

Episcopal Foundation of Dallas

February 2020



Advice services offered through Vanguard Institutional Advisory Services® are provided by Vanguard Advisers, Inc., a registered investment advisor.

For institutional use only. Not for distribution to retail investors.

Agenda

- I. Financial Market Review
- II. Portfolio Performance
- III. Fees and Expenses
- IV. Asset Allocation Study
- V. International Equities
- VI. Economic and Market Overview

Presented by:

Geoffrey Hall, CFA, CAIA
Senior Investment Consultant
Vanguard Institutional Advisory Services®

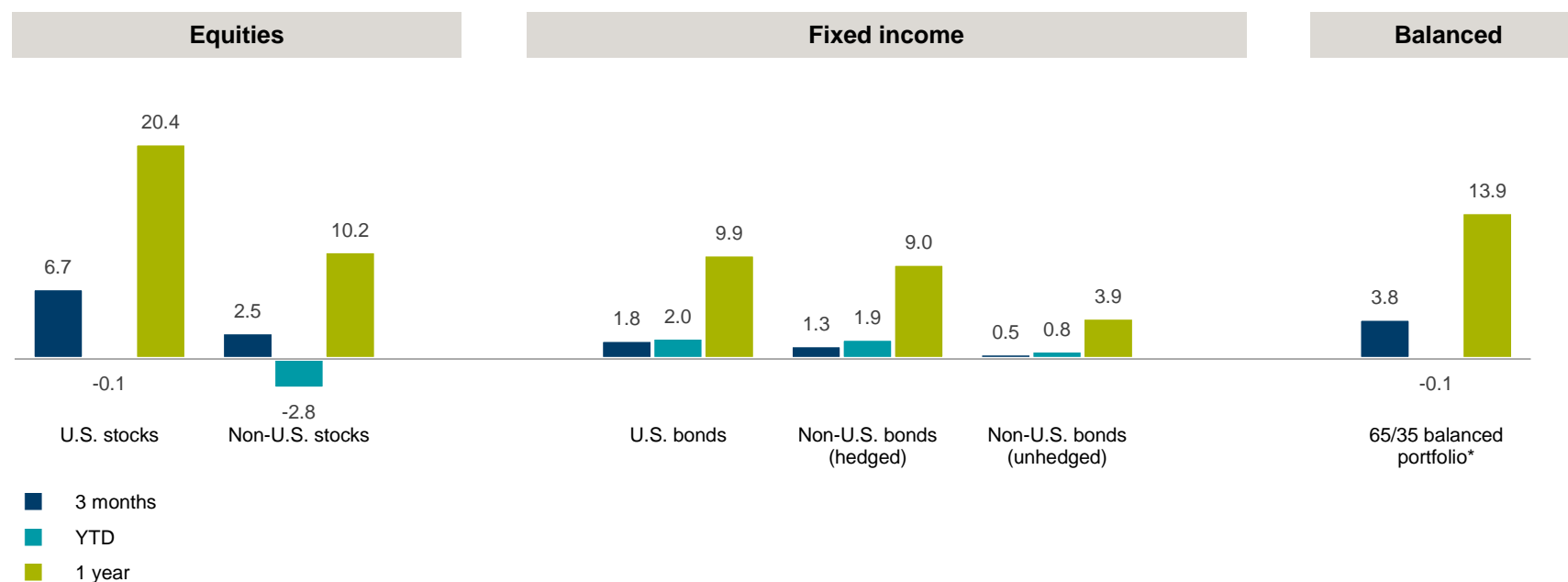
Chris Moore, CFA, CFP®
Investment Analyst
Vanguard Institutional Advisory Services®

Financial Market Review

Global markets produce exceptional returns in 2019

- Central bank easing in the second half of 2019 helped to maintain upward market momentum despite weaker economic data and ongoing uncertainty regarding trade relations
- Global equities stumbled to begin the new year, and also have lagged during the past 12 months
- Fixed income delivered generous returns; yields generally fell during the year, and credit conditions remained strong

Global market returns as of January 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.

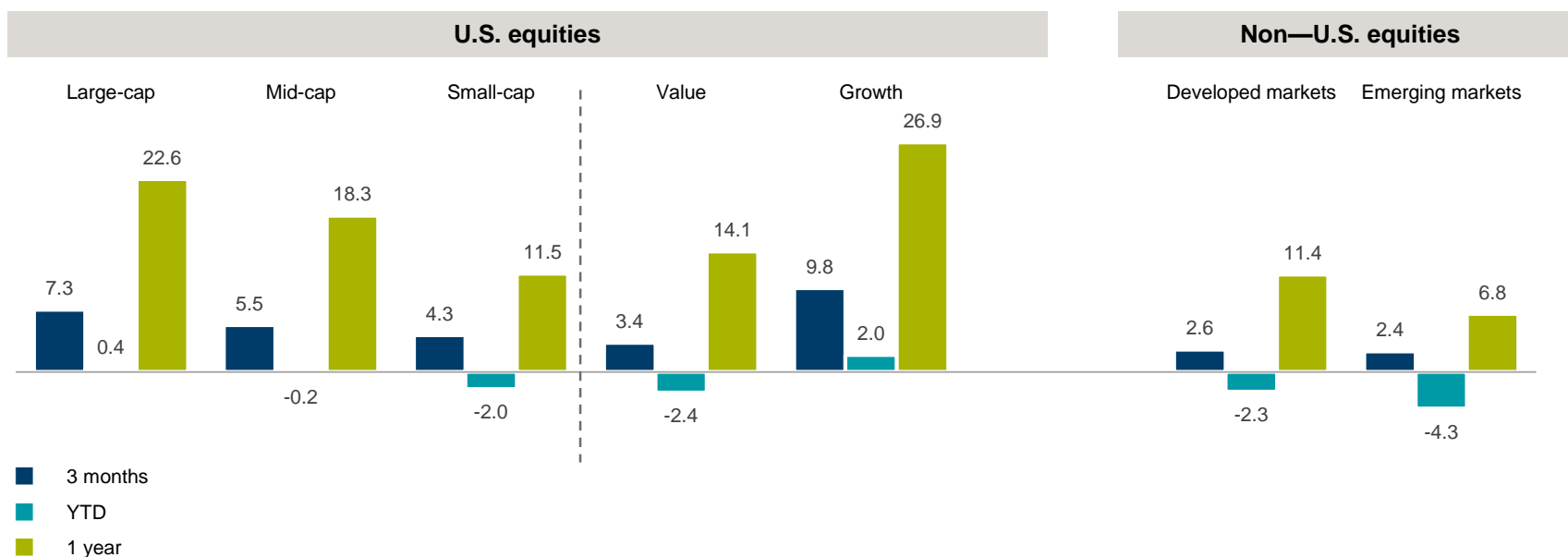
U.S. stocks (CRSP U.S. Total Market Index), non-U.S. stocks (FTSE Global All-Cap ex-US Index), U.S. bonds (Bloomberg Barclays U.S. Aggregate Float Adjusted Index), non-U.S. bonds hedged (Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Index hedged), non-U.S. bonds unhedged (Bloomberg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

- Large-cap stocks have delivered greater returns during the trailing 12 months compared to mid- and small-cap
- U.S. growth continued to outperform value stocks, extending its recent dominance of the last couple years
- In non-U.S. equity markets, both developed and emerging markets pulled back to start the new year, and 12-month returns have fallen short of the U.S. market

Global equity market returns as of January 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.

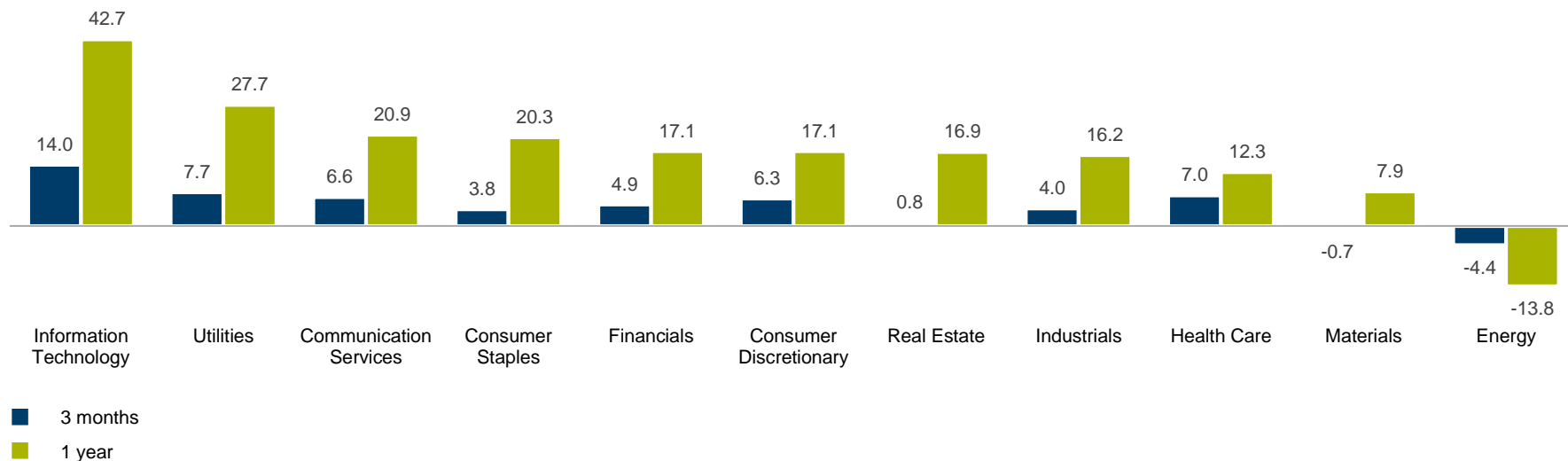
Sources: CRSP, FTSE, and Russell.

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—Strong returns across most industries

- All sectors but one delivered positive returns for the year as both growth and value sectors benefited from accommodative Fed policy, falling rates across the yield curve, and supportive economic conditions
- Wide divergence in 12-month returns between the top and bottom sectors illustrates the benefit of diversification
- Energy, at times volatile and negative during 2019, has turned negative again over the trailing 12 months, in contrast to the outsized returns earned in Information Technology

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



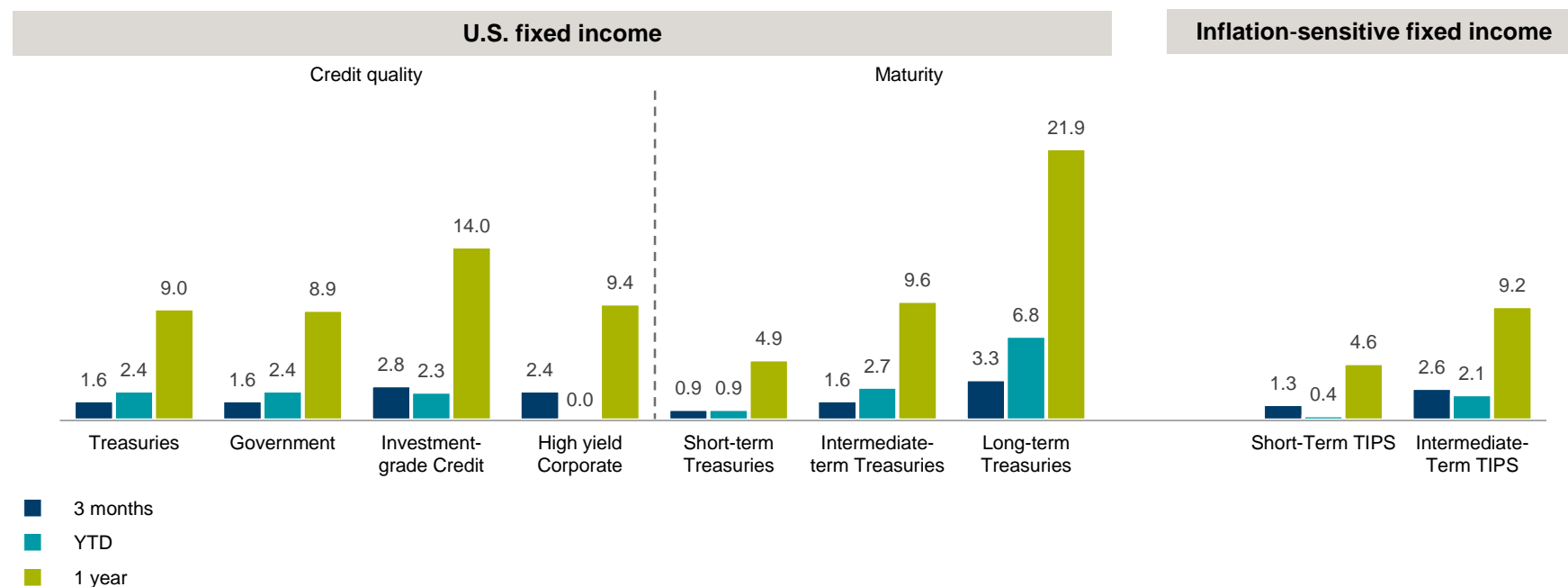
Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

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

Bonds extend positive results amid tame inflation

- Bonds began the new year on a positive note as yields generally fell across the yield curve
- Credit spreads have remained tight during the past three and 12 months, bolstering investment-grade and high-yield credit performance
- Long-term Treasuries have had strong performance given muted economic growth and inflation expectations

Domestic fixed income market returns as of January 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.

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 10 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 Incls Idx) |
| Bnd | Investment-grade U.S. bonds (BloomBarc US Aggregate Bond Index) |
| HY | High-yield U.S. bonds (BloomBarc US 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 December 31, 2019

| Name | Q4-19 | 1 Yr | 3 Yrs | 5 Yrs | 10 Yrs |
|---|-------|------|-------|-------|--------|
| US Equity | | | | | |
| CRSP US Total Market TR USD | 9.0 | 30.8 | 14.6 | 11.2 | 13.4 |
| S&P 500 | 9.1 | 31.5 | 15.3 | 11.7 | 13.6 |
| S&P 400 MidCap | 7.1 | 26.2 | 9.3 | 9.0 | 12.7 |
| S&P 600 SmallCap | 8.2 | 22.8 | 8.4 | 9.6 | 13.4 |
| International Equity | | | | | |
| MSCI Emerging Markets | 11.8 | 18.4 | 11.6 | 5.6 | 3.7 |
| MSCI Emerging Markets NR LCL | 9.5 | 18.1 | 11.5 | 7.5 | 6.1 |
| MSCI EAFE | 8.2 | 22.0 | 9.6 | 5.7 | 5.5 |
| MSCI EAFE NR LCL | 5.2 | 21.7 | 7.7 | 6.7 | 7.2 |
| MSCI ACWI ex USA | 8.9 | 21.5 | 9.9 | 5.5 | 5.0 |
| Fixed Income Domestic | | | | | |
| BBgBarc US Aggregate TR | 0.2 | 8.7 | 4.0 | 3.0 | 3.7 |
| BBgBarc US Corporate 1-5 Years TR | 1.0 | 7.0 | 3.5 | 2.9 | 3.3 |
| BBgBarc US Credit/Corp 5-10 Yr TR | 1.3 | 14.3 | 5.9 | 4.8 | 5.9 |
| BBgBarc US Corporate Long TR | 1.3 | 23.9 | 8.8 | 6.4 | 8.0 |
| BBgBarc US Govt/Credit Long TR | -1.1 | 19.6 | 8.1 | 5.4 | 7.6 |
| BBgBarc US Treasury Strips 20-30 Yr Equal Parity TR | -5.9 | 20.1 | 9.3 | 4.9 | 10.1 |
| BBgBarc US High Yield TR | 2.6 | 14.3 | 6.4 | 6.1 | 7.6 |
| BBgBarc US Govt TR | -0.8 | 6.8 | 3.3 | 2.4 | 3.0 |
| BBgBarc US Credit TR | 1.1 | 13.8 | 5.8 | 4.4 | 5.3 |
| BBgBarc US Treasury 1-5 Yr TR | 0.3 | 4.2 | 2.1 | 1.7 | 1.7 |
| BBgBarc US Treasury 5-10 Yr TR | -0.8 | 7.5 | 3.6 | 2.7 | 4.0 |
| BBgBarc US Treasury Long TR | -4.1 | 14.8 | 6.9 | 4.1 | 7.0 |
| BBgBarc US Treasury TIPS 0-5 Yr TR | 1.1 | 4.9 | 2.1 | 1.8 | 1.6 |
| BBgBarc US TIPS TR | 0.8 | 8.4 | 3.3 | 2.6 | 3.4 |
| Fixed Income International | | | | | |
| BBgBarc Global Aggregate ex US Tres Hedged TR | -1.1 | 7.6 | 4.4 | 3.9 | 4.3 |
| BBgBarc Emerging Markets TR | 2.1 | 13.1 | 6.1 | 5.8 | 6.6 |
| REIT | | | | | |
| MSCI US REIT Gross | -0.8 | 25.8 | 8.1 | 7.0 | 11.9 |

Portfolio Performance

PREPARED FOR

EPISCOPAL FOUNDATION OF DALLAS

Quarterly Performance Report

Period Ending December 31, 2019

For institutional use only. Not for distribution to retail investors.



