

Guide to the Markets

Asia | 1Q 2018 | As of December 31, 2017

J.P. Morgan

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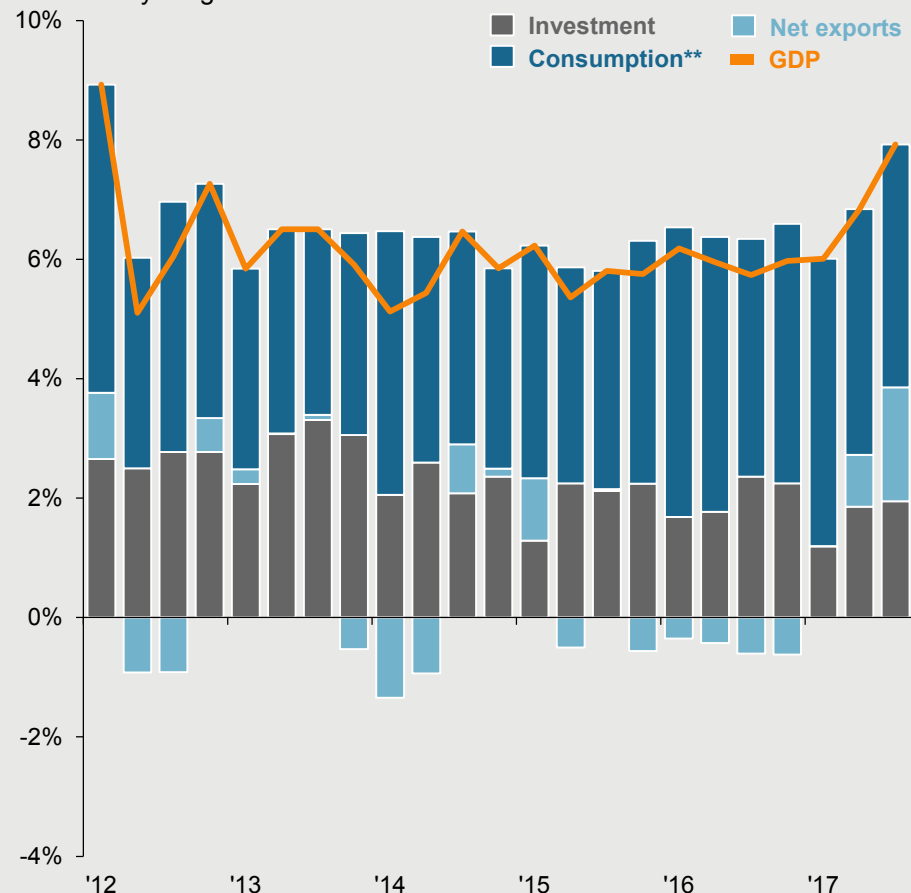
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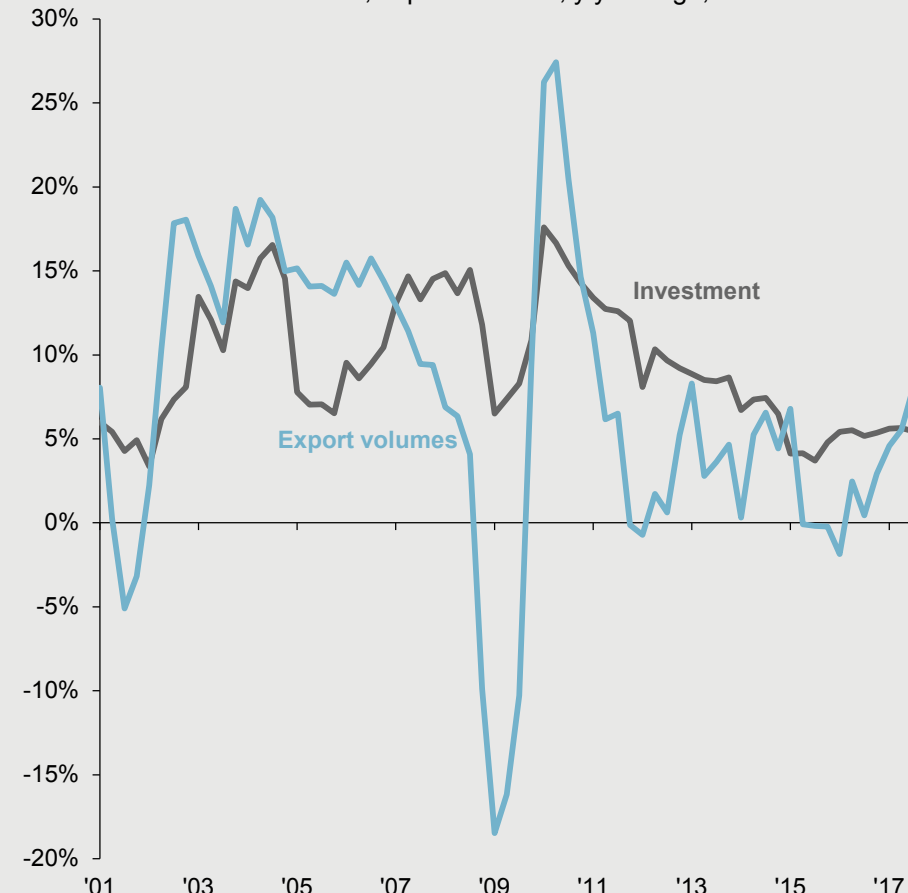
EM Asia* contribution to real GDP growth

Year-over-year growth



Investment and exports

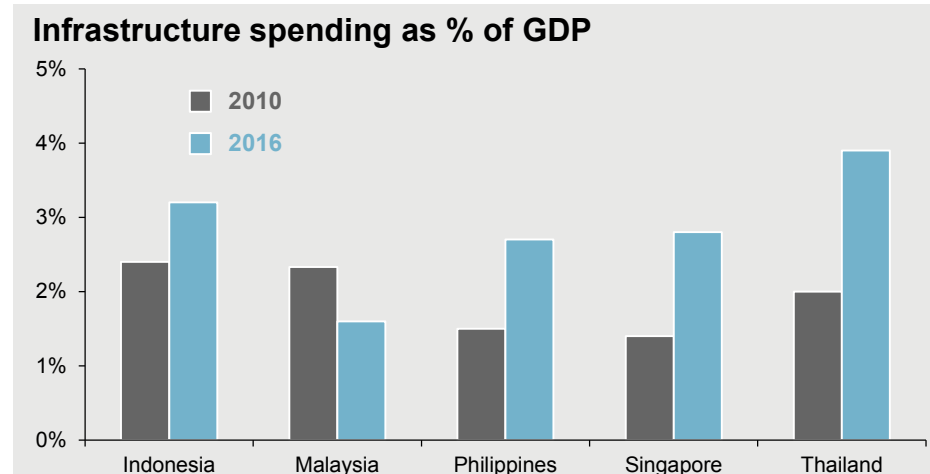
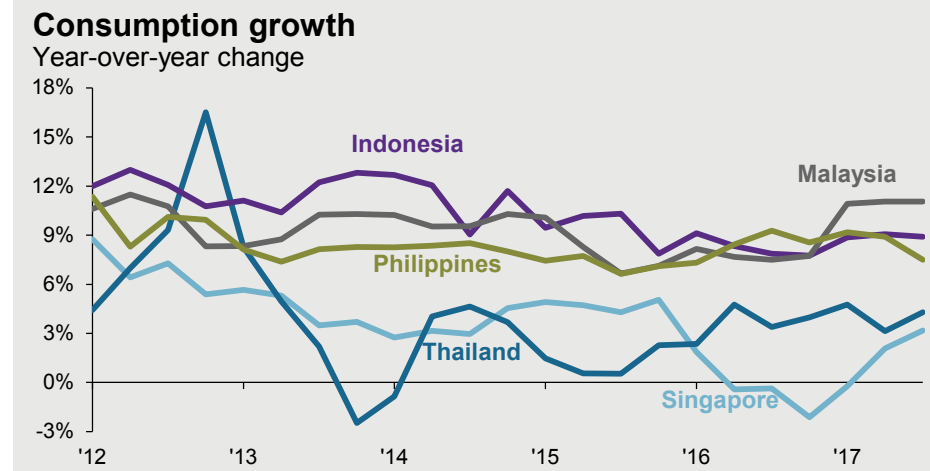
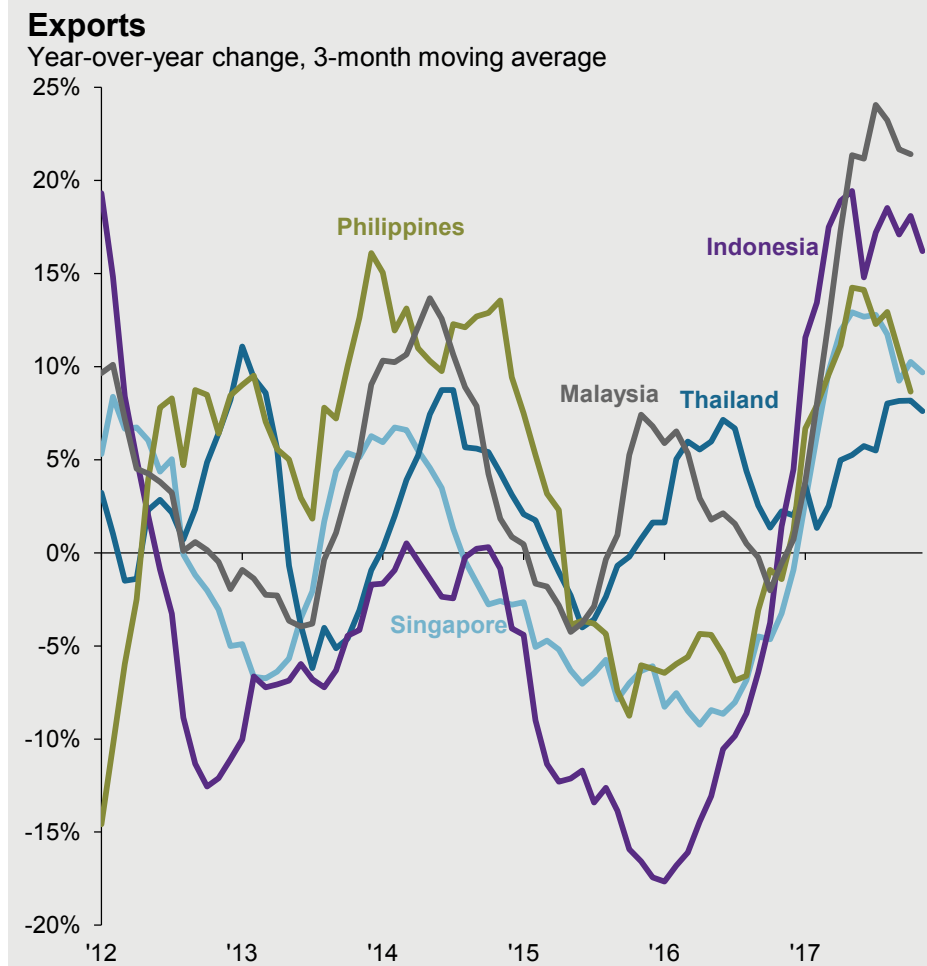
EM Asia* nominal investment, export volumes, y/y change, 3MMA



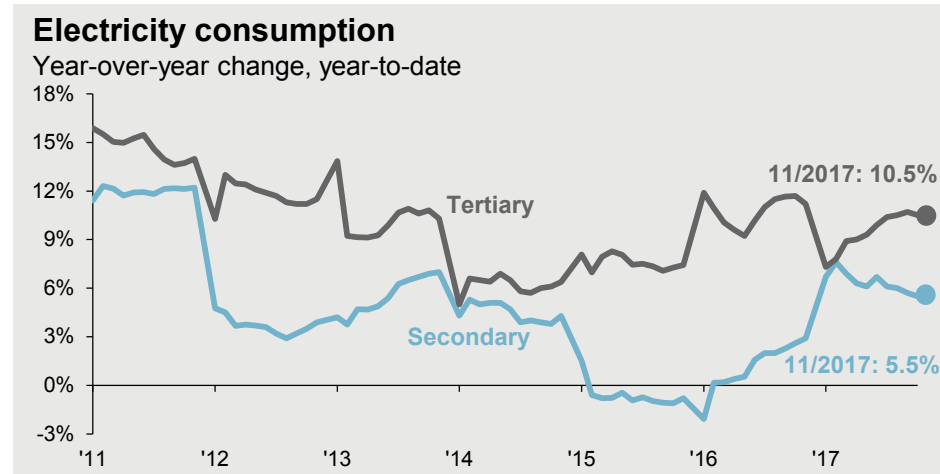
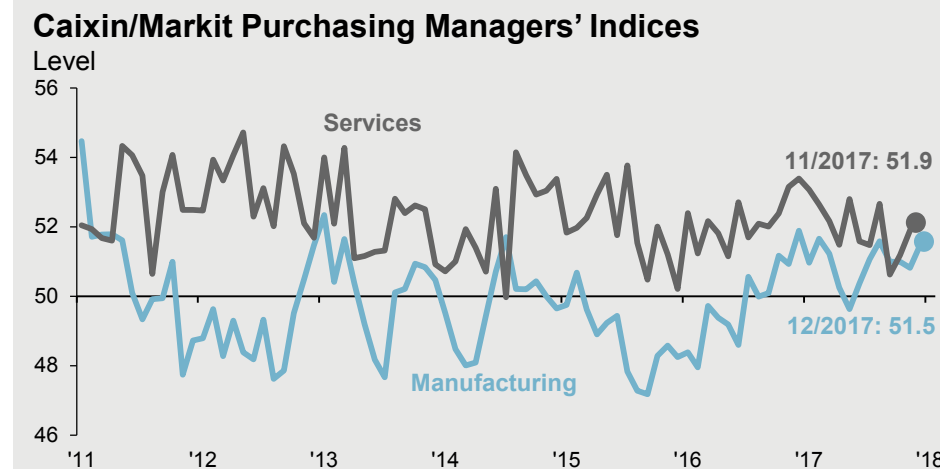
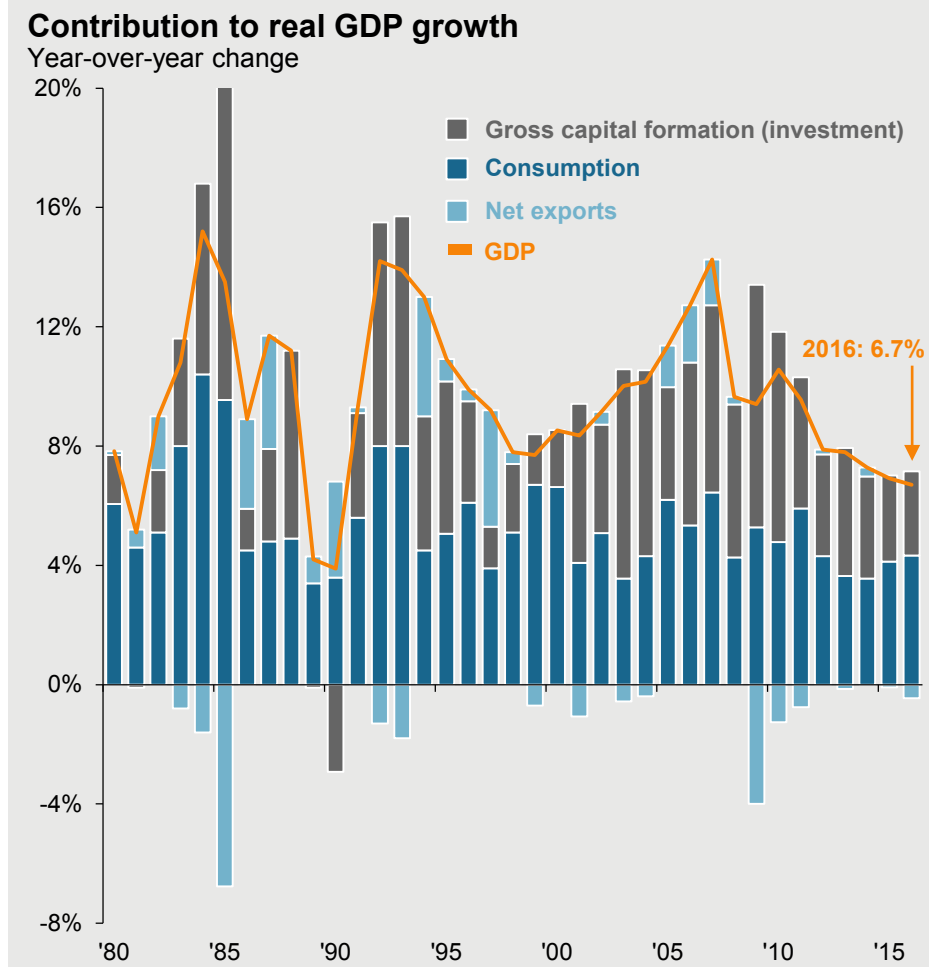
Source: CEIC, J.P. Morgan Economic Research, National Statistics Agencies, J.P. Morgan Asset Management; (Right) Netherlands Bureau of Policy Analysis.

*EM Asia includes China, Hong Kong, India, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan and Thailand. **Consumption includes both private/household and public/government consumption.

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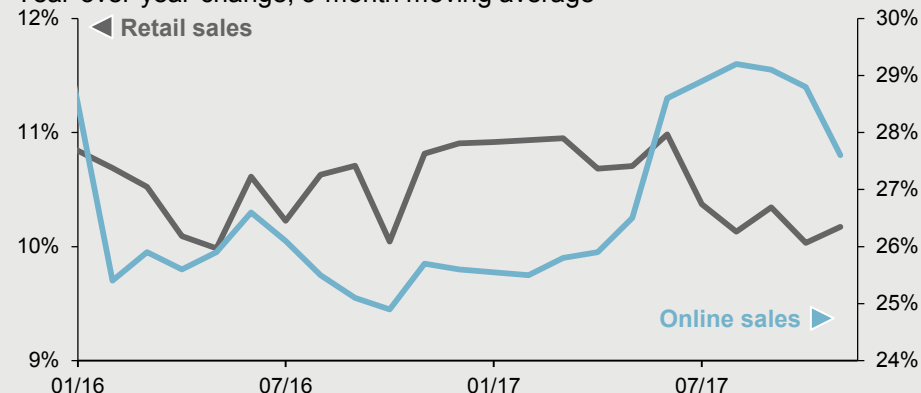
Source: National Statistics Agencies, J.P. Morgan Asset Management; (Left) FactSet; (Top right) CEIC; (Bottom right) HSBC.
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Source: J.P. Morgan Asset Management; (Left and bottom right) CEIC, FactSet, National Bureau of Statistics of China; (Top right) Caixin/Markit. Guide to the Markets - Asia. Data reflect most recently available as of 31/12/17.

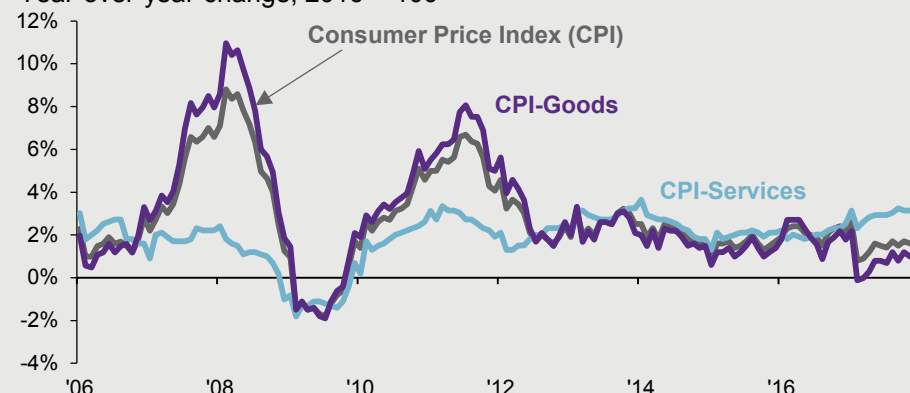
Retail and online sales

Year-over-year change, 3-month moving average



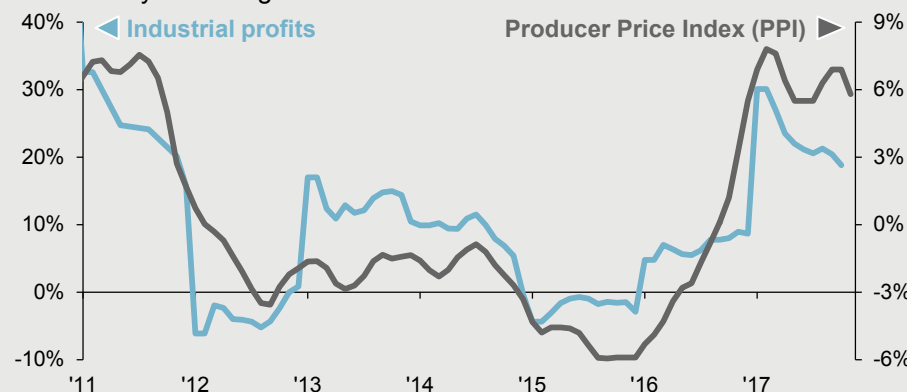
China inflation

Year-over-year change, 2016 = 100



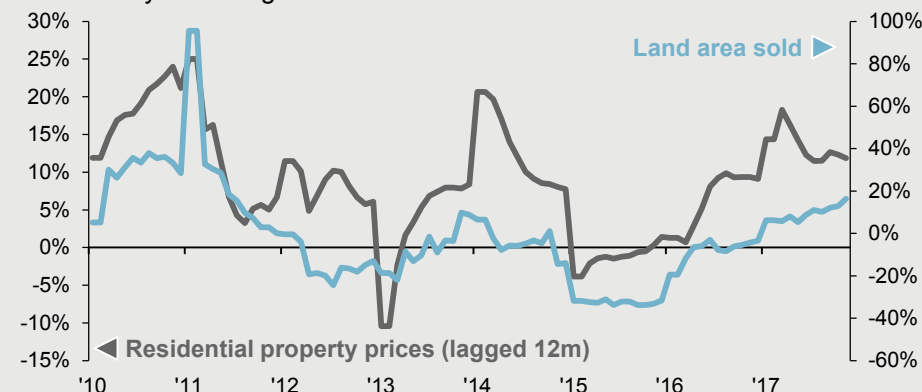
Industrial profits and PPI inflation

Year-over-year change

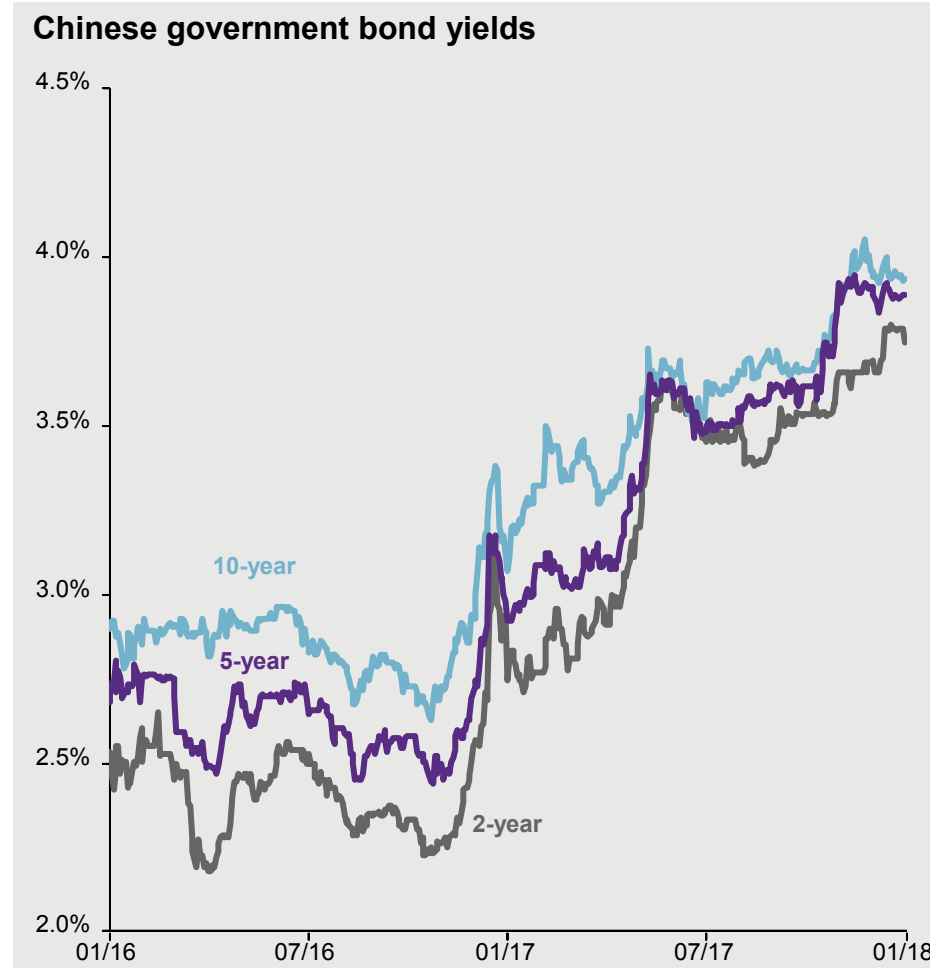
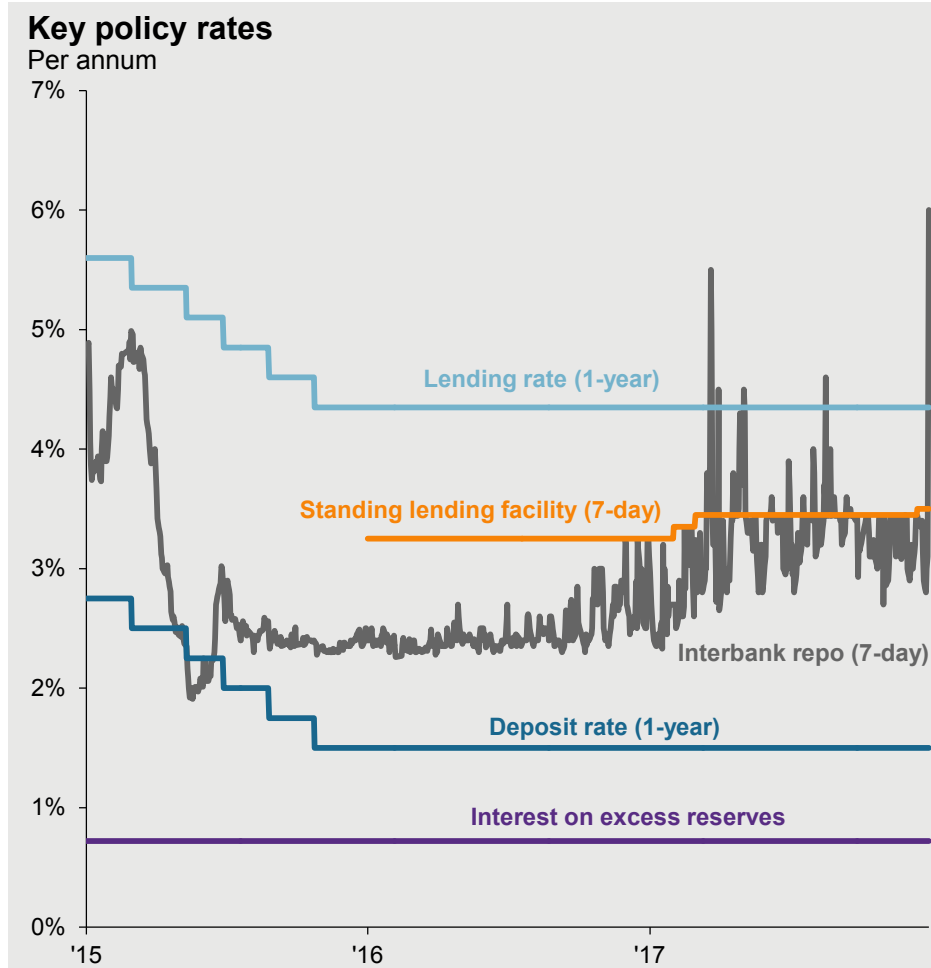


Property prices and land sales

Year-over-year change



Source: CEIC, National Bureau of Statistics of China, J.P. Morgan Asset Management; (Bottom left) FactSet.
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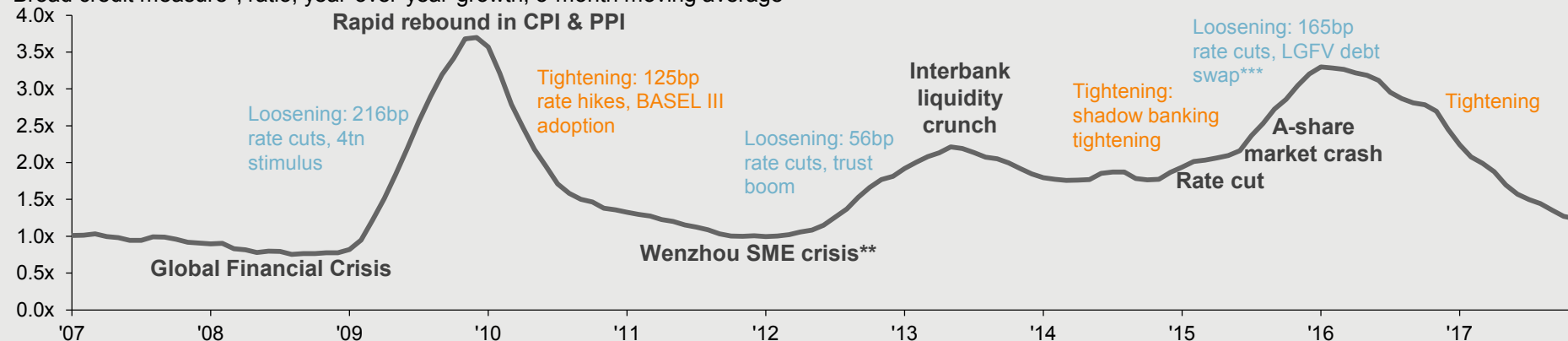


Source: People's Bank of China, J.P. Morgan Asset Management; (Left) CEIC; (Right) FactSet. Past performance is not a reliable indicator of current and future results.

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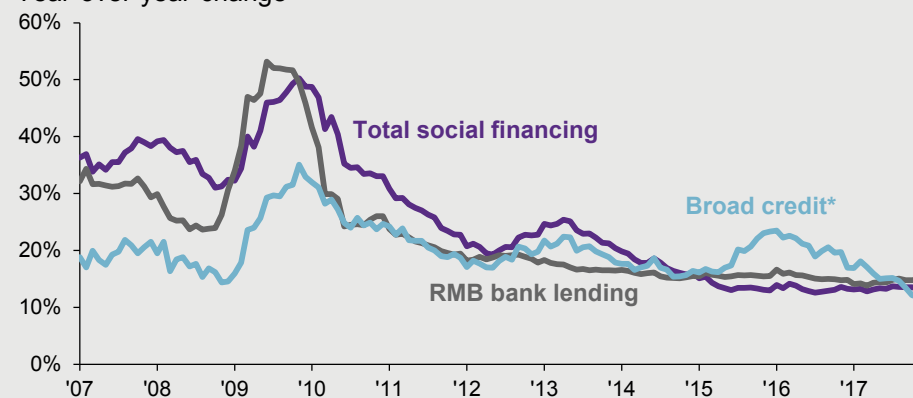
Credit growth to GDP growth

Broad credit measure*, ratio, year-over-year growth, 3-month moving average



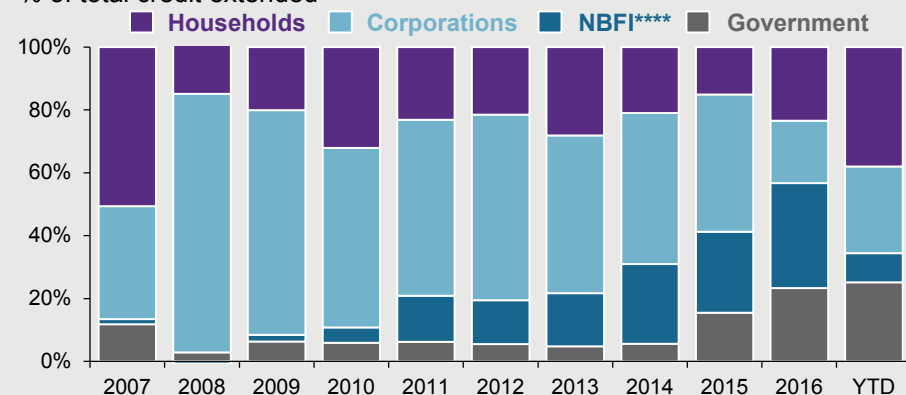
Credit growth

Year-over-year change



New bank credit breakdown by borrowers

% of total credit extended



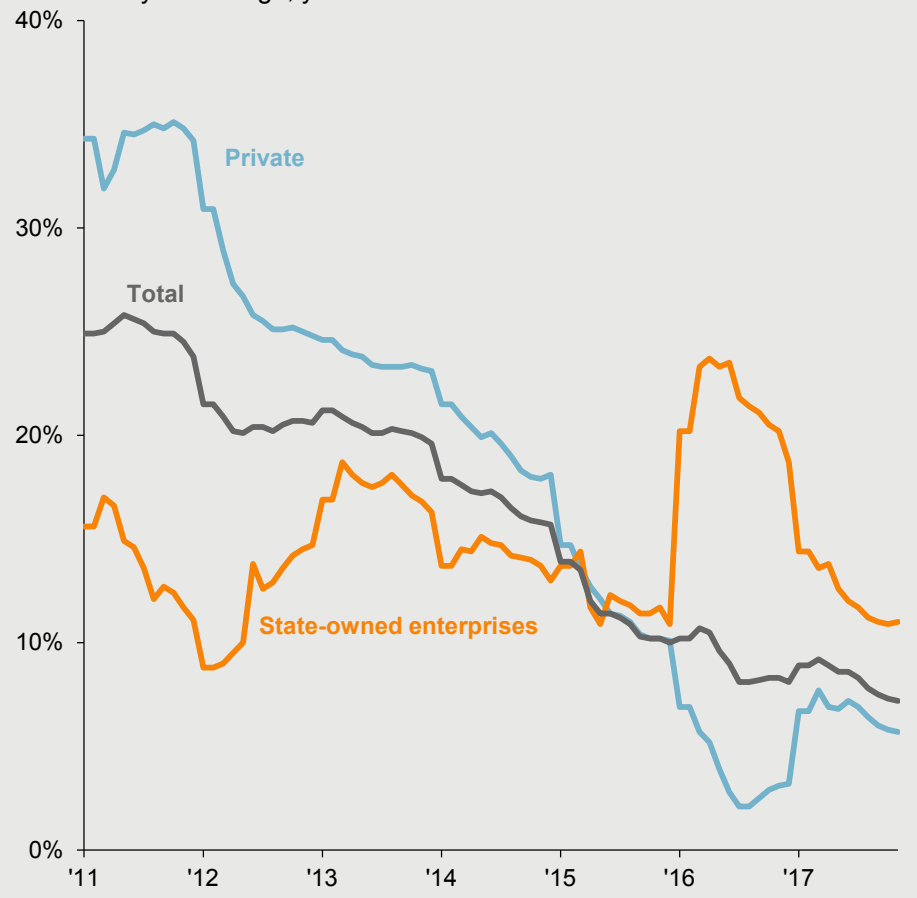
Source: People's Bank of China, J.P. Morgan Asset Management; (Top and bottom left) CEIC; (Bottom right) BIS.

Credit growth to GDP growth ratio utilizes rolling 12-month nominal GDP and broad credit. *The broad credit measure consists of all reported bank claims on the domestic economy, plus bankers' acceptances, entrusted loans, trust loans, new net corporate bond and non-financial equity financing, issuance of asset-backed securities and interbank loans. **Wenzhou SME crisis refers to the wave of bankruptcies and funding problems faced by a large number of small and medium enterprises (SMEs) in Wenzhou in 2011. ***LGFV refers to local government financing vehicle. ****NBFi stands for Non-Bank Financial Institutions. YTD new bank credit breakdown by borrowers is as of 30/11/17.

