

# Episcopal Foundation of Dallas

May 2020



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# Agenda

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

**Presented by:**

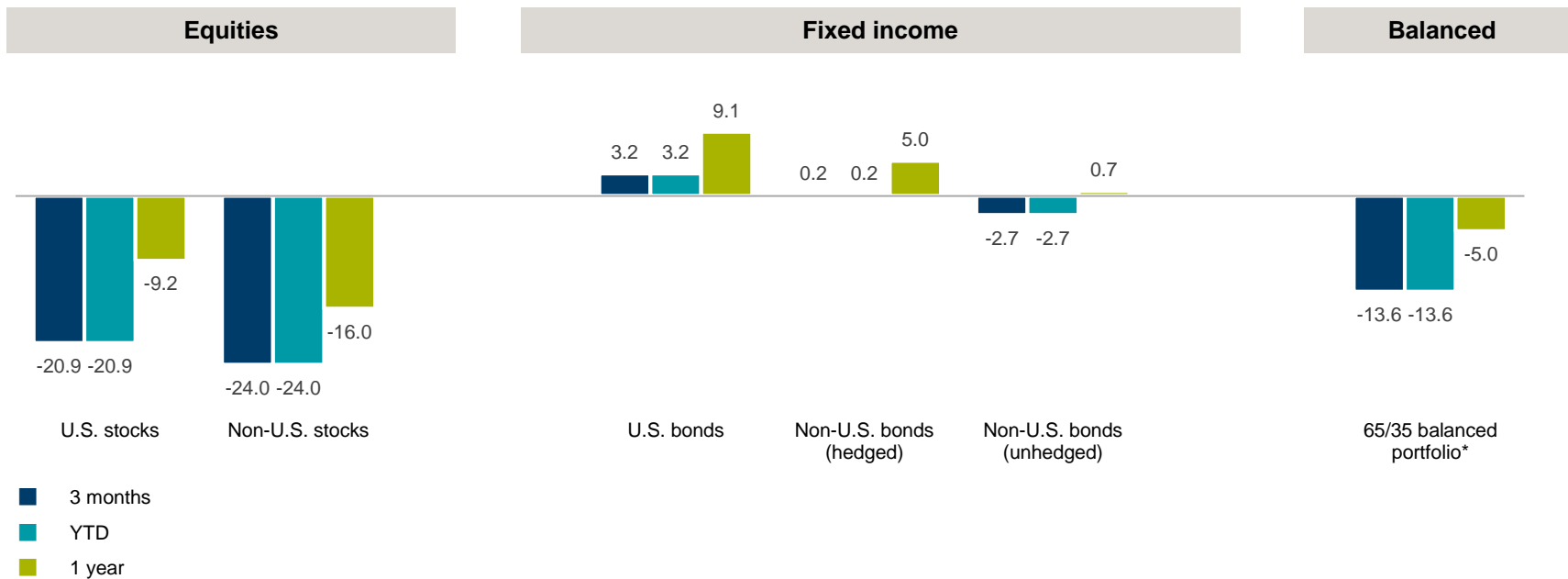
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# Financial Market Review

## Global markets hit with widespread volatility

- Coronavirus disrupted the markets as the outbreak spread rapidly around the world
- Global equities sold off sharply during the first quarter, driving markets into bear market territory very shortly after achieving all-time highs
- Fixed income delivered positive returns as Treasury yields reached record lows and credit bonds weathered the impact of the uncertainty

### Global market returns as of March 31, 2020 (%)



**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.

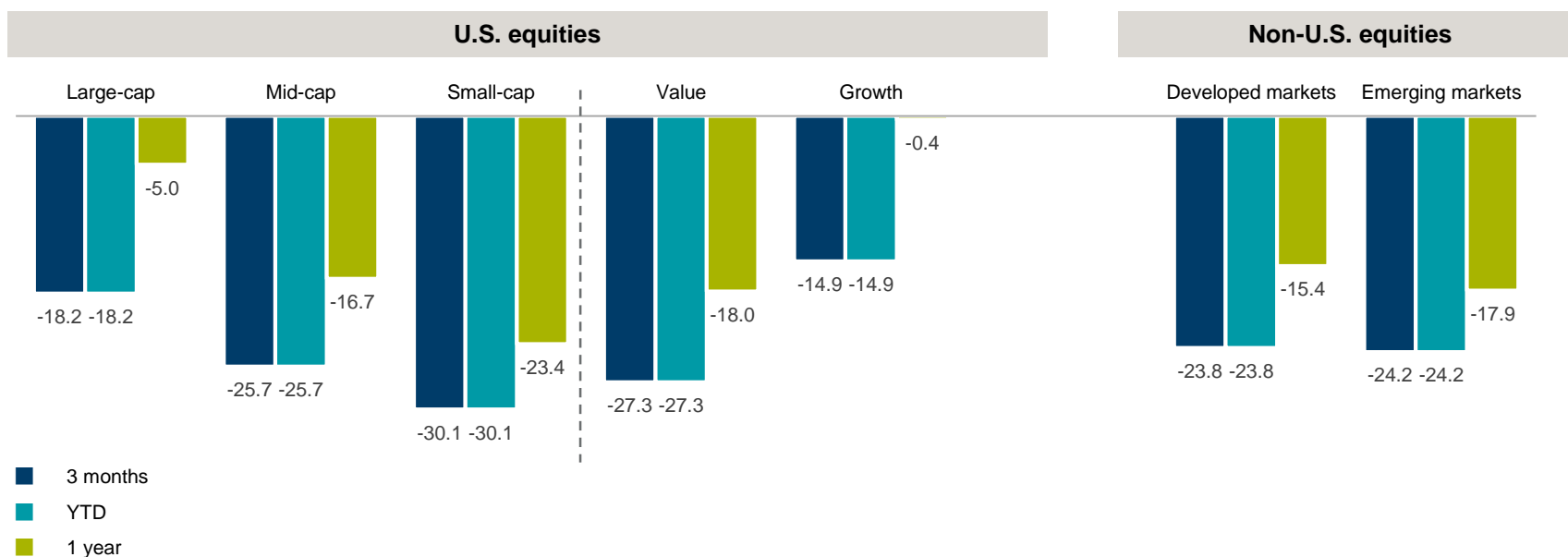
U.S. stocks (CRSP U.S. Total Market Index), non-U.S. stocks (FTSE Global All-Cap ex-US Index), U.S. bonds (Bloomberg Barclays U.S. Aggregate Float Adjusted Index), non-U.S. bonds hedged (Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Index hedged), non-U.S. bonds unhedged (Bloomberg 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).

## Stocks across styles see significant decline

- Large-cap stocks have avoided losses to a greater extent during the trailing 3- and 12-month periods compared to mid- and small-caps
- Growth stocks lost less than value stocks, extending their recent performance advantage of the last couple years
- In non-U.S. equity markets, both developed and emerging markets tumbled and have fallen short of the U.S. market

### Global equity market returns as of March 31, 2020 (%)



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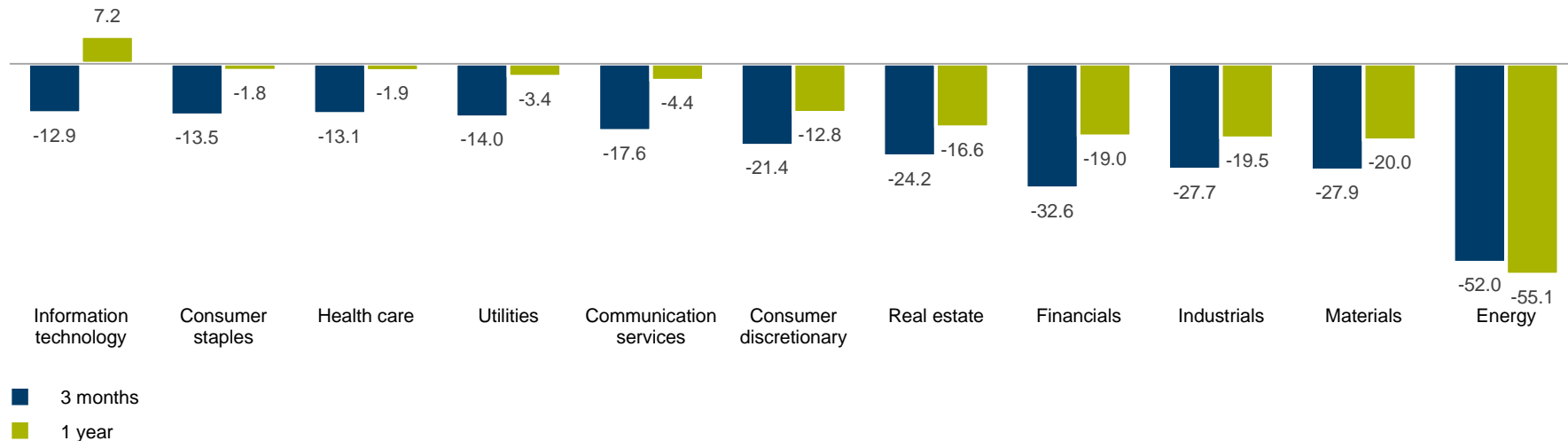
Sources: CRSP, FTSE, and Russell.

Large-cap (CRSP U.S. Mega Cap Index), mid-cap (CRSP U.S. Mid Cap Index), small-cap (CRSP U.S. Small Cap Index); Value (Russell 3000 Value Index), growth (Russell 3000 Growth Index); developed markets (FTSE Developed All Cap ex-U.S. Index), emerging markets (FTSE Emerging Markets All Cap China A Inclusion Index).

## U.S. sector performance—Major losses across all industries

- No sector escaped the sell-off in the first quarter as steep losses were booked across industries
- Wide divergence in 12-month returns between the top and bottom sectors illustrates the benefit of diversification
- Energy has fallen deeper into negative territory over the trailing 3- and 12-months, impacted by a severe demand shock from the COVID-19 pandemic and a supply disagreement among oil producing nations

### U.S. equity sector returns as of March 31, 2020 (%)



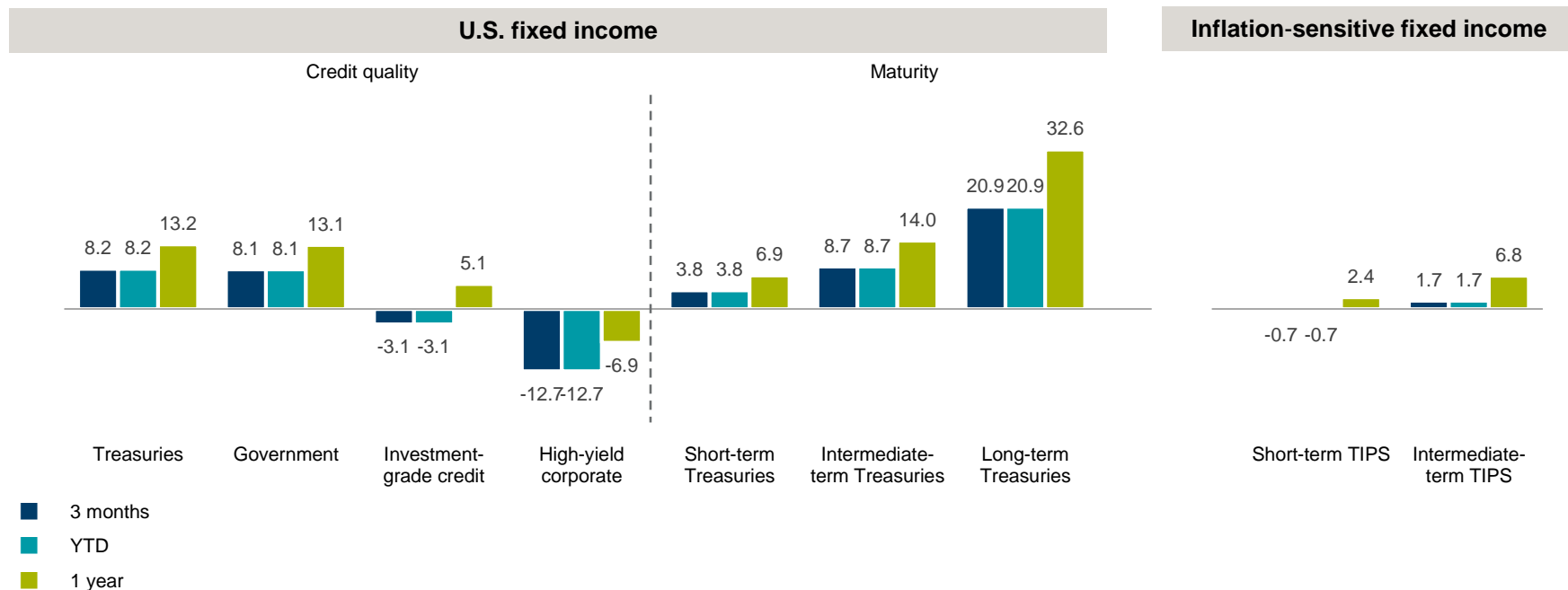
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Source: FactSet.  
U.S. markets measured by CRSP U.S. Total Market Index.