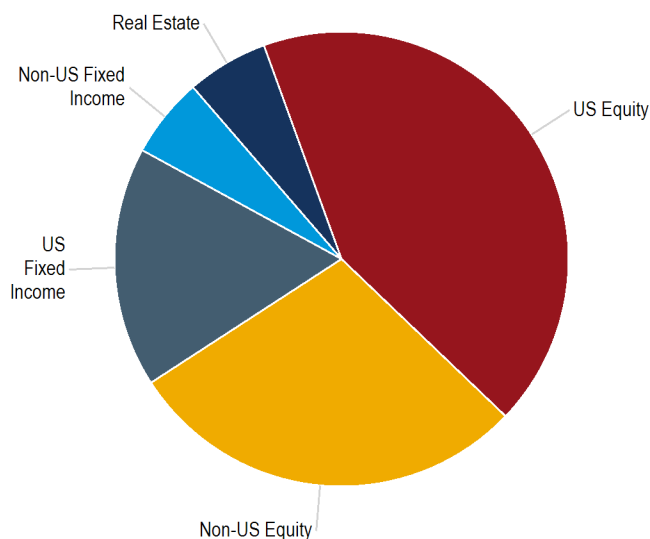
Total Portfolio Performance & Asset Allocation

Performance Summary ending December 31, 2019

| | Market Value (\$) | 2019 Q4 (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | Inception (%) | Inception Date |
|---|----------------------|-------------------|--------------|--------------|--------------|---------------|------------------|-------------------|
| EPISCOPAL FOUNDATION OF DALLAS | 39,302,262 | 7.14 | 22.85 | 10.95 | -- | -- | 8.34 | Jun-15 |
| EPISCOPAL FOUNDATION OF DALLAS (Net) | | 7.11 | 22.73 | 10.83 | -- | -- | 8.23 | |
| Composite Benchmark | | 6.32 | 22.85 | 10.54 | -- | -- | 8.23 | 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 December 31, 2019



| | Current \$ | Current % | Policy | Difference* |
|---------------------|---------------------|---------------|---------------|-------------|
| US Equity | \$16,791,630 | 42.7% | 42.0% | 0.7% |
| Non-US Equity | \$11,280,265 | 28.7% | 28.0% | 0.7% |
| US Fixed Income | \$6,728,395 | 17.1% | 18.0% | -0.9% |
| Non-US Fixed Income | \$2,237,079 | 5.7% | 6.0% | -0.3% |
| Real Estate | \$2,264,894 | 5.8% | 6.0% | -0.2% |
| Total | \$39,302,262 | 100.0% | 100.0% | |

*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.

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

| | Market Value (\$) | % of Portfolio | 2019 Q4 (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | Inception (%) | Inception Date |
|--|----------------------|-------------------|-------------------|--------------|--------------|--------------|---------------|------------------|-------------------|
| EPISCOPAL FOUNDATION OF DALLAS | 39,302,262 | 100.00 | 7.14 | 22.85 | 10.95 | -- | -- | 8.34 | Jun-15 |
| EPISCOPAL FOUNDATION OF DALLAS (Net) | | | 7.11 | 22.73 | 10.83 | -- | -- | 8.23 | |
| Composite Benchmark | | | 6.32 | 22.85 | 10.54 | -- | -- | 8.23 | Jun-15 |
| Total Equity | 28,071,894 | 71.43 | 10.21 | 27.47 | 13.39 | -- | -- | 9.64 | Jun-15 |
| Equity Domestic | 16,791,630 | 42.72 | 10.18 | 30.03 | 14.39 | -- | -- | 11.79 | Jun-15 |
| Spliced Total Stock Market Index | | | 9.00 | 30.84 | 14.56 | 11.21 | 13.44 | 12.06 | Jun-15 |
| Equity International | 11,280,265 | 28.70 | 10.27 | 23.64 | 11.82 | -- | -- | 6.38 | Jun-15 |
| Spliced Total International Stock Index | | | 9.26 | 21.80 | 9.84 | 5.84 | 5.13 | 5.40 | Jun-15 |
| Total Fixed Income | 8,965,474 | 22.81 | -0.07 | 8.45 | 4.07 | -- | -- | 3.69 | Jun-15 |
| Fixed Income Domestic | 6,728,395 | 17.12 | 0.33 | 8.65 | 3.98 | -- | -- | 3.47 | Jun-15 |
| Spliced Bloomberg Barclays US Aggregate Float Adjusted Index | | | 0.14 | 8.87 | 4.08 | 3.07 | 3.78 | 3.45 | Jun-15 |
| Fixed Income International | 2,237,079 | 5.69 | -1.28 | 7.88 | 4.35 | -- | -- | 4.36 | Jun-15 |
| Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged | | | -1.25 | 8.06 | 4.57 | 3.98 | -- | 4.61 | Jun-15 |
| Total Real Estate | 2,264,894 | 5.76 | 0.62 | 28.94 | 8.37 | -- | -- | 9.55 | Jun-15 |
| Real Estate Domestic | 2,264,894 | 5.76 | 0.62 | 28.94 | 8.37 | -- | -- | 9.55 | Jun-15 |
| Real Estate Spliced Index | | | 0.65 | 29.03 | 8.46 | 7.27 | 12.06 | 9.66 | 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.

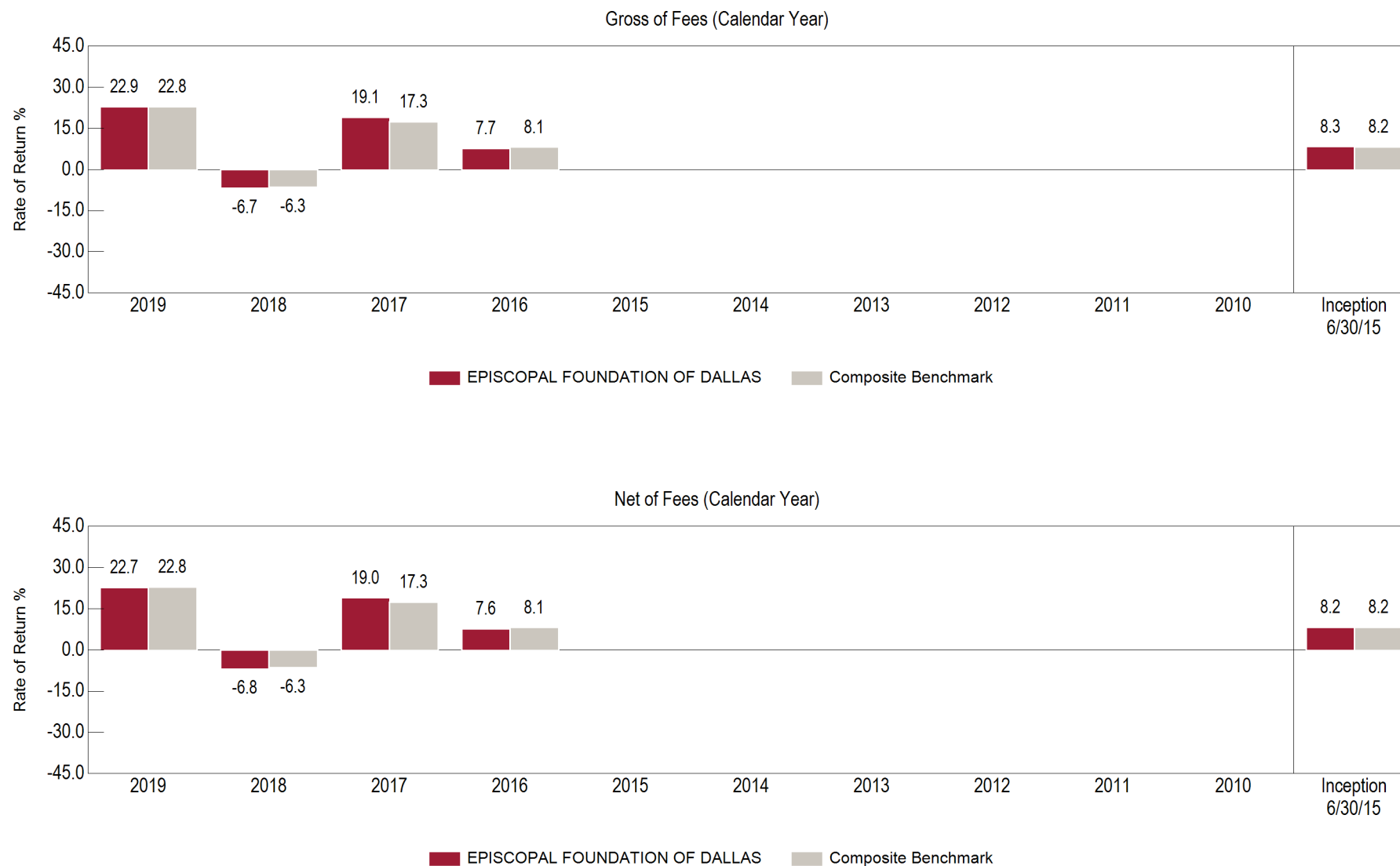
Performance Summary (Gross of Advisory Fees) ending December 31, 2019

| | Market Value (\$) | % of Portfolio | 2019 Q4 (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | Inception (%) | Inception Date |
|--|----------------------|-------------------|-------------------|--------------|--------------|--------------|---------------|------------------|-------------------|
| EPISCOPAL FOUNDATION OF DALLAS | 39,302,262 | 100.00 | 7.14 | 22.85 | 10.95 | -- | -- | 8.34 | Jun-15 |
| Composite Benchmark | | | 6.32 | 22.85 | 10.54 | -- | -- | 8.23 | Jun-15 |
| Total Equity | 28,071,894 | 71.43 | 10.21 | 27.47 | 13.39 | -- | -- | 9.64 | Jun-15 |
| Equity Domestic | 16,791,630 | 42.72 | 10.18 | 30.03 | 14.39 | -- | -- | 11.79 | Jun-15 |
| Spliced Total Stock Market Index | | | 9.00 | 30.84 | 14.56 | 11.21 | 13.44 | 12.06 | Jun-15 |
| Vanguard® Total Stock Market Index Fund Institutional Shares | 8,395,513 | 21.36 | 9.01 | 30.81 | 14.55 | 11.21 | 13.43 | 12.06 | Jun-15 |
| Spliced Total Stock Market Index | | | 9.00 | 30.84 | 14.56 | 11.21 | 13.44 | 12.06 | Jun-15 |
| Multi-Cap Core Funds Average | | | 8.00 | 27.71 | 11.88 | 8.56 | 10.93 | 9.13 | Jun-15 |
| Vanguard® Windsor™ Fund Admiral™ Shares | 4,206,563 | 10.70 | 10.65 | 30.52 | 10.88 | 8.24 | 11.70 | 8.54 | Jun-15 |
| Russell 1000 Value | | | 7.41 | 26.54 | 9.68 | 8.29 | 11.80 | 9.40 | Jun-15 |
| Multi-Cap Value Funds Average | | | 7.49 | 24.80 | 8.46 | 7.12 | 10.27 | 7.77 | Jun-15 |
| Vanguard® PRIMECAP Fund Admiral™ Shares | 4,189,554 | 10.66 | 12.06 | 27.88 | 17.57 | 13.05 | 14.67 | 14.42 | Jun-15 |
| Russell 1000 Growth | | | 10.62 | 36.39 | 20.49 | 14.63 | 15.22 | 15.38 | Jun-15 |
| Multi-Cap Growth Funds Average | | | 9.02 | 31.76 | 17.59 | 11.38 | 12.64 | 11.55 | Jun-15 |
| Equity International | 11,280,265 | 28.70 | 10.27 | 23.64 | 11.82 | -- | -- | 6.38 | Jun-15 |
| Spliced Total International Stock Index | | | 9.26 | 21.80 | 9.84 | 5.84 | 5.13 | 5.40 | Jun-15 |
| Vanguard® Total International Stock Index Fund Inst Shares | 5,646,421 | 14.37 | 9.05 | 21.56 | 9.90 | 5.88 | 5.13 | 5.31 | Jun-15 |
| Spliced Total International Stock Index | | | 9.26 | 21.80 | 9.84 | 5.84 | 5.13 | 5.40 | Jun-15 |
| International Funds Average | | | 9.03 | 23.01 | 9.58 | 5.48 | 5.26 | 4.76 | Jun-15 |
| Vanguard® International Value Fund | 2,823,202 | 7.18 | 8.77 | 20.39 | 9.61 | 5.17 | 4.91 | 4.53 | Jun-15 |
| Spliced International Index | | | 8.92 | 21.51 | 9.87 | 5.51 | 4.68 | 5.21 | Jun-15 |
| International Funds Average | | | 9.03 | 23.01 | 9.58 | 5.48 | 5.26 | 4.76 | Jun-15 |
| Vanguard® International Growth Fund Admiral™ Shares | 2,810,642 | 7.15 | 14.29 | 31.48 | 18.06 | 10.76 | 8.84 | 10.41 | Jun-15 |
| Spliced International Index | | | 8.92 | 21.51 | 9.87 | 5.51 | 4.68 | 5.21 | Jun-15 |
| International Funds Average | | | 9.03 | 23.01 | 9.58 | 5.48 | 5.26 | 4.76 | Jun-15 |
| Total Fixed Income | 8,965,474 | 22.81 | -0.07 | 8.45 | 4.07 | -- | -- | 3.69 | Jun-15 |
| Fixed Income Domestic | 6,728,395 | 17.12 | 0.33 | 8.65 | 3.98 | -- | -- | 3.47 | Jun-15 |
| Spliced Bloomberg Barclays US Aggregate Float Adjusted Index | | | 0.14 | 8.87 | 4.08 | 3.07 | 3.78 | 3.45 | Jun-15 |

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

| | Market Value (\$) | % of Portfolio | 2019 Q4 (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | Inception (%) | Inception Date |
|---|----------------------|-------------------|-------------------|--------------|--------------|--------------|---------------|------------------|-------------------|
| Vanguard® Total Bond Market Index Fund Admiral™ Shares | 3,370,857 | 8.58 | 0.03 | 8.71 | 4.02 | 3.00 | 3.68 | 3.38 | Jun-15 |
| Spliced Bloomberg Barclays US Aggregate Float Adjusted Index | | | 0.14 | 8.87 | 4.08 | 3.07 | 3.78 | 3.45 | Jun-15 |
| Spliced Intermediate-Term Investment-Grade Debt Funds Average | | | 0.21 | 8.69 | 3.78 | 2.84 | 3.80 | 3.17 | Jun-15 |
| Vanguard® Inter-Term Investment-Grade Fund Adm™ Shares | 2,262,772 | 5.76 | 0.64 | 10.49 | 4.66 | 3.90 | 5.11 | 4.18 | Jun-15 |
| BBgBarc US Credit 5-10 Yr TR | | | 1.18 | 13.90 | 5.79 | 4.64 | 5.79 | 5.04 | Jun-15 |
| Spliced Core Bond Funds Average | | | 0.21 | 8.69 | 3.78 | 2.84 | 3.80 | 3.17 | Jun-15 |
| Vanguard® Short-Term Investment-Grade Fund Adm™ Shares | 1,094,766 | 2.79 | 0.63 | 5.84 | 2.96 | 2.56 | 2.76 | 2.63 | Jun-15 |
| BBgBarc US Credit 1-5 Yr TR | | | 0.84 | 6.58 | 3.31 | 2.71 | 3.07 | 2.78 | Jun-15 |
| 1-5 Year Investment-Grade Debt Funds Average | | | 0.57 | 4.68 | 2.42 | 1.93 | 2.15 | 1.99 | Jun-15 |
| Fixed Income International | 2,237,079 | 5.69 | -1.28 | 7.88 | 4.35 | -- | -- | 4.36 | Jun-15 |
| Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged | | | -1.25 | 8.06 | 4.57 | 3.98 | -- | 4.61 | Jun-15 |
| Vanguard® Total International Bond Index Fund Adm™ Shares | 2,237,079 | 5.69 | -1.28 | 7.88 | 4.35 | 3.75 | -- | 4.37 | Jun-15 |
| Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Hedged | | | -1.25 | 8.06 | 4.57 | 3.98 | -- | 4.61 | Jun-15 |
| International Income Funds Average | | | 1.00 | 6.36 | 4.15 | 1.98 | 2.38 | 2.95 | Jun-15 |
| Total Real Estate | 2,264,894 | 5.76 | 0.62 | 28.94 | 8.37 | -- | -- | 9.55 | Jun-15 |
| Real Estate Domestic | 2,264,894 | 5.76 | 0.62 | 28.94 | 8.37 | -- | -- | 9.55 | Jun-15 |
| Real Estate Spliced Index | | | 0.65 | 29.03 | 8.46 | 7.27 | 12.06 | 9.66 | Jun-15 |
| Vanguard® Real Estate Index Fund Admiral™ Shares | 2,264,894 | 5.76 | 0.62 | 28.94 | 8.37 | 7.17 | 11.97 | 9.55 | Jun-15 |
| Real Estate Spliced Index | | | 0.65 | 29.03 | 8.46 | 7.27 | 12.06 | 9.66 | Jun-15 |
| Real Estate Funds Average | | | 0.43 | 26.64 | 7.90 | 6.52 | 11.12 | 8.54 | 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

| | Fourth Quarter | Year-To-Date | One Year |
|------------------------|----------------|--------------|--------------|
| Beginning Market Value | \$37,345,696 | \$34,586,939 | \$34,586,939 |
| Net Cash Flow | -\$696,784 | -\$2,946,787 | -\$2,946,787 |
| Capital Appreciation | \$2,204,720 | \$6,736,132 | \$6,736,132 |
| Income | \$448,631 | \$925,979 | \$925,979 |
| Ending Market Value | \$39,302,262 | \$39,302,262 | \$39,302,262 |

