Global growth is looking solid

### Global Purchasing Managers’ Index for manufacturing

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dec</td>
<td>Jan</td>
<td>Feb</td>
</tr>
<tr>
<td>Global</td>
<td>50.7</td>
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<tr>
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<tr>
<td>Developed Markets</td>
<td>52.0</td>
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<tr>
<td>Emerging Markets</td>
<td>49.0</td>
<td>49.4</td>
<td>48.9</td>
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<tr>
<td>U.S.</td>
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<tr>
<td>Japan</td>
<td>52.6</td>
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<tr>
<td>UK</td>
<td>51.1</td>
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<td>50.8</td>
</tr>
<tr>
<td>Euro Area</td>
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<td>52.3</td>
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<td>Germany</td>
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<td>52.3</td>
<td>50.5</td>
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<tr>
<td>France</td>
<td>51.4</td>
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<tr>
<td>Italy</td>
<td>55.6</td>
<td>53.2</td>
<td>52.2</td>
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<tr>
<td>Spain</td>
<td>53.0</td>
<td>55.4</td>
<td>54.1</td>
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<tr>
<td>Greece</td>
<td>50.2</td>
<td>50.0</td>
<td>48.4</td>
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<tr>
<td>China</td>
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<td>Indonesia</td>
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<tr>
<td>Taiwan</td>
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<tr>
<td>India</td>
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<td>51.1</td>
<td>51.1</td>
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<tr>
<td>Brazil</td>
<td>45.6</td>
<td>47.4</td>
<td>44.5</td>
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<tr>
<td>Mexico</td>
<td>52.4</td>
<td>52.2</td>
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</tr>
<tr>
<td>Russia</td>
<td>48.7</td>
<td>49.8</td>
<td>49.3</td>
</tr>
</tbody>
</table>

| Source: Markit, J.P. Morgan Asset Management. |
| Heatmap colors are based on PMI relative to the 50 level, which indicates acceleration or deceleration of the sector, for the time period shown. |
| Guide to the Markets – U.S. Data are as of November 30, 2017. |
With a late-cycle acceleration occurring in the U.S.

Data are as of November 30, 2017.

Source: BEA, FactSet, J.P. Morgan Asset Management.

Values may not sum to 100% due to rounding. Quarter-over-quarter percent changes are at an annualized rate. Average represents the annualized growth rate for the full period. Expansion average refers to the period starting in the second quarter of 2009.

Guide to the Markets – U.S. Data are as of November 30, 2017.
The baton is being passed from consumers to businesses

**Light vehicle sales**
Millions, seasonally adjusted annual rate

**Manufacturing and trade inventories**
Days of sales, seasonally adjusted

**Housing starts**
Thousands, seasonally adjusted annual rate

**Real capital goods orders**
Non-defense capital goods orders ex-aircraft, USD billions, SA

Source: J.P. Morgan Asset Management; (Top left) BEA; (Top and bottom right, bottom left) Census Bureau, FactSet.
Capital goods orders deflated using the producer price index for capital goods with a base year of 2009.
SA – seasonally adjusted.

*Guide to the Markets – U.S.* Data are as of November 30, 2017.
And the labor market continues to tighten

Civilian unemployment rate and year-over-year wage growth for private production and non-supervisory workers
Seasonally adjusted, percent

Source: BLS, FactSet, J.P. Morgan Asset Management.
Guide to the Markets – U.S. Data are as of November 30, 2017.
Profit growth looks set to continue