## Bonds offer some respite during crisis

- Treasury yields hit record lows across the curve as investors fled risky assets
- Credit spreads widened significantly, impacting investment-grade and high-yield as economic pressures intensified
- Treasuries have had exceptionally strong performance as economic activity has fallen dramatically

### Domestic fixed income market returns as of March 31, 2020 (%)



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Sources: Bloomberg Barclays.

Treasuries-Government-Investment-Grade Credit-High-Yield (Bloomberg Barclays U.S. Treasury/Government/Credit/Corporate High-Yield Indices); short-inter-long-term Treasuries (Bloomberg Barclays U.S. 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 appears at both the top and bottom multiple times, illustrating the relatively high volatility of single asset classes
- The balanced composite generally falls near the middle, demonstrating the volatility dampening effect of high-grade fixed income and the consistency resulting from holding a broadly-diversified portfolio
- U.S. stock returns exceeded non-U.S. stock returns by a significant amount over the past ten years, yet it's important to remember that recent outperformance by a sub-asset class or market segment does not imply future outperformance

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	10-Year Average
REIT	28.5	8.7	18.1	38.8	30.4	5.1	21.3	31.1	3.2	35.8	15.1
Sml	26.9	7.8	17.8	34.2	13.2	2.5	18.4	29.6	1.9	31.4	13.5
Emg	19.8	5.0	17.5	33.1	12.7	1.4	17.1	26.3	0.0	26.3	11.9
Grw	17.6	3.9	17.4	32.7	12.4	0.9	12.1	21.7	-2.1	25.8	11.8
Cmd	16.7	2.2	16.4	20.5	8.8	0.5	11.4	16.5	-2.1	25.5	11.7
Val	16.2	1.5	16.4	16.8	6.4	0.0	10.3	14.6	-4.6	22.3	8.2
Lrg	16.1	0.1	15.8	7.4	6.0	-0.6	8.6	13.2	-4.8	20.7	7.6
HY	15.1	-0.1	15.2	6.7	4.9	-1.8	7.4	7.5	-5.5	20.4	5.8
Bal	12.1	-0.9	12.7	2.5	2.6	-3.6	7.3	6.0	-6.7	14.3	4.3
Dev	11.2	-4.2	6.5	1.2	2.5	-4.1	4.9	5.1	-8.6	8.7	3.7
Bnd	6.5	-8.9	4.2	0.1	0.0	-4.4	3.1	3.5	-11.0	8.6	3.7
HF	5.2	-12.7	3.5	-2.0	-0.6	-4.5	2.6	2.5	-13.0	7.6	1.1
IB	3.3	-13.4	0.1	-3.2	-4.4	-13.5	2.5	0.8	-14.8	5.4	0.6
T-Bill	0.1	-20.0	-1.1	-9.6	-17.0	-24.7	0.3	0.7	-14.8	2.3	-5.3

Val	Value-oriented U.S. based stocks (Russell 3000 Value Index)
Grw	Growth-oriented U.S.-based stocks (Russell 3000 Growth Index)
Lrg	Large U.S.-based stocks (Russell 1000 Index)
Sml	Small U.S.-based stocks (Russell 2000 Index)
Dev	International stocks from developed countries (FTSE Developed All Cap ex US Index)
Emg	International stocks from emerging countries (FTSE Emerging ACap CN A Includ Idx)
Bnd	Investment-grade U.S. bonds (BloomBarc U.S. Aggregate Bond Index)
HY	High-yield U.S. bonds (BloomBarc U.S. Corp High Yield Index)
IB	Investment-grade international bonds (BloomBarc GA ex-USD Index Hedged)
T-Bill	Short-term Treasury rates (Citigroup 3-Month US T-Bill Index)
REIT	U.S. public equity real estate (REIT) (MSCI US REIT Index)
Cmd	Commodities (Bloomberg Commodity Index)
HF	Hedge funds (HFRX Global Hedge Fund Index*)
Bal	Balanced Static Composite (39% U.S. stocks**, 26% int'l stocks†, 24.5% Invest-grade U.S. bonds††, 10.5% Invest-grade int'l bonds††)

**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, 2019; 10-year average performance from December 31, 2009 through December 31, 2019.

\* 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.



## Market Performance as of March 31, 2020

Name	Mar-20	Last 3 Months	1 Yr	3 Yrs	5 Yrs	10 Yrs
US Equity						
CRSP US Total Market TR USD	-13.8	-20.9	-9.2	4.0	5.7	10.2
S&P 500	-12.4	-19.6	-7.0	5.1	6.7	10.5
S&P 400 MidCap	-20.2	-29.7	-22.5	-4.1	0.6	7.9
S&P 600 SmallCap	-22.4	-32.6	-25.9	-5.3	0.5	8.1
International Equity						
MSCI Emerging Markets	-15.4	-23.6	-17.7	-1.6	-0.4	0.7
MSCI Emerging Markets NR LCL	-13.0	-19.1	-13.0	1.3	2.0	3.8
MSCI EAFE	-13.3	-22.8	-14.4	-1.8	-0.6	2.7
MSCI EAFE NR LCL	-12.5	-20.5	-12.6	-1.8	-0.1	4.4
MSCI ACWI ex USA	-14.5	-23.4	-15.6	-2.0	-0.6	2.1
Fixed Income Domestic						
BBgBarc US Aggregate TR	-0.6	3.1	8.9	4.8	3.4	3.9
BBgBarc US Corporate 1-5 Years TR	-3.8	-2.2	2.0	2.4	2.2	2.9
BBgBarc US Credit/Corp 5-10 Yr TR	-7.4	-4.3	3.8	3.8	3.3	5.2
BBgBarc US Corporate Long TR	-9.9	-4.5	9.6	6.7	4.7	7.3
BBgBarc US Govt/Credit Long TR	-3.0	6.2	19.3	9.7	6.0	8.1
BBgBarc US Treasury Strips 20-30 Yr Equal Parity TR	8.3	29.3	46.3	18.4	9.3	13.1
BBgBarc US High Yield TR	-11.5	-12.7	-6.9	0.8	2.8	5.6
BBgBarc US Govt TR	2.8	8.1	13.1	5.8	3.6	3.7
BBgBarc US Credit TR	-6.6	-3.1	5.1	4.2	3.3	4.7
BBgBarc US Treasury 1-5 Yr TR	1.6	3.8	6.9	3.3	2.3	2.0
BBgBarc US Treasury 5-10 Yr TR	3.1	8.7	14.0	6.2	4.0	4.7
BBgBarc US Treasury Long TR	6.1	20.9	32.6	13.4	7.3	9.0
BBgBarc US Treasury TIPS 0-5 Yr TR	-1.6	-0.7	2.4	1.6	1.6	1.5
BBgBarc US TIPS TR	-1.8	1.7	6.9	3.5	2.7	3.5
Fixed Income International						
BBgBarc Global Aggregate ex US Tres Hedged TR	-2.0	0.5	5.0	4.5	3.6	4.2
BBgBarc Emerging Markets TR	-10.7	-9.5	-2.9	1.5	3.3	5.1
REIT						
MSCI US REIT Gross	-21.6	-27.0	-21.0	-3.0	-0.4	7.4

# Portfolio Performance

PREPARED FOR

# EPISCOPAL FOUNDATION OF DALLAS

Monthly Performance Report

Period Ending March 31, 2020

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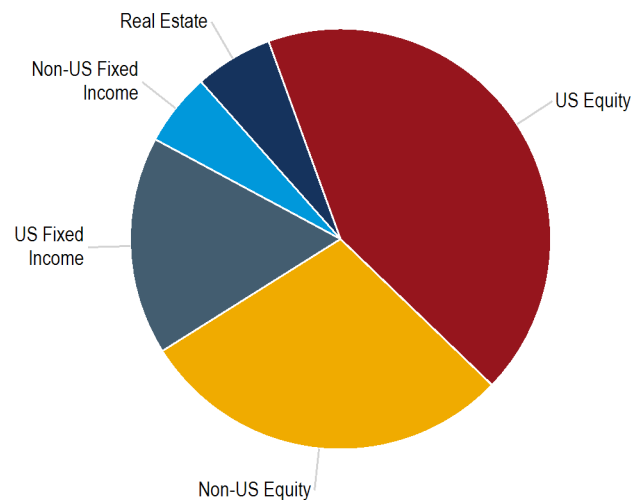
## Total Portfolio Performance & Asset Allocation

Performance Summary ending March 31, 2020

	Market Value (\$)	1 Mo (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>EPISCOPAL FOUNDATION OF DALLAS</b>	<b>32,243,147</b>	<b>-12.14</b>	<b>-17.60</b>	<b>-8.10</b>	<b>2.15</b>	--	--	<b>3.58</b>	<b>Jun-15</b>
<b>EPISCOPAL FOUNDATION OF DALLAS (Net)</b>		<b>-12.14</b>	<b>-17.62</b>	<b>-8.20</b>	<b>2.03</b>	--	--	<b>3.47</b>	
Composite Benchmark		-11.41	-16.70	-7.39	2.38	--	--	3.71	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, 2020



	Current \$	Current %	Policy	Difference*
US Equity	\$13,793,331	42.8%	42.0%	0.8%
Non-US Equity	\$9,304,807	28.9%	28.0%	0.9%
US Fixed Income	\$5,406,275	16.8%	18.0%	-1.2%
Non-US Fixed Income	\$1,812,208	5.6%	6.0%	-0.4%
Real Estate	\$1,926,525	6.0%	6.0%	0.0%
<b>Total</b>	<b>\$32,243,147</b>	<b>100.0%</b>	<b>100.0%</b>	

\*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.