Quarter Ending December 31, 2019

| | Beginning Market Value | Net Cash Flow | Capital Appreciation | Income | Ending Market Value |
|--|---------------------------|-------------------|-------------------------|------------------|------------------------|
| Vanguard® Inter-Term Investment-Grade Fund Adm™ Shares | \$2,248,282 | \$0 | -\$2,263 | \$16,752 | \$2,262,772 |
| Vanguard® International Growth Fund Admiral™ Shares | \$2,558,835 | -\$111,128 | \$326,078 | \$36,857 | \$2,810,642 |
| Vanguard® International Value Fund | \$2,622,390 | -\$27,964 | \$147,598 | \$81,177 | \$2,823,202 |
| Vanguard® PRIMECAP Fund Admiral™ Shares | \$3,912,337 | -\$187,959 | \$414,421 | \$50,755 | \$4,189,554 |
| Vanguard® Real Estate Index Fund Admiral™ Shares | \$2,250,899 | \$0 | -\$9,103 | \$23,098 | \$2,264,894 |
| Vanguard® Short-Term Investment-Grade Fund Adm™ Shares | \$1,098,108 | -\$10,219 | -\$1,037 | \$7,915 | \$1,094,766 |
| Vanguard® Total Bond Market Index Fund Admiral™ Shares | \$3,369,915 | \$0 | -\$21,287 | \$22,229 | \$3,370,857 |
| Vanguard® Total International Bond Index Fund Adm™ Shares | \$2,266,056 | \$0 | -\$85,014 | \$56,037 | \$2,237,079 |
| Vanguard® Total International Stock Index Fund Inst Shares | \$5,231,678 | -\$56,281 | \$407,990 | \$63,034 | \$5,646,421 |
| Vanguard® Total Stock Market Index Fund Institutional Shares | \$7,858,998 | -\$167,953 | \$659,027 | \$45,441 | \$8,395,513 |
| Vanguard® Windsor™ Fund Admiral™ Shares | \$3,928,198 | -\$135,279 | \$368,308 | \$45,336 | \$4,206,563 |
| Total | \$37,345,696 | -\$696,784 | \$2,204,720 | \$448,631 | \$39,302,262 |

Benchmark History as of December 31, 2019

| 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 |
| 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 |
| Fixed Income Domestic | | |
| 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 | | |

Benchmark History as of December 31, 2019

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

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

| Episcopal Foundation of Dallas - Aggregated Performance Summary | | | | | | | | |
|--|---------------------|----------------------|--------------|---------------|---------------|---------------|--------------|-----------------|
| as-of December 31, 2019 | | | | | | | | |
| | Market Value* | Portfolio Allocation | Three-Month | Year-to-Date | One-Year | Three-Year | Five-Year | Since Inception |
| Vanguard | \$39,302,262 | 100.00% | 7.11% | 22.73% | 22.73% | 10.83% | - | 8.23% |
| Vanguard Composite Benchmark | | | 6.32% | 22.85% | 22.85% | 10.54% | - | 8.23% |
| Aggregate Portfolio (net of EFD fee)* | \$39,302,262 | 100.00% | 6.97% | 22.12% | 22.12% | 10.25% | 7.77% | 8.32% |
| Aggregate Composite Benchmark* | | | 6.32% | 22.85% | 22.85% | 10.54% | 8.09% | 9.27% |
| <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 December 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.</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> | | | | | | | | |

Legal

For more information about Vanguard funds or non-Vanguard funds offered through Vanguard Brokerage Services, visit vanguard.com or call your Investment Consultant or Relationship Manager 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. Total Portfolio Net of Fees returns reflect the deduction of fund expense ratios, purchase or redemption fees, and any advisory service fee applied to the client portfolio.

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.

The index is a product of S&P Dow Jones Indices LLC ("SPDJI"), and has been licensed for use by Vanguard. Standard & Poor's® and S&P® are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"); Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"); S&P® and S&P 500® are trademarks of S&P; and these trademarks have been licensed for use by SPDJI and sublicensed for certain purposes by Vanguard. Vanguard product(s) are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have any liability for any errors, omissions, or interruptions of the index

The funds or securities referred to herein are not sponsored, endorsed, or promoted by MSCI, and MSCI bears no liability with respect to any such funds or securities. For any such funds or securities, the prospectus or the Statement of Additional Information contains a more detailed description of the limited relationship MSCI has with The Vanguard Group and any related funds.

The Russell Indexes and Russell® are registered trademarks of Russell Investments and have been licensed for use by The Vanguard Group. The products are not sponsored, endorsed, sold or promoted by Russell Investments and Russell Investments makes no representation regarding the advisability of investing in the products.

London Stock Exchange Group companies include FTSE International Limited ("FTSE"), Frank Russell Company ("Russell"), MTS Next Limited ("MTS"), and FTSE TMX Global Debt Capital Markets Inc. ("FTSE TMX"). All rights reserved. "FTSE®", "Russell®", "MTS®", "FTSE TMX®" and "FTSE Russell" and other service marks and trademarks related to the FTSE or Russell indexes are trademarks of the London Stock Exchange Group companies and are used by FTSE, MTS, FTSE TMX and Russell under license. All information is provided for information purposes only. No responsibility or liability can be accepted by the London Stock Exchange Group companies nor its licensors for any errors or for any loss from use of this publication. Neither the London Stock Exchange Group companies nor any of its licensors make any claim, prediction, warranty or representation whatsoever, expressly or impliedly, either as to the results to be obtained from the use of the FTSE Indexes or the fitness or suitability of the Indexes for any particular purpose to which they might be put.

BLOOMBERG® is a trademark and service mark of Bloomberg Finance L.P. BARCLAYS® is a trademark and service mark of Barclays Bank Plc, used under license. Bloomberg Finance L.P. and its affiliates, including Bloomberg Index Services Limited ("BISL") (collectively, "Bloomberg"), or Bloomberg's licensors own all proprietary rights in the Bloomberg Barclays Indices.

The products are not sponsored, endorsed, issued, sold or promoted by "Bloomberg or Barclays". Bloomberg and Barclays make no representation or warranty, express or implied, to the owners or purchasers of the products or any member of the public regarding the advisability of investing in securities generally or in the products particularly or the ability of the Bloomberg Barclays Indices to track general bond market performance. Neither Bloomberg nor Barclays has passed on the legality or suitability of the products with respect to any person or entity. Bloomberg's only relationship to Vanguard and the products are the licensing of the Bloomberg Barclays Indices which are determined, composed and calculated by BISL without regard to Vanguard or the products or any owners or purchasers of the products. Bloomberg has no obligation to take the needs of the products into consideration in determining, composing or calculating the Bloomberg Barclays Indices. Neither Bloomberg nor Barclays is responsible for and has not participated in the determination of the timing of, prices at, or quantities of the products to be issued. Neither Bloomberg nor Barclays has any obligation or liability in connection with the administration, marketing or trading of the products.

The performance data shown represents past performance, which is not a guarantee of future results. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index. For performance data current to the most recent quarter-end, visit our website at www.vanguard.com/performance.

© 2019 The Vanguard Group, Inc. All rights reserved. Vanguard Marketing Corporation, Distributor of the Vanguard Funds. Advice offered through Vanguard Institutional Advisory Services (VIAS) are provided by Vanguard Advisors, Inc., a registered investment advisor.

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 % | \$39.3 million |
|--------------------------------------|---------------|------------------|
| Management fee | 0.108% | \$42,442 |
| Fund expenses* | 0.150% | \$58.953 |
| 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 | 0.258% | \$101,395 |

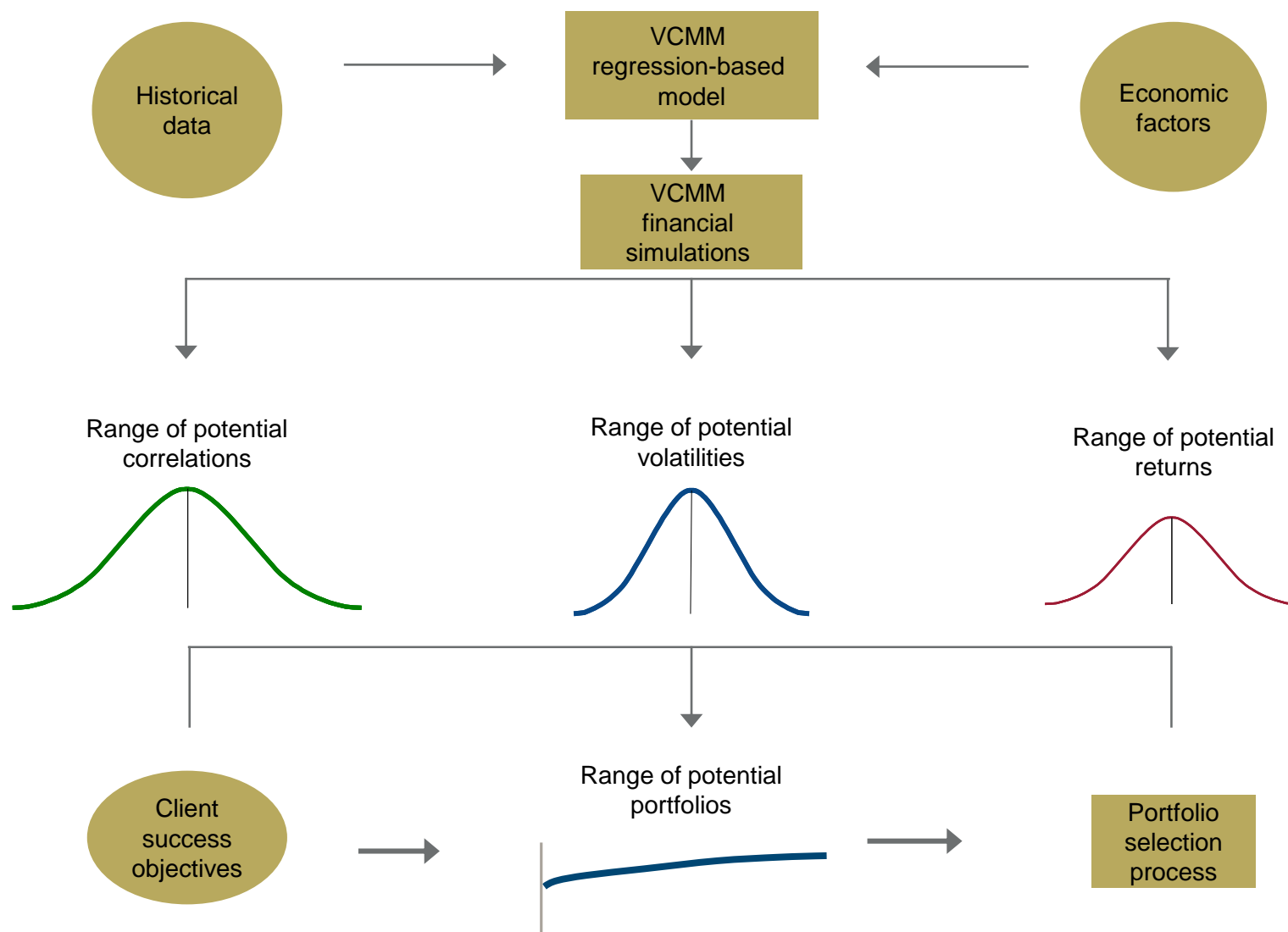
* These costs are estimated. Actual weighted annual expense ratio is determined by the actual funds chosen for the portfolio. Importantly, there are no sales commissions or 12b-1 fees for Vanguard funds. The cost of our investment management services (i.e., custodial fees, manager costs, trading costs) 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 December 31, 2019

| Name | Market Value | % of Portfolio | Expense Ratio |
|--|---------------------|----------------|---------------|
| Total Equity | \$28,071,894 | 71.4% | |
| Equity Domestic | \$16,791,630 | 42.7% | |
| Vanguard® Total Stock Market Index Fund Institutional Shares | \$8,395,513 | 21.4% | 0.030% |
| Vanguard® Windsor™ Fund Admiral™ Shares | \$4,206,563 | 10.7% | 0.210% |
| Vanguard® PRIMECAP Fund Admiral™ Shares | \$4,189,554 | 10.7% | 0.310% |
| Equity International | \$11,280,265 | 28.7% | |
| Vanguard® International Value Fund | \$2,823,202 | 7.2% | 0.380% |
| Vanguard® International Growth Fund Admiral™ Shares | \$2,810,642 | 7.2% | 0.320% |
| Vanguard® Total International Stock Index Fund Inst Shares | \$5,646,421 | 14.4% | 0.080% |
| Total Fixed Income | \$8,965,474 | 22.8% | |
| Fixed Income Domestic | \$6,728,395 | 17.1% | |
| Vanguard® Short-Term Investment-Grade Fund Adm™ Shares | \$1,094,766 | 2.8% | 0.100% |
| Vanguard® Total Bond Market Index Fund Admiral™ Shares | \$3,370,857 | 8.6% | 0.050% |
| Vanguard® Inter-Term Investment-Grade Fund Adm™ Shares | \$2,262,772 | 5.8% | 0.100% |
| Fixed Income International | \$2,237,079 | 5.7% | |
| Vanguard® Total International Bond Index Fund Adm™ Shares | \$2,237,079 | 5.7% | 0.110% |
| Total Real Estate | \$2,264,894 | 5.8% | |
| Real Estate Domestic | \$2,264,894 | 5.8% | |
| Vanguard® Real Estate Index Fund Admiral™ Shares | \$2,264,894 | 5.8% | 0.120% |
| Total | \$39,302,262 | 100.0% | 0.150% |

Asset Allocation Study

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

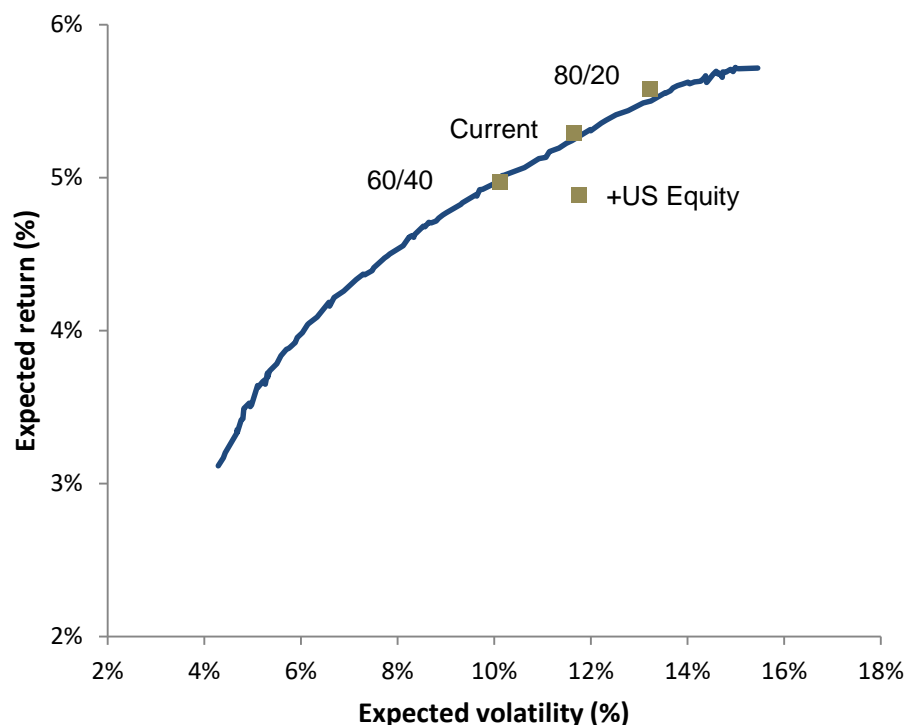
Asset classes and frontier constraints:

- U.S. Equity
- Non-U.S. 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
- Real Estate: up to 10% of Total Portfolio

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

Efficient frontier



| Asset classes | 60/40 | Current | 70/30 + US Equity | 80/20 |
|---------------------------------|---------|---------|-------------------------|---------|
| U.S. Equity | 36% | 42% | 56% | 48% |
| Non U.S. Equity | 24% | 28% | 14% | 32% |
| U.S. Aggregate Bonds | 12.75% | 9% | 9% | 6% |
| Non U.S. Bonds | 8.5% | 6% | 6% | 4% |
| Total Credit Bonds | 12.75% | 9% | 9% | 4% |
| Real Estate | 6% | 6% | 6% | 6% |
| Median expected outcomes | | | | |
| Returns | 4.97% | 5.29% | 4.89% | 5.58% |
| Real returns | 3.54% | 3.85% | 3.45% | 4.14% |
| Volatility | 10.11% | 11.66% | 11.75% | 13.23% |
| Sharpe ratio | 0.29 | 0.28 | 0.24 | 0.27 |
| EQ/FI/RE (%) | 60/34/6 | 70/24/6 | 70/24/6 | 80/14/6 |

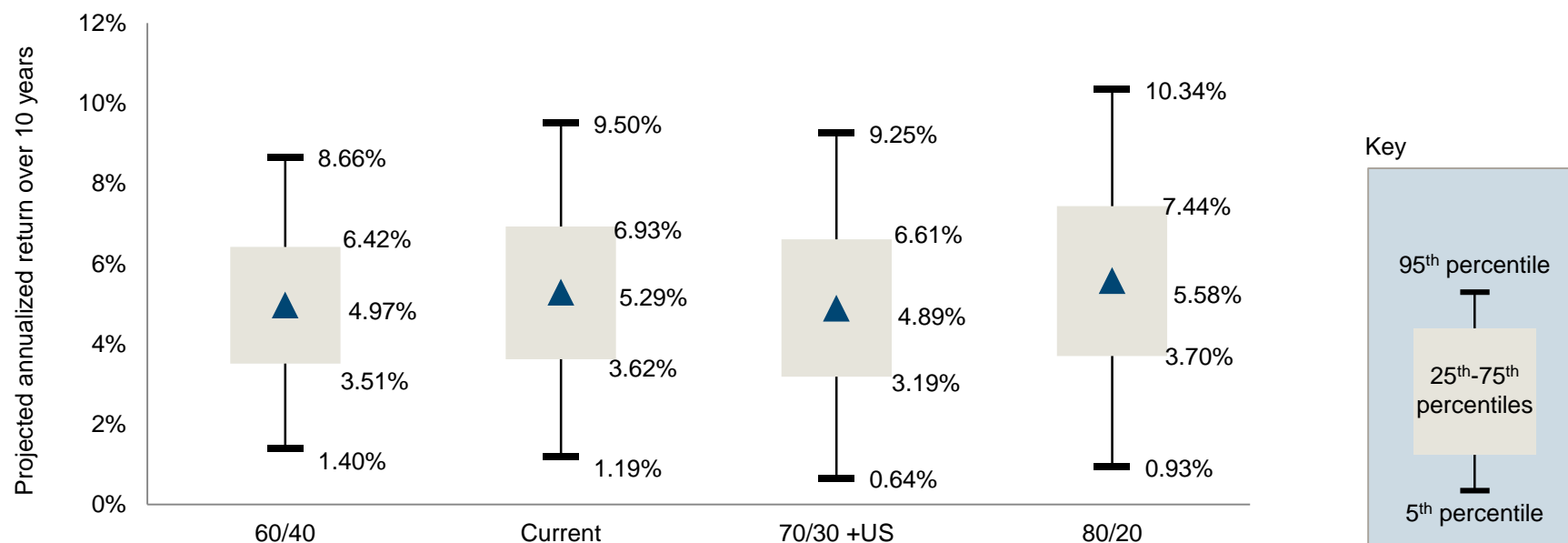
Note: Returns, real returns, and Sharpe ratio listed above represent the median value for 10,000 scenarios. The Sharpe ratio calculates return (or reward) per unit of risk; $(R_x - r_f) / \sigma_{(x-r)}$; R_f = cash. The risk-free rate is based on VCMM's projections for cash.