**S&P 500 earnings per share**
Index quarterly operating earnings

- **S&P consensus analyst estimates**
- 3Q17*: $31.50

**U.S. dollar**
Year-over-year % change**, quarterly, USD major currencies index

- 3Q17: -2.1%
  - U.S. 57%
  - International 43%

**Energy sector earnings**
Energy sector contribution to S&P 500 EPS, quarterly

- 3Q17*: $1.13

Source: Compustat, FactSet, Standard & Poor’s, J.P. Morgan Asset Management; (Top right) Federal Reserve, S&P 500 individual company 10k filings, S&P Index Alert.
EPS levels are based on operating earnings per share. Earnings estimates are Standard & Poor’s consensus analyst expectations. Past performance is not indicative of future returns. Currencies in the Trade Weighted U.S. Dollar Major Currencies Index are: British pound, euro, Swedish krona, Australian dollar, Canadian dollar, Japanese yen and Swiss franc. *3Q17 earnings are calculated using actual earnings for 97.7% of S&P 500 market cap and earnings estimates for the remaining companies. **Year-over-year change is calculated using the quarterly average for each period. USD forecast assumes no change in the U.S. dollar from its November 30, 2017 level. S&P 500 revenue breakdown comes from Standard & Poor’s S&P 500 2016: Global Sales report as of June 2017.

Guide to the Markets – U.S. Data are as of November 30, 2017.
Inflation should gradually approach the Fed’s target

CPI and core CPI
% change vs. prior year, seasonally adjusted

Source: BLS, FactSet, J.P. Morgan Asset Management.
CPI used is CPI-U and values shown are % change vs. one year ago. Core CPI is defined as CPI excluding food and energy prices. The Personal Consumption Expenditure (PCE) deflator employs an evolving chain-weighted basket of consumer expenditures instead of the fixed-weight basket used in CPI calculations.

Guide to the Markets – U.S. Data are as of November 30, 2017.
Leading the FOMC to continue hiking at a gradual pace

Federal funds rate expectations
FOMC and market expectations for the fed funds rate

FOMC September 2017 forecasts
Percent

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>Long run</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in real GDP, 4Q to 4Q</td>
<td>2.4</td>
<td>2.1</td>
<td>2.0</td>
<td>1.8</td>
<td>1.8</td>
</tr>
<tr>
<td>Unemployment rate, 4Q</td>
<td>4.3</td>
<td>4.1</td>
<td>4.1</td>
<td>4.2</td>
<td>4.6</td>
</tr>
<tr>
<td>PCE inflation, 4Q to 4Q</td>
<td>1.6</td>
<td>1.9</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Market expectations are the federal funds rates priced into the fed futures market as of the date of the September 2017 FOMC meeting.
Guide to the Markets – U.S. Data are as of November 30, 2017.
Why infrastructure? Diversification, inflation protection & yield

**Investment in structures**
Percent of nominal GDP

**Average age of private fixed assets**
Historical-cost basis, years

**Infrastructure and inflation**
Total return, year-over-year % change

Source: J.P. Morgan Asset Management; (Left and top right) BEA; (Left and bottom right) FactSet; (Bottom right) BLS, Standard & Poor's. Guide to the Markets – U.S. Data are as of September 30, 2017.
All indexes are unmanaged and an individual cannot invest directly in an index. Index returns do not include fees or expenses.

Equities:

The Dow Jones Industrial Average is a price-weighted average of 30 actively traded blue-chip U.S. stocks.

The MSCI ACWI (All Country World Index) is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets.

The MSCI EAFE Index (Europe, Australasia, Far East) is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US & Canada.

The MSCI Emerging Markets Index is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets.

The MSCI Europe Index is a free float-adjusted market capitalization index that is designed to measure developed market equity performance in Europe.

The MSCI Pacific Index is a free float-adjusted market capitalization index that is designed to measure equity market performance in the Pacific region.

The Russell 1000 Index measures the performance of the 1,000 largest companies in the Russell 3000.

The Russell 1000 Growth Index measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

The Russell 1000 Value Index measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

The Russell 2000 Index measures the performance of the 2,000 smallest companies in the Russell 3000 Index.

The Russell 2000 Growth Index measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.


The Russell 3000 Index measures the performance of the 3,000 largest U.S. companies based on total market capitalization.

The Russell Midcap Index measures the performance of the 800 smallest companies in the Russell 1000 Index.

The Russell Midcap Growth Index measures the performance of those Russell Midcap companies with higher price-to-book ratios and higher forecasted growth values. The stocks are also members of the Russell 1000 Growth Index.

The Russell Midcap Value Index measures the performance of those Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values. The stocks are also members of the Russell 1000 Value Index.