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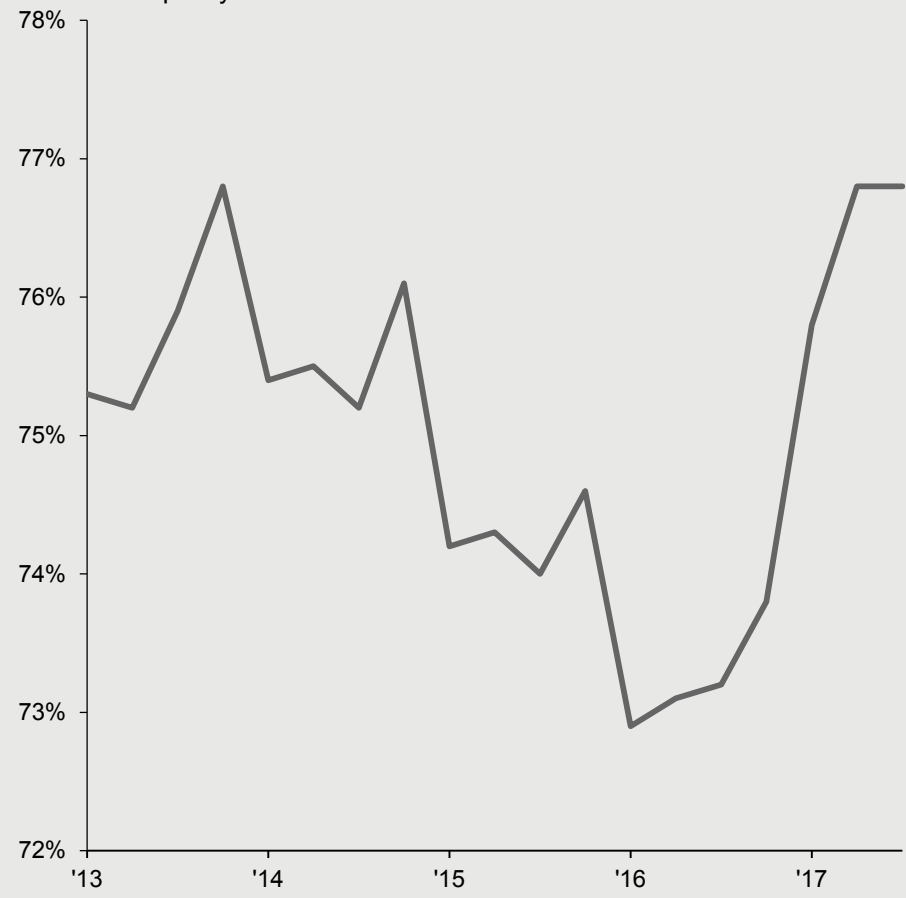
Fixed asset investment

Year-over-year change, year-to-date



Capacity utilization

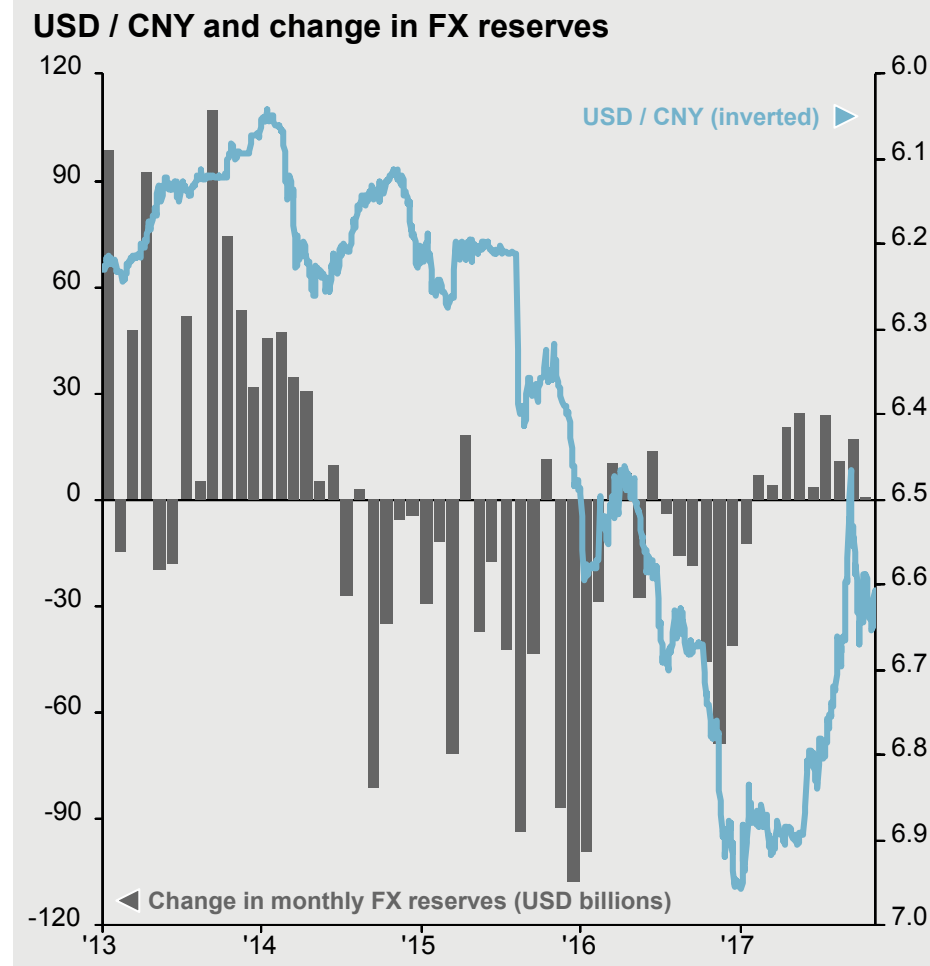
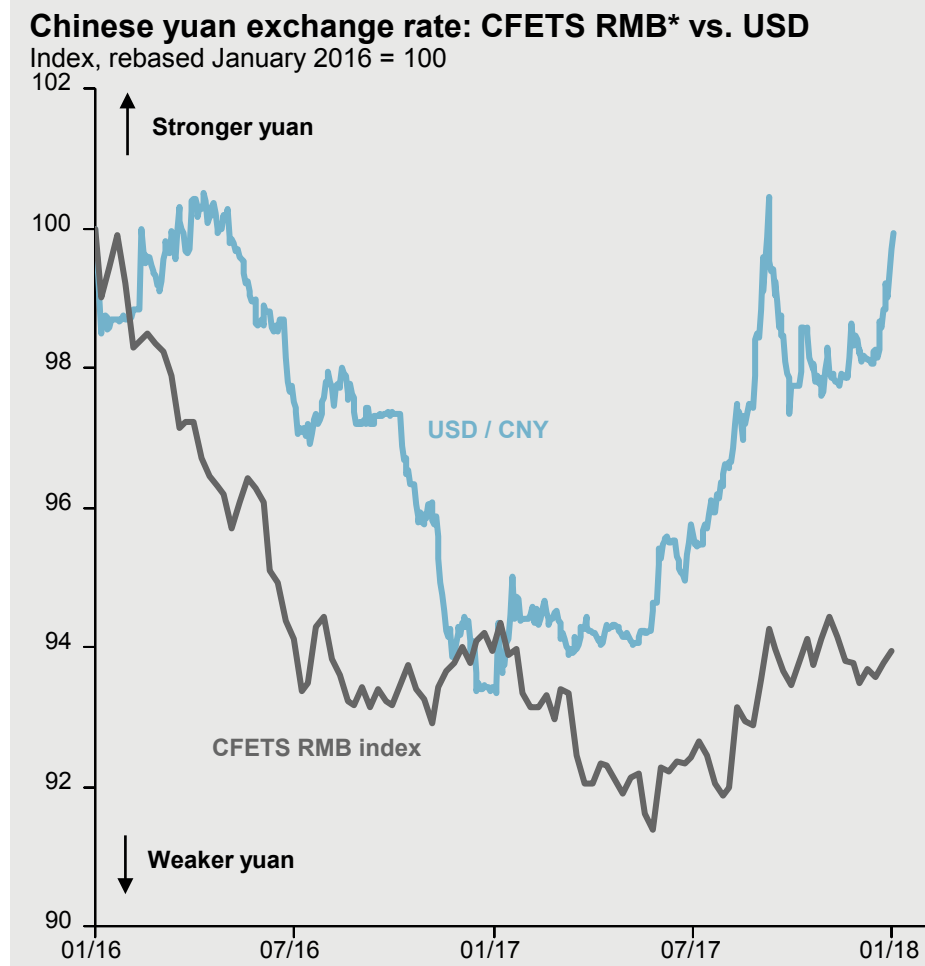
Industrial capacity utilization rate*



Source: CEIC, FactSet, National Bureau of Statistics, J.P. Morgan Asset Management.

*Industrial capacity utilization rate is defined as the percent of total available production capacity being used to produce finished goods.

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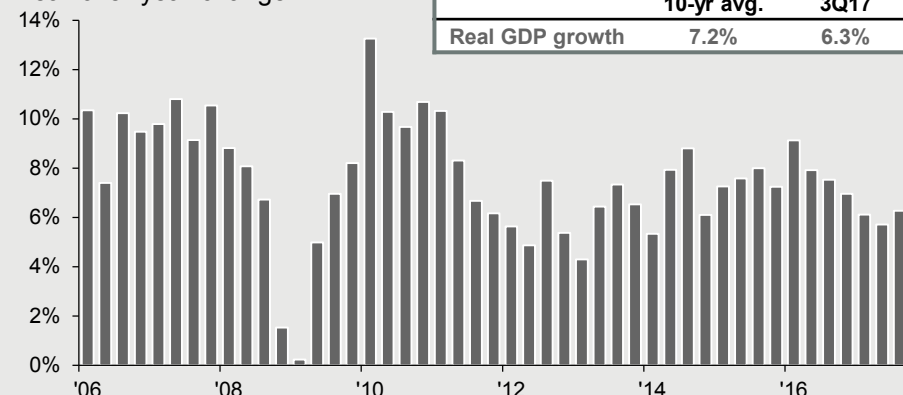


Source: FactSet, J.P. Morgan Asset Management; (Left) China Foreign Exchange Trade Center, J.P. Morgan Economic Research; (Right) People's Bank of China.
 *CFETS RMB index is the China Foreign Exchange Trade System basket of 24 currencies traded against the Chinese renminbi. Past performance is not a reliable indicator of current and future results.

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Real GDP growth

Year-over-year change



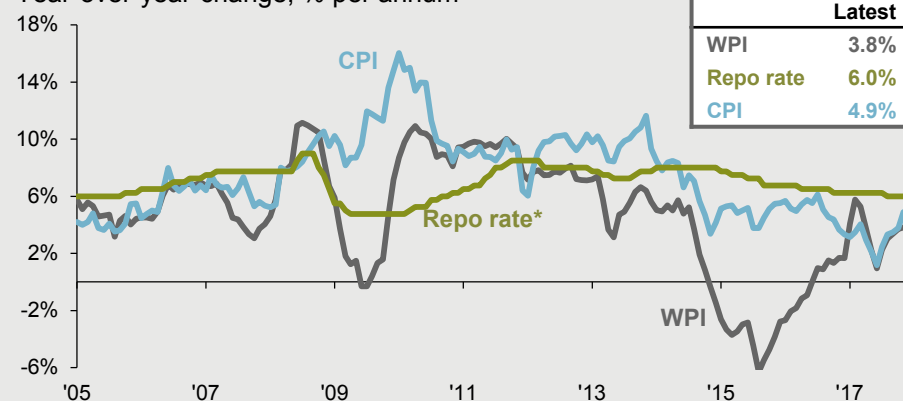
Vehicle sales

Number of passenger vehicles, thousands



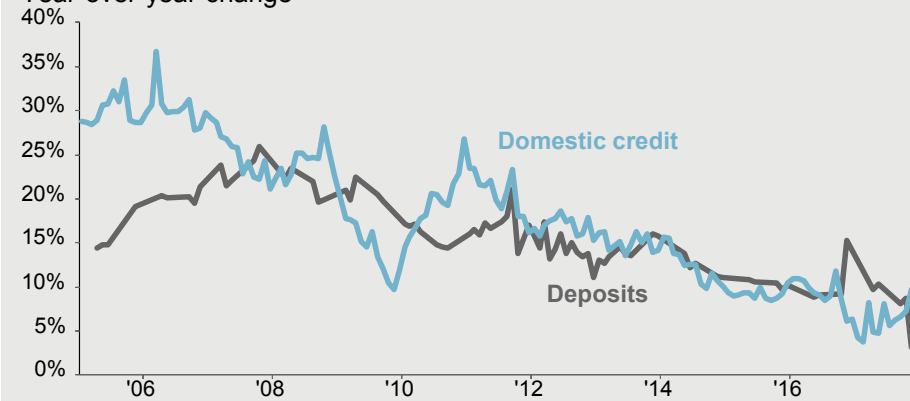
Inflation and repo rate

Year-over-year change, % per annum*



Credit and deposit growth

Year-over-year change



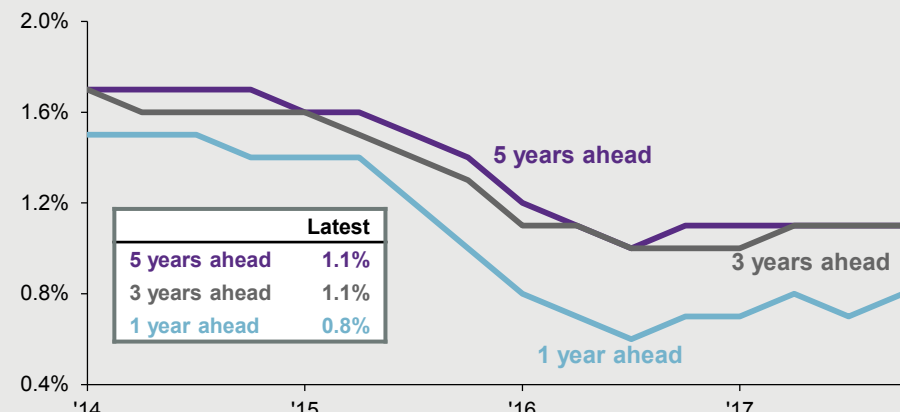
Source: J.P. Morgan Asset Management; (Top left) J.P. Morgan Economic Research, Ministry of Statistics and Programme Implementation; (Top right) Society of Indian Automobile Manufacturers; (Bottom left and right) Reserve Bank of India; (Bottom right) Reuters. *Reserve Bank of India (RBI) repo rate is % per annum. Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

Tankan business conditions

Diffusion Index, all enterprises

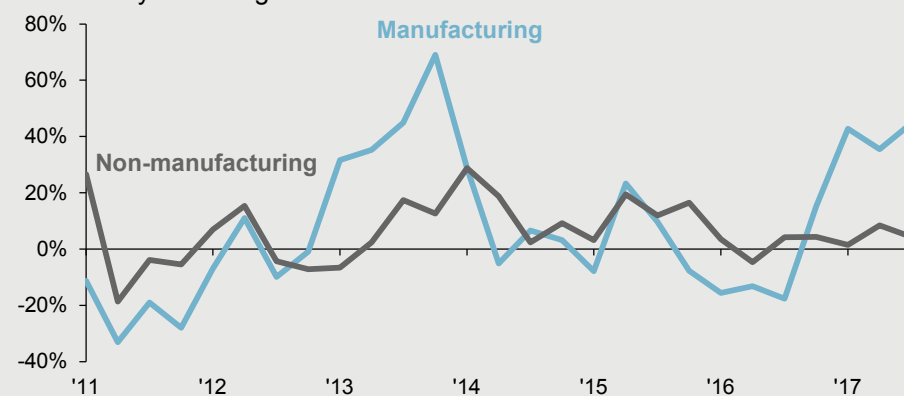


Corporate inflation expectations*



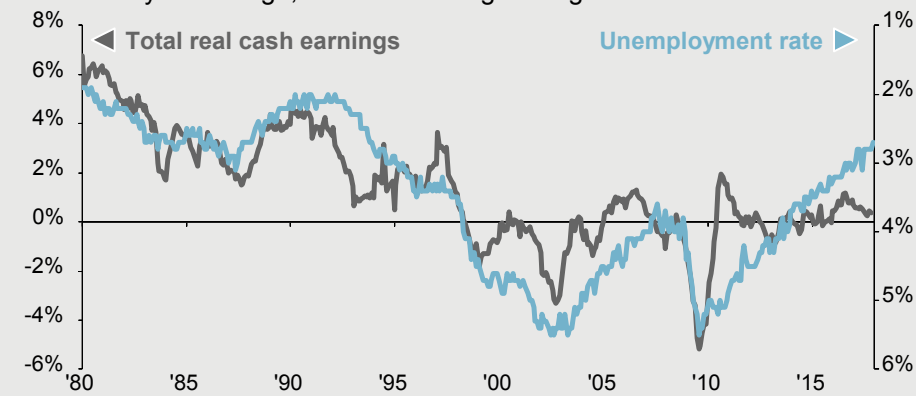
Operating profits

Year-over-year change



Real wage growth and labor market

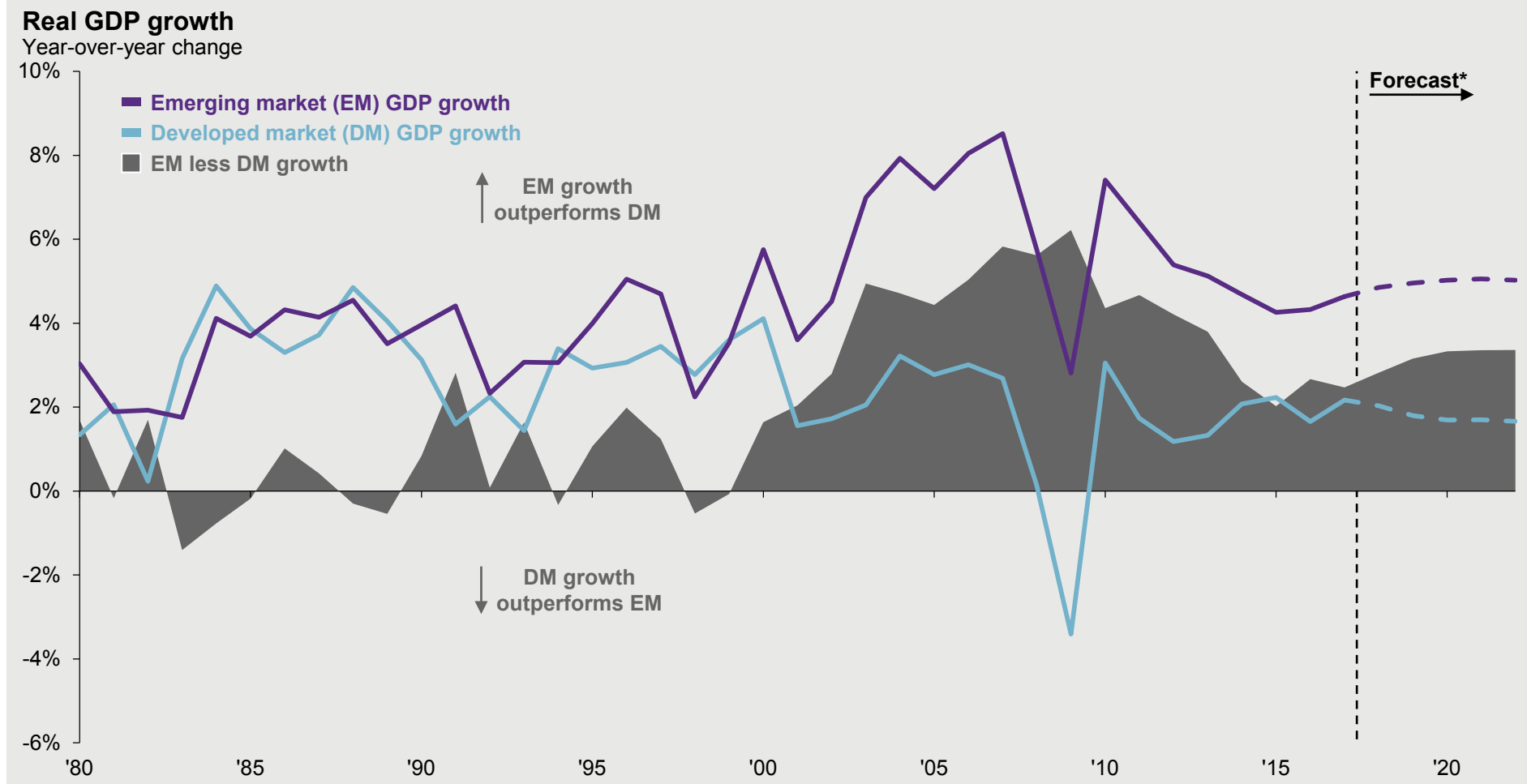
Year-over-year change, 6-month moving average



Source: J.P. Morgan Asset Management; (Top left and right) Bank of Japan; (Bottom left and right) FactSet; (Bottom left) Ministry of Finance; (Bottom right) Japanese Statistics Bureau and Statistics Center, Ministry of Health, Labor and Welfare.

*Inflation expectations are calculated from the responses to the Bank of Japan's all firm survey of business expectations and are for inflation expectations 1, 3 and 5 years from each point in time. Past performance is not a reliable indicator of current and future results.

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Source: IMF, J.P. Morgan Asset Management.

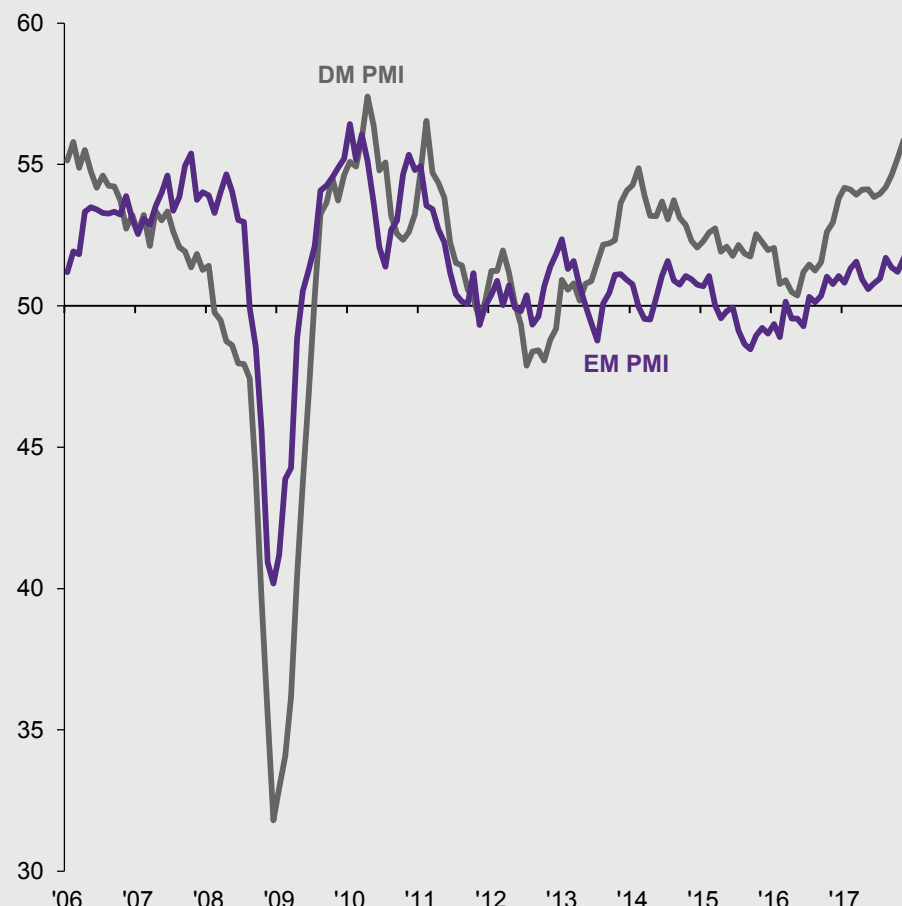
*Forecasts are from the IMF's October 2017 World Economic Outlook.

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Global PMI for manufacturing

	Jan'17	Feb'17	Mar'17	Apr'17	May'17	Jun'17	Jul'17	Aug'17	Sep'17	Oct'17	Nov'17	Dec'17
Global	52.8	53.0	53.0	52.7	52.6	52.6	52.8	53.2	53.3	53.5	54.1	54.5
DM	54.2	54.1	53.9	54.1	54.1	53.9	54.0	54.2	54.6	55.2	55.8	56.3
EM	50.8	51.3	51.6	50.9	50.6	50.8	51.0	51.7	51.4	51.2	51.7	52.2
U.S.	55.0	54.2	53.3	52.8	52.7	52.0	53.3	52.8	53.1	54.6	53.9	55.1
Euro area	55.2	55.4	56.2	56.7	57.0	57.4	56.6	57.4	58.1	58.5	60.1	60.6
Germany	56.4	56.8	58.3	58.2	59.5	59.6	58.1	59.3	60.6	60.6	62.5	63.3
France	53.6	52.2	53.3	55.1	53.8	54.8	54.9	55.8	56.1	56.1	57.7	58.8
Italy	53.0	55.0	55.7	56.2	55.1	55.2	55.1	56.3	56.3	57.8	58.3	57.4
Spain	55.6	54.8	53.9	54.5	55.4	54.7	54.0	52.4	54.3	55.8	56.1	55.8
Greece	46.6	47.7	46.7	48.2	49.6	50.5	50.5	52.2	52.8	52.1	52.2	53.1
UK	55.4	54.6	54.3	57.1	56.4	54.2	55.3	56.8	56.1	56.3	58.2	56.3
Australia	51.2	59.3	57.5	59.2	54.8	55.0	56.0	59.8	54.2	51.1	57.3	56.2
Japan	52.7	53.3	52.4	52.7	53.1	52.4	52.1	52.2	52.9	52.8	53.6	54.2
China	51.0	51.7	51.2	50.3	49.6	50.4	51.1	51.6	51.0	51.0	50.8	51.5
China (NBS)	51.3	51.6	51.8	51.2	51.2	51.7	51.4	51.7	52.4	51.6	51.8	51.6
Korea	49.0	49.2	48.4	49.4	49.2	50.1	49.1	49.9	50.6	50.2	51.2	49.9
Taiwan	55.6	54.5	56.2	54.4	53.1	53.3	53.6	54.3	54.2	53.6	56.3	56.6
Indonesia	50.4	49.3	50.5	51.2	50.6	49.5	48.6	50.7	50.4	50.1	50.4	49.3
India	50.4	50.7	52.5	52.5	51.6	50.9	47.9	51.2	51.2	50.3	52.6	54.7
Russia	54.7	52.5	52.4	50.8	52.4	50.3	52.7	51.6	51.9	51.1	51.5	52.0
Brazil	44.0	46.9	49.6	50.1	52.0	50.5	50.0	50.9	50.9	51.2	53.5	52.4
Mexico	50.8	50.6	51.5	50.7	51.2	52.3	51.2	52.2	52.8	49.2	52.4	51.7
# countries above 50*	14	13	14	15	14	16	14	16	17	16	17	15

Developed and emerging market manufacturing PMI



Source: Australian Industry Group, J.P. Morgan Economic Research, Markit, National Bureau of Statistics of China (NBS), J.P. Morgan Asset Management.

Heatmap colors are based on PMI relative to 50, which indicates contraction (below 50) or expansion (above 50) of the sector.

*Number of countries displayed in the above heatmap, excluding regional aggregates (Global, DM, EM and euro area), which are in expansionary territory. The Markit PMI, not the National Bureau of Statistics PMI, is counted for China.

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Monthly inflation trend

Year-over-year change

Below target by more than 0.5% or below range

Within +/- 0.5% of target or within range

Above target by more than 0.5% or above range

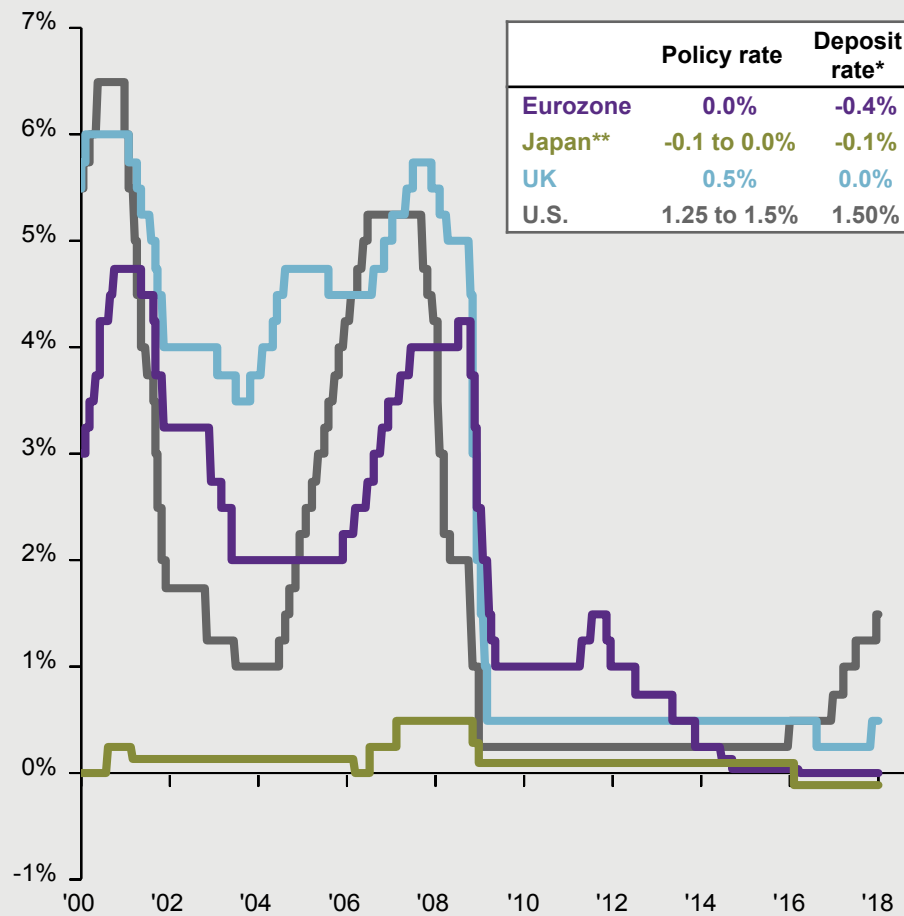
Country	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Central bank target	Key policy rate* (↓ easing, ↑ tightening)
China	2.3	2.1	2.5	0.8	0.9	1.2	1.5	1.5	1.4	1.8	1.6	1.9	1.7	3.0	4.35 (↓ 10/2015)
India	3.6	3.4	3.2	3.7	3.9	3.0	2.2	1.5	2.4	3.3	3.3	3.6	4.9	2.0 – 6.0	6.00 (↓ 8/2017)
Indonesia	3.6	3.0	3.5	3.8	3.6	4.2	4.3	4.4	3.9	3.8	3.7	3.6	3.3	3.0 – 5.0	4.25 (↓ 9/2017)
Japan	0.5	0.3	0.4	0.3	0.2	0.4	0.4	0.4	0.4	0.7	0.7	0.2	0.6	2.0	-0.1 – 0.0 (↓ 2/2016)
Korea	1.5	1.3	2.0	1.9	2.2	1.9	2.0	1.9	2.2	2.6	2.1	1.8	1.3	2.0	1.5 (↑ 11/2017)
Malaysia	1.8	1.8	3.2	4.5	5.1	4.4	3.9	3.6	3.2	3.7	4.3	3.7	3.3	2.0 – 3.0	3.00 (↓ 7/2016)
Taiwan	2.0	1.7	2.2	-0.1	0.2	0.1	0.6	1.0	0.8	1.0	0.5	-0.3	0.3	2.0	1.375 (↓ 6/2016)
Thailand	0.6	1.1	1.6	1.4	0.8	0.4	0.0	0.0	0.2	0.3	0.9	0.9	1.0	1.0 – 4.0	1.5 (↓ 4/2015)
U.S.	1.7	2.1	2.5	2.7	2.4	2.2	1.9	1.6	1.7	1.9	2.2	2.0	2.2	2.0	1.25 – 1.5 (↑ 12/2017)
Eurozone	0.6	1.1	1.8	2.0	1.5	1.9	1.4	1.3	1.3	1.5	1.5	1.5	1.5	2.0	0.00 (↓ 3/2016)
UK	1.2	1.6	1.8	2.3	2.3	2.7	2.9	2.6	2.6	2.9	3.0	3.0	3.1	2.0	0.5 (↑ 11/2017)

Source: FactSet, various central banks, J.P. Morgan Economic Research, J.P. Morgan Asset Management.

All inflation numbers refer to headline CPI inflation. *Arrows and dates indicate the direction and date of last change, respectively. The central bank's policy rates used are: the one-year benchmark lending rate (*China*), RBI policy repo rate (*India*), BI 7-day reverse repo rate (*Indonesia*), the BoJ's policy rate on the aggregate balance of all financial institutions' current accounts at the BoJ (*Japan*), BoK base rate (*Korea*), overnight policy rate (*Malaysia*), discount rate (*Taiwan*), one-day repurchase rate (*Thailand*), fed funds rate (*U.S.*), eurozone main refinancing operations rate (*eurozone*) and BoE official bank rate (*UK*). Past performance is not a reliable indicator of current and future results.

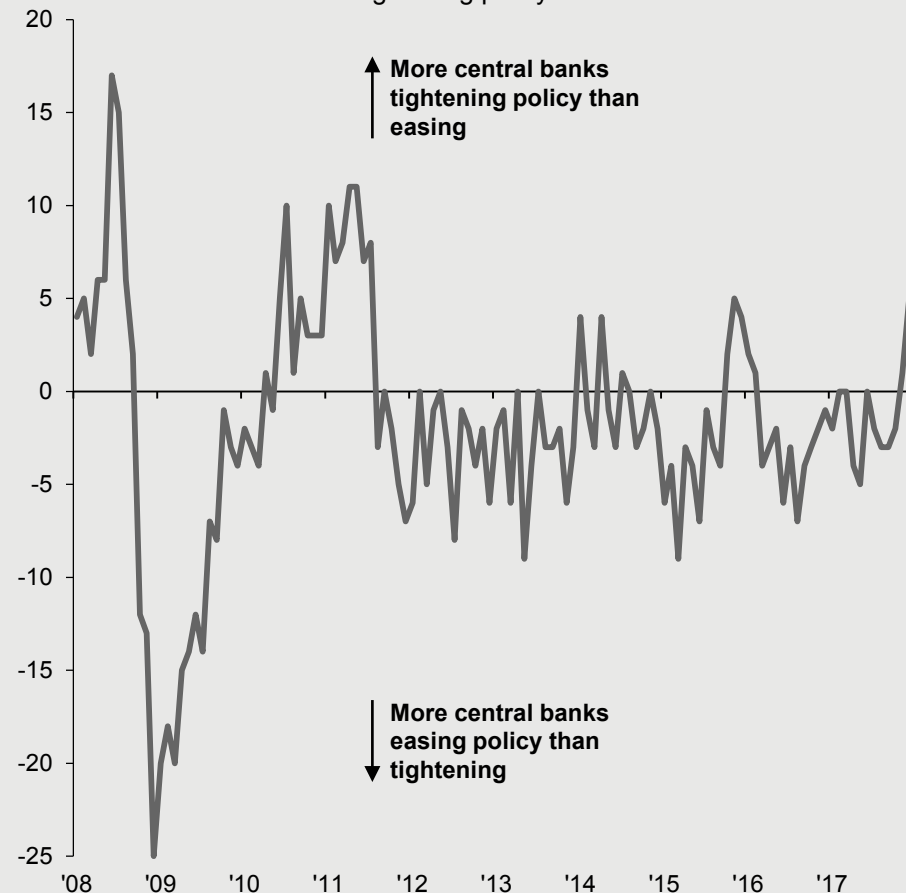
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G4 Central bank key policy rates



Central bank policy rate changes

Net number of central banks tightening policy***



Source: Bloomberg Finance L.P., J.P. Morgan Asset Management; (Left) FactSet.

G4 are the Bank of England, the Bank of Japan, the European Central Bank and the U.S. Federal Reserve. *Key deposit rates that central banks charge commercial banks on their excess reserves. **The BoJ is adopting a three-tier system in which a negative interest rate of -0.1% will be applied to the policy rate balance of the aggregate amount of all financial institutions that have current accounts at the BoJ. ***Count includes 40 central banks. Past performance is not a reliable indicator of current and future results.

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Central bank asset purchases

12-month rolling bond purchases by G4 central banks*, USD billions



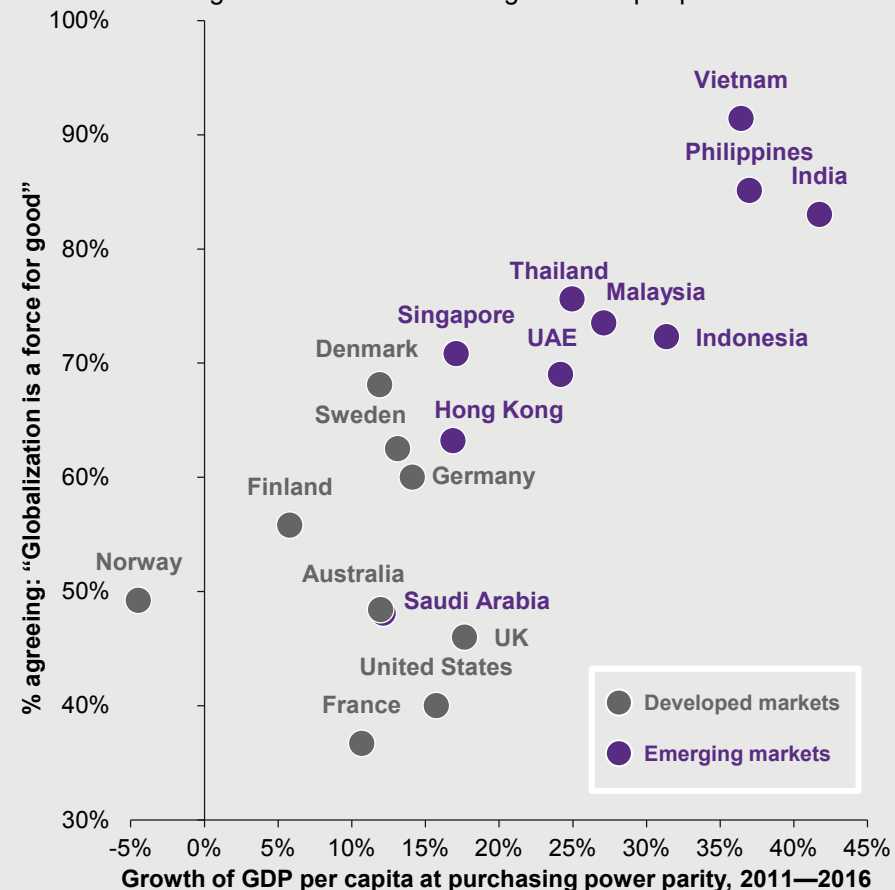
Source: Bloomberg Finance L.P., J.P. Morgan Asset Management.

