even with an overweighting in hard-hit energy stocks, the fund again held up well in the 2015-16 correction. Peak (July 20, 2015) to trough (Feb. 11, 2016), its 10.7% loss was 2.2 percentage points less than the S&P 500's. The fund's downside protection is impressive considering it remains fully invested by mandate and can't benefit from a cash cushion.

### People Pillar: + Positive

American Funds' multimanager approach helps to handle this fund's nearly \$100 billion asset base, the large-value category's biggest. The fund's Positive People rating reflects its systemic strengths and the managers' experience, ability, and aligned interests.

Capital Group, the parent of American Funds, has split these assets between subsidiaries Capital World Investors and Capital International Investors since early 2014. Longest-tenured manager Alan Berro, who started here in 1997, heads up the whole fund and CWI's team, composed of Jeffrey Lager, David Carpenter, Alan Wilson, and Brady Enright. Eric Stern heads up CII's side, which currently includes only Jin Lee. The managers, based in Los Angeles and San Francisco, each oversee a separate sleeve of the portfolio, with Berro and Stern helping to ensure their investing styles complement one another. For example, Johnson runs a compact, very top-heavy portfolio, while Carpenter's is more diffuse. Even after the July 2017 departure of longtime manager Gregory Johnson, seasoned leadership still characterizes the combined seven-person team. Lee is the least experienced manager and yet has more than 20 years of industry experience. The CWI and CII teams are each supported by about 25 analysts. Each analyst group also oversees its own slice of the portfolio.

Three managers invest at least \$500,000 each here, and four more than \$1 million each.

### Parent Pillar: + Positive

With roots tracing to 1931, Capital Group has long

been a standard-bearer in asset management. Widely known in the United States for its American Funds open-end lineup, the active manager boasts some of the industry's more reliable equity and allocation offerings. The firm's multimanager system is key to its success. Dividing each fund into independently run sleeves lets managers invest in line with their styles, enhancing diversification and reducing volatility of the overall portfolio. The funds' analyst-led research portfolios help develop the next generation and recruit top talent with the promise of running money from the start. The result is an investment culture marked by lengthy tenures, strong manager co-investment, and competitive long-term records.

Capital Group has improved its fixed-income approach through greater coordination and the addition of veteran managers, but the firm still must show it can achieve the kind of excellence in that asset class that it has with equities. Capacity monitoring, a perennial issue given the funds' massive asset bases, could become a more pressing concern if the firm's efforts to grow its business in Europe and Asia succeed or if U.S. fund flows shift back to active management. In the meantime, investors benefit from Capital Group's modest fees, consistent results, and sound stewardship. The firm earns a Positive Parent rating.

### Price Pillar: + Positive

Low fees earn the fund a Positive Price Pillar rating. The A shares' 0.58% expense ratio, which applies to more than half of the fund's assets, is 53 basis points below the large-cap, front-load peer median. That easily ranks in the cheapest decile of those peers and is also competitive with the category's better-priced no-load options. Plus, 12 of the fund's remaining 16 share classes (together accounting for nearly all the remaining assets) sport Morningstar Fee Levels of Low versus similarly distributed rivals.

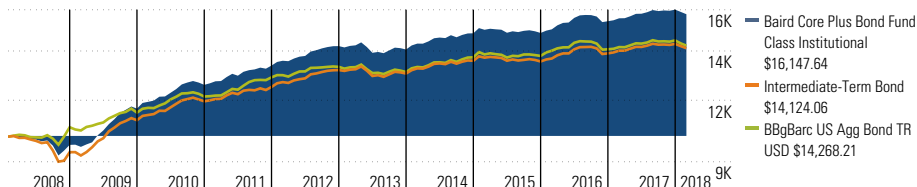
Trading costs across all share classes were also comparatively modest. Brokerage fees of 0.02% of average net assets in fiscal 2017 were below the 0.04% category median.

# Baird Core Plus Bond Fund Class Institutional BCOIX

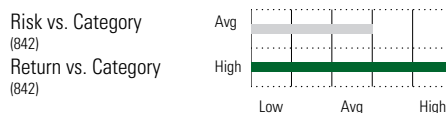
Morningstar Analyst Rating  
Silver

NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
11.00	↓0.00   0.00	2.87	16.4	Open	\$25,000	None	0.30%	★★★★★	Intermediate-Term Bond	

## Growth of 10,000 02-12-2008 - 02-12-2018



## 3 Year Average Morningstar Risk Measures



## Investment Strategy

The investment seeks an annual rate of total return, before fund expenses, greater than the annual rate of total return of the Barclays U.S. Universal Bond Index. The fund normally invests at least 80% of its net assets in the following types of U.S. dollar-denominated debt obligations: U.S. government and other public-sector entities; asset-backed and mortgage-backed obligations of U.S. and foreign issuers; corporate debt of U.S. and foreign issuers. It invests primarily in investment-grade debt obligations, but may invest up to 20% of its net assets in non-investment grade debt obligations (sometimes referred to as "high yield" or "junk" bonds).

## Performance 02-12-2018

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000	9,822	9,857	10,214	10,656	11,397	16,195
Fund	-1.78	-1.43	2.14	2.14	2.65	4.94
+/- BBGBarc US Agg Bond TR USD	0.25	0.11	1.16	0.92	0.82	1.29
+/- Category	-0.07	-0.05	0.84	0.79	0.85	1.13
% Rank in Cat	46	46	16	11	10	7
# of Funds in Cat	1,023	1,023	963	823	761	539

\* Currency is displayed in BASE

## Top Holdings 12-31-2017

	Weight %	Maturity Date	Amount Mil	Value Mil
⊕ US Treasury Bond 2.875%	3.66	05-15-2043	577.15	593.45
US Treasury Bond 3.5%	2.93	02-15-2039	416.67	475.90
⊕ US Treasury Note 1.875%	2.10	03-31-2022	343.98	340.09
⊕ US Treasury Note 1.75%	1.86	03-31-2022	307.68	302.63
⊕ US Treasury Note 2%	1.16	11-15-2026	194.05	187.80
% Assets in Top 5 Holdings	11.70			

⊕ Increase ⊖ Decrease ✱ New to Portfolio

## Top Sectors 12-31-2017

	Fund	BMark	Cat Avg
Corporate Bond	49.76	—	—
Agency MBS Pass-Through	17.62	—	—
U.S. Treasury	13.12	—	—
Asset-Backed	5.07	—	—
Commercial MBS	4.65	—	—

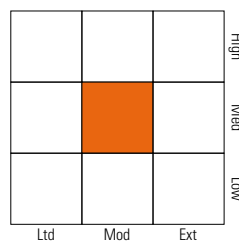
## Dividend and Capital Gains Distributions

Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
01-25-2018	11.14	0.0000	0.0000	0.0000	0.0208	0.0208
12-26-2017	11.18	0.0000	0.0000	0.0000	0.0384	0.0384
11-27-2017	11.25	0.0000	0.0000	0.0000	0.0266	0.0266
10-25-2017	11.20	0.0000	0.0000	0.0000	0.0271	0.0271
09-25-2017	11.29	0.0000	0.0000	0.0000	0.0248	0.0248

## Pillars

Process	⊕ Positive
Performance	⊕ Positive
People	⊕ Positive
Parent	⊕ Positive
Price	⊕ Positive
Rating	Silver

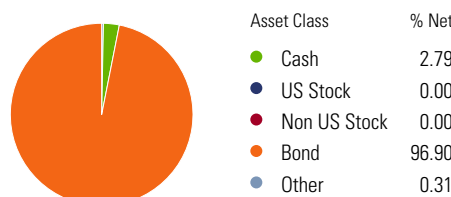
## Style Map 12-31-2017



## Bond Statistics

Average Effective Duration	5.77
Average Effective Maturity (Years)	7.64
Average Credit Quality	BBB
Average Weighted Coupon	3.73
Average Weighted Price	103.72

## Asset Allocation



## Management

	Start Date
M. Sharon deGuzman	09-29-2000
Gary A. Elfe	09-29-2000
Charles B. Groeschell	09-29-2000
Warren D. Pierson	09-29-2000
Mary Ellen Stanek	09-29-2000
Daniel A. Tranchita	09-29-2000

# Baird Core Plus Bond Fund Class Institutional BCOIX

## Analysis

**This fund is honest about its capabilities, anchored in experience, and positioned to its strengths.**

By Emory Zink 3/6/2017

While Baird Core Plus Bond inhabits a well-trodden investment-grade landscape, management's experience, nimble implementation, and low fees have given the fund an edge, delivering attractive and dependable results to investors over the longer term and earning the fund a Morningstar Analyst Rating of Silver.

Mary Ellen Stanek leads a team of six named co-portfolio managers who average 33 years of experience in the industry and have contributed to this strategy from its inception in 2000. The team is rounded out with three additional senior portfolio managers and eight analysts. Although this is fewer in number than many larger firms with comparable funds, Stanek and her support counter this by sticking to sectors and investments that they can thoroughly research with the fund's given resources.

It is not only the firm's leadership that has remained stalwart--the process has been consistent as well. Similar to many intermediate-bond Morningstar Category peers, the team invests in a mix of corporates, mortgages, and Treasuries. However, this strategy includes the flexibility to allocate up to 20% in high-yield bonds, an exposure that has historically remained in the low single digits. The fund benchmarks itself against the Bloomberg Barclays U.S. Universal Bond Index, which includes distressed debt in addition to the holdings of the Bloomberg Barclays U.S. Aggregate Bond Index. Over the life of the strategy, the fund has maintained a persistent overweighting to credit and underweighting to Treasuries and government-related securities. As of early 2017, the credit allocation occupied 54% of the portfolio--at the higher end of its historical allocation range.

The fund's lack of leverage and derivatives as well as its duration-neutral approach enable management to focus on its strengths--security selection and sector rotation. Over the 10 years ended Feb-

ruary 2017, the portfolio generated 5.4% of annualized return, 82 basis points ahead of its index and better than 90% of intermediate-term category peers.

**Process Pillar:**  Positive

Mary Ellen Stanek and her co-portfolio managers have consistently followed a straightforward and risk-conscious process since the fund's inception in 2000. Allocations span a mix of corporate bonds, mortgages, Treasuries--similar to the fund's sibling Baird Aggregate Bond BAGIX--but this version includes up to 20% in non-investment-grade debt as well. The team avoids making interest-rate bets and keeps duration close to its Bloomberg Barclays U.S. Universal Bond Index benchmark. There are no derivatives, foreign currency, or leverage at work in the portfolio. Although the fund is overwhelmingly dedicated to investment-grade fare, within the lower-quality credit brackets, the securities are smaller in allocation and diverse across issuers as an additional risk control in the portfolio-construction process.

All members of the team source, analyze, and secure investments for the portfolio--which is possible given its smaller size and the industry experience across the bench of contributors. Stanek and her co-portfolio managers regularly discuss a macroeconomic context for the fund's positioning, but when it comes to curating the portfolio, they stick to sectors and bonds that they can thoroughly research, avoiding overly esoteric or exotic fare. The team's straightforward and cohesive process has worked well over the long haul and supports the fund's Positive Process Pillar rating.

Relative to its Bloomberg Barclays U.S. Universal Bond Index, the fund maintains a persistent overweighting to credit, ranging between a fourth to modestly greater than half of the portfolio over the trailing 10 years. At the start of 2017, the credit allocation sat at around 54%. Within the credit bucket, management cited financials as a bright spot, given the extensive banking legislation and shored-up balance sheets required across the sector. The weighting exceeded that of its index by roughly 14 percentage points. Other exposures in-

### Morningstar's Take

Morningstar Analyst Rating



### Morningstar Pillars

Process		Positive
Performance		Positive
People		Positive
Parent		Positive
Price		Positive

### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum

 Gold  Silver  Bronze **Neutral**  Negative

### Fund Performance

	Total Return %	+/- Category
YTD	-1.78	-0.08
2017	4.65	0.93
2016	4.73	1.50
2015	0.14	0.40
2014	6.59	1.41

# Baird Core Plus Bond Fund Class Institutional BCOIX

## Analysis

cluded out-of-benchmark nonagency residential mortgage-backed securities (2% investment-grade and 6% non-investment-grade) and a modest 3% corporate high-yield allocation, consisting mostly of fallen angels, which are securities downgraded from investment-grade but higher quality than most distressed debt.

Management searches for value in an investment-grade range that tilts the portfolio to a higher credit quality than many category peers but remains more opportunistic than the Treasury-heavy index. The allocation to credits rated A and BBB was 19 percentage points above the median category peer and 21 percentage points above the index at the beginning of 2017. Management remains light in short maturities in favor of intermediate and floating-rate securities--a positioning that anticipates market volatility in the near term. Duration typically matches that of the index and was 5.7 years at the start of 2017.

**Performance Pillar:** + Positive

Over the 10 years ended February 2017, the fund generated a 5.4% annualized return, 82 basis points ahead of its Bloomberg Barclays U.S. Universal Bond Index and better than 90% of its category peers, earning the fund a Positive Performance Pillar rating.

When credit markets take a dive, as they did during the 2008 financial crisis, the fund's credit-heavy allocation causes the fund to tumble a bit beyond the index, but the higher-quality bias of its securities tends to buoy the fund's performance over its average category peer in such situations. For example, when credit markets sold off in August 2015, the fund lost around 3.7%--more than the roughly 3.4% loss of the index but less than the 4.6% loss of the category.

Challenging positions from 2015--particularly exposure to commodity-sensitive industrial sectors--proved a boon to the fund's performance the following year. Holdings, such as those in Glencore, exhibited the team's patience in the face of market stress as commodity prices bounced back from a rough start to 2016. A steepening of the yield

curve in the second half of 2016 improved the outlook for its life insurance holdings, such as Mass Mutual, while AAA rated commercial mortgage-backed securities and nonagency RMBS also proved additive. The portfolio generated 4.7% for 2016, outpacing its index by 82 basis points and landing ahead of 85% of category peers.

**People Pillar:** + Positive

As managing director and chief investment officer of Baird Advisors, Mary Ellen Stanek leads a six-member formal portfolio management team that collaborates on a variety of funds in Baird's fixed-income suite, including Silver-rated Baird Aggregate Bond and Silver-rated Baird Short-Term Bond BSBIX. Averaging 33 years of experience in the industry, the formal leadership roster has remained consistent since the fund's 2000 inception. Portfolio recommendations are further bolstered by the input of three additional senior portfolio managers--with credit research, securitized research, and portfolio risk focuses--and eight dedicated fixed-income analysts.

Stanek, formerly president and CEO of Firststar Investment Research & Management (Firststar Corp's money-management division) where she worked for 21 years, left for Baird with a group of Firststar veterans in March 2000. The team's strength derives heavily from its deep bench of experience and cohesive culture, but, perhaps most importantly, the team benefits from recognizing its limitations. Stanek and her co-portfolio managers don't pursue highly illiquid or esoteric investments that would require resources beyond those that currently exist to support the fund. Seasoned management leading an effectively collaborative team earns this fund a Positive People Pillar rating.

**Parent Pillar:** + Positive

Robert W. Baird & Co. is a Milwaukee, Wisconsin-based financial-services firm providing investment banking, private wealth advising, and asset-management services. This employee-owned entity's asset-management division encourages investor-first principles by maintaining low fees, investing in core competencies, and developing straightforward lineups of investment products. It earns a Positive Parent rating.

Fixed-income-focused Baird Advisors comprises 95% of mutual fund assets under management, and, in conjunction with Baird Equity Asset Management, oversees 14 mutual funds. Baird has been growing its investment capabilities: In mid-2015, it hired a well-regarded municipal team led by Duane McAllister to add to the firm's existing core and municipal-bond investments. On the equity side, it acquired in early 2016 Chautauqua Capital Management, a global equity shop run out of Boulder, Colorado. Product development is thoughtful and deliberate, complementing the firm's existing strengths.

Mary Ellen Stanek, CIO of Baird Advisors, and her long-tenured team of collaborators demonstrate solid stewardship traits. The team develops portfolio managers and analysts internally, with an eye to cultural compatibility and cross-functional roles. Turnover among investment personnel is low. The fixed-income group claims an impressive performance track record across its suite of offerings.

**Price Pillar:** + Positive

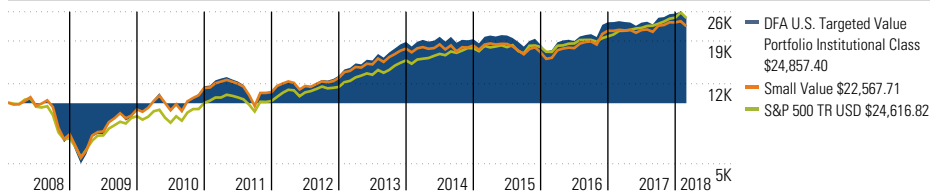
The fund's institutional share class, where 78% of assets are invested, charges an exceptionally low fee of 0.30%, which makes it competitive with many index funds. Relative to actively managed peers, this fund's fee is 20 basis points lower than the median of its intermediate-term bond institutional category. The fund's retail share class charges 0.55% and registers below-average fees relative to its intermediate-term no-load peers. This fund's competitively priced fees qualify it for a Positive Price Pillar rating.

# DFA U.S. Targeted Value Portfolio Institutional Class DFFVX

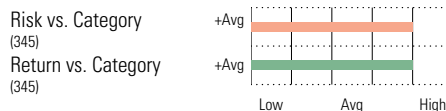
Morningstar Analyst Rating **Gold**

NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
23.99	↑0.03   0.13	1.12	10.5	Open	—	None	0.37%	★★★★	Small Value	Small Value

## Growth of 10,000 02-12-2008 - 02-12-2018



## 3 Year Average Morningstar Risk Measures



## Investment Strategy

The investment seeks long-term capital appreciation. The fund, using a market capitalization weighted approach, purchases a broad and diverse group of the readily marketable securities of U.S. small and midcap companies that the Advisor determines to be value stocks. It may purchase or sell futures contracts and options on futures contracts for U.S. equity securities and indices, to adjust market exposure based on actual or expected cash inflows to or outflows from the fund. The fund does not intend to sell futures contracts to establish short positions in individual securities or to use derivatives for purposes of speculation or leveraging investment returns.

## Performance 02-12-2018

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000	9,626	9,187	10,372	12,416	16,926	24,737
Fund	-3.74	-8.13	3.72	7.48	11.10	9.48
+/- S&P 500 TR USD	-3.27	-3.57	-13.25	-3.14	-3.08	0.13
+/- Category	0.30	-0.85	0.88	0.66	1.55	1.09
% Rank in Cat	38	84	43	45	26	28
# of Funds in Cat	415	418	394	343	296	205

\* Currency is displayed in BASE

## Top Holdings 12-31-2017

	Weight %	Last Price	Day Chg %	52 Week Range
HollyFrontier Corp	0.93	45.00 BASE	0.67 ↑	23.46 - 53.21
✳ S+p500 Emini Fut Mar18 Xcme 20180316	0.80	—	—	—
⊖ Toll Brothers Inc	0.78	45.38 BASE	0.13 ↑	31.05 - 52.73
⊖ PulteGroup Inc	0.76	29.02 BASE	-0.55 ↓	21.13 - 35.21
Arrow Electronics Inc	0.74	78.01 BASE	0.10 ↑	69.67 - 87.26

% Assets in Top 5 Holdings 4.01

⊕ Increase ⊖ Decrease ✳ New to Portfolio

## Top Sectors 12-31-2017

	Fund	3 Yr High	3 Yr Low	Cat Avg
🏠 Financial Services	24.09	28.54	24.09	25.85
⚙️ Industrials	20.57	20.57	19.54	17.28
🛒 Consumer Cyclical	16.41	16.41	12.55	13.50
💻 Technology	11.61	13.91	11.61	10.61
🔥 Energy	9.88	9.88	6.80	5.31

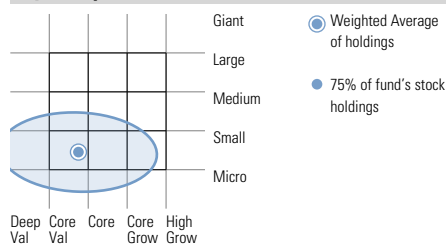
## Dividend and Capital Gains Distributions

Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
12-15-2017	24.49	1.0264	0.0641	0.0000	0.1045	1.1950
09-28-2017	24.95	0.0000	0.0000	0.0000	0.0710	0.0710
06-29-2017	23.78	0.0000	0.0000	0.0000	0.0610	0.0610
03-30-2017	23.99	0.0000	0.0000	0.0000	0.0608	0.0608
12-15-2016	24.26	0.7368	0.0422	0.0000	0.0701	0.8491

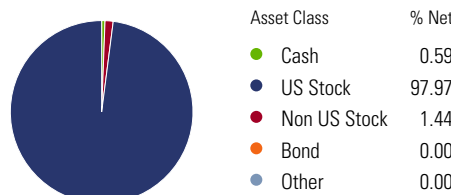
## Pillars

Process	⊕ Positive
Performance	⊕ Positive
People	⊕ Positive
Parent	⊕ Positive
Price	⊕ Positive
Rating	🏆 Gold

## Style Map



## Asset Allocation



## Management

Manager	Start Date
Joseph H. Chi	02-28-2012
Jed S. Fogdall	02-28-2012
Joel P. Schneider	07-21-2015

# DFA U.S. Targeted Value Portfolio Institutional Class DFFVX

## Analysis

### Targeted exposure to the cheaper half of U.S. small- and mid-cap stocks.

By Adam McCullough 6/26/2017

DFA U.S. Targeted Value is a great choice for diversified exposure to mid- and small-cap U.S. value stocks. Its well-constructed portfolio, low turnover, flexible trading approach, and low fee support its Morningstar Analyst Rating of Gold.