Episcopal Foundation of Dallas - Aggregated Performance Summary								
as-of March 31, 2020								
	Market Value*	Portfolio Allocation	Three-Month	Year-to-Date	One-Year	Three-Year	Five-Year	Since Inception
Vanguard	\$32,243,147	100.00%	-17.62%	-17.62%	-8.20%	2.03%	-	3.47%
Vanguard Composite Benchmark			-16.70%	-16.70%	-7.39%	2.38%	-	3.71%
Aggregate Portfolio (net of EFD fee)*	\$32,243,147	100.00%	-17.74%	-17.74%	-8.70%	1.48%	3.36%	6.06%
Aggregate Composite Benchmark*			-16.70%	-16.70%	-7.39%	2.38%	3.80%	7.11%
<p>Notes: Return data achieved before February 2016 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, 2020. 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.</p> <p>*Aggregate portfolio performance and Aggregate composite performance include hedge fund and HFRI performance, respectively, through February 29, 2016 for the Five-Year and Since Inception time periods.</p>								

## Performance Summary (Gross of Advisory Fees) ending March 31, 2020

	Market Value (\$)	% of Portfolio	1 Mo (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>EPISCOPAL FOUNDATION OF DALLAS</b>	<b>32,243,147</b>	<b>100.00</b>	<b>-12.14</b>	<b>-17.60</b>	<b>-8.10</b>	<b>2.15</b>	--	--	<b>3.58</b>	<b>Jun-15</b>
<b>EPISCOPAL FOUNDATION OF DALLAS (Net)</b>			<b>-12.14</b>	<b>-17.62</b>	<b>-8.20</b>	<b>2.03</b>	--	--	<b>3.47</b>	
Composite Benchmark			-11.41	-16.70	-7.39	2.38	--	--	3.71	Jun-15
<b>Total Equity</b>	<b>23,098,139</b>	<b>71.64</b>	<b>-14.72</b>	<b>-22.59</b>	<b>-11.96</b>	<b>1.62</b>	--	--	<b>3.38</b>	<b>Jun-15</b>
<b>Equity Domestic</b>	<b>13,793,331</b>	<b>42.78</b>	<b>-14.46</b>	<b>-22.54</b>	<b>-10.60</b>	<b>2.91</b>	--	--	<b>5.32</b>	<b>Jun-15</b>
Spliced Total Stock Market Index			-13.78	-20.88	-9.24	3.99	5.74	10.17	6.04	Jun-15
<b>Equity International</b>	<b>9,304,807</b>	<b>28.86</b>	<b>-15.11</b>	<b>-22.66</b>	<b>-13.99</b>	<b>-0.38</b>	--	--	<b>0.45</b>	<b>Jun-15</b>
Spliced Total International Stock Index			-14.99	-24.01	-16.01	-2.28	-0.54	2.16	-0.80	Jun-15
<b>Total Fixed Income</b>	<b>7,218,483</b>	<b>22.39</b>	<b>-2.17</b>	<b>0.96</b>	<b>6.25</b>	<b>4.14</b>	--	--	<b>3.70</b>	<b>Jun-15</b>
<b>Fixed Income Domestic</b>	<b>5,406,275</b>	<b>16.77</b>	<b>-2.07</b>	<b>1.23</b>	<b>6.75</b>	<b>4.05</b>	--	--	<b>3.55</b>	<b>Jun-15</b>
Spliced Bloomberg Barclays US Aggregate Float Adjusted Index			-0.69	3.18	9.06	4.87	3.38	3.91	3.95	Jun-15
<b>Fixed Income International</b>	<b>1,812,208</b>	<b>5.62</b>	<b>-2.46</b>	<b>0.15</b>	<b>4.79</b>	<b>4.41</b>	--	--	<b>4.16</b>	<b>Jun-15</b>
Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged			-2.40	0.21	5.01	4.64	3.57	--	4.41	Jun-15
<b>Total Real Estate</b>	<b>1,926,525</b>	<b>5.97</b>	<b>-19.26</b>	<b>-24.10</b>	<b>-16.55</b>	<b>-1.47</b>	--	--	<b>2.88</b>	<b>Jun-15</b>
<b>Real Estate Domestic</b>	<b>1,926,525</b>	<b>5.97</b>	<b>-19.26</b>	<b>-24.10</b>	<b>-16.55</b>	<b>-1.47</b>	--	--	<b>2.88</b>	<b>Jun-15</b>
Real Estate Spliced Index			-19.26	-24.07	-16.47	-1.38	0.59	7.97	2.98	Jun-15

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## Performance Summary (Gross of Advisory Fees) ending March 31, 2020

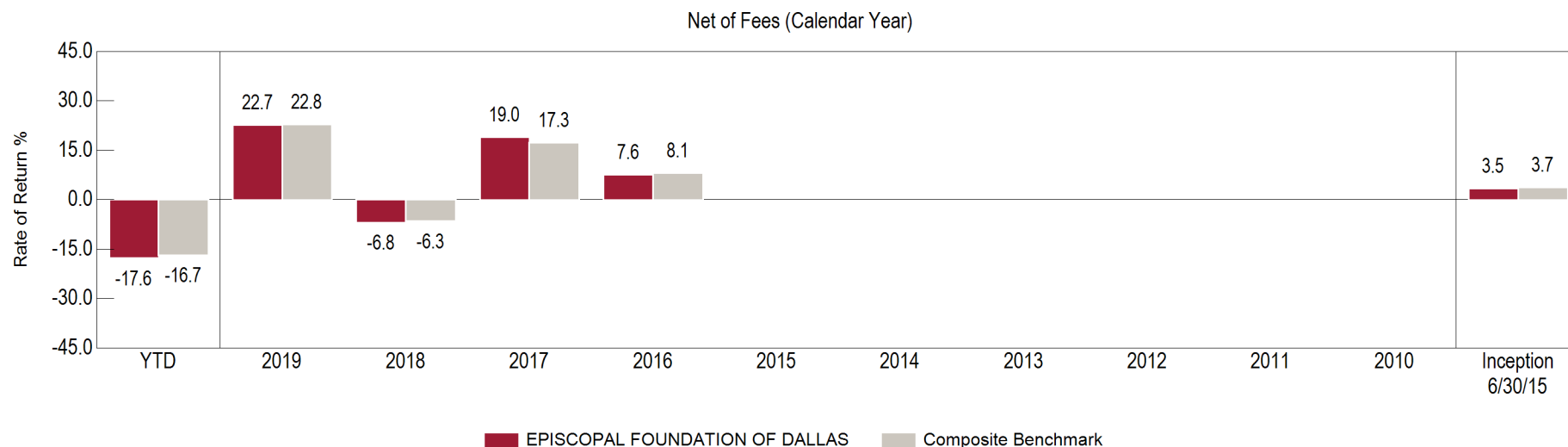
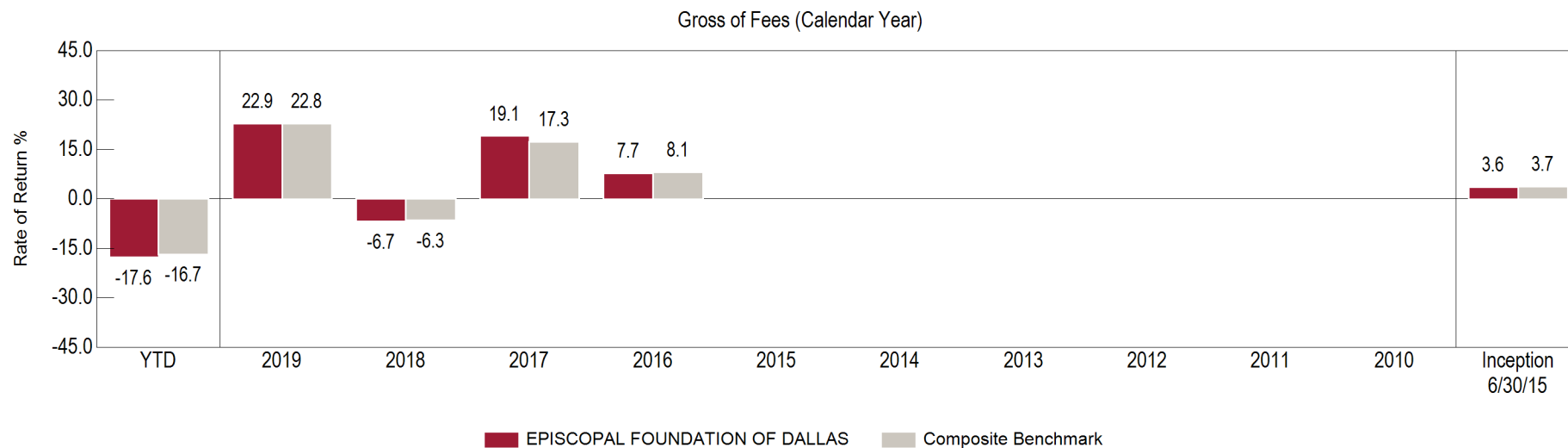
	Market Value (\$)	% of Portfolio	1 Mo (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>EPISCOPAL FOUNDATION OF DALLAS</b>	<b>32,243,147</b>	<b>100.00</b>	<b>-12.14</b>	<b>-17.60</b>	<b>-8.10</b>	<b>2.15</b>	--	--	<b>3.58</b>	<b>Jun-15</b>
Composite Benchmark			-11.41	-16.70	-7.39	2.38	--	--	3.71	Jun-15
<b>Total Equity</b>	<b>23,098,139</b>	<b>71.64</b>	<b>-14.72</b>	<b>-22.59</b>	<b>-11.96</b>	<b>1.62</b>	--	--	<b>3.38</b>	<b>Jun-15</b>
<b>Equity Domestic</b>	<b>13,793,331</b>	<b>42.78</b>	<b>-14.46</b>	<b>-22.54</b>	<b>-10.60</b>	<b>2.91</b>	--	--	<b>5.32</b>	<b>Jun-15</b>
Spliced Total Stock Market Index			-13.78	-20.88	-9.24	3.99	5.74	10.17	6.04	Jun-15
Vanguard® Total Stock Market Index Fund Institutional Shares	6,887,050	21.36	-13.77	-20.86	-9.23	3.99	5.74	10.16	6.03	Jun-15
Spliced Total Stock Market Index			-13.78	-20.88	-9.24	3.99	5.74	10.17	6.04	Jun-15
Multi-Cap Core Funds Average			-14.81	-22.23	-12.18	1.08	2.83	7.62	3.03	Jun-15
Vanguard® PRIMECAP Fund Admiral™ Shares	3,465,594	10.75	-12.20	-20.16	-7.83	6.22	7.59	11.72	8.35	Jun-15
Russell 1000 Growth			-9.84	-14.10	0.91	11.32	10.36	12.97	10.91	Jun-15
Multi-Cap Growth Funds Average			-12.10	-15.66	-4.96	8.04	6.75	10.20	7.01	Jun-15
Vanguard® Windsor™ Fund Admiral™ Shares	3,440,687	10.67	-18.08	-28.12	-16.06	-2.52	1.00	7.38	0.82	Jun-15
Russell 1000 Value			-17.09	-26.73	-17.17	-2.18	1.90	7.67	1.98	Jun-15
Multi-Cap Value Funds Average			-18.93	-29.09	-21.11	-4.38	-0.19	5.89	-0.15	Jun-15
<b>Equity International</b>	<b>9,304,807</b>	<b>28.86</b>	<b>-15.11</b>	<b>-22.66</b>	<b>-13.99</b>	<b>-0.38</b>	--	--	<b>0.45</b>	<b>Jun-15</b>
Spliced Total International Stock Index			-14.99	-24.01	-16.01	-2.28	-0.54	2.16	-0.80	Jun-15
Vanguard® Total International Stock Index Fund Inst Shares	4,624,150	14.34	-16.07	-24.31	-16.55	-2.52	-0.65	2.09	-0.95	Jun-15
Spliced Total International Stock Index			-14.99	-24.01	-16.01	-2.28	-0.54	2.16	-0.80	Jun-15
International Funds Average			-15.11	-23.28	-14.86	-2.22	-0.83	2.35	-1.16	Jun-15
Vanguard® International Growth Fund Admiral™ Shares	2,354,360	7.30	-10.86	-15.52	-3.34	7.26	5.95	6.75	6.01	Jun-15
Spliced International Index			-14.48	-23.36	-15.57	-1.96	-0.64	1.84	-0.79	Jun-15
International Funds Average			-15.11	-23.28	-14.86	-2.22	-0.83	2.35	-1.16	Jun-15
Vanguard® International Value Fund	2,326,298	7.21	-17.43	-26.30	-18.92	-3.52	-1.86	1.61	-2.21	Jun-15
Spliced International Index			-14.48	-23.36	-15.57	-1.96	-0.64	1.84	-0.79	Jun-15
International Funds Average			-15.11	-23.28	-14.86	-2.22	-0.83	2.35	-1.16	Jun-15
<b>Total Fixed Income</b>	<b>7,218,483</b>	<b>22.39</b>	<b>-2.17</b>	<b>0.96</b>	<b>6.25</b>	<b>4.14</b>	--	--	<b>3.70</b>	<b>Jun-15</b>
<b>Fixed Income Domestic</b>	<b>5,406,275</b>	<b>16.77</b>	<b>-2.07</b>	<b>1.23</b>	<b>6.75</b>	<b>4.05</b>	--	--	<b>3.55</b>	<b>Jun-15</b>
Spliced Bloomberg Barclays US Aggregate Float Adjusted Index			-0.69	3.18	9.06	4.87	3.38	3.91	3.95	Jun-15