*New purchases of assets are based on monthly holdings as reported by each respective G4 central bank (the Bank of England (BoE), the Bank of Japan (BoJ), the European Central Bank (ECB) and the U.S. Federal Reserve (Fed)) and announced purchase plans of these central banks and J.P. Morgan Asset Management projections.

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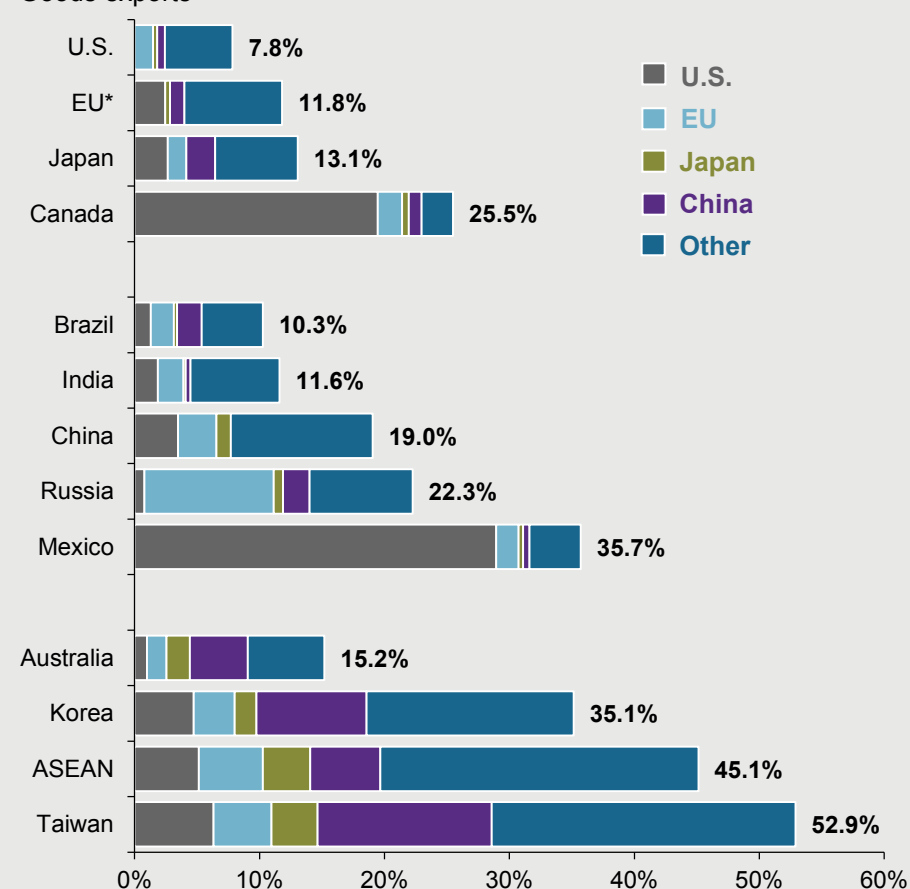
Globalization sentiment and GDP per capita growth

Attitudes toward globalization and % change in GDP per person



Exports as a share of GDP – 2016

Goods exports*

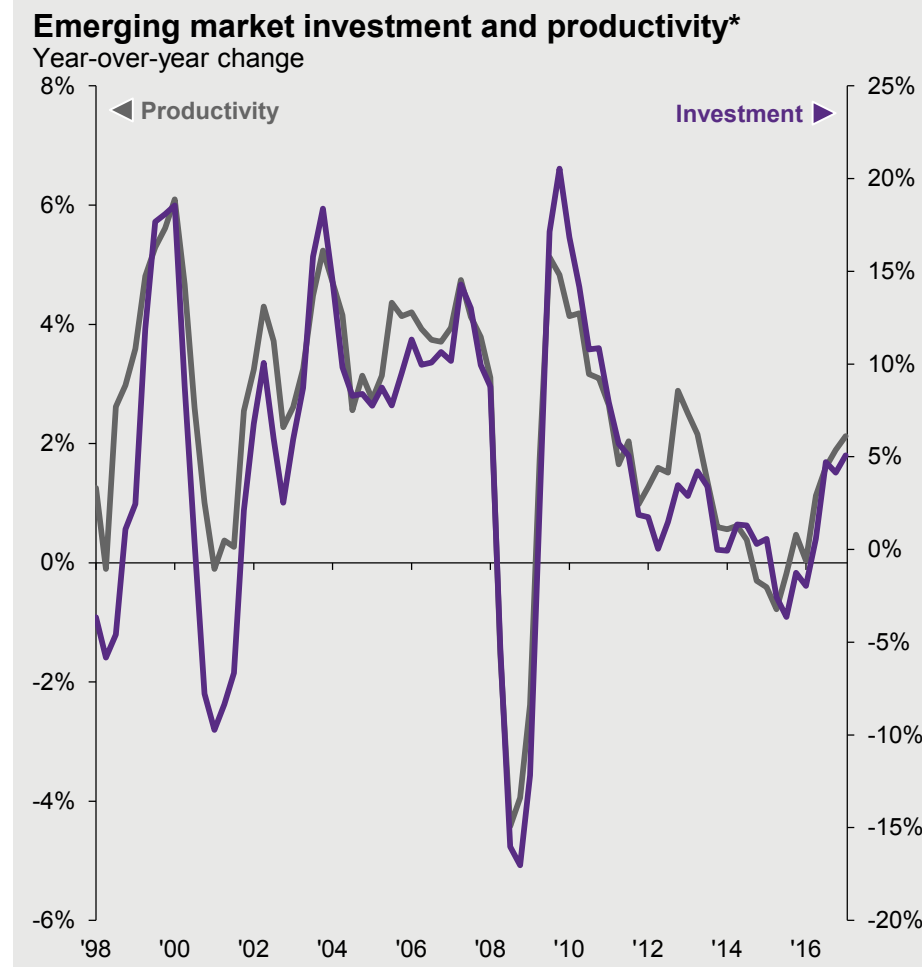
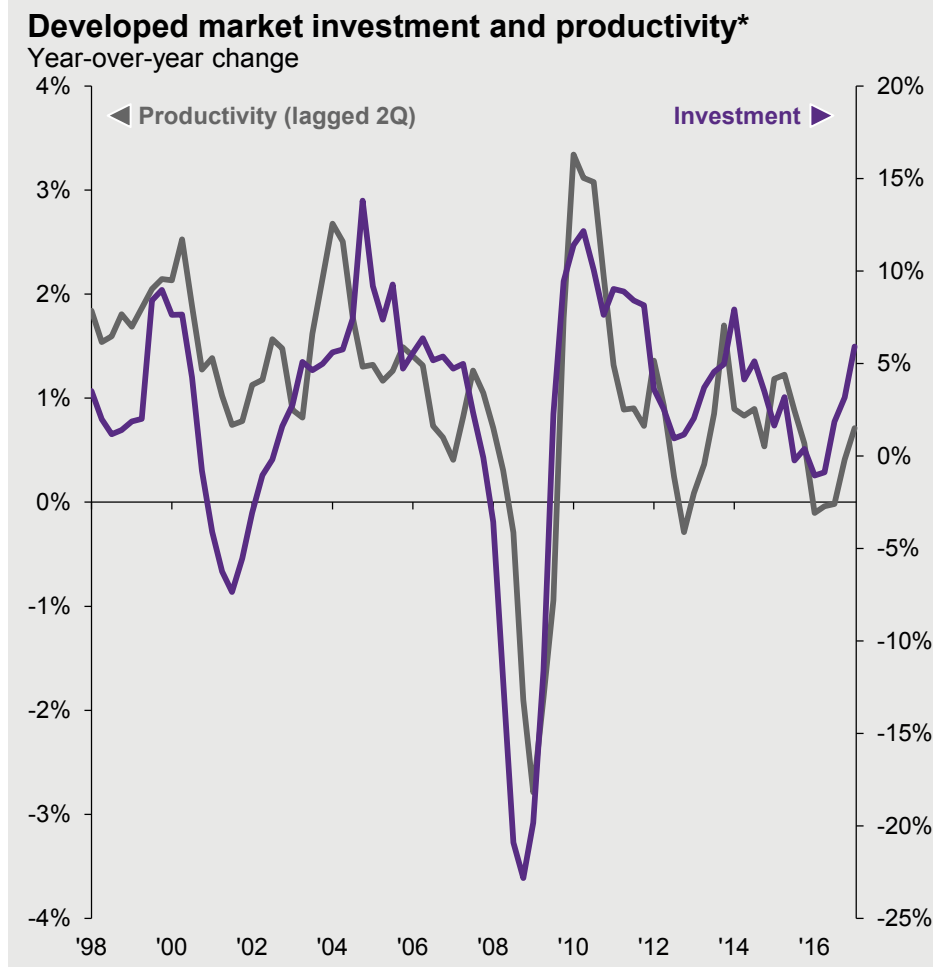


Source: FactSet, IMF, J.P. Morgan Asset Management; (Left) Economist/YouGov, World Bank.

*EU exports as a percentage of GDP excludes intra-EU trade as the European Union is considered one regional economy.

Change in GDP per capita at purchasing power parity is based on World Bank data.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.



Source: J.P. Morgan Economics Research, J.P. Morgan Asset Management.

*Investment measured as GDP-weighted business investment in fixed capital and productivity measured as real output per worker.

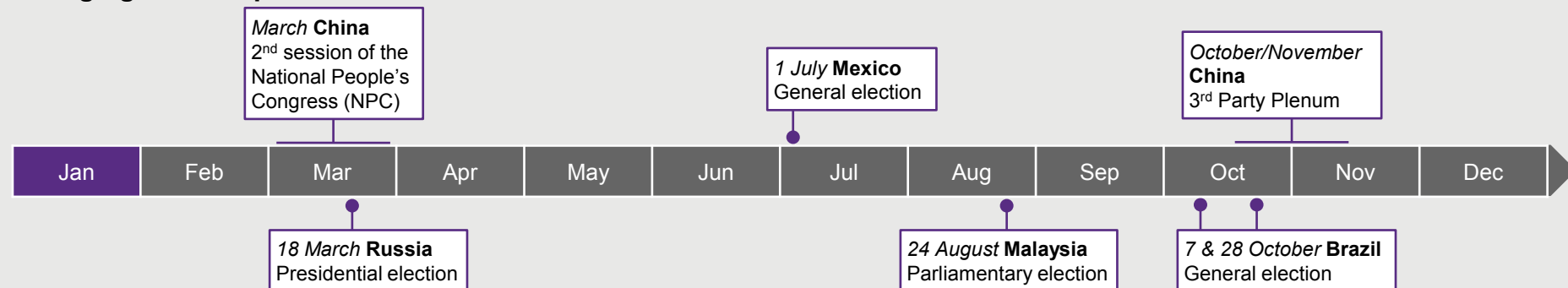
Excludes China and India.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

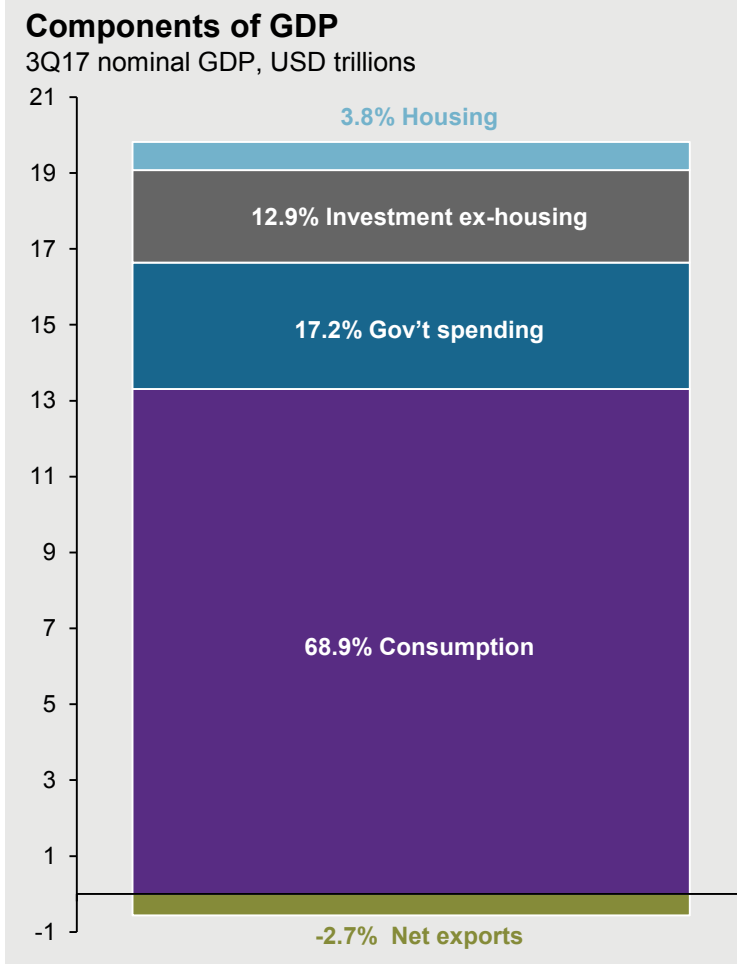
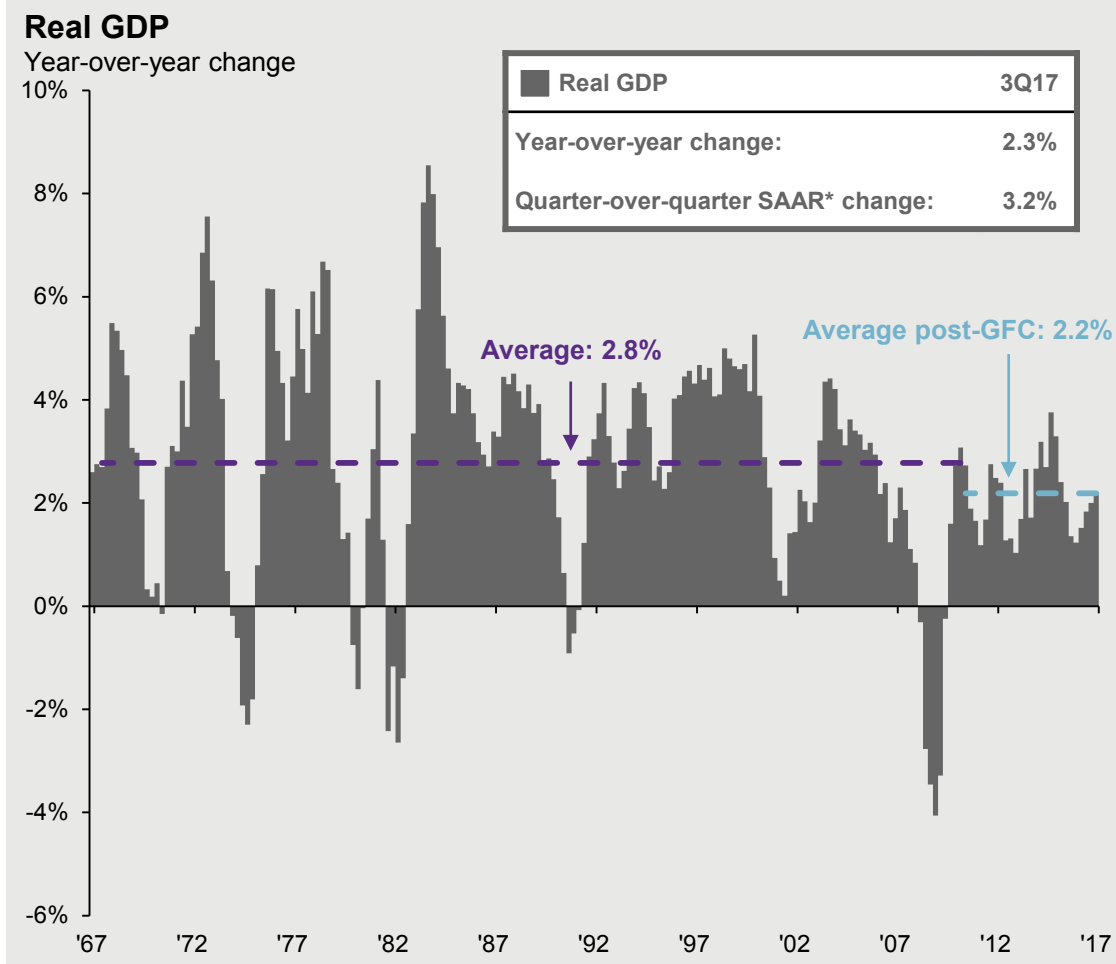
Developed markets political timeline



Emerging markets political timeline



Source: Bloomberg, Politico, J.P. Morgan Asset Management.
Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.



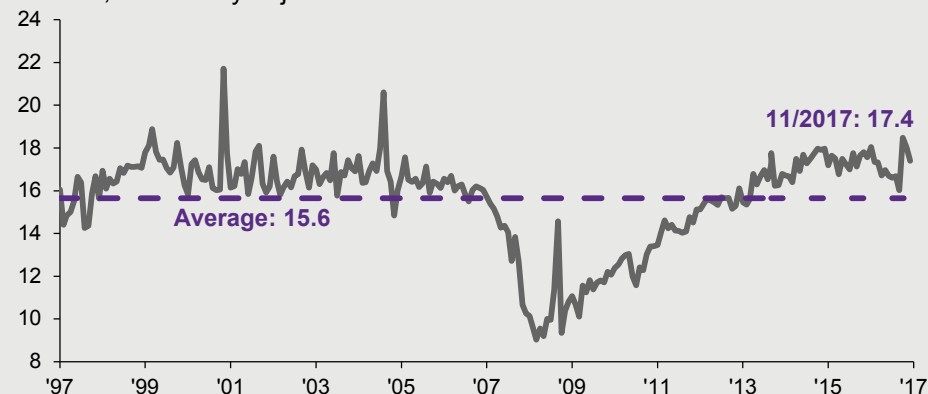
Source: Bureau of Economic Analysis, FactSet, J.P. Morgan Asset Management.

*SAAR stands for the seasonally adjusted annualized rate.

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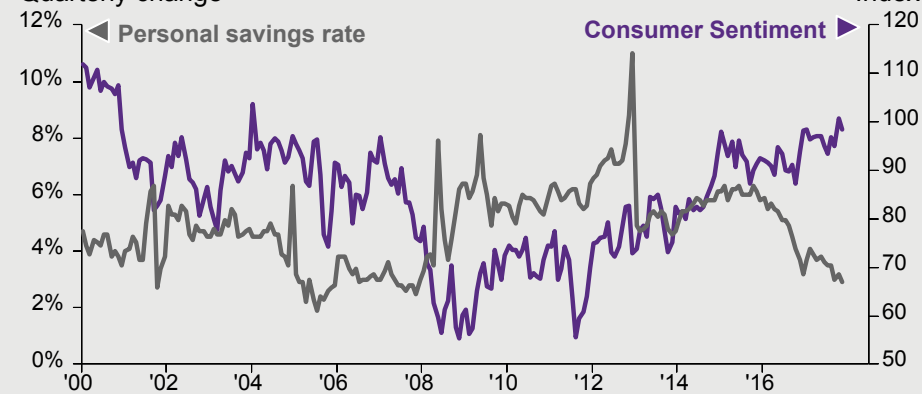
Light vehicle sales

Millions, seasonally adjusted annualized rate



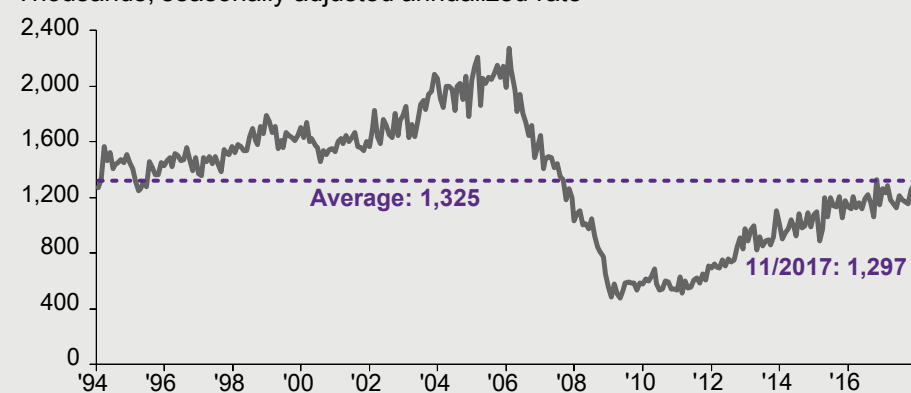
Savings and sentiment

Quarterly change



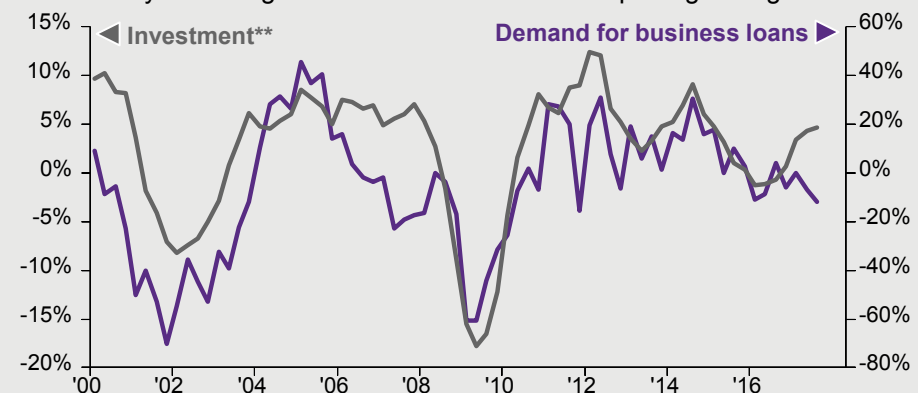
Housing starts

Thousands, seasonally adjusted annualized rate



Investment and demand for credit

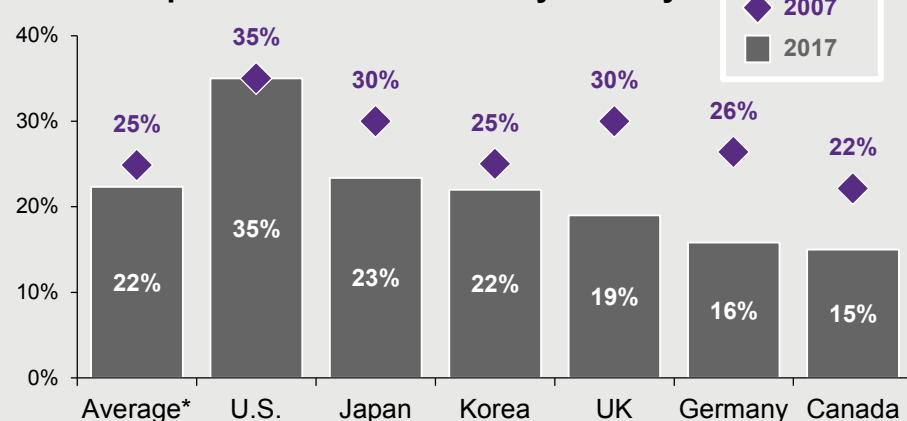
Year-over-year change



Source: J.P. Morgan Asset Management; (Top left) U.S. Bureau of Economic Analysis; (Top right, bottom left and right) FactSet; (Bottom left and right) U.S. Census Bureau. *Net percent of participants in the Senior Loan Officer Survey. **Private investment in non-residential fixed assets in real terms.

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OECD corporate income tax rate by country



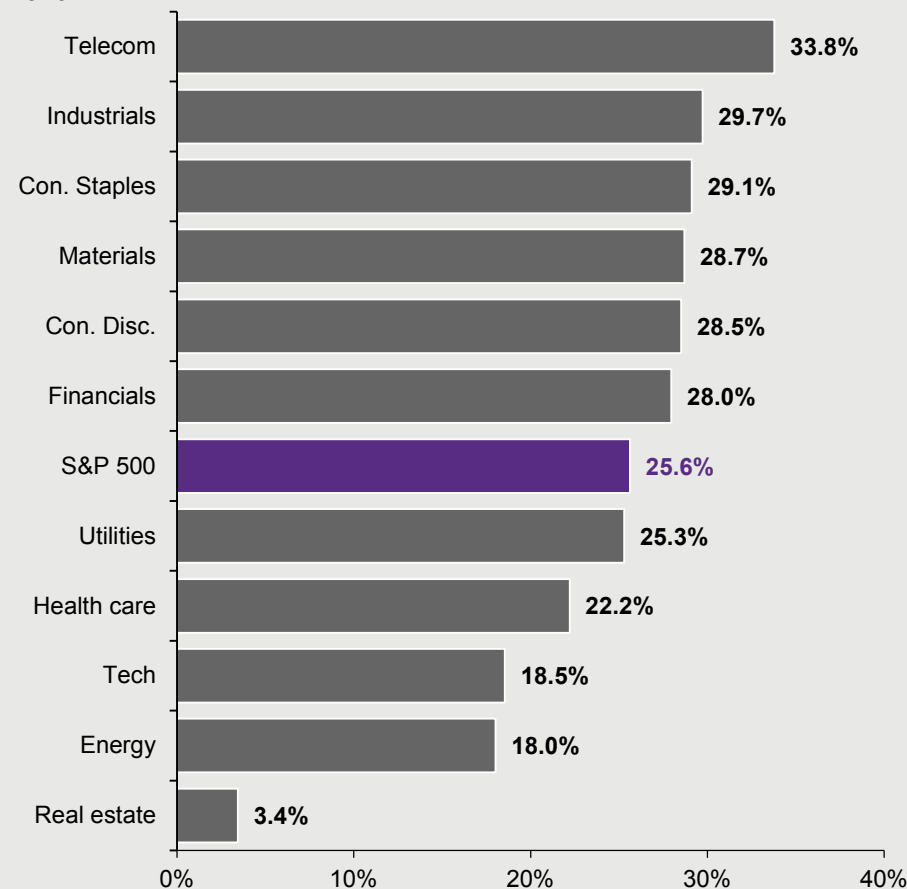
Trade barriers

Share of U.S. goods imports subject to trade barriers**



S&P 500 effective tax rates by sector

2016



Source: J.P. Morgan Asset Management; (Top left) OECD; (Bottom left) Chad P. Bown, Peterson Institute for International Economics, Office of the U.S. Trade Representative; (Right) J.P. Morgan Economic Research, Standard & Poor's.

*Average based on Organization for Economic Cooperation and Development's (OECD) 35 countries in simple average terms. **Trade barriers = anti-dumping, countervailing duties, global safeguards and national security. ***Projected share through 2017 based on actions taken during the first 100 days of the Trump presidency.

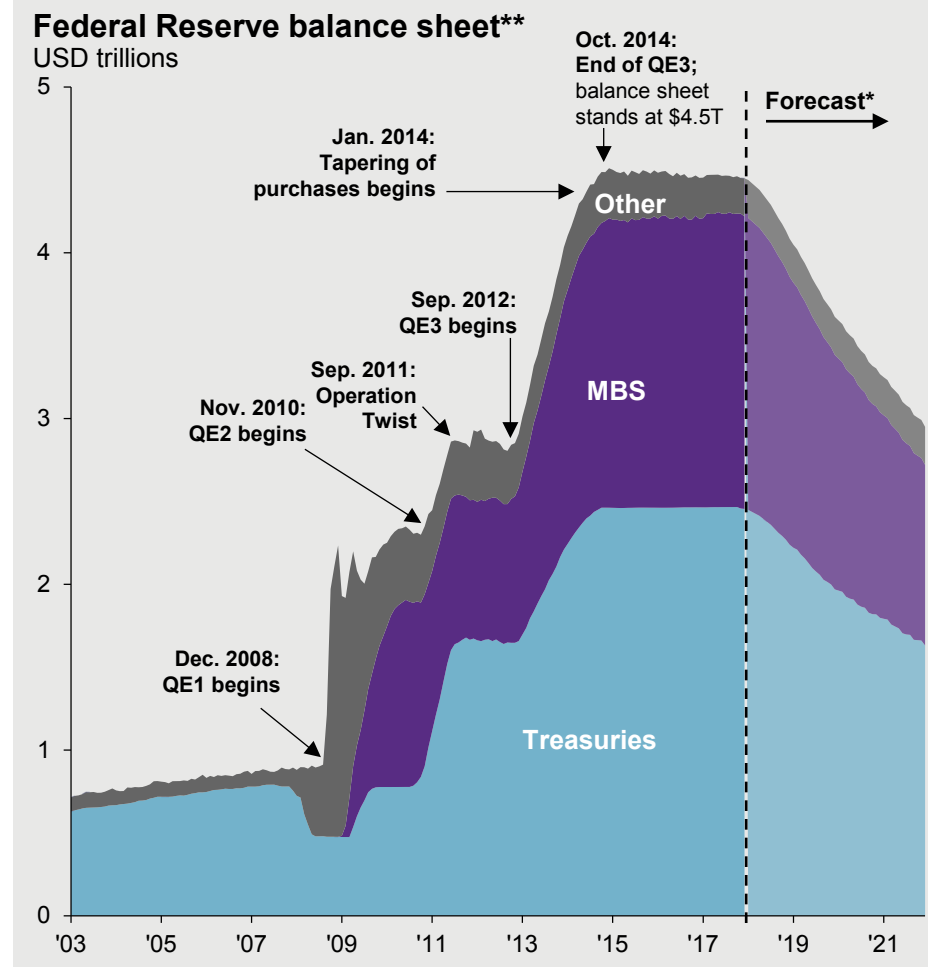
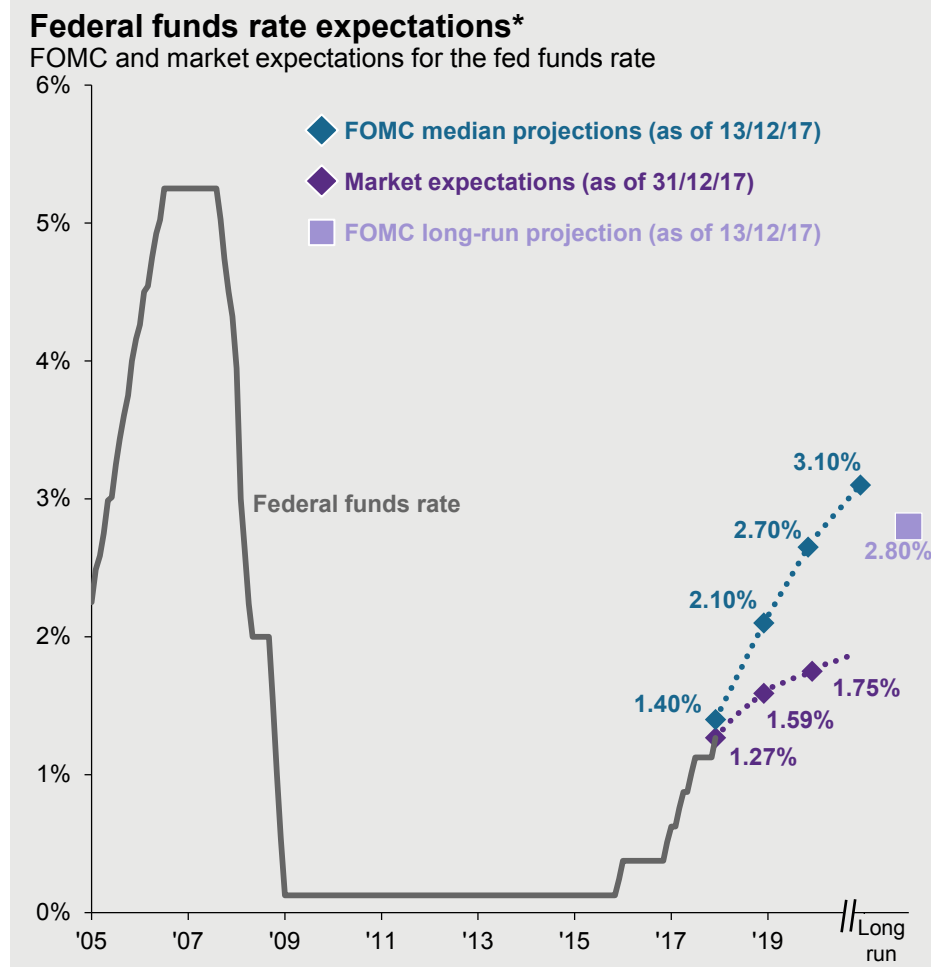
Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.



Source: FactSet, U.S. Bureau of Labor Statistics, J.P. Morgan Asset Management; (Right) U.S. Bureau of Economic Analysis.

*Average hourly earnings are calculated from the wages of production and non-supervisory workers. **PCE and core PCE are the Personal Consumption Expenditure (PCE) deflator.

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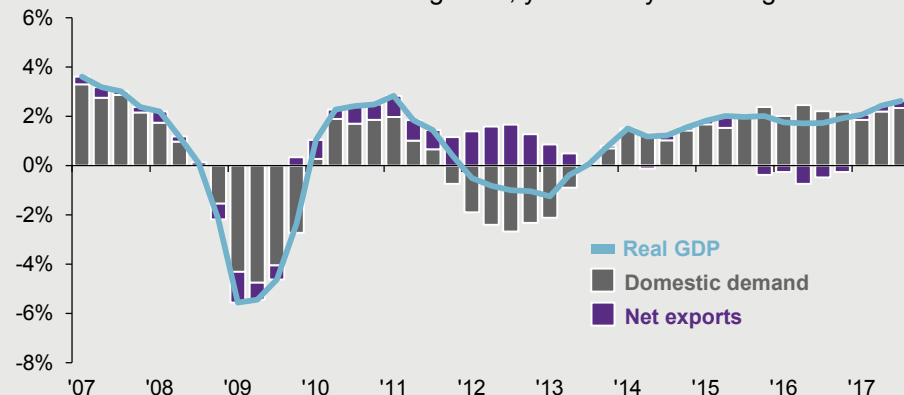


Source: FactSet, Federal Reserve, J.P. Morgan Asset Management.

*Market expectations are calculated from the rate implied by the Fed futures market. **Balance sheet reduction assumes reduction from current level, beginning October 2017 and lasting four years, concluding in October 2021. Reduction of Treasuries and MBS is per FOMC guidelines from the September 2017 meeting minutes: Treasury securities will be reduced \$6 billion per month initially and reduction rate will increase in steps of \$6 billion at three-month intervals over 12 months until reaching \$30 billion per month; MBS will be reduced \$4 billion per month initially and reduction rate will increase in steps of \$4 billion at three-month intervals over 12 months until reaching \$20 billion per month; Other assets are reduced in proportion. Forecasts do not take into account months where maturing assets do not exceed the stated cap nor do they consider the reinvestment of principal or interest repayment in excess of the stated cap. Past performance is not a reliable indicator of current and future results. *Guide to the Markets – Asia*. Data reflect most recently available as of 31/12/17.

