

Market Analysis / Fourth Quarter 2018



INDEPENDENT WEALTH MANAGEMENT

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Strong U.S. Corporate Backdrop amid Policy Uncertainties

Solid economic growth and strong corporate results, particularly in the U.S., boosted global equity markets. Tax cuts continued to support corporate profits, but the policy environment is becoming less positive as the Federal Reserve continues to hike interest rates and U.S.–China trade escalation exacerbates late-cycle pressures. The global expansion has become less synchronized, and the mature business cycle warrants smaller allocation tilts.

MACRO

Q3 2018

- Solid growth but global business cycle becoming less synchronized

OUTLOOK

- China acknowledged slowing growth with clear shift toward policy easing; global activity has likely peaked
- U.S. economy strong, but the cycle is becoming more mature as the Fed tightens
- Ample corporate liquidity a huge positive, but will ultimately not offset tightening central bank liquidity
- Trade tensions to remain a headwind, exacerbate late-cycle trends

ASSET MARKETS

- Global stock prices and bond yields rose

- Monetary shift to reduce global liquidity growth, boost market volatility
- Smaller allocation tilts at this point in the cycle
- Prioritize diversification, including inflation-resistant assets

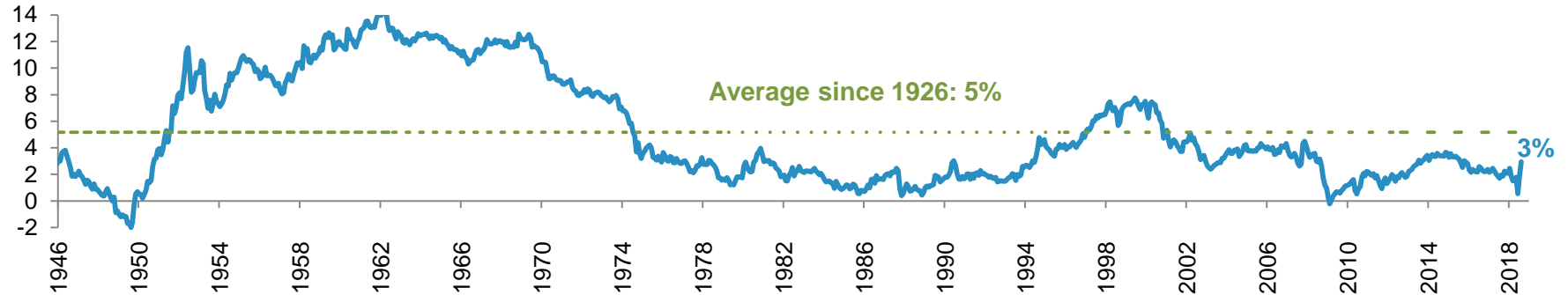
U.S. Equities Hit New Highs, Other Asset Prices Mixed

Sturdy U.S. economic and corporate conditions helped push U.S. stocks to the top of the leaderboard for the second quarter in a row, adding to their strong one-year gains. More economically sensitive bond categories such as high-yield corporates fared well, though higher interest rates held back other categories. A mixed global environment proved less favorable for commodities and non-U.S. equities.

	Q3 2018 (%)	1-Year (%)		Q3 2018 (%)	1-Year (%)
U.S. Large Cap Stocks	7.7	17.9	Real Estate Stocks	0.5	4.3
U.S. Mid Cap Stocks	5.0	14.0	Investment-Grade Bonds	0.0	-1.2
U.S. Small Cap Stocks	3.6	15.2	U.S. Corporate Bonds	-0.5	-2.7
High Yield Bonds	2.4	2.9	Non-U.S. Small Cap Stocks	-0.8	4.1
Emerging-Market Bonds	1.9	-2.9	Emerging-Market Stocks	-0.9	-0.4
Non-U.S. Developed-Country Stocks	1.4	3.2	Commodities	-2.0	2.6
Long Government and Credit Bonds	0.9	-1.1	Gold	-5.1	-7.5

20-Year U.S. Stock Returns Minus IG Bond Returns since 1926

Return Difference (%)



Past performance is no guarantee of future results. It is not possible to invest directly in an index. See Appendix for important index information. Assets represented by: Commodities – Bloomberg Commodity Index; Emerging-Market Bonds – JP Morgan EMBI Global Index; Emerging-Market Stocks – MSCI EM Index; Gold – Gold Bullion, LBMA PM Fix; High-Yield Bonds – ICE BofAML High Yield Bond Index; Investment-Grade Bonds – Bloomberg Barclays U.S. Aggregate Bond Index; Non-U.S. Developed-Country Stocks – MSCI EAFE Index; Non-U.S. Small Cap Stocks – MSCI EAFE Small Cap Index; Real Estate Stocks – FTSE NAREIT Equity Index; U.S. Corporate Bonds – Bloomberg Barclays U.S. Credit Index; U.S. Large Cap Stocks – S&P 500 Index; U.S. Mid Cap Stocks – Russell Midcap Index; U.S. Small Cap Stocks – Russell 2000 Index; U.S. Treasury Bonds – Bloomberg Barclays U.S. Treasury Index. Source: Bloomberg Finance L.P., Haver Analytics, Fidelity Investments (AART), as of 9/30/18.

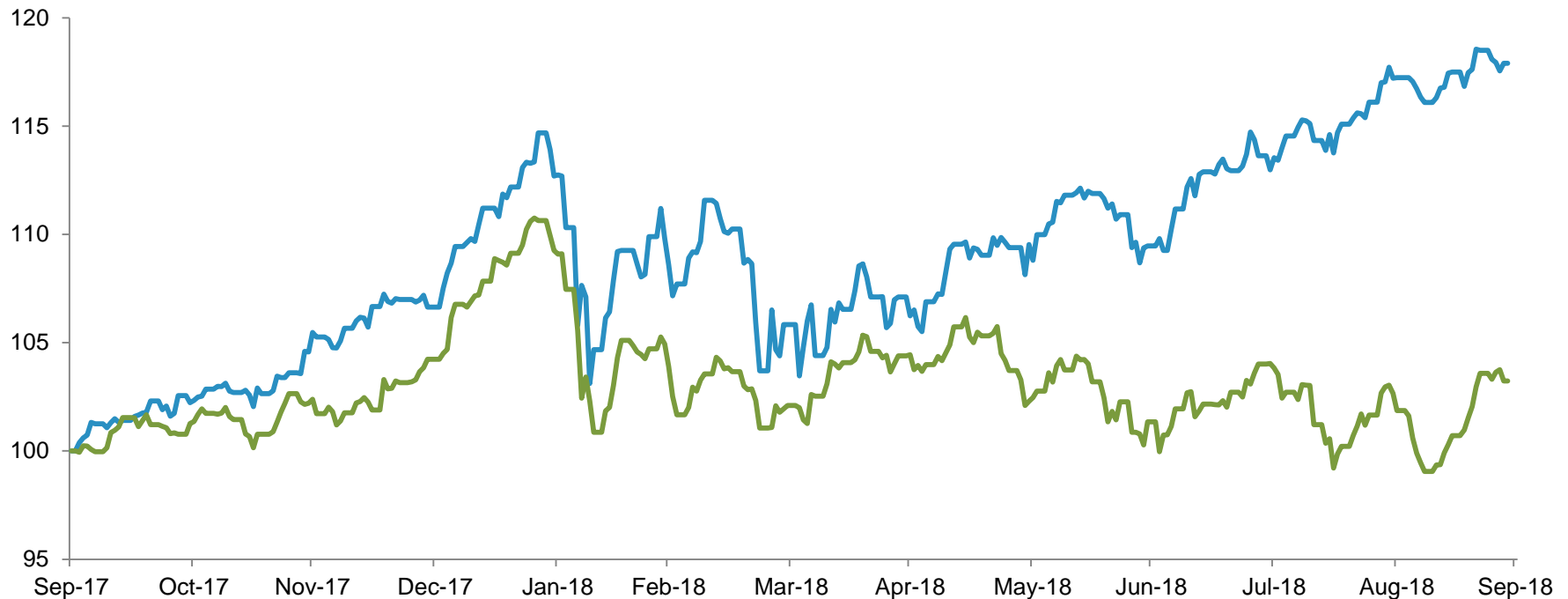
Non-U.S. Equities Continued in a Trading Range

After outperforming U.S. stocks during calendar-year 2017, non-U.S. equity returns have been lackluster so far in 2018. Non-U.S. currency values were relatively flat during Q3, although the stronger U.S. dollar has generally detracted from performance of non-U.S. assets in 2018 overall.