This fund targets stocks representing the cheaper half of the U.S. mid- and small-cap equity market, based on price/book ratio, and excludes stocks with poor profitability, highly regulated utilities, and REITs. But these exclusions are modest, and the portfolio still holds more than 1,400 stocks, which it weights by market cap. This broad reach effectively diversifies firm-specific risk. The fund has a wider market-cap range than most of its small-value peers, venturing further into both mid- and micro-cap territory. Stocks can qualify for inclusion with a market cap of only \$10 million. Yet, the average market cap of the fund's holdings is about 20% less than that of its typical peer. And it has a comparable value orientation.

Prior to 2014, the fund did not filter out stocks with poor profitability. But Dimensional updated the strategy based on research indicating that more-profitable stocks tend to offer higher returns. It expanded its reach in the mid-cap segment to help offset the reduction in diversification that would have otherwise resulted from excluding the least profitable stocks. Although the managers apply rules-based screens to construct the portfolio, they have the flexibility to substitute one stock for another and trade patiently to reduce transaction costs. This flexibility allows the firm's traders to negotiate from a position of strength, and DFA often acts as a liquidity provider, which allows them to obtain better prices. To further enhance returns, the managers can use momentum as a reason not to trade, like holding off on buying names with poor recent performance.

This approach has worked well over the long term. During the past 15 years through May 2017, the

fund topped the small-value Morningstar Category average and the Russell 2000 Value Index by 0.9 and 1.3 percentage points annualized, respectively, with slightly greater volatility.

#### Process Pillar: Positive

A time-tested approach, efficient market-cap-weighted construction, and flexible trading support the fund's Positive Process Pillar Rating.

The fund starts with the cheaper half of U.S. stocks as measured by price/book that fall outside of the largest 500 names by market cap. Next it removes REITs, highly regulated utilities, recent IPOs, acquisition targets, and the least-profitable names. DFA measures profitability as operating income before depreciation and amortization minus interest expense, over book value. To determine which of the least profitable stocks to exclude, DFA divides this fund's selection universe into four quartiles on a valuation/size plane. It excludes the least profitable 80% of names that land in the cheapest 25th–50th percentile of the mid-cap region. The managers are less stringent in the cheapest mid-cap quartile, where they only exclude the least profitable 10% of companies. In the small-cap market, it only excludes the least profitable 10% in the more expensive quartile and keeps all the cheapest small-cap stocks. Stocks that make the cut are weighted by market cap, which reduces turnover. The managers can substitute one stock for another to reduce transaction costs. The fund may also refrain from buying stocks with strong negative momentum and hold on to some of its winners as they move out of the targeted value zone.


This is among the most broadly diversified funds in the small-value category. It holds more than 1,400 stocks, and its top 10 holdings only account for about 8% of the portfolio. The fund covers a wider swath of the market-cap spectrum than many of its peers, extending its reach further up the market-cap ladder and offering greater exposure to micro-cap stocks than the average fund in the small-value category. The average market cap of the fund's holdings is about 20% less than that of its typical peer. Overall, the portfolio tends to have a

### Morningstar's Take

Morningstar Analyst Rating



### Morningstar Pillars

Process	 Positive
Performance	 Positive
People	 Positive
Parent	 Positive
Price	 Positive

### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum



### Fund Performance

	Total Return %	+/- Category
YTD	-3.74	0.30
2017	9.59	1.05
2016	26.86	0.88
2015	-5.72	0.99
2014	2.94	-0.40

# DFA U.S. Targeted Value Portfolio Institutional Class DFFVX

## Analysis

similar value tilt to the category norm. But the portfolio is distinctive.

The fund has greater exposure to industrials stocks than the average small-cap value fund. It is most underweighted in both the real estate and utilities sectors because of its exclusion of REITs and highly regulated utilities. DFA excludes REITs because it believes they should be treated as a separate asset class from equities and that regulated utilities do not behave like other value stocks because their earnings potential is capped and they are generally less risky.

The portfolio's turnover is consistently among the lowest in the category, largely because of its broad market-cap-weighted approach. Its price/book value selection criterion also helps because this metric is more stable than many alternatives, such as price/earnings.

### Performance Pillar: + Positive

The fund earns a Positive Performance rating because it has generated strong long-term returns compared with its category peers.

During the past 15 years through May 2017, this fund's return bested the small-value category average and the Russell 2000 Value Index by 0.9 and 1.3 percentage points annualized, respectively, with slightly higher volatility. Favorable stock exposure rather than sector allocation contributed the most to this outperformance. Performance was also strong over shorter windows. Its rolling three-year returns ranked in the category's top half 81% of the time in the past 13 years.

The strategy can underperform for long periods of time. During the market downturn from October 2007 through March 2009, the fund lost 61.9% and the category average lost 58.3%. But the fund has rebounded nicely. From October 2007 through May 2017, it cumulatively returned 91.8% against the category average of 83.7%. Favorable stock exposure in the consumer cyclical, financial services, and technology sectors helped the most.

Although the fund has low turnover, it has distrib-

uted capital gains in eight of the trailing 10 years, the largest of which measured 7.8% of the fund's NAV in 2013. Despite these distributions, the fund's post-tax 15-year return still lands in the top third of the category.

### People Pillar: + Positive

Joseph Chi and Jed Fogdall have been listed as comanagers of the fund since February 2012. Chi and Fogdall co-lead the firm's portfolio management team and have served as portfolio managers at the firm since 2004 and 2005, respectively. Chi also serves as chairman of the investment committee. Joel Schneider rejoined the fund in July 2015. Schneider has served as a portfolio manager at DFA since 2015. These named managers lead a broader team of portfolio managers who assist with the fund's day-to-day operations. Chi and Fogdall sit on Dimensional's investment committee, which provides additional fund oversight.

Henry Gray announced in February 2017 that he planned to leave DFA to pursue an interest in education. Gray had served as head of global equity trading and as a portfolio manager on this fund. Schneider replaced Gray as a portfolio manager on this fund. DFA removed Bhanu Singh and Stephen Clark as named managers on the fund in February and July 2015, respectively. Clark is now in charge of DFA's North American institutional group and not a portfolio manager. Singh transferred to the Sydney office to head the Asia-Pacific portfolio management team. According to the Statement of Additional Information, Chi and Schneider have small investments in this fund while Fogdall does not.

### Parent Pillar: + Positive

Dimensional Fund Advisors is one of the industry's best stewards, so it earns a Positive Parent Pillar rating. All its strategies are grounded in an unwavering belief in market efficiency and transaction cost management. They attempt to profit from the types of risk that the market compensates by emphasizing securities with characteristics that historically have been associated with higher returns.

The firm generally has been disciplined about

launching new strategies in each of the markets where it operates. Each strategy must be economically sound, consistent with its philosophy, and backed by empirical evidence. That said, the firm has adapted some of its strategies to meet client demand in all markets. This behavior bears watching, but for the most part the firm has maintained strong research integrity. It is also selective about the clients it works with. Individual investors can gain access to the firm's funds only through an intermediary or financial advisor that the firm has screened to mitigate short-term trading that can hurt long-term investors.

Manager retention here is high. The firm's team- and rules-based approach to portfolio management mitigates the impact of departures when they do occur. An investment committee provides additional oversight and continuity. Dimensional is organized as a private partnership, with significant employee ownership.

### Price Pillar: + Positive

Although there are cheaper small-value index alternatives, this fund is among the least expensive small-value-focused funds. It earns a Positive Price Pillar rating.

The fund charges an expense ratio of 0.37%, almost half the category median fee of 1.00%. Dimensional's flexible trading approach and low turnover help reduce transaction costs, which can be more meaningful in the small-cap arena. The fund uses securities-lending revenue to offset its expenses, which further benefits fundholders. Like all Dimensional funds, this offering is available to individual investors only through a qualified financial advisor or select platform such as a 401(k).

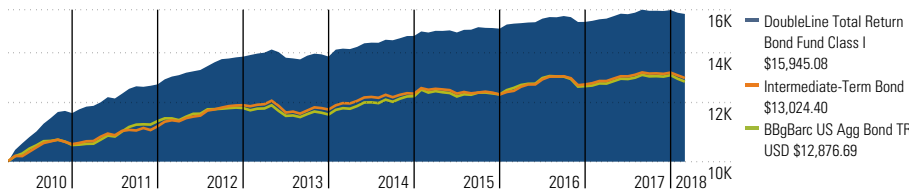


# DoubleLine Total Return Bond Fund Class I DBLTX

Morningstar Analyst Rating  
Neutral

NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
10.48	↑0.01   0.10	3.66	51.9	Open	\$100,000	None	0.48%	★★★★	Intermediate-Term Bond	

### Growth of 10,000 04-06-2010 - 02-12-2018



### 3 Year Average Morningstar Risk Measures



### Investment Strategy

The investment seeks to maximize total return. The advisor intends to invest at least 80% of the fund's net assets (plus the amount of borrowings for investment purposes) in bonds. Bonds include bonds, debt securities, and other fixed income instruments issued by governmental or private-sector entities. Under normal circumstances, the advisor intends to invest more than 50% of the fund's net assets in residential and commercial mortgage-backed securities.

### Pillars

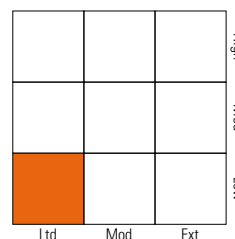
Process	○ Neutral
Performance	⊕ Positive
People	⊕ Positive
Parent	○ Neutral
Price	⊕ Positive
Rating	<b>Neutral</b>

### Performance 02-12-2018

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000 Fund	9,879	9,916	10,191	10,635	11,376	—
+/- BBGBarc US Agg Bond TR USD	-1.21	-0.84	1.91	2.07	2.61	—
+/- Category	0.81	0.69	0.94	0.86	0.79	—
% Rank in Cat	16	10	22	13	11	—
# of Funds in Cat	1,023	1,023	963	823	761	539

\* Currency is displayed in BASE

### Style Map 06-30-2017



### Top Holdings 12-31-2017

	Weight %	Maturity Date	Amount Mil	Value Mil
US Treasury Note 1.625%	2.43	11-15-2022	1,325.00	1,291.21
US Treasury Note 2%	1.30	02-15-2023	700.00	692.84
⊖ FHLMC 3%	1.22	05-01-2046	645.96	647.54
⊖ FHLMC 3%	1.12	11-01-2045	593.91	595.34
⊕ US Treasury Note	0.95	04-15-2022	507.13	503.83
% Assets in Top 5 Holdings	7.01			

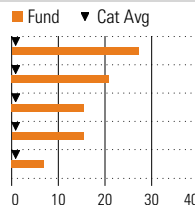
⊕ Increase ⊖ Decrease ✱ New to Portfolio

### Bond Statistics

	Value
Average Effective Duration	3.84
Average Effective Maturity (Years)	5.36
Average Credit Quality	BB
Average Weighted Coupon	3.52
Average Weighted Price	97.22

### Top Sectors 12-31-2017

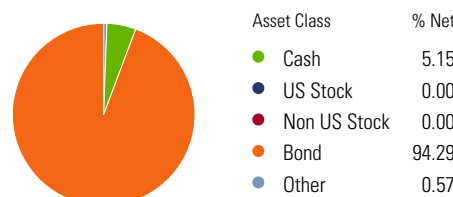
	Fund	BMark	Cat Avg
Agency MBS Pass-Through	27.19	—	—
Agency MBS CMO	20.89	—	—
Non-Agency Residential MBS	15.56	—	—
Asset-Backed	15.40	—	—
Commercial MBS	6.93	—	—



### Dividend and Capital Gains Distributions

Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
01-31-2018	10.51	0.0000	0.0000	0.0000	0.0311	0.0311
12-29-2017	10.63	0.0000	0.0000	0.0000	0.0303	0.0303
11-30-2017	10.63	0.0000	0.0000	0.0000	0.0317	0.0317
10-31-2017	10.67	0.0000	0.0000	0.0000	0.0321	0.0321
09-29-2017	10.70	0.0000	0.0000	0.0000	0.0316	0.0316

### Asset Allocation



### Management

	Start Date
Jeffrey E. Gundlach	04-06-2010
Philip A. Barach	04-06-2010

# DoubleLine Total Return Bond Fund Class I DBLTX

## Analysis

### This fund's Morningstar Analyst Rating of Neutral reflects what we do and don't know.

By Sarah Bush 7/7/2017

DoubleLine Total Return Bond's Morningstar Analyst Rating of Neutral reflects what we do and don't know. Manager Jeffrey Gundlach is one of the industry's most skilled practitioners, with an impressive record that spans more than two decades. However, DoubleLine has denied repeated requests for access to the firm's personnel and information on its strategy, and we therefore lack crucial details regarding the fund's process and stewardship that the firm's public filings and communications do not sufficiently address.

Shortly after the fund's mid-2010 launch, Morningstar raised questions about what risks it had taken to achieve its extraordinary early gains. Since then, this mortgage-heavy fund's risk profile has moderated. The portfolio featured a stake in esoteric mortgage-backed securities including inverse floaters and inverse interest-only tranches that stood at close to 25% in 2010; these securities offer plump yields but can also be highly volatile and suffer from bouts of illiquidity. Since late 2012, this stake has run at a more modest 3% to 5%. The fund at one time threw off an 8.8% yield, a measure that stood at 3.7% as of June 2017. A moderating--although still strong--performance profile also suggests lower risk.

We are also encouraged by signs that the team backing Gundlach remains stable. According to the fund's website, the core of the mortgage-focused managers backing him remains in place; in general, the firm has seen very little portfolio manager turnover. That, together with Gundlach and co-manager Philip Barach's demonstrated expertise, counts in the fund's favor.

That said, uncertainties remain. Even with modest outflows, the fund's assets stood at \$54 billion as of May 2017, raising questions about capacity. Meanwhile, the nonagency residential mortgage market, which has been a meaningful component of the fund's strategy, is shrinking. Gundlach has

found opportunities in other structured fare, but we lack important detail about risk and liquidity management, portfolio construction, and stewardship necessary to consider a Morningstar Medalist rating.

#### Process Pillar: ● Neutral

Manager Jeffrey Gundlach has historically taken a barbell approach, which was designed to balance risks in this mortgage-heavy portfolio. At one end of the barbell was a stake in credit-sensitive nonagency residential mortgages. Gundlach has argued that these yield-rich securities are likely to do well in a rising interest-rate environment if economic growth boosts income and housing prices. Meanwhile, any increase in prepayments--a risk to premium mortgage prices when yields fall--would trigger even better nonagency performance as investors would receive par on securities that traded at wide discounts in the wake of the mortgage crisis.

The other end of the barbell was dominated by more rate-sensitive fare and included high-quality government-agency and some prime nonagency mortgages. Those positions have included plain-vanilla pass-throughs as well as other esoteric mortgage tranches.

We understand the broad strokes of Gundlach's strategy but continue to have questions about its implementation, especially as the fund's assets have ballooned. How has portfolio construction evolved given the shrinking of the nonagency mortgage market? What does he consider to be the fund's capacity, and has the process changed to accommodate its rapid growth? Reflecting what we know and don't know, the fund earns a Neutral Process Pillar rating.

Although the fund retains its long-standing focus on mortgages and other securitized debt, the portfolio has evolved and its risk profile has muted as it has grown. The most notable change has been in

#### Morningstar's Take

Morningstar Analyst Rating **Neutral**

#### Morningstar Pillars

Process	● Neutral
Performance	⊕ Positive
People	⊕ Positive
Parent	● Neutral
Price	⊕ Positive

#### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

#### Analyst Rating Spectrum

 Gold
  Silver
  Bronze
 **Neutral**
 Negative

#### Fund Performance

	Total Return %	+/- Category
YTD	-1.12	0.57
2017	3.79	0.08
2016	2.17	-1.06
2015	2.32	2.58
2014	6.73	1.55

# DoubleLine Total Return Bond Fund Class I DBLTX

## Analysis

the fund's position in esoteric mortgage tranches of agency and nonagency fare, including inverse floater and inverse interest-only structures. While the dollar size of the position has stayed relatively stable since mid-2011, the stake has declined significantly as a percentage of assets, running at roughly 3% to 5% since late 2012. Meanwhile, its position in nonagency residential mortgages accounted for 23% of assets as of May 2017, up slightly from a year earlier but down from 44% of the portfolio in September 2010. Agency-backed mortgages have hovered between roughly 40% and 50% of assets. The fund has also dedicated a slice of assets to commercial mortgage-backed securities (7%) and collateralized loan obligations (4%). A cash stake that has ranged widely from less than 2% to 21% rounds out the portfolio.

Gundlach has run this fund with a reported duration that has run as low as 1.2 years and is typically short of its Bloomberg Barclays U.S. Aggregate Bond Index benchmark. Coming into the fourth quarter of 2016, the fund's 2.6-year duration landed near the short end of its range in recent years, which helped it avoid the worst of the post-election spike in rates; as of May 2017, it stood at 3.7 years.

### Performance Pillar: + Positive

This fund got off to an exceptionally strong start. In its first 18 months, it gained 27%, topping the Bloomberg Barclays U.S. Aggregate Bond Index by 15 percentage points. While we don't have detailed attribution for this time period, this strong performance coincided with a portfolio holding significant allocations to nonagency mortgages and a mix of more-complicated mortgage structures, including inverse floaters and inverse interest-only tranches.

The fund's performance has moderated as some of the more aggressive positions in the portfolio have declined as a percentage of net assets, but it has still performed well. A relatively short duration and strong performance in its nonagency stake helped the fund eke out a 2-basis-point gain as rising

bond yields dealt losses to many intermediate-term bond funds in 2013. The fund also posted strong showings in 2014 and 2015, driven in part by the strength of its nonagency stake for most of the period. The fund suffered a rare bout of underperformance in 2016 as corporate bonds, which are not part of its mandate, surged during the first three quarters of the year; the fund regained some ground in the fourth quarter as bond yields spiked. Overall, since the beginning of 2013, the fund's 3.0% annualized gain through June 2017 topped roughly 90% of its distinct peers.

This all adds up to an impressive record and a Positive Performance Pillar rating.

### People Pillar: + Positive

Jeffrey Gundlach has had a long and impressive career. During his more than 15-year tenure at the mortgage-focused TCW Total Return Bond, that fund's 7.2% annualized gain topped the vast majority of its intermediate-bond competitors'. For most of the 2000s, Gundlach's bread and butter was analyzing cash flows and prepayment assumptions for a variety of government-backed and high-quality nonagency mortgages. Then during 2007 and 2008, he swooped into the decimated nonagency mortgage sector, a move that has paid off handsomely for both his prior charge and this fund. Gundlach was named the Morningstar Fixed-Income Fund Manager of the Year in 2006.

Detailed analysis of mortgage payment streams and risks is an analyst-intensive effort. So, it was good news that the bulk of Gundlach's TCW mortgage team appeared to have joined him when he founded DoubleLine. Philip Barach, who was Gundlach's longtime comanager at TCW Total Return, plays the same role here. Several other mortgage portfolio managers from TCW followed Gundlach to DoubleLine and, according to the company's website, continue as contributors to the fund.