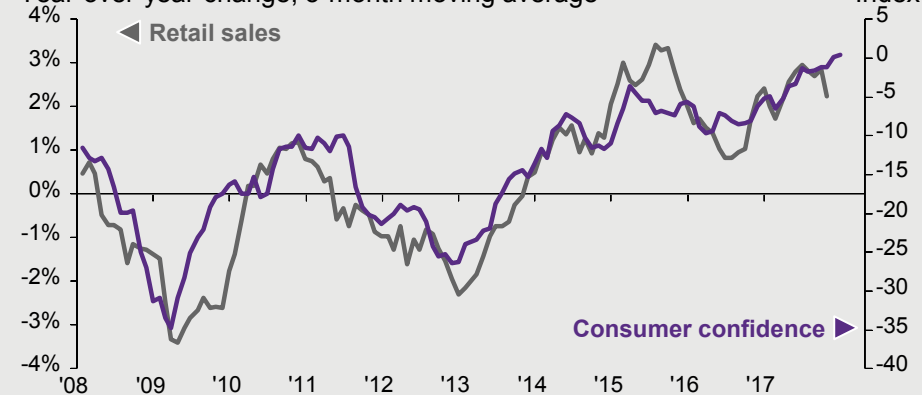
Economic growth

Contribution to Eurozone real GDP growth, year-over-year change



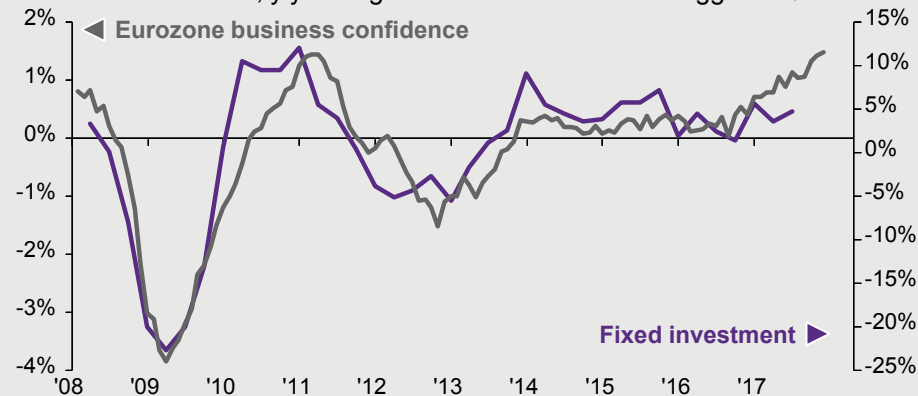
Consumer confidence* and retail sales

Year-over-year change, 3-month moving average



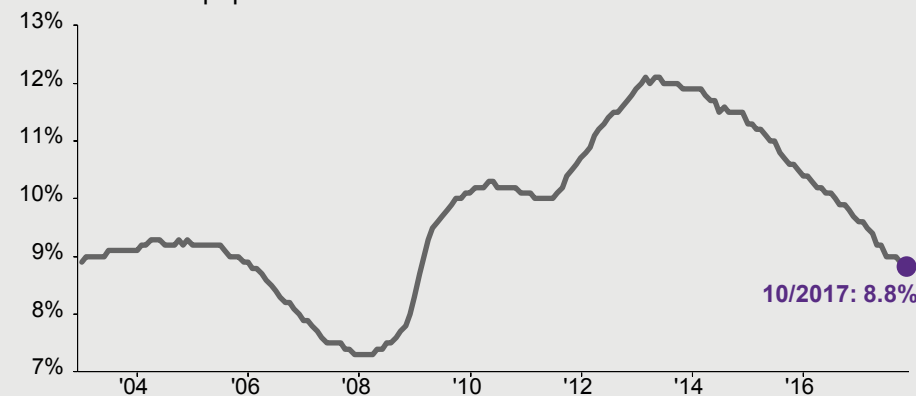
Businesses and investment

Business confidence, y/y change fixed asset investment lagged 1Q



Unemployment rate

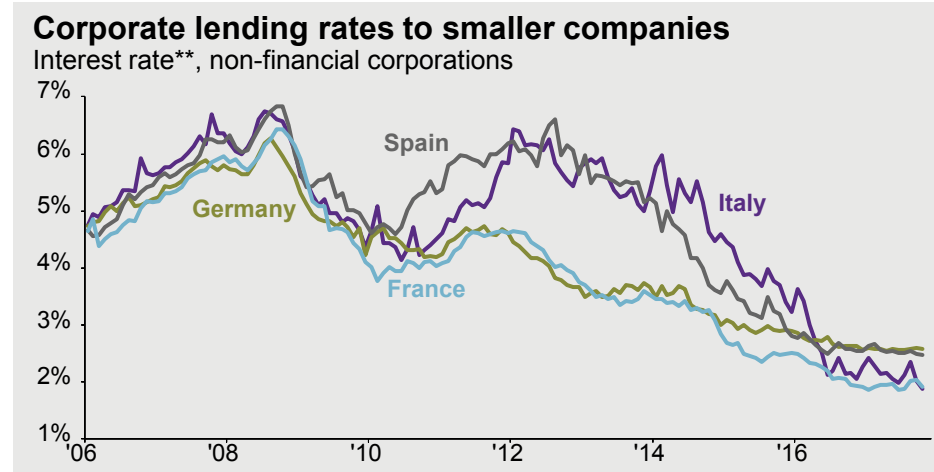
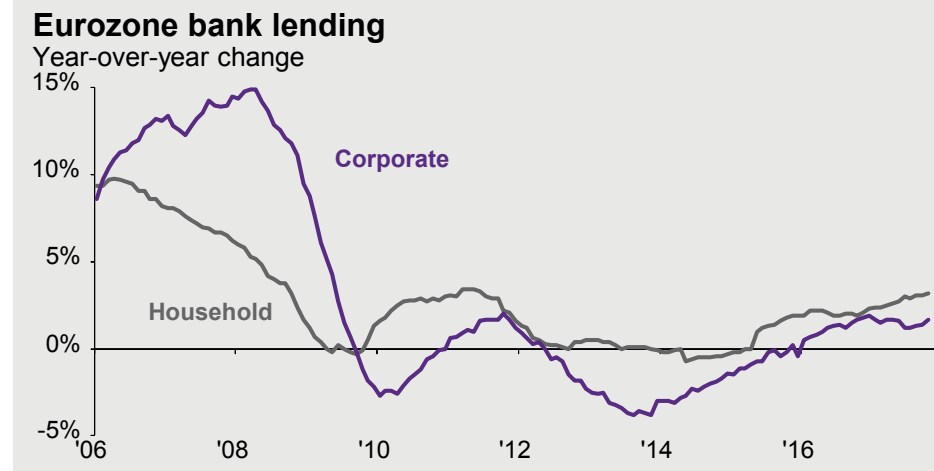
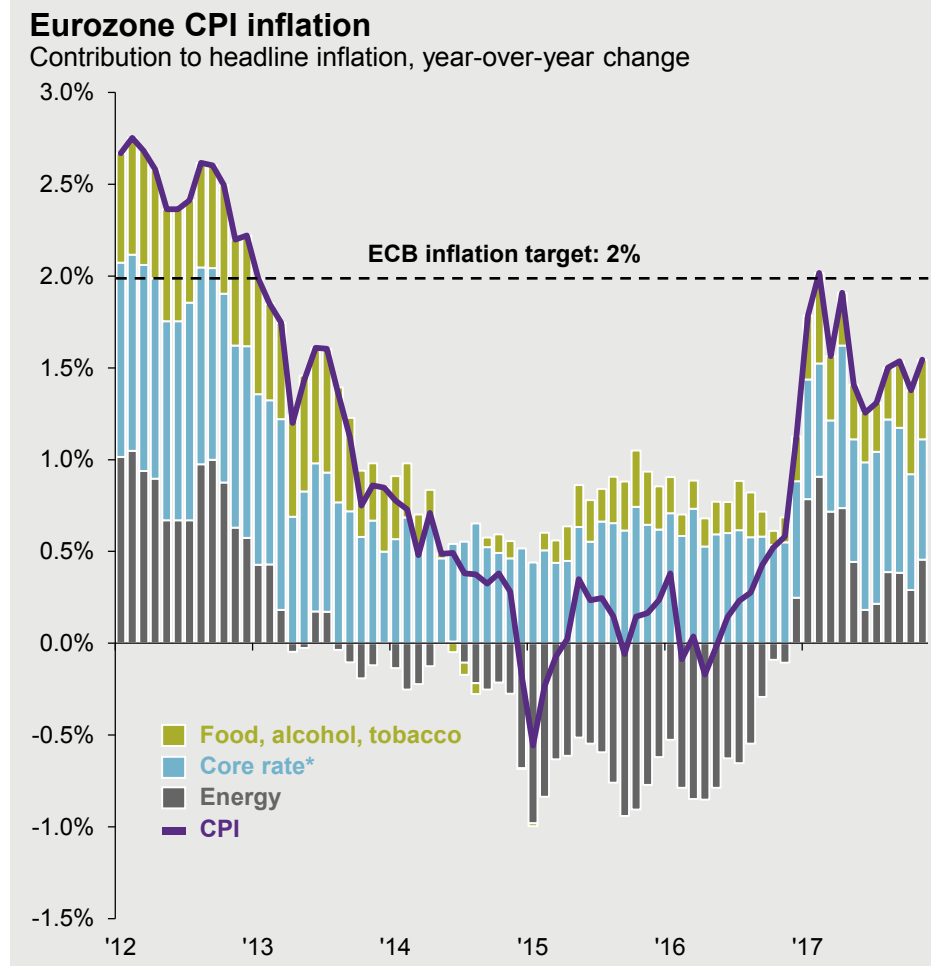
Share of active population



Source: Eurostat, FactSet, J.P. Morgan Asset Management; (Top right and bottom left) European Commission.

*Eurozone consumer confidence as reported by the European Commission, which measures the level of optimism that consumers have about the economy.

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Source: ECB, FactSet, J.P. Morgan Asset Management; (Left) Eurostat.
 *Core rate is CPI inflation (HICP) excluding energy, food, alcohol and tobacco.
 **Interest on new business lending up to €1 million, on a 1-5 year maturity.
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Global and Asia equity market returns

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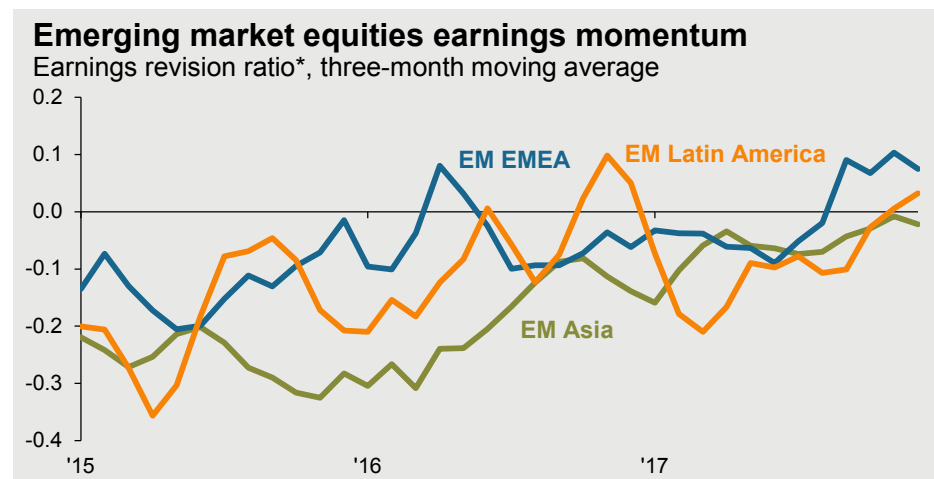
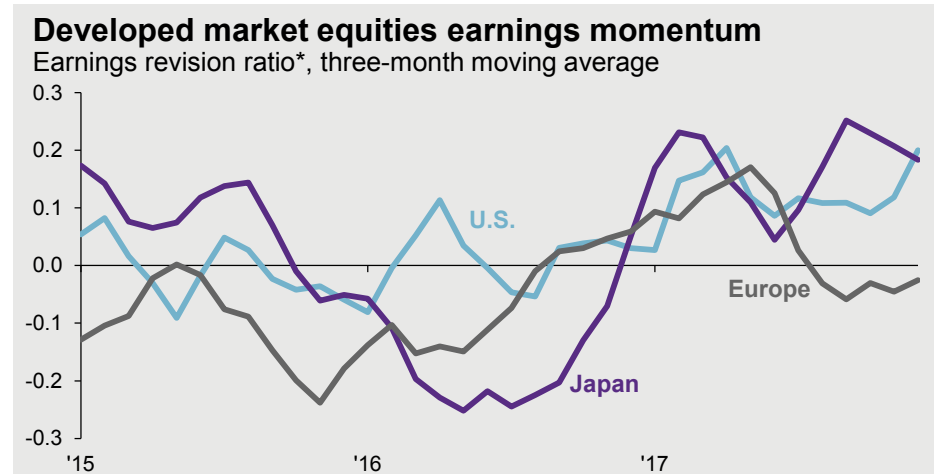
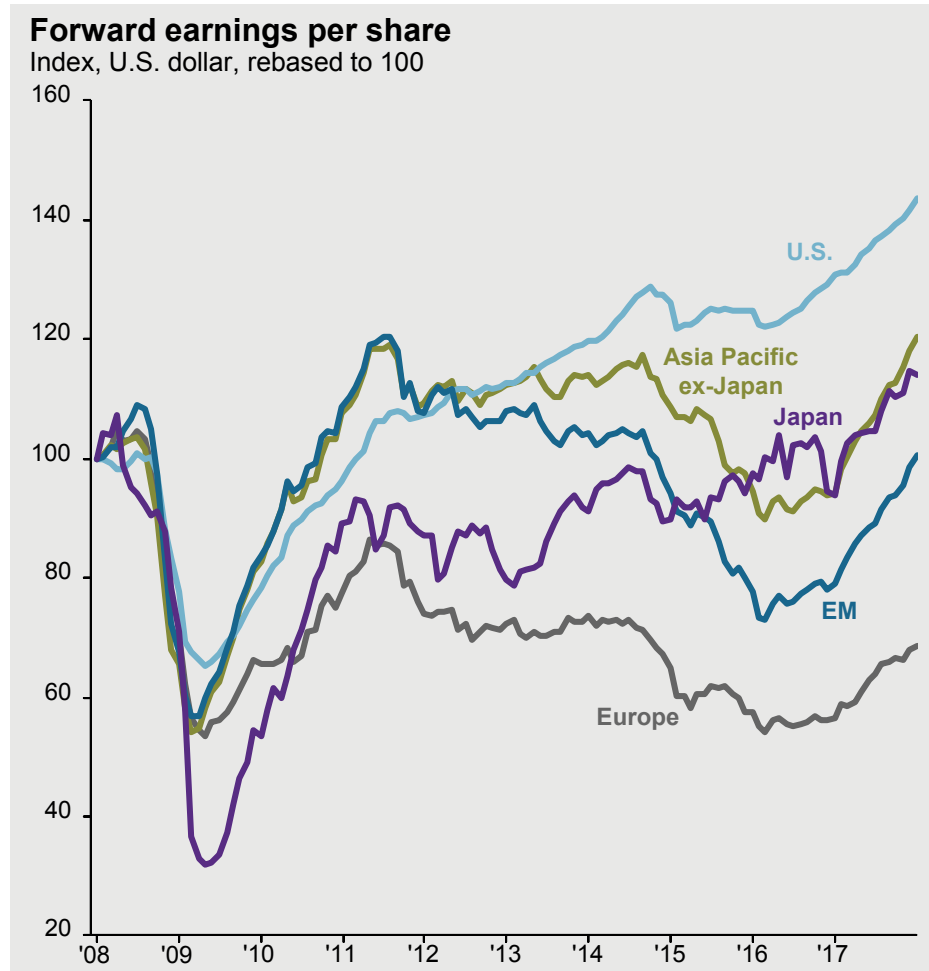
Equities

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	4Q '17	10-yrs ('08 - '17) Ann. Ret.	10-yrs ('08 - '17) Ann. Vol.
India	73.1%	Japan	India	ASEAN	U.S.	HK	U.S.	India	Japan	Taiwan	China	India	U.S.	India
China	66.2%	U.S.	Taiwan	Korea	ASEAN	India	Japan	U.S.	U.S.	U.S.	Korea	Korea	Taiwan	Korea
HK	41.2%	Taiwan	ASEAN	HK	Europe	China	Europe	Taiwan	HK	Korea	Asia ex-JP	ASEAN	HK	China
Asia ex-JP	40.5%	Europe	Asia ex-JP	Taiwan	Korea	ASEAN	HK	China	Europe	ASEAN	India	Japan	ASEAN	ASEAN
ASEAN	39.2%	ASEAN	Korea	India	Japan	Asia ex-JP	Taiwan	ASEAN	India	Asia ex-JP	HK	Asia ex-JP	Asia ex-JP	HK
Korea	32.6%	China	China	Asia ex-JP	HK	Korea	Korea	Asia ex-JP	Korea	Japan	ASEAN	China	Korea	Asia ex-JP
Europe	14.4%	HK	HK	Japan	Asia ex-JP	Europe	China	HK	China	HK	Taiwan	HK	Japan	Taiwan
Taiwan	9.1%	Asia ex-JP	Europe	U.S.	China	Taiwan	Asia ex-JP	Japan	Asia ex-JP	China	Europe	U.S.	China	Europe
U.S.	6.0%	Korea	U.S.	China	Taiwan	U.S.	India	Europe	Taiwan	Europe	Japan	Taiwan	Europe	Japan
Japan	-4.1%	India	Japan	Europe	India	Japan	ASEAN	Korea	ASEAN	India	U.S.	Europe	India	U.S.

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

Returns are total returns based on MSCI indices in U.S. dollar terms. 10-yr total (net) return data is used to calculate annualized returns (Ann. Ret.) and 10-yr price return data is used to calculate annualized volatility (Ann. Vol.) and reflect the period 31/12/07 – 31/12/17. Past performance is not a reliable indicator of current and future results.

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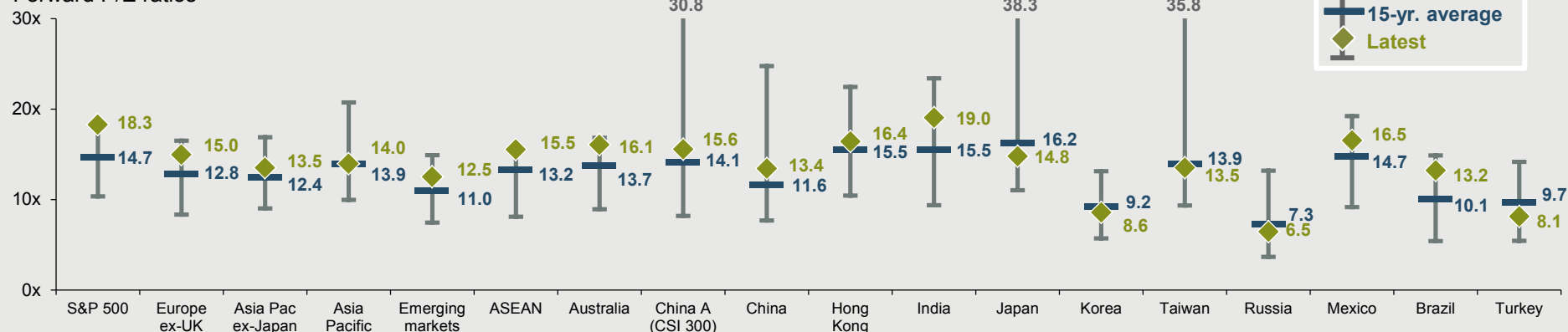
Source: MSCI, J.P. Morgan Asset Management; (Top right) Standard & Poor's.

*Earnings revision ratio is calculated by taking the difference between the number of analyst upgrades and analyst downgrades, divided by the total number of analyst revisions on a monthly basis. An earnings revision ratio above zero mean that there were more upgrade revisions than downgrade revisions. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

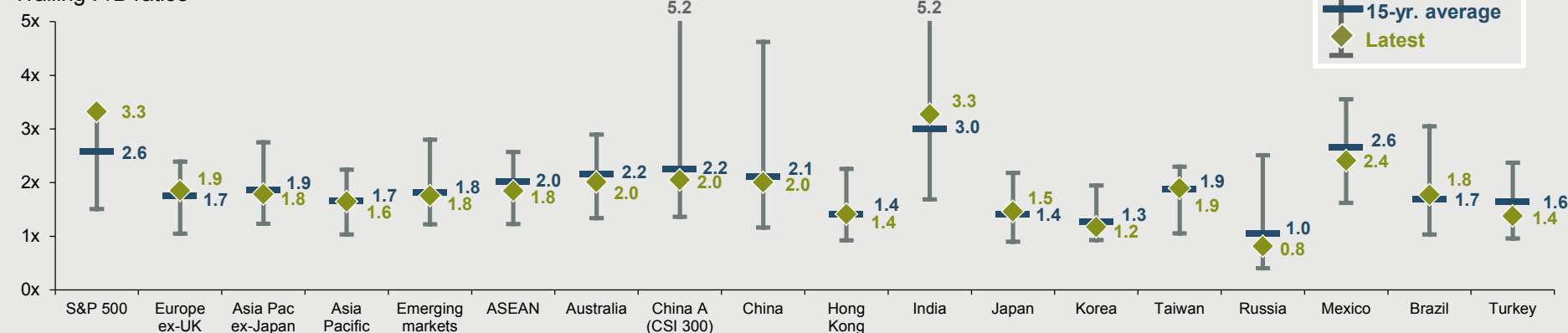
Equity market valuations – Price to earnings

Forward P/E ratios



Equity market valuations – Price to book

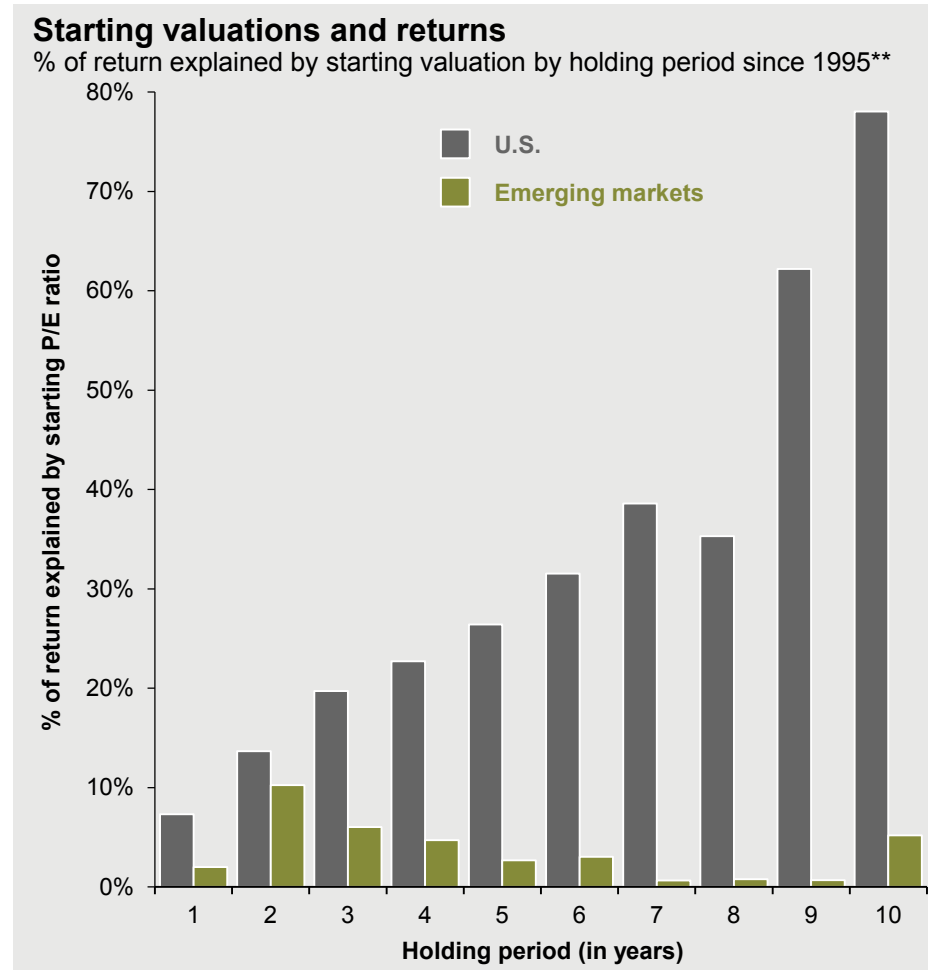
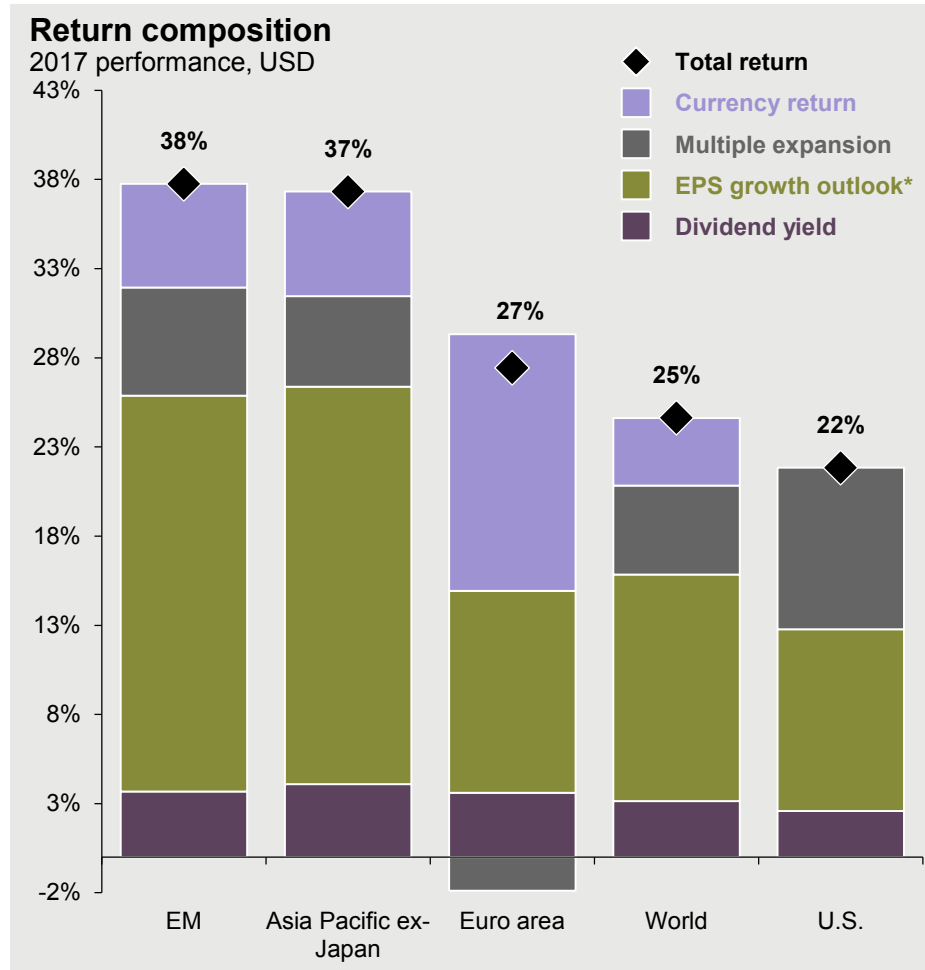
Trailing P/B ratios



Source: Bloomberg Finance L.P., China Securities Index, FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management.

Price-to-earnings (P/E) and price-to-book (P/B) ratios are in local currency terms. China A valuations based on the CSI300 Index and use 10 years of data due to availability. China H valuations are based on the MSCI China. 15-year range for P/E and P/B ratios are cut off to maintain a more reasonable scale for some indexes. Past performance is not a reliable indicator of current and future results.

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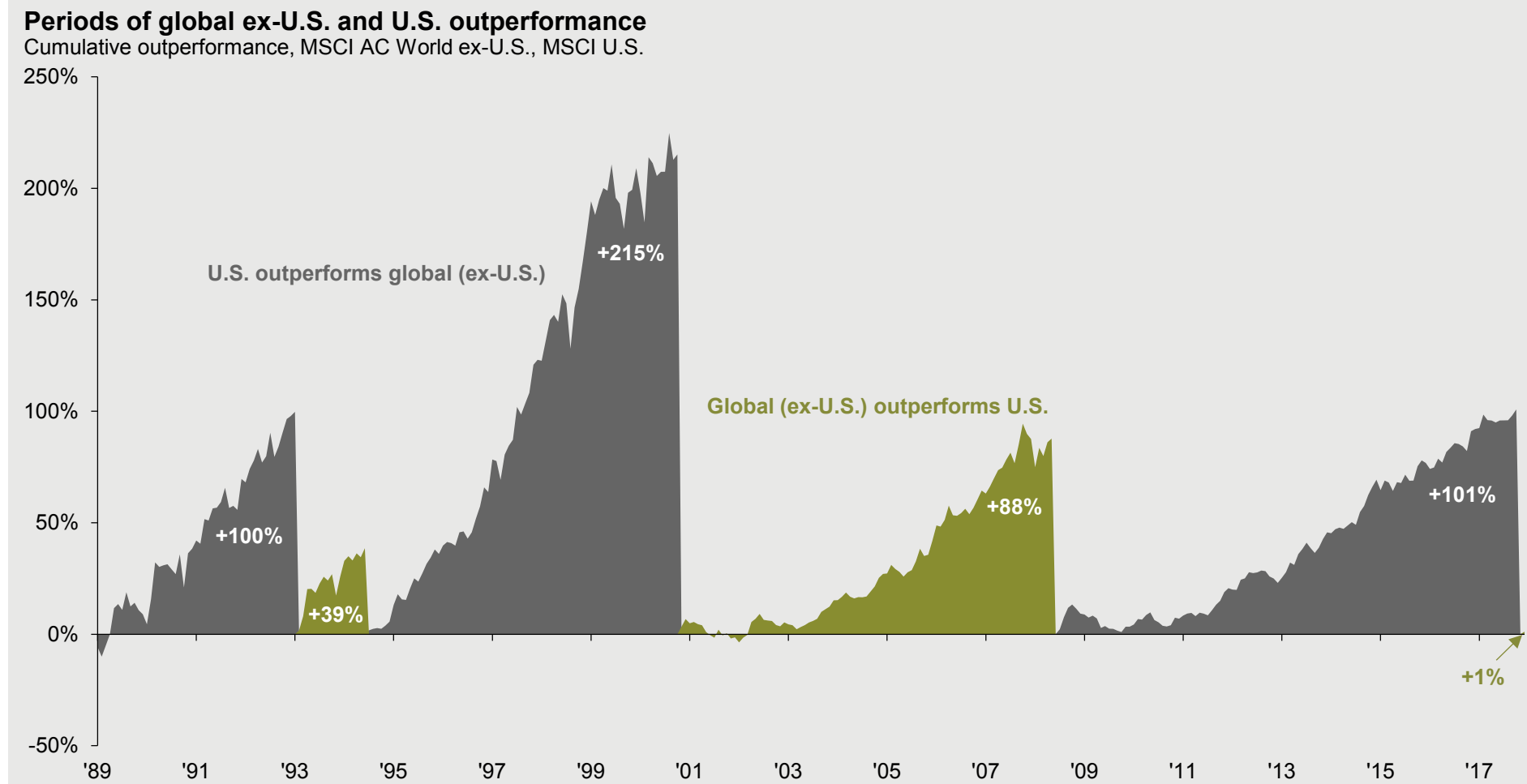


Source: MSCI, Standard & Poors, J.P. Morgan Asset Management; (Left) FactSet; (Right) Bloomberg Finance L.P.

*EPS growth outlook is based on next twelve month aggregate (NTMA) earnings estimates. **Proportion of variation in rolling forward returns on a monthly basis over each stated holding period explained by the valuation, measured by price-to-earnings ratio, at start.

Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.



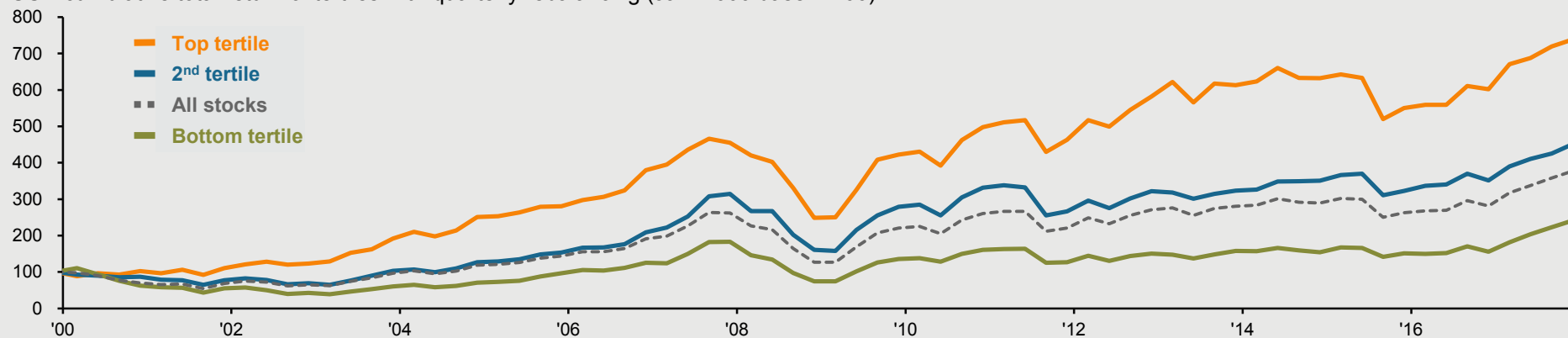
Source: FactSet, MSCI, J.P. Morgan Asset Management.

Performance is based on MSCI AC World ex-U.S. and MSCI USA Total Return indices. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

MSCI AC Asia Pacific ex-Japan: Performance by dividend yield*

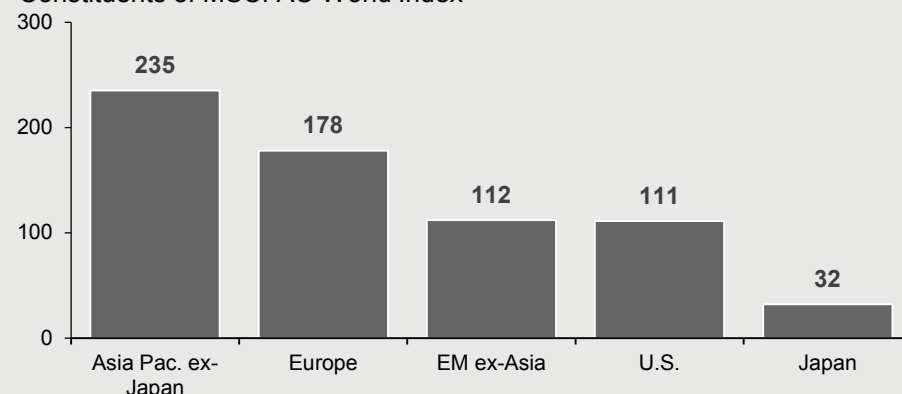
USD cumulative total return of tertiles with quarterly rebalancing (Jan. 2000 base = 100)

**Composition of MSCI High Dividend Equity Indices****

	Defensives	Cyclicals	Financials
MSCI AC World	42.7%	42.6%	14.7%
MSCI World (DM)	46.2%	41.4%	12.4%
MSCI EM	22.7%	38.1%	39.3%
MSCI AC Asia Pacific ex-Japan	28.8%	32.8%	38.4%

Number of companies yielding greater than 3% by region

Constituents of MSCI AC World Index

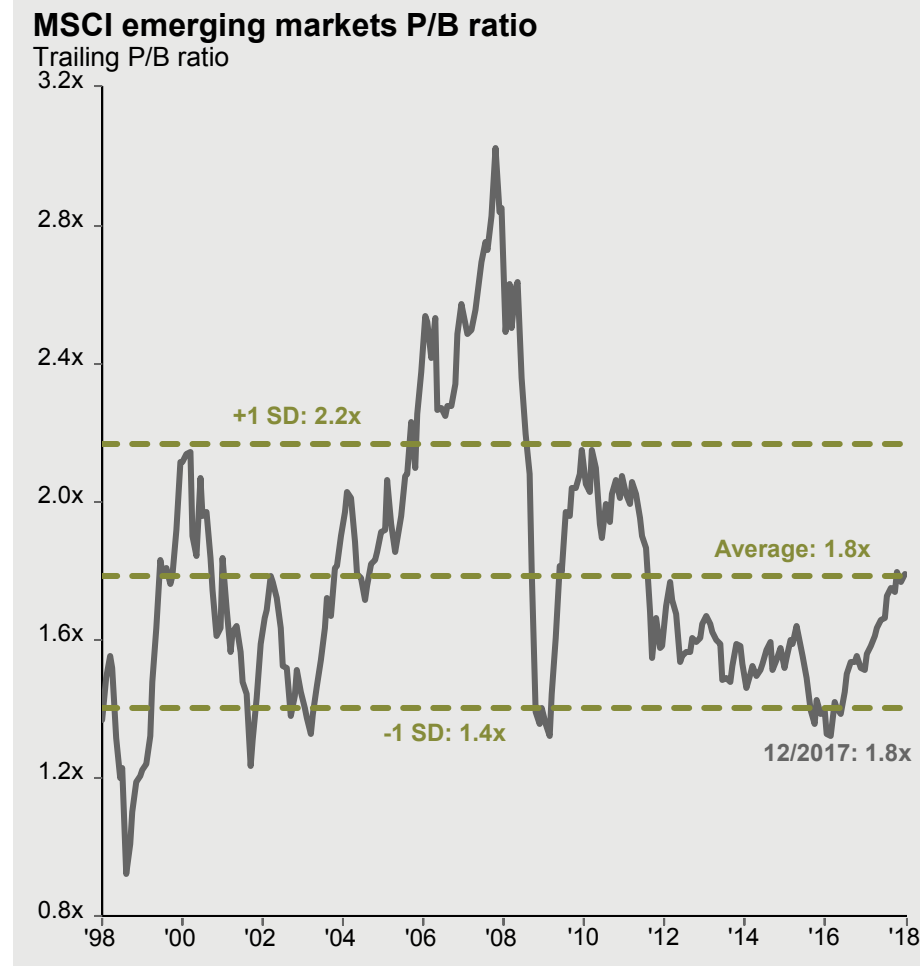
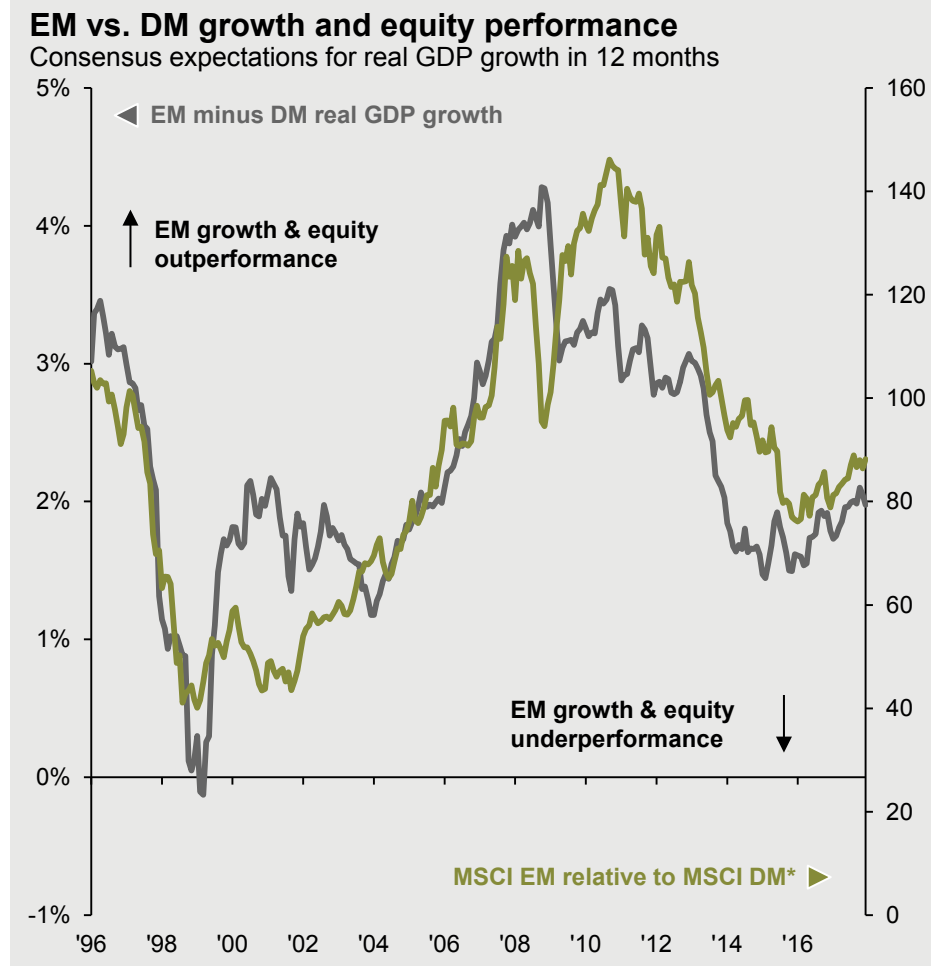


Source: FactSet, MSCI, J.P. Morgan Asset Management; (Top) CLSA.

