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Agenda

- I. Financial Market Review
- II. Portfolio Performance
- III. Asset Allocation Study
- IV. Fees and Expenses
- V. Economic and Market Outlook

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Financial Market Review

Global markets deliver strong results in first quarter 2019

- Global equities rallied strongly during the first quarter 2019, recovering from the sharp losses in late 2018
- · Fixed income assets also contributed to positive results with non-US bonds continuing to lead
- Key drivers included ongoing US/China trade negotiations, solid economic fundamentals, and reinforced dovish tones from all major central banks

Global market returns as of March 31, 2019 (%)



Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Sources: Bloomberg Barclays, CRSP, and FTSE.

US Stocks (CRSP US Total Market Index), Non-US Stocks (FTSE Global All-Cap ex-US Index), US Bonds (Bloomberg Barclays US Aggregate Float-Adjusted Index), Non-US Bonds hedged (Bloomberg Barclays Global Aggregate ex-USD Float-Adjusted RIC Capped Index), Non-US Bonds unhedged (Bloomberg Barclays Global Aggregate Index ex USD).

* 65/35 balanced portfolio Static Composite (39% U.S. stocks, 26% International stocks, and 24.5% Investment-grade U.S. bonds, 10.5% Investment-grade international bonds).

Global stocks across styles maintained their trend upward

- · Large-cap stocks slightly lagged mid and small-cap for the quarter
- U.S. growth stocks outperformed value stocks, extending growth's recent run of higher returns
- Both developed and emerging markets participated in the first quarter rally, with emerging markets posting slightly stronger results to outperform YTD

Non-US Equities US Equities Mid-cap Small-cap Value Growth Developed markets Emerging markets Large-cap 16.8 16.8 16.2 16.2 16.2 16.2 13.8 13.8 11.9 11.9 12.1 11.2 11.2 10.2 10.2 9.4 6.0 5.6 5.3 -4.4 -6.43 months YTD 1 year

Global equity market returns as of March 31, 2019 (%)

Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Sources: CRSP, FTSE, and Russell.

Large-cap (CRSP US Large Cap Index), Mid-cap (CRSP US Mid Cap Index), Small-cap (CRSP US Small Cap Index); Value (Russell 3000 Value Index), Growth (Russell 3000 Growth Index); Developed markets (FTSE Developed All Cap ex-US Index), Emerging markets (FTSE Emerging Markets All Cap China A Inclusion Index).

U.S. sector performance – Mixed results with more balance across styles

- Defensive sectors such as Utilities and Real Estate led 12-month returns each month of the first quarter to begin 2019
- Growth-oriented Health Care and Information Technology sectors both extended their recent run of gains, with IT delivering the highest return for the quarter
- All sectors recorded positive returns for the quarter; oil prices ended near 6-month highs amid strong economic data and contributed to the recovery in Energy



U.S. equity sector returns as of March 31, 2019 (%)

Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Source: FactSet. U.S. markets measured by CRSP US Total Market Index. Past performance is no guarantee of future returns.

1 year

Bonds begin new year on positive note

- Widening credit spreads throughout 2018 presented a headwind for investment-grade and high-yield bond returns, yet that pressure has receded in the new year
- The U.S. Treasury yield curve has flattened over the 12-month period, with short-term rates moving up in response to Fed policy normalization while long-term rates have declined slightly
- · Inflation-adjusted treasuries trailed nominal treasuries as inflation expectations remain muted



Domestic fixed income market returns as of March 31, 2019 (%)

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Source: Bloomberg Barclays

Treasuries-Government-Investment-grade credit-High yield corporates (Bloomberg Barclays US Treasury/Government/Credit/Corporate High Yield Indices); Short-Inter-Long-term Treasuries (Bloomberg Barclays US 1-5/5-10/Long Treasury Indices); Short-term TIPS (Bloomberg Barclays U.S. Treasury 0-5 Year Inflation Protected Index), Intermediate-term TIPS (Bloomberg Barclays U.S. Treasury Inflation Protected Index).

Market leadership changes

- Emerging markets equities appeared at both the top and bottom multiple times, demonstrating the relatively high volatility level of single asset classes
- The balanced portfolio generally falls near the middle, demonstrating the volatility dampening effect of high-grade fixed income

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Aver
Emg	REIT	REIT	Emg	Sml	REIT	Grw	Sml	Emg	IB	Gr
85.2	28.5	8.7	18.1	38.8	30.4	5.1	21.3	31.1	3.2	15
HY 58.2	Sml 26.9	Bnd 7.8	REIT 17.8	Grw 34.2	Lrg 13.2	REIT 2.5	Val 18.4	Grw 29.6	T-Bill 1.9	Lr 13
Grw	Emg	HY	Val	Lrg	Val	IB	HY	Dev	Bnd	RE
37.0	19.8	5.0	17.5	33.1	12.7	1.4	17.1	26.3	0.0	12
Dev	Grw	IB 2 0	Dev	Val	Grw	Lrg	Lrg	Lrg	HY	Sr
30.7	17.0	5.9	17.4	32.1	12.4	0.9	12.1	21.7	-2.1	
REIT 28.6	Cmd 16.7	Grw 2.2	Lrg 16.4	Dev 20.5	IB 8.8	Bnd 0.5	Cmd 11.4	Bal 16.5	Grw -2.1	H 11
Lrg	Val	Lrg	Sml	Bal	Bal	T-Bill	Emg	Sml	REIT	Va
28.4	16.2	1.5	16.4	16.8	6.4	0.0	10.3	14.6	-4.6	11
Sml	Ira	T-Bill	HY	HY	Bnd	Bal	RFIT	Val	Ira	B
27.2	16.1	0.1	15.8	7.4	6.0	-0.6	8.6	13.2	-4.8	8.
Ral	HV	Val	Grw	HE	Sml	Dev	Grw	ну	Bal	En
24.7	15.1	-0.1	15.2	6.7	4.9	-1.8	7.4	7.5	-5.5	8
Vel	Rol	Bel	Bal	DEIT	Ema	ЦГ	Bal			Do
10 8	Dai 121	-0 Q	Dai 12 7	25	2.6	-3.6	Dal 73	пг 6.0	-6.7	6
13.0	12.1	-0.3	12.7	2.5	2.0	-3.0	1.5	0.0	-0.7	0.
Cmd	Dev	Sml	IB	IB	HY	Val	IB	REIT	Val	IE
18.7	11.2	-4.2	6.5	1.2	2.5	-4.1	4.9	5.1	-8.6	4.
HF	Bnd	HF	Bnd	T-Bill	T-Bill	Sml	Dev	Bnd	Sml	Br
13.4	6.5	-8.9	4.2	0.1	0.0	-4.4	3.1	3.5	-11.0	3.
Bnd	HF	Dev	HF	Bnd	HF	HY	Bnd	IB	Cmd	н
5.9	5.2	-12.7	3.5	-2.0	-0.6	-4.5	2.6	2.5	-13.0	1.
IB	IB	Cmd	T-Bill	Emg	Dev	Emg	HF	T-Bill	Emg	T-E
4.4	3.3	-13.4	0.1	-3.2	-4.4	-13.5	2.5	0.8	-14.8	0.
T-Bill	T-Bill	Emg	Cmd	Cmd	Cmd	Cmd	T-Bill	Cmd	Dev	Cn
0.2	0.1	-20.0	-1.1	-9.6	-17.0	-24.7	0.3	0.7	-14.8	-4



10-Year

Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Source: Vanguard. Last observation: December 31, 2018; 10-year average performance from December 31, 2009 through December 31, 2018.

- * Source: Hedge Fund Research, Inc.
- ** U.S. stocks: MSCI US Broad Market Index.
- [†] International Stocks: FTSE Global All Cap ex-US Index.
- ^{††} Bonds: BloomBarc US Aggregate Bond Index and BloomBarc GA ex-USD Index Hedged.

IMPORTANT: The projections or other information generated by the Vanguard Capital Markets Model[®] (VCMM) regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. VCMM results will vary with each use and over time.

