



Model portfolio commentary

3rd Quarter 2017

Strategist commentary on model portfolios

Vanguard recently announced a number of leadership changes. Under the planned succession, effective January 1, 2018, Tim Buckley will become Vanguard's fourth CEO since its founding in 1975. Buckley will succeed Bill McNabb, who will retain his position as chairman of the board.

Greg Davis, global head of Vanguard's Fixed Income Group, was appointed to succeed Buckley as chief investment officer. As part of the changes, Buckley was named as president and director of Vanguard.

As part of a standard index reconstitution process, FTSE Russell began adding two equity share classes of Chinese companies, N-shares and S-chips, to indexes in the FTSE Global Equity Index Series, effective September 18, 2017. N-shares and S-chips, are so named because they trade in New York and Singapore, respectively.

These companies operate primarily in China and include some familiar examples, such as Alibaba and Baidu. N-shares will be added in equal quarterly increments through June 2018, while S-chips were added in one tranche in September 2017. This impacts the following two ETFs included in our Model Portfolios: the FTSE Emerging Markets ETF (VWOW), included in our CRSP, S&P, and Russell series; as well as the Total International Stock ETF (VXUS), included as part of our Core Series. Vanguard believes inclusion of these shares allows for broader and more accurate representation of the overall Chinese market.

Market overview

After underperforming U.S. stocks in recent years, European stocks are starting to yield higher returns. The FTSE Developed Europe All Cap Index was up 6.70% for the quarter after rising 5.90% and 4.68% in the first two quarters of 2017 respectively, while the U.S. market was up approximately 4.50% for the quarter as measured by the CRSP U.S. Total Market Index. Increasing tensions between the U.S. and North Korea, along with terrorist attacks in Barcelona, led to rising stock market volatility in August. For a broader perspective on markets outside of the U.S., the FTSE All-World Developed ex North America Index was up 5.30% for the quarter.

The strong recent performance of the European market comes despite significant political and economic headwinds during the quarter, including the United Kingdom entering into negotiations to exit the European Union and weakness in the European banking sector. Market watchers had speculated Britain's withdrawal could drive the country into a recession. Thus far, the U.K. economy has defied expectations and is one of the world's fastest-growing economies. Britain's unemployment rate is hovering around 4.5%, representing a record low dating back to 1975.

China has experienced a long-running decrease in productivity growth, but has exhibited positive signs recently. China revised its second quarter GDP growth to 6.9%. The Caixin Manufacturing PMI in China rose to 51.6 in August of 2017 from 51.1 in July and beating market consensus of 50.9. It was the third straight month of expansion and the fastest since February.

While the Chinese economy has shown signs of stabilization, challenges like the decreasing efficiencies of state-owned enterprises continue to serve as a drag on productivity. As an emerging economy, China has the capability to lift productivity through market-driven reforms while encouraging innovation.

The bond market, as measured by the Bloomberg Barclays U.S. Agg Float Adj Index, rose by a modest 0.8% over the quarter even as the 10-year U.S. Treasury yield rose slightly from 2.27% at the start of the quarter to 2.33% at the close. The relatively flat market can be attributed to the investors' uncertainty as to the effect the Federal Reserve beginning to reduce its balance sheet will have on interest rates. The uncertainty stems from the fact that the Fed, or any other central bank, has never had a balance sheet of this size and tried to reduce it, so there is no historical situation to reference or economic model to plug numbers in to.

The Vanguard view

The uptick in performance for the European markets speaks to Vanguard's belief in a broadly diversified, well balanced, low-cost, portfolio that offers some international exposure. Research has shown that having even a modest allocation to international securities can help lower portfolio volatility.¹

¹ Christopher B. Philips, 2014. *Global Equities: Balancing home bias and diversification*, Valley Forge, PA.: The Vanguard Group.