Although Morningstar lacks detail about the full size of the team, the management team's experi-

ence and sizable investment in the fund support a Positive People Pillar rating.

### Parent Pillar: ○ Neutral

Many of DoubleLine's strengths and weaknesses are clear. On the plus side, the firm and its managers have a demonstrated expertise in managing core and mortgage-backed fixed-income strategies, and manager turnover has been low. That said, the firm has launched funds with varying levels of success. DoubleLine Shiller Enhanced CAPE DSEEX has enjoyed strong performance and solid inflows through mid-2017, but the firm's fundamental equity funds struggled to gather assets, and three have been liquidated. As a result, the firm continues to be heavily dependent on the success of DoubleLine Total Return Bond DBLTX and a handful of other strategies.

Meanwhile, questions remain regarding risk controls, firm culture, and details around succession planning. The firm appears to have begun to address succession and key-person risk by promoting Jeffrey Sherman to deputy CIO in 2016, but it is still unclear how the many responsibilities of founder Jeffrey Gundlach would be handled should he step down from the firm, an admittedly unlikely event. Given DoubleLine Total Return Bond's rapid growth since its 2010 launch, we seek to understand what investments the firm has made to support its expansion as well as how decisions to launch new products are made. Taking into account both what we know and don't know, this firm earns a Neutral Parent Pillar rating.

### Price Pillar: + Positive

At 47 basis points, expenses on this fund's Institutional shares (83% of assets) are modestly cheaper than the median of 50 basis points for similarly distributed shares, supporting the fund's Positive Price Pillar rating. For retail investors not investing through an IRA, however, that share class' \$100,000 minimum investment might be out of reach. Expenses on the fund's Retail shares (17% of assets) are a bit pricey relative to similarly dis-

# DoubleLine Total Return Bond Fund Class I DBLTX

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## Analysis

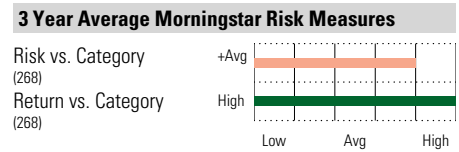
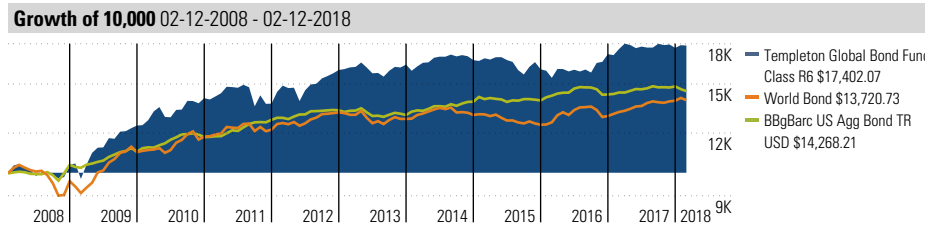
tributed share classes.

The fund has grown rapidly since its 2010 launch and ranks as the fourth-largest offering in the category. This growth has not yet translated into a meaningful decline in expenses, and the absence of fee breakpoints means that DoubleLine is not sharing economies of scale with shareholders.

# Templeton Global Bond Fund Class R6 FBNRX

Morningstar Analyst Rating  
**Gold**

NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
11.86	↓-0.08   -0.67	3.75	38.4	Open	\$1 mil	None	0.52%	★★★	World Bond	



**Investment Strategy**

The investment seeks current income with capital appreciation and growth of income. Under normal market conditions, the fund invests at least 80% of its net assets in "bonds." Bonds include debt obligations of any maturity, such as bonds, notes, bills and debentures. It invests predominantly in bonds issued by governments, government-related entities and government agencies located around the world. The fund may invest up to 25% of its total assets in bonds that are rated below investment grade or, if unrated determined by the investment manager to be of comparable quality. It is non-diversified.

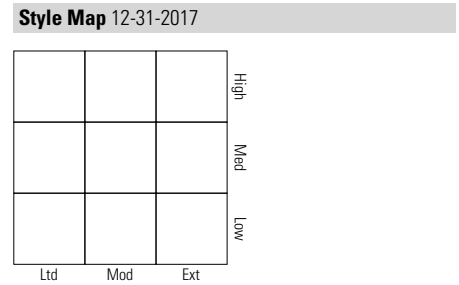
**Pillars**

Process	+	Positive
Performance	+	Positive
People	+	Positive
Parent	○	Neutral
Price	+	Positive
Rating		<b>Gold</b>

**Performance 02-13-2018**

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000 Fund	10,034	9,908	10,085	10,529	11,006	17,387
+/- BbgBarc US Agg Bond TR USD	0.34	-0.92	0.85	1.73	1.94	5.69
+/- Category	2.35	0.60	-0.22	0.46	0.09	2.03
% Rank in Cat	0.01	-0.64	-5.38	-0.54	0.75	2.36
# of Funds in Cat	48	85	92	64	—	—
	332	333	298	265	240	135

\* Currency is displayed in BASE



**Top Holdings 12-31-2017**

	Weight %	Maturity Date	Amount Mil	Value Mil	
✳ United Mexican States 8%	7.02	06-11-2020	529.79	2,719.40	
Secretaria Tesouro Nacl 10%	3.66	01-01-2023	4.65	1,419.60	
✳ United Mexican States 6.5%	3.58	06-10-2021	281.61	1,385.75	
Brazil Federative Rep 10%	3.33	01-01-2021	4.15	1,289.40	
India (Rep Of) 8.83%	2.26	11-25-2023	52,330.90	875.95	
% Assets in Top 5 Holdings		19.84			

⊕ Increase ⊖ Decrease ✳ New to Portfolio

**Bond Statistics**

Average Effective Duration	-0.38
Average Effective Maturity (Years)	3.33
Average Credit Quality	BB
Average Weighted Coupon	8.79
Average Weighted Price	—

**Top Sectors 12-31-2017**

	Fund	BMark	Cat Avg
Government	61.85	—	—
Agency/Quasi-Agency	2.24	—	—
Supranational	0.31	—	—
Other Government Related	0.01	—	—
Corporate Bond	0.00	—	—

**Asset Allocation**

	% Net	% Short	% Long	Bench mark	Cat Avg
Cash	35.67	0.00	35.67	0.00	24.39
US Stock	0.00	0.00	0.00	0.00	0.04
Non US Stock	-0.38	0.38	0.00	0.00	0.04
Bond	64.41	0.00	64.41	100.00	74.48
Other	0.31	0.03	0.33	0.00	1.05

**Dividend and Capital Gains Distributions**

Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
01-16-2018	11.93	0.0000	0.0000	0.0000	0.0300	0.0300
12-15-2017	11.98	0.0000	0.0000	0.0000	0.0960	0.0960
11-15-2017	11.93	0.0000	0.0000	0.0000	0.0295	0.0295
10-16-2017	12.09	0.0000	0.0000	0.0000	0.0295	0.0295
09-15-2017	12.20	0.0000	0.0000	0.0000	0.0309	0.0309

**Management**

	Start Date
Michael J. Hasenstab	12-31-2001
Sonal Desai	01-01-2011

# Templeton Global Bond Fund Class R6 FBNRX

## Analysis

### A unique combination of daring and caution.

By Karin Anderson 10/19/2017

Templeton Global Bond benefits from a skilled lead manager and analyst bench, consistent approach, and reasonable fees, supporting a Morningstar Analyst Rating of Gold.

For years, lead manager Michael Hasenstab has mostly avoided low-yielding debt of the United States, eurozone, and Japan, which dominate most peer funds' portfolios. Instead, he has preferred emerging-markets bonds and currencies given what he views as those countries' better fiscal prospects. That includes longtime portfolio anchors Indonesia (12% as of July 2017) and South Korea (9%), as well as more recent additions of Mexico (16%) and Brazil (16%). As Mexican and Brazilian debt sold off in 2015's third quarter, Hasenstab significantly built out those positions. Over time, he's shown ample willingness to buy what the rest of the market shuns. He loaded up on Irish bonds in the depths of the 2011 eurozone crisis. And he stuck with a low-single-digit stake in conflict-torn Ukraine in 2014 and into 2015 as the country restructured its debt.

The fund also stands out from the crowd thanks to its significant, and longtime, bets against the yen (36% as of July 2017) and euro (41%) that are meant to serve as a hedge against rises in U.S. interest rates (a negative factor for emerging-markets bonds). Though the fund courts ample currency and credit risk, it shuns interest-rate risk given Hasenstab's concerns about global inflation which he believes could lead to permanent loss of capital. As a result, the fund's duration ran around one year in 2013 and 2014, already a very low level within the category, but it's run close to zero since late 2015.

The fund's cautious tack on interest rates and currency hedges have held the fund back at various times in recent years, and its emerging-markets-heavy profile has caused it to move in sync with riskier assets and sport one of the highest correlations to equities in the group. Still, patient in-

vestors remain in good hands given the manager's knack for finding long-term winners. The fund's absolute returns are topnotch during Hasenstab's decade-plus tenure.

#### Process Pillar: Positive

Michael Hasenstab and his team aim to identify value among currencies, sovereign credit, and interest rates in countries with healthy or improving fundamentals that they think the market underappreciates. The portfolio is benchmark-agnostic and built on the team's meticulous fundamental research, with feedback from local market participants. The contrarian-minded group attempts to find those opportunities early on and then watch as their theses unfold over several years. The fund has held a double-digit stake in South Korea's government bonds since 2004, for example. Hasenstab doesn't require fiscal perfection, just improving trends. In the depths of 2011's eurozone crisis, he built a position in Ireland's government debt, arguing that Irish authorities had made strides toward fiscal sustainability that were not priced in. Such controversial positions are common here: Hasenstab also stuck with a low-single-digit stake in conflict-torn Ukraine in 2014 and into 2015 as the country restructured its debt. The fund's significant and patient currency bets distinguish it, as well. Since late 2009, Hasenstab has maintained sizable shorts on the Japanese yen and the euro (up to 40%-50% each) as a hedge against a strengthening U.S. dollar that would hurt emerging-markets local-currency bonds. Overall, the fund's patient approach and the manager's eye for value earn a Positive Process rating.

Over the past several years, the team has generally avoided low-yielding developed-markets sovereign bonds and favored emerging-markets countries with good long-term prospects. Because the team is more cautious lately about China's growth potential, it recently sold longtime Malaysia holdings and rotated into Indonesia and India, which it views as less dependent on China. Those stakes, along with longtime exposure to South Korea, accounted for 30% of assets as of July 2017. The team also does a fair amount of bargain-hunting. Notably, it built midteens stakes in Brazil and

### Morningstar's Take

Morningstar Analyst Rating



### Morningstar Pillars

Process	 Positive
Performance	 Positive
People	 Positive
Parent	 Neutral
Price	 Positive

### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum



### Fund Performance

	Total Return %	+/- Category
YTD	0.34	0.10
2017	2.79	-4.08
2016	6.78	3.15
2015	-3.91	0.09
2014	1.97	0.25

# Templeton Global Bond Fund Class R6 FBNRX

## Analysis

Mexico in 2015's third quarter sell-off. The team is sticking with larger stakes (16% apiece) in part because it believes that Mexico's conservative central bank is keeping an eye on inflation and that much-needed reforms are under way in Brazil whether or not the current president remains in place.

Another defining trait of the fund in recent years has been Michael Hasenstab's focus on short-dated bonds. Arguing that the loose monetary policy maintained by the developed world's central banks should ultimately unleash inflationary pressures globally, he's maintained the fund's duration close to zero in the past three years. He's also maintained a short Japanese yen position (36% as of July 2017) and short euro position (41%), reflecting the team's view that their central banks would need to maintain quantitative easing for longer than the U.S.

### Performance Pillar: Positive

Michael Hasenstab's often-contrarian approach, patience, and knack for finding value in emerging-markets bonds and currencies have paid off over the longer term. Since taking over as lead manager in late 2006 through September 2017, the fund's 7.1% annualized return ranked first out of 41 distinct peers, supporting a Positive Performance rating.

That said, the fund courts ample emerging-markets rate and currency risk, which has smacked it during risk-averse markets. Its 8% loss during 2011's third quarter and 11% slide from July 2015 through early February 2016 were among the worst in the world-bond peer group. Conversely, the fund tends to rise to the top of the heap when emerging-markets bonds fare well, as was the case in 2012 when it climbed by 16%. Such seesawing within the category has kept the fund's volatility (as measured by standard deviation) higher than two thirds of its peers since 2006.

While the manager has been successful over the long term, it's important to note that the fund's key themes have worked against it at times and can weigh on results in the medium term. Its short dur-

ation (close to zero for the past few years) has weighed on the fund in periods of stable rates, and its significant shorts on the yen and euro have hurt when those currencies strengthen relative to the U.S. dollar, as was the case in the first nine months of 2017.

### People Pillar: Positive

In the spring of 2015, manager Michael Hasenstab became Franklin Templeton's Global Macro CIO, a move that distinguishes Hasenstab's team and funds from the firm's taxable bond group. He began his career at the firm in 1995 as an emerging-markets sovereign credit analyst, then left to get a doctorate in economics from Australian National University, before rejoining the firm in 2001 and starting as a comanager on this fund. He became the sole manager on this fund in 2006. Sonal Desai, who conducted macroeconomic research at London hedge fund Thames River Capital, joined the group as its research director in late 2009 and became comanager in 2011, though Hasenstab makes all final portfolio decisions.

The firm manages roughly \$160 billion in global fixed-income, the majority of which is managed by Hasenstab's team. The core team of portfolio managers and six country analysts are based in San Mateo, California. Five of these analysts have been on the team for more than five years, while one was replaced with an experienced hire in early 2016. This team hits the pavement when conducting its country research, meeting with local policymakers, business leaders, journalists, and others. The team's ample experience, trading and risk resources, and the managers' significant investments in the funds they manage, support a Positive People rating.

### Parent Pillar: Neutral

Publicly traded but family controlled and managed, Franklin Resources BEN is the parent company of Franklin Templeton Investments. A global asset manager with \$738 billion in assets as of early 2017, the firm has grown through multiple acquisitions over the years.

Franklin's recent struggles highlight, albeit to an extreme, the challenges facing active manage-

ment. Between mid-2014 and early 2016, the firm's AUM fell by more than one fifth as investors increasingly opted for passive strategies and flagships like Franklin Income FKINX performed poorly. Franklin responded by cutting 300 personnel worldwide and launching seven exchange-traded funds in the United States, four of which passively track customized benchmarks built using a proprietary multifactor model for each.

The step toward passive investing illustrates the firm's tendency to add to its investment capabilities rather than foster excellence across its lineup. The firm's U.S. strategies are the most wide-ranging, and of the 36 U.S. open- and closed-end funds with a Morningstar Analyst Rating, half are Neutral. On the fixed-income side, although Templeton Global Bond TPINX remains a standout, the firm's other taxable- and municipal-bond strategies have had missteps, including ill-timed bets on energy and Puerto Rico debt. We have downgraded the firm's Parent Pillar rating to Neutral from Positive.

### Price Pillar: Positive

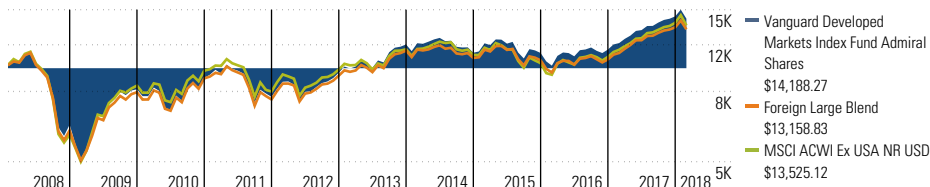
Investors in the Advisor shares pay 0.68% annually; that fee has come up by a handful of basis points in the past five years and is on par with the median fee in the institutional sales channel. However, it looks especially favorable compared with the 0.83% median fee in the no-load sales channel. (Investors with access to the Advisor shares through an advisory fee-based account can get in with no minimum initial investment.) Compared with other world-bond fund front-load share classes, this fund's 0.93% annual expense ratio still comes in below the 1.02% median in that distribution channel. Therefore, the fund receives a Positive Price rating.

# Vanguard Developed Markets Index Fund Admiral Shares VTMGX

Morningstar Analyst Rating  
**Silver**

NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
14.16	↓-0.02   -0.14	2.65	113.6	Open	\$10,000	None	0.07%	★★★★	Foreign Large Blend	Large Blend

## Growth of 10,000 02-12-2008 - 02-12-2018



## 3 Year Average Morningstar Risk Measures



## Pillars

Process	Positive
Performance	Neutral
People	Positive
Parent	Positive
Price	Positive
Rating	<b>Silver</b>

## Investment Strategy

The investment seeks to track the performance of the FTSE Developed All Cap ex US Index. The fund employs an indexing investment approach designed to track the performance of the FTSE Developed All Cap ex US Index, a market-capitalization-weighted index that is made up of approximately 3,700 common stocks of large-, mid-, and small-cap companies located in Canada and the major markets of Europe and the Pacific region. The adviser attempts to replicate the target index by investing all, or substantially all, of its assets in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index.

## Performance 02-12-2018

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000	9,840	9,441	11,901	12,247	14,084	13,869
Fund	-1.60	-5.59	19.01	6.99	7.09	3.32
+/- MSCI ACWI Ex USA NR USD	0.21	-0.31	-0.38	0.55	1.43	0.50
+/- Category	-0.20	-0.45	0.61	0.91	0.85	0.49
% Rank in Cat	65	78	47	25	26	30
# of Funds in Cat	799	801	736	582	515	337

\* Currency is displayed in BASE

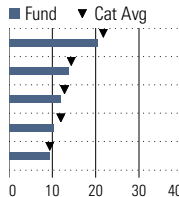
## Top Holdings 12-31-2017

	Weight %	Last Price	Day Chg %	52 Week Range
⊕ Nestle SA	1.32	76.18 BASE	-0.99 ↓	71.45 - 86.40
⊕ HSBC Holdings PLC	1.03	734.80 BASE	0.33 ↑	518.17 - 798.60
⊖ Samsung Electronics Co Ltd	1.01	— BASE	2.61 ↑	1,854,000.00 - 2,876,000.00
⊖ Novartis AG	0.93	78.06 BASE	-1.04 ↓	72.45 - 88.30
⊕ Roche Holding AG Dividend Right Cert.	0.86	217.95 BASE	-0.46 ↓	214.30 - 273.00
% Assets in Top 5 Holdings	5.15			

⊕ Increase ⊖ Decrease ✱ New to Portfolio

## Top Sectors 12-31-2017

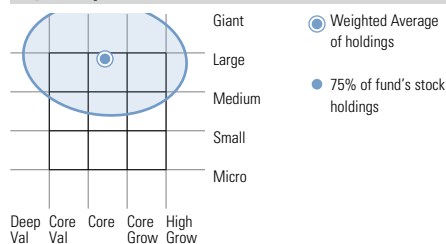
	Fund	3 Yr High	3 Yr Low	Cat Avg
🏦 Financial Services	20.37	20.95	20.37	20.84
⚙️ Industrials	13.65	13.65	12.32	13.44
🛒 Consumer Cyclical	11.84	12.87	11.84	11.89
🏠 Consumer Defensive	10.28	11.85	10.28	11.05
🏭 Basic Materials	9.42	9.42	7.19	8.49



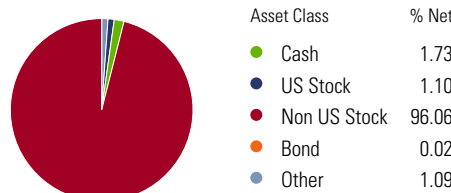
## Dividend and Capital Gains Distributions

Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
12-20-2017	14.24	0.0000	0.0000	0.0000	0.1386	0.1386
09-19-2017	13.93	0.0000	0.0000	0.0000	0.0580	0.0580
06-20-2017	13.20	0.0000	0.0000	0.0000	0.1550	0.1550
03-23-2017	12.54	0.0000	0.0000	0.0000	0.0480	0.0480
12-21-2016	11.71	0.0000	0.0000	0.0000	0.0970	0.0970

## Style Map



## Asset Allocation



## Management

Manager	Start Date
Christine D. Franquin	02-22-2013
Michael Perre	11-30-2017



# Vanguard Developed Markets Index Fund Admiral Shares VTMGX

## Analysis

**This is one of the lowest-cost and most broadly diversified funds of its kind.**

By Daniel Sotiroff 10/18/2017

Vanguard Developed Markets Index Fund is a compelling choice for broad exposure to foreign developed markets. Its market-cap-weighted portfolio promotes low turnover, effectively diversifies company-specific risk, and accurately represents its target market. These characteristics, combined with a rock-bottom expense ratio, support a Morningstar Analyst Rating of Silver.