The VCMM projections are based on a statistical analysis of historical data. Future returns may behave differently from the historical patterns captured in the VCMM. More importantly, the VCMM may be underestimating extreme negative scenarios unobserved in the historical period on which the model estimation is based.

The Vanguard Capital Markets Model[®] is a proprietary financial simulation tool developed and maintained by Vanguard's primary investment research and advice teams. The model forecasts distributions of future returns for a wide array of broad asset classes. Those asset classes include U.S. and international equity markets, several maturities of the U.S. Treasury and corporate fixed income markets, international fixed income markets, U.S. money markets, commodities, and certain alternative investment strategies. The theoretical and empirical foundation for the Vanguard Capital Markets Model is that the returns of various asset classes reflect the compensation investors require for bearing different types of systematic risk (beta). At the core of the model are estimates of the dynamic statistical relationship between risk factors and asset returns, obtained from statistical analysis based on available monthly financial and economic data from as early as 1960. Using a system of estimated equations, the model generates a large set of simulated outcomes for each asset class over several time horizons. Forecasts are obtained by computing measures of central tendency in these simulations. Results produced by the tool will vary with each use and over time.

The Vanguard Lifecycle Model (VLCM) is designed to identify the product design that represents the best investment solution for a theoretical, representative investor who uses the target-date funds to accumulate wealth for retirement. The VLCM generates an optimal custom glide path for a participant population by assessing the trade-offs between the expected (median) wealth accumulation and the uncertainty about that wealth outcome, for thousands of potential glide paths. The VLCM does this by combining two set of inputs: the asset class return projections from the VCMM and the average characteristics of the participant population. Along with the optimal custom glide path, the VLCM generates a wide range of portfolio metrics such as a distribution of potential wealth accumulation outcomes, risk and return distributions for the asset allocation, and probability of ruin, such as the odds of participants depleting their wealth by age 95.

The VLCM inherits the distributional forecasting framework of the VCMM and applies to it the calculation of wealth outcomes from any given portfolio.

The most impactful drivers of glide path changes within the VLCM tend to be risk aversion, the presence of a defined benefit plan, retirement age, savings rate and starting compensation. The VLCM chooses among glide paths by scoring them according to the utility function described and choosing the one with the highest score. The VLCM does not optimize the levels of spending and contribution rates. Rather, the VLCM optimizes the glide path for a given customizable level of spending, growth rate of contributions and other plan sponsor characteristics.

A full dynamic stochastic life-cycle model, including optimization of a savings strategy and dynamic spending in retirement is beyond the scope of this framework.

Portfolio Performance

PREPARED FOR

EPISCOPAL FOUNDATION OF DALLAS

Monthly Performance Report

Period Ending March 31, 2019



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Total Portfolio Performance & Asset Allocation

Performance Summary ending March 31, 2019

	Market Value	1 Mo	3 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(\$)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
EPISCOPAL FOUNDATION OF DALLAS	37,168,980	0.98	10.16	3.34	9.41			6.93	Jun-15
EPISCOPAL FOUNDATION OF DALLAS (Net)		0.98	10.13	3.23	9.29			6.82	
Composite Benchmark		1.48	10.50	4.78	8.95			6.89	Jun-15

- Composite Benchmark = 6% Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged / 6% Real Estate Spliced Index / 18% Spliced Bloomberg Barclays US Aggregate Float Adjusted Index / 28% Spliced Total International Stock Index / 42% Spliced Total Stock Market Index

Current Allocation as of March 31, 2019



	Current \$	Current %	Policy	Difference"
US Equity	\$15,689,104	42.2%	42.0%	0.2%
Non-US Equity	\$10,402,794	28.0%	28.0%	0.0%
US Fixed Income	\$6,550,062	17.6%	18.0%	-0.4%
Non-US Fixed Income	\$2,273,481	6.1%	6.0%	0.1%
Real Estate	\$2,253,540	6.1%	6.0%	0.1%
Total	\$37,168,980	100.0%	100.0%	

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*Difference between Policy and Current Allocation

Gross of Advisory Fee returns reflect the deduction of fund expense ratios and any purchase or redemption fees.

Net of Fee returns reflect the deduction of fund expense ratios, any purchase or redemption fees, and VIAS advisory fee applied to the client portfolio. Returns greater than one year represent annualized returns. Returns less than one year represent cumulative returns.



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Performance Summary (Gross of Advisory Fees) ending March 31, 2019

	Market Value (\$)	% of Portfolio	1 Mo (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
EPISCOPAL FOUNDATION OF DALLAS	37,168,980	100.00	0.98	10.16	3.34	9.41			6.93	Jun-15
EPISCOPAL FOUNDATION OF DALLAS (Net)			0.98	10.13	3.23	9.29			6.82	
Composite Benchmark			1.48	10.50	4.78	8.95			6.89	Jun-15
Total Equity	26,091,898	70.20	0.47	12.08	1.46	11.99			7.91	Jun-15
Equity Domestic	15,689,104	42.21	0.22	12.66	5.71	13.53			10.02	Jun-15
Spliced Total Stock Market Index			1.45	14.06	8.82	13.53	10.35	16.07	10.53	Jun-15
Equity International	10,402,794	27.99	0.85	11.17	-4.75	9.59			4.69	Jun-15
Spliced Total International Stock Index			0.57	10.21	-4.81	7.99	2.84	8.96	3.71	Jun-15
Total Fixed Income	8,823,543	23.74	1.66	3.04	4.66	2.49			3.03	Jun-15
Fixed Income Domestic	6,550,062	17.62	1.62	3.03	4.51	2.26			2.71	Jun-15
Spliced Bloomberg Barclays US Aggregate Float Adjusted Index			1.95	3.00	4.46	2.05	2.73	3.79	2.63	Jun-15
Fixed Income International	2,273,481	6.12	1.78	3.09	5.10	3.19			3.99	Jun-15
Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged			1.80	3.12	5.35	3.44	4.36		4.24	Jun-15
Total Real Estate	2,253,540	6.06	4.18	17.28	20.04	5.72			8.79	Jun-15
Real Estate Domestic	2,253,540	6.06	4.18	17.28	20.04	5.72			8.79	Jun-15
Real Estate Spliced Index			4.19	17.28	20.08	5.81	8.89	18.36	8.89	Jun-15

Gross of Advisory Fee returns reflect the deduction of fund expense ratios and any purchase or redemption fees.

Net of Fee returns reflect the deduction of fund expense ratios, any purchase or redemption fees, and VIAS advisory fee applied to the client portfolio.

Returns greater than one year represent annualized returns. Returns less than one year represent cumulative returns.