Vanguard believes there are a number of potential Brexit scenarios that could unfold over the next several quarters. The possibilities range from U.K. officials rethinking its decision to leave (an unlikely scenario) to the U.K. joining the European Economic Area and retaining access to the E.U. single market and customs union. The latter scenario would mean only slight changes from the status quo.

For the Chinese economic reforms to occur, the Chinese government must relax its control to allow market forces to assume a larger role in the economy. At the same time, the government must look to reduce its interference in the economy by resuming the privatization of the state-owned enterprises.

Vanguard ETF strategic model portfolios

Investment strategy

The Vanguard model portfolios seek to provide broad exposure to U.S. and international equities and global investment-grade taxable bonds in an asset allocation framework.

Portfolio construction

The Vanguard model portfolios are strategic and index-centric by nature. Within the broad asset classes (U.S. and international equities, U.S. and international investment-grade bonds), the portfolios are market-cap weighted and will reflect their benchmarks' investment style and security size exposures.

There are no intentional tactical overlays or factor bets (size or style) within the asset classes. The portfolios use a fixed 60%/40% ratio of U.S. and international stocks, as well as a 70%/30% ratio of U.S. and international bonds, representing a conscious "home bias" relative to global market-cap weighted benchmarks.

Some of our models use multiple ETFs to capture the beta of a single asset class (e.g., U.S. equities as represented by the CRSP US Total Market Index). However, the risk and return characteristics should not meaningfully deviate from those of the asset-class benchmarks.

Risk management

Risk is primarily determined and managed through the asset allocations and extremely broad diversification of the portfolios. There is no active management or security selection involved.

Return expectations

As the underlying funds are index funds and the portfolios do not incorporate active or tactical allocation shifts, the returns from each portfolio should very closely approximate those for the benchmarks.

Index-oriented, strategically allocated strategies historically have been very tax-efficient, which may enhance a taxable investor's after-tax returns. These strategies have also tended to be lower-cost, relative to comparable actively managed investment alternatives. Research has shown a negative correlation between cost and returns, whereby lower-cost funds have tended to deliver higher, longer-term returns relative to higher-cost funds.² This potential for higher returns due to the models' low relative cost may benefit both taxable and tax-exempt investors.

² Research demonstrating a negative correlation between investment cost and returns has been extensive. Consider, for example:

Wallick, Daniel W., Brian R. Wimmer, and James J. Balsamo, 2015. *Shopping for alpha: You get what you don't pay for*. Valley Forge, Pa.: The Vanguard Group.

Phillips, Christopher B., and Francis M. Kinniry Jr., Daniel J. Walker, 2013. *Mutual Fund Ratings and Future Performance*. Valley Forge, Pa.: The Vanguard Group.

Financial Research Corporation, 2002. *Predicting Mutual Fund Performance II: After the Bear*. Boston, Mass.: Financial Research Corporation.

Whatever your asset allocation needs or your benchmark preferences, there is a market-weighted model portfolio available. In addition, with Vanguard ETF strategic model portfolios, you can benefit from Vanguard's remarkably low costs, deep indexing experience, stringent due diligence, and trusted name.

About Vanguard Investment Strategy Group

In addition to constructing our ETF strategic model portfolios, the Investment Strategy Group is responsible for developing and maintaining Vanguard's investment methodology, including asset allocation modeling.

Index performance as of 09/30/2017

U.S. equity						
CRSP	3 Mo.	Returns (annualized over 1 year)				
		YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.
US Total Market Index	4.5%	14.0%	18.6%	10.7%	14.2%	—
US Large Cap Growth Index	4.9	20.4	19.9	11.6	14.3	—
US Large Cap Value Index	4.1	9.5	17.8	10.0	14.0	—
US Small Cap Index	4.6	10.6	17.3	10.4	14.1	—
S&P	3 Mo.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.
500 Index	4.5%	14.2%	18.6%	10.8%	14.2%	7.4%
Completion Index	5.0	12.7	18.9	10.3	14.1	8.2
Russell	3 Mo.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.
1000 Growth Index	5.9%	20.7%	21.9%	12.7%	15.3%	9.1%
1000 Value Index	3.1	7.9	15.1	8.5	13.2	5.9
2000 Index	5.7	10.9	20.7	12.2	13.8	7.8