The S&P 500 Index is widely regarded as the best single gauge of the U.S. equities market. The index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. The S&P 500 Index focuses on the large-cap segment of the market; however, since it includes a significant portion of the total value of the market, it also represents the market.

Fixed income:

The Barclays 1-3 Month U.S. Treasury Bill Index includes all publicly issued zero-coupon US Treasury Bills that have a remaining maturity of less than 3 months and more than 1 month, are rated investment grade, and have $250 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed rate and non-convertible.

The Barclays Global High Yield Index is a multi-currency flagship measure of the global high yield debt market. The index represents the union of the US High Yield, the Pan-European High Yield, and Emerging Markets (EM) Hard Currency High Yield Indices. The high yield and emerging markets sub-components are mutually exclusive. Until January 1, 2011, the index also included CMBS high yield securities.

The Barclays Municipal Index consists of a broad selection of investment-grade general obligation and revenue bonds of maturities ranging from one year to 30 years. It is an unmanaged index representative of the tax-exempt bond market.

The Barclays US Dollar Floating Rate Note (FRN) Index provides a measure of the U.S. dollar denominated floating rate note market.

The Barclays US Corporate Investment Grade Index is an unmanaged index consisting of publicly issued US Corporate and specified foreign debentures and secured notes that are rated investment grade (Baa3/BBB or higher) by at least two ratings agencies, have at least one year to final maturity and have at least $250 million par amount outstanding. To qualify, bonds must be SEC-registered.

The Barclays US High Yield Index covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody’s, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.

The Barclays US Mortgage Backed Securities Index is an unmanaged index that measures the performance of investment grade fixed-rate mortgage backed pass-through securities of GNMA, FNMA and FHLMC.

The Barclays US TIPS Index consists of Inflation-Protection securities issued by the U.S. Treasury.

The J.P. Morgan Emerging Market Bond Global Index (EMBI) includes U.S. dollar denominated Brady bonds, Eurobonds, traded loans and local market debt instruments issued by sovereign and quasi-sovereign entities.

The J.P. Morgan Domestic High Yield Index is designed to mirror the investable universe of the dollar domestic high yield corporate debt market.

The J.P. Morgan Corporate Emerging Markets Bond Index Broad Diversified (CEMBI Broad Diversified) is an expansion of the J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI). The CEMBI is a market capitalization weighted index consisting of U.S.-dollar denominated emerging market corporate bonds.

The J.P. Morgan Emerging Markets Bond Index Global Diversified (EMBI Global Diversified) tracks total returns for U.S.-dollar-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities: Brady bonds, loans, Eurobonds. The index limits the exposure of some of the larger countries.

The J.P. Morgan GBI EM Global Diversified tracks the performance of local currency debt issued by emerging market governments, whose debt is accessible by most of the international investor base.

The U.S. Treasury Index is a component of the U.S. Government index.
Other asset classes:

The Alerian MLP Index is a composite of the 50 most prominent energy Master Limited Partnerships (MLPs) that provides investors with an unbiased, comprehensive benchmark for the asset class.

The Bloomberg Commodity Index and related sub-indices are composed of futures contracts on physical commodities and represents twenty-two separate commodities traded on U.S. exchanges, with the exception of aluminum, nickel, and zinc.

The Cambridge Associates U.S. Global Buyout and Growth Index® is based on data compiled from 1,768 global (U.S. & ex – U.S.) buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2013.

The CS/Tremont Hedge Fund Index is compiled by Credit Suisse Tremont Index, LLC. It is an asset-weighted hedge fund index and includes only funds, as opposed to separate accounts. The Index uses the Credit Suisse/Tremont database, which tracks over 4,500 funds, and consists only of funds with a minimum of US$50 million under management, a 12-month track record, and audited financial statements. It is calculated and rebalanced on a monthly basis, and shown net of all performance fees and expenses. It is the exclusive property of Credit Suisse Tremont Index, LLC.

The HFRI Monthly Indices (HFRI) are equally weighted performance indexes, utilized by numerous hedge fund managers as a benchmark for their own hedge funds. The HFRI are broken down into 4 main strategies, each with multiple sub-strategies. All single-manager HFRI Index constituents are included in the HFRI Fund Weighted Composite, which accounts for over 2,200 funds listed on the internal HFRI Database.