Performance of U.S. and Non-U.S. Equities

— S&P 500 — MSCI World ex-USA

Index 100 = 9/30/17



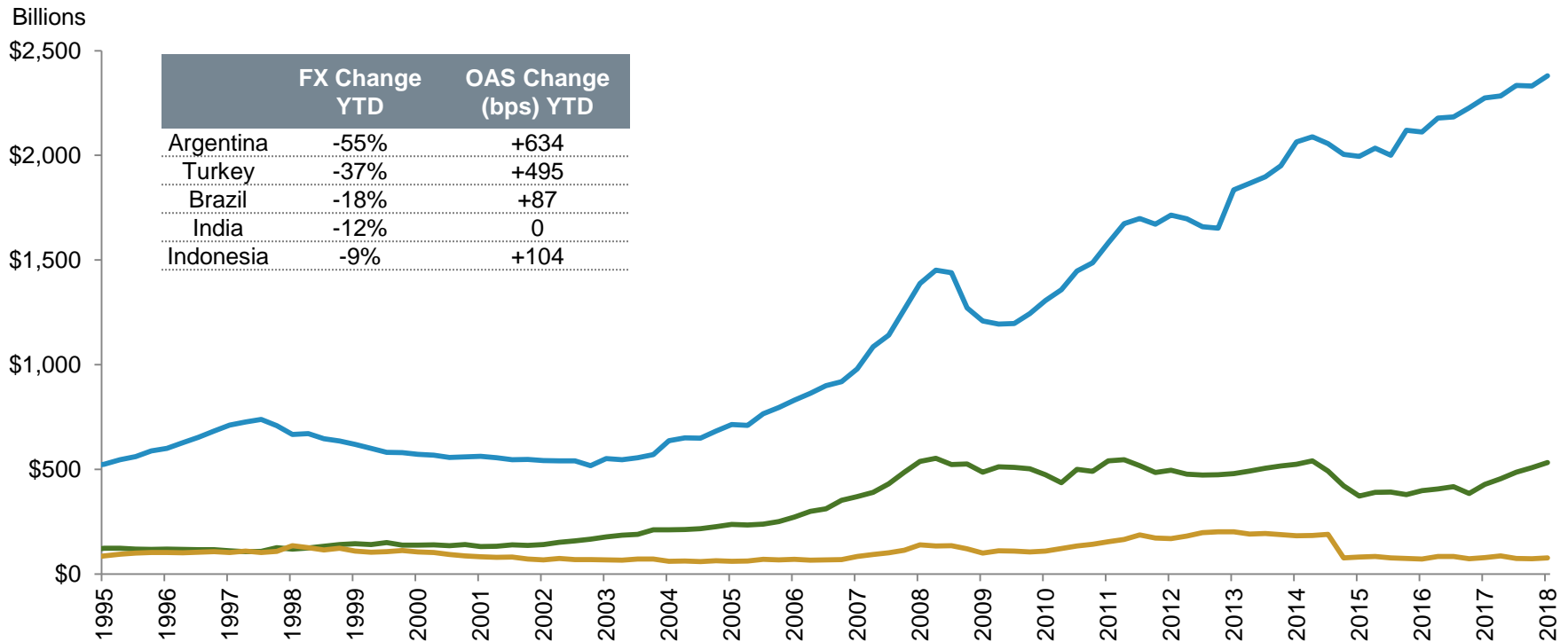
Past performance is no guarantee of future results. It is not possible to invest directly in an index.
Source: Standard & Poor's, MSCI, Bloomberg Financial L.P., Fidelity Investments (AART), as of 9/30/18.

Emerging Markets Challenged by Fading Dollar Liquidity

Over the past decade, developing economies significantly boosted offshore borrowing, in particular adding to U.S. dollar-denominated liabilities. With the Federal Reserve tightening monetary policy, global dollar liquidity has begun to recede. Emerging-market currencies and other assets have experienced headwinds in 2018, particularly the most vulnerable countries that have large current account deficits and foreign financing needs.

Emerging-Market Foreign Bank Liabilities

— U.S. Dollar — Euro — Yen



Past performance is no guarantee of future results.

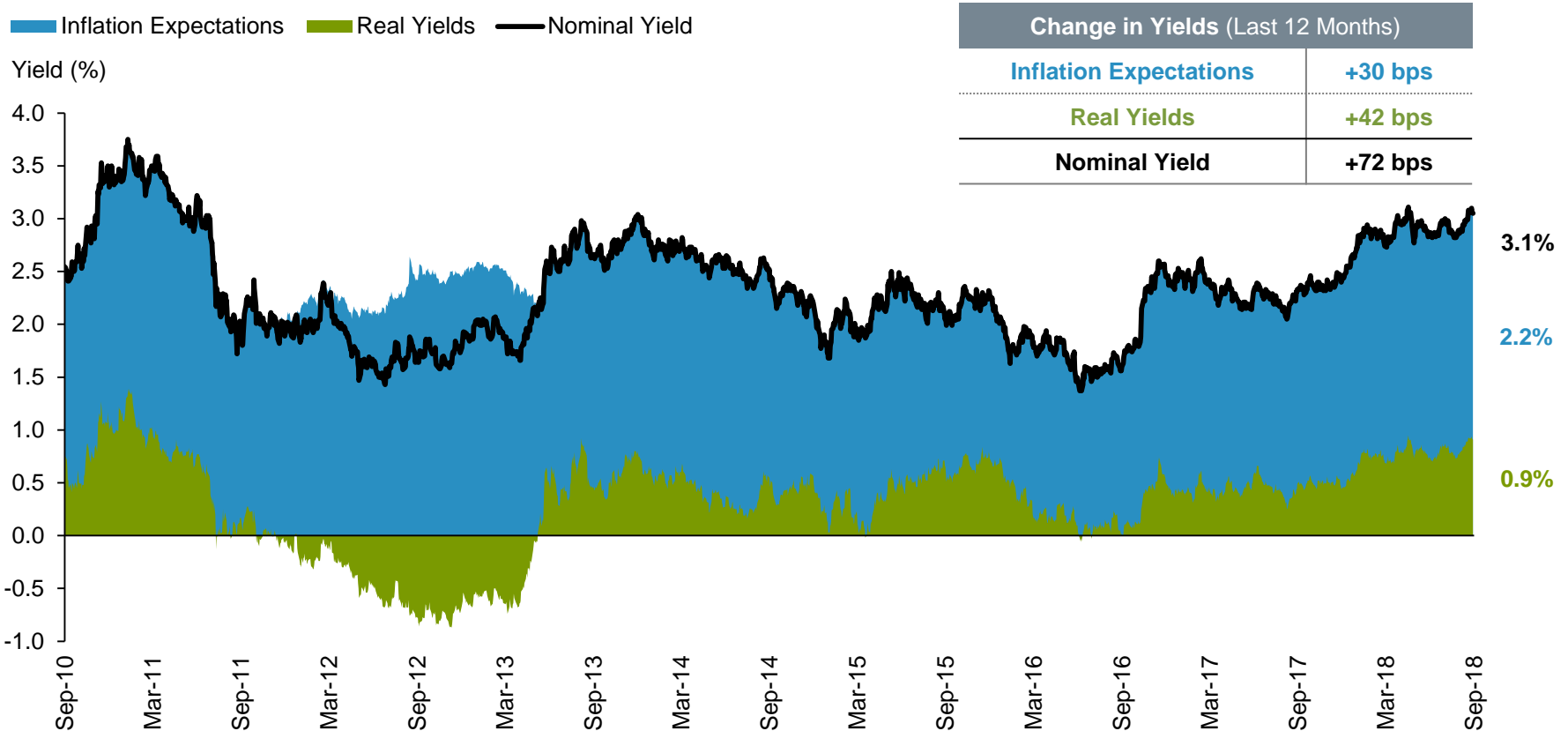
CHART: Banks' external claims on developing economies converted to U.S. dollars. Source: Bank for International Settlements, Haver Analytics, Bloomberg Financial L.P., Fidelity Investments (AART), as of 3/31/18.

TABLE: bps: basis points. OAS: Option-adjusted spread for 10-year sovereign bonds. Source: Bloomberg Financial L.P., Fidelity Investments (AART), as of 9/30/18.

Bond Yields at Multiyear Highs amid Firmer Expectations

With the outlook for growth and inflation solidifying and the Fed conveying its intent for a sustained tightening cycle, 10-year Treasury yields rose to their highest levels since 2011. Inflation expectations remain similar to the average of the past several years, but real yields are at the upper end of their range since mid-2011, signifying a modest but sustained rise in inflation-adjusted borrowing costs.