International equity						
FTSE	3 Mo.	Returns (annualized over 1 year)				
		YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Global All Cap ex US Index	6.1%	21.2%	19.7%	5.6%	7.8%	2.1%
All-World Developed ex North America Index	5.3	20.6	19.5	5.5	8.4	1.6
All-World Emerging Index	7.8	23.5	20.0	4.4	4.0	1.5

U.S. fixed income						
Bloomberg Barclays	3 Mo.	Returns (annualized over 1 year)				
		YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.
U.S. Agg Float Adj Index	0.8%	3.2%	0.1%	2.7%	2.1%	—
U.S. 1–5 Yr Gov/Cr Flt Adj Index	0.4	1.6	0.5	1.5	1.2	—
U.S. 5–10 Yr Gov/Cr Flt Adj Index	0.9	3.8	–0.3	3.4	2.4	5.4%
U.S. Long Gov/Cr Flt Adj Index	1.5	7.7	–0.8	5.5	3.9	7.4
U.S. MBS Float Adj Index	0.9	2.2	0.3	2.3	1.9	—

International fixed income						
Bloomberg Barclays	3 Mo.	Returns (annualized over 1 year)				
		YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.
GA ex-USD FIAj RIC CplxHgd	0.7%	1.4%	–0.6%	3.4%	—	—

Source: FactSet and Vanguard.

Portfolio construction team

The Investment Strategy Group is led by Vanguard Chief Economist Joe Davis and includes more than 30 strategists and analysts providing thought leadership in asset allocation, portfolio construction, and ETFs.

Joe Davis, Ph.D., is a principal and global head of Vanguard Investment Strategy Group, whose investment research and client-facing team conducts research on portfolio construction, develops the firm's economic and market outlook, and helps oversee the firm's asset allocation strategies for both institutional and individual investors. In addition, he is a member of the senior portfolio management team for Vanguard Fixed Income Group. Joe frequently presents at investment symposiums and has published studies on a variety of macro-economic and investment topics in leading academic journals. He earned his Ph.D. in economics at Duke University.

Fran Kinniry, CFA, is a principal in Vanguard Investment Strategy Group, whose primary responsibilities are capital market research, portfolio design, development and implementation of customized investment solutions, investment market commentary, and research. The group's proprietary research on investment, economic, and portfolio management issues has been published in leading academic and practitioner journals. Fran and his group also are responsible for establishing the investment philosophy, methodology, and portfolio construction strategies for Vanguard. He initiated Vanguard Investment Counseling & Research and Vanguard Asset Management and Advisory Services. Fran is a Chartered Financial Analyst® charterholder and earned bachelor's and M.B.A. degrees from Drexel University.

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Financial advisors: Visit advisors.vanguard.com or call 800-997-2798.

For more information about Vanguard ETFs, contact your financial advisor 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.

All investments are subject to risk, including the possible loss of the money you invest. There is no guarantee that any particular asset allocation or mix of funds will meet your investment objectives or provide you with a given level of income. Past performance is no guarantee of future returns. Diversification does not ensure a profit or protect against a loss.

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Scott J. Donaldson, CFA, CFP, is a senior investment strategist in Vanguard Investment Strategy Group. This group is responsible for establishing the investment philosophy, methodology, and portfolio construction strategies for Vanguard. The group is also responsible for Vanguard's proprietary research on a variety of investment, economic, and portfolio management issues. Previously, Scott served as an investment manager for clients of Vanguard Asset Management Services™. He has more than 25 years of experience in the investment management industry and earned an M.B.A. from Saint Joseph's University.



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

FASMPEN 102017