The NAREIT Equity REIT Index is designed to provide the most comprehensive assessment of overall industry performance, and includes all tax-qualified real estate investment trusts (REITs) that are listed on the NYSE, the American Stock Exchange or the NASDAQ National Market List.

The NFI-ODCE, short for NCREIF Fund Index - Open End Diversified Core Equity, is an index of investment returns reporting on both a historical and current basis the results of 33 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NFI-ODCE Index is capitalization-weighted and is reported gross of fees. Measurement is time-weighted.

Definitions:

Investing in alternative assets involves higher risks than traditional investments and is suitable only for sophisticated investors. Alternative investments involve greater risks than traditional investments and should not constitute a complete investment program. They are not tax efficient and an investor should consult with his/her tax advisor prior to investing. Alternative investments have higher fees than traditional investments and they may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain. The value of the investment may fall as well as rise and investors may get back less than they invested.

Bonds are subject to interest rate risks. Bond prices generally fall when interest rates rise.

Investments in commodities may have greater volatility than investments in traditional securities, particularly if the instruments involved leverage. The value of commodity-linked derivative instruments may be affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, livestock disease, embargoes, tariffs and international economic, political and regulatory developments. Use of leveraged commodity-linked derivatives creates an opportunity for increased return but, at the same time, creates the possibility for greater loss.

Derivatives may be riskier than other types of investments because they may be more sensitive to changes in economic or market conditions than other types of investments and could result in losses that significantly exceed the original investment. The use of derivatives may not be successful, resulting in investment losses, and the cost of such strategies may reduce investment returns.

Distressed Restructuring Strategies employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings.

Investments in emerging markets can be more volatile. The normal risks of investing in foreign countries are heightened when investing in emerging markets. In addition, the size of securities markets and the low trading volume may lead to a lack of liquidity, which leads to increased volatility. Also, emerging markets may not provide adequate legal protection for private or foreign investment or private property.

The price of equity securities may rise, or fall because of changes in the broad market or changes in a company’s financial condition, sometimes rapidly or unpredictably. These price movements may result from factors affecting individual companies, sectors or industries, or the securities market as a whole, such as changes in economic or political conditions. Equity securities are subject to “stock market risk” meaning that stock prices in general may decline over short or extended periods of time.

Equity market neutral strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. Equity Market Neutral Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

Global macro strategies trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets.

International investing involves a greater degree of risk and increased volatility. Changes in currency exchange rates and differences in accounting and taxation policies outside the U.S. can raise or lower returns. Some overseas markets may not be as politically and economically stable as the United States and other nations.

There is no guarantee that the use of long and short positions will succeed in limiting an investor’s exposure to domestic stock market movements, capitalization, sector swings or other risk factors. Using long and short selling strategies may have higher portfolio turnover rates. Short selling involves certain risks, including additional costs associated with covering short positions and a possibility of unlimited loss on certain short sale positions.

Merger arbitrage strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction.

Mid-capitalization investing typically carries more risk than investing in well-established "blue-chip" companies. Historically, mid-cap companies’ stock has experienced a greater degree of market volatility than the average stock.

Price to forward earnings is a measure of the price-to-earnings ratio (P/E) using forecasted earnings. Price to book value compares a stock’s market value to its book value. Price to cash flow is a measure of the market’s expectations of a firm’s future financial health. Price to dividends is the ratio of the price of a share on a stock exchange to the dividends per share paid in the previous year, used as a measure of a company’s potential as an investment.

Real estate investments may be subject to a higher degree of market risk because of concentration in a specific industry, sector or geographical sector. Real estate investments may be subject to risks including, but not limited to, declines in the value of real estate, risks related to general and economic conditions, changes in the value of the underlying property owned by the trust and defaults by borrower.

Relative Value Strategies maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities.

Small-capitalization investing typically carries more risk than investing in well-established “blue-chip” companies since smaller companies generally have a higher risk of failure. Historically, smaller companies’ stock has experienced a greater degree of market volatility than the average stock.
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