*Total returns based on MSCI indices in U.S. dollar terms. **Sector weight data as of 30/11/17.

Positive yield does not imply positive return. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.



Source: FactSet, MSCI, J.P. Morgan Asset Management; (Left) Consensus Economics.

*All data represent price return in local currency terms with data since April 1996. Past performance is not a reliable indicator of current and future results.

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MSCI AC Asia Pacific ex-Japan and S&P 500 Index

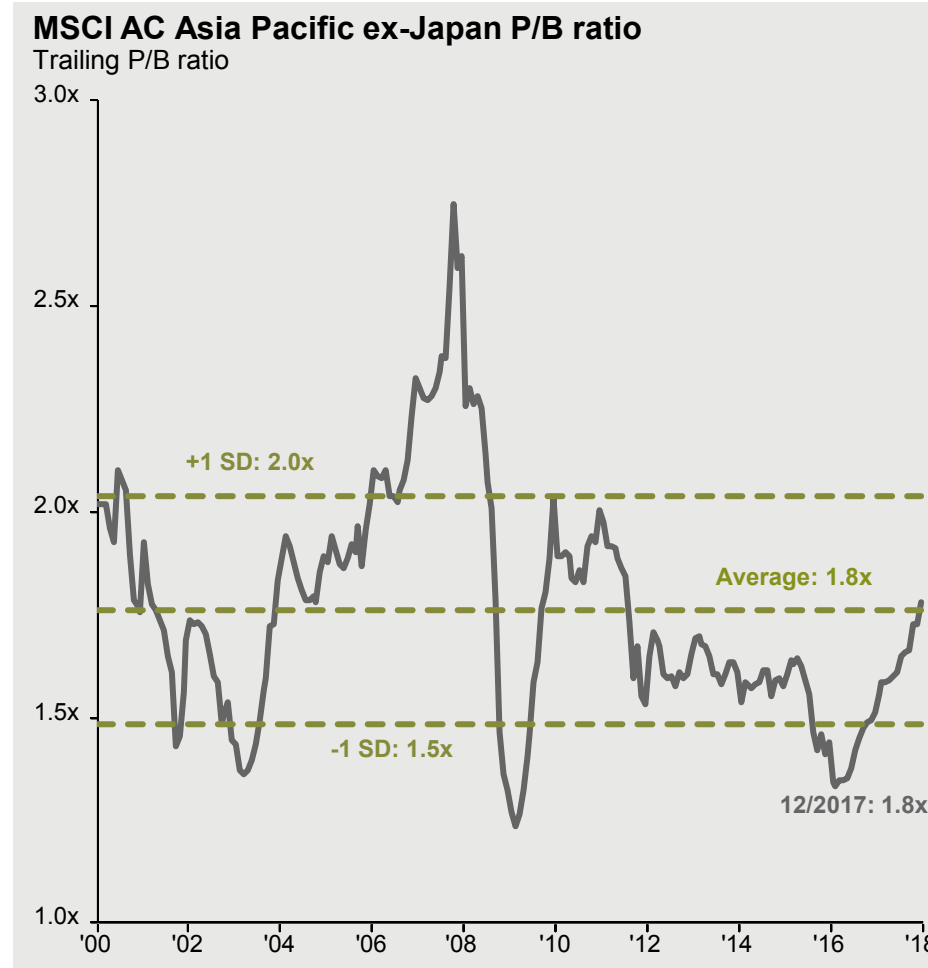
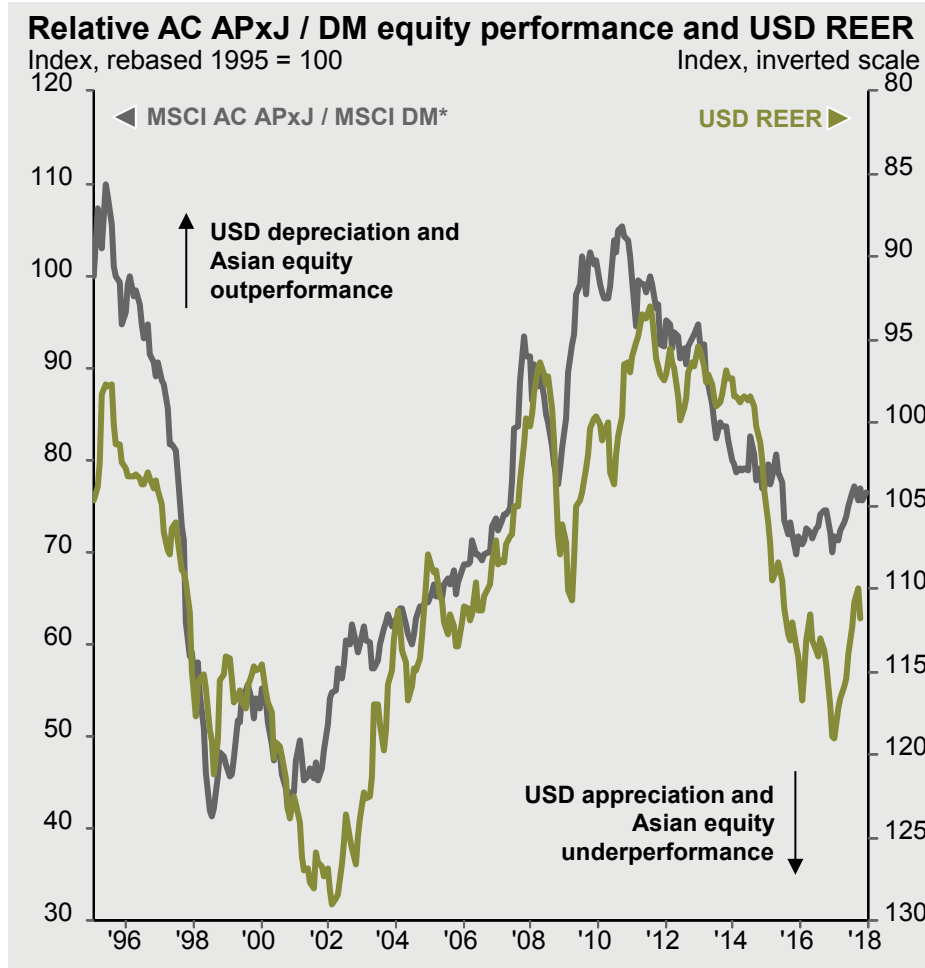
January 1997 = 100, U.S. dollar, price return



Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management.

Forward price-to-earnings ratio is a bottom-up calculation based on the most recent index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates. Returns are cumulative and based on price movement only, and do not include the reinvestment of dividends. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.



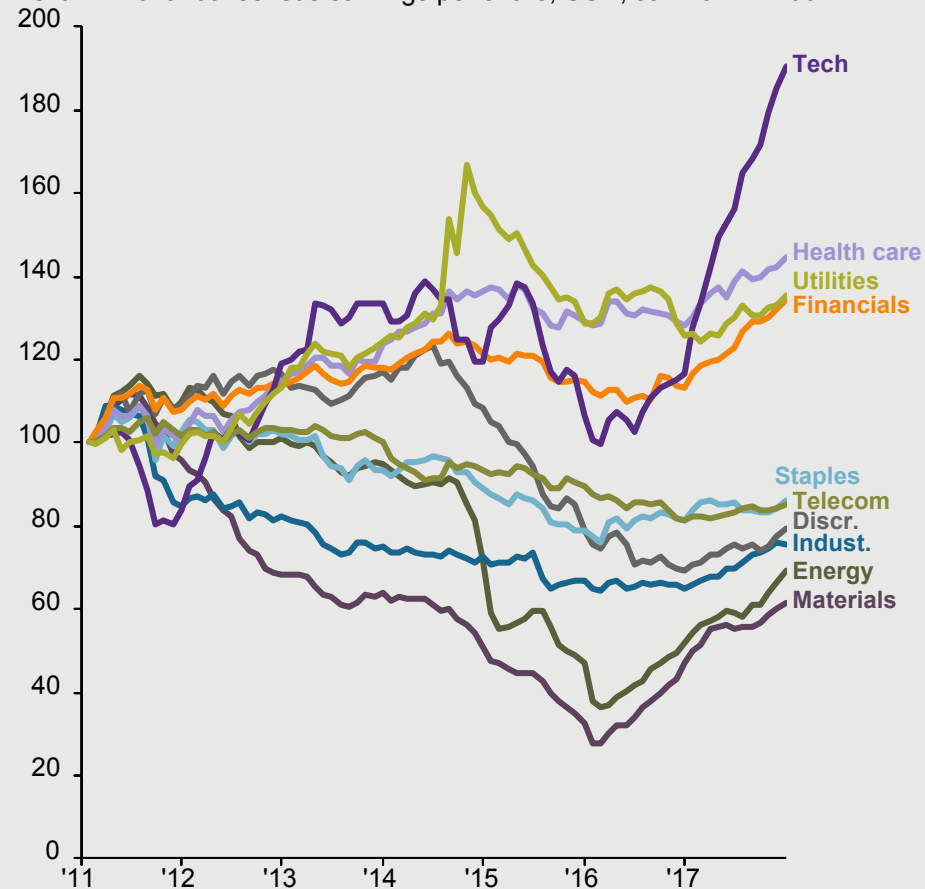
Source: FactSet, MSCI, J.P. Morgan Asset Management; (Left) Bank for International Settlements.

*All data represent price return in local currency terms with data since January 1995. MSCI AC APxJ and AC Asia Pacific ex-Japan is the MSCI All Country Asia Pacific ex-Japan index. Developed market is represented by the MSCI The World index. REER stands for real effective exchange rate. Past performance is not a reliable indicator of current and future results.

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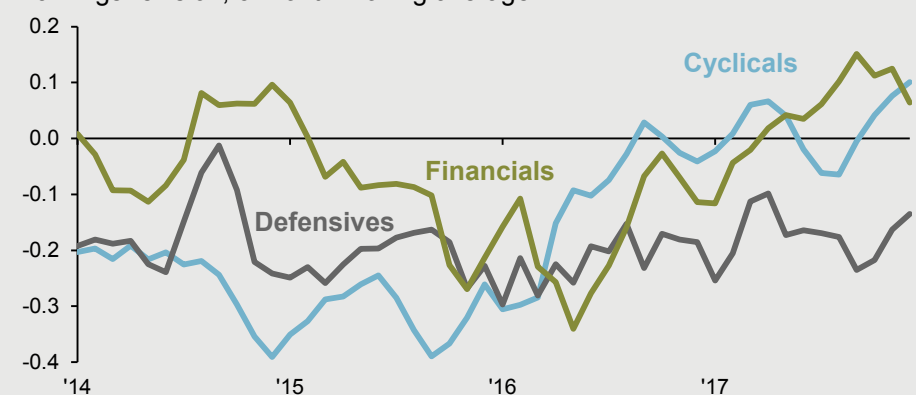
Earnings by sector

Next 12-month consensus earnings per share, USD, Jan 2011 = 100



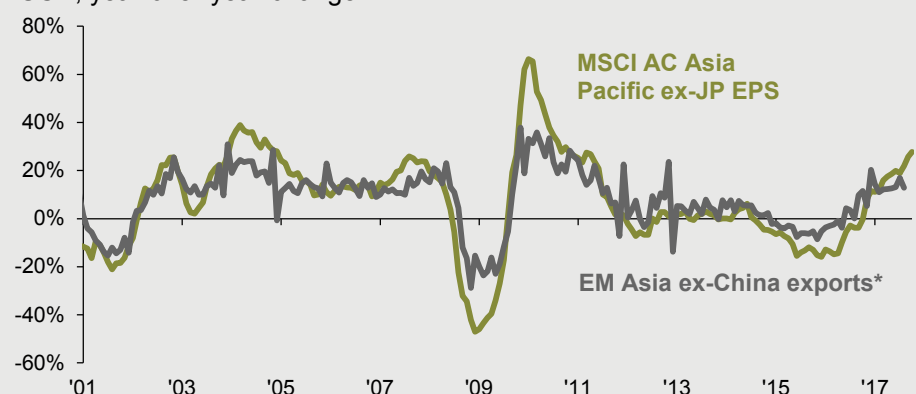
Earnings momentum

Earnings revision, 3-month moving average



Growth in nominal exports and earnings per share

USD, year-over-year change



Source: FactSet, MSCI, J.P. Morgan Asset Management; (Bottom right) CEIC, national statistics agencies.

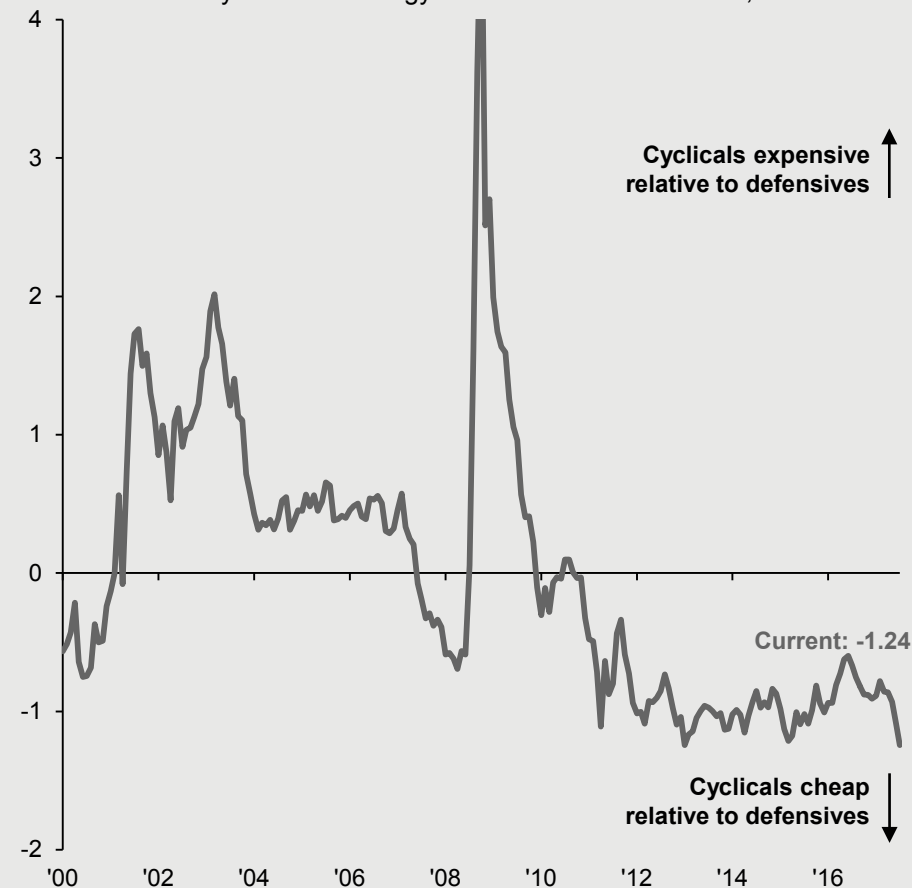
Cyclicals include consumer discretionary, industrials, energy, materials and technology. Defensives include consumer staples, health care, telecom and utilities.

Earnings per share (EPS) used is next 12 months' aggregate estimate. *EM Asia ex-China includes Hong Kong, Malaysia, Singapore, South Korea, Taiwan, Thailand and Vietnam. Overall exports aggregate is GDP-weighted. Past performance is not a reliable indicator of current and future results.

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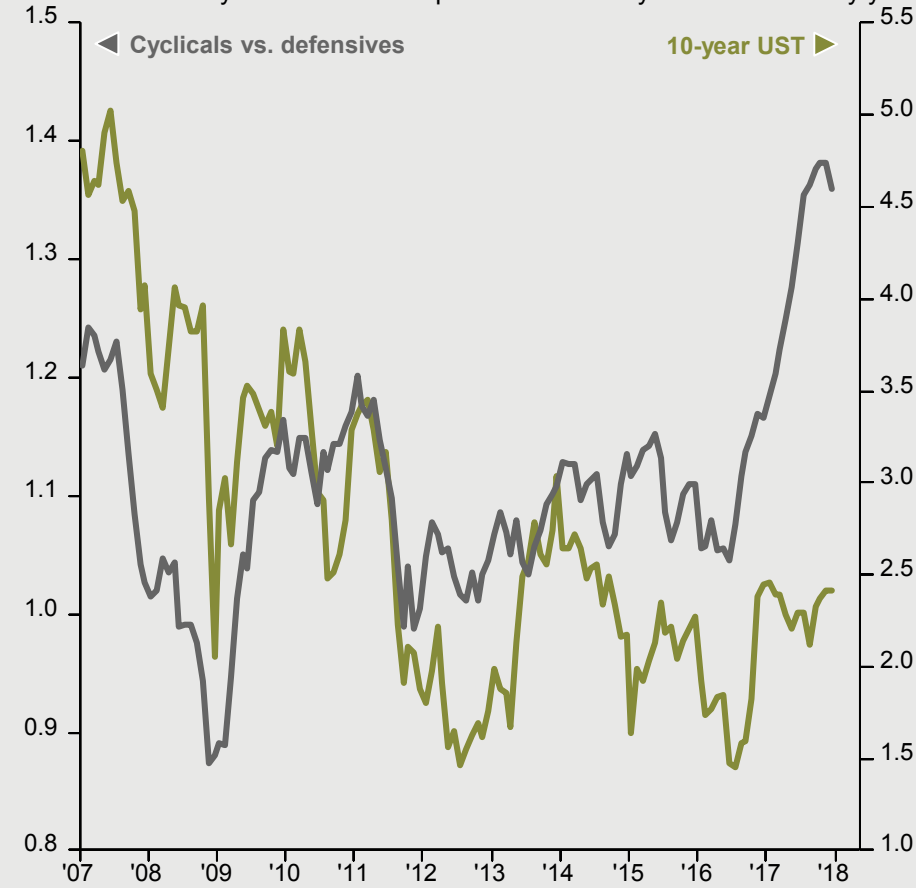
Cyclicals ex-energy vs. defensive valuations*

MSCI AC APxJ cyclicals ex-energy / defensives fwd. P/E ratio, z-score



Cyclicals vs. defensives relative performance and rates**

MSCI AC APxJ cyclical / defensive performance 10-year U.S. Treasury yield



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

*Cyclical sectors include Consumer Discretionary, Information Technology, Industrials, Financials and Materials. REITs are excluded from this analysis. It is more appropriate to value a REIT by looking at its price relative to its funds from operations (FFO), an income measure that excludes depreciation. Price-to-earnings (P/E) ratios look at price relative to net income, a measure that includes depreciation, making the comparison of valuations across sectors inappropriate. Defensive sectors include Telecommunications, Health Care, Utilities and Consumer Staples. Sector valuations are equal weighted. **Cyclicals represent the MSCI AC Asia Pacific ex-Japan Cyclical Sector index and defensives represent the MSCI AC Asia Pacific ex-Japan Defensive Sector index. Past performance is not a reliable indicator of current and future results. *Guide to the Markets – Asia*. Data reflect most recently available as of 31/12/17.

APAC ex-Japan: Sector returns and valuations

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Equities

	Financials	Real Estate	Health Care	Cons. Staples	Cons. Discr.	Industrials	Materials	Energy	Telecom	Utilities	Technology	APAC ex-JP	Weights
APAC ex-JP Weights	26.4%	6.3%	3.5%	5.1%	8.0%	6.6%	7.0%	4.4%	3.7%	2.7%	26.3%	100%	
2017 return	30.1	39.6	39.5	29.9	41.1	22.6	33.9	33.0	11.7	18.4	61.5	37.3	Return
2016 return	7.0	2.9	-6.5	1.3	1.2	-3.7	30.4	18.3	-2.3	1.9	17.2	7.1	
From peak (October 2007)	34.7	12.3	160.4	68.9	50.6	-30.1	-10.8	-24.3	6.8	51.4	162.1	33.6	
From trough (March 2009)	318.0	283.2	355.7	234.8	295.3	154.2	157.6	118.8	123.7	141.4	506.0	264.7	
Beta to APAC ex-JP	1.09x	1.10x	0.49x	0.59x	0.94x	1.06x	1.12x	1.24x	0.76x	0.61x	0.97x	1.00x	β
Correl to int rates*	0.15	0.12	0.09	0.10	0.17	0.17	0.13	0.16	0.13	0.12	0.15	0.16	ρ
Forward P/E Ratio	11.0x	12.4x	28.0x	22.0x	16.3x	14.4x	13.8x	12.6x	15.3x	13.6x	13.9x	13.5x	P/E
10-yr avg.	11.1x	12.4x	20.9x	17.3x	11.6x	13.8x	12.7x	12.1x	13.8x	14.3x	14.1x	12.4x	
Trailing P/B Ratio	1.4x	1.0x	5.2x	3.2x	2.1x	1.4x	1.6x	1.3x	1.9x	1.4x	3.0x	1.8x	P/B
10-yr avg.	1.4x	0.9x	4.3x	2.6x	1.8x	1.5x	1.8x	1.6x	2.1x	1.5x	2.1x	1.7x	
Dividend Yield	3.5%	3.2%	1.0%	2.3%	1.6%	2.3%	3.0%	2.7%	3.9%	3.6%	1.4%	2.5%	Div
10-yr avg.	3.9%	3.7%	1.6%	2.8%	2.1%	2.5%	3.0%	3.1%	4.1%	3.0%	2.2%	3.1%	

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

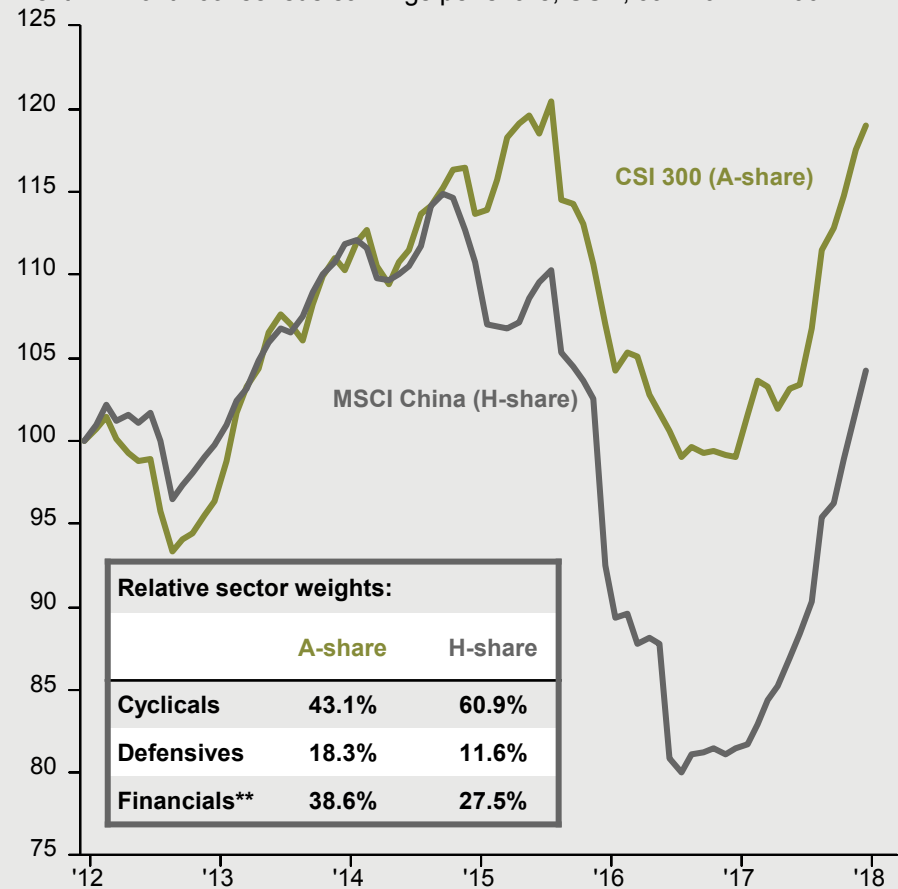
*Correlation to interest rates is calculated using daily sector returns and daily 10-year U.S. Treasury yield over the last 10 years.

Returns are total (gross) returns in U.S. dollar terms. Past performance is not a reliable indicator of current and future results.

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A-share vs. H-share earnings

Next 12-month consensus earnings per share, USD, Jan 2012 = 100



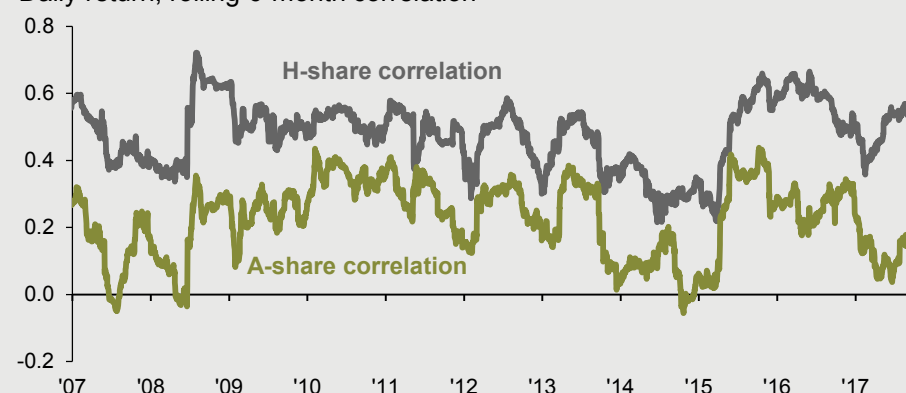
A-share vs. H-share premium

Index*, price disparity between shares listed as A vs. H



A-share, H-share correlation with global equity market

Daily return, rolling 6-month correlation



Source: J.P. Morgan Asset Management; (Left and bottom right) FactSet, MSCI; (Top right) HSI Services Limited.

*The Hang Seng Stock Connect China AH Premium Index ("HSAHP") tracks the average price difference of A-shares over H-shares for the most liquid Chinese companies with both A-share and H-share listings ("AH Companies"), which are eligible for Northbound and Southbound trading under the Stock Connect Scheme. An index value of 100 means prices are equal.**Both Financials and Real Estate are classified as financials sectors and all constituent securities from these two sectors are included accordingly. Past performance is not a reliable indicator of current and future results.

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Corporate profits and return on equity



Nikkei 225 and Japanese yen



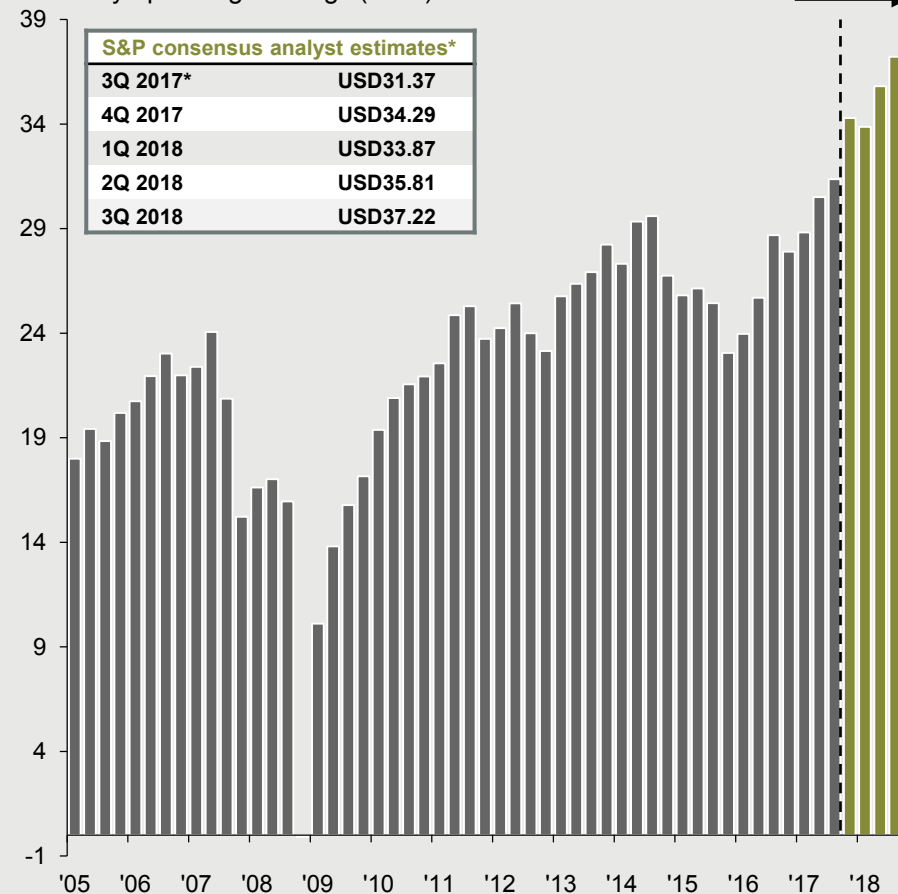
Source: FactSet, J.P. Morgan Asset Management; (Left) Japan Cabinet Office, MSCI; (Right) Nikkei.

*Correlation based on the daily change between the currency and the Nikkei 225 index. Past performance is not a reliable indicator of current and future results.

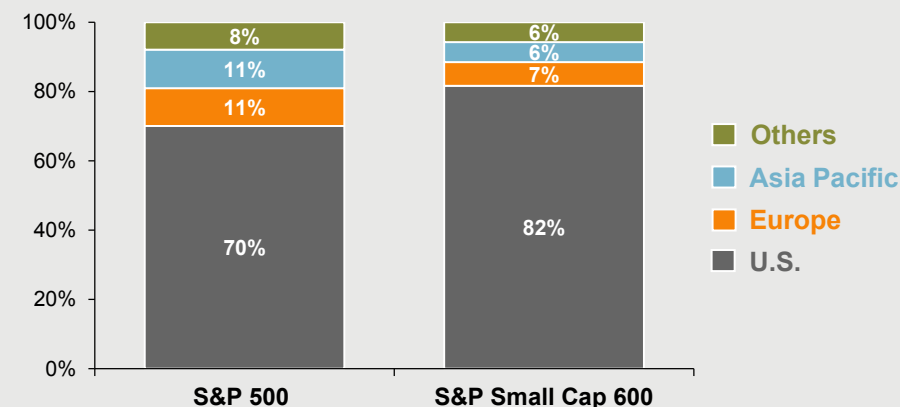
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S&P 500 earnings per share

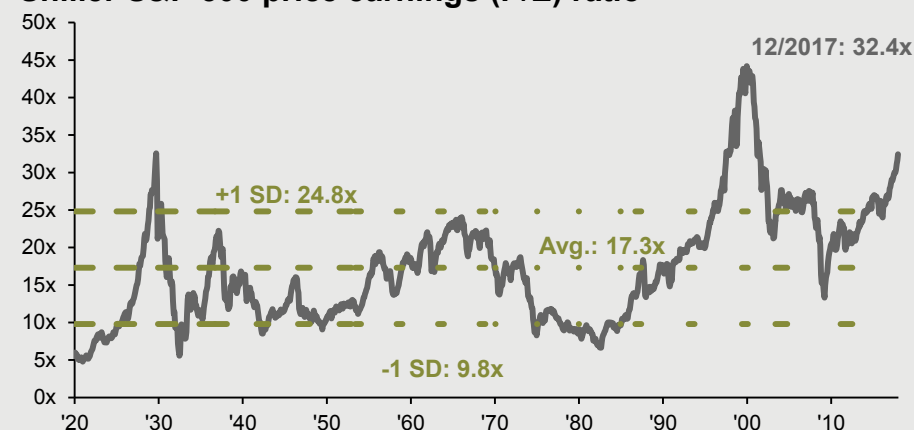
Quarterly operating earnings (USD)



Geographical sources of revenue



Shiller S&P 500 price earnings (P/E) ratio**

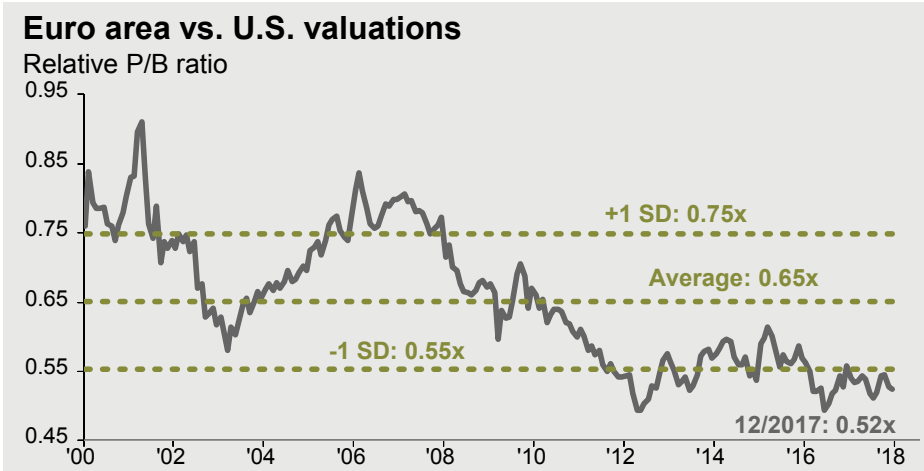
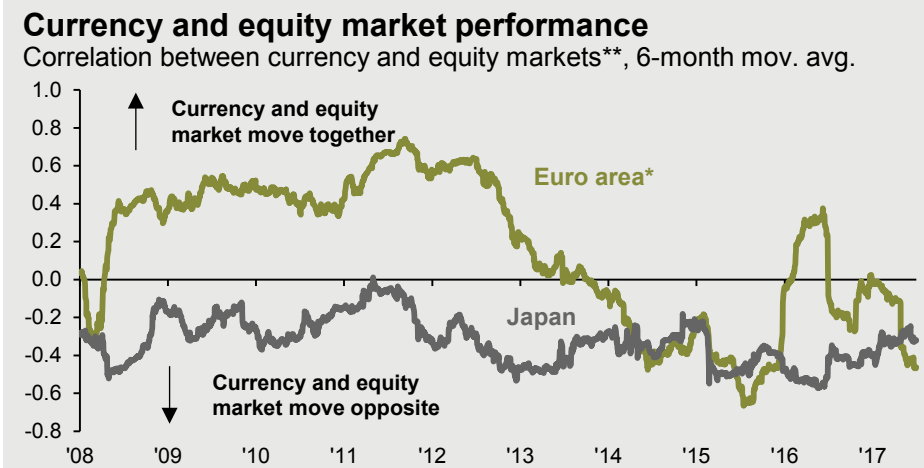
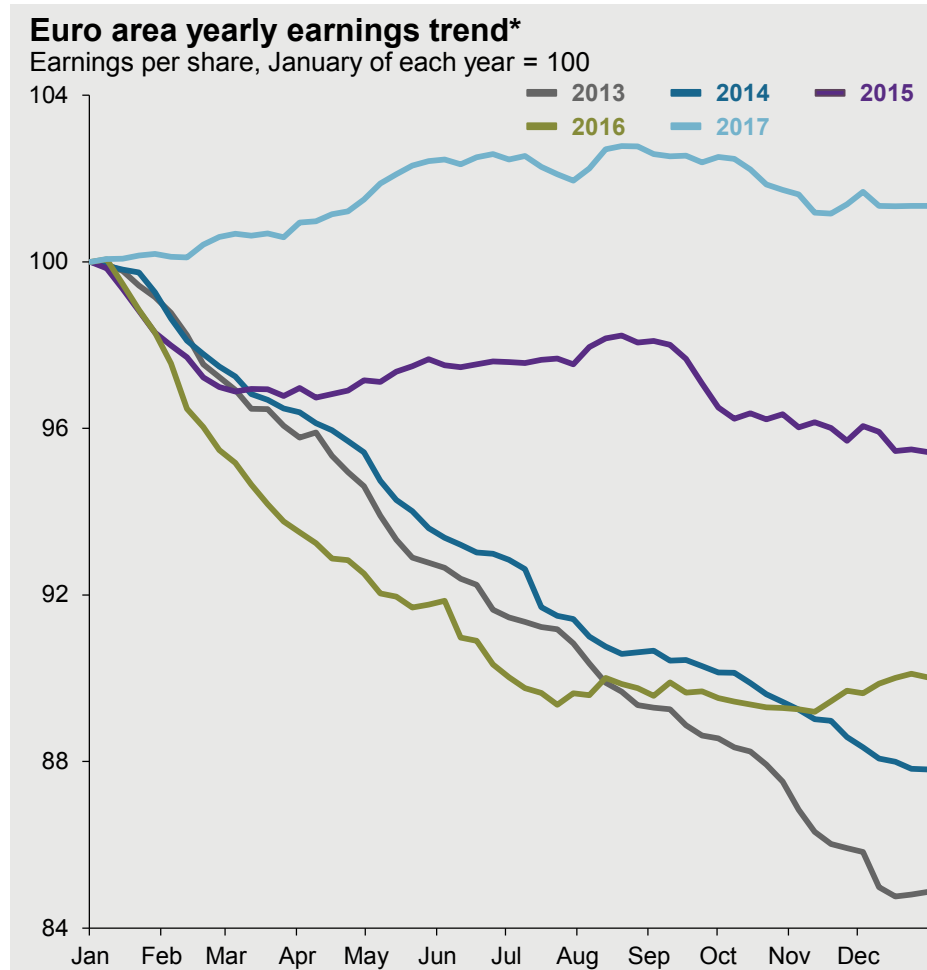


Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management; (Left) Compustat; (Bottom right) Yale University Department of Economics.