Performance Summary (Gross of Advisory Fees) ending March 31, 2019

	Market Value (\$)	% of Portfolio	1 Mo (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
EPISCOPAL FOUNDATION OF DALLAS	37,168,980	100.00	0.98	10.16	3.34	9.41			6.93	Jun-15
Composite Benchmark			1.48	10.50	4.78	8.95			6.89	Jun-15
Total Equity	26,091,898	70.20	0.47	12.08	1.46	11.99			7.91	Jun-15
Equity Domestic	15,689,104	42.21	0.22	12.66	5.71	13.53			10.02	Jun-15
Spliced Total Stock Market Index			1.45	14.06	8.82	13.53	10.35	16.07	10.53	Jun-15
Vanguard® Total Stock Market Index Fund Institutional Shares	7,819,188	21.04	1.45	14.04	8.81	13.52	10.34	16.06	10.52	Jun-15
Spliced Total Stock Market Index			1.45	14.06	8.82	13.53	10.35	16.07	10.53	Jun-15
Multi-Cap Core Funds Average			0.78	13.09	4.95	10.82	7.52	13.66	7.51	Jun-15
Vanguard® Windsor™ Fund Admiral™ Shares	3,953,278	10.64	-0.78	11.77	-1.57	10.30	6.58	14.43	5.87	Jun-15
Russell 1000 Value			0.64	11.93	5.67	10.45	7.72	14.52	7.80	Jun-15
Multi-Cap Value Funds Average			-0.21	12.18	2.07	9.48	6.15	13.31	6.33	Jun-15
Vanguard® PRIMECAP Fund Admiral™ Shares	3,916,638	10.54	-1.25	10.78	6.90	16.71	12.60	17.09	13.13	Jun-15
Russell 1000 Growth			2.85	16.10	12.75	16.53	13.50	17.52	13.74	Jun-15
Multi-Cap Growth Funds Average			1.83	16.93	10.44	15.12	10.51	15.32	10.44	Jun-15
Equity International	10,402,794	27.99	0.85	11.17	-4.75	9.59			4.69	Jun-15
Spliced Total International Stock Index			0.57	10.21	-4.81	7.99	2.84	8.96	3.71	Jun-15
Vanguard® Total International Stock Index Fund Inst Shares	5,227,641	14.06	0.73	10.26	-5.18	8.08	2.79	8.93	3.68	Jun-15
Spliced Total International Stock Index			0.57	10.21	-4.81	7.99	2.84	8.96	3.71	Jun-15
International Funds Average			0.82	10.85	-5.84	6.64	2.16	8.64	2.85	Jun-15
Vanguard® International Value Fund	2,593,621	6.98	0.34	9.44	-5.86	7.92	1.78	8.47	2.81	Jun-15
Spliced International Index			0.60	10.31	-4.22	8.09	2.57	8.18	3.57	Jun-15
International Funds Average			0.82	10.85	-5.84	6.64	2.16	8.64	2.85	Jun-15
Vanguard® International Growth Fund Admiral™ Shares	2,581,532	6.95	1.63	14.92	-2.83	14.34	6.76	12.41	8.65	Jun-15
Spliced International Index			0.60	10.31	-4.22	8.09	2.57	8.18	3.57	Jun-15
International Funds Average			0.82	10.85	-5.84	6.64	2.16	8.64	2.85	Jun-15
Total Fixed Income	8,823,543	23.74	1.66	3.04	4.66	2.49			3.03	Jun-15
Fixed Income Domestic	6,550,062	17.62	1.62	3.03	4.51	2.26			2.71	Jun-15
Spliced Bloomberg Barclays US Aggregate Float Adjusted			1.95	3.00	4.46	2.05	2.73	3.79	2.63	Jun-15



Performance Summary (Gross of Advisory Fees) ending March 31, 2019

	Market Value (\$)	% of Portfolio	1 Mo (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Vanguard® Inter-Term Investment-Grade Fund Adm ™ Shares	2,209,526	5.94	1.97	3.95	5.38	2.68	3.34	6.23	3.35	Jun-15
BBgBarc US Credit 5-10 Yr TR			2.36	5.26	6.06	3.42	3.88	6.96	3.87	Jun-15
Spliced Core Bond Funds Average			1.81	3.18	3.96	2.11	2.43	4.50	2.39	Jun-15
Vanguard® Total Bond Market Index Fund Admiral™ Shares	2,185,594	5.88	1.96	2.94	4.45	1.98	2.67	3.69	2.57	Jun-15
Spliced Bloomberg Barclays US Aggregate Float Adjusted Index			1.95	3.00	4.46	2.05	2.73	3.79	2.63	Jun-15
Spliced Intermediate-Term Investment-Grade Debt Funds Average			1.81	3.18	3.96	2.11	2.43	4.50	2.39	Jun-15
Vanguard® Short-Term Investment-Grade Fund Adm™ Shares	2,154,942	5.80	0.92	2.18	3.70	2.11	2.05	3.56	2.20	Jun-15
BBgBarc US Credit 1-5 Yr TR			1.04	2.39	4.26	2.22	2.13	3.85	2.25	Jun-15
1-5 Year Investment-Grade Debt Funds Average			0.73	1.77	3.01	1.82	1.45	2.73	1.62	Jun-15
Fixed Income International	2,273,481	6.12	1.78	3.09	5.10	3.19			3.99	Jun-15
Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged			1.80	3.12	5.35	3.44	4.36		4.24	Jun-15
Vanguard® Total International Bond Index Fund Adm™ Shares	2,273,481	6.12	1.78	3.09	5.10	3.19	4.11		4.00	Jun-15
Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged			1.80	3.12	5.35	3.44	4.36		4.24	Jun-15
International Income Funds Average			0.48	2.71	-1.27	2.25	0.97	3.50	2.60	Jun-15
Total Real Estate	2,253,540	6.06	4.18	17.28	20.04	5.72			8.79	Jun-15
Real Estate Domestic	2,253,540	6.06	4.18	17.28	20.04	5.72			8.79	Jun-15
Real Estate Spliced Index			4.19	17.28	20.08	5.81	8.89	18.36	8.89	Jun-15
Vanguard® Real Estate Index Fund Admiral™ Shares	2,253,540	6.06	4.18	17.28	20.04	5.72	8.79	18.33	8.79	Jun-15
Real Estate Spliced Index			4.19	17.28	20.08	5.81	8.89	18.36	8.89	Jun-15
Real Estate Funds Average			3.45	15.70	16.23	5.49	7.98	17.26	7.70	Jun-15

Cash Flow Summary

	Last Month	Last Three Months	Year-To-Date	One Year
Beginning Market Value	\$37,723,468	\$34,586,939	\$34,586,939	\$39,340,755
Net Cash Flow	-\$918,102	-\$925,683	-\$925,683	-\$3,393,521
Capital Appreciation	\$265,785	\$3,373,624	\$3,373,624	\$310,786
Income	\$97,829	\$134,100	\$134,100	\$910,959
Ending Market Value	\$37,168,980	\$37,168,980	\$37,168,980	\$37,168,980

Month Ending March 31, 2019

	Beginning Market Value	Net Cash Flow	Capital Appreciation	Income	Ending Market Value
Vanguard® Inter-Term Investment-Grade Fund Adm ™ Shares	\$2,166,798	\$0	\$36,417	\$6,311	\$2,209,526
Vanguard® International Growth Fund Admiral™ Shares	\$2,540,133	\$0	\$41,400	\$0	\$2,581,532
Vanguard® International Value Fund	\$2,584,761	\$0	\$8,860	\$0	\$2,593,621
Vanguard® PRIMECAP Fund Admiral™ Shares	\$4,111,718	-\$142,184	-\$52,896	\$0	\$3,916,638
Vanguard® Real Estate Index Fund Admiral™ Shares	\$2,375,126	-\$221,344	\$82,340	\$17,417	\$2,253,540
Vanguard® Short-Term Investment-Grade Fund Adm™ Shares	\$2,135,287	\$0	\$14,208	\$5,447	\$2,154,942
Vanguard® Total Bond Market Index Fund Admiral™ Shares	\$2,143,490	\$0	\$36,746	\$5,359	\$2,185,594
Vanguard® Total International Bond Index Fund Adm™ Shares	\$2,233,648	\$0	\$37,703	\$2,130	\$2,273,481
Vanguard® Total International Stock Index Fund Inst Shares	\$5,190,211	\$0	\$20,676	\$16,754	\$5,227,641
Vanguard® Total Stock Market Index Fund Institutional Shares	\$8,254,555	-\$551,328	\$71,549	\$44,412	\$7,819,188
Vanguard® Windsor™ Fund Admiral™ Shares	\$3,987,742	-\$3,246	-\$31,218	\$0	\$3,953,278
Total	\$37,723,468	-\$918,102	\$265,785	\$97,829	\$37,168,980