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 September 30, 2019. Results from the model may vary with each use and over time. For more information on VCMM, see the Important Information slide.

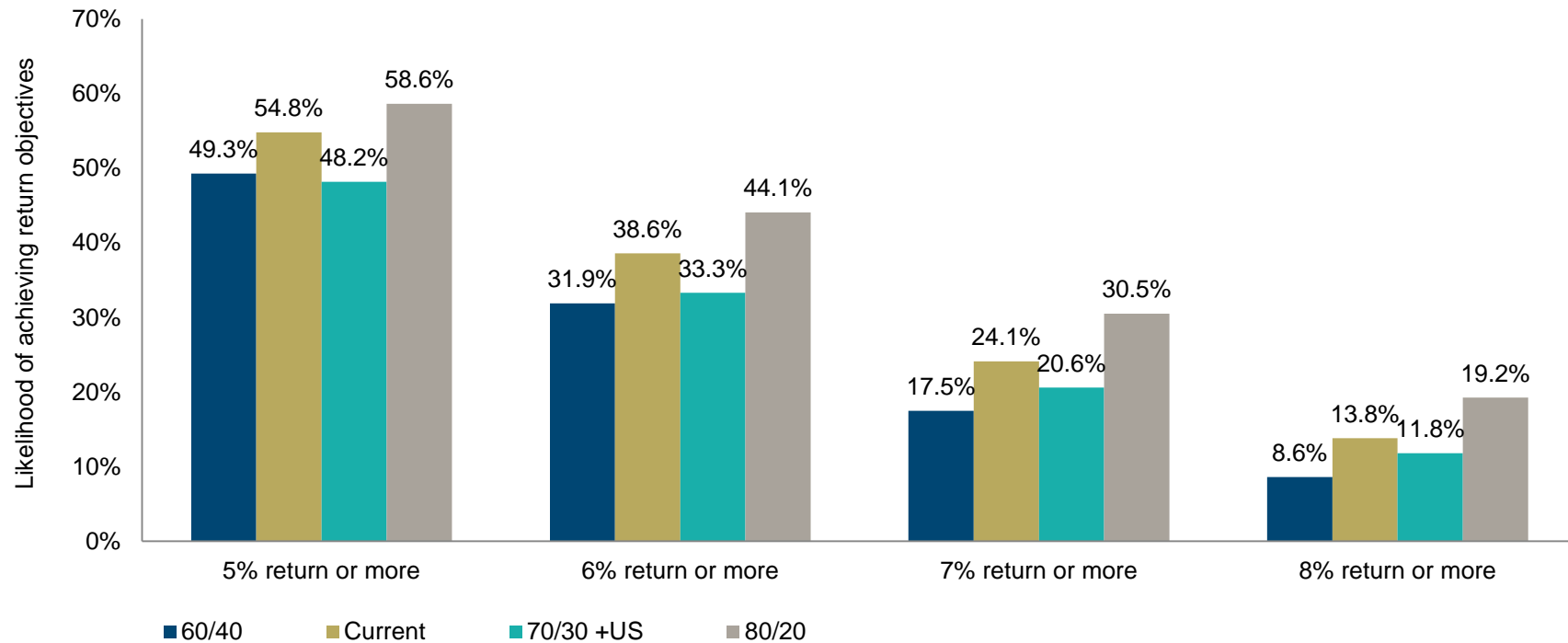
Portfolio nominal return analysis

- The 60/40 portfolio has the narrowest range of projected returns with the lowest projected volatility as it has the lowest exposure to equities
- Conversely, the 80/20 portfolio 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

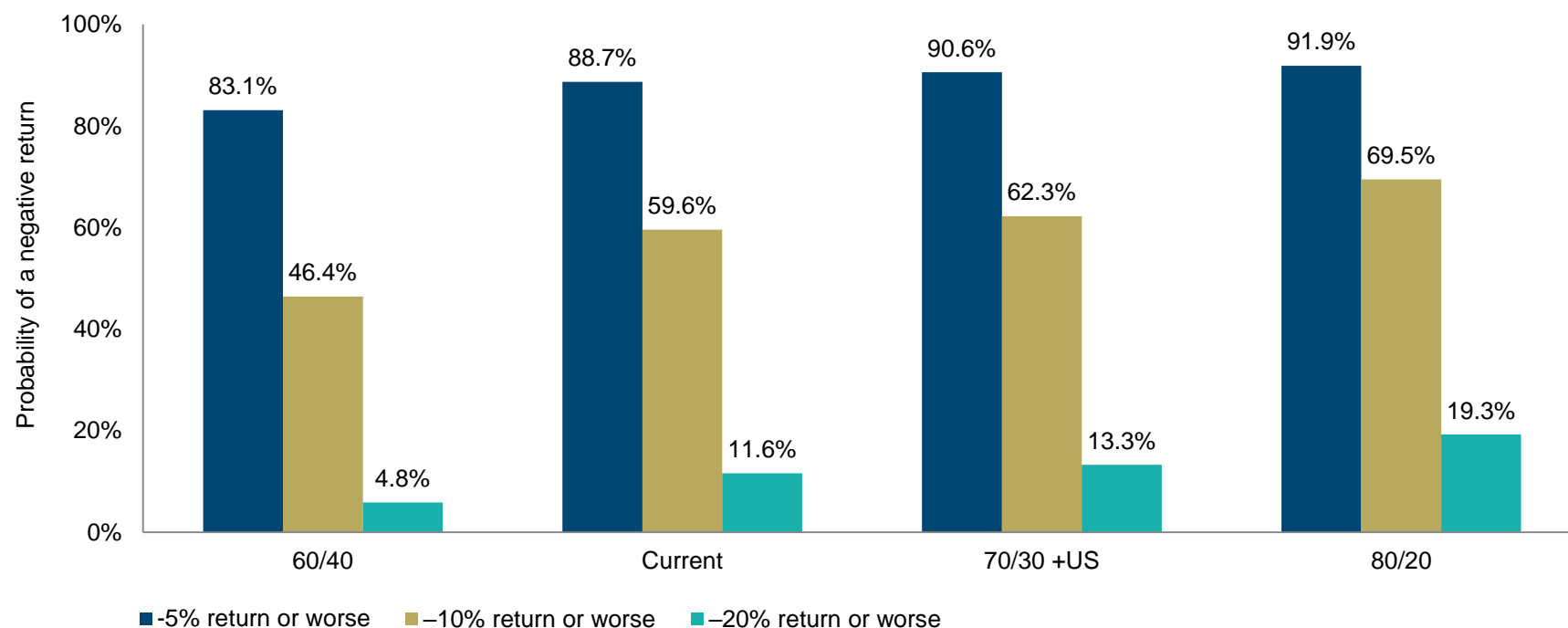
- Below, several return objectives are examined to demonstrate the ability to consistently meet a target rate of return; the probabilities of achieving a designated return objective increase with the level of equity exposure



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

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.

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.

Important information

For more information about Vanguard funds or non-Vanguard funds offered through Vanguard Brokerage Services, 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.

An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although a money market fund seeks to preserve the value of your investment at \$1 per share, it is possible to lose money by investing in such a fund.

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.

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.

Investments in bond funds are subject to the risk that an issuer will fail to make payments on time, and that bond prices will decline because of rising interest rates or negative perceptions of an issuer's ability to make payments. High-yield bonds generally have medium- and lower-range credit quality ratings and are therefore subject to a higher level of credit risk than bonds with higher credit quality ratings. Although the income from a municipal bond fund is exempt from federal tax, you may owe taxes on any capital gains realized through the fund's trading or through your own redemption of shares. For some investors, a portion of the fund's income may be subject to state and local taxes, as well as to the federal Alternative Minimum Tax. Diversification does not ensure a profit or protect against a loss.

Investments in Target Retirement Funds 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 would retire and leave the workforce. The fund 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 is not guaranteed at any time, including on or after the target date.

The information contained herein does not constitute tax advice, and cannot be used by any person to avoid tax penalties that may be imposed under the Internal Revenue Code. We recommend that you consult a tax or financial advisor about your individual situation.

Advice services are provided by Vanguard Advisers, Inc., a registered investment advisor.

Vanguard funds not held in a brokerage account are held by The Vanguard Group, Inc., and are not protected by SIPC. Brokerage assets are held by Vanguard Brokerage Services®, a division of Vanguard Marketing Corporation, member FINRA and SIPC.

Vanguard Marketing Corporation, Distributor of the Vanguard Funds. U.S. Patent Nos. 6,879,964; 7,337,138; 7,720,749; 7,925,573; 8,090,646; and 8,417,623.

Important information

CFA® and Chartered Financial Analyst® are trademarks owned by CFA Institute. Financial Engines is a registered trademark and Financial Engines Investment Advisor service is a registered service mark of Financial Engines, Inc. Financial Engines Advisors L.L.C., a federally registered investment advisor and wholly owned subsidiary of Financial Engines, Inc., provides all advisory services. The Vanguard Group has partnered with Financial Engines to provide the Vanguard Managed Account Program and Personal Online Advisor, powered by Financial Engines.

The Vanguard ETFs® are not sponsored, endorsed, sold or promoted by Barclays. Barclays does not make any representation regarding the advisability of Vanguard ETFs or the advisability of investing in securities generally. Barclays' only relationship with Vanguard is the licensing of the index which is determined, composed and calculated by Barclays without regard to Vanguard or the Vanguard ETFs. Barclays has no obligation to take the needs of Vanguard or the owners of the Vanguard ETFs into consideration in determining, composing or calculating the index. Barclays has no obligation or liability in connection with administration, marketing or trading of the Vanguard ETFs.

London Stock Exchange Group companies include FTSE International Limited ("FTSE"), Frank Russell Company ("Russell"), MTS Next Limited ("MTS"), and FTSE TMX Global Debt Capital Markets Inc. ("FTSE TMX"). All rights reserved. "FTSE®", "Russell®", "MTS®", "FTSE TMX®" and "FTSE Russell" and other service marks and trademarks related to the FTSE or Russell Indexes are trademarks of the London Stock Exchange Group companies and are used by FTSE, MTS, FTSE TMX, and Russell under license. All information is provided for information purposes only. No responsibility or liability can be accepted by the London Stock Exchange Group companies nor its licensors for any errors or for any loss from use of this publication. Neither the London Stock Exchange Group companies nor any of its licensors make any claim, prediction, warranty or representation whatsoever, expressly or impliedly, either as to the results to be obtained from the use of the FTSE Indexes or the fitness or suitability of the Indexes for any particular purpose to which they might be put.

The index is a product of S&P Dow Jones Indices LLC ("SPDJI"), and has been licensed for use by Vanguard. Standard & Poor's® and S&P® are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"); Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"); S&P® and S&P 500® are trademarks of S&P; and these trademarks have been licensed for use by SPDJI and sublicensed for certain purposes by Vanguard. Vanguard product(s) are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have any liability for any errors, omissions, or interruptions of the index.

Morningstar data ©2017 Morningstar, Inc. All Rights Reserved. The information contained herein: (1) is proprietary to Morningstar and/or its content providers; (2) may not be copied or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information. Past performance is no guarantee of future results.

The Russell Indexes and Russell® are registered trademarks of Russell Investments and have been licensed for use by The Vanguard Group. The products are not sponsored, endorsed, sold or promoted by Russell Investments and Russell Investments makes no representation regarding the advisability of investing in the products.

"Dividend Achievers" is a trademark of The NASDAQ OMX Group, Inc. (collectively, with its affiliates, "NASDAQ OMX") and has been licensed for use by The Vanguard Group, Inc. Vanguard mutual funds are not sponsored, endorsed, sold, or promoted by NASDAQ OMX and NASDAQ OMX makes no representation regarding the advisability of investing in the funds. NASDAQ OMX MAKES NO WARRANTIES AND BEARS NO LIABILITY WITH RESPECT TO THE VANGUARD MUTUAL FUNDS.

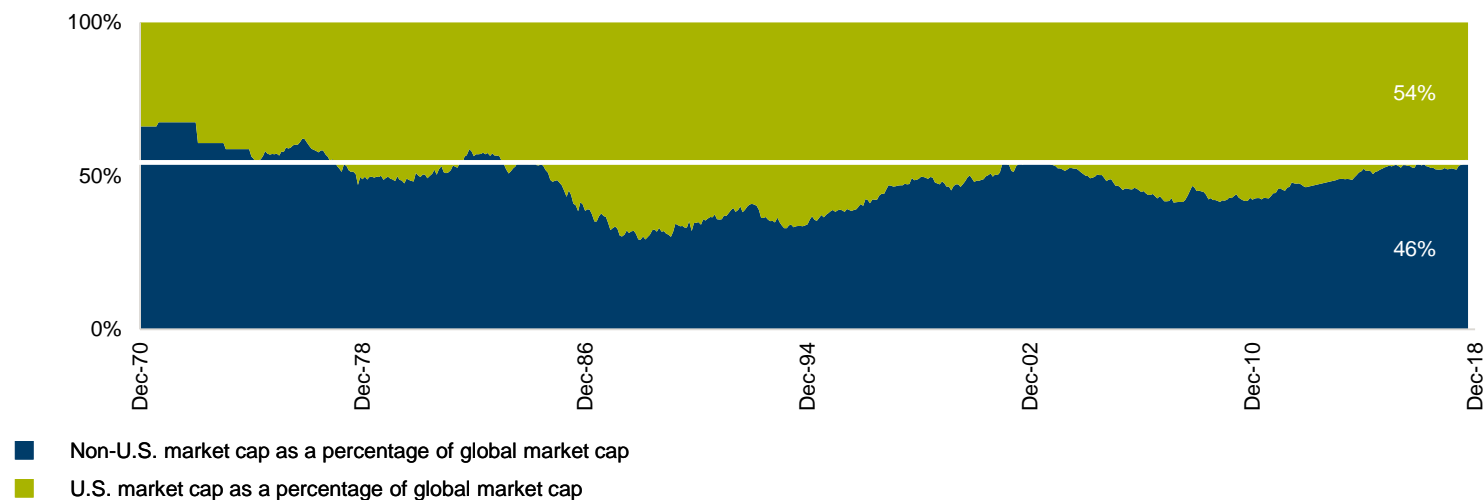
The funds or securities referred to herein are not sponsored, endorsed, or promoted by MSCI, and MSCI bears no liability with respect to any such funds or securities. The prospectus or the Statement of Additional Information contains a more detailed description of the limited relationship MSCI has with Vanguard and any related funds.

Apple®, iPhone®, and iPad® are trademarks of Apple Inc., registered in the United States and other countries. App Store is a service mark of Apple Inc. Android™ is a trademark of Google Inc.

International Equities

Why international stocks?

U.S. and international market value, as a percentage of global market value



- They are a valuable diversifier to a balanced portfolio and can serve to dampen volatility over the long-term
- International stocks, including emerging markets, account for nearly half of the global equity market
- Offer exposure to global industries and a wider array of economic and market forces

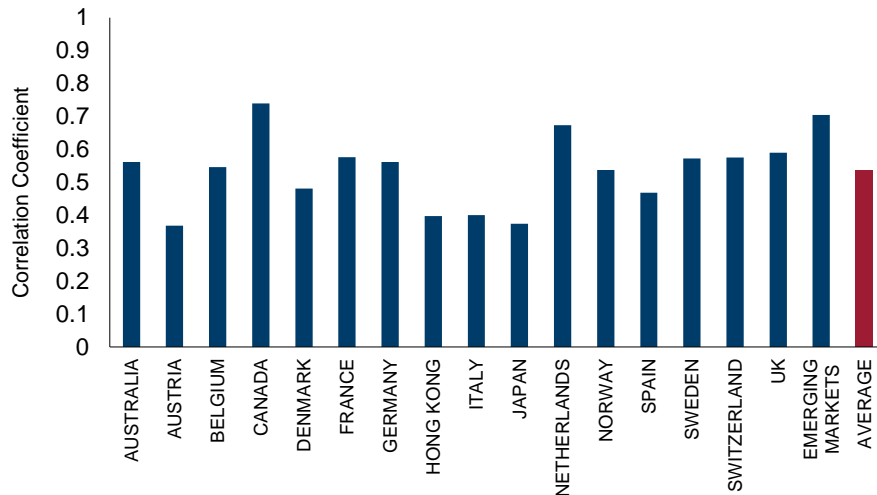
Notes: U.S. market represented by MSCI USA Index; non-U.S. market represented by MSCI World ex USA from 1969 through 1987 and MSCI All Country World Index ex USA thereafter.
Data as of December 31, 2018.
Sources: Vanguard, FactSet, MSCI.