EPS levels are based on operating earnings per share.

*3Q earnings estimates are Standard & Poor's (S&P) consensus analyst expectations, based on actual earnings for the 99% of (S&P) companies that have reported and earnings estimates for the remaining 1% of companies. **Shiller P/E is a valuation measure applied to the U.S. S&P 500 equity market, which is based on the average inflation-adjusted earnings from the previous 10 years. Past performance is not a reliable indicator of current and future results.

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Source: MSCI, J.P. Morgan Asset Management; (Left) Thompson Reuters; (Top and bottom right) FactSet.

*Eurozone is represented by the MSCI EMU index. **Equity markets represented by the MSCI EMU and MSCI Japan and currencies are USD/EUR and USD/JPY.

Past performance is not a reliable indicator of current and future results.

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Global bond opportunities

	YTM	Duration* (years)	Correl. to 10-year UST**
Local EMD	7.0%	4.5	0.08
Asia Corporate HY	7.0%	5.0	-0.08
U.S. Corporate HY	6.2%	3.9	-0.23
USD EMD	5.5%	7.0	0.23
USD Asian Bond	4.6%	5.5	0.25
Europe HY	3.3%	3.8	-0.24
U.S. Corporate IG	3.3%	7.6	0.45
U.S. Treasury	2.2%	6.2	0.99
DM Government Bond	1.5%	7.9	0.64
Cash	1.3%	0.2	0.10

Fixed income sector returns

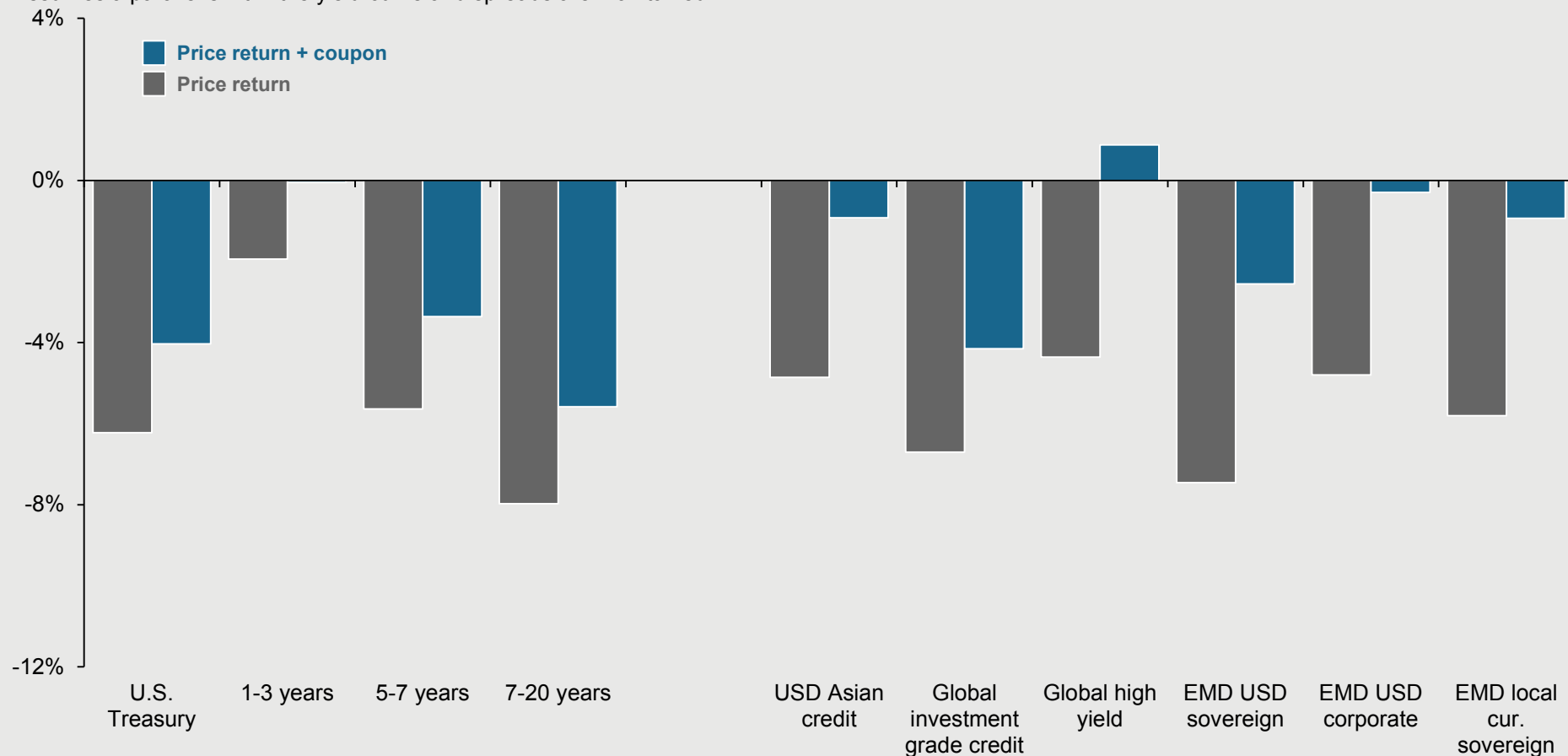
2012	2013	2014	2015	2016	2017	4Q '17	5-yrs Ann. Ret.
Europe HY 30.5%	Europe HY 14.9%	USD Asian 8.3%	Asia HY 5.8%	U.S. HY 17.1%	Europe HY 21.0%	Europe HY 2.2%	Asia HY 6.6%
Asia HY 25.4%	U.S. HY 7.4%	U.S. IG 7.5%	USD Asian 2.8%	Local EMD 11.4%	Local EMD 15.4%	U.S. IG 1.2%	U.S. HY 5.8%
Local EMD 19.9%	Asia HY 4.3%	Asia HY 5.5%	USD EMD 1.2%	Asia HY 11.4%	USD EMD 9.3%	DM Gov't 1.0%	Europe HY 4.5%
USD EMD 18.5%	Cash 0.0%	USD EMD 5.5%	U.S. Treas 0.8%	USD EMD 10.2%	U.S. HY 7.5%	Asia HY 0.7%	USD Asian 4.2%
U.S. HY 15.8%	USD Asian -1.4%	U.S. Treas 5.1%	Cash 0.0%	U.S. IG 6.1%	DM Gov't 6.8%	USD EMD 0.5%	USD EMD 3.8%
USD Asian 14.3%	U.S. IG -1.5%	U.S. HY 2.5%	U.S. IG -0.7%	USD Asian 5.8%	U.S. IG 6.4%	U.S. HY 0.5%	U.S. IG 3.5%
U.S. IG 9.8%	U.S. Treas -2.7%	DM Gov't 0.7%	DM Gov't -2.6%	Europe HY 3.4%	Asia HY 6.2%	USD Asian 0.4%	U.S. Treas 1.3%
U.S. Treas 2.0%	DM Gov't -4.5%	Cash 0.0%	U.S. HY -4.5%	DM Gov't 1.6%	USD Asian 5.8%	Cash 0.3%	DM Gov't 0.3%
DM Gov't 1.3%	Local EMD -5.5%	Europe HY -6.0%	Europe HY -7.6%	U.S. Treas 1.0%	U.S. Treas 2.3%	U.S. Treas 0.1%	Cash 0.2%
Cash 0.1%	USD EMD -6.6%	Local EMD -6.1%	Local EMD -18.0%	Cash 0.3%	Cash 0.8%	Local EMD -0.7%	Local EMD -1.3%

Source: Bloomberg Finance L.P., FactSet, J.P. Morgan Economic Research, J.P. Morgan Asset Management. Based on Bloomberg Barclays U.S. Aggregate Credit - Corporate High Yield Index (U.S. Corporate HY), Bloomberg Barclays U.S. Aggregate Credit - Corporate Investment Grade Index (U.S. Corporate IG), J.P. Morgan Government Bond Index - EM Global (GBI-EM) (Local EMD), J.P. Morgan Emerging Market Bond Index Global (EMBIG) (USD EMD), J.P. Morgan Asia Credit Index (JACI) (USD Asian), Bloomberg Barclays Pan European High Yield (Europe HY), J.P. Morgan Government Bond Index - Global Traded (DM Gov't), J.P. Morgan Asia Credit Index - Non-Investment Grade Corporate (Asia Corporate HY), Bloomberg Barclays Global U.S. Treasury - Bills (3-5 years) (U.S. Treasury) and Bloomberg Barclays U.S. Treasury - Bills (1-3 months) (Cash). 5-year data is used to calculate annualized returns (Ann. Ret.). Returns are in USD and reflect the period from 31/12/12 - 31/12/17. *Duration is a measure of the sensitivity of the price (the value of the principal) of a fixed-income investment to a change in interest rates and is expressed as number of years. Rising interest rates mean falling bond prices, while declining interest rates mean rising bond prices. **Correlation to the 10-year U.S. Treasury is a measure over 10 years of data. Positive yield does not imply positive return. Past performance is not a reliable indicator of current and future results.

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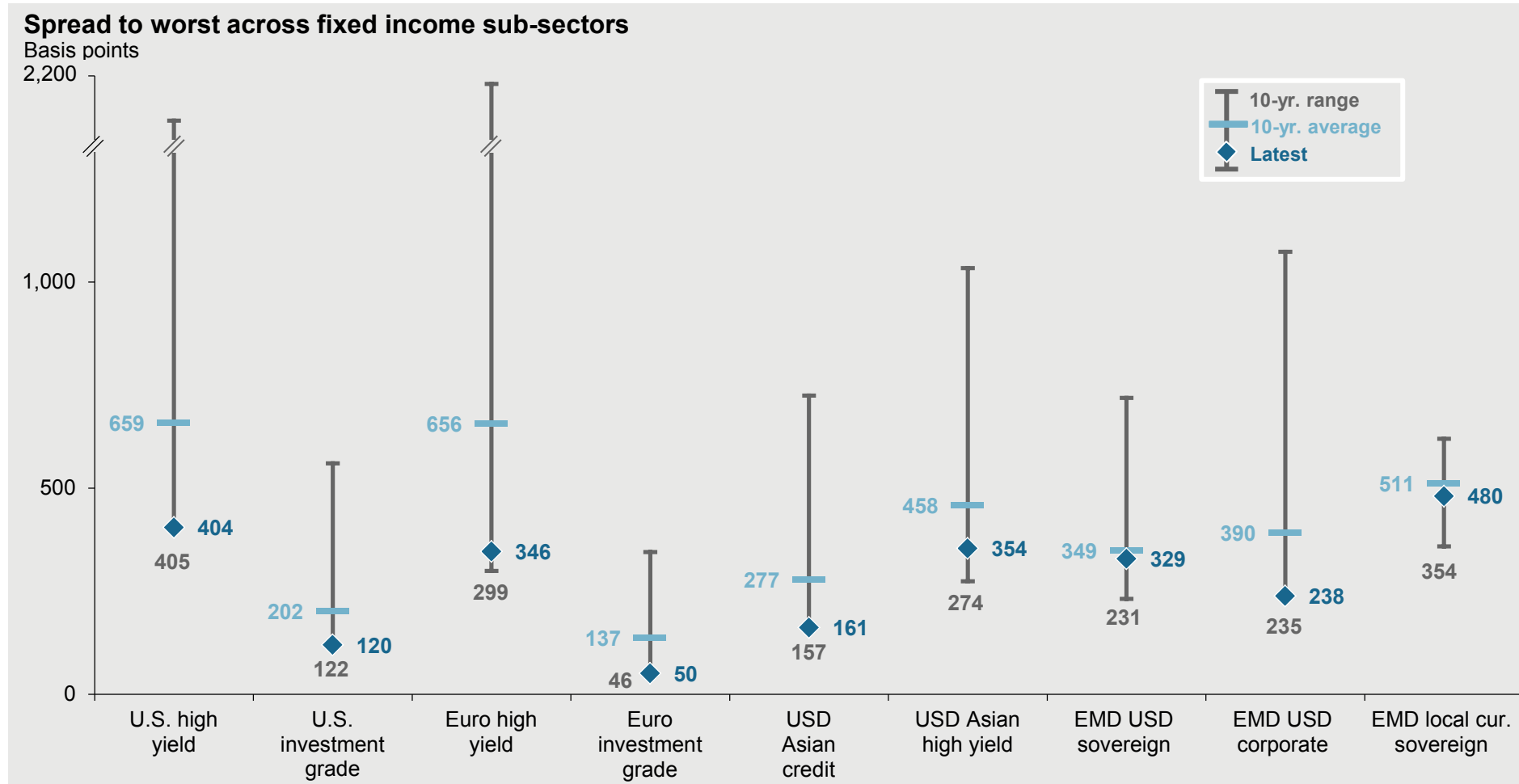
Illustration of the impact a 1% rise in interest rates may have on selected indices

Assumes a parallel shift in the yield curve and spreads are maintained



Source: Barclays, Bloomberg Finance L.P., FactSet, J.P. Morgan Economic Research, J.P. Morgan Asset Management. Based on Bloomberg Barclays U.S. Treasury indices (*U.S. Treasury*, 1-3 years, 5-7 years, 7-20 years), J.P. Morgan Asia Credit Index (JACI) (*USD Asia Credit*), Barclays Global Aggregate – Corporates (*Global Investment-grade credit*), Barclays Global High Yield (*Global High Yield*), Barclays Emerging Markets – Sovereign (*EMD USD sovereign*), Barclays Emerging Markets – Corporate (*EMD USD corporate*), Barclays Emerging Markets Local Currency Government (*EMD local cur. sovereign*). For illustrative purposes only. Change in bond price is calculated using both duration and convexity. Past performance is not a reliable indicator of current and future results.

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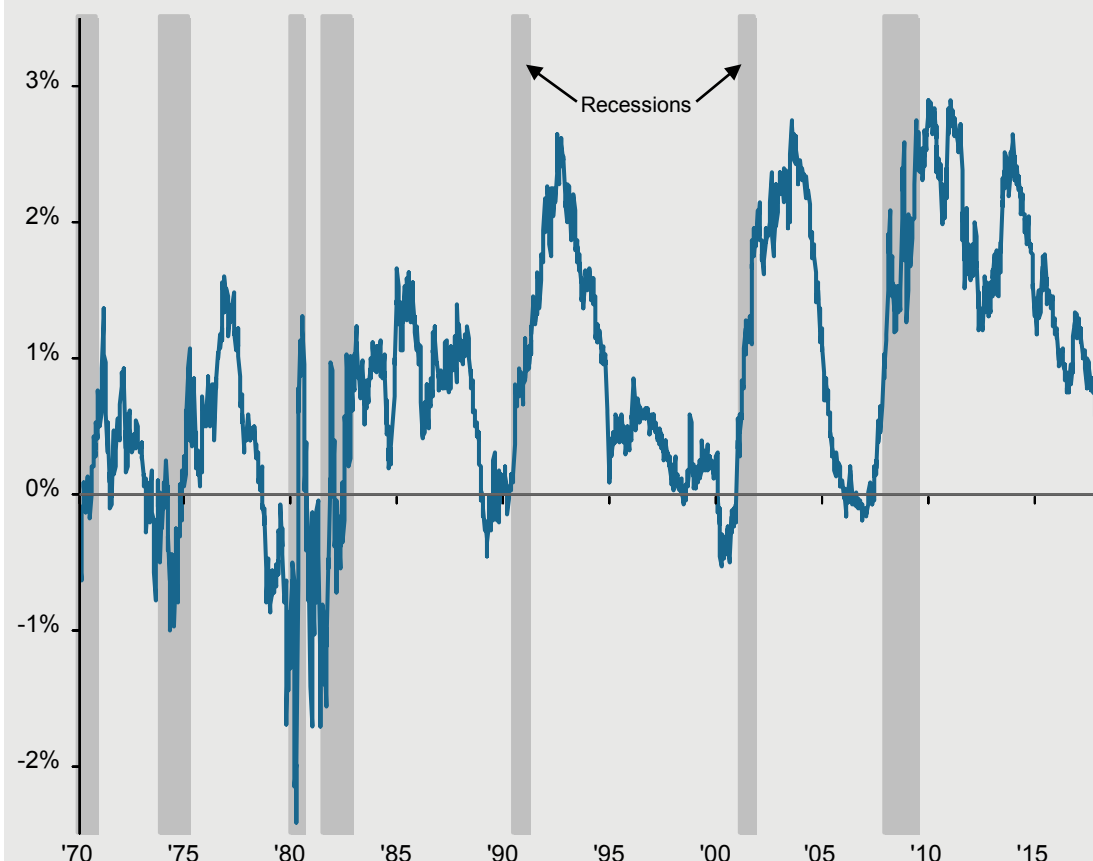


Source: BofA/Merrill Lynch, iBoxx, J.P. Morgan Economic Research, J.P. Morgan Asset Management. Based on J.P. Morgan Domestic High Yield Index (*U.S. High Yield*), J.P. Morgan U.S. Liquid Index (JULI) (*U.S. Investment Grade*), BofA/Merrill Lynch Euro Non-Financial High Yield Constrained (*Euro High Yield*), iBoxx EUR corporates (*Euro Investment Grade*), J.P. Morgan Asia Credit Index (JACI) (*USD Asian Credit*), J.P. Morgan Asia Credit High Yield Index (*USD Asian High Yield*), J.P. Morgan EMBI+ (*EMD USD Sovereign*), J.P. Morgan Corporate Emerging Markets Bond Index – CEMBI (*EMD USD Corporate*), J.P. Morgan GBI-EM (*EMD Local Cur. Sovereign*). Positive yield does not imply positive return. Past performance is not a reliable indicator of current and future results.

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Yield curve spread

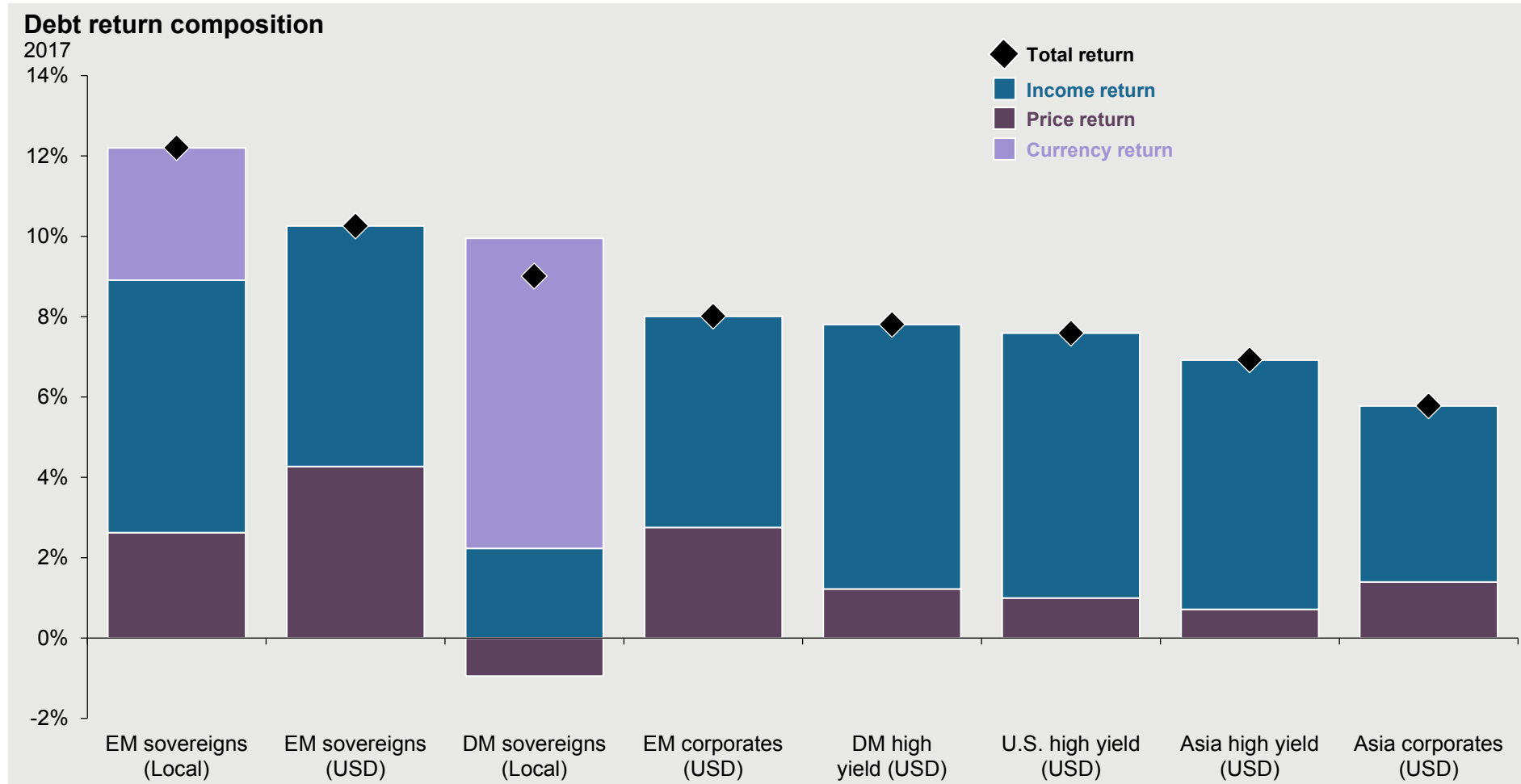
The spread between the 2-year and 10-year U.S. Treasury yields

**Yield curve inversions and recessions**

Number of months

Yield curve inversion date	From curve inversion to S&P 500 peak	From S&P 500 peak to start of recession	From curve inversion to recession
Dec '67	11	14	25
Mar '73	7	2	9
Nov '78	15	0	14
Aug '80	3	8	11
Dec '88	19	1	19
Mar '00	5	7	12
Aug '06	13	3	16
Median	11	3	14
Average	10	5	15

Source: J.P. Morgan Economics Research, J.P. Morgan Asset Management; (Left) FactSet, Federal Reserve; (Right) Standard & Poors.
 Past performance is not a reliable indicator of current and future results.
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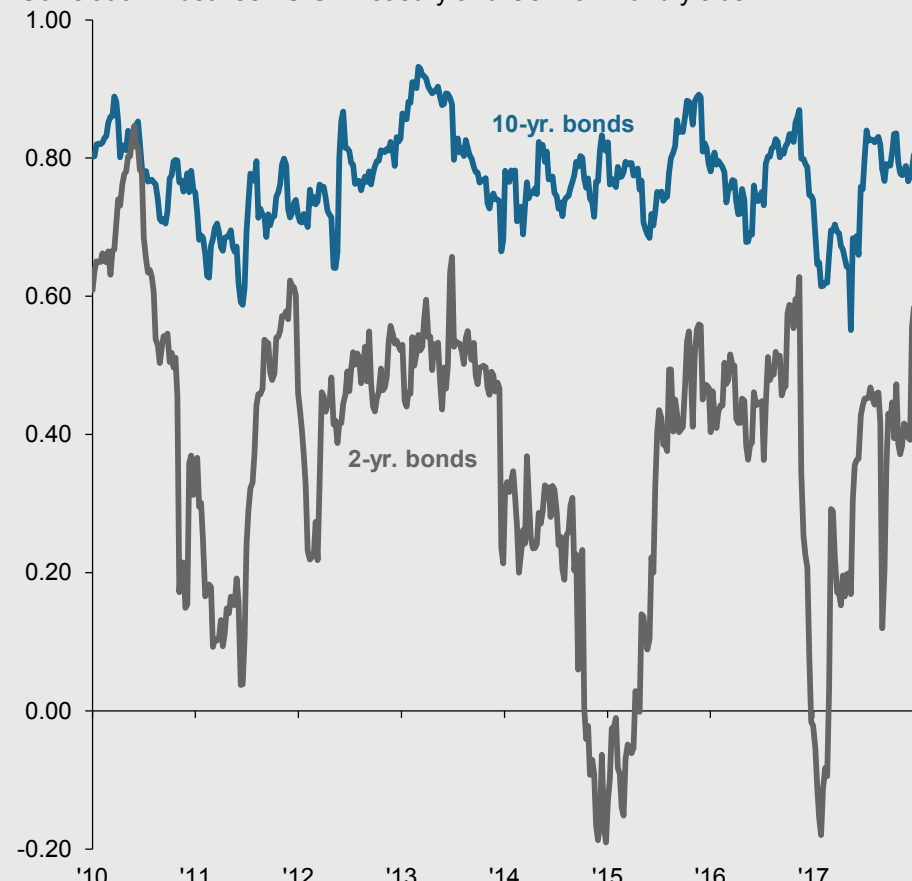
Source: J.P. Morgan Economic Research, J.P. Morgan Asset Management.
 Based on J.P. Morgan Developed Market HY (*DM USD high yield*), J.P. Morgan Domestic High Yield (*U.S. USD High Yield*), J.P. Morgan EMBI+ (*EM USD sovereigns*), J.P. Morgan CEMBI (*EM USD corporates*), JACI Asia HY (*Asian USD high yield*), J.P. Morgan GBI-EM (*EM local cur. sovereigns*), JACI Asia Credit (*Asian USD corporates*), J.P. Morgan GBI-DM (*DM local cur. sovereigns*). Past performance is not a reliable indicator of current and future results.
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10-year government bond yields



Correlation

Correlation** between U.S. Treasury and German Bund yields



Source: European Central Bank, FactSet, U.S. Federal Reserve, J.P. Morgan Asset Management; (Left) Bank of Japan.

*Data begins, and averages calculated from, 1/1/70 for U.S. Treasuries, 2/10/72 for German Bunds and 3/2/86 for Japanese Government Bonds. **Rolling six-month correlation of weekly change in yield. Past performance is not a reliable indicator of current and future results.

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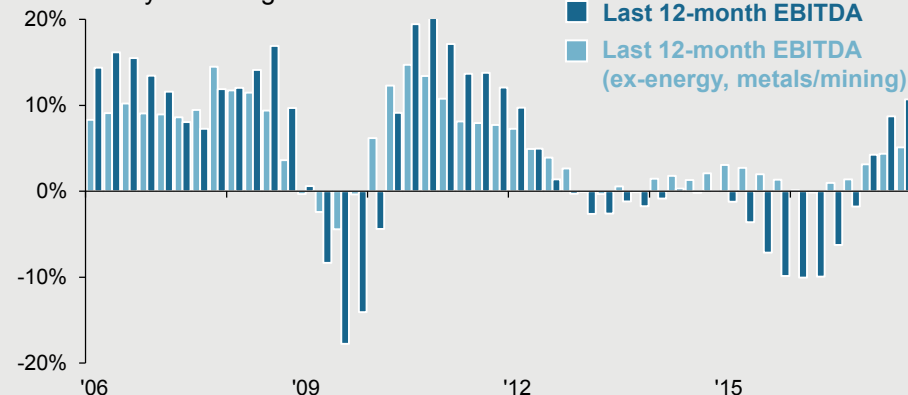
Investment grade corporate bond yields across regions

Spread over comparable government bond, basis points

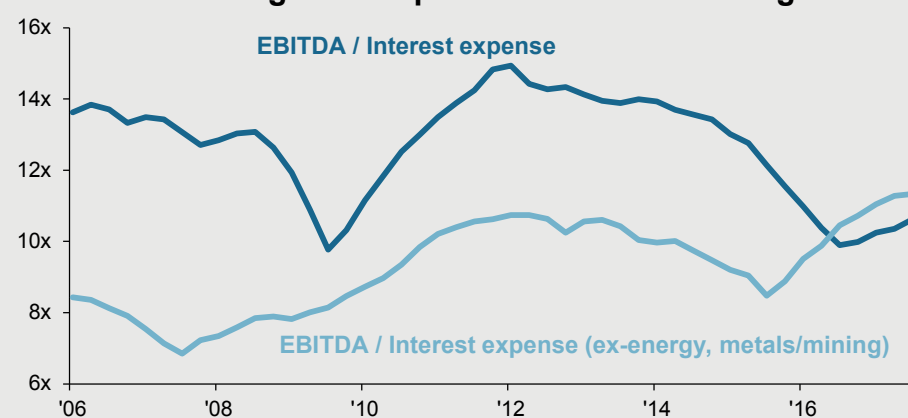


U.S. investment grade corporates: EBITDA* growth

Year-over-year change



U.S. investment grade corporates: Interest coverage ratio**



Source: J.P. Morgan Economic Research, J.P. Morgan Asset Management.

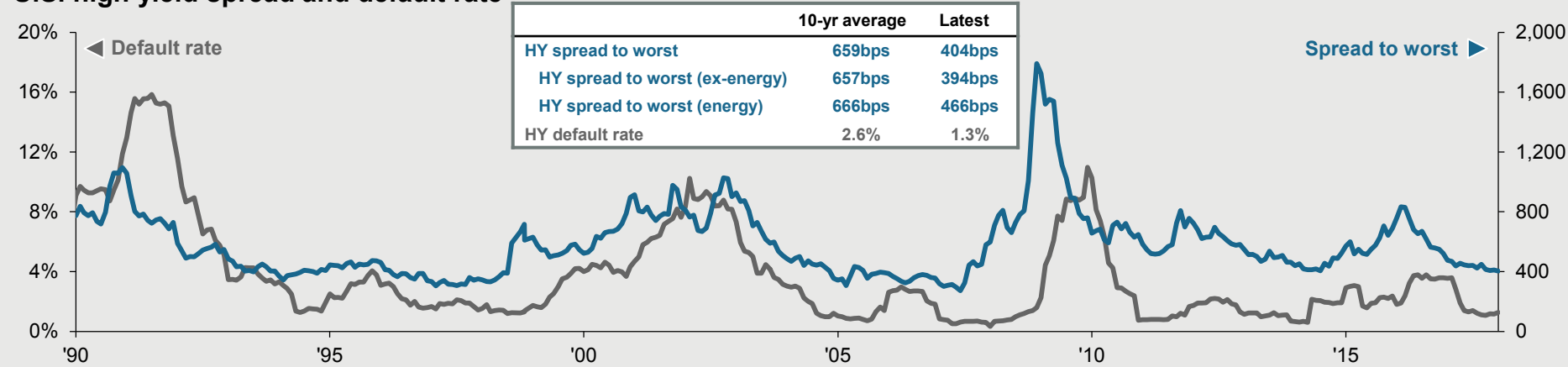
Based on J.P. Morgan U.S. Liquid Index (JULI) (U.S. Investment Grade), iBoxx EUR corporates (Euro Investment Grade), J.P. Morgan GBP Credit Corporates Bond Index (UK Investment Grade).

*EBITDA stands for earnings before interest, tax, depreciation and amortization. **Interest coverage ratio is EBITDA over interest expense.

Past performance is not a reliable indicator of current and future results.

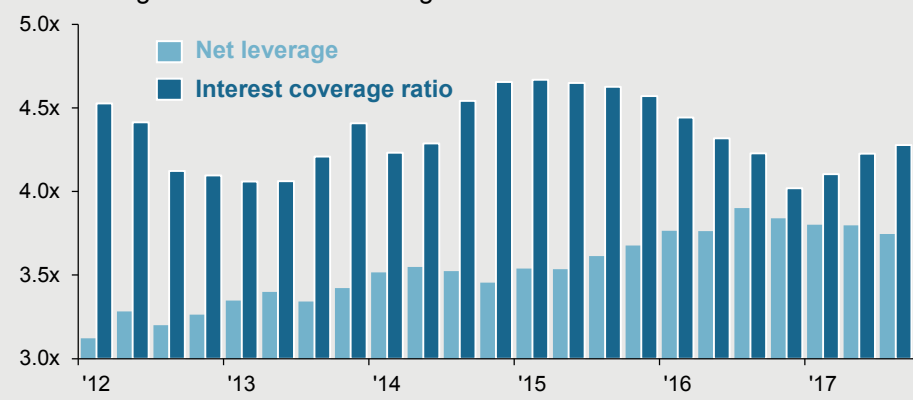
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U.S. high yield spread and default rate*

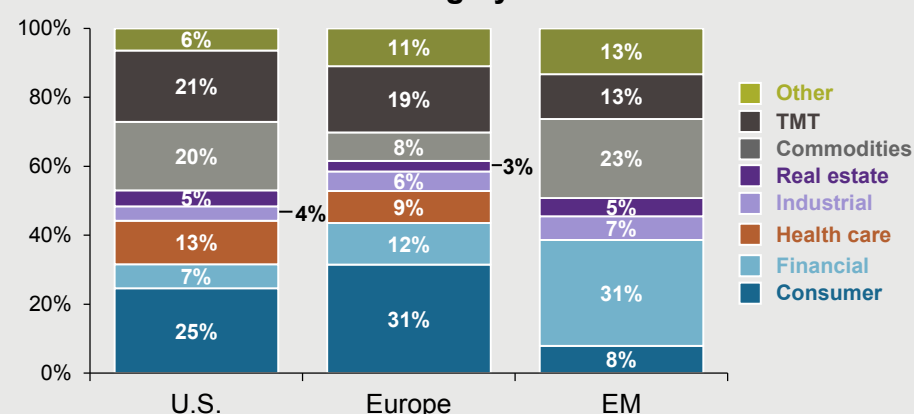


U.S. high yield leverage measures

Net leverage** and interest coverage ratio***



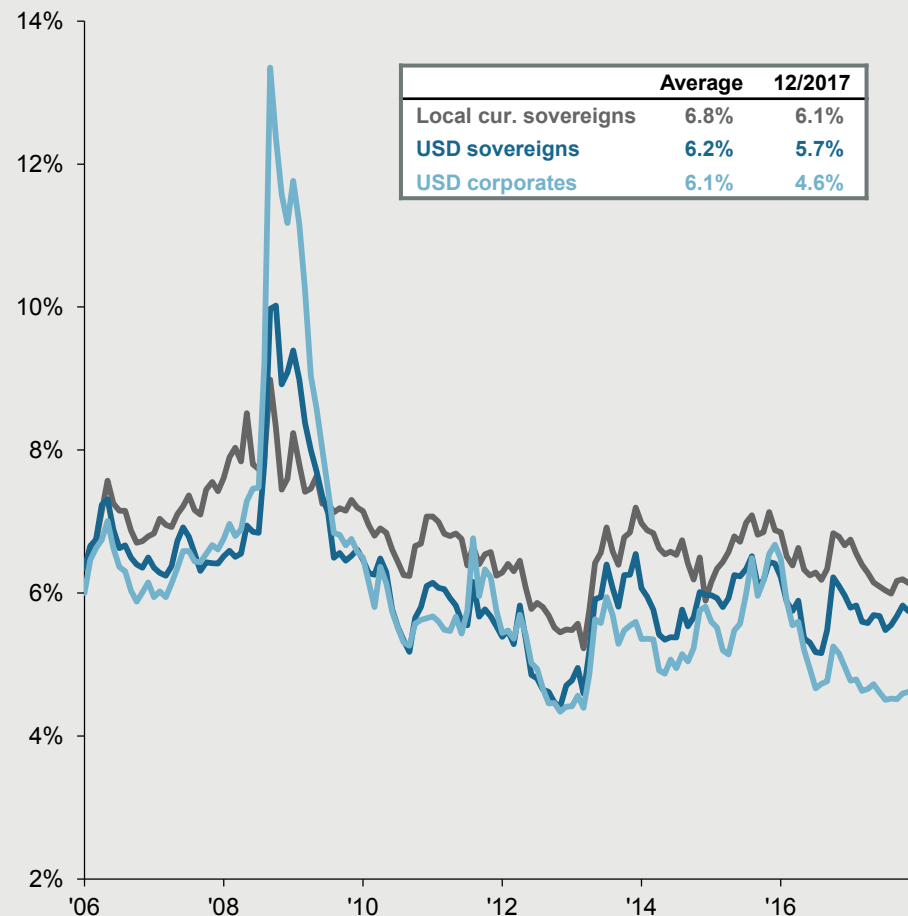
Sector breakdown across high yield indices



Source: J.P. Morgan Economic Research, J.P. Morgan Asset Management.