Investment Expense Analysis as of March 31, 2019

Name	Market Value	% of Portfolio	Expense Ratio
Total Equity	\$26,091,898	70.2%	
Equity Domestic	\$15,689,104	42.2%	
Vanguard® Total Stock Market Index Fund Institutional Shares	\$7,819,188	21.0%	0.035%
Vanguard® Windsor™ Fund Admiral™ Shares	\$3,953,278	10.6%	0.210%
Vanguard® PRIMECAP Fund Admiral™ Shares	\$3,916,638	10.5%	0.310%
Equity International	\$10,402,794	28.0%	
Vanguard® International Value Fund	\$2,593,621	7.0%	0.380%
Vanguard® International Growth Fund Admiral™ Shares	\$2,581,532	6.9%	0.320%
Vanguard® Total International Stock Index Fund Inst Shares	\$5,227,641	14.1%	0.080%
Total Fixed Income	\$8,823,543	23.7%	
Fixed Income Domestic	\$6,550,062	17.6%	
Vanguard® Short-Term Investment-Grade Fund Adm™ Shares	\$2,154,942	5.8%	0.100%
Vanguard® Total Bond Market Index Fund Admiral™ Shares	\$2,185,594	5.9%	0.050%
Vanguard® Inter-Term Investment-Grade Fund Adm ™ Shares	\$2,209,526	5.9%	0.100%
Fixed Income International	\$2,273,481	6.1%	
Vanguard® Total International Bond Index Fund Adm™ Shares	\$2,273,481	6.1%	0.110%
Total Real Estate	\$2,253,540	6.1%	
Real Estate Domestic	\$2,253,540	6.1%	
Vanguard® Real Estate Index Fund Admiral™ Shares	\$2,253,540	6.1%	0.120%
Total	\$37,168,980	100.0%	0.151%

Benchmark History as of March 31, 2019

EPISCOPAL F	OUNDATION OF	F DALLAS
2/1/2018	Present	6% Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged / 6% Real Estate Spliced Index / 18% Spliced Bloomberg Barclays US Aggregate Float Adjusted Index / 28% Spliced Total International Stock Index / 42% Spliced Total Stock Market Index
7/1/2015	1/31/2018	6% Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged / 6% REIT Spliced Index / 18% Spliced Bloomberg Barclays US Aggregate Float Adjusted Index / 28% Spliced Total International Stock Index / 42% Spliced Total Stock Market Index
Total Equity		
		N/A
Equity Dor	mestic	
6/30/2015	Present	100% CRSP US Total Market TR USD
Vangua	rd® Total Stock N	Aarket Index Fund Institutional Shares
6/30/2015	Present	100% CRSP US Total Market TR USD
Vangua	rd® Windsor™ F	und Admiral™ Shares
6/30/2015	Present	Russell 1000 Value
Vangua	rd® PRIMECAP	Fund Admiral™ Shares
6/30/2015	Present	Russell 1000 Growth
Equity Inte	ernational	
6/30/2015	Present	100% FTSE Global All-Cap ex-US Index
Vangua	rd® International	Value Fund
6/30/2015	Present	100% MSCI ACWI ex USA
Vangua	rd® International	Growth Fund Admiral™ Shares
6/30/2015	Present	100% MSCI ACWI ex USA
Vangua	rd® Total Interna	tional Stock Index Fund Inst Shares
6/30/2015	Present	100% FTSE Global All-Cap ex-US Index
Total Fixed I	ncome	
		N/A
Fixed Inco	me Domestic	

Benchmark History as of March 31, 2019

6/30/2015	Present	100% BBgBarc US Aggregate Float Adjusted TR
Vanguar	d® Short-Term	Investment-Grade Fund Adm™ Shares
6/30/2015	Present	BBgBarc US Credit 1-5 Yr TR
Vanguar	d® Total Bond I	Market Index Fund Admiral™ Shares
6/30/2015	Present	100% BBgBarc US Aggregate Float Adjusted TR
Vanguar	d® Inter-Term I	nvestment-Grade Fund Adm ™ Shares
6/30/2015	Present	BBgBarc US Credit 5-10 Yr TR
Fixed Inco	me International	
6/30/2015	Present	Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged
Vanguar	d® Total Interna	ational Bond Index Fund Adm™ Shares
6/30/2015	Present	Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged
Total Real Es	state	
		N/A
Real Estate	e Domestic	
7/25/2018	Present	100% MSCI US IM Real Estate 25/50 Index
1/26/2018	7/24/2018	100% MSCI US IM Real Estate 25/50 Tran Index
6/30/2015	1/25/2018	100% MSCI US REIT Gross
Vanguar	d® Real Estate	Index Fund Admiral™ Shares
7/25/2018	Present	100% MSCI US IM Real Estate 25/50 Index
1/26/2018	7/24/2018	100% MSCI US IM Real Estate 25/50 Tran Index
6/30/2015	1/25/2018	100% MSCI US REIT Gross

Episcopal Foundation of Dallas - Aggregated Performance Summary											
as-of March 31, 2019											
	Market Value*	Portfolio Allocation	Three-Month	Year-to-Date	One-Year	Three-Year	Five-Year	Since Inception			
Vanguard	\$37,168,980	100.00%	10.13%	10.13%	3.23%	9.29%	-	6.82%			
Vanguard Composite Benchmark	•	•	10.50%	10.50%	4.78%	8.95%	-	6.89%			
Aggregate Portfolio (net of EFD fee)*	\$37,168,980	100.00%	10.00%	10.00%	2.69%	8.71%	6.41%	7.79%			
Aggregate Composite Benchmark*			10.50%	10.50%	4.78%	9.11%	6.76%	8.80%			

Notes: All historical return data provided by client. All returns are net of fund-level fees and the Vanguard advisory fee. Aggregate portfolio returns are net of the EFD administrative fee. Vanguard Composite provides a comparison for Vanguard portfolio return and constitutes 42% Spliced Total Stock Market Index/28% Spliced Total International Stock Index/18% Spliced Barclays U.S. Agg Flt-Adj. Index/6% Barclays GA ex-USD Flt-Adj. RIC Capped Index Hedged/6% REIT Spliced Index and has been calculated as-of March 31, 2019. Performance effective date for Vanguard Composite as-of September 30, 2015. Aggregate Composite provides a comparison for Episcopal Foundation of Dallas portfolio and constitutes a weighted average of the Vanguard Composite and HFRI Fund of Funds Composite. Since inception date is January 1, 2010.

*Aggregate portfolio performance and Aggregate composite performance include hedge fund and HFRI performance, respectively, through February 29, 2016 for the Three-, Five-Year and Since Inception time periods.

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Total Portfolio returns represent client-specific time-weighted returns (TWR) are presented gross of any applicable service fees with the exception of mutual fund expense ratios and other security-level expenses.

Client performance inception date is generally the first month-end after initial funding. Mutual funds and all investments are subject to risk, including the possible loss of the money you invest. Diversification does not ensure a profit or protect against a loss.

Performance figures assume the reinvestment of dividends and capital gains distributions. The fund performance percentages are based on fund total return data, adjusted for expenses, obtained from Lipper, a Thomson Reuters Company. The total return data was not adjusted for fees and loads.

Benchmark comparative indexes represent unmanaged or average returns on various financial assets, which can be compared with funds' total returns for the purpose of measuring relative performance.

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Asset Allocation Study

Episcopal Foundation of Dallas Total return framework, risk/return study: 10-year time horizon

Forecast: December 31, 2018

Asset classes	Episcopal Foundation of Dallas		5	25	50	75	95	Volatilit	у		
U.S. Equities	42.0%	-	1.3%	2.4%	5.0%	7.6%	11.4%	16.6%	6		
Non-U.S. Equities (unhedged)	28.0%		2.2%	5.9%	8.4%	11.1%	15.1%	18.19	6		
U.S. Bonds	6.0%		1.8%	2.7%	3.3%	3.9%	5.0%	5.19	6		
Intermediate-Term Credit Bonds	6.0%		2.3%	3.1%	3.8%	4.4%	5.5%	5.19	6		
Short-Term Credit Bonds	6.0%		2.0%	2.8%	3.5%	4.2%	5.4%	2.89	6		
Non-U.S. Bonds (hedged)	6.0%		0.8%	1.8%	2.7%	3.6%	5.0%	3.5%	6		
REITs	6.0%	-	3.2%	1.6%	4.9%	8.2%	13.1%	18.69	6		
	5.04%										
Median return (geometric)	5.94%										
Median inflation-adjusted return	4.09%										
Median risk (volatility)	11.55%										
Sharpe ratio	0.27										
Episcopal Foundation of Dallas	5	10	20	30	40	50	60	70	80	90	95
Portfolio return distribution	2.0%	2.9%	3.9%	4.7%	5.4%	6.0%	6.6%	7.3%	8.1%	9.3%	10.3%
Inflation-adjusted portfolio return distribution	n 0.0%	0.9%	2.1%	2.9%	3.5%	4.1%	4.8%	5.5%	6.3%	7.5%	8.4%
			1	2		3	4		5		6
U.S. Equities (1)		1.0	0								
Non-U.S. Equities (unhedged) (2)		0.7	2	1.00							
U.S. Bonds (3)		-0.1	0	-0.17		1.00					
Intermediate-Term Credit Bonds (4)		0.1	4	0.03		0.90	1.00				
Short-Term Credit Bonds (5)		0.0	6	-0.06		0.74	0.86		1.00		
Non-U.S. Bonds (hedged) (6)		-0.0	8	-0.21		0.65	0.54		0.58	1.0	0
REITs		0.5	5	0.44	-	0.04	0.12		0.08	0.0	D

Source: Vanguard, Investment Strategy Group.