The fund owns more than 3,600 stocks across foreign developed markets and weights them by market capitalization. This approach promotes low turnover and skews the portfolio toward large multinational firms with global operations, such as Nestle, Toyota, and Novartis. Since the fund's inception in 2007, its turnover ratio has averaged 8%, which helps keep transaction costs low. In contrast, the foreign large-blend Morningstar Category average turnover was greater than 50% in the most recent year.

This fund's country exposure exhibits some notable differences compared with category peers. Stocks listed in Canada and South Korea account for less than 5% of the average portfolio in the category. In contrast, these two countries account for more than 10% of this fund's assets, and names such as Samsung Electronics and Royal Bank of Canada are among the fund's top 20 holdings. Additionally, Japanese stocks currently account for almost 22% of this fund's assets, slightly more than the 18% category average.

A well-diversified portfolio and sizable cost advantage should give this fund an edge over the long term. This advantage helped the fund outperform the category average by 31 basis points annualized from its inception in July 2007 through September 2017. The fund's performance was particularly strong from May 2012 through May 2014, outpacing the category average by 2.40%, partially because of more-favorable stock exposure in the financial-services sector.

**Process Pillar:**  Positive

This fund has made several changes to its target index over the past several years, but its current bogy is a heavily diversified index that covers 23 developed markets across large-, mid-, and small-cap stocks. Its broad reach does an excellent job of representing the investable market outside of the U.S. Holdings in this portfolio are weighted by market capitalization, which captures the market's consensus opinion regarding the value of each stock while promoting low turnover, and supports a Positive Process Pillar rating.

This fund tracks the FTSE Developed All Cap Ex U.S. Index. The methodology sorts stocks by their free-float-adjusted market capitalization, and holds those that rank in the top 98% by market capitalization. The index uses buffering rules around this cutoff point to help mitigate turnover. Holdings are weighted by market capitalization, which emphasizes large multinational firms while keeping turnover and the associated transaction costs in check. Qualifying stocks are subject to additional liquidity screens to help ensure that the index is investable. The index is reconstituted semi-annually in March and September, and the managers use near full replication to fulfill their index-tracking objective.

The portfolio holds about 3,600 stocks with 9% of assets in its top 10 holdings. This makes it one of the best diversified funds in the foreign large-blend category. The inclusion of small caps causes the average market capitalization of this fund to be modestly smaller than the category norm. However, market-cap weighting skews the portfolio toward the largest stocks, which include major multinational firms such as Nestle and Samsung.

The fund's sector allocations are similar to the category average. Stocks from the financial services sector represent are the most heavily weighted, accounting for 20% of the portfolio. This fund's focus on developed markets causes its country and regional allocations to be notably different from its peers. A typical fund in this category has roughly a 7% allocation to stocks from emerging markets. This fund makes up for this difference with higher

### Morningstar's Take

Morningstar Analyst Rating



### Morningstar Pillars

Process	 Positive
Performance	 Neutral
People	 Positive
Parent	 Positive
Price	 Positive

### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum



### Fund Performance

	Total Return %	+/- Category
YTD	-1.73	-0.34
2017	26.40	1.27
2016	2.45	1.66
2015	-0.18	1.41
2014	-5.66	-0.68

# Vanguard Developed Markets Index Fund Admiral Shares VTMGX

## Analysis

allocations to stocks from Canada, South Korea, and Japan.

Investment in foreign stocks carries an additional layer of risk due to fluctuations in foreign-exchange rates. Like most of its peers this fund does not hedge its currency risk, which can make it more volatile than most broad U.S. market funds.

### Performance Pillar: ○ Neutral

This fund's historic performance hasn't differentiated it from many of its peers in the foreign large-blend Morningstar category. Absolute and risk-adjusted returns over the trailing three and five years through September 2017 have been better than the average, but not by a substantial amount. This middling performance warrants a Neutral Performance Pillar rating.

This fund's price/book ratio has been lower than many of its category peers. This has contributed to its lackluster category relative performance because value strategies in foreign markets haven't performed well over the past decade. Performance was particularly strong from May 2012 through May 2014. During that time, the fund outpaced the category average by 2.4 percentage points annually because of its financial-service holdings and smaller cash drag. Like most of its peers, this fund does not hedge its currency risk, which can hurt performance when the U.S. dollar strengthens relative to foreign currency and tends to increase volatility.

Tracking error is difficult to assess on this fund since Vanguard has changed the target index twice over the past several years. Despite this fact, up- and down-capture ratios have been near 100% throughout its history. This fund's broad reach includes small-cap stocks, which should give it a small performance advantage in exchange for a modest amount of additional risk.

### People Pillar: ⊕ Positive

The portfolio managers on this fund are part of Vanguard's Equity Index Group and benefit from Vanguard's global footprint and strong portfolio management technology. This strong team warrants a Positive People Pillar rating.

The fund is comanaged by Christine Franquin and Michelle Louie. Vanguard's portfolio management team typically consists of two comanagers on each fund, and these managers rotate to different funds every few years to promote breadth and depth of expertise. They have access to Vanguard's trading desks around the world that enable them to make the most efficient transactions in various global markets. Franquin is a principal in the Vanguard Equity Index Group and has been managing portfolios since she joined the firm in 2000. Louie was promoted to portfolio manager from equity trader in 2016 and shortly thereafter was named as a manager on this fund. She has been with Vanguard since 2010. Neither of the named managers own shares in this fund, but that is not a cause for concern.

Vanguard's compensation structure aligns managers' interests with investors'. The managers are compensated with a bonus that factors in the gross, pre-tax performance of the fund relative to its objectives. This includes the manager's record of tracking a benchmark index over the prior 12 months.

### Parent Pillar: ⊕ Positive

Vanguard has one of the mutual fund industry's strongest corporate cultures and earns a Positive Parent rating. Its consistent messages to investors to keep costs low, diversify, and stay the course are reflected in the firm's own behavior. Vanguard's U.S. fundholders own the firm through small investments by each mutual fund, mitigating potential conflicts of interest that can exist at other firms that are serving two masters. Fund performance is strong overall: Over the past three-, five-, and 10-year periods, its Morningstar Success Ratios are greater than 70%--high among large, diversified fund families.

Over the past year, the firm has collected more than USD 200 billion in net inflows, thanks in large part to investors' interest in passive investing. The firm's indexing and ETF prowess, low costs, and success in penetrating the financial-advisor sales channel all have fueled growth. Total assets un-

der management now exceed USD 3.3 trillion, giving Vanguard a significant more-than-20% market share across U.S. mutual funds.

Vanguard has been a global player for years but has only more recently turned its focus to growing internationally. The firm is a large player in Australia, where it has the most history, but doesn't yet have the brand recognition and trust it enjoys in the United States in other parts of the world. While non-U.S. funds don't participate in the ownership of Vanguard, the firm's investorcentric culture extends globally.

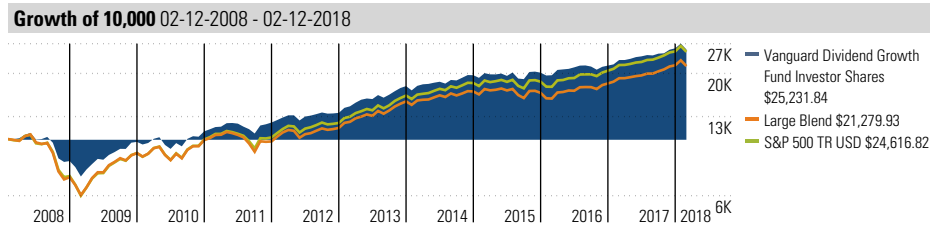
### Price Pillar: ⊕ Positive

Vanguard offers this fund in three different share classes. Investor shares are available at an expense ratio of 0.17% while Admiral shares and the ETF both charge 0.07%. These fees were reduced in April 2017 from 0.20% and 0.09%, respectively. They are among the lowest expense ratios in the foreign large-blend category, and support a Positive Price Pillar rating. Investment minimums are \$3,000 for Investor shares and \$10,000 for Admiral shares. Holdings are weighted by market capitalization, which keeps turnover and transaction costs in check. The last reported turnover ratio landed in the bottom decile of the category. This fund also engages in securities lending, which helps offset its expenses.

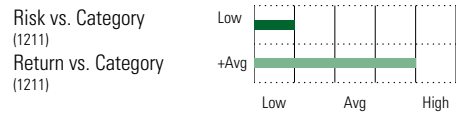
# Vanguard Dividend Growth Fund Investor Shares VDIGX

Morningstar Analyst Rating **Gold**

NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
26.26	↑0.01   0.04	1.77	34.7	Limited	\$3,000	None	0.30%	★★★★	Large Blend	Large Blend



### 3 Year Average Morningstar Risk Measures



### Investment Strategy

The investment seeks to provide, primarily, a growing stream of income over time and, secondarily, long-term capital appreciation and current income. The fund invests primarily in stocks that tend to offer current dividends. It focuses on high-quality companies that have prospects for long-term total returns as a result of their ability to grow earnings and their willingness to increase dividends over time. These stocks typically-but not always-will be large-cap, will be undervalued relative to the market, and will show potential for increasing dividends. The fund seeks to be diversified across industry sectors.

### Pillars

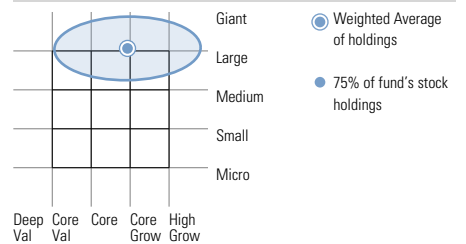
Process	Positive
Performance	Positive
People	Positive
Parent	Positive
Price	Positive
Rating	<b>Gold</b>

### Performance 02-12-2018

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000 Fund	9,887	9,549	11,466	12,869	17,976	24,948
+/- S&P 500 TR USD	-1.13	-4.51	14.66	8.77	12.44	9.57
+/- Category	-0.66	0.04	-2.32	-1.84	-1.73	0.23
% Rank in Cat	-0.33	0.25	-0.73	-0.08	-0.11	1.17
# of Funds in Cat	69	34	67	61	64	13
# of Funds in Cat	1,496	1,499	1,375	1,192	1,050	786

\* Currency is displayed in BASE

### Style Map

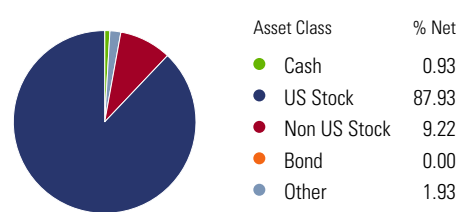


### Top Holdings 12-31-2017

	Weight %	Last Price	Day Chg %	52 Week Range
Nike Inc B	3.89	65.87 BASE	-0.17 ↓	50.35 - 68.83
Microsoft Corp	3.74	89.83 BASE	0.79 ↑	63.62 - 96.07
Chubb Ltd	2.97	145.12 BASE	0.35 ↑	132.25 - 157.50
Union Pacific Corp	2.81	128.30 BASE	-0.26 ↓	101.06 - 143.05
Accenture PLC A	2.79	156.84 BASE	1.22 ↑	114.82 - 162.60
% Assets in Top 5 Holdings		16.20		

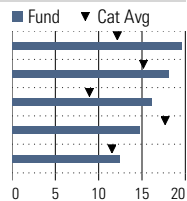
⊕ Increase ⊖ Decrease ✚ New to Portfolio

### Asset Allocation



### Top Sectors 09-30-2017

	Fund	3 Yr High	3 Yr Low	Cat Avg
Industrials	19.58	20.40	20.02	11.69
Healthcare	18.05	19.22	16.23	14.71
Consumer Defensive	16.13	16.61	14.43	8.47
Financial Services	14.77	14.82	13.36	17.21
Consumer Cyclical	12.45	13.53	11.25	11.07



### Dividend and Capital Gains Distributions

Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
12-20-2017	26.51	0.6931	0.0481	0.0000	0.2449	0.9861
06-22-2017	25.23	0.0000	0.0000	0.0000	0.2480	0.2480
03-28-2017	24.74	0.0769	0.0416	0.0000	0.0163	0.1348
12-23-2016	23.62	0.1194	0.0442	0.0000	0.2480	0.4116
06-16-2016	23.02	0.0000	0.0000	0.0000	0.1790	0.1790

### Management

Donald J. Kilbride  
Start Date: 02-01-2006

# Vanguard Dividend Growth Fund Investor Shares VDIGX

## Analysis

### Reliable.

By Alec Lucas, Ph.D. 4/4/2017

Closed to new investors since July 28, 2016, Vanguard Dividend Growth receives a Morningstar Analyst Rating of Gold for staying true to its name.

Longtime manager Donald Kilbride keeps the fund's portfolio of 45-55 stocks invested in cash-rich firms with good prospects for continued dividend increases. As long as his investment thesis remains intact, Kilbride takes advantage of share price declines to buy more. In 2016, he added to current top-holding Nike NKE each quarter because he thinks its Flyknit manufacturing technology will allow it to expand profit margins as will selling direct to customers. Since Kilbride first bought Nike in early 2006, the firm has raised its quarterly dividend more than fourfold.

Kilbride is now in a better position to keep tabs on the foreign-domiciled companies that compete with multinationals like Nike and to look for dividend growth opportunities overseas. In August 2016, the fund's backup manager Peter Fisher moved to London. Fisher's relocation hasn't led to a higher weighting in non-U.S. stocks, though. Since peaking at 14.5% in June 2014, the fund's overseas stake has fallen to 5.5% as of February 2017. But that still ranked in the large-blend Morningstar Category's top quartile.

The fund is at its relative best when equities are at their worst. The fund held up well in 2015's sharp equity market correction in August and finished that year just shy of the category's top decile. The reverse is also true. The fund proved resilient in early 2016 but fell behind in the subsequent rally. A poorly timed purchase of McKesson MCK hurt, too. Kilbride bought the pharmaceuticals distributor right before fears about price competition punished its shares. The fund's 7.5% bottom-quintile gain in 2016 lagged the Nasdaq U.S. Dividend Achievers Select Index by 4.4 percentage points.

Kilbride isn't immune to poor timing or bad picks, but he's consistently added value during his ten-

ure. Through March 2017, the fund has beaten the index in 69 out of 72 rolling five-year periods since May 2006, shortly after the index's inception. The fund is a reliable long-term option.

### Process Pillar: Positive

A disciplined, but not rigid, focus on dividend growth earns the fund a Positive Process Pillar rating. Manager Donald Kilbride looks for stocks that have proved willing and able to increase their dividends over time but that are trading at reasonable prices. Ideally, he wants firms that can grow their dividends at the rate of inflation plus 3%. Often, he finds companies with five-year dividend-growth rates of at least 10%. The fund's holdings tend to be large blue-chip stocks that have big competitive advantages.

This is not a high-yield fund. Kilbride wants stocks that have the best prospects for steadily increasing their payouts rather than those that offer the highest current yield. Because Kilbride likes to buy when dividend payers are out of favor, many of the fund's holdings may have respectable yields relative to the price at which they were bought, but the portfolio usually will not offer trailing 12-month or SEC yields as high as many other equity-income funds.

While he eliminates stocks that are likely to cut their dividends, he has on occasion added a stock after such a cut. Kilbride bought Pfizer PFE in 2009 after it chopped its dividend because he believed its merger with Wyeth would allow it to reignite dividend growth from a low base. He does, however, aim to keep portfolio turnover in check. The fund's 27% turnover in fiscal 2017 was below the 43% median of actively managed peers.

Manager Donald Kilbride builds a compact portfolio of 45-55 stocks, dominated by larger-cap names. At year-end 2016, the fund's \$83 billion average market cap ranked in the large-blend category's highest quintile. These stocks on the whole boast above-average returns on equity in part because they tend to have durable competitive advantages. Nearly all of them have a Morningstar Economic Moat Rating (either wide or nar-

### Morningstar's Take

Morningstar Analyst Rating



### Morningstar Pillars

Process	 Positive
Performance	 Positive
People	 Positive
Parent	 Positive
Price	 Positive

### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum



### Fund Performance

	Total Return %	+/- Category
YTD	-1.09	-0.55
2017	19.33	-1.11
2016	7.53	-2.84
2015	2.62	3.69
2014	11.85	0.89

# Vanguard Dividend Growth Fund Investor Shares VDIGX

## Analysis

row) that ranks in the category's top decile. This larger-cap/competitively advantaged combination has contributed to muted Morningstar Risk ratings for the fund.

Sector exposure results from Kilbride's bottom-up focus on sustainable dividend growth. Thus, the fund typically has little to no utilities or telecom exposure as firms in these sectors tend not to have robust dividend growth. On the other hand, the fund has long had heavy healthcare exposure. As of February 2017, its 16.9% stake in that sector was 4.6 percentage points above the Nasdaq U.S. Dividend Achievers Select Index's.

Kilbride is cautious about owning stocks in profit-challenged sectors, like energy. Since early 2016, he has had reduced expectations for oil and gas firms' long-term earnings because of the industry's geographical and geological challenges. Schlumberger SLB is an exception as it benefits from these challenges and Exxon's XOM petrochemical business distinguishes it.

### Performance Pillar: + Positive

The fund's Positive Performance Pillar rating reflects its stellar showing through a full market cycle. Its value-tilted focus on dividend growth tends to thrive when markets tremble. The fund's 42% cumulative loss from peak to trough in the 2007-09 credit crisis, while dreadful, beat its primary prospectus Nasdaq U.S. Dividend Achievers Select Index benchmark by 4.3 percentage points and landed in the large-blend category's top decile. Performance in 2011's turbulent conditions was even better. The fund's 9.4% gain ranked as the category's very best that year.

The corollary of superior bear-market showings is that the fund's well-capitalized dividend payers often lag when more-speculative fare surges. That was a factor in the fund's bottom-quintile showings in 2012 and 2016. Poor stock picks played a role, too. In 2012, a position in Western Union WU hurt the fund, and Kilbride sold the stock in early 2013 when he became concerned about its dividend. In 2016, he bought McKesson MCK right before fears about price competition punished its

shares.

While Kilbride is not immune to errant stock picks, he's consistently added value during his tenure. The fund's 8.8% annualized gain through March 2017 beat the Nasdaq Index by 93 basis points since that boggy's late April 2006 inception. It also surpassed the broader Russell 1000 Index by 88 basis points and ranked in the category's top decile.

### People Pillar: + Positive

Led by a skilled, well-supported manager who aligns his incentives with shareholders', the fund earns a Positive People rating. Wellington Management has always run this fund in its various guises, first as a utilities sector fund from its inception through late 2002, and since then as a dividend-focused fund. Manager Donald Kilbride, the second person to apply the fund's dividend strategy, has been in charge since February 2006. He and backup portfolio manager Peter Fisher, who relocated to London in August 2016, have generalist analyst responsibilities and work alongside Wellington's talented six-person "quality value" team. The team includes Edward Bousa, who serves as the lead equity manager for Gold-rated Vanguard Wellington VWELX. Three other portfolio managers and two analysts serve on the quality value team. Most have sector coverage duties and serve as resources for Kilbride and Fisher. Kilbride and Fisher also draw on Wellington's deep benches of global industry analysts, equity research analysts, fixed-income credit analysts, and macroeconomic specialists.

Kilbride has decades of experience. Before joining Wellington in 2002, he worked for six years as the director of research at The Boston Company and prior to that at Greenberg-Summit Partners, where he covered energy and materials, among other sectors.

Kilbride invests more than \$1 million in the fund.

### Parent Pillar: + Positive

Vanguard has one of the mutual fund industry's strongest corporate cultures and earns a Positive Parent rating. Its consistent messages to investors

to keep costs low, diversify, and stay the course are reflected in the firm's own behavior. Vanguard's U.S. fundholders own the firm through small investments by each mutual fund, mitigating potential conflicts of interest that can exist at other firms that are serving two masters. Fund performance is strong overall: Over the past three-, five-, and 10-year periods, its Morningstar Success Ratios are greater than 70%--high among large, diversified fund families.