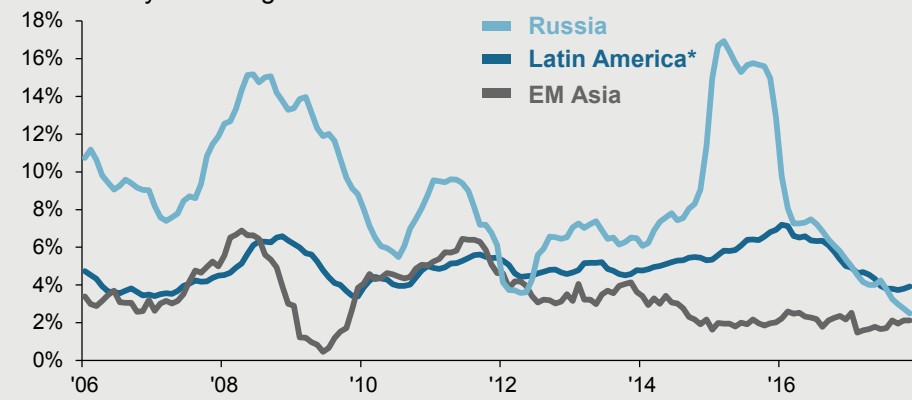
*Default rate is defined as the par value percentage of the total market trading at or below 50% of par value and includes any Chapter 11 filing, prepackaged filing or missed interest payments. Spreads indicated are benchmark yield-to-worst less comparable maturity Treasury yields. **Net leverage is net debt divided by adjusted earnings before interest, tax, depreciation and amortization (EBITDA). ***Interest coverage ratio is EBITDA over interest expense. U.S. corporate high yield is represented by the J.P. Morgan Domestic High Yield Index. Europe corporate high yield is represented by J.P. Morgan Euro High Yield Index. EM corporate high yield is represented by J.P. Morgan CEMBI NON-IG Index. TMT represents Telecommunications & Technology. Positive yield does not imply positive return. Past performance is not a reliable indicator of current and future results. *Guide to the Markets – Asia*. Data reflect most recently available as of 31/12/17.

Emerging market debt yields



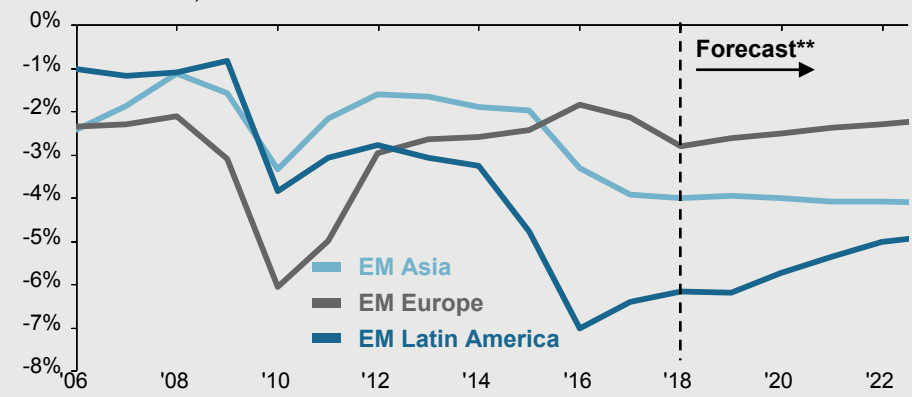
Inflation

Year-over-year change

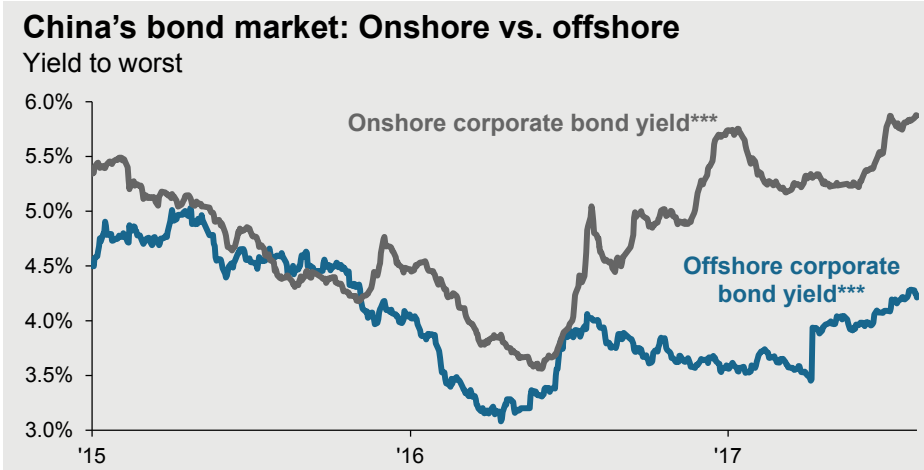
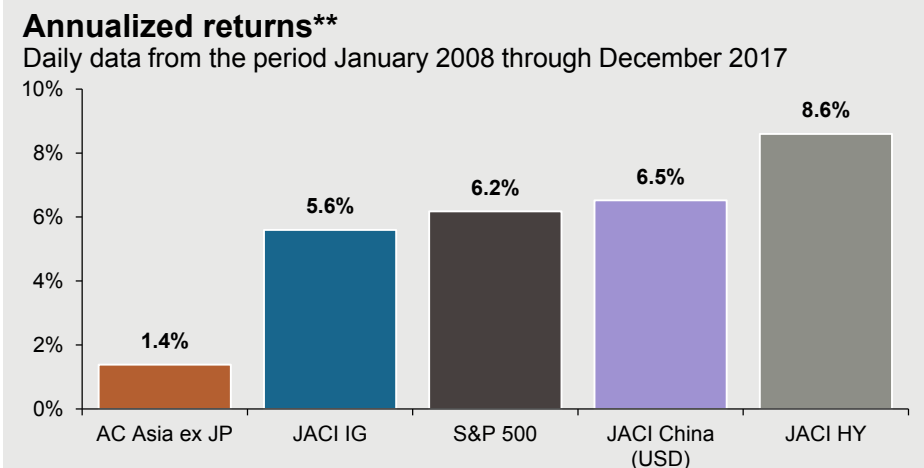
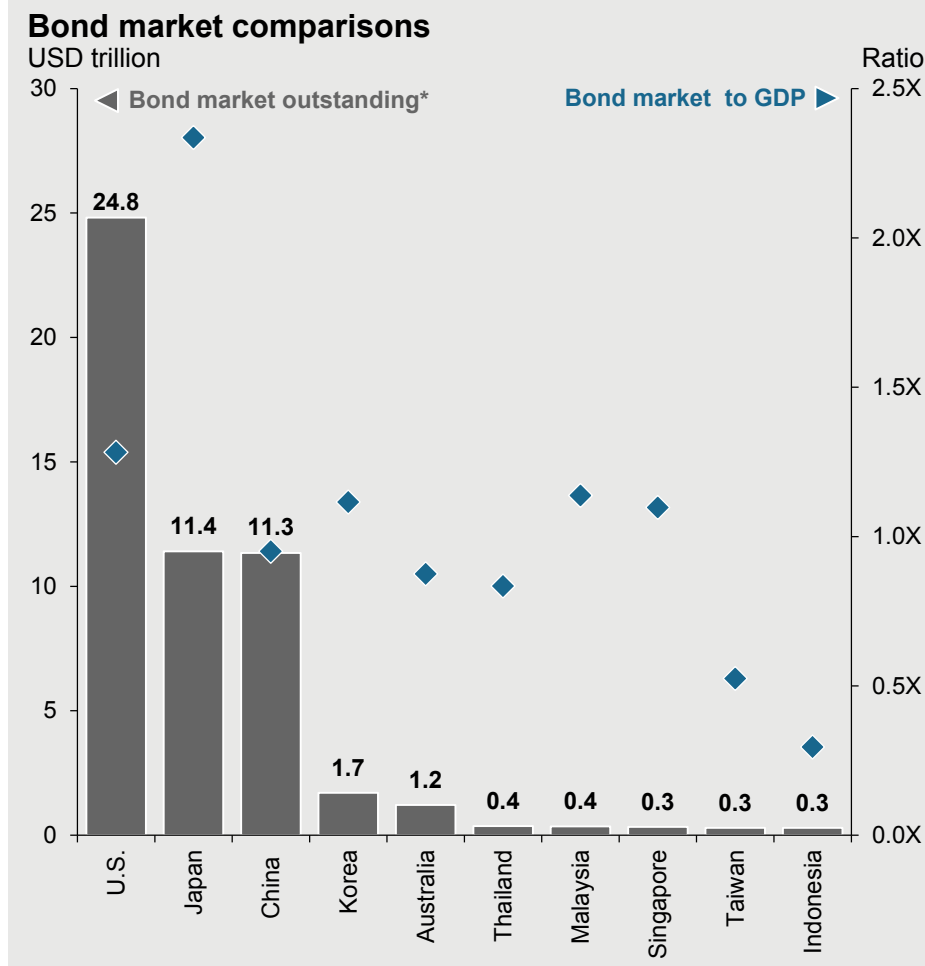


Fiscal positions

Nominal deficit, % of GDP



Source: J.P. Morgan Asset Management; (Left and top right) J.P. Morgan Economic Research; (Bottom right) IMF.
Based on J.P. Morgan GBI-EM (*EMD local cur. sovereign*), J.P. Morgan EMBI+ (*EMD USD sovereign*), J.P. Morgan CEMBI (*EMD USD corporate*). Yield to worst is shown for EM sovereign (USD) and EM corporate (USD) indexes. *Latin America index excludes Argentina, Ecuador and Venezuela. **Forecasts are from the IMF World Economic Outlook. Positive yield does not imply positive return. Past performance is not a reliable indicator of current and future results.
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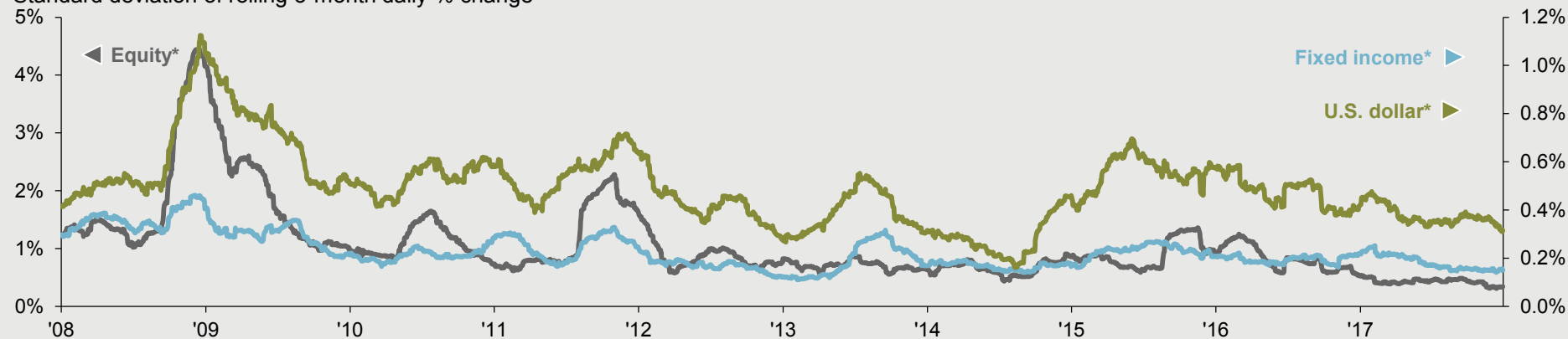
Source: J.P. Morgan Asset Management; (Left and bottom right) Bloomberg Finance L.P., (Left) CEIC; (Top and bottom right) J.P. Morgan Economic Research.
 *Bond market outstanding refers to the total U.S. dollar value of bonds (corporate and government) in the market and does not reflect mandatory prepayment. **Based on price returns of the MSCI All Country Asia ex-Japan Index (AC Asia ex JP) and the S&P 500 Index (S&P 500), and total returns of the J.P. Morgan Asia Corporate Credit Index (JACI IG), J.P. Morgan Asia Corporate Credit High Yield Index (JACI HY), and J.P. Morgan China Credit Index (JACI China (USD)). ***ChinaBond Inter-bank fixed-rate corporate bond (AA) 5-year used as a proxy for onshore corporate bond yield while J.P. Morgan Corporate Emerging Markets Subindex – China is used as a proxy for offshore corporate bond yield. Positive yield does not imply positive return. Past performance is not a reliable indicator of current and future results. Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

											10-yrs ('08 - '17)	
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	4Q '17	Ann. Ret.	Ann. Vol.
Global Bonds 4.8%	EM ex-Asia 91.3%	U.S. REITs 28.5%	U.S. REITs 8.7%	Asia ex-Japan 22.7%	DM Equities 27.4%	U.S. REITs 30.4%	Asian Bonds 2.8%	EM ex-Asia 27.1%	Asia ex-Japan 42.1%	Asia ex-Japan 8.3%	Global Corp HY 7.9%	EM ex-Asia 27.7%
Cash 1.8%	Asia ex-Japan 72.5%	Asia ex-Japan 19.9%	EMD 8.5%	Global Corp HY 18.9%	Global Corp HY 8.4%	Asian Bonds 8.3%	U.S. REITs 2.5%	Global Corp HY 14.0%	DM Equities 23.1%	DM Equities 5.6%	U.S. REITs 7.4%	U.S. REITs 26.5%
Asian Bonds -9.8%	Global Corp HY 63.9%	EM ex-Asia 16.6%	Global Bonds 5.6%	EMD 18.5%	Diversified 5.6%	EMD 5.5%	EMD 1.2%	EMD 10.2%	EM ex-Asia 20.3%	Diversified 3.2%	EMD 7.1%	Asia ex-Japan 22.8%
EMD -10.9%	Diversified 40.8%	Global Corp HY 13.8%	Asian Bonds 4.1%	U.S. REITs 17.8%	Asia ex-Japan 3.3%	DM Equities 5.5%	Cash 0.0%	U.S. REITs 8.6%	Diversified 17.9%	U.S. REITs 1.4%	Asian Bonds 6.5%	DM Equities 17.1%
Global Corp HY -27.9%	DM Equities 30.8%	Diversified 13.4%	Global Corp HY 2.6%	EM ex-Asia 17.0%	U.S. REITs 2.5%	Asia ex-Japan 5.1%	DM Equities -0.3%	DM Equities 8.2%	Global Corp HY 10.3%	Global Bonds 1.1%	DM Equities 5.6%	Diversified 12.6%
Diversified -28.1%	U.S. REITs 28.6%	DM Equities 12.3%	Cash 0.1%	DM Equities 16.5%	Cash 0.0%	Diversified 4.5%	Diversified -3.1%	Diversified 8.1%	EMD 9.3%	EM ex-Asia 1.1%	Diversified 5.2%	Global Corp HY 11.7%
U.S. REITs -38.0%	Asian Bonds 28.3%	EMD 12.0%	Diversified -2.8%	Diversified 15.9%	Asian Bonds -1.4%	Global Bonds 0.6%	Global Bonds -3.2%	Asian Bonds 5.8%	Global Bonds 7.4%	Global Corp HY 0.9%	Asia ex-Japan 4.1%	EMD 9.3%
DM Equities -40.3%	EMD 28.2%	Asian Bonds 10.6%	DM Equities -5.0%	Asian Bonds 14.3%	Global Bonds -2.6%	Global Corp HY 0.2%	Global Corp HY -4.9%	Asia ex-Japan 5.8%	Asian Bonds 5.8%	EMD 0.5%	Global Bonds 3.1%	Asian Bonds 7.8%
Asia ex-Japan -52.2%	Global Bonds 6.9%	Global Bonds 5.5%	Asia ex-Japan -17.1%	Global Bonds 4.3%	EMD -6.6%	Cash 0.0%	Asia ex-Japan -8.9%	Global Bonds 2.1%	U.S. REITs 5.1%	Asian Bonds 0.4%	Cash 0.3%	Global Bonds 2.8%
EM ex-Asia -57.2%	Cash 0.1%	Cash 0.1%	EM ex-Asia -21.2%	Cash 0.1%	EM ex-Asia -8.5%	EM ex-Asia -20.2%	EM ex-Asia -22.7%	Cash 0.3%	Cash 0.8%	Cash 0.3%	EM ex-Asia -2.9%	Cash 0.1%

Source: Bloomberg Finance L.P., Dow Jones, FactSet, J.P. Morgan Economic Research, MSCI, J.P. Morgan Asset Management.
The "Diversified" portfolio assumes the following weights: 20% in the MSCI The World Index (*DM Equities*), 20% in the MSCI AC Asia ex-Japan (*Asia ex-Japan*), 5% in the average of the MSCI EM Latin America and MSCI EM EMEA Indices (*EM ex-Asia*), 10% in the J.P. Morgan EMBIG Index (*EMD*), 10% in the Bloomberg Barclays Aggregate (*Global Bonds*), 10% in the Bloomberg Barclays Global Corporate High Yield Index (*Global Corporate High Yield*), 15% in J.P. Morgan Asia Credit Index (*Asian Bonds*), 5% in MSCI U.S. REITs Index (*U.S. REITs*) and 5% in Bloomberg Barclays U.S. Treasury – Bills (1-3 months) (*Cash*). Diversified portfolio assumes annual rebalancing. All data represent total return in U.S. dollar terms for the stated period. 10-year total return data is used to calculate annualized returns (Ann. Ret.) and 10-year price return data is used to calculate annualized volatility (Ann. Vol.) and reflects the period 31/12/07 – 31/12/17. Please see disclosure page at end for index definitions. Past performance is not a reliable indicator of current and future results. *Guide to the Markets – Asia*. Data reflect most recently available as of 31/12/17.

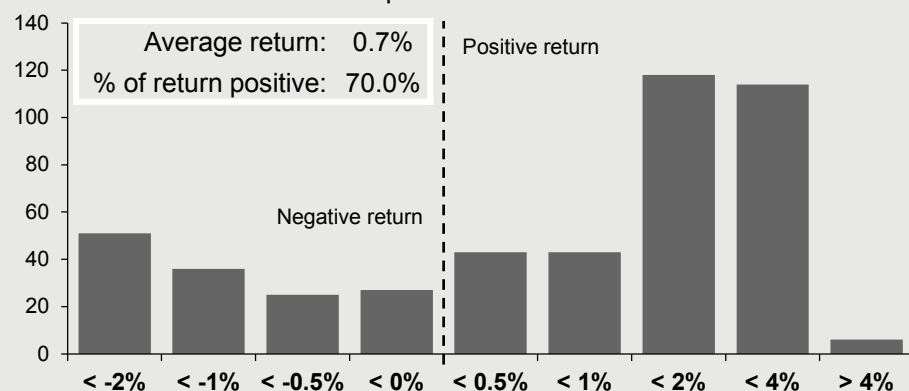
Equity, fixed income and dollar realized volatility

Standard deviation of rolling 3-month daily % change

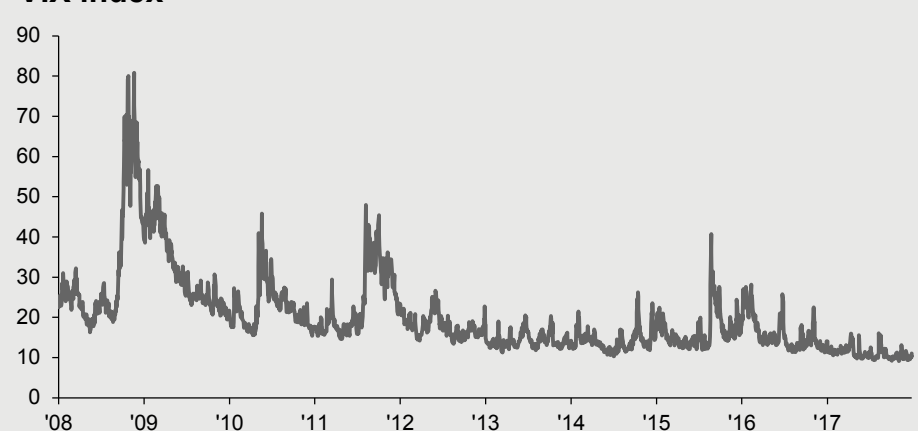


U.S. equity market returns in low volatility periods

Distribution of 1-month forward price returns when VIX is low**



VIX index***



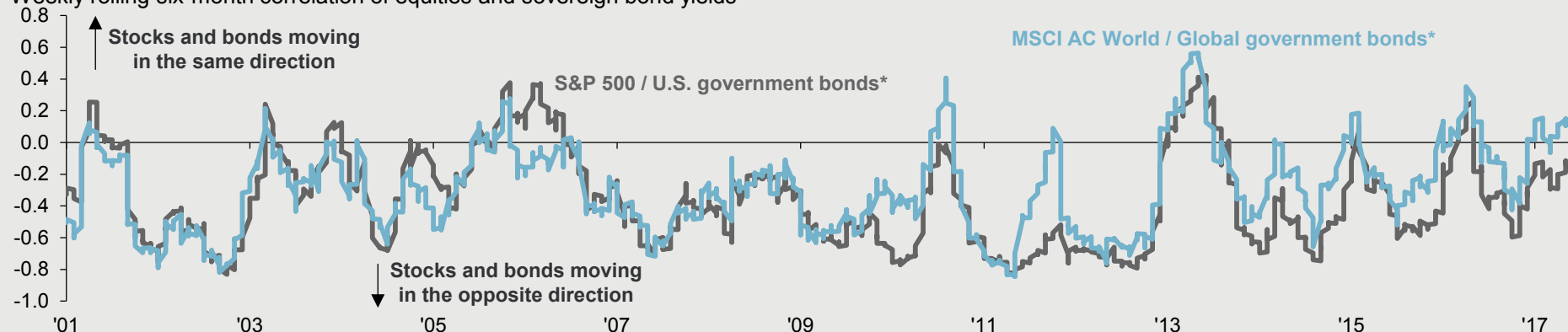
Source: FactSet, J.P. Morgan Asset Management; (Top) Bloomberg Finance L.P.

*Realized volatility is measured by the rolling three-month standard deviation of daily returns. Equities are represented by the S&P 500 Index, fixed income by the Bloomberg Barclays U.S. Aggregate Bond index and the dollar by the DXY index. **Low VIX is defined as more than one standard deviation below the mean. Returns analysis encompasses 20 years of daily data. ***The VIX-CBOE Volatility Index measures market expectations of near-term volatility conveyed by S&P 500 Index (SPX) option prices. Past performance is not a reliable indicator of current and future results.

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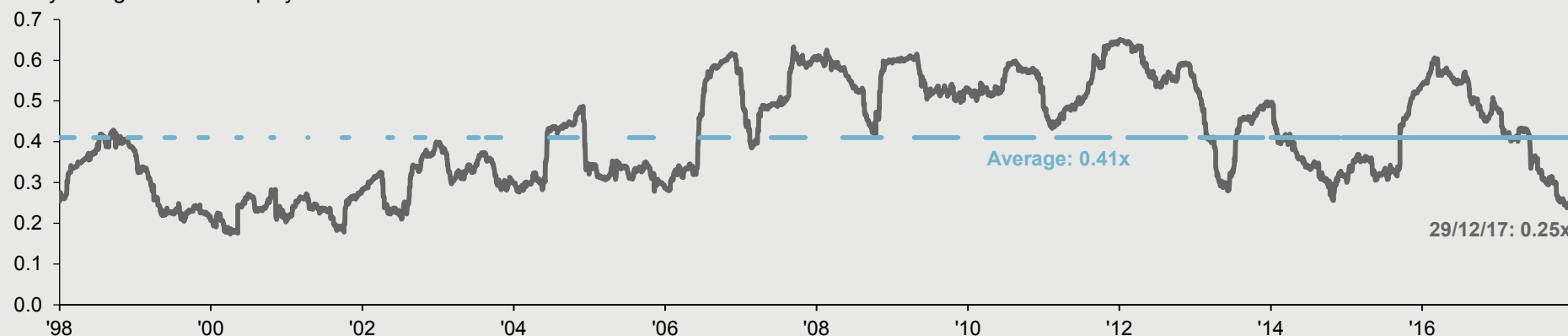
Correlations between stocks and sovereign bonds

Weekly rolling six-month correlation of equities and sovereign bond yields*



Correlations between Asian equity markets

Daily rolling six-month equity markets correlation**



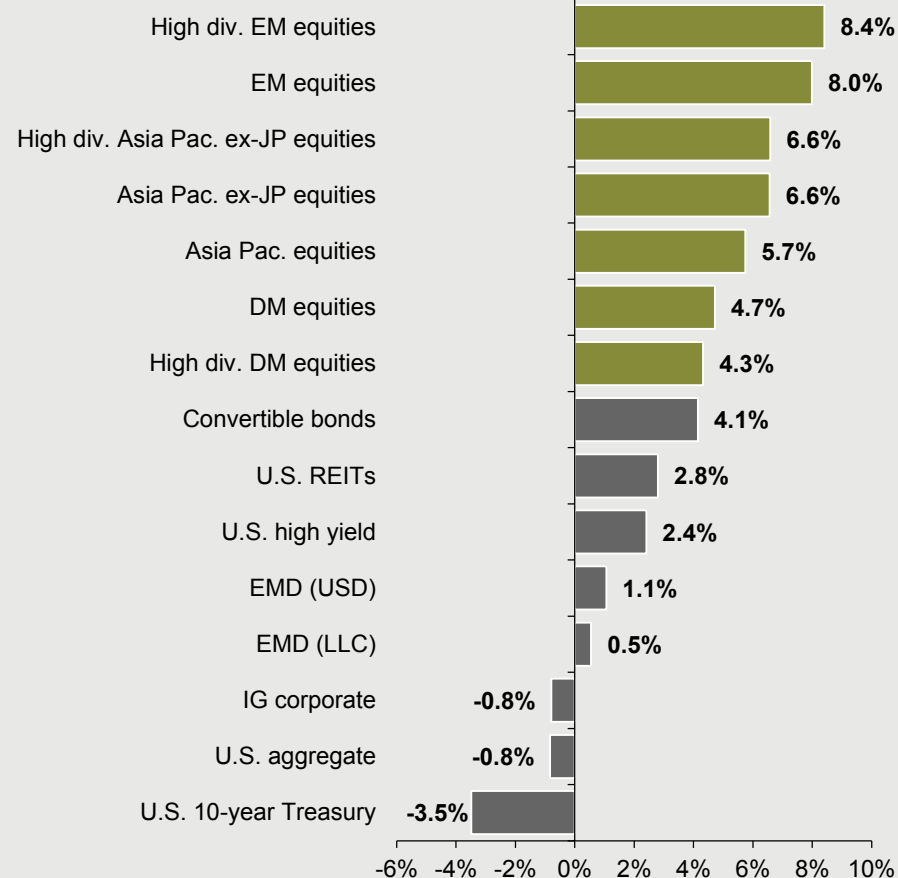
Source: FactSet, MSCI, J.P. Morgan Asset Management; (Top) Barclays, Standard & Poor's.

*Rolling six-month pairwise correlations between weekly returns in equity (S&P 500 and MSCI All Country World Index price indexes) and bond (Bloomberg Barclays U.S. Aggregate Government and Bloomberg Barclays Global Aggregate Government price indexes) markets. **Rolling six-month pairwise correlation between daily price returns in USD of the MSCI China, Korea, Taiwan, Indonesia, Hong Kong, India, Thailand, Philippines, Malaysia, Singapore, Japan and Australia equity indices. Past performance is not a reliable indicator of current and future results.

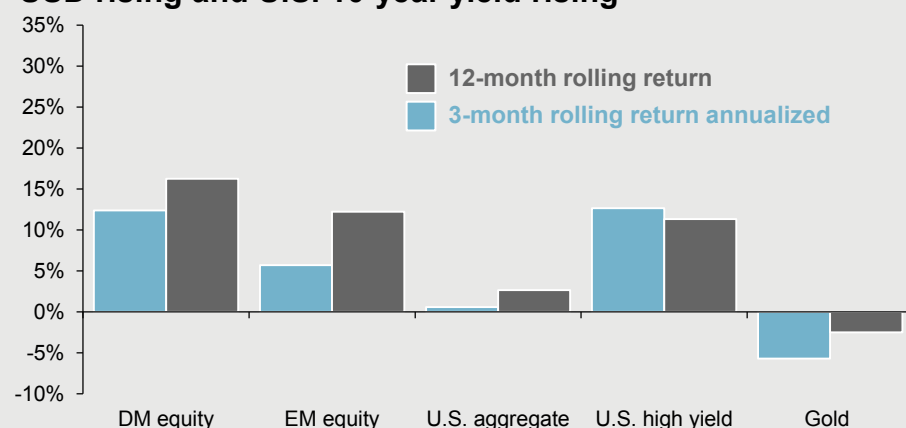
Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

Total return in a rising yield environment*

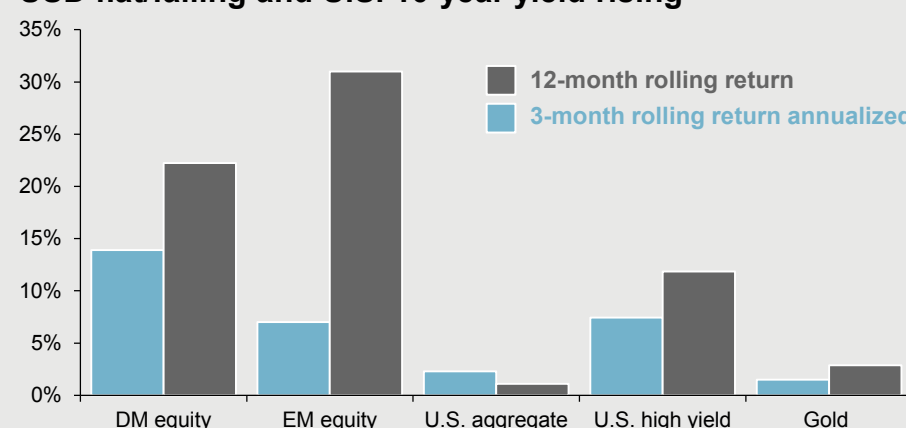
Annualized average of rolling 3-month total return (USD), 1994-2017*



USD rising and U.S. 10-year yield rising**



USD flat/falling and U.S. 10-year yield rising**



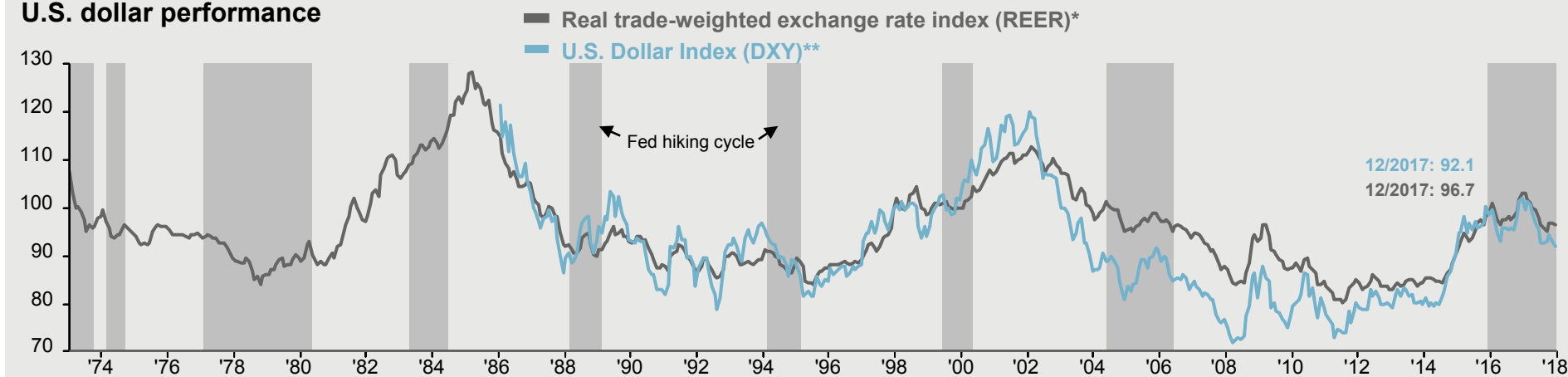
Source: Barclays, Bloomberg Finance L.P., FactSet, MSCI, J.P. Morgan Asset Management.

Based on MSCI World Index (DM Equity), MSCI World High Dividend Index (High div. DM Equity), MSCI Emerging Market Index (EM Equity), MSCI Emerging Market High Dividend Index (High div. EM Equity), MSCI AC Asia Pacific ex-Japan Index (Asia Pac. ex-JP), MSCI AC Asia Pacific Index (Asia Pac.), MSCI U.S. REIT Index (U.S. REITs), Bloomberg Barclays U.S. Aggregate Index (U.S. Agg.), Bloomberg Barclays U.S. Aggregate Credit High Yield Corporate Index (U.S. HY), Bloomberg Barclays U.S. Aggregate Credit Investment Grade Index (IG corporate), J.P. Morgan Government Bond Index - EM Global (GBI-EM) (EMD LLC), J.P. Morgan Emerging Market Bond Index Global (EMBIG) (EMD USD), Gold NYM \$/ozt (Gold).

*Trigger to count returns is if the 10-year yield rose more than 25bps in prior 3 months. **Trigger to count returns is if the dollar rose more than 2% in prior 12 months and the 10-year yield rose more than 50bps in prior 12 months. Returns are based on monthly returns from 31/1/94 - 30/11/17. Past performance is not a reliable indicator of current and future results.

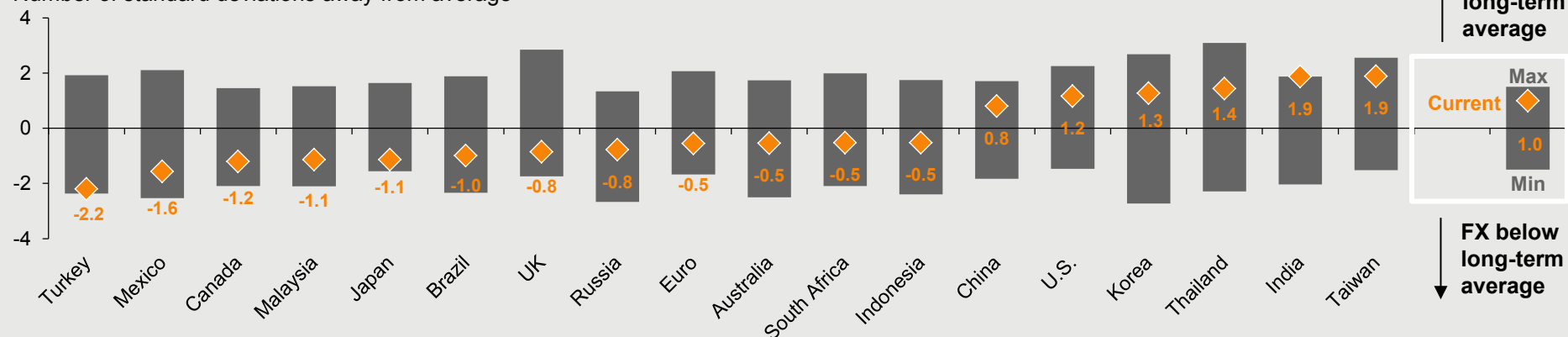
Guide to the Markets - Asia. Data reflect most recently available as of 31/12/17.

U.S. dollar performance



Currency deviation from 10-year average in real effective exchange rate* terms

Number of standard deviations away from average



Source: FactSet, J.P. Morgan Asset Management; (Top) Bloomberg Finance L.P., U.S. Federal Reserve; (Bottom) J.P. Morgan Economic Research.