## Performance Summary (Gross of Advisory Fees) ending March 31, 2020

	Market Value (\$)	% of Portfolio	1 Mo (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Vanguard® Total Bond Market Index Fund Admiral™ Shares	2,719,991	8.44	-0.58	3.27	9.06	4.83	3.33	3.84	3.90	Jun-15
Spliced Bloomberg Barclays US Aggregate Float Adjusted Index			-0.69	3.18	9.06	4.87	3.38	3.91	3.95	Jun-15
Spliced Intermediate-Term Investment-Grade Debt Funds Average			-2.85	0.41	5.78	3.60	2.60	3.60	3.09	Jun-15
Vanguard® Inter-Term Investment-Grade Fund Adm™ Shares	1,791,495	5.56	-3.80	-0.48	5.77	4.03	3.33	4.71	3.85	Jun-15
BBgBarc US Credit 5-10 Yr TR			-7.10	-3.87	4.01	3.89	3.27	5.07	3.90	Jun-15
Spliced Core Bond Funds Average			-2.85	0.41	5.78	3.60	2.60	3.60	3.09	Jun-15
Vanguard® Short-Term Investment-Grade Fund Adm™ Shares	894,789	2.78	-3.10	-1.50	2.03	2.16	2.04	2.40	2.16	Jun-15
BBgBarc US Credit 1-5 Yr TR			-2.88	-1.22	2.82	2.58	2.23	2.75	2.37	Jun-15
1-5 Year Investment-Grade Debt Funds Average			-3.26	-2.03	0.78	1.48	1.35	1.78	1.44	Jun-15
<b>Fixed Income International</b>	<b>1,812,208</b>	<b>5.62</b>	<b>-2.46</b>	<b>0.15</b>	<b>4.79</b>	<b>4.41</b>	<b>--</b>	<b>--</b>	<b>4.16</b>	<b>Jun-15</b>
Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged			-2.40	0.21	5.01	4.64	3.57	--	4.41	Jun-15
Vanguard® Total International Bond Index Fund Adm™ Shares	1,812,208	5.62	-2.46	0.15	4.79	4.41	3.34	--	4.16	Jun-15
Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged			-2.40	0.21	5.01	4.64	3.57	--	4.41	Jun-15
International Income Funds Average			-6.05	-6.02	-2.68	1.02	1.04	1.72	1.46	Jun-15
<b>Total Real Estate</b>	<b>1,926,525</b>	<b>5.97</b>	<b>-19.26</b>	<b>-24.10</b>	<b>-16.55</b>	<b>-1.47</b>	<b>--</b>	<b>--</b>	<b>2.88</b>	<b>Jun-15</b>
<b>Real Estate Domestic</b>	<b>1,926,525</b>	<b>5.97</b>	<b>-19.26</b>	<b>-24.10</b>	<b>-16.55</b>	<b>-1.47</b>	<b>--</b>	<b>--</b>	<b>2.88</b>	<b>Jun-15</b>
Real Estate Spliced Index			-19.26	-24.07	-16.47	-1.38	0.59	7.97	2.98	Jun-15
Vanguard® Real Estate Index Fund Admiral™ Shares	1,926,525	5.97	-19.26	-24.10	-16.55	-1.46	0.49	7.89	2.88	Jun-15
Real Estate Spliced Index			-19.26	-24.07	-16.47	-1.38	0.59	7.97	2.98	Jun-15
Real Estate Funds Average			-19.40	-24.08	-16.90	-1.89	-0.04	7.12	1.98	Jun-15



## Total Portfolio Performance



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.

## Cash Flow Summary

	Last Month	Last Three Months	Year-To-Date	One Year
Beginning Market Value	\$36,546,449	\$39,302,262	\$39,302,262	\$37,168,980
Net Cash Flow	-\$35,114	-\$354,785	-\$354,785	-\$2,375,889
Capital Appreciation	-\$4,343,030	-\$6,812,249	-\$6,812,249	-\$3,449,741
Income	\$74,841	\$107,918	\$107,918	\$899,797
Ending Market Value	\$32,243,147	\$32,243,147	\$32,243,147	\$32,243,147

## Month Ending March 31, 2020

	Beginning Market Value	Net Cash Flow	Capital Appreciation	Income	Ending Market Value
Vanguard® Inter-Term Investment-Grade Fund Adm™ Shares	\$2,298,914	-\$416,912	-\$95,248	\$4,741	\$1,791,495
Vanguard® International Growth Fund Admiral™ Shares	\$2,620,433	\$16,290	-\$282,363	\$0	\$2,354,360
Vanguard® International Value Fund	\$2,520,044	\$229,776	-\$423,522	\$0	\$2,326,298
Vanguard® PRIMECAP Fund Admiral™ Shares	\$3,809,452	\$116,603	-\$460,460	\$0	\$3,465,594
Vanguard® Real Estate Index Fund Admiral™ Shares	\$2,093,162	\$234,276	-\$416,449	\$15,535	\$1,926,525
Vanguard® Short-Term Investment-Grade Fund Adm™ Shares	\$1,102,981	-\$174,985	-\$35,404	\$2,197	\$894,789
Vanguard® Total Bond Market Index Fund Admiral™ Shares	\$3,458,476	-\$705,168	-\$39,892	\$6,575	\$2,719,991
Vanguard® Total International Bond Index Fund Adm™ Shares	\$2,272,786	-\$402,536	-\$59,613	\$1,570	\$1,812,208
Vanguard® Total International Stock Index Fund Inst Shares	\$5,092,507	\$331,522	-\$811,475	\$11,596	\$4,624,150
Vanguard® Total Stock Market Index Fund Institutional Shares	\$7,586,042	\$335,981	-\$1,067,600	\$32,627	\$6,887,050
Vanguard® Windsor™ Fund Admiral™ Shares	\$3,691,652	\$400,040	-\$651,005	\$0	\$3,440,687
<b>Total</b>	<b>\$36,546,449</b>	<b>-\$35,114</b>	<b>-\$4,343,030</b>	<b>\$74,841</b>	<b>\$32,243,147</b>

## Benchmark History as of March 31, 2020

EPISCOPAL FOUNDATION OF 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 Domestic		
6/30/2015	Present	100% CRSP US Total Market TR USD
Vanguard® Total Stock Market Index Fund Institutional Shares		
6/30/2015	Present	100% CRSP US Total Market TR USD
Vanguard® Windsor™ Fund Admiral™ Shares		
6/30/2015	Present	Russell 1000 Value
Vanguard® PRIMECAP Fund Admiral™ Shares		
6/30/2015	Present	Russell 1000 Growth
Equity International		
6/30/2015	Present	100% FTSE Global All-Cap ex-US Index
Vanguard® International Value Fund		
6/30/2015	Present	100% MSCI ACWI ex USA
Vanguard® International Growth Fund Admiral™ Shares		
6/30/2015	Present	100% MSCI ACWI ex USA
Vanguard® Total International Stock Index Fund Inst Shares		
6/30/2015	Present	100% FTSE Global All-Cap ex-US Index
Total Fixed Income		
N/A		
Fixed Income Domestic		

## Benchmark History as of March 31, 2020

6/30/2015	Present	100% BBgBarc US Aggregate Float Adjusted TR
Vanguard® Short-Term Investment-Grade Fund Adm™ Shares		
6/30/2015	Present	BBgBarc US Credit 1-5 Yr TR
Vanguard® Total Bond Market Index Fund Admiral™ Shares		
6/30/2015	Present	100% BBgBarc US Aggregate Float Adjusted TR
Vanguard® Inter-Term Investment-Grade Fund Adm™ Shares		
6/30/2015	Present	BBgBarc US Credit 5-10 Yr TR
Fixed Income International		
6/30/2015	Present	Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged
Vanguard® Total International Bond Index Fund Adm™ Shares		
6/30/2015	Present	Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged
Total Real Estate		
N/A		
Real Estate 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
Vanguard® 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

## Legal

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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.

Internal rates of return (IRR) are net of any applicable service fees, include account-specific cash flows, and are not directly comparable to a benchmark, since benchmarks do not include cash flows.

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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# 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 %	\$32.2 million
Management fee	0.114%	\$36,795
Fund expenses*	0.149%	\$48,042
Commingled funds/partnership expense	0.00%	\$0
Incentive fees	0.00%	\$0
Custodial fees	0.00%	\$0
Additional travel fees	0.00%	\$0
<b>Total all-in fee</b>	<b>0.263%</b>	<b>\$84,837</b>

\* These costs are estimated. Actual weighted annual 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.

## Investment Expense Analysis as of March 31, 2020

Name	Market Value	% of Portfolio	Expense Ratio
<b>Total Equity</b>	<b>\$23,098,139</b>	<b>71.6%</b>	
<b>Equity Domestic</b>	<b>\$13,793,331</b>	<b>42.8%</b>	
Vanguard® Total Stock Market Index Fund Institutional Shares	\$6,887,050	21.4%	0.030%
Vanguard® Windsor™ Fund Admiral™ Shares	\$3,440,687	10.7%	0.200%
Vanguard® PRIMECAP Fund Admiral™ Shares	\$3,465,594	10.7%	0.310%
<b>Equity International</b>	<b>\$9,304,807</b>	<b>28.9%</b>	
Vanguard® International Value Fund	\$2,326,298	7.2%	0.370%
Vanguard® International Growth Fund Admiral™ Shares	\$2,354,360	7.3%	0.320%
Vanguard® Total International Stock Index Fund Inst Shares	\$4,624,150	14.3%	0.080%
<b>Total Fixed Income</b>	<b>\$7,218,483</b>	<b>22.4%</b>	
<b>Fixed Income Domestic</b>	<b>\$5,406,275</b>	<b>16.8%</b>	
Vanguard® Short-Term Investment-Grade Fund Adm™ Shares	\$894,789	2.8%	0.100%
Vanguard® Total Bond Market Index Fund Admiral™ Shares	\$2,719,991	8.4%	0.050%
Vanguard® Inter-Term Investment-Grade Fund Adm™ Shares	\$1,791,495	5.6%	0.100%
<b>Fixed Income International</b>	<b>\$1,812,208</b>	<b>5.6%</b>	
Vanguard® Total International Bond Index Fund Adm™ Shares	\$1,812,208	5.6%	0.110%
<b>Total Real Estate</b>	<b>\$1,926,525</b>	<b>6.0%</b>	
<b>Real Estate Domestic</b>	<b>\$1,926,525</b>	<b>6.0%</b>	
Vanguard® Real Estate Index Fund Admiral™ Shares	\$1,926,525	6.0%	0.120%
<b>Total</b>	<b>\$32,243,147</b>	<b>100.0%</b>	<b>0.149%</b>