Why multinational exposure is not enough

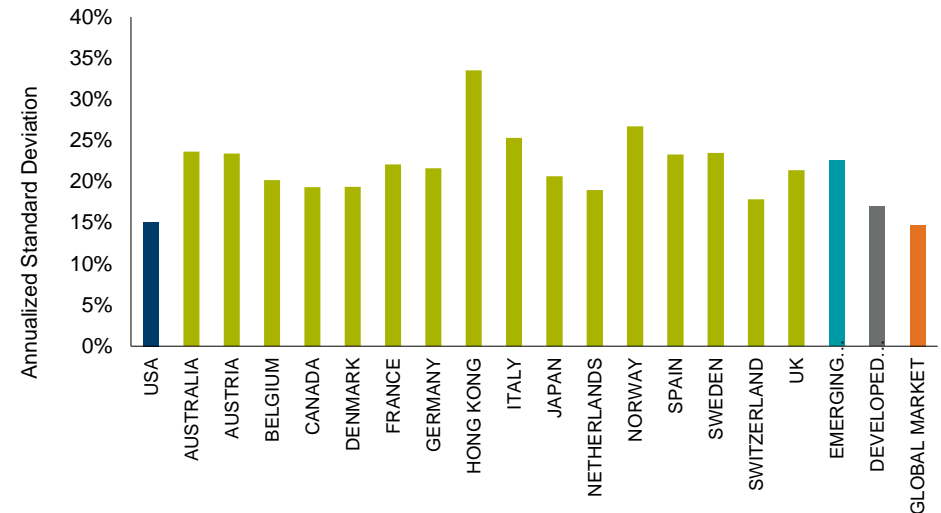
- A portfolio invested solely in U.S.-domiciled companies lacks exposure in leading, global companies that are domiciled in other countries – i.e.: Samsung, Toyota, or Nestle
- Many U.S.-domiciled companies look to hedge away currency fluctuations of their foreign operations, thus eliminating the diversification benefit driven by currency differences
- Domestic markets are more concentrated in biotechnology, computer equipment, information technology and IT services, and software – a portfolio only exposed to U.S.-domiciled companies would be underweighted in “old world” industries such as electrical equipment, durable household goods, and automobiles

Diversification benefits of international stocks

Correlation of returns to foreign equity markets with U.S. equity markets



Volatility of returns for country and regional indexes



- Correlation differences between U.S. and international equity markets have offered diversification benefit

- The global market portfolio has had lower volatility than regions and specific countries

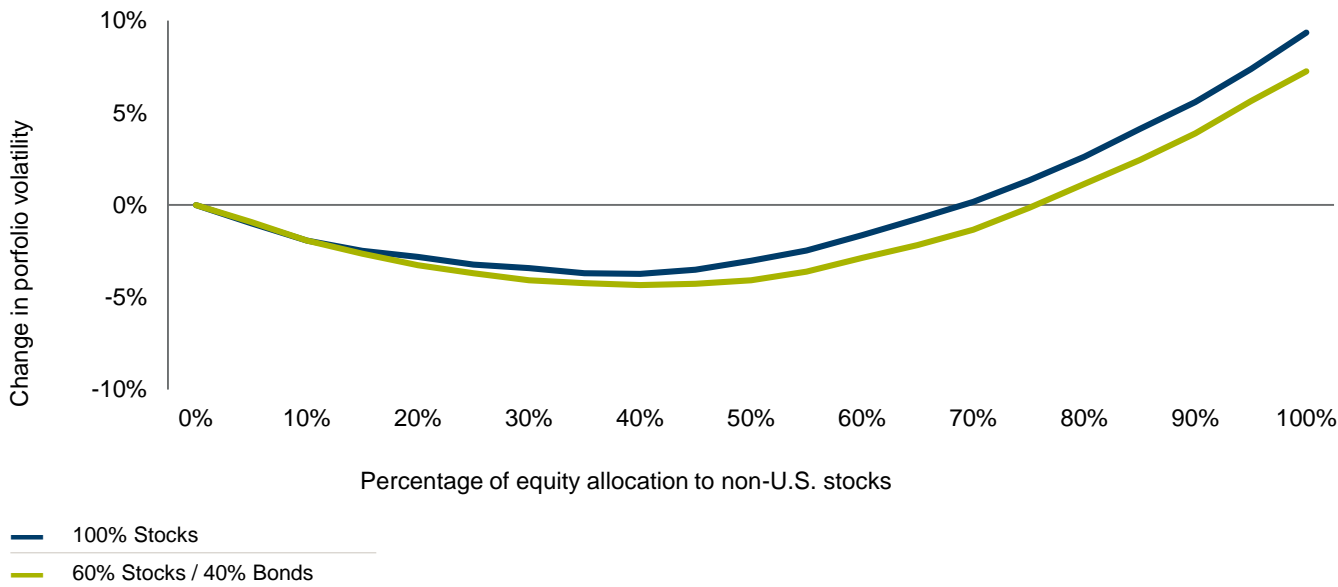
Past performance is no guarantee of future results. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Notes: Country returns represented by MSCI country indexes. Emerging markets represented by MSCI Emerging Markets Index. Developed markets represented by MSCI World Index ex USA. Global market, including both developed and emerging, represented by MSCI World Index until 1987 and MSCI AC World Index thereafter. Data From January 1970, through December 31, 2018. Emerging market data begins in 1988.

Sources: Thomson Datastream, FactSet, and MSCI

Diversification benefits of international stocks

Average annualized change in portfolio volatility when including non-U.S. stocks in a U.S. portfolio, 1970–2018



- Adding non-U.S. stocks has historically reduced volatility of an all U.S. stock portfolio, with maximum volatility reduction at 20%-50%
- Volatility reduction is not the only factor to consider when determining a non-U.S. equity allocation
- Other considerations include: market capitalization weight, volatility reduction, implementation costs, taxes, regulation, investor preferences and other factors

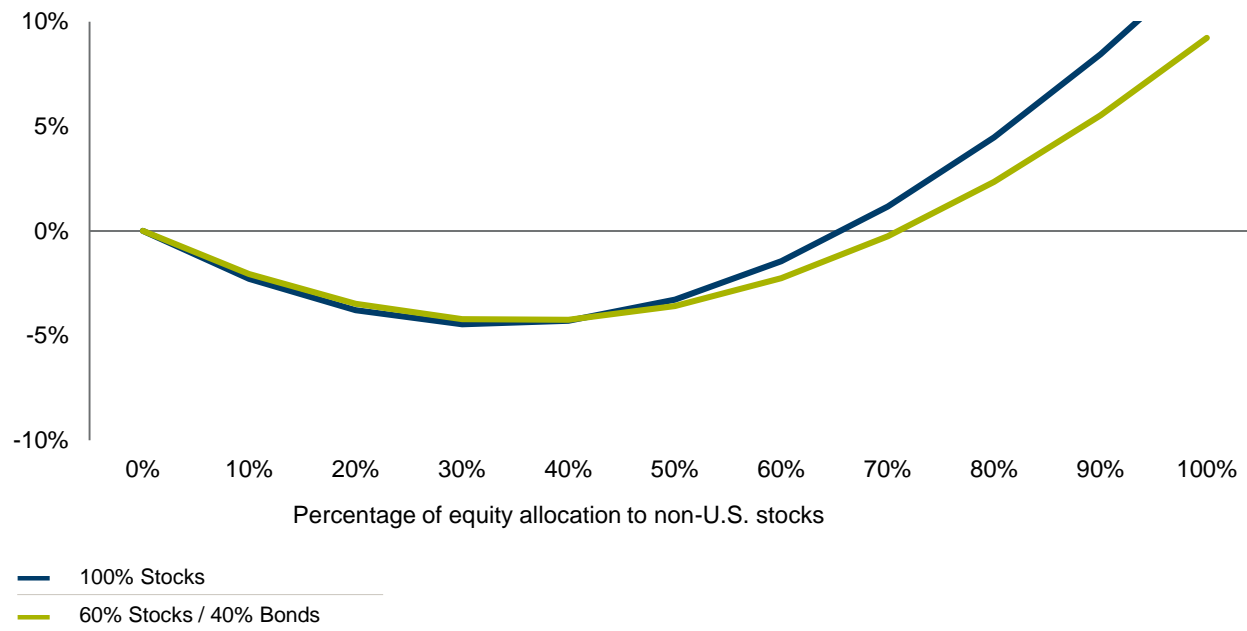
Past performance is no guarantee of future results. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

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 is no guarantee 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: Derived from data provided by MSCI, Barclays, FactSet and Thomson Datastream

Diversification benefits of international stocks: looking forward

10 year expected reduction in volatility



- Diversification benefits from non-U.S. equities expected to continue, resulting from expected imperfect correlations and lower broad market volatility

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.

Notes: Ten year expected returns are based on the median of 10,000 simulations from Vanguard Capital Market Model (VCMM) as of December 31, 2018.
Sources: Vanguard.

Valuations stretched in the U.S. and developed markets

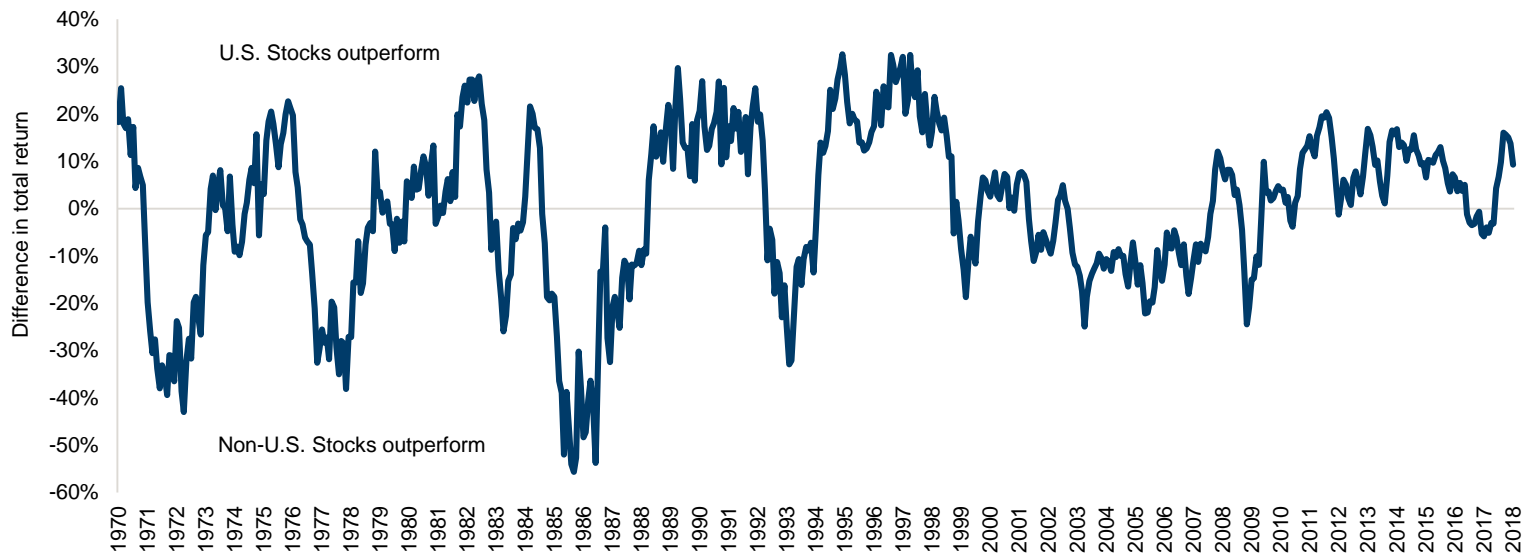
Valuation for global stock indexes Price over 36-month trailing earnings



Notes: Figure displays the price/earnings ratio with 36-month trailing average earnings. United States is defined as the MSCI United States Index, developed markets ex-US are defined as the MSCI All-World ex-US Index, and emerging markets are defined as the MSCI Emerging Markets Index. Data as of December 31, 2018.
Sources: Vanguard calculations, based on data from MSCI.

Historical returns illustrate benefits of global exposure during various market cycles

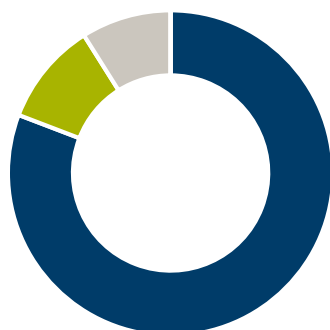
Trailing 12-month return differential between U.S. and non-U.S. stocks



- Idiosyncrasies between the U.S. and non-U.S. markets lead to correlation differences and returns over different time periods

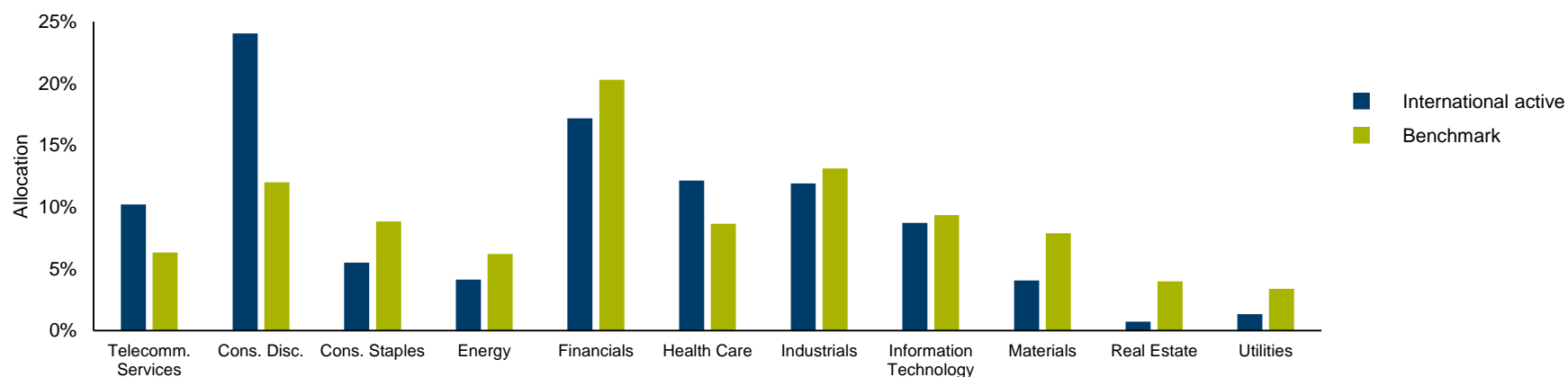
Notes: U.S. equities represented by MSCI USA Index; international equities represented by MSCI World Index ex USA from 1970 through 1987 and MSCI All Country World Index ex USA thereafter. Data as of December 31, 2018.
Sources: Vanguard, Thomson Reuters Datastream, and MSCI.