IMPORTANT: The projections or other information generated by the Vanguard Capital Markets Model[®] (VCMM) regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from VCMM derived from 10,000 simulations for U.S. equity returns and fixed income returns. Simulations as of December 31, 2018. Results from the model may vary with each use and over time. For more information on VCMM, see the Important Information slide.

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Episcopal Foundation of Dallas Total return framework, risk/return study: 30-year time horizon

Forecast: December 31, 2018

Asset classes	Episcopal Foundation of Dallas		5	25	50	75	95	Volatility	y		
U.S. Equities	42.0%		4.4%	6.0%	7.1%	8.2%	9.8%	17.6%	ó		
Non-U.S. Equities (unhedged)	28.0%		5.6%	7.6%	8.9%	10.3%	12.3%	18.6%	ó		
U.S. Bonds	6.0%		2.7%	3.4%	3.9%	4.5%	5.4%	5.6%	ó		
Intermediate-Term Credit Bonds	6.0%		3.2%	3.9%	4.5%	5.0%	5.8%	5.5%	ó		
Short-Term Credit Bonds	6.0%		2.9%	3.6%	4.1%	4.7%	5.6%	3.1%	ó		
Non-U.S. Bonds (hedged)	6.0%		1.7%	2.6%	3.2%	3.8%	4.8%	4.3%	, 0		
REITs	6.0%		2.1%	4.8%	6.6%	8.5%	11.2%	19.6%	0		
Median return (geometric)	7.23%										
Median inflation-adjusted return	5.22%										
Median risk (volatility)	12.04%										
Sharpe ratio	0.34										
Episcopal Foundation of Dallas	5	10	20	30	40	50	60	70	80	90	95
Portfolio return distribution	5.5%	5.9%	6.3%	6.7%	7.0%	7.3%	7.6%	7.9%	8.3%	8.8%	9.2%
Inflation-adjusted portfolio return distribution	n 3.2%	3.6%	4.2%	4.6%	5.0%	5.3%	5.6%	6.0%	6.4%	7.0%	7.5%
			1	2		3	4		5	6	
U.S. Equities (1)		1.(00								
Non-U.S. Equities (unhedged) (2)		0.6	69	1.00							
U.S. Bonds (3)		-0.0)8	-0.16		1.00					
Intermediate-Term Credit Bonds (4)		0.1	13	0.03		0.89	1.00				
Short-Term Credit Bonds (5)		0.0)9	-0.04		0.71	0.85		1.00		
Non-U.S. Bonds (hedged) (6)		-0.0)7	-0.21		0.64	0.53		0.54	1.00	
REITs (7)		0.5	54	0.42	-	0.02	0.12	(80.0	0.02	

Source: Vanguard, Investment Strategy Group.

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The VCMM projections are based on a statistical analysis of historical data. Future returns may behave differently from the historical patterns captured in the VCMM. More importantly, the VCMM may be underestimating extreme negative scenarios unobserved in the historical period on which the model estimation is based.

The Vanguard Capital Markets Model® is a proprietary financial simulation tool developed and maintained by Vanguard's primary investment research and advice teams. The model forecasts distributions of future returns for a wide array of broad asset classes. Those asset classes include U.S. and international equity markets, several maturities of the U.S. Treasury and corporate fixed income markets, international fixed income markets, U.S. money markets, commodities, and certain alternative investment strategies. The theoretical and empirical foundation for the Vanguard Capital Markets Model is that the returns of various asset classes reflect the compensation investors require for bearing different types of systematic risk (beta). At the core of the endel are estimates of the dynamic statistical relationship between risk factors and asset returns, obtained from statistical analysis based on available monthly financial and economic data from as early as 1960. Using a system of estimated equations, the model generates a large set of simulated outcomes for each asset class over several time horizons. Forecasts are obtained by computing measures of central tendency in these simulations. Results produced by the tool will vary with each use and over time.

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Vanguard Capital Markets Model® (VCMM) Modeling should consider a range of outcomes



Analysis

Objective:

• Examine risk/reward trade-offs for different asset allocations

Time horizon:

• 10 years

Asset classes and frontier constraints:

- U.S. Equity
- International Equity: up to 40% of Total Equity
- U.S. Bonds
- Non U.S. Bonds: up to 50% of traditional Fixed Income
- Total Credit Bonds: up to 50% of Total Fixed Income
- REITs: up to 10%

Note: The projections assume regular rebalancing and no alpha* or investment-related costs. A measure of performance on a risk-adjusted basis. Alpha takes the volatility of a mutual fund and compares its risk-adjusted performance to a benchmark performance. The excess return of the fund relative to the return of the benchmark index is a fund's alpha.

Efficient frontier analysis





Asset classes	Portfolio A	Current	Portfolio C	Portfolio D
U.S. Equity	36%	42%	42%	48%
Non U.S. Equity	24%	28%	28%	32%
U.S. Aggregate Bonds	12%	6%	9%	6%
Non U.S. Bonds	8%	6%	6%	4%
Total Credit Bonds	14%	12%	9%	6%
REITs	6%	6%	6%	4%
Median expected outcomes				
Returns	5.66%	5.94%	5.95%	6.19%
Real returns	3.81%	4.09%	4.08%	4.30%
Volatility	9.98%	11.55%	11.54%	12.97%
Sharpe ratio	0.29	0.27	0.27	0.26
EQ/REITS/FI (%)	60/6/34	70/6/24	70/6/24	80/4/16

Note: Returns, real returns, and Sharpe ratio listed above represent the median value for 10,000 scenarios. The Sharpe ratio calculates return (or reward) per unit of risk; $(R_x-r_f)/\sigma_{(x-r)}$; $R_f = cash$. The risk-free rate is based on VCMM's projections for cash.

Source: Vanguard, Investment Strategy Group.

IMPORTANT: The projections or other information generated by the Vanguard Capital Markets Model[®](VCMM) regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from VCMM derived from 10,000 simulations for U.S. equity returns and fixed income returns. Simulations as of December 31, 2018. Results from the model may vary with each use and over time. For more information on VCMM, see the Important Information slide.

Portfolio nominal return analysis

- Portfolio A has the narrowest range of projected returns with the lowest projected volatility as it has the lowest exposure to equities
- Conversely, Portfolio D has the widest range of projected returns and the highest projected volatility due to the portfolio's higher equity exposure



Portfolio real return analysis

- Portfolio A has the narrowest range of projected returns with the lowest projected volatility as it has the lowest exposure to equities
- Conversely, Portfolio D has the widest range of projected returns and the highest projected volatility due to the portfolio's higher equity exposure



Asset return goals in nominal terms

 Below, several return objectives are examined to demonstrate the ability to consistently meet a target rate of return; the probabilities of achieving a designated return objective increase with the level of equity exposure



Note: Probability percentages are based on projected returns before inflation.