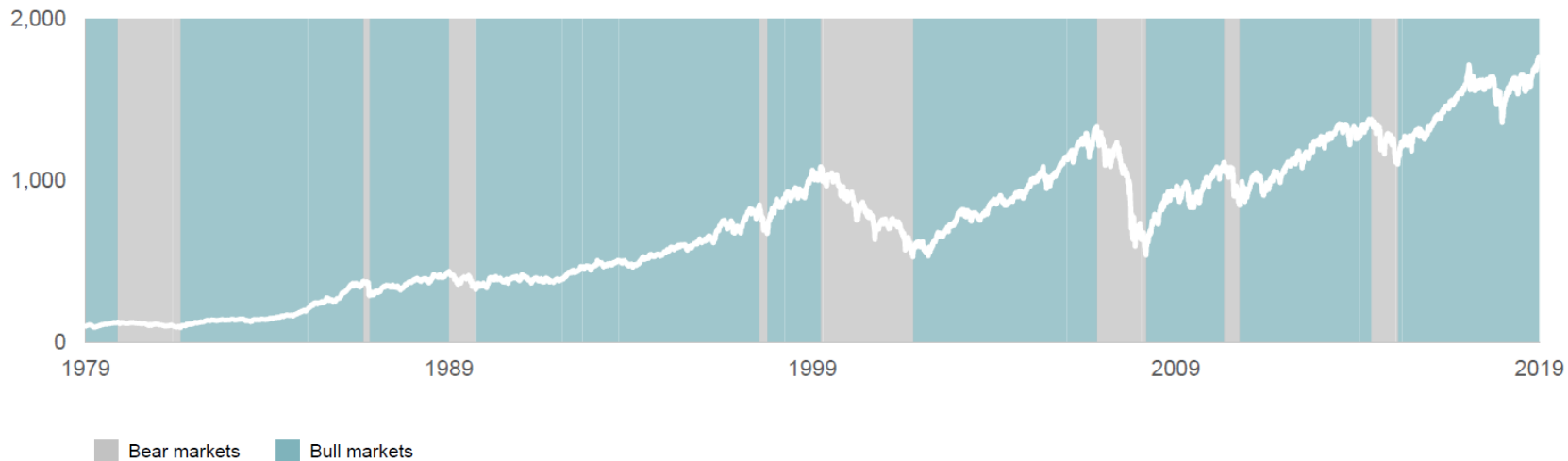


# Market Volatility

# Downturns aren't rare events: Typical investors, in all markets, will endure many of them during their lifetime

## Global stock prices

January 1, 1980, to December 31, 2019



One attention-grabbing downturn every two years

**13 corrections**  
**Decline of 10% or more**

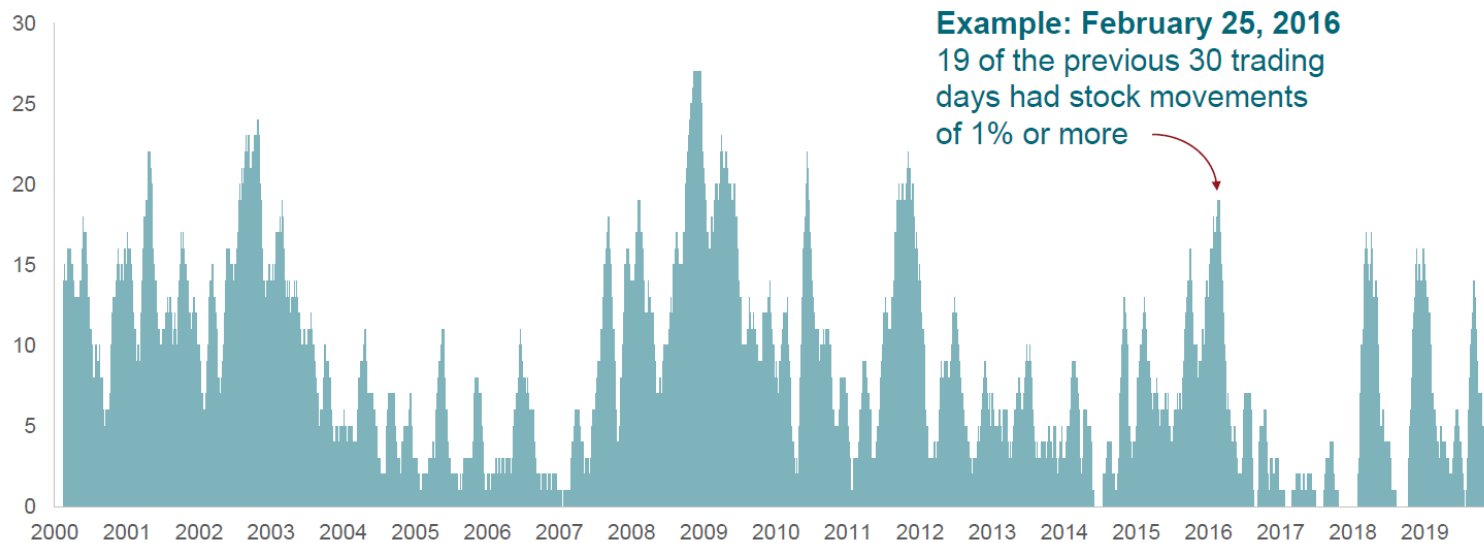
**8 bear markets**  
**Decline of 20% or more,**  
**at least two months long**

**Past performance is not a guarantee of future returns.**

Sources: Vanguard analysis based on the MSCI World Index from January 1, 1980, through December 31, 1987, and the MSCI AC World Index thereafter. Both indexes are denominated in U.S. dollars. Our count of corrections excludes those that turn into a bear market. We count corrections that occur after a bear market has recovered from its trough even if stock prices haven't yet reached their previous peak.

## Volatility: More the rule than the exception

Number of days in the previous 30 trading days where stocks fell or rose 1% or more

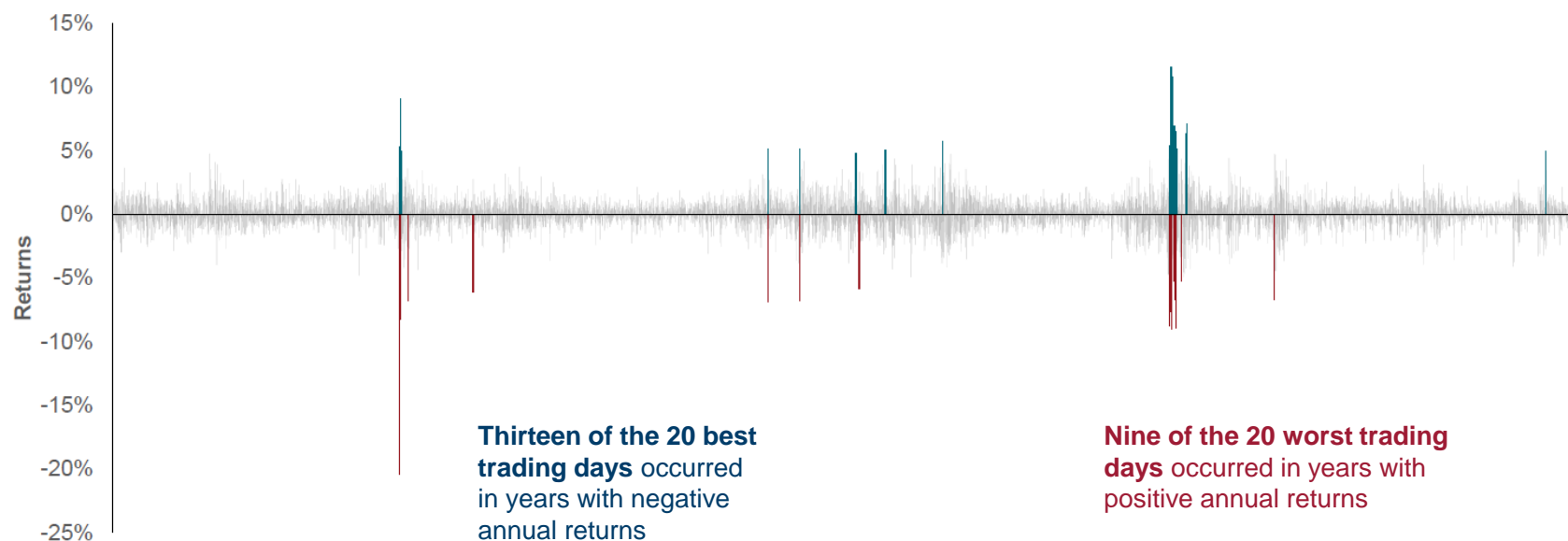


Sources: Vanguard calculations based on S&P 500 data from Thomson Reuters.  
Data is from December 31, 1999, through December 31, 2019.

## Timing the market is futile: The best and worst trading days happen close together

### S&P 500 Index daily returns

Dec. 31, 1979, through Dec. 31, 2019



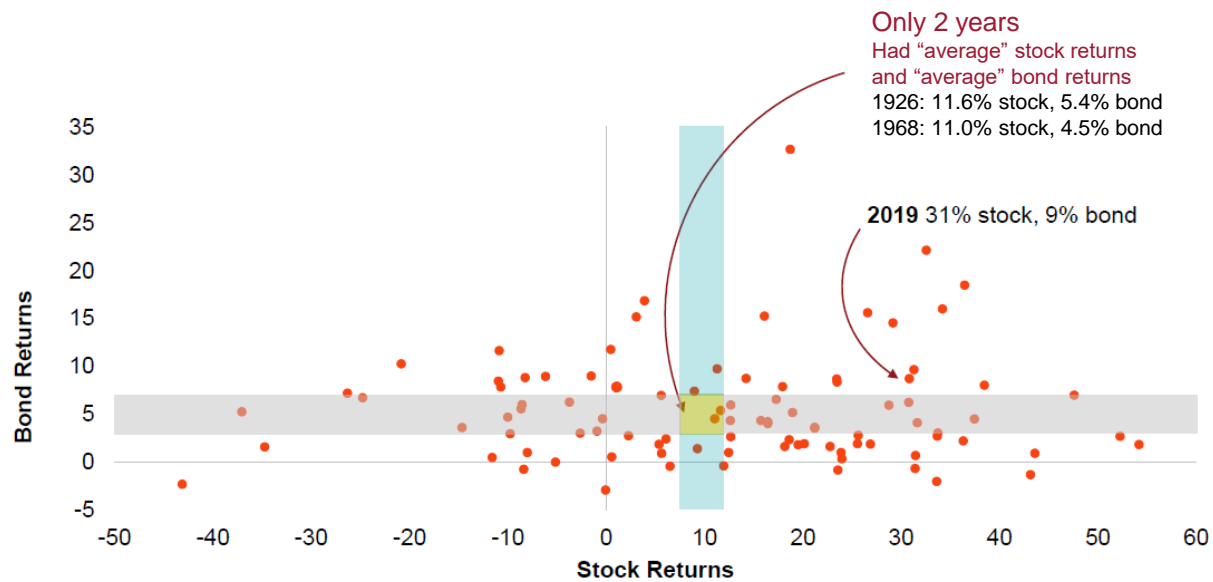
Past performance is not a guarantee of future returns.

Source: Vanguard.

