The 2018 outlook for fixed income: Balancing the secular and cyclical trends
Fixed income market and economic update
Executive summary

Cyclical uptick in the midst of the secular trends

Positive performance in risk assets

Monetary policy likely to become restrictive in 2019

Inflation will likely remain below target

Central bank policy is a key risk

Subdued long-term asset return forecasts
A probabilistic view of our growth outlook

Strong global fundamentals deliver a positive growth assessment for 2018

Source: Vanguard.

* For China – Hard landing.
U.S. experiencing cyclical upswing

More than just unemployment: U.S. economy is growing beyond potential

Source: Vanguard.
Inflation panic seems unwarranted

Inflation is below target 77% of the time since 1994

Source: Vanguard.
Projected global fixed income ten-year return outlook

VCMM-simulated distribution of expected average annualized nominal return of total fixed income market as of June 2010 and September 2017

Global bonds 70% U.S./30% global ex-U.S.

Important: The projections or 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, derived from 10,000 simulations for global equity returns and fixed income returns in USD. Simulations as of September 30, 2017. Results from the model may vary with each use and over time. For more information, please see the Important information slide.

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

Source: Vanguard.
Investment-grade corporates: Excess return forecast modest

Investment-grade option-adjusted spreads (OAS) are trading at the tight end of the range

Note: The top panel shows the option-adjusted spread (OAS) for global investment-grade corporate bonds from January 1990 through February 2018.

Sources: Barclays Live, Bloomberg Barclays Global Aggregate Corporate Index.
Projected global equity ten-year return outlook

VCMM simulated distribution of expected average annualized nominal return of global equity market as of June 2010 and September 2017

Global equity 60% U.S./40% global ex-U.S.

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Source: Vanguard.

Notes: Figure displays projected range of potential returns for portfolios of 60% U.S./40% ex-U.S. equities unhedged in USD, rebalanced annually. For details on benchmarks used for historical returns, see “Indexes Used in Our Historical Calculations,” on page 5 of 2017 Economic and Market Outlook: Stabilization, Not Stagnation (Davis et. al 2016).
Bonds can provide ballast in an equity bear market

Median return of various asset classes during the worst decile of monthly equity returns 1988–2017

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

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

Notes: U.S. stocks represented by Dow Jones U.S. Total Stock Market Index through April 2005, MSCI US Broad Market Index through June 2013 and CRSP US Total Market Index thereafter; emerging markets stocks are represented by MSCI Emerging Markets Index; REITs by FTSE NAREIT Equity REIT Index; dividend stocks by Dow Jones U.S. Select Dividend Index; commodities by S&P GSCI Commodity Index; high-yield bonds by Bloomberg Barclays U.S. Corporate High Yield Bond Index; emerging markets bonds by Bloomberg Barclays EM USD Aggregate Index; investment-grade corporate bonds by Bloomberg Barclays U.S. Corporate Index; U.S. Treasury bonds by Bloomberg Barclays U.S. Treasury Bond Index; hedge fund index by HFR fund-weighted total return index and international bonds by Bloomberg Barclays Global Aggregate ex-USD Bond Index. The Dow Jones U.S. Select Dividend Index starts in January 1992; Bloomberg Barclays EM USD Aggregate Index starts in January 1993; hedge fund data start in 1994, and Bloomberg Barclays Global Aggregate ex USD Bond Index starts in January 1990. All data provided through December 31, 2017.
Vanguard fixed income management

Our three core strengths support an enduring competitive advantage

1. Seasoned, stable team
2. Low costs and scale
3. Disciplined, risk-controlled process

Enables competitive returns without taking undue risk

Ownership structure:

* Vanguard is client-owned. Client-owned means that fund shareholders own the funds, which, in turn, own Vanguard.
A global organization, a deep and credentialed team

Global centers tap local expertise

Strategic, integrated support

Fixed Income Group

Risk Management Group
Independent risk assessment

Investment Strategy Group
Macroeconomic analysis

Source: Vanguard, as of December 31, 2017. Includes members of Risk Management Group Quantitative team.
2018 initiatives

**Globalization**
- Building a high-yield team
- New emerging markets team at full strength
- Increased scale and breadth of mortgage capability
- Globalizing rates process

**Alpha**

**Innovation/tech**

**Enhanced capabilities**
- Active Core
  - Launched March 2016
- Active Emerging Markets
  - Launched March 2016
- Active Global Credit
  - Launched September 2017
Bonds continue to play an important role in portfolio diversification

Secular trends
- Monetary policy likely to become restrictive in early 2019
- Central bank policy is a key risk

Cyclical uptick
- Inflation will likely remain below inflation targets in the long term
- Positive performance in risky assets

Long-term asset return forecasts subdued
IMPORTANT: The projections and other information generated by the Vanguard Capital Markets Model 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 important, 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.

All investing is subject to risk, including possible loss of principal. 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. Diversification does not ensure a profit or protect against a loss. 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. U.S. government backing of Treasury or agency securities applies only to the underlying securities and does not prevent share-price fluctuations. Unlike stocks and bonds, U.S. Treasury bills are guaranteed as to the timely payment of principal and interest. Investments in stocks or bonds issued by non-U.S. companies are subject to risks including country/regional risk and currency risk.

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