Asset return goals in real terms

 Below, several return objectives are examined to demonstrate the ability to consistently meet a target rate of return; the probabilities of achieving a designated return objective increase with the level of equity exposure



Note: Probability percentages are based on projected returns after inflation.

Downside risk in nominal terms

• In any single year, there is a reasonably high probability that the portfolio realizes a flat return; the probability of a negative return increases with higher equity exposure



Note: This graph shows the probability of a negative return (in any 1 year out of the next 10 years). Probability percentages are based on projected returns before inflation.

Downside risk in real terms

• In any single year, there is a reasonably high probability that the portfolio realizes a flat return; the probability of a negative return increases with higher equity exposure



Note: This graph shows the probability of a negative return (in any 1 year out of the next 10 years). Probability percentages are based on projected returns after inflation.

Model return simulation summary statistics 10-year time horizon as of December 31, 2018



Source: Vanguard, Investment Strategy Group.

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Model return simulation summary statistics 10-year time horizon as of December 31, 2018

Projected asset class returns

10-year time horizon		Volatility				
Asset class	5th	25 th	50 th	75 th	95 th	
U.S. Equity	-1.3%	2.4%	5.0%	7.6%	11.4%	16.6%
Non U.S. Equity	2.2%	5.9%	8.4%	11.1%	15.1%	18.1%
U.S. Aggregate Bonds	1.8%	2.7%	3.3%	3.9%	5.0%	5.1%
Non U.S. Bonds	0.8%	1.8%	2.7%	3.6%	5.0%	3.5%
Total Credit Bonds	2.4%	3.3%	4.0%	4.6%	5.7%	6.5%
Long-Term Credit	1.6%	3.1%	4.1%	5.2%	7.0%	12.6%
Intermediate-Term Credit	2.3%	3.1%	3.8%	4.4%	5.5%	5.1%
Short-Term Credit	2.0%	2.8%	3.5%	4.2%	5.4%	2.8%
REITs	-3.2%	1.6%	4.9%	8.2%	13.1%	18.6%
Inflation	-0.4%	0.9%	1.8%	2.7%	4.0%	2.4%
Cash	0.9%	1.9%	2.7%	3.6%	5.0%	1.3%

Source: Vanguard, Investment Strategy Group.

IMPORTANT: The projections or other information generated by the Vanguard Capital Markets Model[®] (VCMM) regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from VCMM derived from 10,000 simulations for U.S. equity returns and fixed income returns. Simulations as of December 31, 2018. Results from the model may vary with each use and over time. For more information on VCMM, see the Important Information slide.

Model return simulation summary statistics 10-year time horizon as of December 31, 2018

Median projected correlation matrix

	U.S. Equity	Non U.S. Equity	U.S. Aggregate Bonds	Non U.S. Bonds	Total Credit Bonds	Long-Term Credit	Intermediate -Term Credit	Short- Term Credit	REITS
U.S. Equity	1.0								
Non U.S. Equity	0.72	1.0							
U.S. Aggregate Bonds	-0.10	-0.17	1.0						
Non U.S. Bonds	-0.08	-0.21	0.65	1.0					
Total Credit Bonds	0.23	0.14	0.88	0.49	1.0				
Long-Term Credit	0.31	0.26	0.74	0.37	0.93	1.0			
Intermediate-Term Credit	0.14	0.03	0.90	0.54	0.96	0.78	1.0		
Short-Term Credit	0.06	-0.06	0.74	0.54	0.74	0.48	0.86	1.0	
REITS	0.55	0.44	-0.04	0.00	0.14	0.15	0.12	0.08	1.0

Source: Vanguard, Investment Strategy Group.

IMPORTANT: The projections or other information generated by the Vanguard Capital Markets Model[®] (VCMM) regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from VCMM derived from 10,000 simulations for U.S. equity returns and fixed income returns. Simulations as of December 31, 2018. Results from the model may vary with each use and over time. For more information on VCMM, see the Important Information slide.

Fees and Expenses

VIAS management fee structure

VIAS charges a management fee based on assets under management

Annual fee schedule

Asset level	Management fee
First \$10 million	0.15%
Next \$10 million	0.12%
Next \$30 million	0.08%

Total estimated expenses

Assets under management	Fee %	\$37.2 million
Management fee	0.110%	\$40,735
Fund expenses*	0.151%	\$56,125
Commingled funds/partnership expense	0.00%	\$0
Incentive fees	0.00%	\$0
Custodial fees	0.00%	\$0
Additional travel fees	0.00%	\$0
Total all-in fee	0.261%	\$96,860

* These costs are estimated. Actual weighted annul expense ratio is determined by the actual funds chosen for the portfolio.

Importantly, there are no sales commissions or 12b-1 fees for Vanguard funds. The cost of our investment management services (i.e., custodial fees, manager costs, trading costs) are reflected in the expense ratios of our funds and are deducted from each fund's earnings before they are distributed to shareholders. Vanguard is committed to maintaining operating expenses at the lowest possible level, without sacrificing premier quality service.

Market Performance as of March 31, 2019

Name	Mar-19	Last 3 Months	1 Yr	3 Yrs	5 Yrs	10 Yrs
US Equity						
CRSP US Total Market TR USD	1.4	14.1	8.8	13.5	10.3	16.0
S&P 500	1.9	13.6	9.5	13.5	10.9	15.9
S&P 400 MidCap	-0.6	14.5	2.6	11.2	8.3	16.3
S&P 600 SmallCap	-3.3	11.6	1.6	12.6	8.5	17.0
International Equity						
MSCI Emerging Markets	0.8	9.9	-7.4	10.7	3.7	8.9
MSCI Emerging Markets NR LCL	1.4	10.1	-1.7	11.3	7.2	10.2
MSCI EAFE	0.6	10.0	-3.7	7.3	2.3	9.0
MSCI EAFE NR LCL	1.3	10.6	2.8	8.5	6.0	9.8
MSCI ACWI ex USA	0.6	10.3	-4.2	8.1	2.6	8.8
Fixed Income Domestic						
BBgBarc US Aggregate TR	1.9	2.9	4.5	2.0	2.7	3.8
BBgBarc US Corporate 1-5 Years TR	1.1	2.6	4.4	2.4	2.3	4.3
BBgBarc US Credit/Corp 5-10 Yr TR	2.3	5.4	6.1	3.5	4.0	7.3
BBgBarc US Corporate Long TR	4.3	8.0	4.4	5.3	5.3	9.2
BBgBarc US Govt/Credit Long TR	4.7	6.5	5.2	3.8	5.3	7.2
BBgBarc US Treasury Strips 20-30 Yr Equal Parity TR	7.5	6.1	6.5	1.7	7.7	6.3
BBgBarc US High Yield TR	0.9	7.3	5.9	8.6	4.7	11.3
BBgBarc US Govt TR	1.9	2.1	4.2	1.1	2.1	2.4
BBgBarc US Credit TR	2.4	4.9	4.9	3.5	3.6	6.2
BBgBarc US Treasury 1-5 Yr TR	0.9	1.2	3.2	1.0	1.3	1.4
BBgBarc US Treasury 5-10 Yr TR	2.1	2.4	5.3	1.0	2.7	3.1
BBgBarc US Treasury Long TR	5.3	4.7	6.2	1.5	5.4	5.1
BBgBarc US Treasury TIPS 0-5 Yr TR	0.8	1.7	2.0	1.4	0.9	1.9
BBgBarc US TIPS TR	1.8	3.2	2.7	1.7	1.9	3.4
Fixed Income International						
BBgBarc Global Aggregate ex US Tres Hedged TR	1.7	3.0	5.2	3.3	4.3	4.3
BBgBarc Emerging Markets TR	1.4	5.4	4.4	5.4	4.8	8.5
REIT						
MSCI US REIT Gross	3.3	16.3	20.7	6.0	9.0	18.5



Economic and Market Outlook

Economic and market overview

Global growth: Stabilizing after shaky first quarter, below trend growth expected for 2019 driven by Europe and Asia.