# Manage your expectations: In the short term, an investor's experience is anything but the historical average

## Annual stock and bond returns from 1926 through 2019

- Stock returns: 10.1% annual**  
Average return range  
(8% to 12%) achieved  
in 6 of 94 calendar years
- Bond return: 5.3% annual**  
Average return range  
(3% to 7%) achieved  
in 28 of 94 calendar years

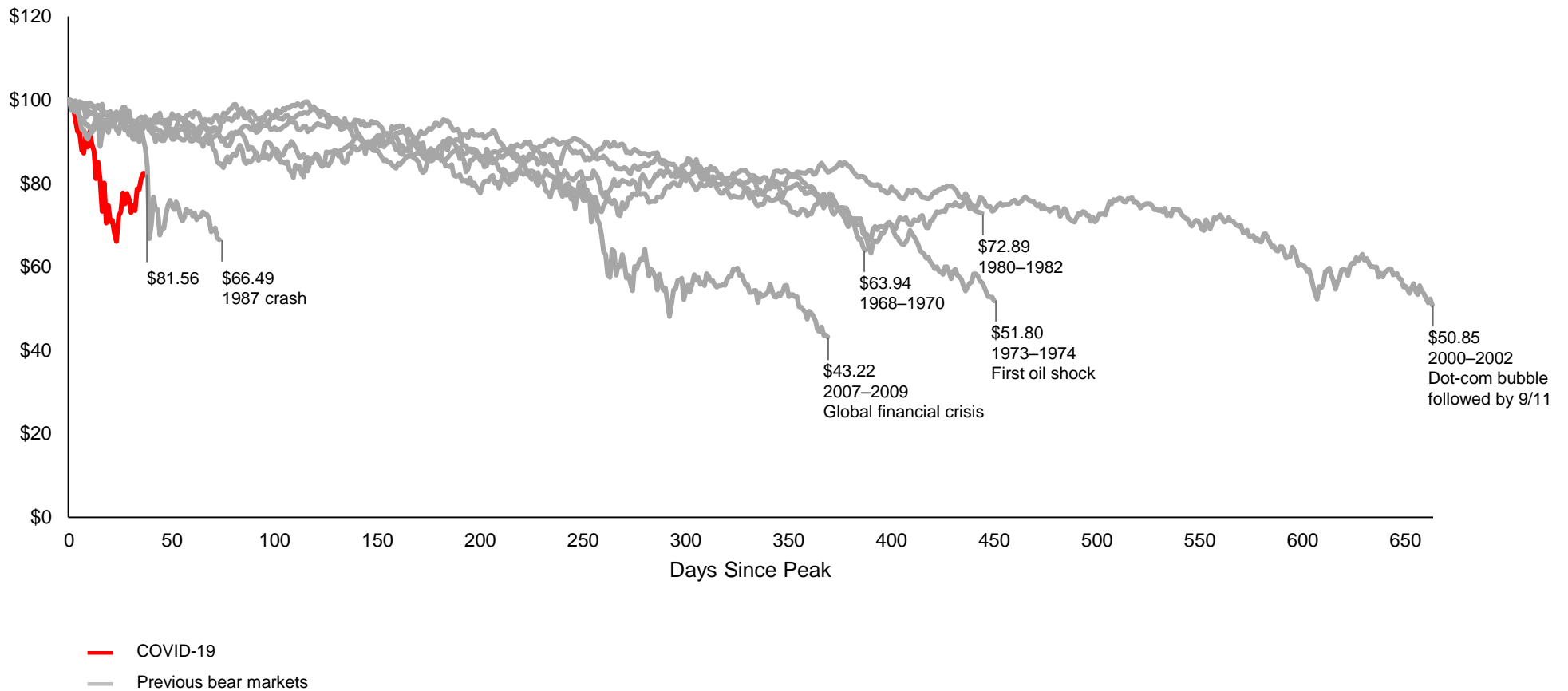


### Past performance is not a guarantee of future returns.

Notes: Dots represent each calendar year from 1926 through 2019 (94 points = 94 years) plotted at the intersection of that year's stock return and that year's bond return. The vertical shaded area contains all years whose stock return was between 8% and 12%. The horizontal shaded area contains all years whose bond return was between 3% and 7%. Stock returns are represented by the S&P 500 Index from 1926 through 1974, the Wilshire 5000 Index from 1975 through April 22, 2005, and the MSCI US Broad Market Index thereafter. Bond returns are represented by the S&P High Grade Corporate Index from 1926 through 1968, the Citigroup High Grade Index from 1969 through 1972, the Lehman Brothers U.S. Long Credit AA Index from 1973 through 1975, and the Bloomberg Barclays U.S. Aggregate Bond Index from 1976 through 2019.

Sources: Vanguard calculations, using data from Thomson Reuters, FactSet, and MSCI.

## Length and magnitude of previous bear markets



S&P 500 returns from peak to trough, indexed at \$100. As-of 4/13/2020  
Source: Factset.

## Past bear markets and the 12 months that followed the bottom

Event	S&P 500 price decline	Duration	12 months after
First oil shock	−48.20%	1/11/1973–10/3/1974	37.87%
1987 crash	−33.51%	8/25/1987–12/4/1987	22.78%
Asian currency crisis	−9.80%	10/1/1997–10/27/1997	21.79%
Dot-com   9/11	−49.14%	3/23/2000–10/9/2002	29.12%
Global financial crisis	−56.80%	10/9/2007–3/9/2009	68.57%
Euro (PIIG) crisis 1	−18.80%	7/7/2011–10/3/2011	32.00%
2018 fed shock	−19.60%	10/3/2018–12/24/2018	37.10%
COVID-19	−27.57%	2/19/2020–TBD	
<b>Average*</b>	<b>−33.69%</b>		<b>35.61%</b>

S&P 500 daily price returns. Source: Factset.

\* Does not include COVID-19. COVID-19 returns from February 19, 2020 through March 24, 2020.

# Economic and Market Outlook



# Vanguard May 2020 market and economic outlook at a glance

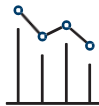


Coronavirus  
outlook: A few  
bright spots

## Countries battling the pandemic look ahead

Several countries recently among the world's hardest hit by the COVID-19 pandemic are beginning to talk about how and when they might start to reopen their economies.

- Renewed containment efforts in countries including Japan and Singapore, which had experienced early success in containing the coronavirus through vigorous testing and tracking, remind us that the battle isn't easily won, and may not be over until a vaccine is developed or broad populations achieve immunity.
- The strength of eventual recovery will depend in large part on the duration of required containment measures, the depth and breadth of unemployment, and the extent to which consumers overcome lingering fear of resuming normal activities.
- It will be crucial to avert a second wave of infection and associated renewed containment efforts that could carry long beyond the second quarter.



Economic growth  
plummets

## Expect the sharpest global recession in recent history

Growth in the United States and Europe is expected to contract in the second quarter at the steepest pace since at least the 1930s.

- We continue to anticipate that the global recession will be short, however, with global growth turning positive in the second half of 2020.
- We expect the recovery will be "U-shaped" in that it will be at least the end of 2021 before economic activity returns to its pre-COVID-19 level.
- We expect recovery to proceed in two stages, as we're beginning to see in China: a bounce-back in growth as supply constraints recede, but a longer wait for demand to strengthen.
- Vanguard believes that monetary policy responses taken globally in recent weeks have largely helped keep markets functioning in the face of dislocations related to the COVID-19 pandemic and efforts to contain it.

## Vanguard May 2020 market and economic outlook at a glance

### Global scenario estimates and transmission channel impact

	Scenario 1	Scenario 2 (Base case)	Scenario 3	Scenario 4
	Minimal outside China	Shelter in place and social distancing measures lifted by June	Shelter in place and social distancing measures lifted by September	Shelter in place and social distancing measures continue through 2020
<b>Probability</b>	<b>0%</b>	<b>60%</b>	<b>30%</b>	<b>10%</b>
Export demand shock	●	●	●	●
Supply chain disruption	●	●	●	●
Financial markets	●	●	●	●
Face-to-face sectors	●	●	●	●
Factory shutdowns	●	●	●	●

● Sector unaffected    ● Minimally impacted    ● Moderately impacted    ● Significantly impacted    ● Extensively impacted

In Vanguard's base case, our 2020 growth estimate for the world is -2%.

## Vanguard May 2020 market and economic outlook at a glance

### Will stimulus measures be sufficient?

The key question remains if they will be enough to bind employees to their jobs and keep solvency measures for households and businesses high.

### When will the global economy reopen?

We expect a gradual and rolling reopening of global supply commencing in the May timeframe as regions move beyond peak infections.

### How important is a health care solution?

The speed and shape of a demand rebound is critically tied to the degree of confidence in future health care solutions.



### Region by region outlook

#### China and developed economies are on different paths

Although we see China's economy returning to normal by the end of the year (assuming no significant second wave of infection), we believe it will take three or four additional quarters before developed markets' economies return to normal, likely toward the end of 2021.

**United States.** Vanguard believes that GDP in the United States could contract at a significantly greater degree in the second quarter than it did at the worst point of the global financial crisis, with the extent and timing of recovery dependent on when containment efforts can be rolled back.

- It will take time for activity to return to normal as consumers come to terms with their fears about re-engaging with important face-to-face sectors of the economy
- In our current base-case scenario, the U.S. lifts shelter-in-place measures and most extreme social distancing by June 30.
- The **U.S. Federal Reserve** has taken steps to support the flow of credit to the economy, making loans available to assist households and employers of all sizes, and bolster the ability of state and local governments to deliver critical services during the coronavirus pandemic.
- We believe that the unprecedented response by the Federal Reserve and Congress will help stave off worse outcomes.
- Small business with little ability to work from home represent over 50% of industry employment, so fiscal policy providing small-business loans and expanded unemployment insurance is essential.
- If there is mass unemployment coming out of the downturn, growth impacts are likely to persist for longer.
- While we expect the April unemployment rate to rise significantly from 4.4% in March, it may overstate the rate in its historical context because the CARES Act allows some previously ineligible self-employed workers to file for unemployment insurance.
- Valuations remain below fair value estimates for U.S. equities, and the long-term picture has brightened for them.

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## Vanguard May 2020 market and economic outlook at a glance

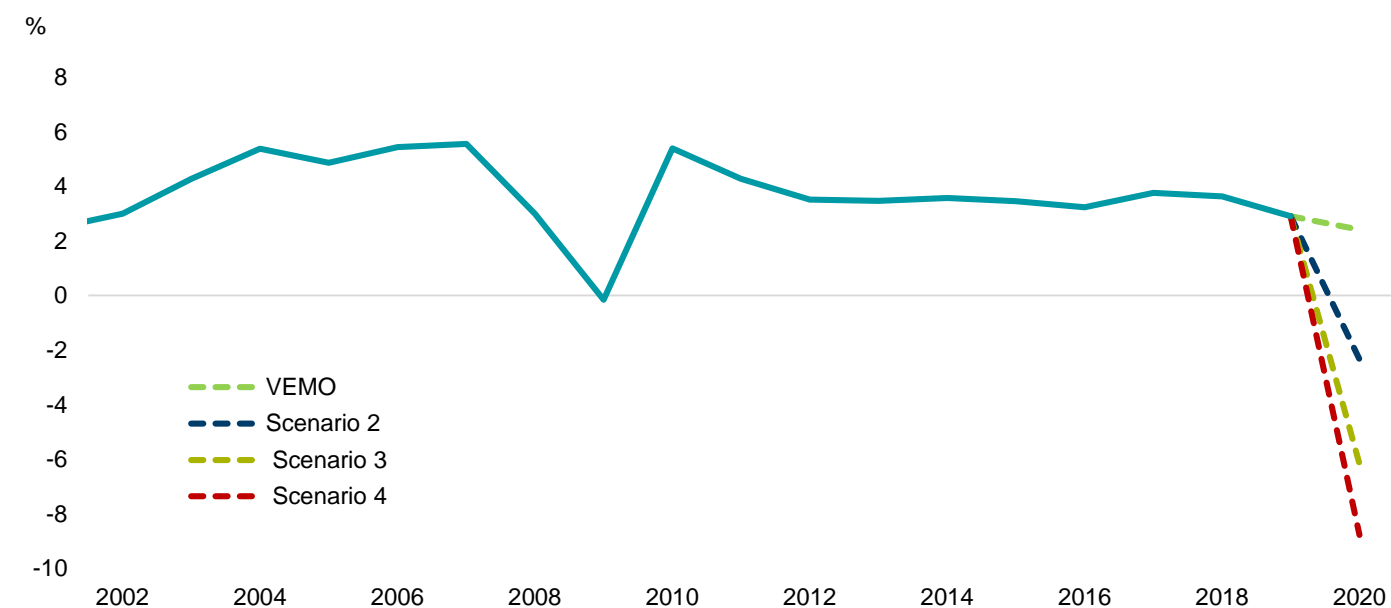
**China.** Although the worst of the coronavirus-related economic effects may now be in China's past, we expected normalization to be slow. the first such economic contraction since China began reporting quarterly GDP figures in 1992.