VIAS international active equity approach: Portfolio overview



- 80.8% Developed markets
- 10.3% Emerging markets
- 8.9% United States

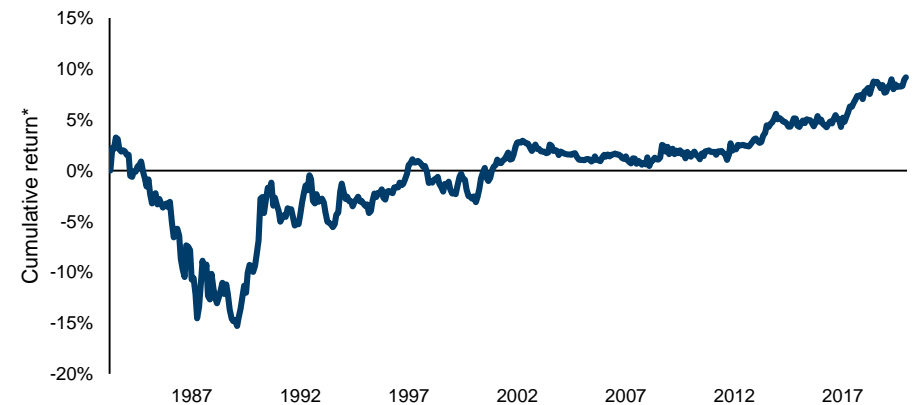
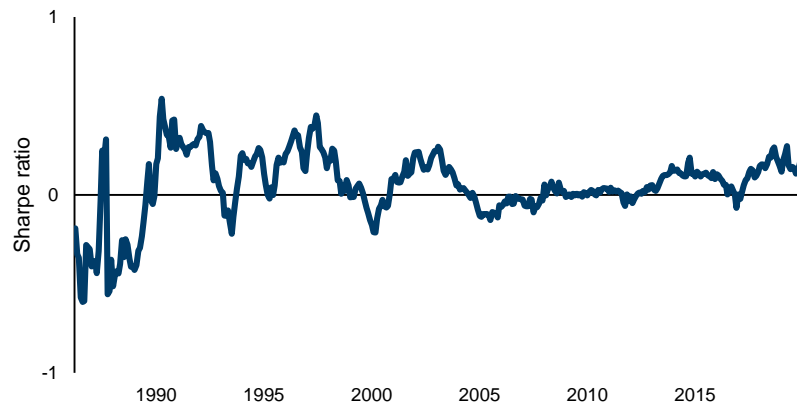
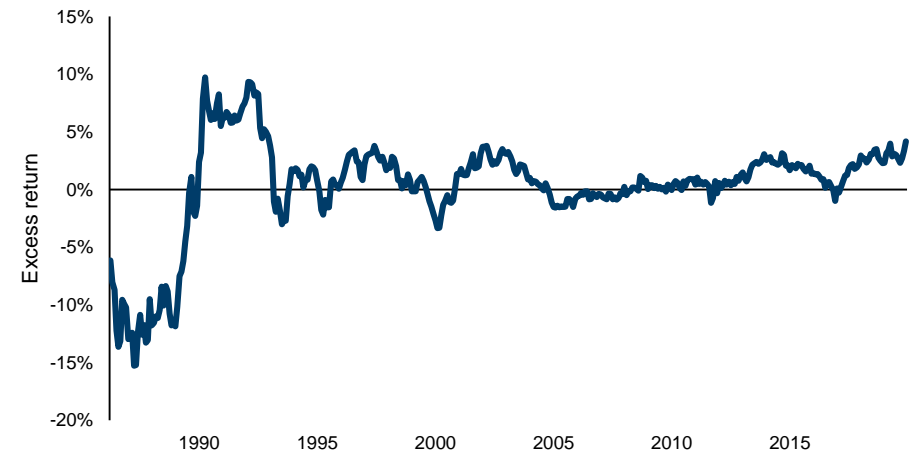
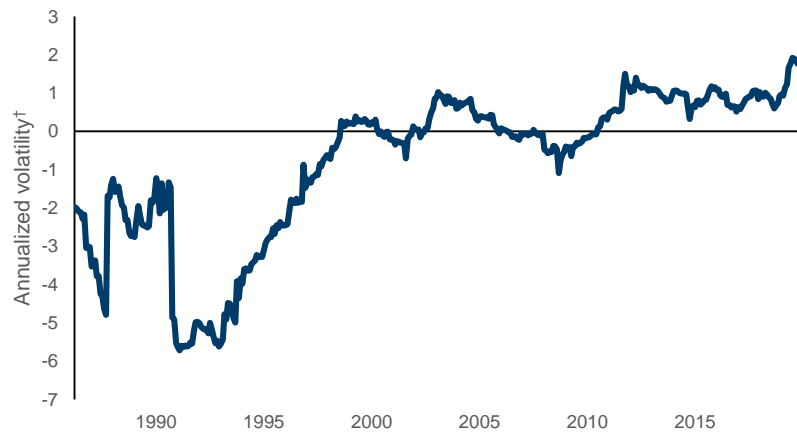
| | International active | Benchmark | Difference |
|--------------------------|----------------------|-----------|------------|
| Market capitalization | \$107,647M | \$68,627M | \$39,020M |
| Number of securities | 249 | 7,070 | -6,821 |
| Price/Earnings | 18.2 | 15.6 | 2.6 |
| Price/Book | 2.0 | 1.6 | 0.4 |
| Active share | 83.7 | 0.0 | 83.7 |
| Hist. EPS growth (3-yr) | 15.6 | 3.6 | 12.0 |
| Est. EPS growth (3-5 yr) | 12.4 | 9.2 | 3.2 |
| ROE | 14.3 | 14.6 | -0.3 |
| Large-cap (%) | 82.4 | 62.9 | 19.5 |
| Mid-cap (%) | 16.7 | 25.7 | -9.0 |
| Small-cap (%) | 0.9 | 11.4 | -10.5 |



Source: FactSet.

Notes: Data as of December 31, 2019. International active represented by 50% International Value and 50% International Growth. Investor Shares used for international growth through August 12, 2001, and Admiral™ Shares thereafter. Benchmark represented by MSCI EAFE through January 30, 2001, MSCI EAFE + EMF through December 15, 2010, MSCI AC World ex USA IMI through February 27, 2014, and FTSE All Cap ex US thereafter. FTSE All Cap ex US data in FactSet only available after February 27, 2014.

Risk and return metrics relative to benchmark (since inception)



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.

Notes: Data is from May 16, 1983, until December 31, 2019, and is shown in 36-month increments except for cumulative return. International active represented by 50% International Value and 50% International Growth. Investor Shares used for International Growth through August 12, 2001, and Admiral™ Shares thereafter. Benchmark represented by MSCI EAFE through January 30, 2001, MSCI EAFE + EMF through December 15, 2010, MSCI AC World ex USA IMI through February 27, 2014, and FTSE All Cap ex US thereafter. FTSE All Cap ex US data in FactSet only available after February 27, 2014.

* Cumulative return was calculated using the logarithmic return relative to the benchmark.

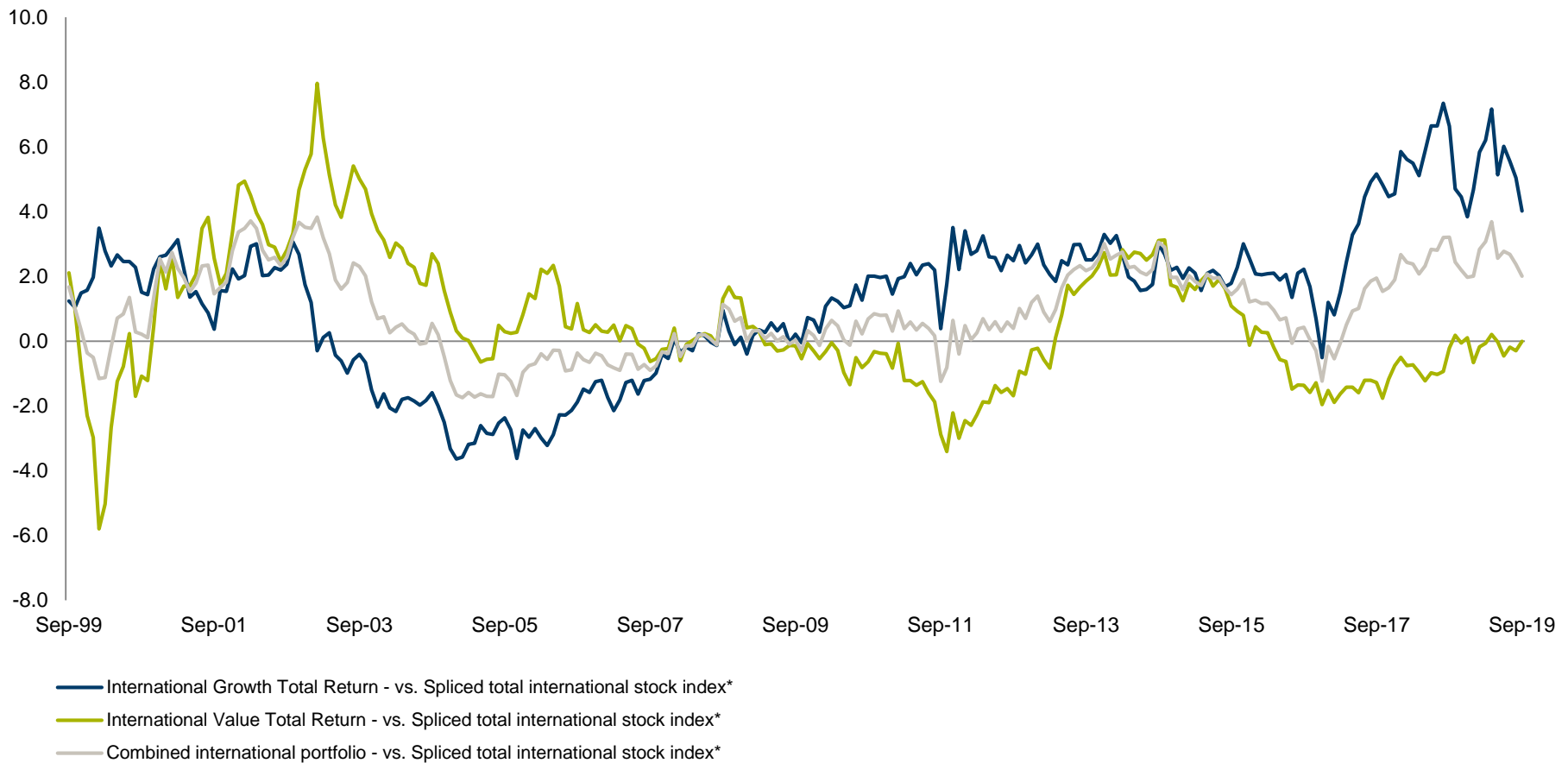
† Volatility measured using standard deviation.

VIAS international active equity approach: Managers and strategy

| Fund | Manager(s) | Manager strategy |
|----------------------------|--------------------------------------|---|
| International Value (50%) | | |
| | Lazard Asset Management (40%) | Lazard employs a research-driven, bottom-up, relative-value approach in selecting stocks. The portfolio managers and analysts seek to identify stocks that offer an appropriate trade-off between low relative valuation and high financial productivity. |
| | Edinburgh Partners (33%) | Edinburgh Partners employs a concentrated, low-turnover, value-oriented investment approach that results in a portfolio of companies with good long-term prospects and below-market price-to-earnings ratios. |
| | ARGA Investment Management (24%) | ARGA invests in businesses that it believes are undervalued based on long-term earnings power and dividend-paying capability. The portfolio generally will have a strong value orientation; most valuation metrics will often be at discounts relative to its index. |
| International Growth (50%) | | |
| | Baillie Gifford (59%) | Baillie Gifford believes that superior growth leads to share-price outperformance in the long term and that one must be willing to invest with conviction, sometimes in unfashionable opportunities, to deliver outperformance. The advisor seeks to identify companies with long-term, sustainable competitive advantages by developing deep industry and company knowledge. |
| | Schroder Investment Management (40%) | Schroder believes that quality growth companies with a sustainable competitive advantage selling at a reasonable price produce superior long-term returns. They leverage fundamental research to identify quality growth stocks selling at attractive valuations with sustainable competitive advantages. |

Rolling 3-year excess returns Through September 30, 2019

Rolling 36 month return of Active International Equity Funds

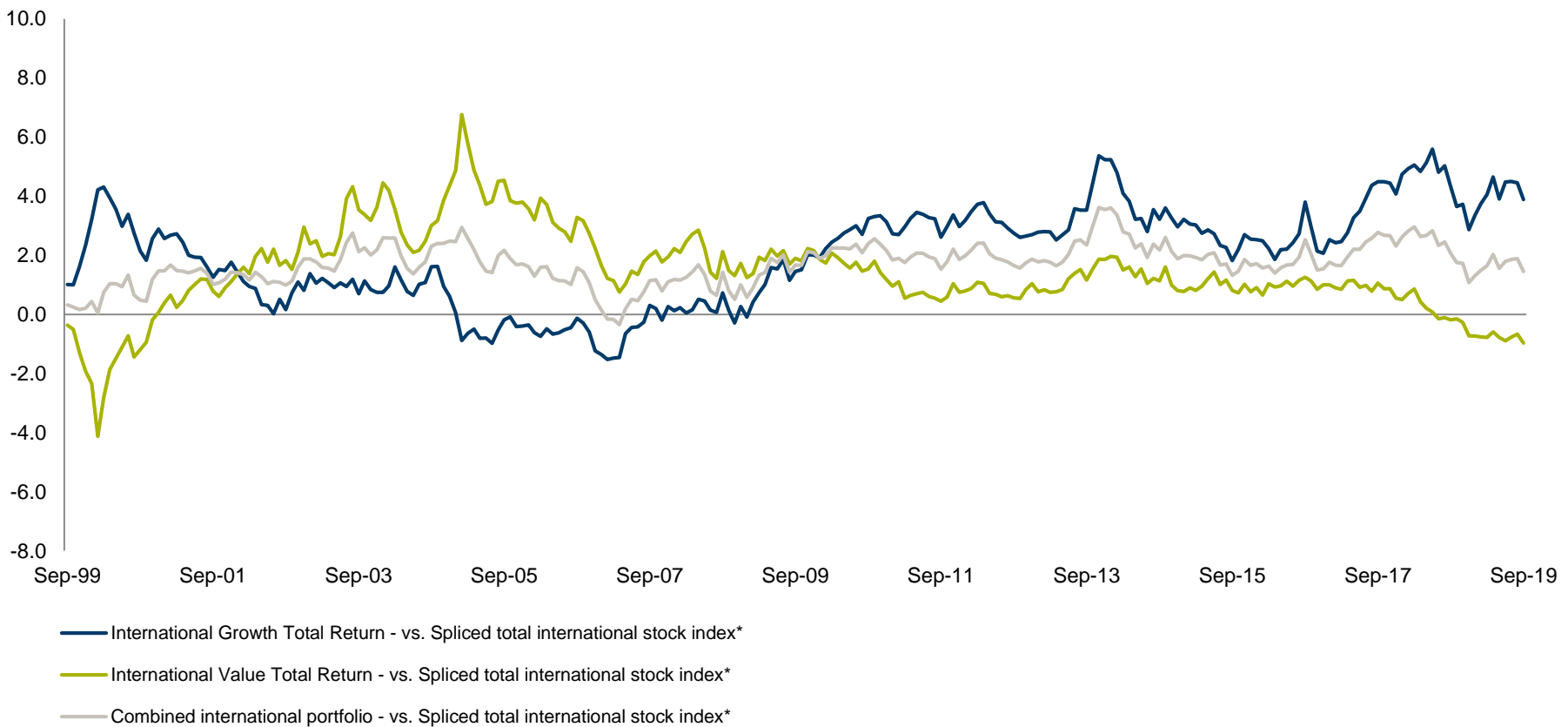


Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

*Total International Composite Index through August 31, 2006; MSCI EAFE + Emerging Markets Index through December 15, 2010; MSCI ACWI ex USA IMI Index through June 2, 2013; and FTSE Global All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.

Rolling 5-year excess returns Through September 30, 2019

Rolling 60 month return of Active International Equity Funds



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.

*Total International Composite Index through August 31, 2006; MSCI EAFE + Emerging Markets Index through December 15, 2010; MSCI ACWI ex USA IMI Index through June 2, 2013; and FTSE Global All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.

Economic and Market Overview



Vanguard
economic
and market
outlook for
2020

The new age of uncertainty



Vanguard®

For institutional use only. Not for distribution to retail investors

2020 Economic and market overview

1

Global growth

Outlook downgraded as policy uncertainty will continue to hamper business investment and global trade

Policy and interest rates

Dovish sentiment growing as downside risks persist

2

3

Global asset returns

Expect higher risks and lower returns

Themes and outlook

| | Global | United States | Europe | Asia |
|----------------------------------|---|--|---|--|
| Growth | With continued geopolitical uncertainty and unpredictable policymaking becoming the new normal, we expect that these influences will weigh negatively on growth in 2020. A continuing contraction of world trade relative to GDP and a persistent state of high uncertainty both tend to undermine potential output. This happens by restricting investment and hampering the propagation of technologies and ideas that stimulate growth in productivity. As such, we expect growth to remain subdued for much of the next year. | Much as in our global outlook, we believe elevated uncertainty will persist through 2020 and continue to weigh on business sentiment, leading to a growth rate centered on 1% (between 0.5% and 1.5%). We believe that the U.S. economy, and in turn the Fed, will shift into a lower gear in 2020 as policymakers, businesses, and consumers navigate a more uncertain road ahead. | Based on our economic leading indicators and supplementary analysis, we expect the euro area economy to grow by 1% in 2020, slightly below our assessment of potential. In our base case, we anticipate that the region will avoid slipping into recession, supported by easier global financial conditions and a modest fiscal impulse. We forecast the U.K. to achieve trend growth of 1.2% in 2020. | In China, Real GDP growth prospects for 2020, 5.8%, with risks tilting toward the downside. We expect Japan to grow just below potential, 0.6% in 2020, as domestic demand offsets global export slowdown. |
| Inflation | Recent years have been characterized by a continuing failure of major central banks to achieve their inflation targets. This can partly be explained by a combination of persistent structural factors—including technology advancement and globalization—and by a failure of labor markets to respond to falling unemployment. We expect these structural forces to persist and contain inflation pressures. | Despite the likelihood of persistently low unemployment rates, not much has changed in our inflation outlook. Inflation below the Fed's target, in our view, remains the most likely outcome. | Underlying inflationary pressures in the euro area remain subdued, and we expect the European Central Bank to continue to fall well short of its 2% inflation target in 2020. What will worry the ECB most is that, despite its cutting rates further below zero and restarting quantitative easing in September 2019, market-based measures of inflation expectations remain at multiyear lows. | In China, Non-food inflation around 1%, given the weak domestic demand and lower energy prices. Overall CPI likely to rise above 4% by year-end due to pork inflation surging. In Japan, 1% core-core inflation is likely achievable in 2020, barring flight-to-quality driving Yen higher. |
| Policy and interest rates | Our outlook for global monetary policy has become more dovish. Despite the doubts relating to the effectiveness of further monetary policy stimulus, we do not expect that fiscal policy measures will be forthcoming at sufficient scale to materially boost activity. | We believe the Fed will cut interest rates one or two more times in 2020. | We expect that the ECB will adopt a wait-and-see approach to analyze the full impact of its September stimulus package and will keep policy largely unchanged for the first six months of 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 | As global growth slows further in 2020, investors should expect periodic bouts of volatility in the financial markets, given heightened policy uncertainties, late-cycle risks, and stretched valuations. Our near-term outlook for global equity markets remains guarded, and the chance of a large drawdown for equities and other high-beta assets remains elevated and significantly higher than it would be in a normal market environment. | The outlook for U.S. equity returns over the next ten years is in the 3.5%–5.5% range, while returns in global ex-U.S. equity markets are likely to be 6.5%–8.5% for USD investors, due to more reasonable valuations. U.S. growth and large-cap equities are expected to underperform relative to U.S. value and small-cap. | Annualized returns for U.S. fixed income are likely to be between 2% and 3% over the next decade, compared with a forecast of 2.5%–4.5% last year. The outlook for global ex-U.S. fixed income returns is centered in the range of 1.5%–2.5%, annualized. | |

Source: Vanguard.