Inflation: Unlikely to accelerate as price expectations remain anchored.

Policy and interest rates: Monetary policy normalization on extended pause.

Global asset returns: Expect higher risks and lower returns.

Themes and outlook

	Global	United Sta	ates	Europe		Asia
Growth	We expect global growth to stabilize, consistent with recent data releases, followed by some modest improvement in the following 2-3 quarters. Q1 is likely the worst quarter for the year.In 2019, U.S. economic growth should decline from current levels toward trend growth of about 2%.A global or major regional recession is not our base case, however the probability has risen particular in the euro area due to a downturn in global trade and manufacturingIn 2019, U.S. economic growth should decline from current levels toward trend growth of about 2%.We expect global labor markets to remain methetight is the either markets to remainCore PCE could fall below 2% in 2H 2019		Euro area grown is likely to be below trend in 2019, with growth of about 0.7%. The sharp slowdown has been driven by: a deterioration in global growth, tighter financial conditions, elevated policy uncertainty and temporary/idiosyncratic factors (e.g. autos). Our forecast for the United Kingdom for growth at slightly below trend in 2019. However tail risks are elevated due to uncertainty about Brexit.		In China, Real GDP growth prospects for 2019, $6 - 6.3\%$, with risks tilting towards the upside of the range. We expect growth to stabilize in 2Q and modesty recover in the second half of the year. We expect Japan to grow just below potential, $0.5 - 0.7\%$ in 2019 as domestic demand offsets export slowdown.	
Inflation	We expect global labor markets to remain relatively tight, with unemployment rates, wage growth and inflation to remain broadly stable. The sensitivity of core inflation to labor markets is likely weaker than in past cycles, due to increasing labor market competition from low wage offshore workers, and the substitution of technology in place of labor	Core PCE co given structu globalization) Odds of infla by year end 2	uld fall below 2% in 2H 2019 ral factors (technology, tion above 2% v falling below 2019 are 25/75.	In the euro area, we expect a gradual strengthening in price pressures as labor market slack erodes. Nonetheless, we see a low likelihood of a surprise surge in core inflation, due to structural factors the labor market. In the United Kingdom, we expect core inflation to remain close to 2% in 2019, given tight labour markets. Brexit, and associated exchange rate volatility, is a key risk to this view.		In China, CPI to be around 2.0 – 2.5% in 2019. Supply constraints in pork pose an upside risk, but still unlikely for CPI to breach 3% In Japan, narrowing output gap and strong bump in non-regular workers' wages should support a gradual increase in CPI excluding fresh food and energy. 1% core-core inflation is likely achievable in 2020
Policy and interest rates	Global monetary policy is expected to remain virtually unchanged, with the Fed, ECB and BoJ to keep policy rates on hold.	We're downg hike in 2019 reflects our b Fed will do, a what the Fed done). The w important to	rading our Fed call from 1 to no hikes in 2019. This est assessment of what the is opposed to our view of should do (or should have ill-do/should-do distinction is understand our call.	We do not anticipate the European Central Bank to raise interest rates until 2020. In the United Kingdom, we expect the Bank of England to keep rates on hold until there is more clarity around Brexit.		Policymakers have to balance multiple goals, such as near-term growth stability and medium-term financial stability. BOJ faces a dilemma between inflation and financial stability
	Balanced		Equities		Bonds	
Global asset returns	Clobal asset eturnsOur outlook for global stocks and bonds has gradually improved due to a decline in stock valuations and higher bond yields. The market's efficient frontier of expected returns for a unit of portfolio risk is still in a lower return orbit. More important, common asset-return-centric portfolio tilts, seeking higher return or yield, are unlikely to escape the strong gravity of low return forces in play.		Based on our "fair-value" sto medium-run outlook for globs somewhat and is now in the Expected returns for the U.S than those for international c underscoring the benefits of the face of lower returns.	xk valuation metrics, the Il equities has improved 4.5%-6.5% range.Despite the of monetary rise in long-tstock market are lower eveloped markets, global equity strategies inFair-value expect		sk of a short-term acceleration in the pace ormalization, the potential for a material rm interest rates remains modest. imate for the benchmark 10-year U.S. -3.25 given market (SPF) Federal Funds tions and reasonable term premium.

Source: Vanguard.





Source: FactSet, as of April 30, 2019.

U.S. Treasury yield curve – Rising rates, flatter curve

	Yield (%) and change (bps)	3-month	6-month	2-year	3-year	5-year	7-year	10-year	30-yea
_	Current Yield (%)	2.40	2.44	2.27	2.21	2.23	2.31	2.41	2.81
	3 Mo. Δ	-5	-12	-21	-25	-28	-28	-28	-21
	12 Mo. Δ	67	51	0	-18	-33	-37	-33	-16
3.5									
3.0									
2.5									
2.0									
1.5									
1.0									
0.5									
0.0 -	3-month 6-month	2-year	3-year	5-year	7-	year	10-year	30-year	
	03/31/2019								
	12/31/2018								
	03/31/2018								

Source: Morningstar.

Global growth moderating after robust 2018

A noticeable downward shift in the world's largest economies



China's effect on developed economies is only modest



Sources: Vanguard calculations using data from Thomson Reuters Datastream

U.S.: Modest movement across range of cyclical indicators since late 2018



Cyclical index unchanged through Q1 volatility

Notes: Left hand figure displays the historical ranges of a cyclical index at various points in the business cycle. Index is shown as a z-score and weighted by first principal components of 25 cyclic indicators (below). The business cycle is determined by historical observations of the output gap. Right hand figure displays the underlying components of the overall cyclical index, presenting the current level relative to historical observations. The 2007 and 2001 data points indicate the index and component position 12 months prior to the onset of recession. Underlying indicators: slack = output gap, U3 and U6 unemployment rate gap relative to NAIRU. Price pressures = personal consumption expenditures (PCE), core PCE, average hourly earnings, unit labor costs. Demand = housing starts, residential investment, non-residential investment, durable goods consumption. Sentiment = business optimism, consumer sentiment, consumer confidence. Leverage = household financial obligations ratio, nonfinancial corporate debt, FRB Senior Loan Officer Opinion Survey for consumer and commercial and industrial credit terms. Earnings = corporate profits. Financial = Vanguard financial conditions index, yield curve (measured as the 10 year-3 month Treasury yield) Asset prices = Vanguard's fair-value CAPE, corporate OAS spread, high-yield OAS spread. Monetary policy = federal funds rate versus neutral rate estimated by the Laubach-Williams (2003) model. Data range is 1980 Q1-present.

Yield curve and financial conditions are outliers

Trade, policy, and financial market uncertainty may prompt growth scares

Trade war impact on 2019 GDP



Twin shocks: Financial conditions and policy uncertainty



Notes: (LHS) Estimates for the impact on US GDP are based on simulations from the FRB-US model. The base case assumes 3% import and export price increases and +25 bps to the BBB spread, while the pessimistic case assumes 10% import and export prices and +100 bps to the BBB spread. Estimates for the impact on Chinese GDP are calculated using data on trade statistics, trade in value added, and tariff rates. (RHS) The Vanguard Financial Conditions is a dynamically-weighted index of 12 financial variables designed to capture overall financial conditions.

Sources: (LHS) Vanguard calculations, based on the Federal Reserve's FRB/US Model. (RHS) Vanguard calculations, based on data from Moody's Analytics Data Buffet, St. Louis Federal Reserve database, Thomson Reuters Datastream and Baker, Scott, Nicholas Bloom and Steven J. Davis, www.policyuncertainty.com.