- China's GDP declined by 6.8% in the first quarter of 2020 compared with the year-earlier quarter, the first such economic contraction since China began reporting quarterly GDP figures in 1992.
- We expect that weak global demand and slower-than-expected normalization in domestic service industries will prohibit a strong bounce-back in growth in the second and third quarters.
- China's first-quarter GDP numbers also shouldn't be viewed as a harbinger for second-quarter GDP data in other countries, given vast differences in economic structures and epidemiology.

**Euro area.** Evidence that the virus outbreak has peaked in Italy, Spain, and Germany is leading to expectations that lockdowns within the euro area will begin to gradually be lifted this month.

- Vanguard's view that the economy can start to rebound in the third and fourth quarters as lockdowns are removed is tempered by the risk of a second wave of infection that could necessitate containment measures to be reinstated. The assessment is similar for the U.K.



# 2020 annual GDP growth



Source: Vanguard ISG. As of April 9.

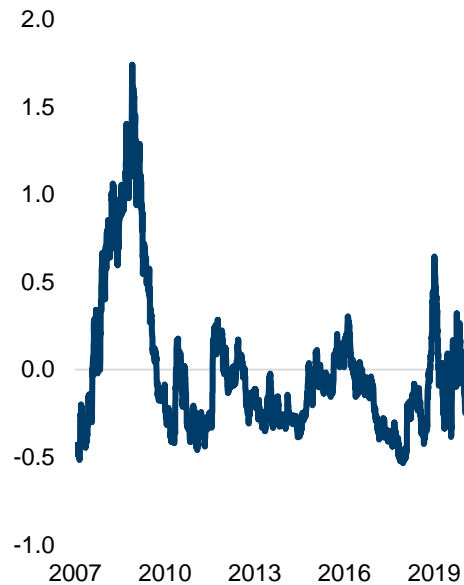
## Global policy response has been unprecedented



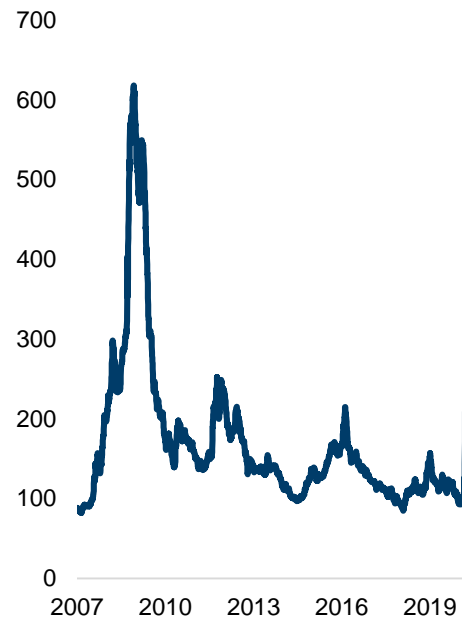
 <b>Monetary</b>	<p>Cash rate down 150bps</p> <p>QE: Treasuries + MBS + Corporate bonds</p> <p>Lending Facilities: CPFF, PDCF, TALF, MMLF, PMCCF, SMCCF</p>	<p>QE increased by EUR 970bn</p> <p>New TLTROS</p>	<p>Cash rate down 50bps</p> <p>YCC QE targeting 3Y yield</p> <p>Term-lending facility</p>	<p>OMO liquidity injections + rate cuts (MLF + repo rate)</p>	<p>Increase ETF and J-REITs upper limit purchase to ¥12trn and ¥180bn</p> <p>Increase the upper limit of CP and corporate bond purchase by ¥2trn</p>
 <b>Fiscal</b>	<p>"Phase 1" fiscal package of USD 8.3bn</p> <p>"Phase 2" fiscal package of USD 110bn</p> <p>"Phase 3" fiscal package of USD 2 trn</p> <p>Total = ~10.5% of GDP</p>	<p>EC committed EUR1bn as a guarantee to the European Investment Fund and another EUR37bn to the "Coronavirus Response Investment Initiative"</p>	<p>"Phase 1" fiscal package of AUD 18bn</p> <p>"Phase 2" fiscal package of AUD 66bn</p> <p>"Phase 3" fiscal package of AUD 150bn</p> <p>Total = ~10% of GDP</p>	<p>1.2% of GDP worth of fiscal stimulus targeting health care infrastructure, tax waivers and subsidies</p> <p>~4% of GDP worth of infrastructure investment announced by 10 provinces</p>	<p>"Phase 1" fiscal package of \$4.6bn package in February</p> <p>"Phase 2" fiscal package of \$15bn in March</p> <p>"Phase 3" fiscal package of \$503bn (proposed)</p> <p>Total = ~12% of GDP</p>

## Market volatility has been on par with global financial crisis

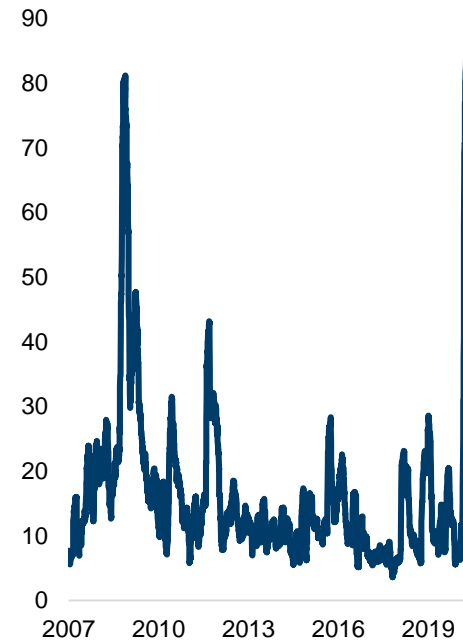
**Vanguard Financial Conditions Index**



**Investment-Grade Corporate OAS**



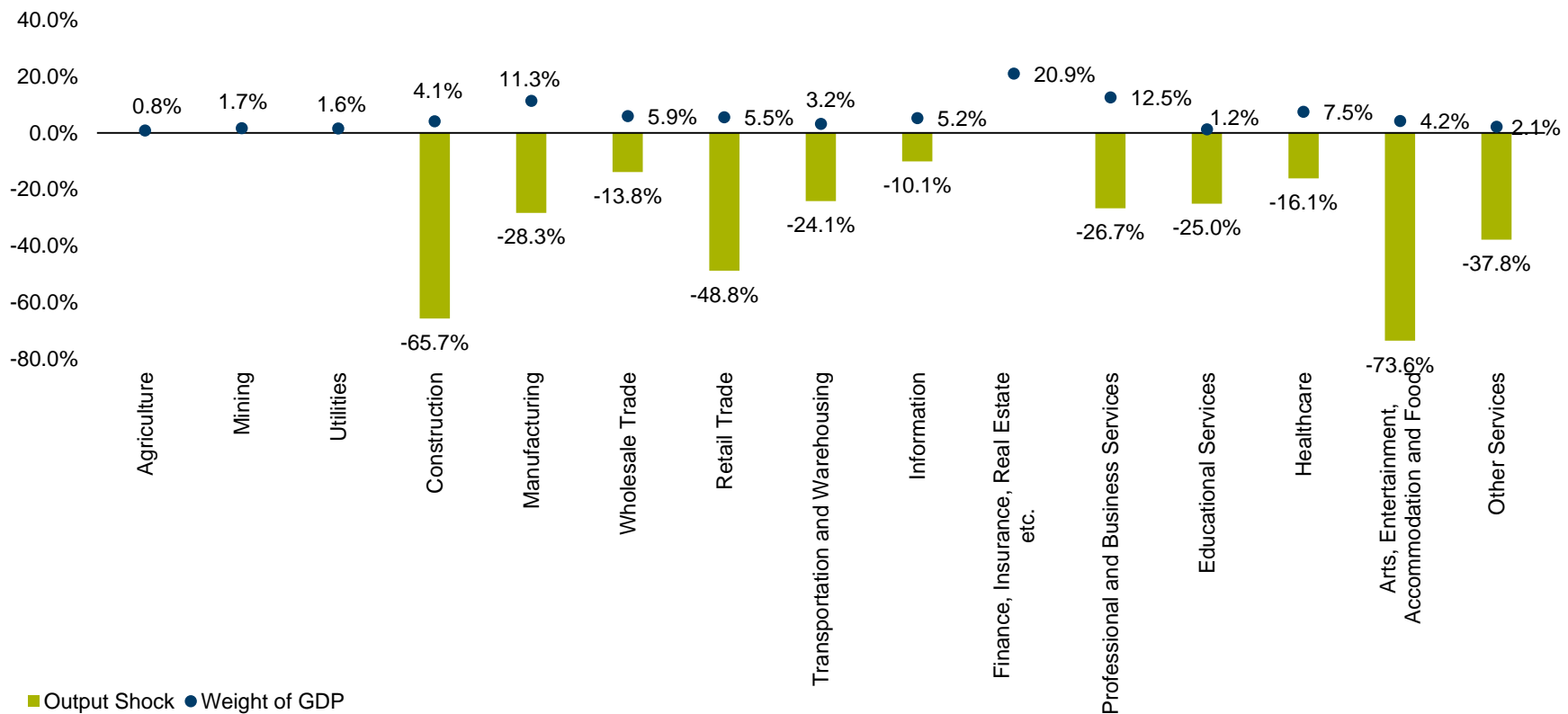
**S&P 500 volatility**



Sources: Vanguard, Refinitiv. Chart depicts daily values. S&P 500 volatility is 30 annualized, rolling standard deviation of daily price change.