Over the past year, the firm has collected more than USD 200 billion in net inflows, thanks in large part to investors' interest in passive investing. The firm's indexing and ETF prowess, low costs, and success in penetrating the financial-advisor sales channel all have fueled growth. Total assets under management now exceed USD 3.3 trillion, giving Vanguard a significant more-than-20% market share across U.S. mutual funds.

Vanguard has been a global player for years but has only more recently turned its focus to growing internationally. The firm is a large player in Australia, where it has the most history, but doesn't yet have the brand recognition and trust it enjoys in the United States in other parts of the world. While non-U.S. funds don't participate in the ownership of Vanguard, the firm's investorcentric culture extends globally.

### Price Pillar: + Positive

Rock-bottom fees earn the fund a Positive Price Pillar rating. The Investor shares' current 0.33% expense ratio, which applies to all of the fund's assets, is 57 basis points below the large-cap no-load peer median and lower than 93% of those peers. Modest trading costs are another plus. Brokerage fees as a percentage of average net assets routinely fall below the category median.

The fund's price tag will shift some, however. Vanguard pays subadvisor Wellington Management an asset-based fee with breakpoints, which cause fees to fall as assets grow. The expense ratio also includes a performance adjustment, calculated and paid quarterly, which is based on the fund's three-year showing versus the Nasdaq U.S. Dividend

# Vanguard Dividend Growth Fund Investor Shares VDIGX

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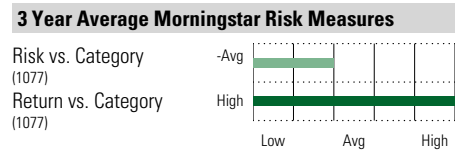
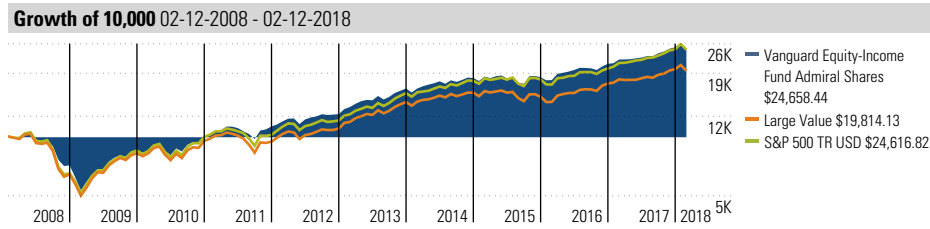
## Analysis

Achievers Select Index.

# Vanguard Equity-Income Fund Admiral Shares VEIRX

Morningstar Analyst Rating  
Silver

NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
76.34	↑0.21   0.28	2.42	32.6	Open	\$50,000	None	0.17%	★★★★★	Large Value	Large Value



**Investment Strategy**  
The investment seeks to provide an above-average level of current income and reasonable long-term capital appreciation. The fund invests mainly in common stocks of mid-size and large companies whose stocks typically pay above-average levels of dividend income and are, in the opinion of the purchasing advisor, undervalued relative to similar stocks. In addition, the advisors generally look for companies that they believe are committed to paying dividends consistently. Under normal circumstances, it will invest at least 80% of its assets in equity securities. The fund uses multiple investment advisors.

**Pillars**

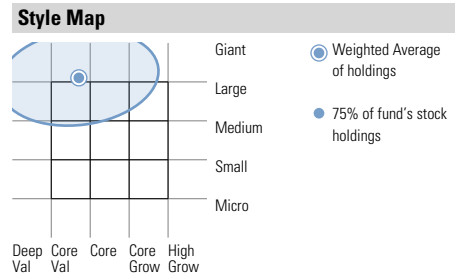
Process	Positive
Performance	Positive
People	Positive
Parent	Positive
Price	Positive

Rating: Silver

**Performance 02-12-2018**

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000 Fund	9,767	9,494	11,358	13,240	18,206	24,385
+/- S&P 500 TR USD	-2.33	-5.06	13.58	9.81	12.73	9.32
+/- Category	-1.87	-0.51	-3.39	-0.81	-1.45	-0.02
% Rank in Cat	-0.54	0.30	2.28	2.23	1.42	1.85
# of Funds in Cat	73	38	25	9	19	8
# of Funds in Cat	1,313	1,314	1,227	1,055	943	670

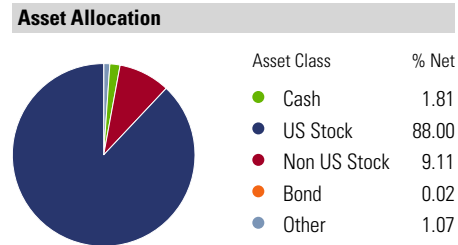
\* Currency is displayed in BASE



**Top Holdings 12-31-2017**

	Weight %	Last Price	Day Chg %	52 Week Range
Microsoft Corp	5.32	89.13 BASE	1.08 ↑	63.62 - 96.07
JPMorgan Chase & Co	3.85	111.74 BASE	1.55 ↑	81.64 - 117.35
Johnson & Johnson	2.81	130.27 BASE	0.57 ↑	115.22 - 148.32
Philip Morris International Inc	2.66	102.40 BASE	2.46 ↑	96.66 - 123.55
Wells Fargo & Co	2.49	56.50 BASE	0.66 ↑	49.27 - 66.31
% Assets in Top 5 Holdings	17.12			

⊕ Increase ⊖ Decrease ✦ New to Portfolio



**Top Sectors 09-30-2017**

	Fund	3 Yr High	3 Yr Low	Cat Avg
Financial Services	17.47	18.17	17.17	23.11
Healthcare	14.25	13.39	12.23	13.87
Technology	14.16	14.92	13.64	11.52
Consumer Defensive	12.03	12.07	11.83	8.77
Industrials	11.50	13.45	10.63	10.12

**Management**

	Start Date
James P. Stetler	12-31-2003
W. Michael Reckmeyer	08-15-2007
Binbin Guo	01-27-2016

**Dividend and Capital Gains Distributions**

Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
12-18-2017	78.04	0.7366	0.1996	0.0000	0.5454	1.4816
09-21-2017	74.24	0.0000	0.0000	0.0000	0.4960	0.4960
06-22-2017	72.11	0.0000	0.0000	0.0000	0.4490	0.4490
03-28-2017	71.05	0.0000	0.0000	0.0000	0.4890	0.4890
12-23-2016	68.99	0.7078	0.0000	0.0000	0.5430	1.2508

# Vanguard Equity-Income Fund Admiral Shares VEIRX

## Analysis

### An effective pair.

By Alec Lucas, Ph.D. 6/5/2017

Aided by a low fee hurdle, Vanguard Equity-Income's subadvisor duo combines to produce a resilient portfolio of dividend-paying stocks. The fund earns a Morningstar Analyst Rating of Silver.

The fund pairs experienced teams from Wellington Management and Vanguard's in-house quantitative equity group. Industry veteran Michael Reckmeyer has led Wellington's two thirds of the portfolio since year-end 2007. James Stetler has overseen the rest of the fund's assets for Vanguard's team since 2003.

The teams use complementary strategies. Reckmeyer runs a roughly 60-70 stock portfolio of stout dividend payers that he tries to buy when they're out of favor. In late 2016, for example, he added to the fund's position in now top-25 holding Unilever UN because of its geographically diverse product mix and above-average organic growth rate. The Vanguard team rounds out the portfolio by taking small stakes in 100-plus stocks based on factors such as valuation and earnings sustainability.

The fund's sector weightings hew closely to those of FTSE High Dividend Yield Index, rarely diverging by more than 5 percentage points. Versus its large-value Morningstar Category peer group, however, the fund tends to tread heavily in income-oriented sectors such as utilities, telecom, and consumer staples. As of March 2017, the fund's 22.8% combined stake in these sectors ranked near the category's top decile.

The fund has the wind at its back whenever investors seek safety in yield-rich sectors. The fund held up better than 90% of its large-value Morningstar Category peers in 2011's equity market plunge from May to early October and more recently in the 2015-16 correction. The fund, though, is prone to lag when interest rates spike, as in 2016's second half.

Over the long haul, Reckmeyer's stock-picking skill

and the Vanguard quant team's model have produced strong risk-adjusted results. From Reckmeyer's late 2007 start date through May 2017, the fund's top-decile 7.9% annualized gain edged its benchmark with less volatility.

The fund is a worthy option.

### Process Pillar: + Positive

Two subadvisors here take distinct but effective approaches to finding value in the market's short-term dislocations, earning the fund a Positive Process Pillar rating. Manager Michael Reckmeyer, who runs about two thirds of the fund's assets, is a stickler for dividends, valuations, and healthy balance sheets. He buys stocks with above-average dividends and low valuations but unappreciated growth prospects. Typically, these stocks offer a yield above the S&P 500's upon purchase. Unlike the strategy he runs for Vanguard Wellesley Income VWINX, however, his portfolio here can hold a stock if its yield falls below the S&P 500's. Reckmeyer can be contrarian, adding to solid but out-of-favor stocks whose challenges are more than reflected in their share prices. While he generally holds stocks for about four to five years, Reckmeyer is quick to sell if stocks' fundamentals deteriorate or hit their target price. He can also swap a name for a similar stock trading at a better valuation.

Vanguard's James Stetler and his quant team manage about one third of the fund's assets. They rely on computer models that pick stocks from the FTSE High Dividend Yield Index based on valuation, growth, management decisions (stock buy-backs, dividend increases, and so on), momentum, and earnings sustainability. They turn their portfolio over more than Reckmeyer, but the fund's overall turnover still tends to be below most peers'.

The fund has a diverse portfolio of about 150-200 dividend-paying stocks. They consistently produce an above-average yield versus the large-value category norm, although they are typically well-capitalized firms. Currently, the fund derives its top-decile 2.6% trailing 12-month yield from stocks that, on average, have a return on assets that

### Morningstar's Take

Morningstar Analyst Rating



### Morningstar Pillars

Process	<span style="color: green;">+</span>	Positive
Performance	<span style="color: green;">+</span>	Positive
People	<span style="color: green;">+</span>	Positive
Parent	<span style="color: green;">+</span>	Positive
Price	<span style="color: green;">+</span>	Positive

### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum

Gold Silver Bronze **Neutral** Negative

### Fund Performance

	Total Return %	+/- Category
YTD	-2.33	-0.54
2017	18.49	2.55
2016	14.82	0.01
2015	0.86	4.90
2014	11.38	1.16



# Vanguard Equity-Income Fund Admiral Shares VEIRX

## Analysis

ranks in the category's top quintile. The fund largely steers clear of higher-yielding stocks, which can signal a distressed dividend or limited growth prospects.

While Vanguard's portion of the portfolio doesn't stray too far from the U.S.-focused FTSE High Dividend Yield Index, Wellington's Michael Reckmeyer has recently found a number of attractively valued dividend payers overseas. Since early 2013, the fund's foreign stake has hovered around 10%. Most of these holdings are multinationals that pay stout dividends, like British American Tobacco BATS, which has a wide Morningstar Research Services Economic Moat Rating.

Sector weightings tend to stay fairly close to the fund's benchmark but can diverge dramatically from the Russell 1000 Value Index. Financials claimed 17.3% of the fund's assets as of April 2017. That was more than any other sector but still below the Russell index's 26.4% stake. While exposure to dividend havens like telecom and utilities (a combined 10.8% presently) can be significant, the fund is more diversified than most income-oriented peers.

### Performance Pillar: + Positive

The fund's Positive Performance Pillar rating reflects its strong record under the current subadvisor lineup. Since Wellington Management and Vanguard's in-house quantitative equity group became solely responsible for this fund's asset base in late 2005, its 8.8% annualized gain through May 2017 beat the Russell 1000 Value Index by 1.6 percentage points and landed in the large-value category's top decile, with below-average volatility.

Wellington's management team underwent a change at year-end 2007, when Michael Reckmeyer took over the lead role from John Ryan. That transition went smoothly because Reckmeyer had been a longtime member of the firm's value equity-income team and he uses the same approach as his predecessor. The fund has continued to fare well. From January 2008 through May 2017, it topped the Russell index in 44 of 54 five-year rolling periods. The fund has had less suc-

cess against the FTSE High Dividend Yield Index, its primary prospectus benchmark since mid-2007, but maintains a slight cumulative edge versus that boggy during the same period.

Vanguard does not disclose individual subadvisors' results, but Reckmeyer's use of a nearly identical strategy on Hartford Equity Income HQIAX gives a sense of how the two teams have done. Although the Hartford fund has better long-term gross returns, there are years when the quant group adds value, like 2011.

### People Pillar: + Positive

Consistent and capable subadvisor leadership earns the fund a Positive People Pillar rating. Since late 2005, the fund's assets have been split between anchor Wellington Management and Vanguard's in-house quantitative equity group. Wellington, a subadvisor here since 2000, boasts ample resources in overseeing about two thirds of assets. Michael Reckmeyer took over as lead manager of Wellington's slice in late 2007 and has been a member of the firm's seasoned seven-person value equity-income team since 1994. While the team parted ways with its energy, chemicals, and paper analyst in late 2016, it has access to the firm's 50-plus global industry analysts as it looks for a replacement. Two members of the otherwise Pennsylvania-based team live in London.

The quantitative equity group runs the rest of the portfolio. James Stetler has been investing at Vanguard since 1996 and has been running a slice of this fund since 2003. Binbin Guo came aboard in early 2016, replacing James Troyer, who had joined the fund in early 2012. Michael Roach, who joined the fund around the same time as Troyer, left in May 2017 to head up Vanguard's quantitative equity group in Australia. The entire global team includes nearly 30 strategists, analysts, and managers combined, who have on average more than a decade of industry experience.

Reckmeyer invests more than \$1 million in the fund.

### Parent Pillar: + Positive

Vanguard has one of the mutual fund industry's

strongest corporate cultures and earns a Positive Parent rating. Its consistent messages to investors to keep costs low, diversify, and stay the course are reflected in the firm's own behavior. Vanguard's U.S. fundholders own the firm through small investments by each mutual fund, mitigating potential conflicts of interest that can exist at other firms that are serving two masters. Fund performance is strong overall: Over the past three-, five-, and 10-year periods, its Morningstar Success Ratios are greater than 70%--high among large, diversified fund families.

Over the past year, the firm has collected more than USD 200 billion in net inflows, thanks in large part to investors' interest in passive investing. The firm's indexing and ETF prowess, low costs, and success in penetrating the financial-advisor sales channel all have fueled growth. Total assets under management now exceed USD 3.3 trillion, giving Vanguard a significant more-than-20% market share across U.S. mutual funds.

Vanguard has been a global player for years but has only more recently turned its focus to growing internationally. The firm is a large player in Australia, where it has the most history, but doesn't yet have the brand recognition and trust it enjoys in the United States in other parts of the world. While non-U.S. funds don't participate in the ownership of Vanguard, the firm's investorcentric culture extends globally.

### Price Pillar: + Positive

Rock-bottom fees earn the fund a Positive Price Pillar rating. The Investor shares' 0.26% expense ratio, which applies to about one fifth of the fund's assets, is 64 basis points below the large-cap no-load peer median and lower than 94% of those peers. The Admiral shares contain the rest of the fund's assets and are even cheaper at 0.17%, which beats 95% of their rivals' fees. Modest trading costs are another plus. In fiscal 2016, brokerage fees of 0.01% of average net assets fell below the category's 0.04% median.

The fund's price tag will shift, however. Vanguard pays subadvisor Wellington an asset-based fee,

# Vanguard Equity-Income Fund Admiral Shares VEIRX

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## Analysis

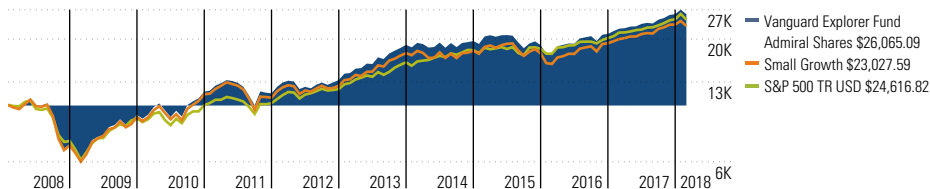
with breakpoints, and the expense ratio also includes a performance adjustment based on the fund's three-year rolling return versus the FTSE High Dividend Yield Index.

# Vanguard Explorer Fund Admiral Shares VEXRX

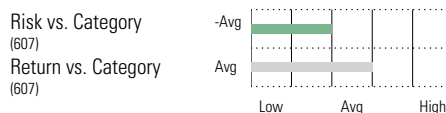
Morningstar Analyst Rating  
**Bronze**

NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
88.76	↑0.46   0.52	0.43	14.1	Open	\$50,000	None	0.34%	★★★★	Small Growth	Small Growth

## Growth of 10,000 02-12-2008 - 02-12-2018



## 3 Year Average Morningstar Risk Measures



## Investment Strategy

The investment seeks to provide long-term capital appreciation. The fund invests mainly in the stocks of small and mid-size companies. These companies tend to be unseasoned but are considered by the fund's advisors to have superior growth potential. Also, these companies often provide little or no dividend income. It uses multiple investment advisors.

## Pillars

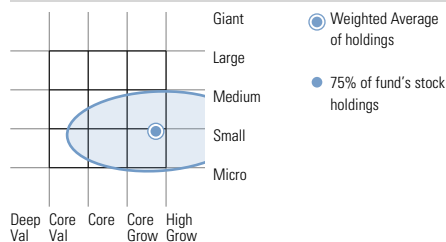
Process	Neutral
Performance	Neutral
People	Positive
Parent	Positive
Price	Positive
Rating	<b>Bronze</b>

## Performance 02-12-2018

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000 Fund	9,988	9,565	11,687	12,941	18,430	25,965
+/- S&P 500 TR USD	0.34	0.20	-0.11	-1.64	-1.17	0.66
+/- Category	1.48	0.89	1.99	0.27	1.11	0.58
% Rank in Cat	17	18	36	43	33	37
# of Funds in Cat	724	724	672	596	534	402

\* Currency is displayed in BASE

## Style Map

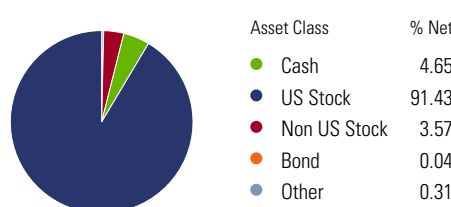


## Top Holdings 12-31-2017

	Weight %	Last Price	Day Chg %	52 Week Range
Insulet Corp	0.95	72.46 BASE	-1.38 ↓	38.43 - 78.65
Trinet Group Inc	0.92	41.12 BASE	-0.02 ↓	24.93 - 45.25
Icon PLC	0.91	109.36 BASE	-0.17 ↓	76.46 - 124.48
athenahealth Inc	0.86	130.40 BASE	-1.64 ↓	95.01 - 158.66
Vanguard Small-Cap ETF	0.76	143.85 BASE	0.29 ↑	128.81 - 155.86

⊕ Increase ⊖ Decrease ✱ New to Portfolio

## Asset Allocation



## Top Sectors 09-30-2017

	Fund	3 Yr High	3 Yr Low	Cat Avg
Technology	25.69	25.63	20.84	25.28
Industrials	18.62	20.59	18.57	16.95
Consumer Cyclical	16.14	18.98	16.27	12.52
Healthcare	15.22	18.39	15.08	16.82
Financial Services	7.54	8.83	7.60	11.05

## Dividend and Capital Gains Distributions

Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
12-18-2017	88.50	7.9430	2.1916	0.0000	0.4375	10.5721
12-23-2016	81.15	3.3174	0.0000	0.0000	0.4030	3.7204
12-24-2015	75.66	7.2000	0.4037	0.0000	0.5343	8.1380
12-17-2014	84.40	11.3720	1.6030	0.0000	0.3240	13.2990
12-17-2013	92.22	8.4610	1.6010	0.0000	0.2160	10.2780

## Management

	Start Date
Kenneth L. Abrams	02-01-1994
James P. Stetler	02-17-2012
Ryan Edward Crane	08-12-2013
Daniel J. Fitzpatrick	02-24-2014
Chad Meade	06-16-2014
Brian A. Schaub	06-16-2014
Binbin Guo	02-25-2016
Brian M. Angerame	03-20-2017
Derek J. Deutsch	03-20-2017
Aram E. Green	03-20-2017
Jeffrey J. Russell	03-20-2017

# Vanguard Explorer Fund Admiral Shares VEXRX

## Analysis

### This fund's Morningstar Analyst Rating has been upgraded to Bronze.

By Andrew Daniels, CFA, CMA 3/30/2017

Vanguard Explorer's recent subadvisor changes have improved its future prospects. We've upgraded the fund's Morningstar Analyst Rating to Bronze from Neutral.