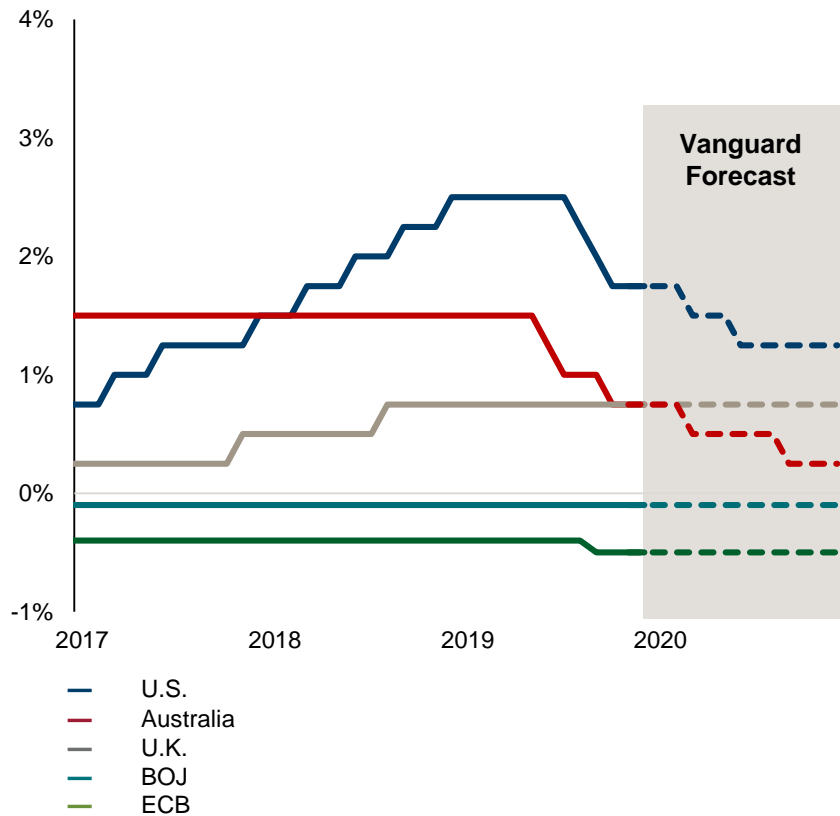
Sources of policy uncertainty likely to persist

| | Downside scenario | Base case | Upside scenario |
|--------------------------------|--|---|---|
| US/China trade tensions | 25% The trade truce ends because of a lack of common ground, and the U.S. implements tariffs on remaining Chinese imports. | 60% China and the US sign a "phase one" deal but fail to agree on structural issues. | 15% China and the U.S. sign a series of trade deals, roll back tariffs, and continue negotiations on structural issues. |
| Brexit | 10% The U.K. fails to negotiate a trade deal with the EU, and leaves under a no deal scenario. | 75% The U.K. Parliament approves the Withdrawal Agreement Bill in early 2020 and enters a one- to two-year transition period of trade negotiations, but with little prospect of early clarity emerging. | 15% The Withdrawal Agreement Bill is approved, and a comprehensive trade deal on goods is struck by the end of 2020. |
| U.S./EU trade tensions | 35% The U.S. imposes tariffs on EU products and continues to threaten further tariffs. | 50% The U.S. continues to threaten tariffs on EU products (e.g., autos) but does not follow through in 2020. | 15% The U.S. promises not to impose tariffs on EU products. |
| USMCA | 10% The Trump administration moves to withdraw from NAFTA to expedite ratification of USMCA. | 30% U.S. policymakers are unable to compromise, and ratification is delayed until after the 2020 election. | 60% U.S. policymakers complete revisions and ratify the agreement. |

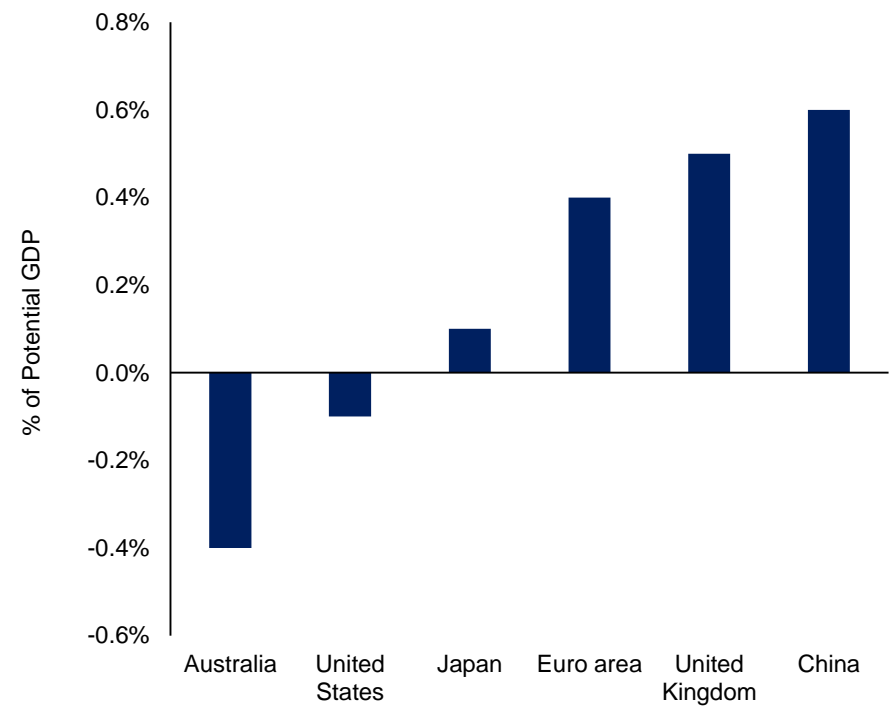
Notes: The odds for each scenario are based on the judgment of members of Vanguard's Global Economics and Capital Markets Outlook Team.
 Source: Vanguard.

Monetary policy carrying the weight

Fed and Reserve Bank of Australia likely to cut rates further



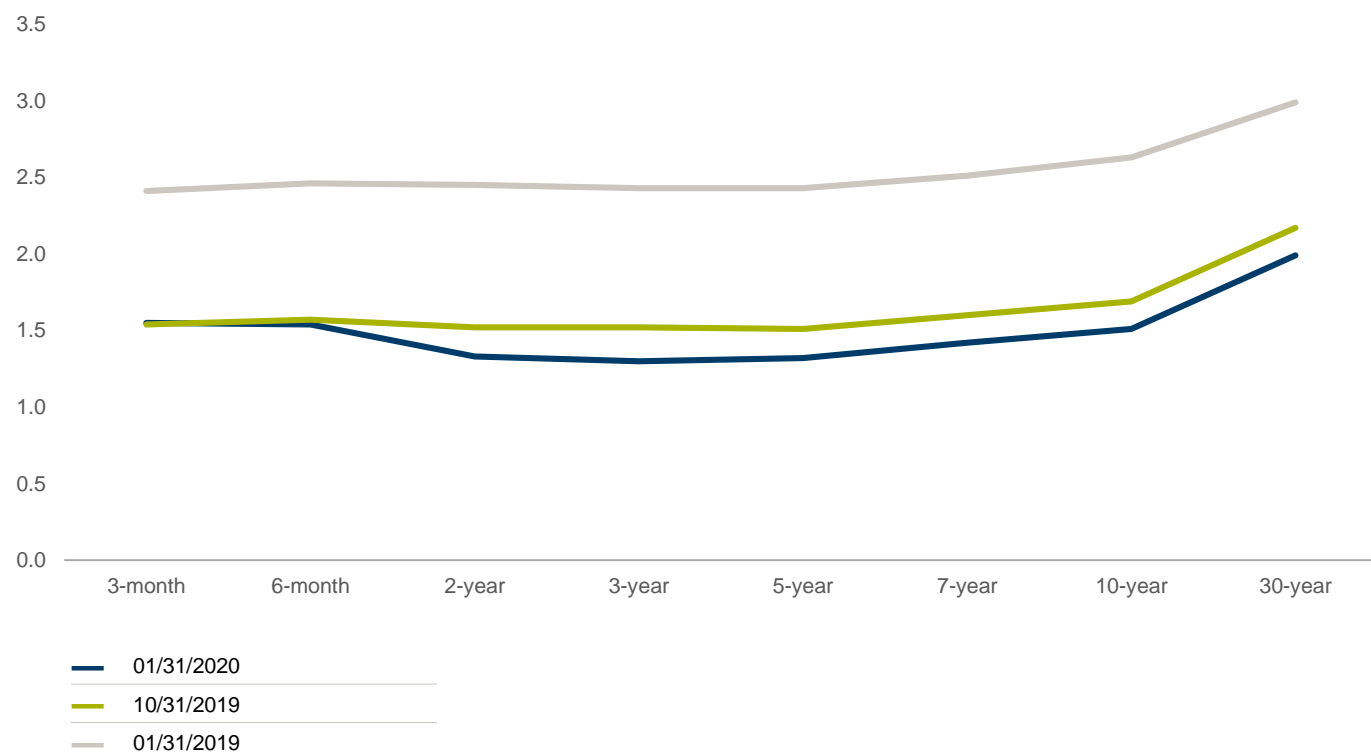
Expect only a modest fiscal impulse in 2020



Notes: (RHS) "Fiscal impulse" defined as the change in the cyclically adjusted primary balance from 2019 to 2020.
Source: Vanguard calculations based on data from Macrobond and IMF.

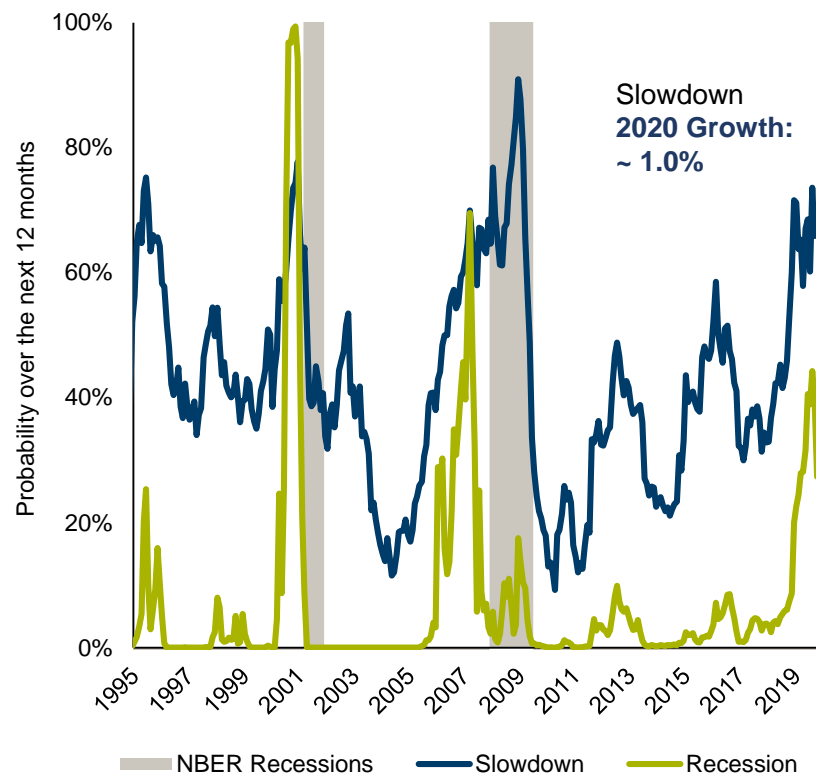
U.S. Treasury yield curve—Downward movement continues across maturities

| Yield (%) and change (bps) | 3-month | 6-month | 2-year | 3-year | 5-year | 7-year | 10-year | 30-year |
|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Current yield (%) | 1.55 | 1.54 | 1.33 | 1.30 | 1.32 | 1.42 | 1.51 | 1.99 |
| 3 mo. Δ | 1 | -3 | -19 | -22 | -19 | -18 | -18 | -18 |
| 12 mo. Δ | -86 | -92 | -112 | -113 | -111 | -109 | -112 | -100 |

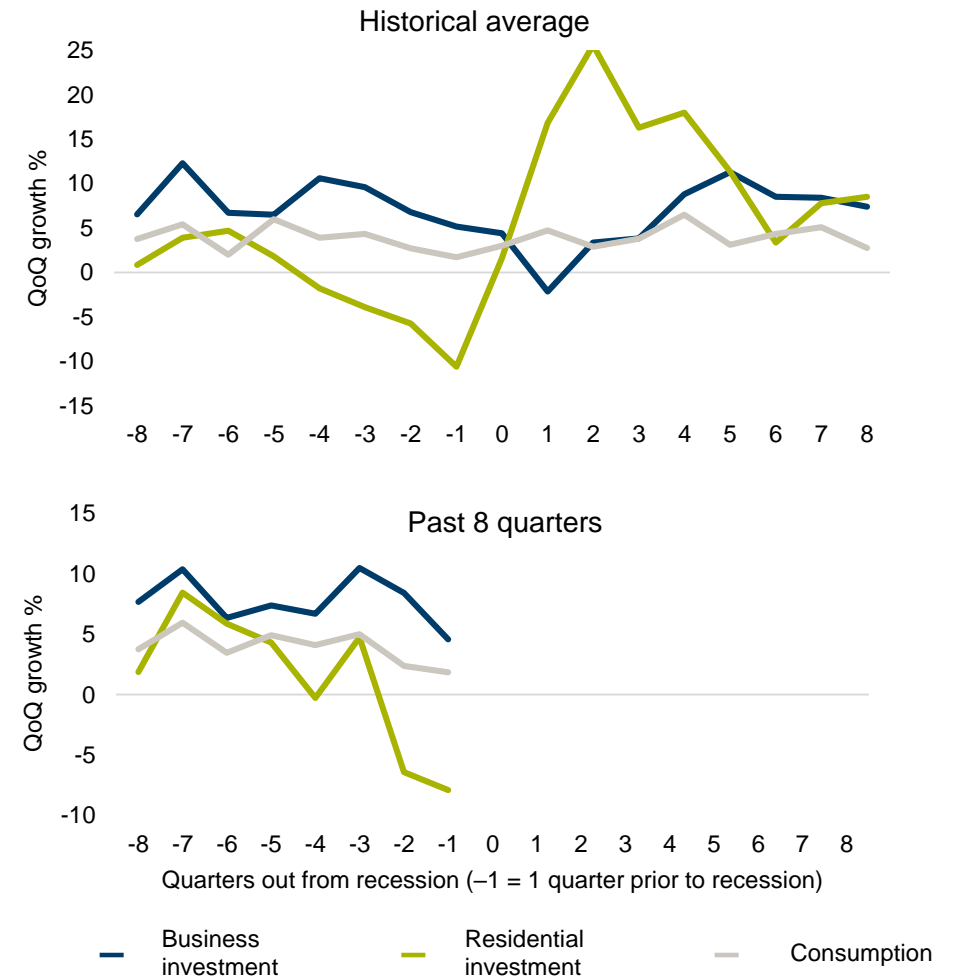


United States is downshifting for an uncertain road ahead

Recession probability elevated, slowdown much more likely



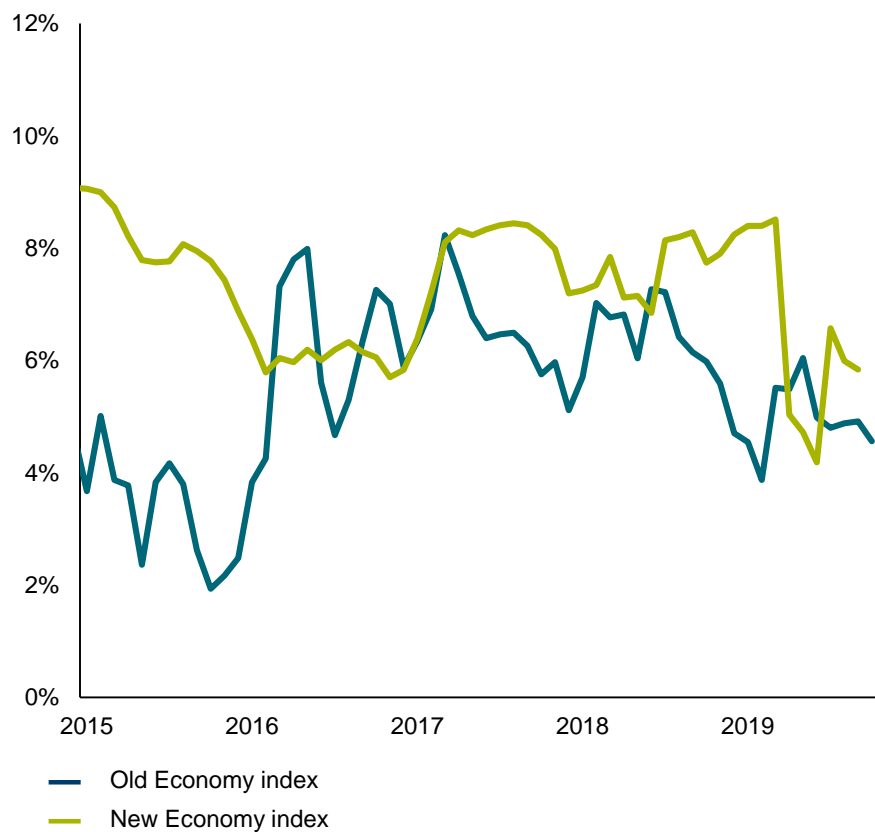
Growth components following similar trend to past downturns



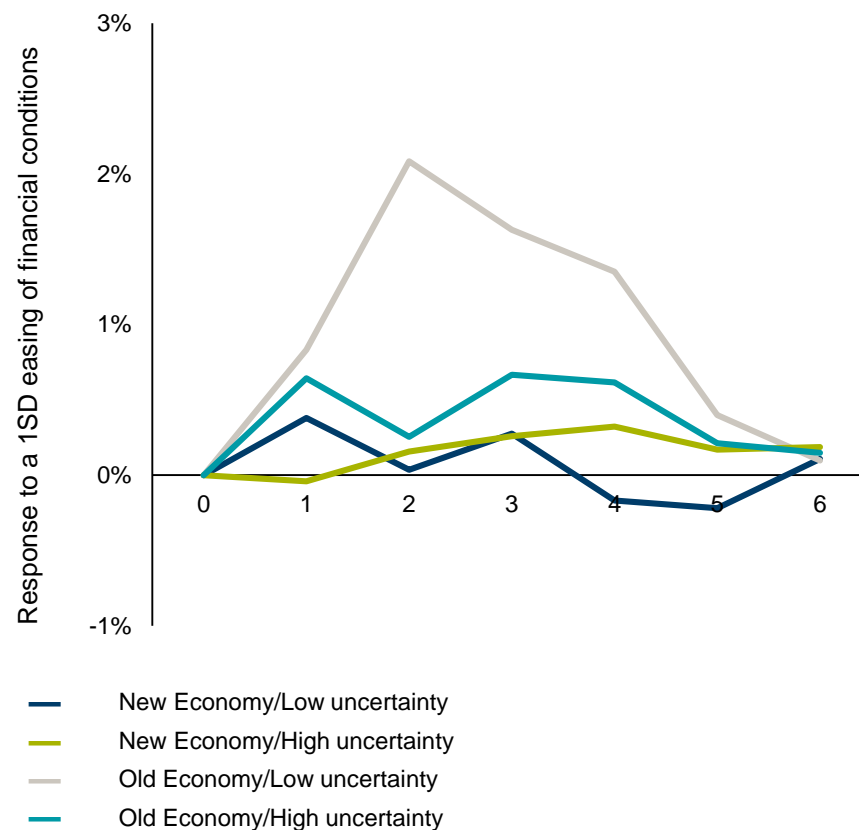
Sources: Vanguard calculations using data from Moody's Data Buffett, NBER, Laubach-Williams (2013), and Federal Reserve Bank of St. Louis and Thomson Reuters DataStream.