## The lockdown shock: Nationwide social distancing measures

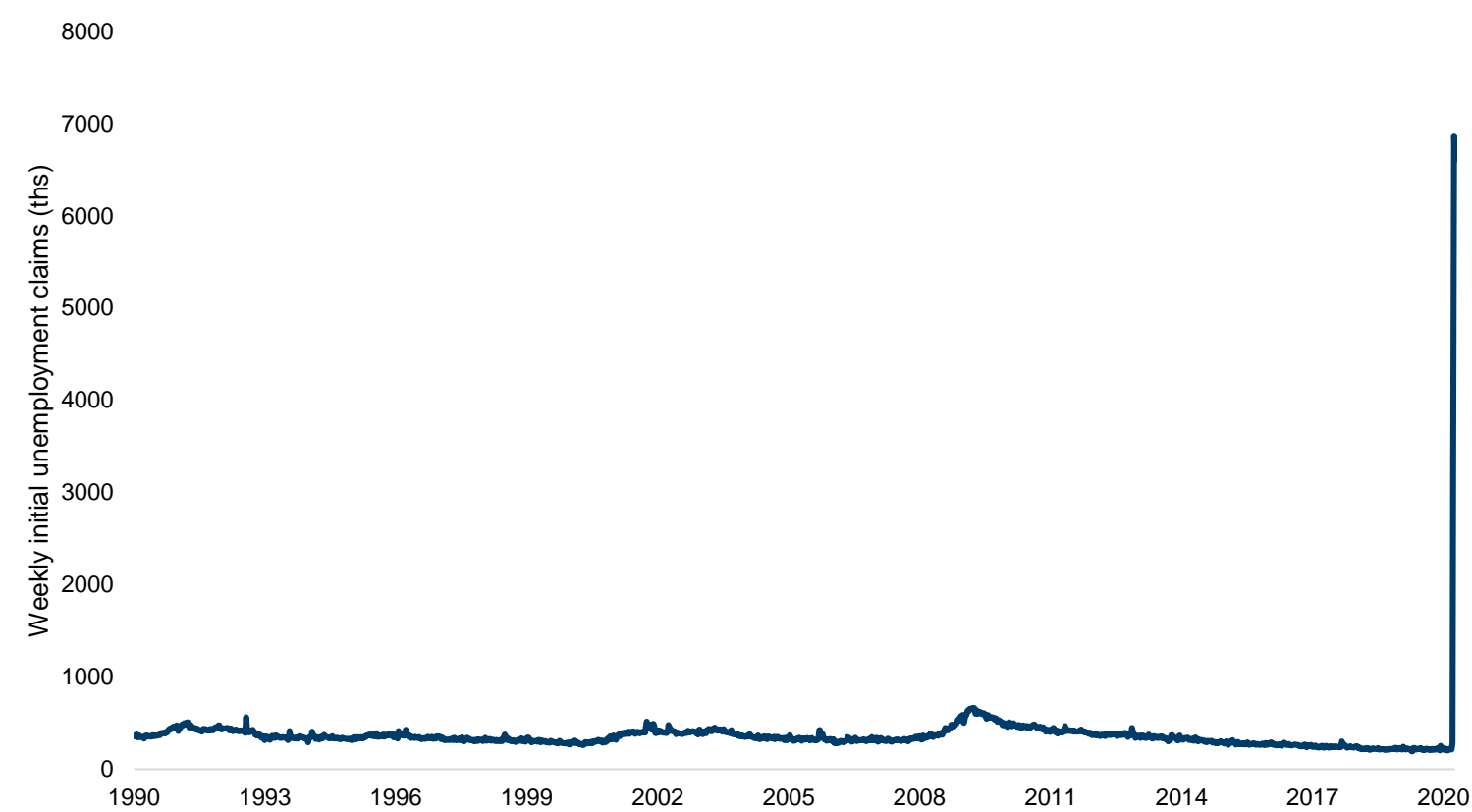
### GDP weights and output shock by industry based on containment measures



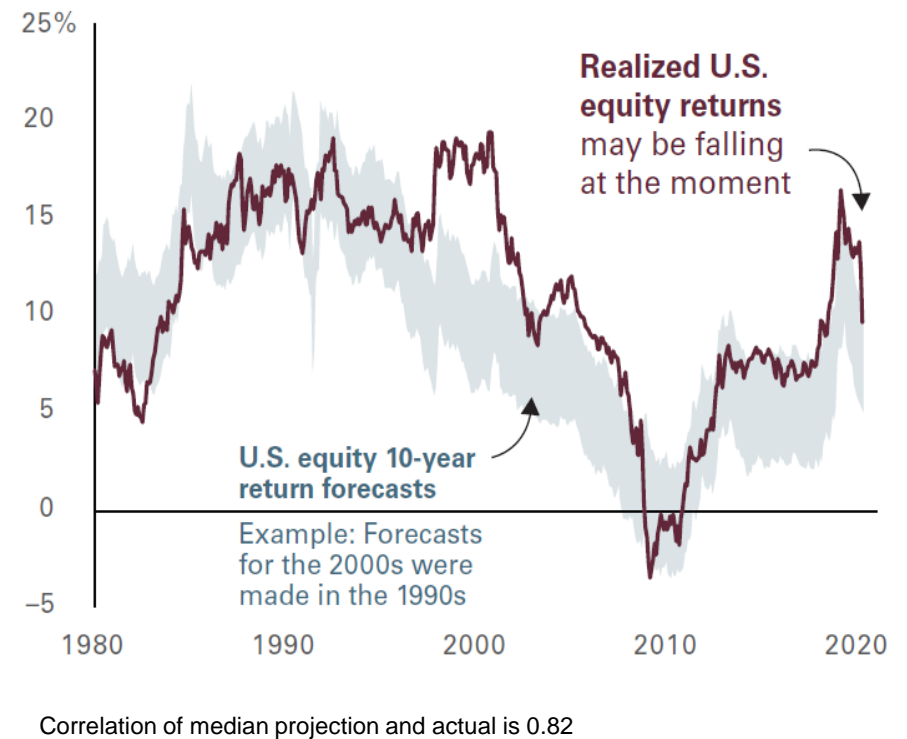
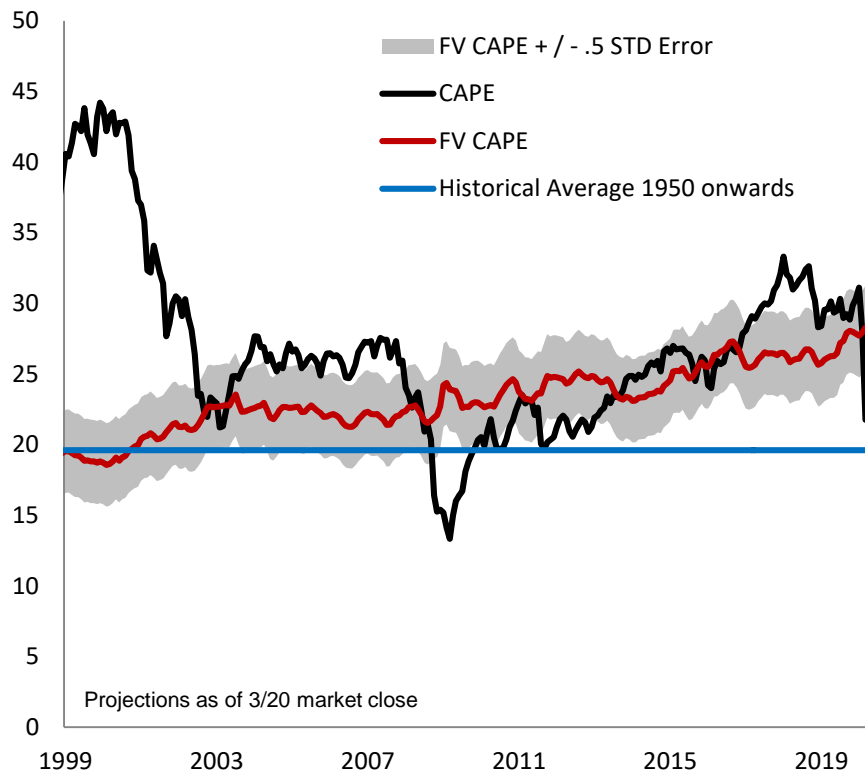
Sources: Vanguard, Refinitiv.



# The labor market has seen a historic spike in unemployment



## CAPE has fallen well below fair value



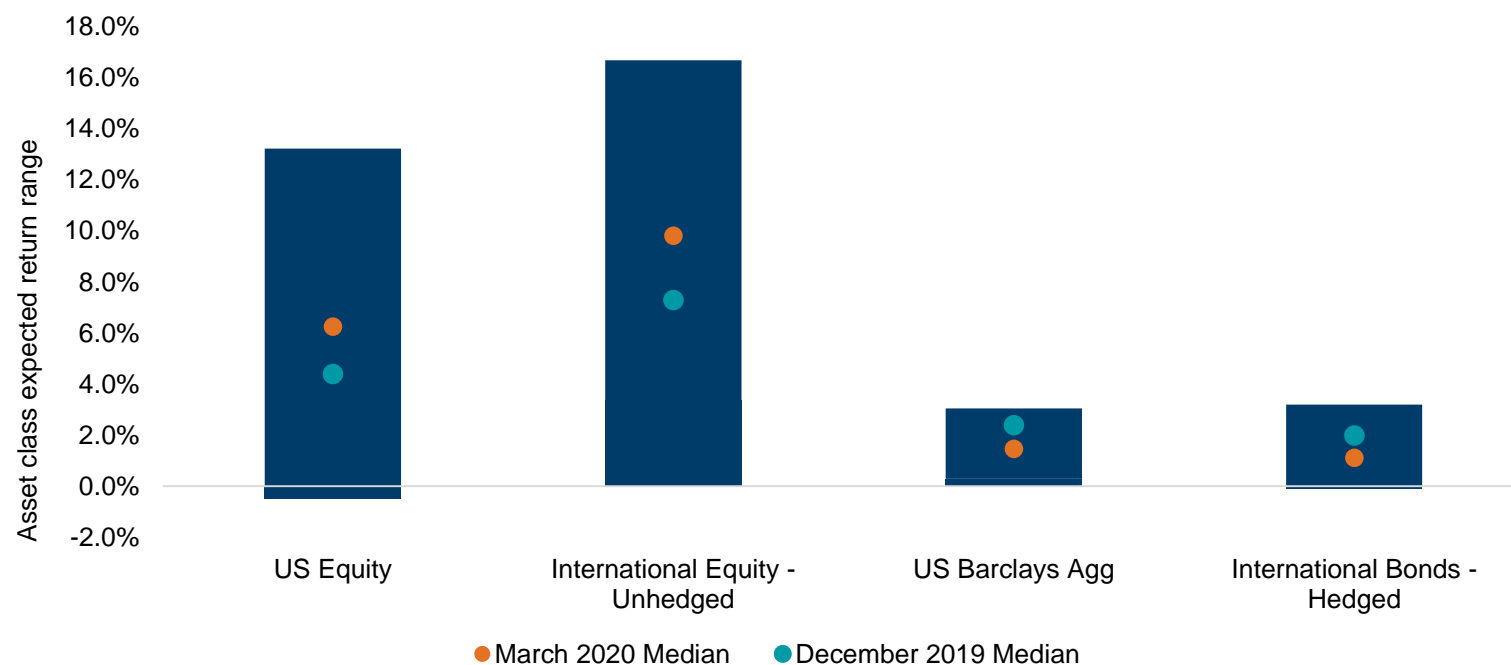
Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Note: LHS: "Fair-value CAPE" is based on a statistical model that corrects CAPE measures for the level of inflation expectations and for lower interest rates. The statistical model specification is a three-variable vector error correction (VEC), including equity-earnings yields, ten-year trailing inflation, and ten-year U.S. Treasury yields estimated over the period January 1940–December 2018. For details, see Vanguard's economic and investment outlook (Davis, Aliaga-Diaz, Westaway, Wang, Patterson, and Ahluwalia 2016). RHS:

Sources: Vanguard calculations, based on Robert Shiller's website, at [aida.wss.yale.edu/~shiller/data.htm](http://aida.wss.yale.edu/~shiller/data.htm), U.S. Bureau of Labor Statistics, Federal Reserve Board, and MSCI.

## Recent stock declines have raised our expected future returns

Vanguard Capital Markets Model® is suggesting higher average ten-year returns for equities, but lower returns for Fixed Income



**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, 2019, and March 12, 2020. Results from the model may vary with each use and over time. For more information, please see the important information slide.

Source: Vanguard Capital Markets Model® (VCMM) as of 12/31/2019 and 3/12/2020.

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## Important information

**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 then applies a Monte Carlo simulation method to project the estimated interrelationships among risk factors and asset classes as well as uncertainty and randomness over time. 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 sets 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.

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## Important information

***For more information about any fund, visit [institutional.vanguard.com](https://institutional.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.***

***Vanguard ETF® Shares are not redeemable with the issuing fund other than in very large aggregations worth millions of dollars. Instead, investors must buy or sell Vanguard ETF Shares in the secondary market and hold those shares in a brokerage account. In doing so, the investor may incur brokerage commissions and may pay more than net asset value when buying and receive less than net asset value when selling.***

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