On March 20, 2017, Vanguard announced it dismissed Granahan Investment Management and Kalmar Investment Partners as subadvisors on this fund. ClearBridge Investments, a quality-driven fundamental equity shop based in New York City, also joined as a subadvisor and now manages 15% of fund assets. These changes come after Vanguard dismissed Century Capital and Chartwell Investment Partners in 2016. The 2016-17 changes addressed two concerns--the number and the quality of subadvisors--which materially improves this fund's prospects going forward.

As this fund's asset base grew from \$900 million in 1994 to \$11.9 billion as of February 2017, Vanguard added more subadvisors to manage small-cap liquidity concerns. There were eight subadvisors as of December 2015, which diluted the impact of each manager's best picks. The number of subadvisors now stands at five; this smaller lineup should make the portfolio more distinct. And the new ClearBridge comanagers are promising. Jeffrey Russell, Aram Green, Derek Deutsch, and Brian Angerame have been with ClearBridge or its predecessor firms for an average of nearly 20 years. Team members comanage Silver-rated ClearBridge Small Cap Growth SASMX and Bronze-rated ClearBridge Mid Cap SBMAX. ClearBridge joins a solid group of fellow fundamental subadvisors, including Kenneth Abrams and DJ Fitzpatrick of Wellington Management, Chad Meade and Brian Schaub of Arrowpoint Asset Management, and Ryan Crane of Stephens Investment Management. Combined, the fundamental subadvisors manage 78% of assets; Vanguard's Quantitative Equity Group manages 18%, and the rest is in cash.

There is always the risk that Vanguard will continue to tinker with the subadvisor lineup here, but this fund provides access to a solid lineup of managers for the lowest fee among actively managed small-growth funds. That's worth considering.

#### Process Pillar: Neutral

While this fund's recent subadvisor changes are encouraging, its history indicates that there's no guarantee Vanguard will not change the lineup again in the future. The fund earns a Neutral Process rating.

As this fund's asset base grew from \$900 million in 1994 to \$11.9 billion as of February 2017, Vanguard added more subadvisors to manage small-cap liquidity concerns. Vanguard's portfolio review group conducts external manager selection for the firm. The team selects subadvisors it believes will deliver strong long-term performance, competitive fee arrangements, and consistent leadership. Vanguard argues that having multiple subadvisors provides diversification and adds alpha, but the fund's tracking error declined as the asset base grew. PRG's decisions can dramatically alter the strategic profile of the fund. As of December 2015, the fund had eight subadvisors, which limited the ability of its managers to add value with their best picks. Partially because of outflows and poor performance, Vanguard has since dismissed four subadvisors and added one in ClearBridge Investments. Also, since October 2006, the fund has gone from having 50% of its assets with quantitative managers to just 18% in 2017.

All told, the recent changes should result in a more distinct portfolio, if Vanguard doesn't add more subadvisors in the future to manage flows.


The multimanager fund's portfolio had nearly 700 holdings as of December 2016. While that should come down to approximately 600 when ClearBridge Investments takes the place of two dismissed subadvisors, the fund will still be much more diffuse than the typical small-growth Morningstar Category peer. As of December 2016, the fund's top 10 holdings made up about 7.5% of as-

### Morningstar's Take

Morningstar Analyst Rating



### Morningstar Pillars

Process	 Neutral
Performance	 Neutral
People	 Positive
Parent	 Positive
Price	 Positive

### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum



### Fund Performance

	Total Return %	+/- Category
YTD	0.40	1.54
2017	23.10	1.60
2016	12.47	1.27
2015	-4.22	-1.81
2014	4.08	1.64

# Vanguard Explorer Fund Admiral Shares VEXRX

## Analysis

sets, versus 25% for the typical small-growth peer. Nearly all of the fund's holdings make up less than 0.80% of assets, limiting the subadvisors' abilities to add value with their highest-conviction picks.

The fund doesn't veer far from the benchmark's sector weightings even though subadvisor sleeves may diverge substantially. As of December 2016, the fund had a 4-percentage-point overweighting in technology stocks relative to the Russell 2500 Growth Index benchmark, led by semiconductor players Cavium CAVM and Intersil ISIL. On the flip side, the fund had a 3-percentage-point underweighting in consumer cyclical stocks, though it did own several retailers such as DSW DSW, Ulta Beauty ULTA, and Chico's FAS CHS.

The fund did have a quality tilt as of December 2016. Its debt/capital ratio of 0.40 was lower than the benchmark's 0.46. Similarly, the fund's return on invested capital of 5.3% was higher than the benchmark's 3.7%.

### Performance Pillar: ● Neutral

This fund's recent subadvisor changes make its track record less relevant. It earns a Neutral Performance rating.

Performance has been strong since longest-tenured manager Kenneth Abrams arrived in February 1994. From then through February 2017, the fund's annualized gain of 9.3% outperformed the Russell 2500 Growth Index benchmark's gain of 8.7%, with lower volatility. The fund's Sharpe ratio--a measure of risk-adjusted returns--of 0.43 during the same period also beats the benchmark's 0.38. However, this record should be taken with a grain of salt since the fund's size and strategy have changed drastically through the years.

In recent years, the fund's rock-bottom fees have helped it outperform its small-growth peers, but it has struggled versus the benchmark. During the trailing five-year period ended February 2017, the fund's annualized gain of 11.8% trailed the benchmark's gain of 12.4%, but outperformed 64% of its peers. The fund's struggles versus the benchmark likely drove Vanguard to make major changes to

the subadvisor lineup, as the four subadvisors dismissed in 2016-17 had posted poor risk-adjusted results.

The fund had a solid 2016, outperforming its benchmark by 2.6 percentage points, getting a boost from merger and acquisition activity: Biotech firm Medivation and medical diagnostic firm Cepheid were acquired.

### People Pillar: ⊕ Positive

This fund's recent subadvisor changes have improved its prospects. Its loaded lineup of solid comanagers supports a Positive People rating.

On March 20, 2017, Vanguard announced that it dismissed Granahan Investment Management and Kalmar Investment Partners as subadvisors on this fund. ClearBridge Investments, a New York-based quality-driven fundamental equity shop, joined as a subadvisor and now manages 15% of fund assets. ClearBridge's Jeffrey Russell, Aram Green, Derek Deutsch, and Brian Angerame will serve as comanagers. On average they have been with ClearBridge or predecessor firms for nearly 20 years. Team members comanage Silver-rated ClearBridge Small Cap Growth SASMX and Bronze-rated ClearBridge Mid Cap SBMAX. The recent subadvisor changes come after Vanguard dismissed Century Capital and Chartwell Investment Partners in 2016. In all, the number of subadvisors here has been reduced to five from eight since the end of 2015, and the other subadvisors are talented and experienced.

Kenneth Abrams and DJ Fitzpatrick of Wellington Management continue to manage 34% of fund assets. Chad Meade and Brian Schaub of Arrowpoint Asset Management--who run Bronze-rated Meridian Growth MERDX--manage 15% of fund assets, while Ryan Crane of Stephens Investment Management runs 14%; Vanguard's quantitative equity group manages 18%.

### Parent Pillar: ⊕ Positive

Vanguard has one of the mutual fund industry's strongest corporate cultures and earns a Positive Parent rating. Its consistent messages to investors to keep costs low, diversify, and stay the course

are reflected in the firm's own behavior. Vanguard's U.S. fundholders own the firm through small investments by each mutual fund, mitigating potential conflicts of interest that can exist at other firms that are serving two masters. Fund performance is strong overall: Over the past three-, five-, and 10-year periods, its Morningstar Success Ratios are greater than 70%--high among large, diversified fund families.

Over the past year, the firm has collected more than USD 200 billion in net inflows, thanks in large part to investors' interest in passive investing. The firm's indexing and ETF prowess, low costs, and success in penetrating the financial-advisor sales channel all have fueled growth. Total assets under management now exceed USD 3.3 trillion, giving Vanguard a significant more-than-20% market share across U.S. mutual funds.

Vanguard has been a global player for years but has only more recently turned its focus to growing internationally. The firm is a large player in Australia, where it has the most history, but doesn't yet have the brand recognition and trust it enjoys in the United States in other parts of the world. While non-U.S. funds don't participate in the ownership of Vanguard, the firm's investorcentric culture extends globally.

### Price Pillar: ⊕ Positive

This fund is one of the cheapest actively managed options in the small-growth category, giving it a built-in advantage over nearly all peers. Thus, it earns a Positive Price rating.

The fund's Investor shares hold 30% of assets, charge 0.45%, and earn a Morningstar Fee Level of Low. For a \$50,000 minimum investment, investors can purchase the fund's Admiral shares, which hold 70% of assets, charge 0.33%, and also earn a Low fee level. Overall, the weighted average net expense ratio for this fund is 0.37%, which is 69% cheaper than the small-cap, no-load fee group median of 1.19%.

Brokerage commissions for the fund are 0.10%, well below the 0.16% of the typical small-growth

# Vanguard Explorer Fund Admiral Shares VEXRX

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## Analysis

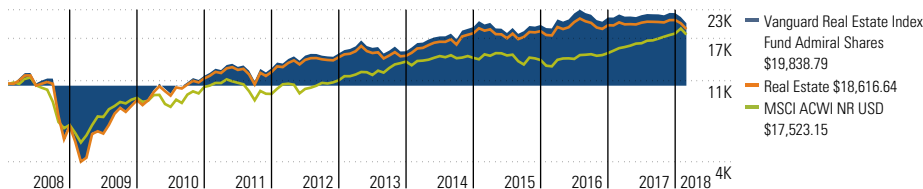
peer.

# Vanguard Real Estate Index Fund Admiral Shares VGSLX

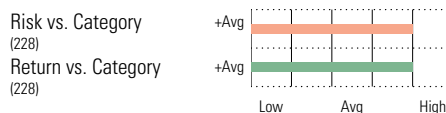
Morningstar Analyst Rating  
Silver

NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
105.86	↑0.66   0.63	4.42	60.5	Open	\$10,000	None	0.12%	★★★	Real Estate	Mid Blend

## Growth of 10,000 02-12-2008 - 02-12-2018



## 3 Year Average Morningstar Risk Measures



## Investment Strategy

The investment seeks to provide a high level of income and moderate long-term capital appreciation by tracking the performance of the MSCI US Investable Market Real Estate 25/50 Transition Index that measures the performance of publicly traded equity REITs and other real estate-related investments. The advisor attempts to replicate the index by investing all, or substantially all, of its assets—either directly or indirectly through a wholly owned subsidiary, which is itself a registered investment company—in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index. The fund is non-diversified.

## Performance 02-13-2018

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000	9,006	9,498	9,289	9,999	13,263	19,261
Fund	-9.94	-5.02	-7.11	0.00	5.81	6.77
+/- MSCI ACWI NR USD	-9.15	-0.44	-24.58	-8.04	-3.70	1.21
+/- Category	-1.15	-0.46	-2.47	-0.46	0.24	0.81
% Rank in Cat	88	80	77	54	38	29
# of Funds in Cat	276	276	256	228	198	143

\* Currency is displayed in BASE

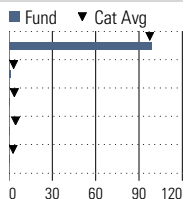
## Top Holdings 12-31-2017

	Weight %	Last Price	Day Chg %	52 Week Range
⊕ Vanguard REIT II Index	9.96	18.02 BASE	0.61 ↑	17.44 - 20.53
⊕ Simon Property Group Inc	5.60	155.49 BASE	0.41 ↑	150.15 - 187.35
⊕ Equinix Inc	3.71	436.25 BASE	1.11 ↑	361.90 - 495.35
⊕ Prologis Inc	3.60	61.16 BASE	1.68 ↑	48.80 - 67.53
⊕ Public Storage	3.43	189.20 BASE	0.74 ↑	180.48 - 232.21
% Assets in Top 5 Holdings	26.30			

⊕ Increase ⊖ Decrease ✨ New to Portfolio

## Top Sectors 12-31-2017

	Fund	3 Yr High	3 Yr Low	Cat Avg
🏠 Real Estate	98.83	99.26	98.83	94.71
⚙️ Industrials	1.17	1.17	0.74	0.45
🏭 Basic Materials	0.00	0.00	0.00	0.92
🛒 Consumer Cyclical	0.00	0.00	0.00	1.80
🏦 Financial Services	0.00	0.00	0.00	0.05



## Dividend and Capital Gains Distributions

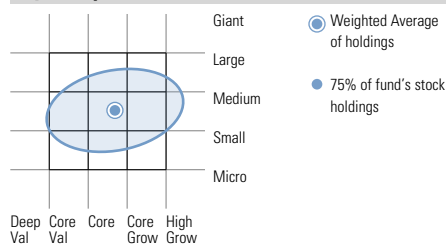
Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
12-20-2017	115.57	0.0000	0.0000	0.0000	1.7907	1.7907
09-21-2017	117.68	0.0000	0.0000	0.0000	1.2100	1.2100
06-22-2017	118.78	0.0000	0.0000	0.0000	1.1350	1.1350
03-21-2017	115.37	0.0000	0.0000	0.0000	0.8420	0.8420
12-21-2016	114.43	0.1680	0.1721	0.6400	1.4210	2.4010

## Pillars

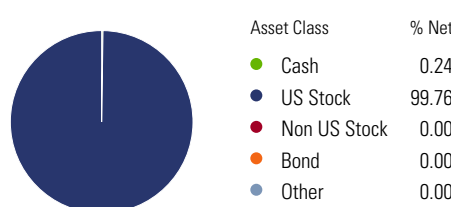
Process	⊕ Positive
Performance	⊕ Positive
People	⊕ Positive
Parent	⊕ Positive
Price	⊕ Positive

Rating

## Style Map



## Asset Allocation



## Management

Manager	Start Date
Gerard C. O'Reilly	05-13-1996
Walter Nejman	05-25-2016

# Vanguard Real Estate Index Fund Admiral Shares VGSLX

## Analysis

**A new, broader bogy make this fund an even better option for investors seeking exposure to the real estate sector.**

By Ben Johnson, CFA 2/9/2018

Vanguard Real Estate Index is by far the largest real estate fund, with more than \$60 billion in assets, including \$30 billion-plus in its exchange-traded fund share class, Vanguard Real Estate ETF VNO. It's also one of the cheapest real estate funds, with an expense ratio of 0.12% for the Admiral shares and 0.26% for the Investor shares. It features experienced management and an excellent record of tracking its index. It is a fine option in its niche, earning a Morningstar Analyst Rating of Silver.

Until recently, the fund had tracked the market-cap-weighted MSCI US REIT Index, which holds domestic-equity REITs, or firms that manage properties and collect rent. That index doesn't include mortgage REITs, which invest in mortgages and mortgage-backed securities rather than actual properties, nor does it include non-real-estate specialty REITs such as timber or cell-tower REITs. Beginning in February 2018 the fund began to migrate from its prior bogy, the MSCI US REIT Index, to its new benchmark, the MSCI US Investable Market Real Estate 25/50 Index. The new index is a broader representation of the real estate sector and thus, the opportunity set available to category peers. Most notably, it includes the aforementioned non-real-estate specialty REITs that were absent from its prior benchmark.

Lead skipper Gerard O'Reilly has managed the mutual fund version of this strategy since its 1996 inception, and he also runs the \$700 billion Vanguard Total Stock Market Index fund as well as numerous other big index funds. That experience has helped O'Reilly do an excellent job of tracking the fund's benchmark and has helped the fund outpace most other real estate ETFs and mutual funds over time. Its 10-year returns ranks in the top third of real estate mutual funds, largely due to its. The fund's low expense ratio, which gives it a durable edge. The only funds in the real estate Morning-

star Category with lower costs are Schwab U.S. REIT ETF SCHH, Fidelity MSCI Real Estate ETF FREL, and iShares Core U.S. REIT USRT. All in all, there's plenty to like here.

**Process Pillar:** + Positive

The fund's goal is to provide broad exposure to the U.S. real estate sector by tracking the MSCI US Investable Market Real Estate 25/50 Index REITs. It seeks to replicate the performance of its benchmark as closely as possible. A mutual fund's costs include its expense ratio and transaction fees, so the challenge for passive funds is to keep costs down while matching the performance of the index as closely as possible.

Beginning in February 2018 the fund began to migrate from its prior bogy, the MSCI US REIT Index, to its new benchmark, the MSCI US Investable Market Real Estate 25/50 Index. The new index is a broader representation of the real estate sector and thus, the opportunity set available to category peers. Per MSCI data, the aggregate market capitalization represented by this new target is approximately \$200 billion greater than its prior index. The most notable additions to the portfolio will be non-real-estate specialty REITs. These REITs account for about 31% of the value of the fund's new benchmark, versus 18% for its former index. American Tower, Crown Castle, Weyerhaeuser, and Welltower will be four such new names that will appear on the fund's roster of top 10 holdings. This will likely increase the fund's risk profile. All told, we view this index change favorably and reaffirm our Positive Process Pillar rating.

The fund's new benchmark index is reviewed semiannually and rebalanced quarterly. Its portfolio is diversified across property sectors. This is a good benchmark for core real estate exposure, and the managers have historically done a good job of tracking their index closely. There's no reason to believe that this will change as the fund transitions to its new benchmark.

### Morningstar's Take

Morningstar Analyst Rating



### Morningstar Pillars

Process	+ Positive
Performance	+ Positive
People	+ Positive
Parent	+ Positive
Price	+ Positive

### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum



### Fund Performance

	Total Return %	+/- Category
YTD	-9.94	-0.62
2017	4.94	-1.28
2016	8.50	1.61
2015	2.39	-0.02
2014	30.32	2.28



# Vanguard Real Estate Index Fund Admiral Shares VGSLX

## Analysis

### Performance Pillar: + Positive

This fund's annualized return has trailed its benchmark's by almost exactly its expense ratio over the past three and five years, which speaks well to the way it has been managed.

This fund has been a top performer in the real estate Morningstar Category, beating the category in seven of the past 10 calendar years through 2017, earning it a Positive Performance rating. This may seem counterintuitive to those who associate REITs with active management, because REITs once were seen as a less-efficient asset class. However, very few actively managed REIT mutual funds have topped this fund's return since its 1996 inception. The percentage of actively managed REIT funds besting this fund's index over trailing five-year time periods from 1996 to 2002 was relatively high (about 60%) but has fallen since then to less than half that level as of February 2018. For an asset class often considered a good candidate for active management, most actively managed REIT funds have underperformed passively managed peers during the past decade.

On a risk-adjusted basis, this fund's return also has been strong. In the past five- and 10-year periods, its standard deviation was higher than the category average's, but its Morningstar Risk-Adjusted Return was also above the category average over both time frames.

### People Pillar: + Positive

Gerard O'Reilly has managed this fund since 1996. He has been with Vanguard since 1992 and became this fund's lead manager in 2006, when George "Gus" Sauter, Vanguard's former chief investment officer, stepped down to lead Vanguard's retail investor group. Walter Nejman was named O'Reilly's comanager on May 25, 2016. He has been with Vanguard since 2005 and was named comanager of 17 other Vanguard index funds in 2015 and 2016. Their experience earns the fund a Positive People rating.

O'Reilly and Nejman are part of Vanguard's Equity

Index Group. O'Reilly is a named manager on 12 other funds, including Silver-rated Vanguard Growth Index VIGAX, Gold-rated Vanguard Total Stock Market Index, Silver-rated Vanguard Value Index VVIAX, and Vanguard Mega Cap Value Index VMLX. Nejman is a named manager on 19 other funds plus the firm's target-date series. They are assisted by Vanguard's equity-index group, headed by Joseph Brennan, which specializes in efficient trading and construction techniques to minimize tracking error and oversees all passively managed equity funds.

Although neither manager invests in the fund, Vanguard aligns their interests with fund investors' by linking their compensation to operating efficiency, which helps keep costs low. Because minimizing costs and tracking error are the managers' primary objectives, ownership of the fund is less important than for active managers.