10-Year U.S. Treasury Yields

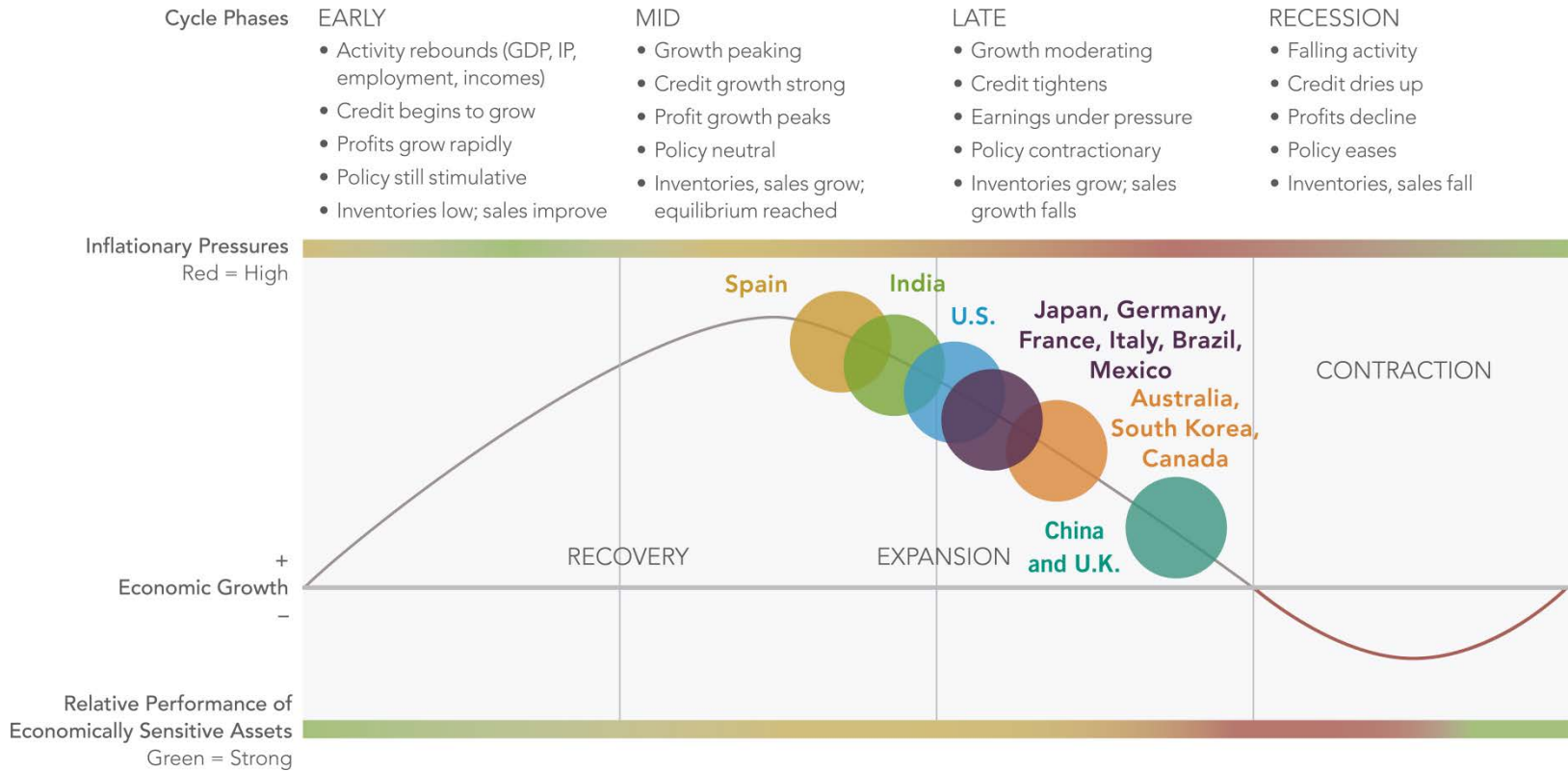


Fed: Federal Reserve. Nominal Yield: 10-Year Treasury yield. Source: Federal Reserve, Haver Analytics, Fidelity Investments (AART), as of 9/30/18.

U.S. and Global Cycles Continue to Mature

The global expansion remains solid, but many major economies have progressed toward more advanced stages of the business cycle. Late-cycle pressures have risen in the U.S., but recession risk remains extremely low. Emerging markets face headwinds from China’s industrial slowdown, looming trade uncertainties, and global monetary tightening. Europe has experienced the most significant slowdown among developed regions.

Business Cycle Framework



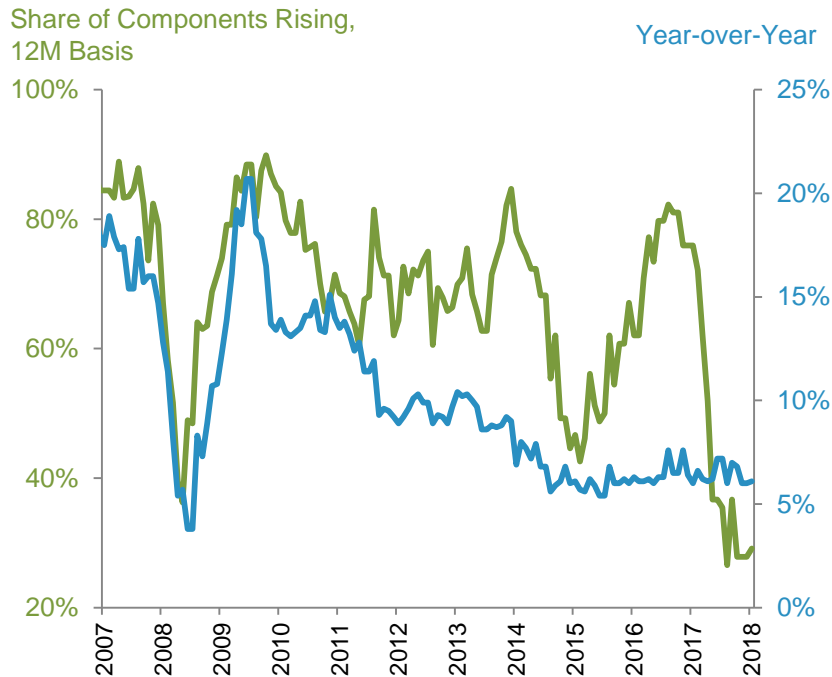
Note: The diagram above is a hypothetical illustration of the business cycle. There is not always a chronological, linear progression among the phases of the business cycle, and there have been cycles when the economy has skipped a phase or retraced an earlier one.
 Source: Fidelity Investments (AART), as of 9/30/18.

China Deceleration Challenges Policymakers

Our proprietary Industrial Production Diffusion Index continues to signal significant weakness in China, and during Q3 China acknowledged the slowdown by fully shifting toward an easing stance. Policymakers there face a delicate balance of trying to ease conditions while, at the same time, not adding to elevated debt levels, a task made more difficult by an external sector no longer in surplus and facing rising U.S. trade barriers.

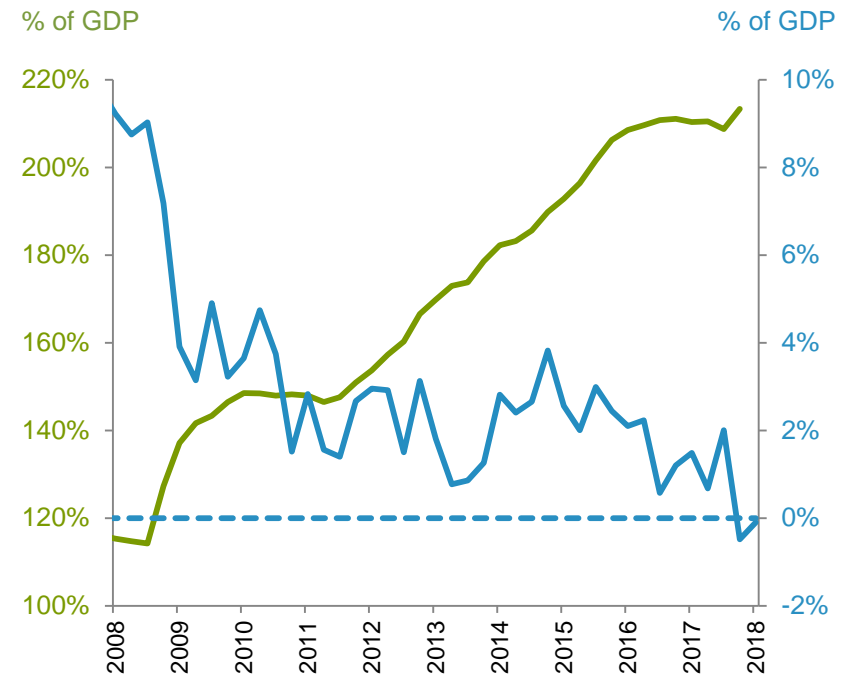
China Industrial Activity

— AART Industrial Production Diffusion Index
— Industrial Production Growth (Official Data)



China Private Debt and Current Account

— Private Sector Debt
— Current Account



The external sector involves a country's economic interactions—e.g., exports, imports, and capital flows—with other countries.