China slowdown resumes as uncertainty hampers stimulus

Weakness evident in both new and old economies



Stimulus measures are less effective in a high-uncertainty environment



Notes: (LHS) Vanguard' decomposes the Chinese economy into two components: Old and New economy. Old Economy measures traditional developing economy industries such as textile manufacturing, commodities as well as state-owned enterprises. The new economy measures higher value-add industries such as advanced manufacturing, semiconductors, and middle-class consumption metrics (autos, housing, etc.). (RHS) Represents the impulse response function of the New and Old Economy in both high and low uncertainty environments. Vertical axis is the ppt change in each index after an easing in financial conditions (stimulus) at time 0.

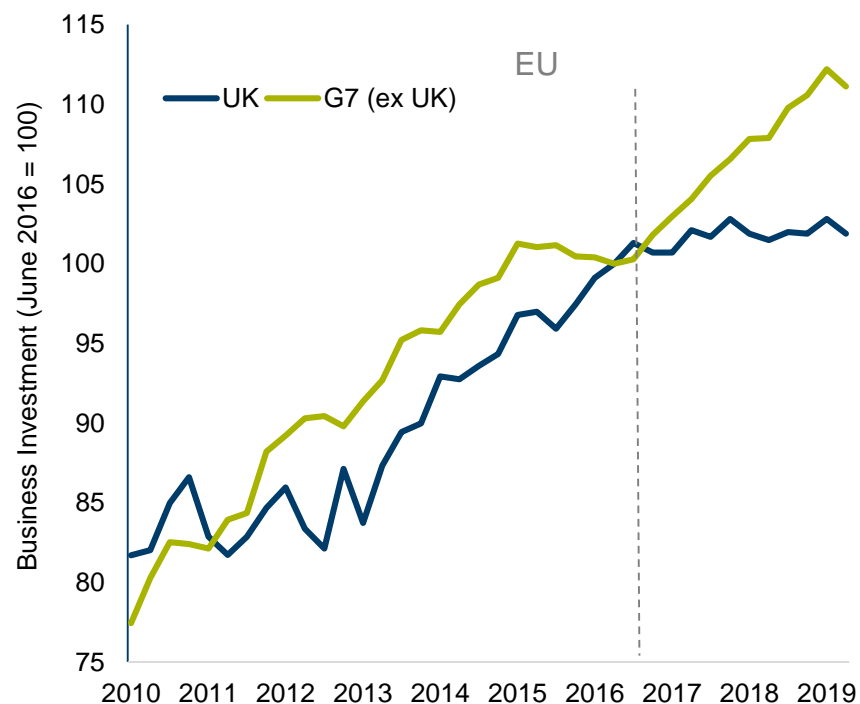
Sources: Vanguard calculations using data from CEIC, Thomson Reuters, IMF, and Bloomberg.

European economies facing growth headwinds

Euro area leading indicators suggest below-trend growth



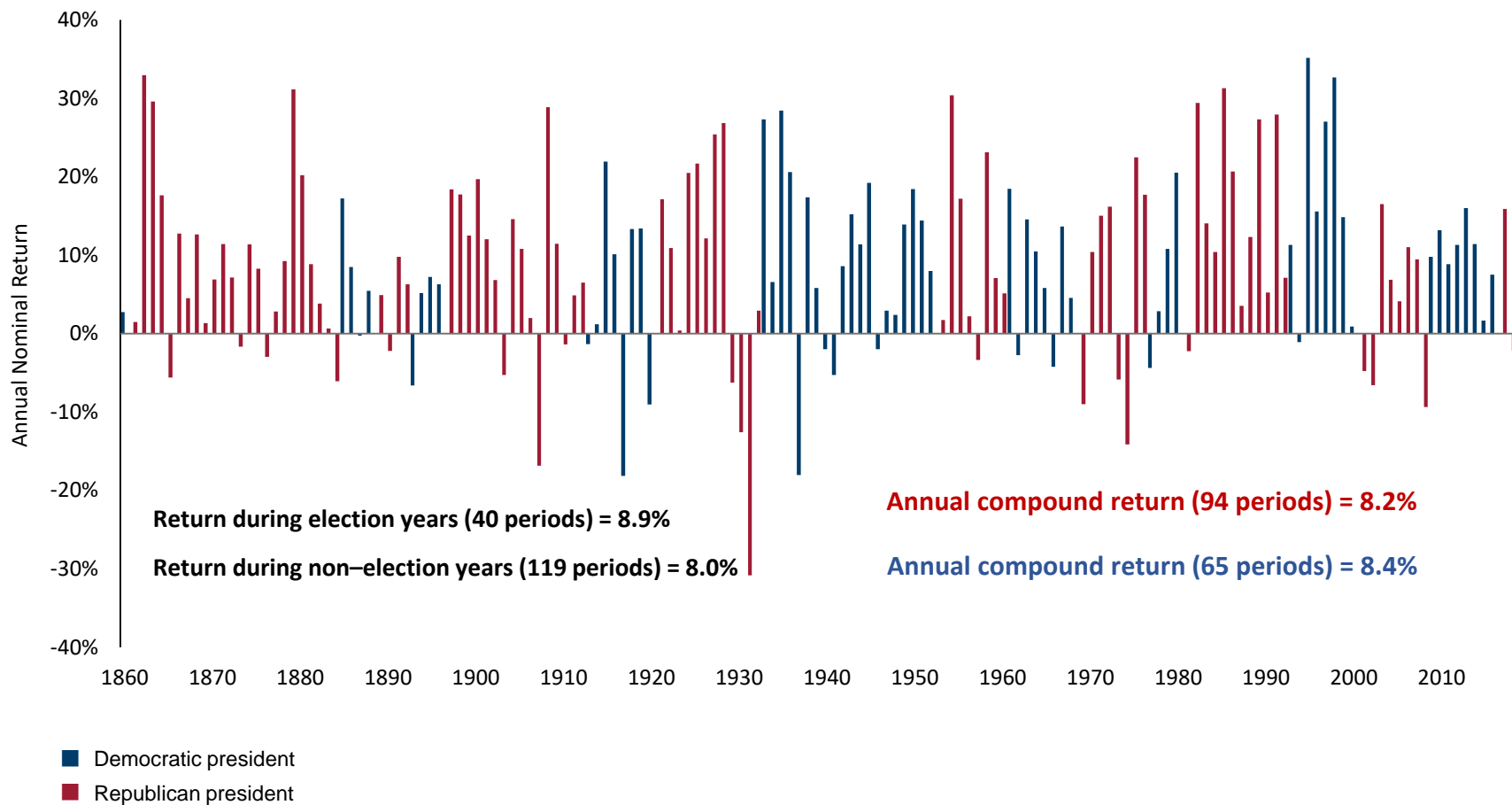
The Brexit “uncertainty tax” is substantial



Notes: (RHS): The G7 (ex-U.K.) countries are Canada, France, Germany, Italy, Japan, and the United States. Data are weighted by nominal GDP using purchasing power parity (PPP) and rebased on June 2016 to equal 100. Data are as of November 6, 2019.
Sources: Vanguard calculations using data from Macrobond, Thomson Reuters, IMF, National Accounts, and Bloomberg.

Investors benefit by ignoring political noise

60/40 Portfolio returns by presidential political party



Source: Vanguard calculations based on data from Global Financial Data through 12/31/2018.

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 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.

Important information

For more information about any fund, visit 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.

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.

Investments in bond funds are subject to the risk that an issuer will fail to make payments on time and that bond prices will decline because of rising interest rates or negative perceptions of an issuer's ability to make payments. High-yield bonds generally have medium- and lower-range credit quality ratings and are therefore subject to a higher level of credit risk than bonds with higher credit quality ratings. Although the income from a municipal bond fund is exempt from federal tax, you may owe taxes on any capital gains realized through the fund's trading or through your own redemption of shares. For some investors, a portion of the fund's income may be subject to state and local taxes, as well as to the federal Alternative Minimum Tax. Diversification does not ensure a profit or protect against a loss.

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.

Vanguard collective trusts are not mutual funds. They are collective trusts available only to tax-qualified plans and their eligible participants. Investment objectives, risks, charges, expenses, and other important information should be considered carefully before investing. The collective trust mandates are managed by Vanguard Fiduciary Trust Company, a wholly owned subsidiary of The Vanguard Group, Inc.

A stable value investment is neither insured nor guaranteed by the U.S. government. There is no assurance that the investment will be able to maintain a stable net asset value, and it is possible to lose money in such an investment.

Factor funds are subject to investment style risk, which is the chance that returns from the types of stocks in which the fund invests will trail returns from U.S. stock markets. Factor funds are subject to manager risk, which is the chance that poor security selection will cause the fund to underperform relevant benchmarks or other funds with a similar investment objective.

The information contained herein does not constitute tax advice and cannot be used by any person to avoid tax penalties that may be imposed under the Internal Revenue Code. We recommend that you consult a tax or financial advisor about your individual situation.

Advice services are provided by Vanguard Advisers, Inc., a registered investment advisor.

Brokerage services are plan-specific and may be provided by TD Ameritrade, Inc., member FINRA/SIPC or Vanguard Brokerage Services®, a division of Vanguard Marketing Corporation, member FINRA/SIPC. Refer to Vanguard's plan documents for information on the applicable brokerage services provider. TD Ameritrade and Vanguard are separate and unaffiliated firms, and are not responsible for each other's services or policies. TD Ameritrade is a trademark jointly owned by TD Ameritrade IP Company, Inc., and the Toronto-Dominion Bank. Used with permission.

CFA® and Chartered Financial Analyst® are trademarks owned by CFA Institute. Financial Engines is a registered trademark, and Financial Engines Investment Advisor service is a registered service mark of Financial Engines, Inc. Financial Engines Advisors L.L.C., a federally registered investment advisor and wholly owned subsidiary of Financial Engines, Inc., provides all advisory services. The Vanguard Group has partnered with Financial Engines to provide the Vanguard Managed Account Program and Personal Online Advisor, powered by Financial Engines.

CGS identifiers have been provided by CUSIP Global Services, managed on behalf of the American Bankers Association by Standard & Poor's Financial Services, LLC, and are not for use or dissemination in a manner that would serve as a substitute for any CUSIP service. The CUSIP Database, © 2020 American Bankers Association. "CUSIP" is a registered trademark of the American Bankers Association.

Important information

BLOOMBERG® is a trademark and service mark of Bloomberg Finance L.P. BARCLAYS® is a trademark and service mark of Barclays Bank Plc, used under license. Bloomberg Finance L.P. and its affiliates, including Bloomberg Index Services Limited ("BISL") (collectively, "Bloomberg"), or Bloomberg's licensors own all proprietary rights in the Bloomberg Barclays Indices.

The products are not sponsored, endorsed, issued, sold, or promoted by "Bloomberg or Barclays." Bloomberg and Barclays make no representation or warranty, express or implied, to the owners or purchasers of the products or any member of the public regarding the advisability of investing in securities generally or in the products particularly or the ability of the Bloomberg Barclays Indices to track general bond market performance. Neither Bloomberg nor Barclays has passed on the legality or suitability of the products with respect to any person or entity. Bloomberg's only relationship to Vanguard and the products are the licensing of the Bloomberg Barclays Indices, which are determined, composed, and calculated by BISL without regard to Vanguard or the products or any owners or purchasers of the products. Bloomberg has no obligation to take the needs of the products or the owners of the products into consideration in determining, composing, or calculating the Bloomberg Barclays Indices. Neither Bloomberg nor Barclays is responsible for and has not participated in the determination of the timing of, prices for, or quantities of the products to be issued. Neither Bloomberg nor Barclays has any obligation or liability in connection with the administration, marketing, or trading of the products.

London Stock Exchange Group companies include FTSE International Limited ("FTSE"), Frank Russell Company ("Russell"), MTS Next Limited ("MTS"), and FTSE TMX Global Debt Capital Markets Inc. ("FTSE TMX"). All rights reserved. "FTSE®," "Russell®," "MTS®," "FTSE TMX®," and "FTSE Russell," and other service marks and trademarks related to the FTSE or Russell Indexes are trademarks of the London Stock Exchange Group companies and are used by FTSE, MTS, FTSE TMX, and Russell under license. All information is provided for information purposes only. No responsibility or liability can be accepted by the London Stock Exchange Group companies nor its licensors for any errors or for any loss from use of this publication. Neither the London Stock Exchange Group companies nor any of its licensors make any claim, prediction, warranty, or representation whatsoever, expressly or impliedly, either as to the results to be obtained from the use of the FTSE Indexes or the fitness or suitability of the indexes for any particular purpose to which they might be put.

The index is a product of S&P Dow Jones Indices LLC ("SPDJI") and has been licensed for use by Vanguard. Standard & Poor's® and S&P® are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"); Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"); S&P® and S&P 500® are trademarks of S&P; and these trademarks have been licensed for use by SPDJI and sublicensed for certain purposes by Vanguard. Vanguard product(s) are not sponsored, endorsed, sold, or promoted by SPDJI, Dow Jones, S&P, or their respective affiliates, and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have any liability for any errors, omissions, or interruptions of the index.

Morningstar data © 2020 Morningstar, Inc. All rights reserved. The information contained herein: (1) is proprietary to Morningstar and/or its content providers; (2) may not be copied or distributed; and (3) is not warranted to be accurate, complete, or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information. Past performance is no guarantee of future results.

The Russell Indexes and Russell® are registered trademarks of Russell Investments and have been licensed for use by The Vanguard Group. The products are not sponsored, endorsed, sold, or promoted by Russell Investments, and Russell Investments makes no representation regarding the advisability of investing in the products.

"Dividend Achievers" is a trademark of The NASDAQ OMX Group, Inc. (collectively, with its affiliates, "NASDAQ OMX") and has been licensed for use by The Vanguard Group, Inc. Vanguard mutual funds are not sponsored, endorsed, sold, or promoted by NASDAQ OMX, and NASDAQ OMX makes no representation regarding the advisability of investing in the funds. NASDAQ OMX MAKES NO WARRANTIES AND BEARS NO LIABILITY WITH RESPECT TO THE VANGUARD MUTUAL FUNDS.

The funds or securities referred to herein are not sponsored, endorsed, or promoted by MSCI, and MSCI bears no liability with respect to any such funds or securities. The prospectus or the Statement of Additional Information contains a more detailed description of the limited relationship MSCI has with Vanguard and any related funds.

The Global Industry Classification Standard ("GICS") was developed by and is the exclusive property and a service mark of MSCI Inc. ("MSCI") and Standard and Poor's, a division of McGraw-Hill Companies, Inc. ("S&P") and is licensed for use by Vanguard. Neither MSCI, S&P, nor any third party involved in making or compiling the GICS or any GICS classification makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability, or fitness for a particular purpose with respect to any such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of its affiliates, or any third party involved in making or compiling the GICS or any GICS classification have any liability for any direct, indirect, special, punitive, consequential, or any other damages (including lost profits) even if notified of the possibility of such damages.

Apple®, iPhone®, and iPad® are trademarks of Apple Inc., registered in the United States and other countries. App Store is a service mark of Apple Inc. Android™ is a trademark of Google Inc.