### Parent Pillar: + Positive

Vanguard has one of the mutual fund industry's strongest corporate cultures and earns a Positive Parent rating. Its consistent messages to investors to keep costs low, diversify, and stay the course are reflected in the firm's own behavior. Vanguard's U.S. fundholders own the firm through small investments by each mutual fund, mitigating potential conflicts of interest that can exist at other firms that are serving two masters. Fund performance is strong overall: Over the past three-, five-, and 10-year periods, its Morningstar Success Ratios are greater than 70%—high among large, diversified fund families.

Over the past year, the firm has collected more than USD 200 billion in net inflows, thanks in large part to investors' interest in passive investing. The firm's indexing and ETF prowess, low costs, and success in penetrating the financial-advisor sales channel all have fueled growth. Total assets under management now exceed USD 3.3 trillion, giving Vanguard a significant more-than-20% market share across U.S. mutual funds.

Vanguard has been a global player for years but has only more recently turned its focus to growing internationally. The firm is a large player in Australia, where it has the most history, but doesn't yet have the brand recognition and trust it enjoys in the United States in other parts of the world. While non-U.S. funds don't participate in the ownership of Vanguard, the firm's investorcentric culture extends globally.

### Price Pillar: + Positive

This fund's Admiral share class (which requires a \$10,000 minimum investment) charges a 0.12% expense ratio. This fund's Investor share class costs 0.26% and requires a \$3,000 minimum investment. (The Institutional share class VGSNX charges 0.10%.) The fund earns a Price rating of Positive.

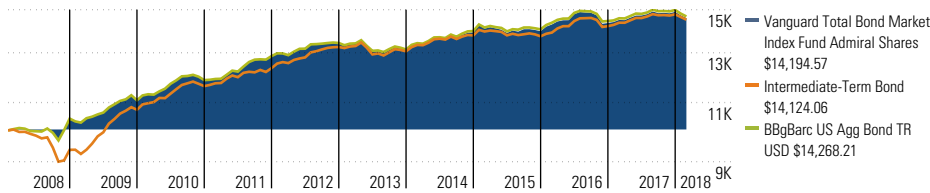
Vanguard also offers an ETF share class, Vanguard REIT ETF, which costs 0.12% but has no investment minimum beyond the cost of one share. The ETF is the fund's most popular share class. The only cheaper ETF options in this category are Schwab U.S. REIT SCHH, iShares Core U.S. REIT USRT, and Fidelity MSCI Real Estate FREL.

# Vanguard Total Bond Market Index Fund Admiral Shares VBTX

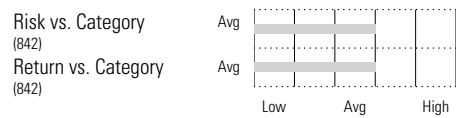
Morningstar Analyst Rating  
Silver

NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
10.51	↓0.00   0.00	2.57	196.0	Open	\$10,000	None	0.05%	★★★	Intermediate-Term Bond	

### Growth of 10,000 02-12-2008 - 02-12-2018



### 3 Year Average Morningstar Risk Measures



### Investment Strategy

The investment seeks the performance of Bloomberg Barclays U.S. Aggregate Float Adjusted Index. Bloomberg Barclays U.S. Aggregate Float Adjusted Index represents a wide spectrum of public, investment-grade, taxable, fixed income securities in the United States-including government, corporate, and international dollar-denominated bonds, as well as mortgage-backed and asset-backed securities-all with maturities of more than 1 year. All of its investments will be selected through the sampling process, and at least 80% of its assets will be invested in bonds held in the index.

### Pillars

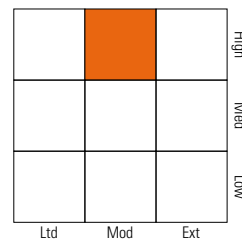
Process	+	Positive
Performance	○	Neutral
People	+	Positive
Parent	+	Positive
Pricing	+	Positive
Rating		Silver

### Performance 02-12-2018

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000	9,807	9,852	10,098	10,366	10,909	14,234
Fund	-1.93	-1.48	0.98	1.21	1.75	3.59
+/- BBGBarc US Agg Bond TR USD	0.09	0.06	0.01	-0.01	-0.07	-0.06
+/- Category	-0.23	-0.10	-0.32	-0.15	-0.05	-0.21
% Rank in Cat	67	55	61	57	53	65
# of Funds in Cat	1,023	1,023	963	823	761	539

\* Currency is displayed in BASE

### Style Map 12-31-2017



### Top Holdings 12-31-2017

	Weight %	Maturity Date	Amount Mil	Value Mil
US Treasury Note 2.125%	0.48	05-15-2025	976.90	961.79
⊕ US Treasury Note 2.25%	0.46	11-15-2027	933.15	919.73
⚡ Govt Natl Mtg Asso 3.5%	0.46	01-15-2046	880.72	910.86
US Treasury Note 2.625%	0.44	11-15-2020	853.68	869.03
US Treasury Note 1.375%	0.43	02-15-2020	858.02	848.64

% Assets in Top 5 Holdings 2.26

⊕ Increase ⊖ Decrease ⚡ New to Portfolio

### Top Sectors 12-31-2017

	Fund	BMark	Cat Avg
U.S. Treasury	39.56	—	—
Corporate Bond	27.30	—	—
Agency MBS Pass-Through	20.89	—	—
Other Government Related	3.52	—	—
U.S. Agency	1.80	—	—

### Dividend and Capital Gains Distributions

Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
01-31-2018	10.61	0.0000	0.0000	0.0000	0.0233	0.0233
12-29-2017	10.75	0.0000	0.0000	0.0000	0.0238	0.0238
12-22-2017	10.71	0.0049	0.0000	0.0000	0.0000	0.0049
11-30-2017	10.73	0.0000	0.0000	0.0000	0.0224	0.0224
10-31-2017	10.77	0.0000	0.0000	0.0000	0.0230	0.0230

### Bond Statistics

	Value
Average Effective Duration	6.11
Average Effective Maturity (Years)	8.40
Average Credit Quality	AA
Average Weighted Coupon	3.09
Average Weighted Price	103.53

### Asset Allocation

	% Net	% Short	% Long	Bench mark	Cat Avg
Cash	2.50	0.00	2.50	—	2.83
US Stock	0.00	0.00	0.00	—	0.00
Non US Stock	0.00	0.00	0.00	—	0.00
Bond	97.45	0.02	97.47	—	96.49
Other	0.05	0.00	0.05	—	0.68

### Management

	Start Date
Joshua C. Barrickman	02-22-2013

# Vanguard Total Bond Market Index Fund Admiral Shares VBTLX

## Analysis

### A low-cost, low-credit-risk option.

By Phillip Yoo, CAIA 11/20/2017

Vanguard Total Bond Market's Treasury-heavy portfolio may keep it from posting returns at the top of the intermediate-term bond Morningstar Category, but its low price tag and high credit-quality portfolio should set it up for attractive risk-adjusted performance over a full market cycle. It warrants a Morningstar Analyst Rating of Silver.

The fund tracks the market-cap-weighted Bloomberg Barclays U.S. Aggregate Bond Index, which includes investment-grade, U.S.-dollar-denominated bonds with at least one year until maturity. The portfolio currently consists of roughly 40% Treasury bonds, 20% government-guaranteed mortgage-backed securities, and 40% investment-grade corporate bonds. Accordingly, it carries low credit risk, which can limit its return potential. However, its cost advantage partially offsets this drawback.

Market-cap weighting tilts the portfolio toward highly rated bonds. AAA rated securities take up about 70% of the fund. The majority of the AAA rated portion of the portfolio is composed of low-yielding, yet secure U.S. Treasuries and agency mortgage-backed securities. The fund's exposure to Treasuries has increased over the past decade and is now 20 percentage points higher than the category average. However, this fund delivers a higher SEC yield than the category average because it has a slightly more aggressive interest-rate risk profile.

The portfolio's bias toward highly rated securities provides a safety net against market downturns, but it also limits its return potential. The fund's annual return of 4.1% over the trailing 10 years through October 2017 was behind the average return of its surviving peers by 20 basis points. Its risk-adjusted return, as measured by the Sharpe ratio, was slightly behind the category average as well.

The managers have kept the fund's performance

close to its index. Over the trailing five years through October 2017, the fund trailed the Bloomberg Barclays U.S. Aggregate Bond Index by 0.07% annually. This gap is in line with the expense ratio of 0.05%.

### Process Pillar: + Positive

The fund employs representative sampling to track the Bloomberg Barclays U.S. Aggregate Float Adjusted Index, a broad proxy for the investment-grade U.S. bond market. The index's composition largely differs from its actively managed peers, which focus more on corporate bonds and securitized debt and less on government bonds. However, this broad portfolio effectively diversifies risk, tilts toward the most liquid securities, and promotes low turnover, supporting the Positive Process Pillar rating.

The fund's index includes investment-grade corporate, government, and agency and mortgage-backed securities denominated in U.S. dollars. However, it excludes agency and mortgage-backed securities held by the Federal Reserve from its weighting calculations. The securities in the index must have at least one year remaining to maturity and must have \$300 million or more of outstanding face value. The index weights its holdings by float-adjusted market cap and is rebalanced monthly. The fund does not hold every security in the benchmark but instead carefully replicates the index's key characteristics, such as duration and credit quality.

The fund offers a slightly higher yield than its typical peer, owing to its longer duration. As of this writing, the fund had a duration of 6.0 years, compared with the category average of 5.3 years. And it has had a longer duration than its typical category peer since 2012, partially because of its heavy exposure to Treasuries. In 2009, the Department of the Treasury started issuing longer-term Treasury bonds to address long-term Medicare- and Social Security-related expenses, while tak-

### Morningstar's Take

Morningstar Analyst Rating



### Morningstar Pillars

Process	+ Positive
Performance	• Neutral
People	+ Positive
Parent	+ Positive
Price	+ Positive

### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum



### Fund Performance

	Total Return %	+/- Category
YTD	-1.93	-0.24
2017	3.57	-0.15
2016	2.60	-0.64
2015	0.40	0.66
2014	5.89	0.71

# Vanguard Total Bond Market Index Fund Admiral Shares VBTLX

## Analysis

ing advantage of low interest rates. The fund's duration can change over time because it does not impose a maximum maturity limit and weights its holdings by market capitalization.

The portfolio's interest-rate risk is partially offset by its low credit risk. Unlike some of its category peers, which invest in both investment-grade and sub-investment-grade bonds, this fund is limited to investment-grade bonds. And nearly 40% of its portfolio is allocated to Treasuries. This position is much greater than the category average of 20%. Treasuries accounted less than a fourth of the fund before the financial crisis in 2007-08. After the crisis, however, a record number of long-term Treasuries were issued, and now they make up a significant portion of the U.S. investment-grade bond market.

### Performance Pillar: ○ Neutral

This low credit-risk portfolio has tended to trail its peers with greater exposure to corporate and securitized debt. The fund's annual returns of 1.9% and 4.1% over the trailing five and 10 years through October 2017 were 30 basis points and 20 basis points behind the category average, respectively. Its peers were rewarded for taking greater credit risk after the financial crisis.

Given its conservative holdings, however, this fund performed well during market downturns. For example, the fund outperformed the majority of its category peers during the financial crisis between 2007 and 2008. The fund's solid performance during that period helped to offset its underperformance in the ensuing credit rally in 2009, when the fund lagged 80% of its surviving competitors. Furthermore, its 10-year downside deviation, a measure of downside risk, ranked in the category's best decile.

The managers have done a good job of keeping the fund close to its index. Over the trailing five years through October 2017, the fund lagged its benchmark by 7 basis points annually.

### People Pillar: ⊕ Positive

An experienced, well-equipped team manages all of Vanguard's fixed-income index strategies, underpinning the Positive People Pillar rating.

Joshua Barrickman was named as manager in 2013. He has worked in investment management at Vanguard since 1999 and managed investment portfolios there since 2005. In 2013, he was promoted to head Vanguard's Bond Index Group. While Barrickman does not have an investment in the fund, Vanguard aligns managers' incentives with investors' by tying compensation to operational efficiency. Barrickman is further supported by Vanguard Fixed Income Group's more than 150 staff members. Key-person risk is low for the team.

It isn't practical for bond index funds to own all the securities in their benchmarks, so the managers must use statistical sampling techniques to construct a subset that reflects the key attributes of the index. As a result, manager skill and experience can play an important role in a fund's ability to effectively track its benchmark. Vanguard, a pioneer in index investing, has one of the most-seasoned index teams in the industry and has compiled a strong long-term record of keeping pace with the respective benchmarks of its index funds.

### Parent Pillar: ⊕ Positive

Vanguard has one of the mutual fund industry's strongest corporate cultures and earns a Positive Parent rating. Its consistent messages to investors to keep costs low, diversify, and stay the course are reflected in the firm's own behavior. Vanguard's U.S. fundholders own the firm through small investments by each mutual fund, mitigating potential conflicts of interest that can exist at other firms that are serving two masters. Fund performance is strong overall: Over the past three-, five-, and 10-year periods, its Morningstar Success Ratios are greater than 70%--high among large, diversified fund families.

Over the past year, the firm has collected more than USD 200 billion in net inflows, thanks in large part to investors' interest in passive investing. The firm's indexing and ETF prowess, low costs, and success in penetrating the financial-advisor sales channel all have fueled growth. Total assets under management now exceed USD 3.3 trillion, giving Vanguard a significant more-than-20% market share across U.S. mutual funds.

Vanguard has been a global player for years but has only more recently turned its focus to growing internationally. The firm is a large player in Australia, where it has the most history, but doesn't yet have the brand recognition and trust it enjoys in the United States in other parts of the world. While non-U.S. funds don't participate in the ownership of Vanguard, the firm's investorcentric culture extends globally.

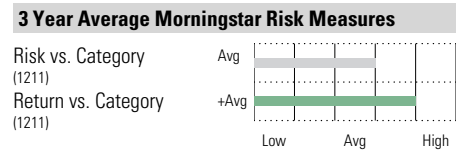
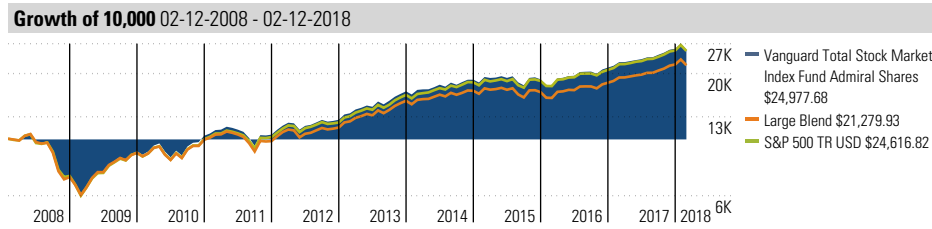
### Price Pillar: ⊕ Positive

The fund's Admiral share class (minimum investment: \$10,000) has an expense ratio of 0.05%, which is hard to beat, supporting the Positive Price Pillar rating. In fact, this fund is cheaper than 97% of its intermediate-term bond Morningstar Category peers and is substantially lower than the 0.56% category average fee. This fund's Investor share class (minimum investment: \$3,000) is offered at 0.15%. The exchange-traded fund version charges 0.05% and does not have a minimum investment requirement.

# Vanguard Total Stock Market Index Fund Admiral Shares VTSAX

Morningstar Analyst Rating **Gold**

NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
66.39	↑0.18   0.27	1.62	701.1	Open	\$10,000	None	0.04%	★★★★	Large Blend	Large Blend



**Investment Strategy**  
 The investment seeks to track the performance of a benchmark index that measures the investment return of the overall stock market. The fund employs an indexing investment approach designed to track the performance of the CRSP US Total Market Index, which represents approximately 100% of the investable U.S. stock market and includes large-, mid-, small-, and micro-cap stocks regularly traded on the New York Stock Exchange and Nasdaq. It invests by sampling the index, meaning that it holds a broadly diversified collection of securities that, in the aggregate, approximates the full index in terms of key characteristics.

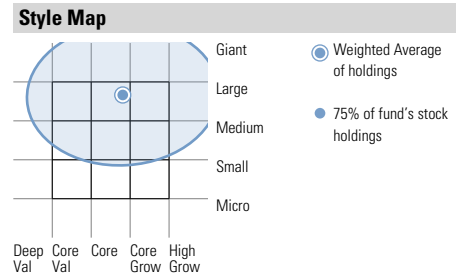
**Pillars**

Process	Positive
Performance	Positive
People	Positive
Parent	Positive
Price	Positive
Rating	<b>Gold</b>

**Performance 02-13-2018**

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000	9,951	9,554	11,564	13,327	19,107	24,523
Fund	-0.49	-4.46	15.64	10.05	13.82	9.39
+/- S&P 500 TR USD	-0.29	-0.16	-1.00	-0.52	-0.39	0.16
+/- Category	0.05	0.04	0.55	1.27	1.24	1.10
% Rank in Cat	—	—	—	—	—	—
# of Funds in Cat	1,495	1,498	1,375	1,191	1,051	787

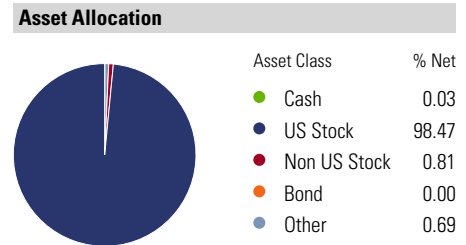
\* Currency is displayed in BASE



**Top Holdings 12-31-2017**

	Weight %	Last Price	Day Chg %	52 Week Range	
Apple Inc	2.83	164.34 BASE	1.00 ↑	132.75 - 180.10	
Microsoft Corp	2.38	89.83 BASE	0.79 ↑	63.62 - 96.07	
Amazon.com Inc	1.73	— BASE	2.04 ↑	828.55 - 1,498.00	
Facebook Inc A	1.52	173.15 BASE	-1.85 ↓	132.55 - 195.32	
Johnson & Johnson	1.36	129.96 BASE	-0.24 ↓	115.22 - 148.32	
% Assets in Top 5 Holdings		9.81			

⊕ Increase ⊖ Decrease ✦ New to Portfolio



**Top Sectors 12-31-2017**

	Fund	3 Yr High	3 Yr Low	Cat Avg
Technology	20.34	20.34	17.72	20.20
Financial Services	16.62	16.62	15.01	17.19
Healthcare	13.46	15.20	13.09	14.22
Consumer Cyclical	11.61	12.03	11.51	11.35
Industrials	11.40	11.47	11.40	11.71

**Management**

Manager	Start Date
Gerard C. O'Reilly	12-31-1994
Walter Nejman	04-27-2016

**Dividend and Capital Gains Distributions**

Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
12-20-2017	66.79	0.0000	0.0000	0.0000	0.3276	0.3276
09-21-2017	62.42	0.0000	0.0000	0.0000	0.2690	0.2690
06-20-2017	60.77	0.0000	0.0000	0.0000	0.2800	0.2800
03-23-2017	58.50	0.0000	0.0000	0.0000	0.2640	0.2640
12-19-2016	56.63	0.0000	0.0000	0.0000	0.3540	0.3540

# Vanguard Total Stock Market Index Fund Admiral Shares VTSAX

## Analysis

### This broadly diversified fund holds just about every U.S. stock.

By Adam McCullough 7/31/2017

Vanguard Total Stock Market Index offers diversified exposure to U.S. stocks of all sizes. A low fee and reasonably representative benchmark leave this fund well positioned to continue its long streak of producing superior risk-adjusted returns over the long haul. It earns a Morningstar Analyst Rating of Gold.

The fund tracks the CRSP U.S. Total Market Index, which holds nearly every investable U.S. stock. Its market-cap-weighting approach reduces turnover because changes in the market value of each holding in the portfolio mirror changes to their weightings in the market. Broad diversification is an intrinsic advantage of funds tracking market-capitalization-weighted total stock market indexes. However, market-cap weighting has its pluses and minuses. It can be a beneficial approach in momentum-driven bull markets, but it can also lead to significant sector and single-security concentration, as witnessed at the height of the technology bubble. So, market-cap-weighted indexes' greatest strength is arguably also their weakness. A total market fund such as this is a better approach for a passive equity allocation than combining separate-size segment funds because it covers the full market-cap range and isn't forced to trade stocks as they move across market-cap segments.