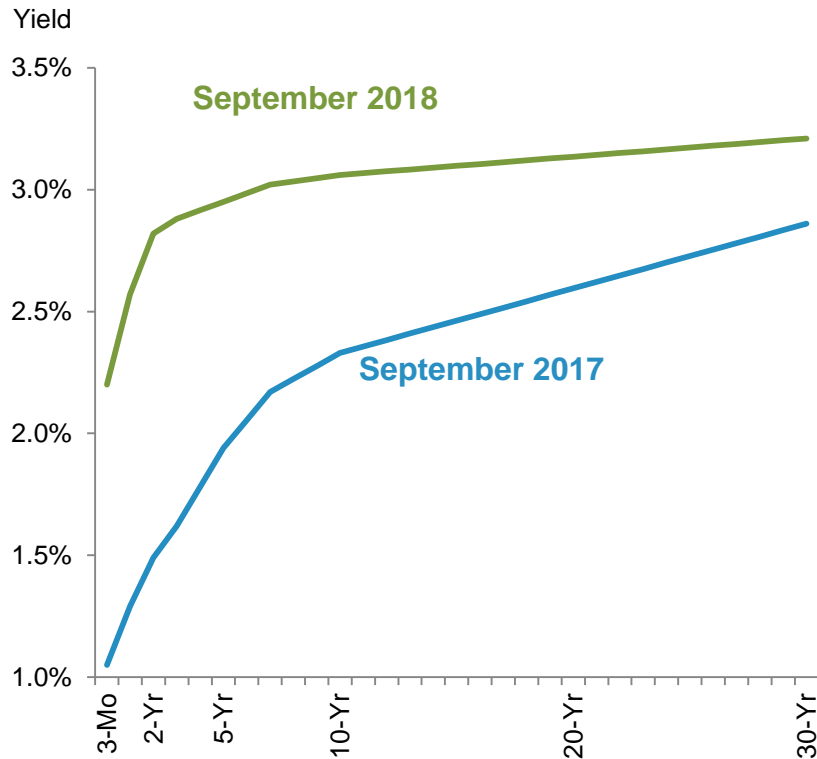
LEFT: Source: China National Bureau of Statistics (official data), Bloomberg Financial L.P., Fidelity Investments (AART), as of 8/31/18.

RIGHT: Source: State Administration of Foreign Exchange, Bank for International Settlements, Organization for Economic Cooperation & Development, Haver Analytics, Fidelity Investments (AART), as of 6/30/18.

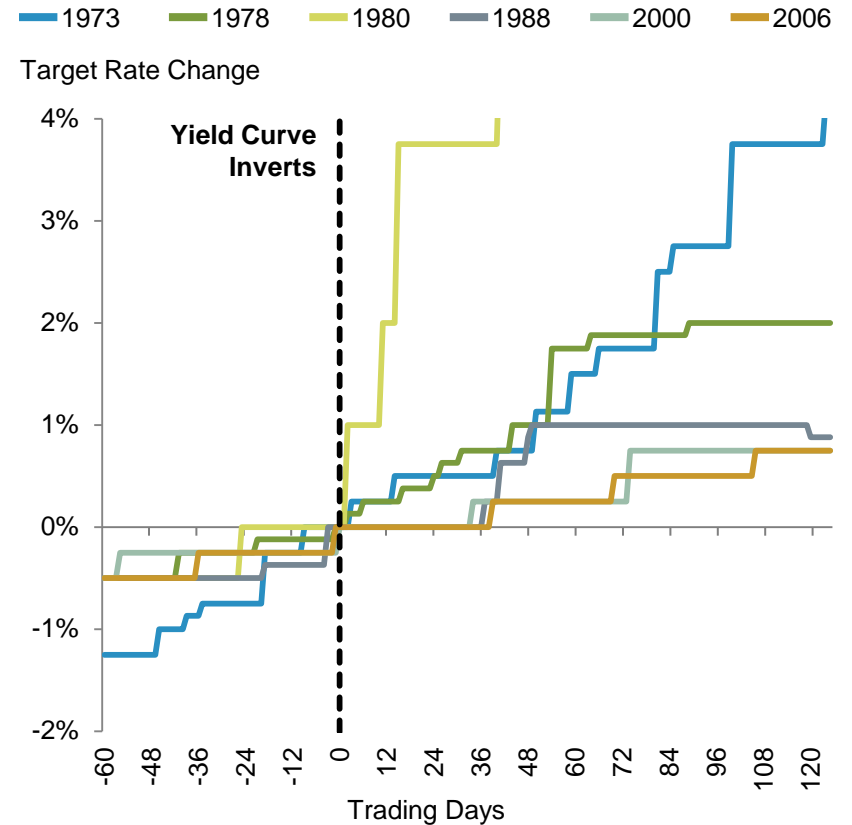
Fed Typically Hikes through a Yield Curve Inversion

In September, the Fed raised rates for the eighth time this cycle, further flattening the yield curve. Over the past six tightening cycles, the Fed has responded to falling unemployment and rising wages by continuing to raise rates, even after the curve became negatively sloped. This suggests to us that if wages are rising and labor markets remain tight, the Fed is likely to continue raising rates even if the yield curve inverts.

U.S. Treasury Yield Curve



Fed Funds Rate at Yield Curve Inversions



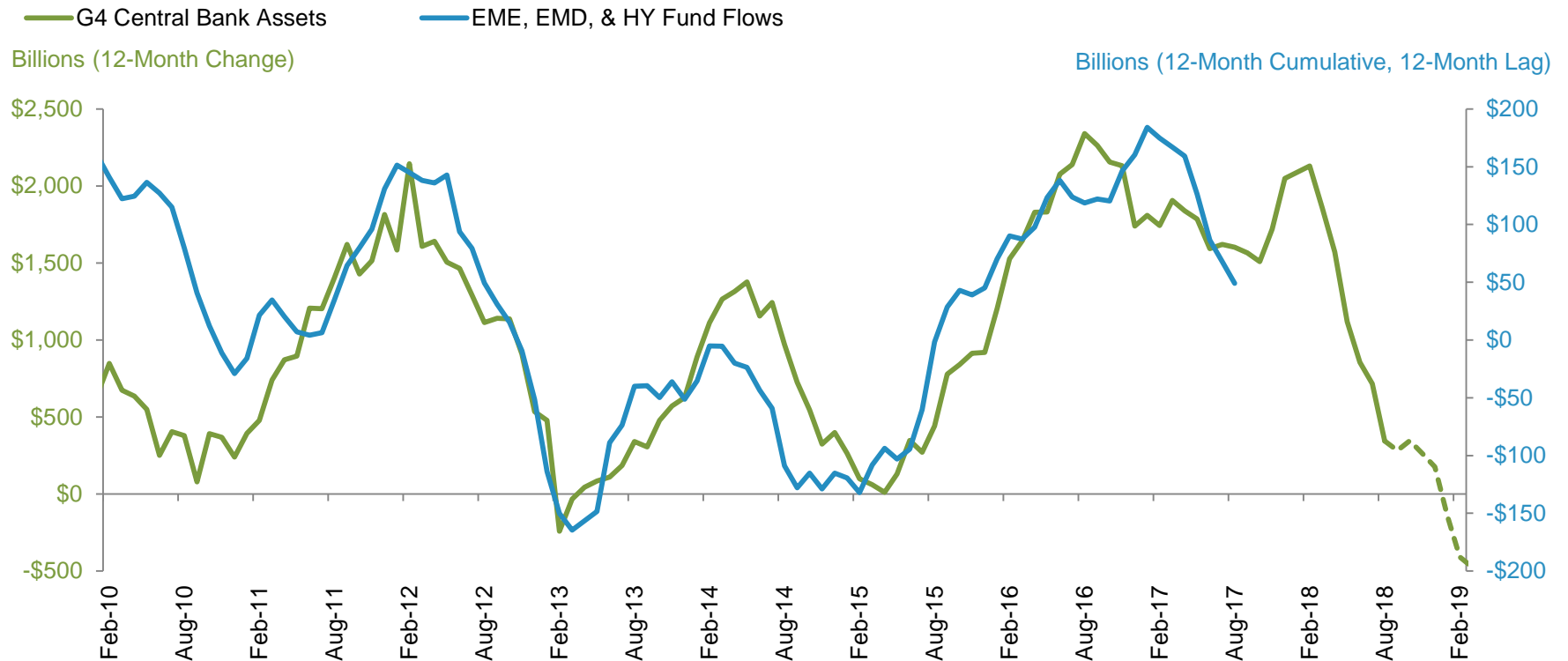
LEFT Source: Bloomberg Financial L.P., Fidelity Investments (AART), as of 9/30/18.

RIGHT: Includes instances when the 10–2 year Treasury yield curve initially inverted during Fed tightening cycles. Source: Federal Reserve Board, Bloomberg Financial L.P., Fidelity Investments (AART), as of 9/30/18.

QE Unwind Is Challenging Global Liquidity Growth

As the Fed further reduces its balance sheet and the ECB ends quantitative easing at year end, growth in major central-bank balance sheets is expected to turn negative by Q1 2019. After an unprecedented post-crisis period of global monetary easing, the paring of liquidity may challenge demand for less liquid assets such as high-yield bonds and emerging-market securities, potentially contributing to elevated asset-market volatility.