A material rise in wage growth or inflation is not expected



Notes: (LHS) Real wage growth is calculated as the growth rate of hourly wages as reported in the Employment Cost Index (ECI) minus core PCE inflation rate for that year. Trend for real wage growth is estimated as a centered three-year moving average of real wage growth. (RHS) Core PCE model is a root mean square error (RMSE)-weighted average of two models: a bottom-up model where we model the deviation of augmented Phillips curve fitted values to each major component in the core PCE and a top-down macro model. The RMSE is 0.35 for the bottom-up model and 0.24 for the top-down model. This leads to a 40% weight for the bottom-up model and a 60% weight for the top-down model in the weighted model. Sources: (LHS) Congressional Budget Office, Bureau of Labor Statistics. (RHS) Vanguard calculations, based on Thomson Reuters Datastream, Bureau of Economic Analysis, Bureau of Labor Statistics, Philadelphia Federal Reserve Bank Survey of Professional Budget Office, and Bloomberg Commodity Index.

Monetary policy on pause for 2019 while the long-end drives recent inversion

Interest rates likely to rise less than previously anticipated

Traditionally when yield curve inverts before recession, short-term real rates are significantly higher



---- ISG expectations Apr 2019

••• ISG expectations Nov 2018

Sources: Vanguard, using data from Bloomberg and St. Louis Federal Reserve

Notes: The solid lines represent Central Bank policy rates as defined as the Federal Funds Target Rate, Bank of Japan Unsecured Overnight Call Rate, UK Bank of England Official Bank Rate, Euro Overnight Index Average. Dotted lines represent expected future rates calculated via the futures market. Data as of March 31st, 2019. (RHS) Vanguard calculations, based on data from Thomson Reuters Datastream and Moody's Analytics Data Buffet; Federal Reserve Bank of New York.

Projected global fixed income ten-year return outlook

VCMM-simulated distribution of expected average annualized nominal return of total fixed income market as of June 2010 and December 2018



Global bonds 70% US / 30% Global Ex US

IMPORTANT: The projections and other information generated by the VCMM regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from VCMM are derived from 10,000 simulations for each modeled asset class. Simulations as of December 31, 2018. Results from the model may vary with each use and over time. For more information, please see the important information slide.

Note: Figure displays projected range of returns for a portfolio of 70% U.S. bonds and 30% ex-U.S. bonds, rebalanced quarterly. For details, see Vanguard's economic and investment outlook (Davis, Aliaga-Diaz, Westaway, Wang, Patterson, and Ahluwalia 2016). Source: Vanguard.

Bonds provide ballast during equity bear markets regardless of interest rate environment



Median return of various asset classes during the worst decile of monthly equity returns 1988-2018

Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Sources: Vanguard calculations based on data from Thomson Reuters Datastream, Bloomberg Barclays, HFRI, MSCI, FTSE, CRSP, S&P, and Dow Jones.

Notes: U.S. stocks represented by Dow Jones U.S. Total Stock Market Index through April 2005, MSCI US Broad Market Index through June 2013 and CRSP US Total Market Index threafter; emerging markets stocks are represented by MSCI Emerging Markets Index; REITs by FTSE NAREIT Equity REIT Index; dividend stocks by Dow Jones U.S. Select Dividend Index; commodities by S&P GSCI Commodity Index; high yield bonds by Bloomberg Barclays U.S. Corporate High Yield Bond Index; emerging markets bonds by Bloomberg Barclays U.S. Treasury bonds by Bloomberg Barclays U.S. Treasury Bond Index; U.S. Treasury Bond Index; U.S. Treasury Bond Index; U.S. Municipal Bonds by Bloomberg Barclays U.S. Corporate Index; U.S. Treasury Bond Index; Hedge fund index with Hedge fund index weighted total return Index and international bonds by Bloomberg Barclays Global Aggregate ex USD Bond Index starts in January 1993; Bloomberg 1, 2018.

Projected global equity ten-year return outlook

VCMM-simulated distribution of expected average annualized nominal return of global equity market as of June 2010 and December 2018



Global equity 60% US / 40% Global Ex US

IMPORTANT: The projections and other information generated by the VCMM regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from VCMM are derived from 10,000 simulations for each modeled asset class. Simulations as of December 31, 2018. Results from the model may vary with each use and over time. For more information, please see the important information slide

Sources: Vanguard.

Notes: Figure displays projected range of potential returns for portfolios of 60% U.S./40% ex-U.S. equities unhedged in USD, rebalanced annually. For details on benchmarks used for historical returns, see "Indexes used in our historical calculations," on page 5 of 2017 economic and market outlook: Stabilization, not stagnation (Davis et. al 2016).

Outlook as of June 2010

The resurgence of volatility underscores the importance of international diversification

Equity volatility has reemerged in recent months

International equities continue to offer diversification benefits



Non-US equity allocation

Notes: (RHS) Non-U.S. equities represented by MSCI World Index ex USA from 1970 through 1987 and MSCI All Country World Index ex USA thereafter. U.S. stocks are represented by the MSCI USA Index. U.S. bonds are represented by Citigroup High Grade Index (1970– 1972), the Barclays Long AA Corporate Index (1973–1975), and the Barclays U.S. Aggregate Bond Index thereafter. Past performance of future results. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index. Sources: Vanguard calculations, based on data from Thomson Reuters, MSCI, Barclays, and Factset.



Market Volatility

Source: FactSet, as of April 30, 2019

IMPORTANT: The projections or other information generated by the Vanguard Capital Markets Model[®] (VCMM) regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. VCMM results will vary with each use and over time.

The VCMM projections are based on a statistical analysis of historical data. Future returns may behave differently from the historical patterns captured in the VCMM. More importantly, the VCMM may be underestimating extreme negative scenarios unobserved in the historical period on which the model estimation is based.

The Vanguard Capital Markets Model[®] is a proprietary financial simulation tool developed and maintained by Vanguard's primary investment research and advice teams. The model forecasts distributions of future returns for a wide array of broad asset classes. Those asset classes include U.S. and international equity markets, several maturities of the U.S. Treasury and corporate fixed income markets, international fixed income markets, U.S. money markets, commodities, and certain alternative investment strategies. The theoretical and empirical foundation for the Vanguard Capital Markets Model is that the returns of various asset classes reflect the compensation investors require for bearing different types of systematic risk (beta). At the core of the model are estimates of the dynamic statistical relationship between risk factors and asset returns, obtained from statistical analysis based on available monthly financial and economic data from as early as 1960. Using a system of estimated equations, the model generates a large set of simulated outcomes for each asset class over several time horizons. Forecasts are obtained by computing measures of central tendency in these simulations. Results produced by the tool will vary with each use and over time.

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The VLCM inherits the distributional forecasting framework of the VCMM and applies to it the calculation of wealth outcomes from any given portfolio.

The most impactful drivers of glide path changes within the VLCM tend to be risk aversion, the presence of a defined benefit plan, retirement age, savings rate and starting compensation. The VLCM chooses among glide paths by scoring them according to the utility function described and choosing the one with the highest score. The VLCM does not optimize the levels of spending and contribution rates. Rather, the VLCM optimizes the glide path for a given customizable level of spending, growth rate of contributions and other plan sponsor characteristics.

A full dynamic stochastic life-cycle model, including optimization of a savings strategy and dynamic spending in retirement is beyond the scope of this framework.

For more information about any fund, visit vanguard.com or call 866-499-8473 to obtain a prospectus or, if available, a summary prospectus. Investment objectives, risks, charges, expenses, and other important information are contained in the prospectus; read and consider it carefully before investing.

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Mutual funds and all investments are subject to risk, including the possible loss of the money you invest. Prices of mid- and small-cap stocks often fluctuate more than those of large-company stocks. Investments in stocks or bonds issued by non-U.S. companies are subject to risks including country/regional risk and currency risk. These risks are especially high in emerging markets. Funds that concentrate on a relatively narrow sector face the risk of higher share-price volatility. It is possible that tax-managed funds will not meet their objective of being tax-efficient. Because company stock funds concentrate on a single stock they are considered riskier than diversified stock funds.

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Investments in Target Retirement Funds or Trusts are subject to the risks of their underlying funds. The year in the fund name refers to the approximate year (the target date) when an investor in the fund or trust would retire and leave the workforce. The fund or trust will gradually shift its emphasis from more aggressive investments to more conservative ones based on its target date. An investment in the Target Retirement Fund or Trust is not guaranteed at any time, including on or after the target date.

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