Because this fund tracks the entire U.S. equity market, its performance should be similar to that of the average investor, before fees. But its low fee gives the fund a large and sustainable edge. The fund's 0.04% expense ratio is nearly the lowest in the category and gives it a large cost advantage over the average large-blend Morningstar Category fund, helping its relative performance. The fund does carry meaningful risk. It fell 55% during the bear market from October 2007 through March 2009. As an index strategy, the fund stays fully invested all the time, so it won't miss a rally, but it exposes investors to the full brunt of market downturns. Over the past 10 years through June

2017, the fund returned 7.4% annually, outpacing the category average return by 1.7%, and landing just shy of the category's top decile based on risk-adjusted returns.

#### Process Pillar: Positive

The fund represents the entire investable U.S. equity market and effectively diversifies risk. It earns a Positive Process Pillar rating.

This fund tracks the CRSP U.S. Total Market Index, which holds almost every liquid U.S. stock. It includes all stocks with a primary listing on a major U.S. stock exchange with a market cap of at least \$10 million. The fund employs full replication for the largest 1,200 or so stocks in its portfolio--owning each in their corresponding index weightings--and then samples from the remaining smaller-cap stocks. However, the fund's large asset base allows it to replicate the index more completely than most other total market funds. The resulting portfolio consists of approximately 3,600 holdings, the same as the index. While the fund holds nearly all common equities and REITs, it excludes business-development companies, master limited partnerships, ADRs, and royalty trusts. The fund uses securities lending revenue to reduce costs.

The fund has changed its benchmark index twice since its May 2001 inception. Up until April of 2005, it tracked the Dow Jones U.S. Total Stock Market Index (formerly the Dow Jones Wilshire 5000 Index). From April 2005 until June 2013 it followed the MSCI U.S. Broad Market Index. These changes were largely immaterial. Vanguard's desire to reduce index licensing fees drove the most recent index change.

This portfolio reflects the composition of the U.S. stock market. The fund is broadly diversified across sectors, industries, and individual stocks. Most funds in the large-blend category benchmark against the S&P 500, which covers large- and mid-cap stocks. There are two primary differences between the index that this fund follows, the CRSP U.S. Total Market Index, and the more popular S&P 500. First, this fund includes many more stocks, including some micro-caps. In fact, 9% of

### Morningstar's Take

Morningstar Analyst Rating



### Morningstar Pillars

Process	 Positive
Performance	 Positive
People	 Positive
Parent	 Positive
Price	 Positive

### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum

 Gold  Silver  Bronze **Neutral** **Negative**

### Fund Performance

	Total Return %	+/- Category
YTD	-0.49	0.05
2017	21.17	0.73
2016	12.66	2.30
2015	0.39	1.46
2014	12.56	1.60

# Vanguard Total Stock Market Index Fund Admiral Shares VTSAX

## Analysis

its assets are in small- and micro-cap stocks compared with just 2.7% for the typical large-blend fund and 0% for the S&P 500. This slightly increases the fund's, but long-term investors should be rewarded. This results in an average market cap for stocks in the index that is less than half the typical fund in the large-blend category. Second, CRSP uses a more mechanical index construction approach than the S&P 500, which is controlled by a committee. That said, because they both use market-cap weighting, their performance is highly correlated.

Turnover here has averaged just 4% per year during the past 10 years, well below the average of 58% for the large-blend category. Market-cap weighting helps reduce turnover because stocks naturally become a bigger part of the fund as their prices rise.

### Performance Pillar: + Positive

The fund has produced superior long-term performance relative to its large-cap blend category peers, supporting its Positive Performance Pillar rating.

Over the past decade through June 2017, this fund returned 7.4% annually, outpacing the large-blend category average by 1.7 percentage points each year. Its risk-adjusted returns land near the category's top decile over the same time frame. A low-cost market-cap-weighted index fund that represents the market opportunity set well (like this fund) should outdistance most active rivals over the long-run.

This fund has three advantages over the average large-blend fund that give it a long-term edge. It has a much lower fee, smaller cash drag, and it includes more small caps. A good portion of this fund's relative outperformance has been driven by this combination. Because the fund is always invested, it suffered a larger drawdown than the category average during the financial crisis. But its smaller cash drag pays off during bull markets. Its performance during the market recovery more than made up for its larger drawdown. This fund is also tax-efficient. It has not distributed a capital gain since its inception in May 2001.

### People Pillar: + Positive

A well-equipped group manages all of Vanguard's equity index funds. The team's extensive experience, deep bench of talent, and strong trading infrastructure underpin the fund's Positive People rating.

Gerard O'Reilly has managed equity index funds for Vanguard since 1994, the year that he started on this fund. Walter Nejman was added as a co-manager here in April 2016. Nejman joined Vanguard in 2005 and has been working in investment management since 2008. The duo is backed by a team of experienced managers in Vanguard's equity index group. That group includes over 60 investment professionals, of which more than 20 are portfolio managers or traders. The depth of talent and Vanguard's practice of rotating managers serves to minimize key-manager risk. Joe Brennan leads the team. Vanguard's chief investment officer, Greg Davis, took the reins from Tim Buckley in July 2017. Prior to his chief investment officer role, Davis led Vanguard Fixed Income Group.

In addition to this fund, O'Reilly and Nejman are also the listed portfolio managers for a number of Vanguard's U.S. stock index funds. According to regulatory filings, neither manager is invested in this fund. Vanguard links their compensation to operating efficiency, which helps keep costs low and aligns their interests with investors'.

### Parent Pillar: + Positive

Vanguard has one of the mutual fund industry's strongest corporate cultures and earns a Positive Parent rating. Its consistent messages to investors to keep costs low, diversify, and stay the course are reflected in the firm's own behavior. Vanguard's U.S. fundholders own the firm through small investments by each mutual fund, mitigating potential conflicts of interest that can exist at other firms that are serving two masters. Fund performance is strong overall: Over the past three-, five-, and 10-year periods, its Morningstar Success Ratios are greater than 70%--high among large, diversified fund families.

Over the past year, the firm has collected more

than USD 200 billion in net inflows, thanks in large part to investors' interest in passive investing. The firm's indexing and ETF prowess, low costs, and success in penetrating the financial-advisor sales channel all have fueled growth. Total assets under management now exceed USD 3.3 trillion, giving Vanguard a significant more-than-20% market share across U.S. mutual funds.

Vanguard has been a global player for years but has only more recently turned its focus to growing internationally. The firm is a large player in Australia, where it has the most history, but doesn't yet have the brand recognition and trust it enjoys in the United States in other parts of the world. While non-U.S. funds don't participate in the ownership of Vanguard, the firm's investorcentric culture extends globally.

### Price Pillar: + Positive

This is one of the cheapest funds available in the category, supporting the Positive Price Pillar rating.

The fund's Investor share class levies a 0.15% fee per year and requires a \$3,000 initial investment. The Admiral share class carries a \$10,000 minimum and levies a 0.04% fee. The ETF share class's expense ratio matches the Admiral share class at 0.04%, but it doesn't have a minimum investment beyond the price of one share.

There are several institutional share classes available from that charge 1 to 3 basis points per year but have high minimum purchase requirements. These options may be available through select 401(k) platforms.

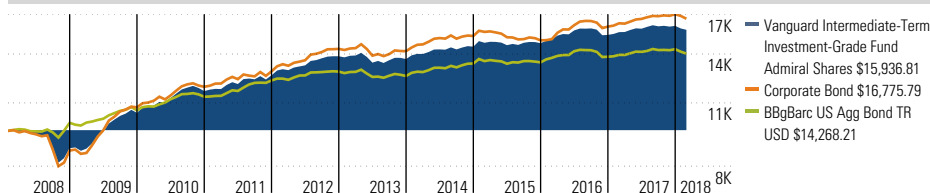
# Vanguard Intermediate-Term Investment-Grade Fund Admiral Shares

Morningstar Analyst Rating

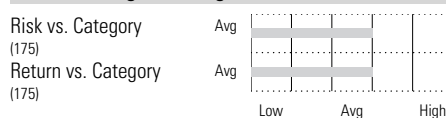


NAV \$	NAV Day Change %	Yield TTM %	Total Assets \$ Bil	Status	Min. Inv.	Load	Expenses	Morningstar Rating™	Category	Investment Style
9.53	↓-0.01   -0.11	2.95	29.5	Open	\$50,000	None	0.10%	★★★	Corporate Bond	

### Growth of 10,000 02-12-2008 - 02-12-2018



### 3 Year Average Morningstar Risk Measures



### Investment Strategy

The investment seeks to provide a moderate and sustainable level of current income. The fund invests in a variety of high-quality and, to a lesser extent, medium-quality fixed income securities, at least 80% of which will be short- and intermediate-term investment-grade securities. High-quality fixed income securities are those rated the equivalent of A3 or better; medium-quality fixed income securities are those rated the equivalent of Baa1, Baa2, or Baa3. It is expected to maintain a dollar-weighted average maturity of 5 to 10 years.

### Performance 02-12-2018

	YTD	1 Mo	1 Yr	3Yr Ann	5Yr Ann	10Yr Ann
Growth of 10,000	9,820	9,869	10,153	10,668	11,353	15,983
Fund	-1.80	-1.31	1.53	2.18	2.57	4.80
+/- BBgBarc US Agg Bond TR USD	0.22	0.23	0.55	0.96	0.75	1.15
+/- Category	0.28	0.46	-1.39	-0.28	-0.48	-0.11
% Rank in Cat	36	32	86	64	71	56
# of Funds in Cat	262	263	224	173	144	84

\* Currency is displayed in BASE

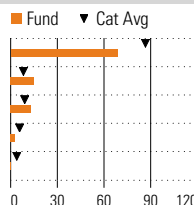
### Top Holdings 09-30-2017

	Weight %	Maturity Date	Amount Mil	Value Mil
⊖ US Treasury Note	1.28	01-15-2027	367.36	367.50
US Treasury Note 1.75%	1.03	05-15-2023	300.00	295.50
US Treasury Note 1.5%	1.02	02-28-2023	300.00	292.22
US Treasury Note 1.5%	1.01	03-31-2023	300.00	291.94
Petroleos Mexicanos 5.5%	0.59	01-21-2021	160.21	171.06
% Assets in Top 5 Holdings		4.93		

⊕ Increase ⊖ Decrease ✱ New to Portfolio

### Top Sectors 09-30-2017

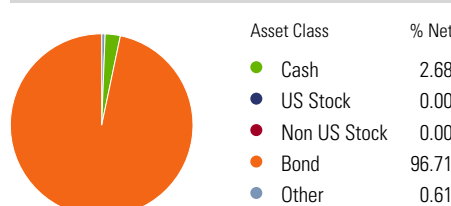
	Fund	BMark	Cat Avg
Corporate	68.72	—	84.07
Securitized	15.15	—	5.63
Government	12.98	—	6.46
Cash & Equivalents	2.68	—	3.17
Municipal	0.16	—	1.36



### Bond Statistics

	Value
Average Effective Duration	5.53
Average Effective Maturity (Years)	5.90
Average Credit Quality	A
Average Weighted Coupon	3.33
Average Weighted Price	102.42

### Asset Allocation



### Management

Gregory S. Nassour (Start Date 05-29-2008)

### Dividend and Capital Gains Distributions

Distribution Date	Distribution NAV	Long-Term Capital Gain	Short-Term Capital Gain	Return of Capital	Dividend Income	Distribution Total
01-31-2018	9.61	0.0000	0.0000	0.0000	0.0246	0.0246
12-29-2017	9.75	0.0000	0.0000	0.0000	0.0270	0.0270
12-13-2017	9.77	0.0161	0.0000	0.0000	0.0000	0.0161
11-30-2017	9.76	0.0000	0.0000	0.0000	0.0235	0.0235
10-31-2017	9.82	0.0000	0.0000	0.0000	0.0228	0.0228



# Vanguard Intermediate-Term Investment-Grade Fund Admiral Shares VFIDX

## Analysis

### Cheap price and consistent approach make a strong combination.

By Brian Moriarty 7/25/2017

A long-tenured manager, rock-bottom fees, and Vanguard's hallmark conservative approach all support Vanguard Intermediate-Term Investment-Grade's Morningstar Analyst Rating of Silver.

Manager Greg Nassour has been involved in the operation of this fund for nearly 20 years and was named a co-manager in 2008 before taking over as lead in 2010. The strategy has remained consistent on his watch, and he is supported by Vanguard's large team of investment professionals and senior staff. While the fund does invest a small amount (10%-15%) in securitized fare and government debt, this is still a corporate bond fund at heart. The fund emphasizes higher-quality corporate bonds compared with most peers, and its slug of U.S. Treasuries (8.8% of the fund) also contributes to its above-average credit quality profile. In addition, its 22% stake in BBB rated debt is well-below the category average of 45%.

These characteristics mean the fund will lag its peers during credit rallies, but has also leave the fund with a relatively defensive portfolio that has held up well during rough patches. For example, the fund's 3.9% return lagged more than three fourths of corporate-bond peers in the face of a strong credit rally during 2016, and the fund has continued to lag throughout 2017. But its 1.6% gain topped 90% of its peers in 2015's rocky credit markets. This has translated into a strong risk-adjusted return profile; the fund's Sharpe ratio has beaten the category norm and the benchmark over the 10-year period.

The fund's super-low fees are a major part of its appeal. The fund's expenses are lower than most actively managed peers', and are also competitive with passive offerings in both the corporate bond and intermediate-term bond Morningstar Categories. This advantage allows the fund to deliver competitive returns with less risk than more expensive peers.

- Seth Sherwood contributed to this analysis.

#### Process Pillar: Neutral

Vanguard's "hub-and-satellite" structure guide this fund's approach. The hub sets the risk budget and manager Greg Nassour's satellite team operates within that budget. Like many Vanguard funds, this portfolio is run against an internal benchmark. It invests 60%-80% of assets in investment-grade U.S. corporate bonds, while the remainder of the portfolio is invested in a mix of asset-backed securities, commercial mortgage-backed securities, foreign debt, high-yield, and U.S. Treasuries and agency debt. Vanguard reports that it has given the team more flexibility around its benchmark in recent years, although the degree to which Nassour is allowed to deviate from the benchmark remains somewhat unclear as does the exact makeup of the internal benchmark. This, taken together with the fund's fairly straightforward approach, supports a Neutral Process rating.

Relative to corporate-bond peers, the fund typically takes on less credit and interest-rate risk. This means that its yield is often lower than peers', and it will likely lag peers during credit and interest-rate rallies. But its cautious stance has protected it during downturns and made it less volatile than most rivals. While the process itself isn't extraordinary, its durability and the fund's low expenses are a powerful combination.

At the end of June 2017, the bulk of the fund was invested in corporate bonds (68.7%), followed by ABS (7.5%), CMBS (6.4%), Treasuries and agency debt (8.8%), and foreign quasi-sovereign and supranational government debt (7.2%). Manager Greg Nassour can take the fund's non-U.S. corporate stake up to 5%, but he hasn't used the full capacity and doesn't expect to in the near future. The fund's Treasury stake is used primarily as a source of liquidity. It will fluctuate up and down depending on opportunities in the market, but is expected to remain between 5% and 10% over the long term.

Within the corporate bond sleeve, the fund had a

### Morningstar's Take

Morningstar Analyst Rating



#### Morningstar Pillars

Process	 Neutral
Performance	 Neutral
People	 Positive
Parent	 Positive
Price	 Positive

#### Morningstar Analyst Rating

Morningstar evaluates mutual funds based on five key pillars, which its analysts believe lead to funds that are more likely to outperform over the long term on a risk-adjusted basis.

Analyst Rating Spectrum



### Fund Performance

	Total Return %	+/- Category
YTD	-1.91	0.30
2017	4.27	-1.52
2016	3.93	-2.58
2015	1.63	3.02
2014	5.91	-1.02

# Vanguard Intermediate-Term Investment-Grade Fund Admiral Shares VFIDX

## Analysis

slight underweighting to industrials and European banks relative to the Bloomberg Barclays US Credit 5-10 Year Index. It also had a small overweighting to utilities and U.S. banks. Its 5.5-year duration was well short of the benchmark's 6.5 years and the average corporate-bond peer's 6.8 years as of June 2017. Given the fund's structural use of ABS and other forms of debt that tend to shorten duration, Vanguard views the current duration as a neutral position and it is unlikely to change significantly unless the interest-rate environment sees rapid change. But the relatively short duration doesn't mean it is protected from interest-rate risk. For example, it lost 4.6% during the 2013 taper tantrum, compared with an 4.7% loss for the median peer.

### Performance Pillar: ● Neutral

Performance here has been as expected, but not outstanding. The fund's relative performance will be better when the credit market suffers but it will underperform when credit is on a roll, a theme that has been evident in recent years. The fund's 1.5% gain outpaced more than 90% of its peers in 2015, a difficult year for corporate bonds, but the fund lagged over 80% of its peers in 2016 as corporate credit rebounded sharply. For the year-to-date through June 2017 the fund's relatively light allocation to BBBs relative to its peer group held it back as its 2.9% return lagged the average category of 3.6%.

Like many in its corporate bond peer group, the fund also carries significant interest-rate risk. Although its duration is typically lower than that of its typical peer, its 3% loss was worse than the category average decline of 2.5% as long-term bond yields spiked in the fourth quarter of 2016. It managed to just keep ahead of the average peer as bonds suffered losses during the so-called taper tantrum between May and August of 2013.

This all adds up to a middling long-term record. At the end of June 2017, the fund's 5.5% 10-year annualized return landed just below the category norm. That, taken together with the fund's slightly below-average volatility, supports the fund's Neutral Performance Pillar rating.

### People Pillar: ⊕ Positive

Manager Greg Nassour joined Vanguard in 1992 and has been involved in the management and trading of this fund since 1998. He was named comanager in May 2008 and became sole manager in May 2010 when Bob Auwaerter (who had run the fund since 1993) stepped off the fund and eventually retired. Nassour also manages Vanguard's other corporate bond offerings.

Vanguard's fixed-income organization is structured around a single "hub" that sets the overall risk budget for each fund, while various "satellite" groups manage the funds and implement those guidelines. If valuations in particular sectors are compelling, the satellite groups are allowed to deviate slightly from the guidelines set by the hub. With Greg Davis taking over as CIO at Vanguard in July 2017, the hub team is now composed of head of fixed income John Hollyer; head of tax-exempt fixed income Chris Alwine; and chief economist Joseph Davis; as well as Paul Jakubowski, who provides a credit perspective, and Ron Reardon, who represents the interest-rate team.

Nassour leads the corporate bond satellite team, which has primary responsibility for this fund. The team includes 21 analysts in the United States, two in Australia, eight in London, and one in Hong Kong. Nassour's experience and the support of the hub and satellite structure earn the fund a Positive People Pillar rating.

### Parent Pillar: ⊕ Positive

Vanguard has one of the mutual fund industry's strongest corporate cultures and earns a Positive Parent rating. Its consistent messages to investors to keep costs low, diversify, and stay the course are reflected in the firm's own behavior. Vanguard's U.S. fundholders own the firm through small investments by each mutual fund, mitigating potential conflicts of interest that can exist at other firms that are serving two masters. Fund performance is strong overall: Over the past three-, five-, and 10-year periods, its Morningstar Success Ratios are greater than 70%--high among large, diversified fund families.

Over the past year, the firm has collected more than USD 200 billion in net inflows, thanks in large part to investors' interest in passive investing. The firm's indexing and ETF prowess, low costs, and success in penetrating the financial-advisor sales channel all have fueled growth. Total assets under management now exceed USD 3.3 trillion, giving Vanguard a significant more-than-20% market share across U.S. mutual funds.

Vanguard has been a global player for years but has only more recently turned its focus to growing internationally. The firm is a large player in Australia, where it has the most history, but doesn't yet have the brand recognition and trust it enjoys in the United States in other parts of the world. While non-U.S. funds don't participate in the ownership of Vanguard, the firm's investorcentric culture extends globally.

### Price Pillar: ⊕ Positive

In typical Vanguard fashion, fees are well below average. The Admiral share class (90% of assets) carries a 0.10% expense ratio and has a Morningstar Fee Level of Low. The Investor share class (10% of assets) charges 0.20% and has a Morningstar Fee Level of Below Average. Both fees are well below the 0.45% median expense ratio of no-load funds in the corporate bond Morningstar Category, and they are even competitive with corporate-bond ETFs, which have an average expense ratio of 0.17%. The Admiral share class has a \$50,000 investment minimum and the Investor share class carries a \$3,000 minimum. The fund earns a Positive Price Pillar rating.