Fed, ECB, BOJ, BOE Balance Sheets and Asset Flows

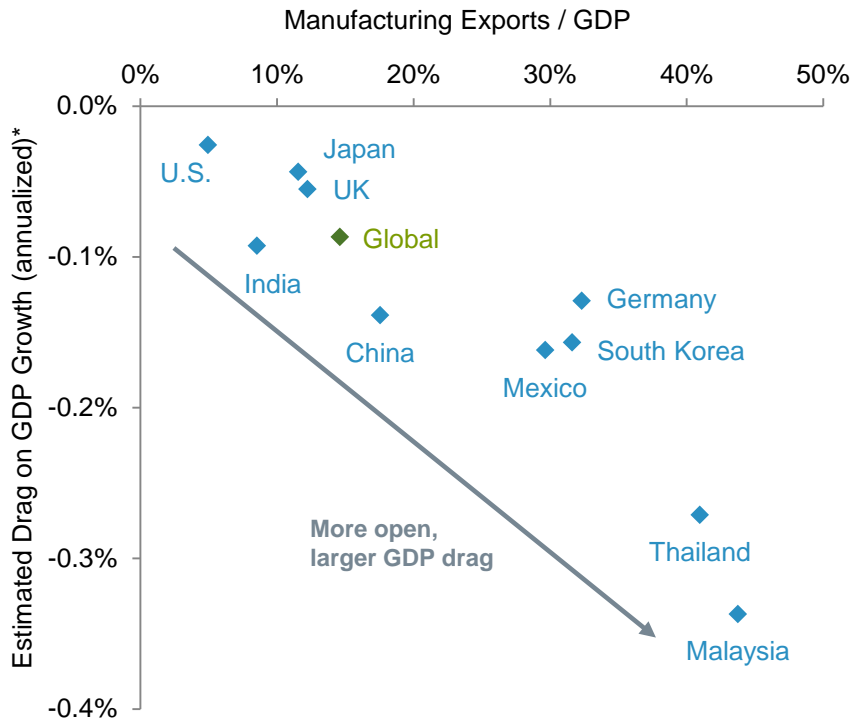


Fund Flows: Mutual funds and ETFs. EME: Emerging-Market Equity. EMD: Emerging-Market Debt. HY: High-Yield Debt. Dotted line estimates future central bank assets: Fed to roll off balance sheet assets by lesser of stated caps or total bonds maturing each month; ECB to purchase EUR15B per month in Q4; BOJ to purchase at annualized rate of average purchases over last 12 months; BOE to keep balance sheet constant. Source: Federal Reserve (Fed), Bank of England (BOE), European Central Bank (ECB), Bank of Japan (BOJ), EPFR, Haver Analytics, Fidelity Investments (AART), as of 8/31/18.

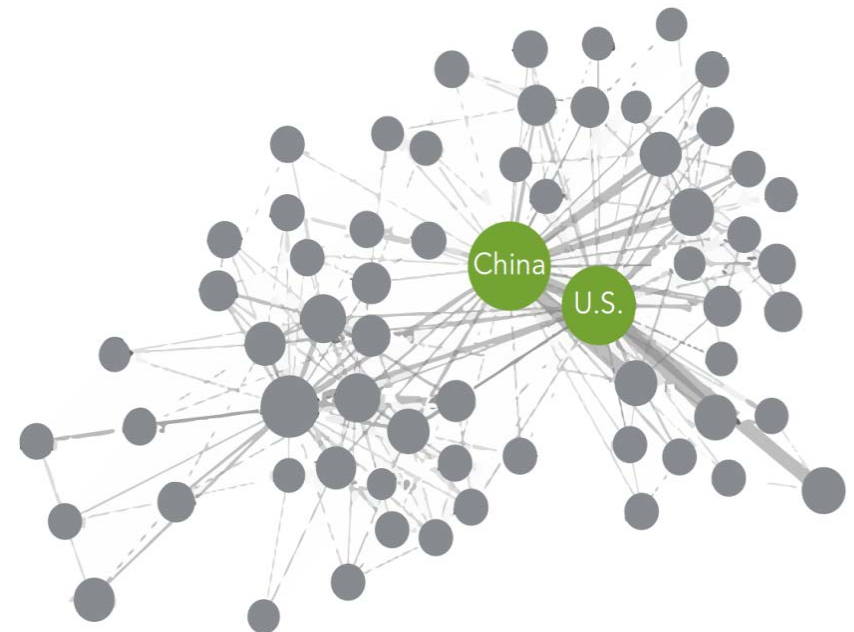
Aggressive U.S. Trade Policy is a Significant Risk

Rising trade barriers are a particular risk for those countries that are most dependent on global trade, investment, and supply chains, including manufacturing-based, export-oriented nations such as South Korea and Germany. Because China and the U.S. are the most central players in the highly integrated global trade network, the escalating U.S.–China commercial tensions represent a risk to global financial markets.

Trade Impact on Growth



Global Trade Interdependence



LEFT: *Differential of our 20-year secular GDP forecast assuming manufacturing exports as a share of GDP are down 50%.

Source: International Monetary Fund, Haver Analytics, Fidelity Investments (AART), as of 5/31/18.

RIGHT: The size of the circles represents total trade. The thickness of lines represents the volume of trade flows. The size of the circle and proximity to other countries represents importance and interconnectedness. Gray circles represent other countries. Source: International Monetary Fund, Haver Analytics, Fidelity Investments (AART), as of 12/31/15.

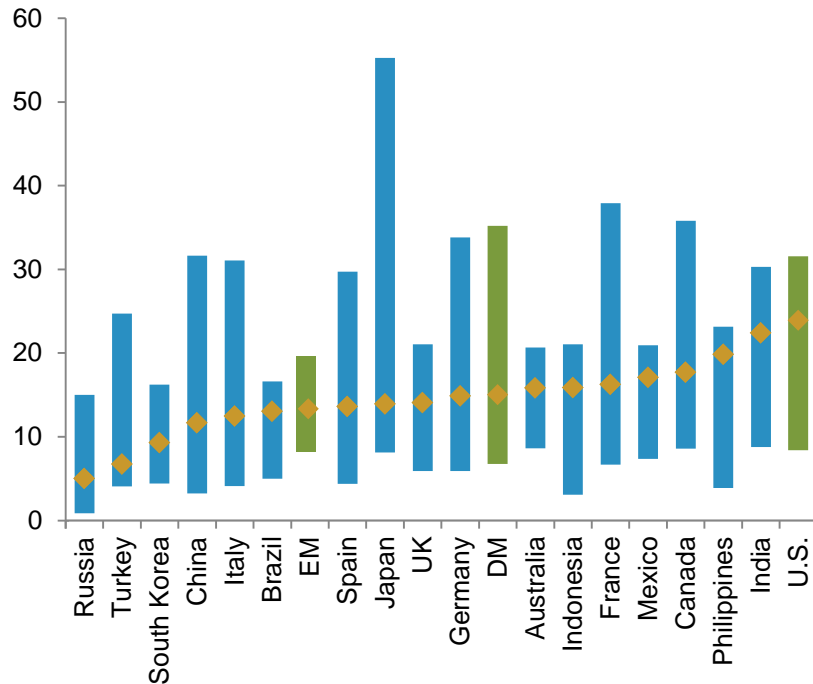
Non-U.S. Equity Valuations More Attractive, Dollar Mixed

Using five-year peak-inflation-adjusted earnings, P/E ratios for international developed and emerging markets remain lower than those for the United States, providing a relatively favorable long-term valuation backdrop for non-U.S. stocks. The U.S. dollar moderated slightly during Q3 after a sharp run-up during the first half of the year. We see the dollar's valuation as relatively mixed against many of the world's major currencies.

Cyclical P/Es

◆ 8/31/18 ■ 20-Year Range

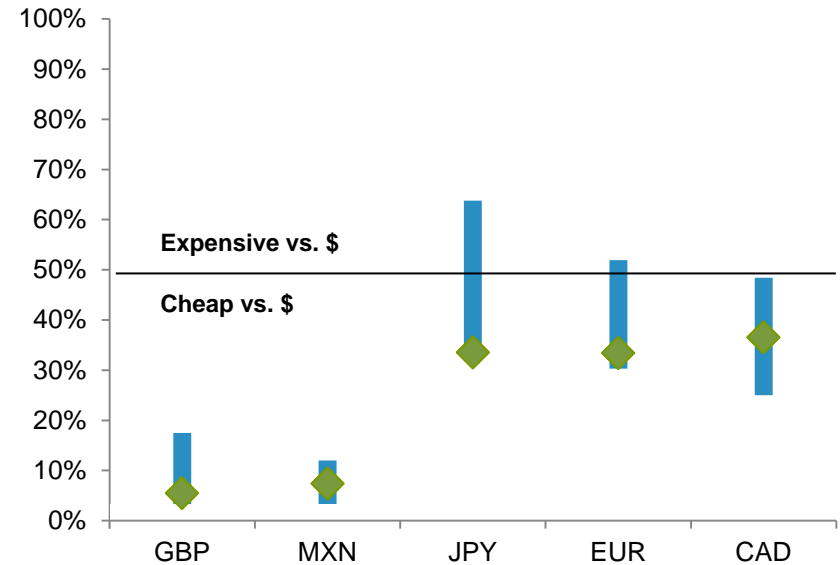
Price/5-Year Peak Real Earnings



Valuation of Major Currencies vs. USD

■ Last 12-Month Range ◆ 9/30/18

Percentile Since 2000



DM: Developed Markets. EM: Emerging Markets. Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indexes are unmanaged. See Appendix for important index information. **LEFT:** Price-to-earnings (P/E) ratio (or multiple): stock price divided by earnings per share, which indicates how much investors are paying for a company's earnings power. Five-year peak earnings are adjusted for inflation. Source: FactSet, countries' statistical organizations, Haver Analytics, Fidelity Investments (AART), as of 8/31/18. **RIGHT:** GBP – British pound; MXN – Mexican peso; JPY – Japanese yen; EUR – euro; CAD – Canadian dollar. Source: Federal Reserve Board, Haver Analytics, Fidelity Investments (AART), as of 9/30/18.

Performance Rotations Underscore Need for Diversification

The performance of different assets has fluctuated widely from year to year, and the magnitude of returns can vary significantly among asset classes in any given year—even among asset classes that are moving in the same direction. A portfolio allocation with a variety of global assets illustrates the potential benefits of diversification.

Periodic Table of Returns

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*	Legend
18%	75%	17%	38%	35%	35%	35%	66%	32%	14%	26%	56%	32%	35%	35%	40%	5%	79%	28%	8%	20%	39%	28%	5%	21%	38%	17%	Growth Stocks
17%	33%	8%	37%	23%	33%	29%	34%	26%	8%	10%	47%	26%	21%	33%	16%	-20%	58%	27%	8%	19%	34%	14%	3%	18%	30%	12%	Small Cap Stocks
15%	20%	3%	37%	23%	29%	21%	27%	12%	5%	4%	39%	21%	14%	27%	12%	-26%	37%	19%	4%	18%	33%	13%	1%	18%	26%	11%	Large Cap Stocks
15%	19%	2%	30%	22%	24%	20%	24%	8%	2%	-2%	37%	18%	12%	22%	11%	-34%	32%	18%	4%	18%	32%	12%	1%	12%	22%	6%	60% Large Cap 40% IG Bonds
11%	19%	1%	28%	22%	22%	14%	21%	-1%	-2%	-6%	31%	17%	7%	18%	7%	-36%	28%	17%	2%	16%	23%	11%	1%	12%	15%	4%	Value Stocks
8%	17%	0%	20%	16%	20%	9%	21%	-3%	-4%	-9%	31%	11%	5%	16%	6%	-36%	27%	16%	2%	16%	19%	6%	0%	11%	15%	2%	High-Yield Bonds
8%	10%	-1%	18%	15%	13%	3%	12%	-5%	-4%	-15%	29%	11%	5%	12%	5%	-37%	26%	15%	0%	16%	7%	5%	-4%	9%	13%	2%	REITs
7%	10%	-2%	15%	11%	10%	-3%	7%	-9%	-12%	-16%	28%	9%	5%	11%	2%	-38%	20%	15%	-4%	15%	3%	3%	-4%	8%	9%	-1%	Foreign-Developed Country Stocks
5%	10%	-2%	15%	6%	2%	-18%	3%	-14%	-20%	-20%	24%	8%	4%	9%	-1%	-38%	19%	12%	-12%	11%	-2%	-2%	-5%	7%	8%	-2%	Investment-Grade Bonds
4%	4%	-3%	12%	6%	-3%	-25%	-1%	-22%	-20%	-22%	19%	7%	3%	4%	-2%	-43%	18%	8%	-13%	4%	-2%	-4%	-15%	3%	4%	-3%	Commodities
-12%	-1%	-7%	-5%	4%	-12%	-27%	-5%	-31%	-21%	-28%	4%	4%	2%	2%	-16%	-53%	6%	7%	-18%	-1%	-10%	-17%	-25%	2%	1%	-7%	Emerging-Market Stocks

*Year-to-date. Past performance is no guarantee of future results. Diversification/asset allocation does not ensure a profit or guarantee against loss. It is not possible to invest directly in an index. All indexes are unmanaged. See Appendix for important index information. Asset classes represented by: Commodities – Bloomberg Commodity Index; Emerging-Market Stocks – MSCI Emerging Markets Index; Non-U.S. Developed-Country Stocks – MSCI EAFE Index; Growth Stocks – Russell 3000 Growth Index; High-Yield Bonds – ICE BofAML U.S. High Yield Index; Investment-Grade Bonds – Bloomberg Barclays U.S. Aggregate Bond Index; Large Cap Stocks – S&P 500 Index; Real Estate/REITs – FTSE NAREIT All Equity Total Return Index; Small Cap Stocks – Russell 2000 Index; Value Stocks – Russell 3000 Value Index. Source: Morningstar, Standard & Poor's, Haver Analytics, Fidelity Investments (AART), as of 9/30/18.

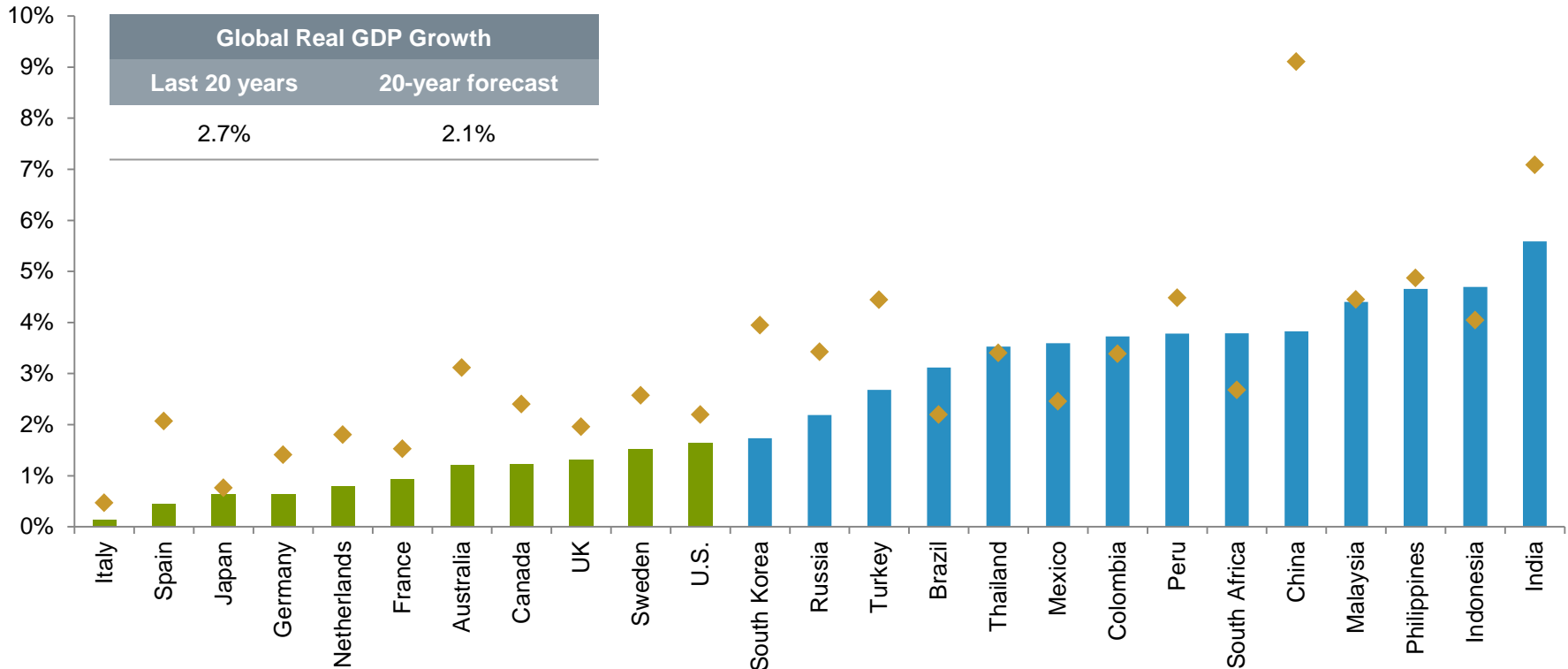
Secular Forecast: Slower Global Growth, EM to Lead

Slowing labor-force growth and aging demographics are expected to tamp down global growth over the next two decades. We expect GDP growth of emerging countries to outpace that of developed markets over the long term, providing a relatively favorable secular backdrop for emerging-market equity returns.

Real GDP 20-Year Growth Forecasts vs. History

■ Developed Markets ■ Emerging Markets ◆ Last 20 Years

Annualized Rate



EM: Emerging Markets. GDP: Gross Domestic Product. Source: OECD, Fidelity Investments (AART), as of 5/31/18.

Appendix: Important Information

Information presented herein is for discussion and illustrative purposes only and is not a recommendation or an offer or solicitation to buy or sell any securities. Views expressed are as of the date indicated, based on the information available at that time, and may change based on market and other conditions. Unless otherwise noted, the opinions provided are those of the authors and not necessarily those of Fidelity Investments or its affiliates. Fidelity does not assume any duty to update any of the information.

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Past performance and dividend rates are historical and do not guarantee future results.

Investing involves risk, including risk of loss.

Diversification does not ensure a profit or guarantee against loss.

Index or benchmark performance presented in this document does not reflect the deduction of advisory fees, transaction charges, and other expenses, which would reduce performance.

Indexes are unmanaged. It is not possible to invest directly in an index.

Although bonds generally present less short-term risk and volatility than stocks, bonds do contain interest rate risk (as interest rates rise, bond prices usually fall, and vice versa) and the risk of default, or the risk that an issuer will be unable to make income or principal payments.

Additionally, bonds and short-term investments entail greater inflation risk—or the risk that the return of an investment will not keep up with increases in the prices of goods and services—than stocks. Increases in real interest rates can cause the price of inflation-protected debt securities to decrease.

Stock markets, especially non-U.S. markets, are volatile and can decline significantly in response to adverse issuer, political, regulatory, market, or economic developments. Foreign securities are subject to interest rate, currency exchange rate, economic, and political risks, all of which are magnified in emerging markets.

The securities of smaller, less well-known companies can be more volatile than those of larger companies.

Growth stocks can perform differently from the market as a whole and from other types of stocks, and can be more volatile than other types of stocks. Value stocks can perform differently from other types of stocks and can continue to be undervalued by the market for long periods of time.

Lower-quality debt securities generally offer higher yields but also involve greater risk of default or price changes due to potential changes in the credit quality of the issuer. Any fixed income security sold or redeemed prior to maturity may be subject to loss.

Floating rate loans generally are subject to restrictions on resale, and sometimes trade infrequently in the secondary market; as a result, they may be more difficult to value, buy, or sell. A floating-rate loan may not be fully collateralized and therefore may decline significantly in value.

The municipal market can be affected by adverse tax, legislative, or political changes, and by the financial condition of the issuers of municipal securities. Interest income generated by municipal bonds is generally expected to be exempt from federal income taxes and, if the bonds are held by an investor resident in the state of issuance, from state and local income taxes. Such interest income may be subject to federal and/or state alternative minimum taxes. Investing in municipal bonds for the purpose of generating tax-exempt income may not be appropriate for investors in all tax brackets. Generally, tax-exempt municipal securities are not appropriate holdings for tax-advantaged accounts such as IRAs and 401(k)s.

The commodities industry can be significantly affected by commodity prices, world events, import controls, worldwide competition, government regulations, and economic conditions.

The gold industry can be significantly affected by international monetary and political developments, such as currency devaluations or revaluations, central bank movements, economic and social conditions within a country, trade imbalances, or trade or currency restrictions between countries.

Changes in real estate values or economic downturns can have a significant negative effect on issuers in the real estate industry.

Leverage can magnify the impact that adverse issuer, political, regulatory, market, or economic developments have on a company. In the event of bankruptcy, a company's creditors take precedence over the company's stockholders.

Appendix: Important Information

Market Indexes

Index returns on slide 25 represented by: Growth - Russell 3000® Growth Index; Large Caps - S&P 500® index; Mid Caps - Russell MidCap® Index; Small Caps - Russell 2000® Index; Value - Russell 3000® Value Index; ACWI ex USA – MSCI All Country World Index (ACWI); Canada – MSCI Canada Index; Commodities – Bloomberg Commodity Index; EAFE – MSCI EAFE (Europe, Australasia, Far East) Index; EAFE Small Cap – MSCI EAFE Small Cap Index; EM Asia – MSCI Emerging Markets Asia Index; EMEA (Europe, Middle East, and Africa) – MSCI EM EMEA Index; Emerging Markets (EM) – MSCI EM Index; Europe – MSCI Europe Index; Gold – Gold Bullion Price, LBMA PM Fix; Japan – MSCI Japan Index; Latin America – MSCI EM Latin America Index; ABS (Asset-Backed Securities) – Bloomberg Barclays ABS Index; Agency – Bloomberg Barclays U.S. Agency Index; Aggregate – Bloomberg Barclays U.S. Aggregate Bond Index; CMBS (Commercial Mortgage-Backed Securities) – Bloomberg Barclays Investment-Grade CMBS Index; Credit – Bloomberg Barclays U.S. Credit Bond Index; EM Debt (Emerging-Market Debt) – JP Morgan EMBI Global Index; High Yield – ICE BofAML U.S. High Yield Index; Leveraged Loan – S&P/LSTA Leveraged Loan Index; Long Government & Credit (Investment-Grade) – Bloomberg Barclays Long Government & Credit Index; MBS (Mortgage-Backed Securities) – Bloomberg Barclays MBS Index; Municipal – Bloomberg Barclays Municipal Bond Index; TIPS (Treasury Inflation-Protected Securities) – Bloomberg Barclays U.S. TIPS Index; Treasuries – Bloomberg Barclays U.S. Treasury Index.

Bloomberg Barclays U.S. 1-3 (1-5) Year Government Credit Index includes all publicly issued U.S. government and corporate securities that have a remaining maturity between one and three (five) years and are rated investment-grade. **Bloomberg Barclays U.S. 1-5 Year Credit Index** is designed to cover publicly issued U.S. corporate and specified non-U.S. debentures and secured notes with a maturity between one and five years and meet the specified liquidity and quality requirements; bonds must be SEC-registered to qualify.

Bloomberg Barclays U.S. 1-5 Year Municipal Index covers the one- to five-year maturity, U.S. dollar-denominated, tax-exempt bond market with four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and pre-refunded bonds.

Bloomberg Barclays ABS Index is a market value-weighted index that covers fixed-rate asset-backed securities with average lives greater than or equal to one year and that are part of a public deal; the index covers the following collateral types: credit cards, autos, home equity loans, stranded-cost utility (rate-reduction bonds), and manufactured housing.

Bloomberg Barclays CMBS Index is designed to mirror commercial mortgage-backed securities of investment-grade quality (Baa3/BBB-/BBB- or above) using Moody's, S&P, and Fitch, respectively, with maturities of at least one year. **Bloomberg Barclays Emerging Market Bond Index** is an unmanaged index that tracks total returns for external-currency-denominated debt instruments of the emerging markets. **Bloomberg Barclays Euro Aggregate Bond Index** is a broad-based flagship benchmark that measures the investment-grade, euro-denominated, fixed rate bond market, including treasuries, government-related, corporate, and securitized issues. **Bloomberg Barclays Long U.S. Government Credit Index** includes all publicly issued U.S. government and corporate securities that have a remaining maturity of 10 or more years, are rated investment-grade, and have \$250 million or more of outstanding face value.

Bloomberg Barclays Municipal Bond Index is a market value-weighted index of investment-grade municipal bonds with maturities of one year or more. **Bloomberg Barclays U.S. Agency Bond Index** is a market value-weighted index of U.S. Agency government and investment-grade corporate fixed-rate debt issues. **Bloomberg Barclays U.S. Aggregate Bond** is a broad-based, market-value-weighted benchmark that measures the performance of the investment-grade, U.S. dollar-denominated, fixed-rate taxable bond market. **Bloomberg Barclays U.S. Corporate High Yield Bond Index** is a market value-weighted index of dollar-denominated, fixed-rate, non-investment-grade debt. **Bloomberg Barclays U.S. Credit Bond Index** is a market value-weighted index of investment-grade corporate fixed-rate debt issues with maturities of one year or more.

Bloomberg Barclays U.S. Government Index is a market value-weighted index of U.S. government fixed-rate debt issues with maturities of one year or more. **Bloomberg Barclays Global Aggregate ex-USD Index Unhedged** is a measure of global investment-grade debt from 24 local currency markets. This multi-currency benchmark includes treasury, government-related, corporate, and securitized fixed-rate bonds from both developed- and emerging-markets issuers.

Bloomberg Barclays U.S. MBS Index is a market value-weighted index of fixed-rate securities that represent interests in pools of mortgage loans, including balloon mortgages, with original terms of 15 and 30 years that are issued by the Government National Mortgage Association (GNMA), the Federal National Mortgage Association (FNMA), and the Federal Home Loan Mortgage Corp. (FHLMC). **Bloomberg Barclays U.S. Treasury Inflation-Protected Securities (TIPS) Index (Series-L)** is a market value-weighted index that measures the performance of inflation-protected securities issued by the U.S. Treasury. **Bloomberg Barclays U.S. Treasury Bond Index** is a market value-weighted index of public obligations of the U.S. Treasury with maturities of one year or more. **Bloomberg Commodity Index** measures the performance of the commodities market. It consists of exchange traded futures contracts on physical commodities that are weighted to account for the economic significance and market liquidity of each commodity.

Dow Jones U.S. Total Stock Market IndexSM is a full market capitalization-weighted index of all equity securities of U.S.- headquartered companies with readily available price data.

Dow Jones U.S. Select Real Estate Securities IndexSM is a float-adjusted, market capitalization-weighted index of publicly traded real estate securities, such as real estate investment trusts (REITs) and real estate operating companies (REOCs).

FTSE® 100 Index is a market capitalization-weighted index of the 100 most highly capitalized blue chip companies listed on the London Stock Exchange. **FTSE® National Association of Real Estate Investment Trusts (NAREIT®) All REITs Index** is a market capitalization-weighted index that is designed to measure the performance of all tax-qualified REITs listed on the NYSE, the American Stock Exchange, or the NASDAQ National Market List. **FTSE® NAREIT® Equity REIT Index** is an unmanaged market value-weighted index based on the last closing price of the month for tax-qualified REITs listed on the New York Stock Exchange (NYSE).

Appendix: Important Information

Market Indexes (continued)

The IA SBBI U.S. Small Cap Stock Index is a custom index designed to measure the performance of small capitalization U.S. stocks. **IA SBBI U.S. Intermediate-Term Government Bond Index** is an unweighted index that measures the performance of five-year maturity U.S. Treasury bonds. Each year, a one-bond portfolio containing the shortest non-callable bond having a maturity of not less than five years is constructed. **IA SBBI U.S. Long-Term Corporate Bond Index** is a custom index designed to measure the performance of long-term U.S. corporate bonds. **IA SBBI U.S. 30-Day Treasury Bill Index** is an unweighted index that measures the performance of 30-day-maturity U.S. Treasury bills.

ICE BofAML U.S. High Yield Index is a market capitalization-weighted index of U.S. dollar-denominated, below-investment-grade corporate debt publicly issued in the U.S. market.

JPM® EMBI Global Index, and its country sub-indexes, tracks total returns for the U.S. dollar-denominated debt instruments issued by emerging-market sovereign and quasi-sovereign entities, such as Brady bonds, loans, and Eurobonds. **JPM® EMBI Global Investment Grade Index**, and its country sub-indices, tracks total returns for traded external debt instruments issued by emerging-market sovereign and quasi-sovereign entities rated investment-grade.

MSCI All Country World Index (ACWI) is a market capitalization-weighted index designed to measure the investable equity market performance for global investors of developed and emerging markets. **MSCI ACWI (All Country World Index) ex USA Index** is a market capitalization-weighted index designed to measure the investable equity market performance for global investors of large and mid cap stocks in developed and emerging markets, excluding the United States. **MSCI World Index** is a market capitalization-weighted index that is designed to measure the investable equity market performance for global investors of developed markets. **MSCI World ex USA Index** is a market capitalization-weighted index designed to measure the equity market performance of developed markets, excluding the United States.

MSCI Emerging Markets (EM) Index is a market capitalization-weighted index that is designed to measure the investable equity market performance for global investors in emerging markets. **MSCI EM Asia Index** is a market capitalization-weighted index designed to measure equity market performance in Asia. **MSCI EM Europe, Middle East, and Africa (EMEA) Index** is a market capitalization-weighted index that is designed to measure the investable equity market performance for global investors in the emerging-market countries of Europe, the Middle East, and Africa. **MSCI EM Latin America Index** is a market capitalization-weighted index that is designed to measure the investable equity market performance for global investors in the emerging-market countries of Latin America. **MSCI EM Large Cap Index** is composed of those securities in the MSCI EM Index that are defined as large-capitalization stocks.

MSCI Europe, Australasia, Far East Index (EAFE) is a market capitalization-weighted index that is designed to measure the investable equity market performance for global investors in developed markets, excluding the U.S. and Canada. **MSCI EAFE Small Cap Index** is a market capitalization-weighted index that is designed to measure the investable equity market performance of small-cap stocks for global investors in developed markets, excluding the U.S. and Canada.

MSCI Europe Index is a market capitalization-weighted index that is designed to measure the investable equity market performance for global investors of the developed markets in Europe.

MSCI All Country (AC) Europe Index is a market capitalization-weighted index that is designed to measure the equity market performance of Europe; it consists of the following developed- and emerging-market country indices: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Russia, Spain, Sweden, Switzerland, Turkey, and United Kingdom. **MSCI North America Index** is a market capitalization-weighted index designed to measure the performance of large and mid cap segments of the U.S. and Canada markets. **MSCI Pacific ex Japan Index** is a market capitalization-weighted index that is designed to measure the equity market performance of four of the five developed market countries in the Pacific region, including Australia, Hong Kong, New Zealand and Singapore. **MSCI Canada Index** is a market capitalization-weighted index designed to measure equity market performance in Canada. **MSCI Japan Index** is a market capitalization-weighted index designed to measure equity market performance in Japan. **MSCI USA Index** is a market capitalization-weighted index designed to measure the equity market performance of the United States.

MSCI Europe Financials Index (Total Return) captures large and mid cap representations of financial securities across 15 developed-market countries in Europe, represented by the MSCI Europe Index. **MSCI Japan Financials Index (Total Return)** captures large- and mid-cap representations of financial securities across Japan, represented by the MSCI Japan Index, an index designed to measure the performance of the large and mid cap segments of the Japanese equity market. With 318 constituents, the index covers approximately 85% of the free-float-adjusted market capitalization in Japan.

Russell 2000® Index is a market capitalization-weighted index designed to measure the performance of the small-cap segment of the U.S. equity market. It includes approximately 2,000 of the smallest securities in the Russell 3000 Index. **Russell 3000® Index** is a market capitalization-weighted index designed to measure the performance of the 3,000 largest companies in the U.S. equity market. **Russell 3000 Growth Index** is a market capitalization-weighted index designed to measure the performance of the broad growth segment of the U.S. equity market. It includes those Russell 3000 Index companies with higher price-to-book ratios and higher forecasted growth rates. **Russell 3000 Value Index** is a market capitalization-weighted index designed to measure the performance of the small to mid-cap value segment of the U.S. equity market. It includes those Russell 3000 Index companies with lower price-to-book ratios and lower forecasted growth rates. **Russell MidCap® Index** is a market capitalization-weighted index designed to measure the performance of the mid cap segment of the U.S. equity market. It contains approximately 800 of the smallest securities in the Russell 1000 Index.

The **S&P 500®** is a market capitalization-weighted index of 500 common stocks chosen for market size, liquidity, and industry group representation to represent U.S. equity performance. S&P 500 is a registered service mark of The McGraw-Hill Companies, Inc., and has been licensed for use by Fidelity Distributors Corporation and its affiliates. The **S&P 500 Total Return Index** represents the price changes and reinvested dividends of the S&P 500®. **The S&P SmallCap 600®** is a market capitalization-weighted index of 600 small capitalization stocks. **The S&P GSCI® Commodities Index** provides investors with a reliable and publicly available benchmark for investment performance in the commodity markets.

Appendix: Important Information

Market Indexes (continued)

The **Sectors and Industries** are defined by Global Industry Classification Standards (GICS®), except where noted otherwise. **S&P 500 sectors** are defined as follows: Consumer Discretionary—companies that tend to be the most sensitive to economic cycles. Consumer Staples—companies whose businesses are less sensitive to economic cycles. Energy—companies whose businesses are dominated by either of the following activities: the construction or provision of oil rigs, drilling equipment, and other energy-related services and equipment, including seismic data collection; or the exploration, production, marketing, refining, and/or transportation of oil and gas products, coal, and consumable fuels. Financials—companies involved in activities such as banking, consumer finance, investment banking and brokerage, asset management, insurance and investments, and mortgage real estate investment trusts (REITs). Health Care—companies in two main industry groups: health care equipment suppliers, manufacturers, and providers of health care services; and companies involved in research, development, production, and marketing of pharmaceuticals and biotechnology products. Industrials—companies that manufacture and distribute capital goods, provide commercial services and supplies, or provide transportation services. Information Technology—companies in technology software and services and technology hardware and equipment. Materials—companies that engage in a wide range of commodity-related manufacturing. Real Estate—companies in real estate development, operations, and related services, as well as equity REITs. Telecommunication Services—companies that provide communications services primarily through fixed-line, cellular, wireless, high bandwidth, and/or fiber-optic cable networks. Utilities—companies considered electric, gas, or water utilities, or that operate as independent producers and/or distributors of power.

Standard & Poor's/Loan Syndications and Trading Association (S&P/LSTA)

Leveraged Performing Loan Index is a market value-weighted index designed to represent the performance of U.S. dollar-denominated institutional leveraged performing loan portfolios (excluding loans in payment default) using current market weightings, spreads, and interest payments.

Other Indexes

The Consumer Price Index (CPI) is a monthly inflation indicator that measures the change in the cost of a fixed basket of products and services, including housing, electricity, food, and transportation.

The London Bullion Market Association (LBMA) publishes the international benchmark price of gold in USD, twice daily. The **LBMA Gold price** auction takes place by ICE Benchmark Administration (IBA) at 10:30 and 15:00 with the price set in U.S. dollars per fine troy ounce.

A Purchasing Managers' Index (PMI) is a survey of purchasing managers in a certain economic sector. A PMI over 50 represents expansion of the sector compared to the previous month, while a reading under 50 represents a contraction, and a reading of 50 indicates no change. The Institute for Supply Management® reports the U.S. manufacturing PMI®. Markit compiles non-U.S. PMIs.

Definitions

Correlation coefficient measures the interdependencies of two random variables that range in value from -1 to $+1$, indicating perfect negative correlation at -1 , absence of correlation at 0 , and perfect positive correlation at $+1$.

The Price-to-Earnings (P/E) ratio is the ratio of a company's current share price to its current earnings, typically trailing 12-months earnings per share. A Forward P/E calculation will typically use an average of analysts' published estimates of earnings for the next 12 months in the denominator.

Excess return is the amount by which a portfolio's performance exceeds its benchmark, net (in the case of the analysis in this article) or gross of operating expenses, in percentage points.

Appendix: Important Information

The Chartered Financial Analyst® (CFA®) designation is offered by CFA Institute. To obtain the CFA charter, candidates must pass three exams demonstrating their competence, integrity, and extensive knowledge in accounting, ethical and professional standards, economics, portfolio management, and security analysis, and must also have at least four years of qualifying work experience, among other requirements.

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