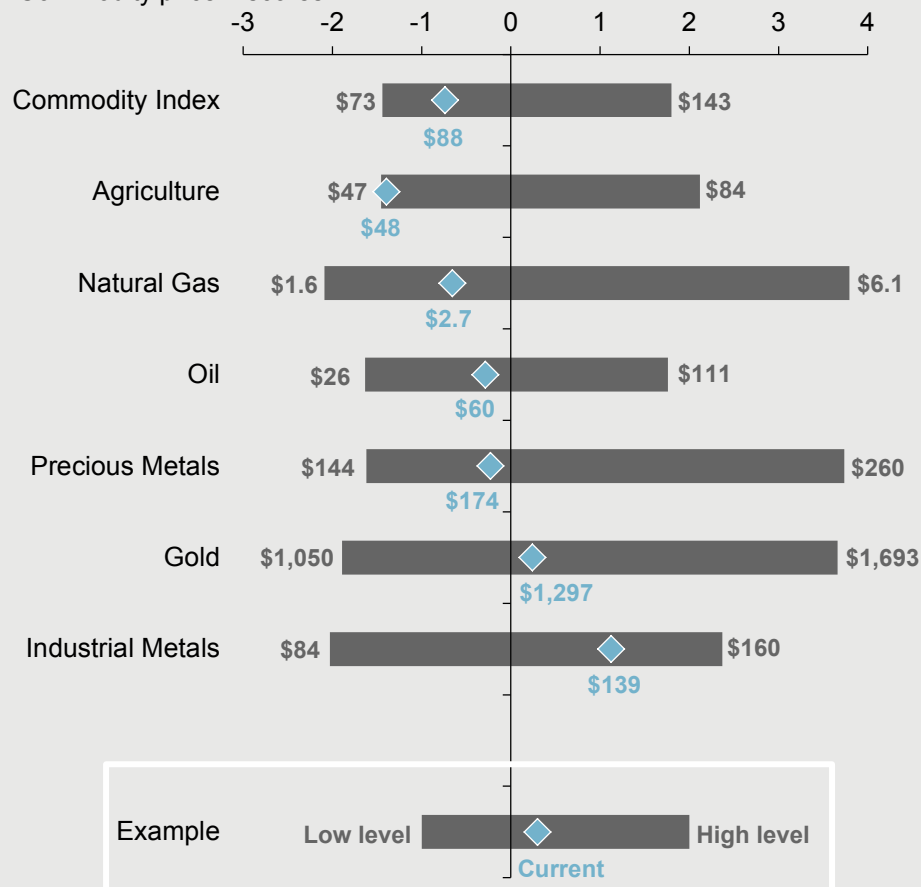
*The real trade-weighted exchange rate index is the weighted average of a country's currency relative to a basket of other major currencies adjusted for the effects of inflation. The weights are determined by comparing the relative trade balances, in terms of one country's currency, with other countries within the basket.

**The Dollar Index is a trade-weighted index calculated using seven major U.S. trade partners' currencies – Australian dollar, British pound, Canadian dollar, euro, Japanese yen, Swedish kroner and Swiss franc. Past performance is not a reliable indicator of current and future results.

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Commodity prices

Commodity price z-scores

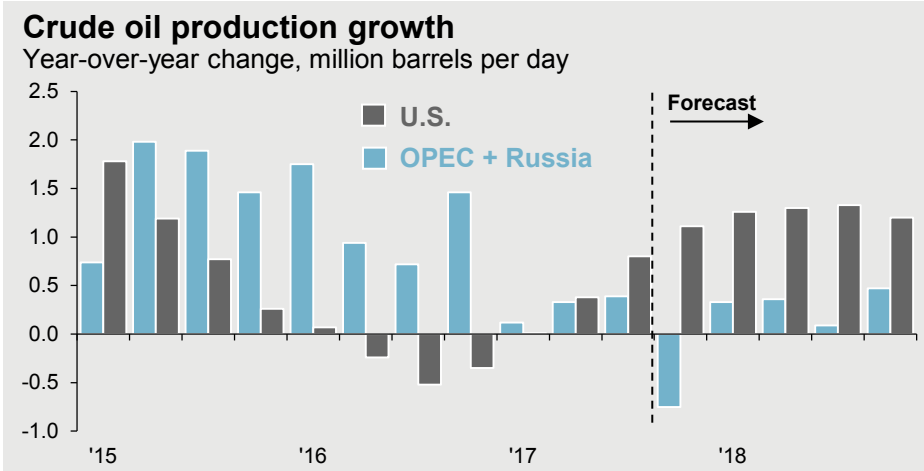
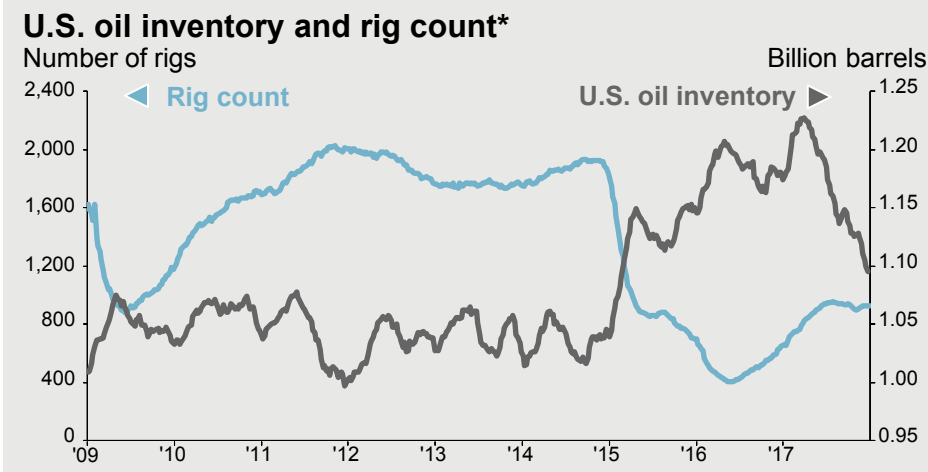
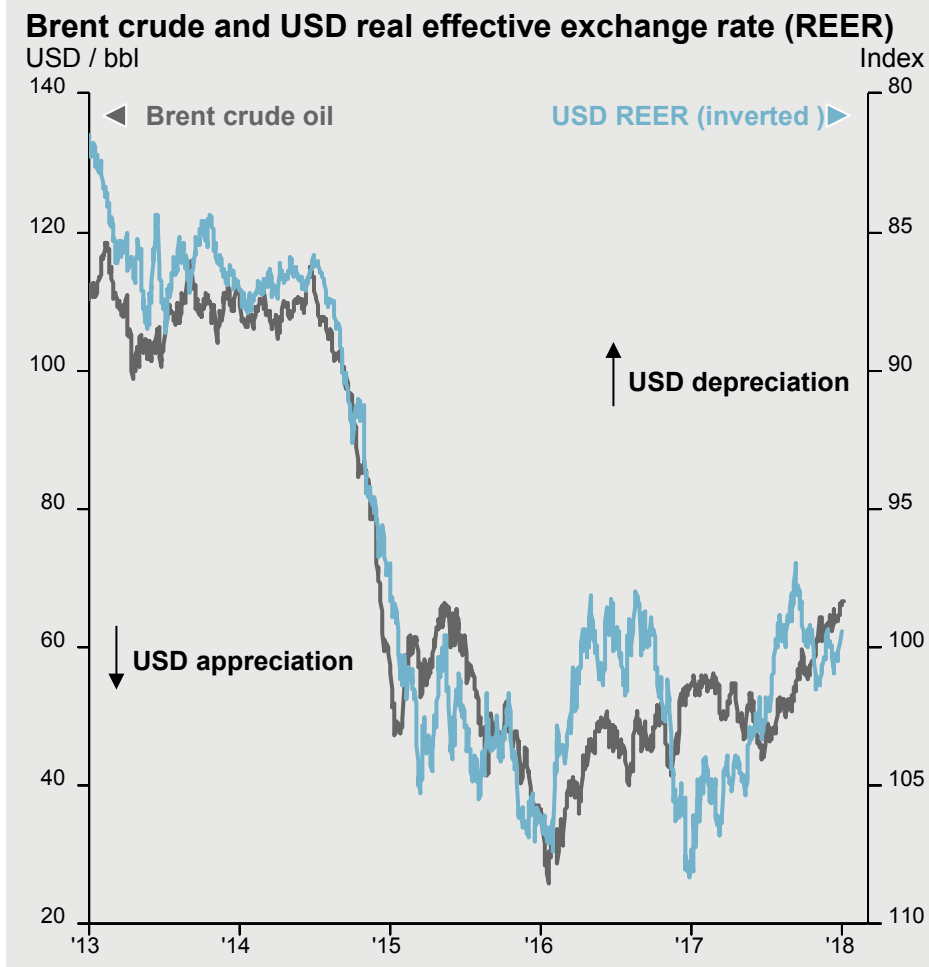


Returns

						2013 - 2017	
2013	2014	2015	2016	2017	4Q '17	Ann. Ret.	Ann. Vol.
Energy (E)	Euro M&M (FI)	Energy (FI)	Gold (E)	M&M (E)	M&M (E)	EM M&M (FI)	Gold (E)
13.8%	8.6%	-7.3%	62.9%	37.5%	14.0%	6.0%	37.1%
US M&M (FI)	Energy (FI)	EM M&M (FI)	M&M (E)	Agri. (E)	Energy (E)	US M&M (FI)	M&M (E)
7.5%	2.1%	-10.9%	57.8%	20.3%	8.5%	4.6%	24.9%
Agri. (E)	Agri. (E)	Agri. (E)	US M&M (FI)	EM M&M (FI)	Agri. (E)	Agri. (E)	Energy (E)
5.1%	-0.2%	-13.7%	45.5%	14.7%	5.3%	4.5%	15.3%
Euro M&M (FI)	EM M&M (FI)	Euro M&M (FI)	EM M&M (FI)	US M&M (FI)	Comdty.	Euro M&M (FI)	Comdty.
1.1%	-0.8%	-16.1%	32.4%	9.9%	4.7%	4.4%	14.0%
Energy (FI)	US M&M (FI)	Energy (E)	Energy (E)	Gold (E)	EM M&M (FI)	Energy (FI)	US M&M (FI)
-1.0%	-4.4%	-20.6%	29.2%	9.4%	2.6%	2.6%	12.2%
EM M&M (FI)	Energy (E)	US M&M (FI)	Euro M&M (FI)	Energy (E)	Energy (FI)	Energy (E)	Agri. (E)
-3.5%	-15.1%	-23.7%	21.9%	9.1%	2.0%	0.2%	10.9%
M&M (E)	Gold (E)	Comdty.	Agri. (E)	Energy (FI)	US M&M (FI)	M&M (E)	EM M&M (FI)
-7.3%	-16.4%	-24.7%	15.7%	9.0%	1.5%	-5.6%	10.7%
Comdty.	Comdty.	Gold (E)	Comdty.	Euro M&M (FI)	Gold (E)	Comdty.	Euro M&M (FI)
-9.5%	-17.0%	-26.3%	11.8%	3.9%	1.2%	-9.0%	7.9%
Gold (E)	M&M (E)	M&M (E)	Energy (FI)	Comdty.	Euro M&M (FI)	Gold (E)	Energy (FI)
-52.0%	-19.0%	-40.1%	11.1%	1.7%	0.6%	-16.1%	5.2%

Source: Bloomberg Finance L.P., FactSet, J.P. Morgan Asset Management; (Left) CME; (Right) Barclays, J.P. Morgan Economic Research, MSCI. Commodity prices are represented by the appropriate Bloomberg Commodity sub-index in U.S. dollars. Crude oil shown is Brent crude. Other commodity prices are represented by futures contracts. Z-scores are calculated using daily prices over the past five years. Based on Bloomberg Commodity Index (*Comdty.*); MSCI ACWI Select – Energy Producers IMI, Metals & Mining Producers ex Gold & Silver IMI, Gold Miners IMI, Agriculture Producers IMI (*Energy (E)*, *M&M (E)*, *Gold (E)*, *Agri. (E)*); Bloomberg Barclays Global Aggregate Credit – Corporate Energy Index (*Energy (FI)*); Bloomberg Barclays U.S. Aggregate Credit – Corporate High Yield Metals & Mining Index (*U.S. M&M (FI)*); Bloomberg Barclays Euro Aggregate Credit – Corporate Metals & Mining Index (*Euro M&M (FI)*); J.P. Morgan Emerging Market Corporate Credit – Corporate Metals & Mining Index (*EM M&M (FI)*). Five-year total return data is used to calculate annualized returns (Ann. Ret.) and 5-year price return data is used to calculate annualized volatility (Ann. Vol.) and reflects the period 31/12/12 – 31/12/17. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.



Source: FactSet, J.P. Morgan Asset Management; (Top right) Baker Hughes, U.S. Department of Energy; (Bottom right) U.S. Energy Information Administration.

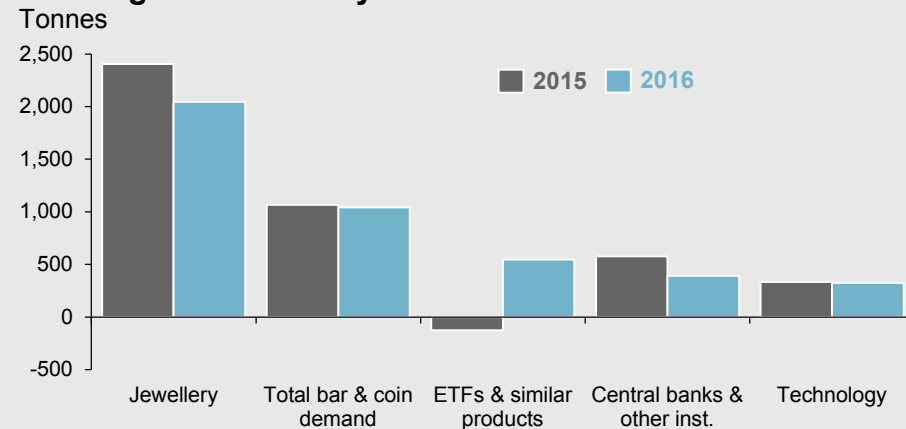
*Weekly U.S. crude oil and petroleum ending inventory includes strategic petroleum reserve, and active rig count represents both natural gas and oil rigs. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

Gold and real rates



Global gold demand by sector*



Net asset value of gold ETFs

Average NAV**, USD per share

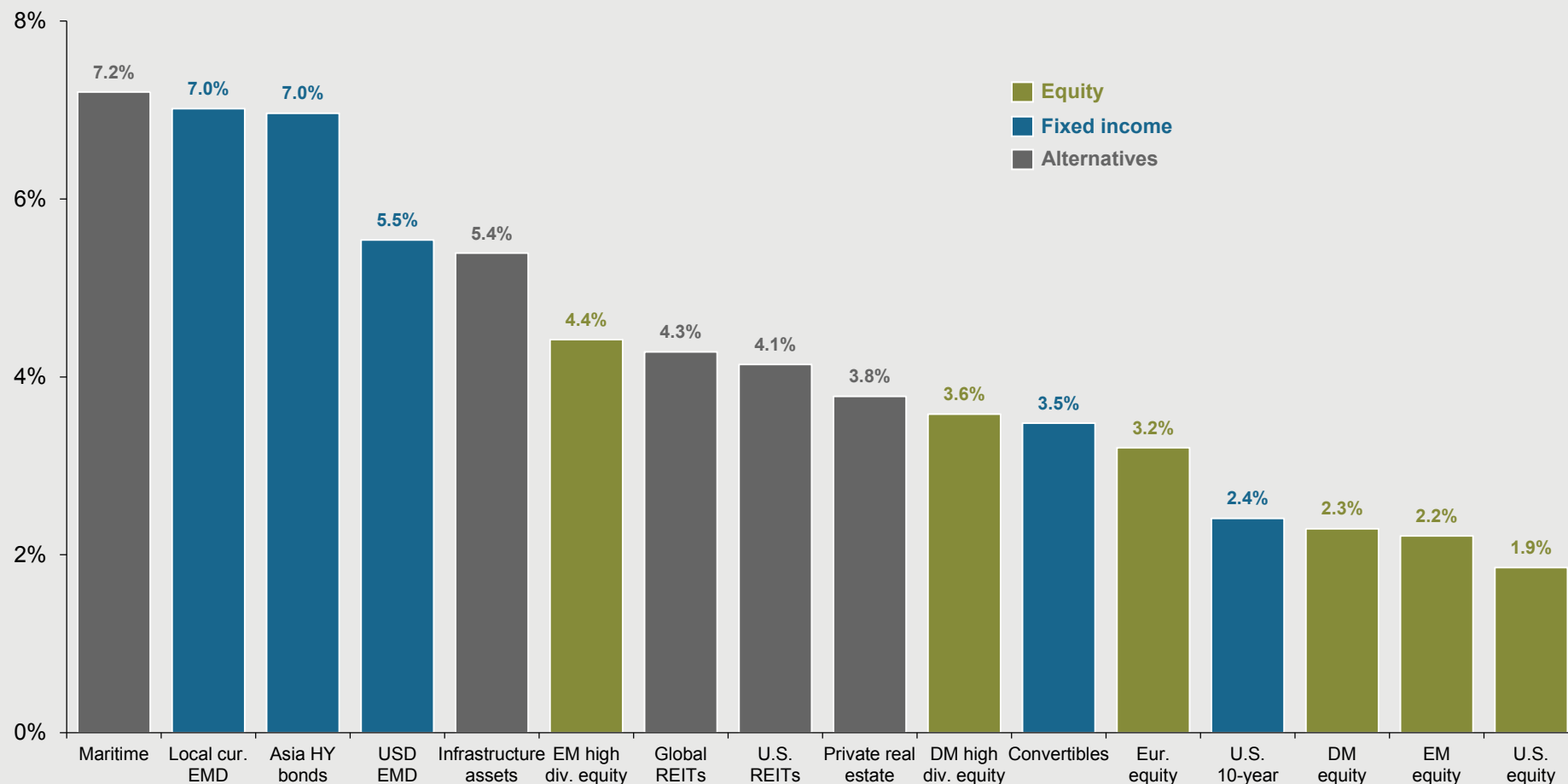


Source: J.P. Morgan Asset Management; (Left) FactSet, U.S. Federal Reserve; (Top and bottom right) World Gold Council; (Bottom right) Bloomberg Finance L.P.

*Gold demand is calculated by World Gold Council. **Average Net Asset Value (NAV) is calculated from monthly reported NAV of the current top three gold-focused exchange traded funds (ETFs) by gold assets under management, weighted by their physical gold ownership. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

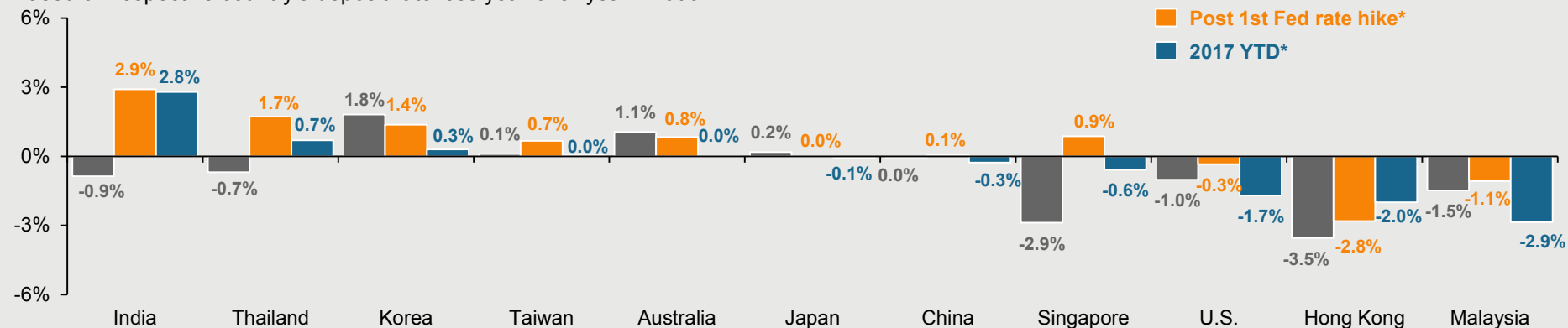
Asset class yields



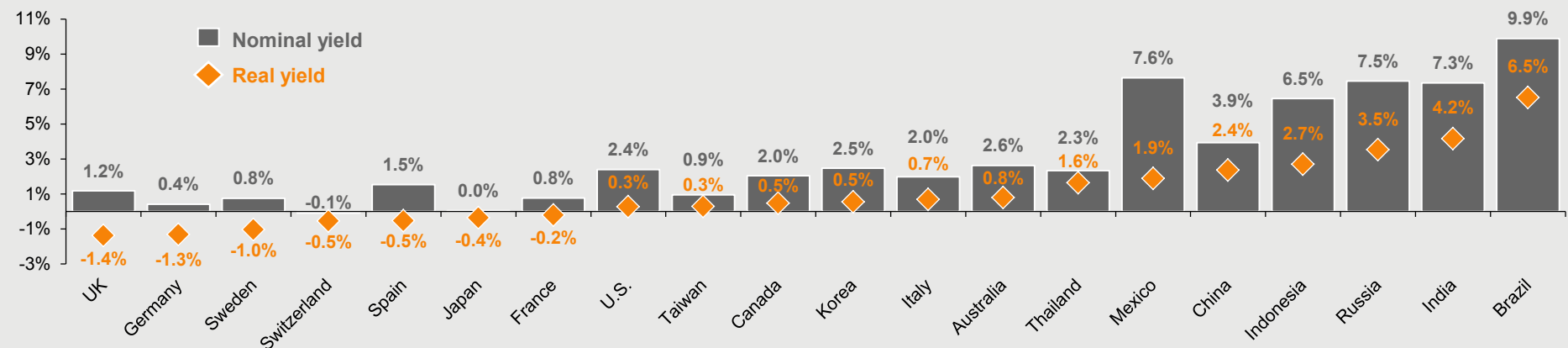
Source: Alerian, Bank of America, Bloomberg Finance L.P., Clarkson, Drewry Maritime Consultants, FactSet, Federal Reserve, FTSE, MSCI, NCREIF, Standard & Poor's, J.P. Morgan Asset Management. Maritime = Unlevered yields for maritime assets are calculated as the difference between charter rates (rental income) and operating expenses as a percentage of current asset value. Yields for each of the sub-vessel types above are calculated and the respective weightings are applied to arrive at the current sub-sector specific yields, which are then weighted to arrive at the current indicative yield for the World Maritime Fleet. Asset classes are based on NCREIF ODCE (*Private Real Estate*), FTSE NAREIT Global/USA REITs (*Global/U.S. REITs*), MSCI Global Infrastructure Asset Index (*Infrastructure Assets*), Bloomberg Barclays U.S. Convertibles Composite (*Convertibles*), J.P. Morgan Government Bond Index EM Global (GBI-EM) (*Local EMD*), J.P. Morgan Emerging Market Bond Index Global (EMBIG) (*USD EMD*), J.P. Morgan Asia Credit Index Non-investment Grade Corporate (*Asia HY bonds*), MSCI Emerging Markets (*EM Equity*), MSCI The World Index (*DM Equity*), MSCI Emerging Markets High Dividend Yield Index (*EM High Div. Equity*), MSCI The World High Dividend Yield Index (*DM High Div. Equity*), MSCI Europe (*Eur. Equity*), MSCI USA (*U.S. Equity*). Maritime yield is as of 30/9/17, Infrastructure 30/6/17, EM High Div. Equity and DM High Div. Equity (30/11/17). Past performance is not a reliable indicator of current and future results. *Guide to the Markets – Asia*. Data reflect most recently available as of 31/12/17.

Average annual real deposit rate

Based on respective country's deposit rate less year-over-year inflation



Real and nominal yields**

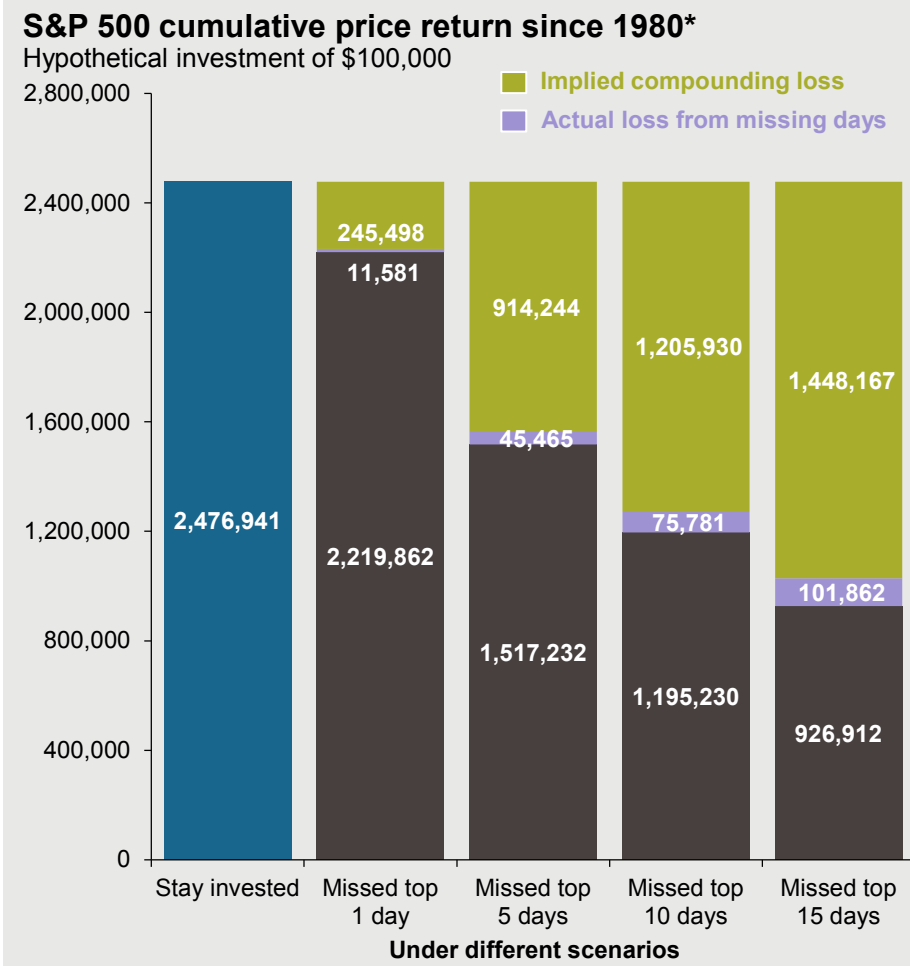
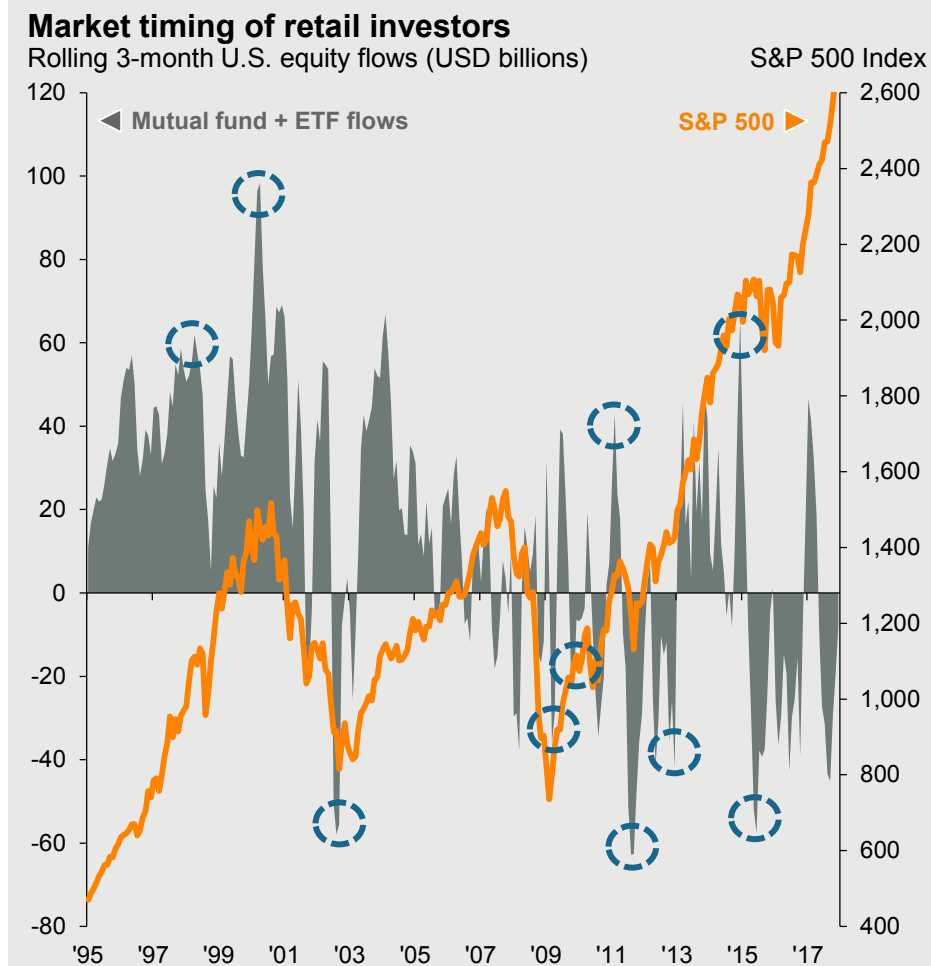


Source: FactSet, various central banks, J.P. Morgan Asset Management; (Top) IMF.

*Post crisis time period defined as 2008-2014. Post 1st Fed rate hike defined as 2015-2016. YTD average annual real deposit rate is as of 30/11/17, except for India and the U.S. (31/12/17), China (31/10/17), Malaysia and Thailand (30/9/17) and Australia (31/8/2017). **Real yield is calculated based on the last 12-month average CPI for each respective country. Nominal yields are the 10-year government bond yield for each respective country.

Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.



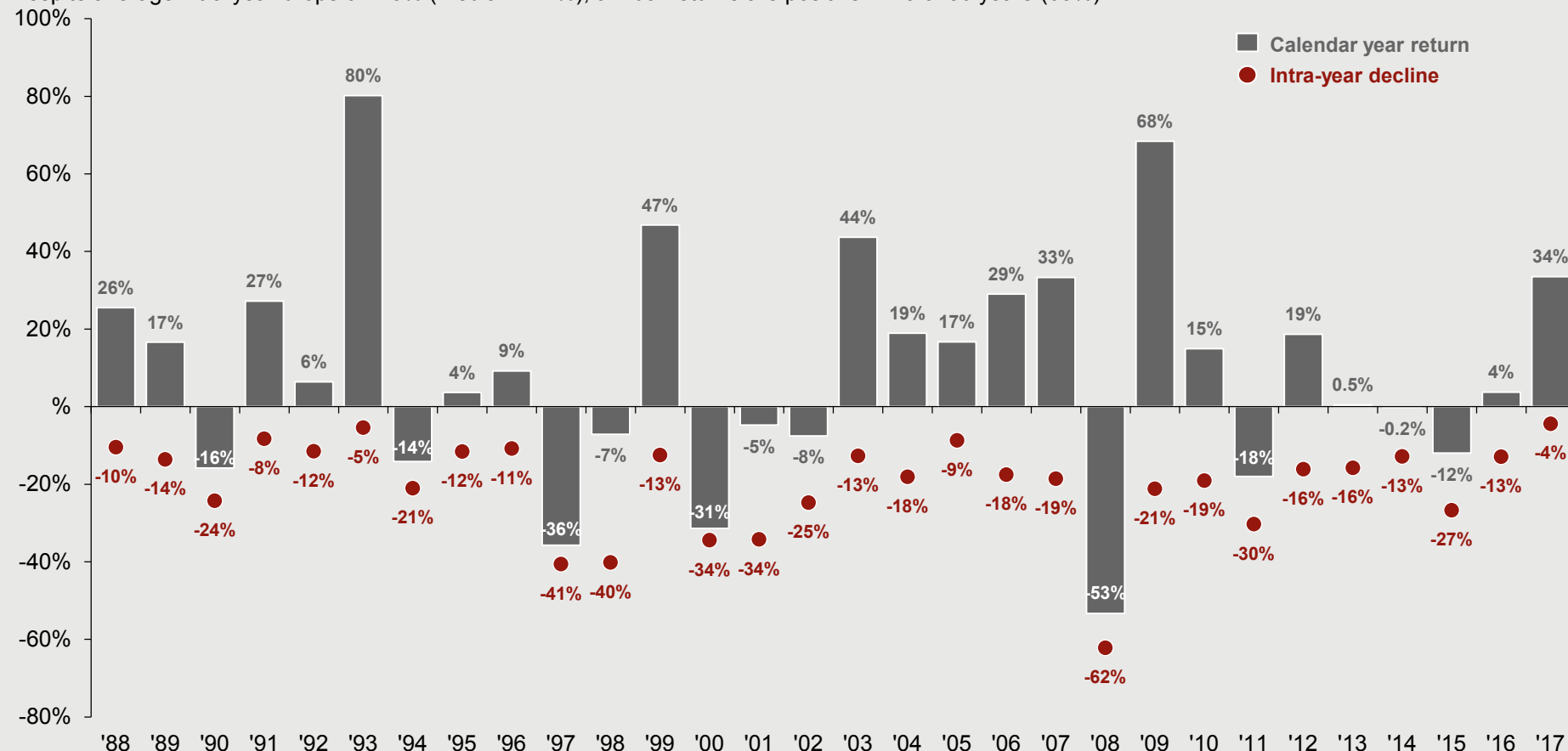
Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management; (Left) Investment Company Institute (ICI). Mutual fund and ETF flows are through 20/12/17.

*More than 9,900 trading days used to calculate the total cumulative price return of S&P 500 since 1/1/80. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

MSCI AC Asia Pacific ex-Japan intra-year declines vs. calendar year returns

Despite average intra-year drops of -20% (median: -17%), annual returns are positive in 19 of 30 years (63%)



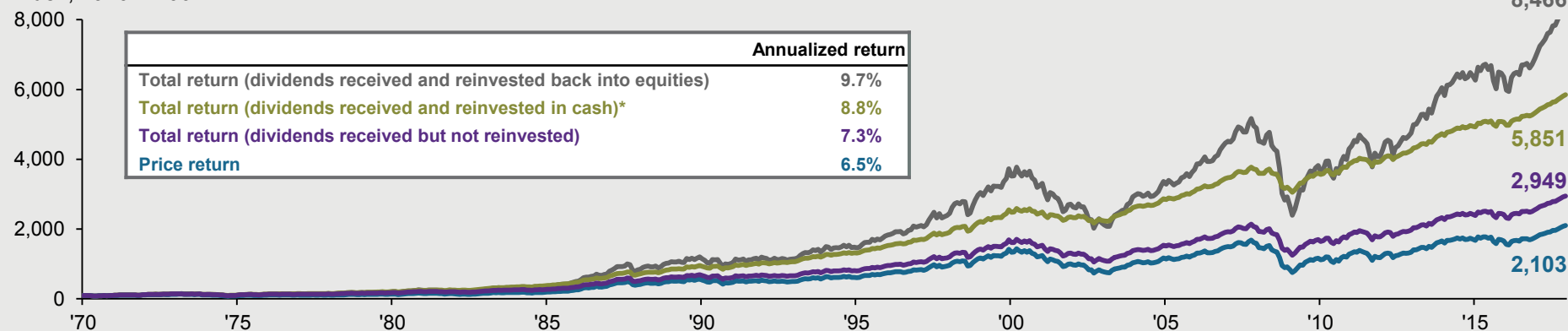
Source: FactSet, MSCI, J.P. Morgan Asset Management.

Returns are price returns based on MSCI AC Asia Pacific ex-Japan Index in U.S. dollar terms. Intra-year decline is the largest peak to trough decline during the respective year. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

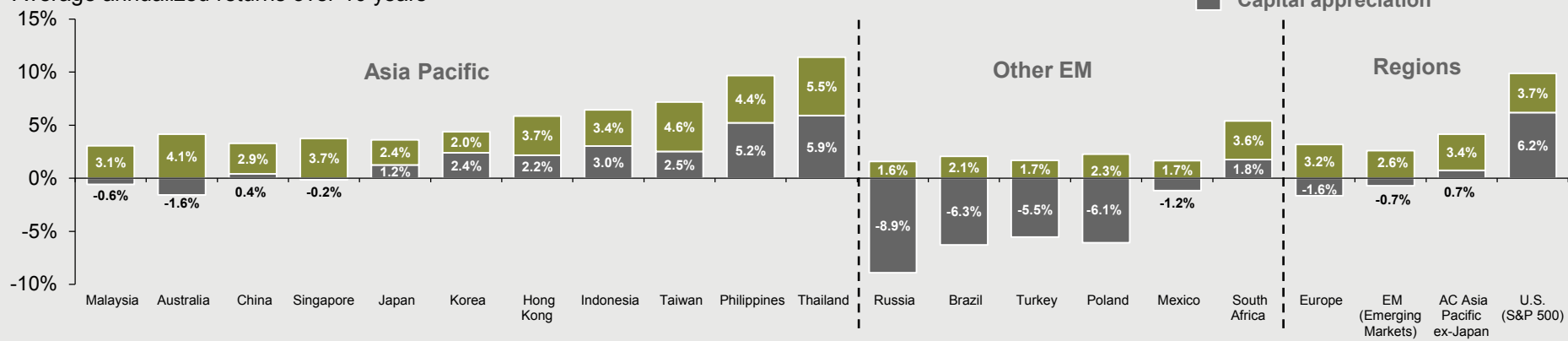
MSCI World Index: Performance under different scenarios

Index, 1970 = 100



Total return**: Dividends vs. capital appreciation

Average annualized returns over 10 years



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

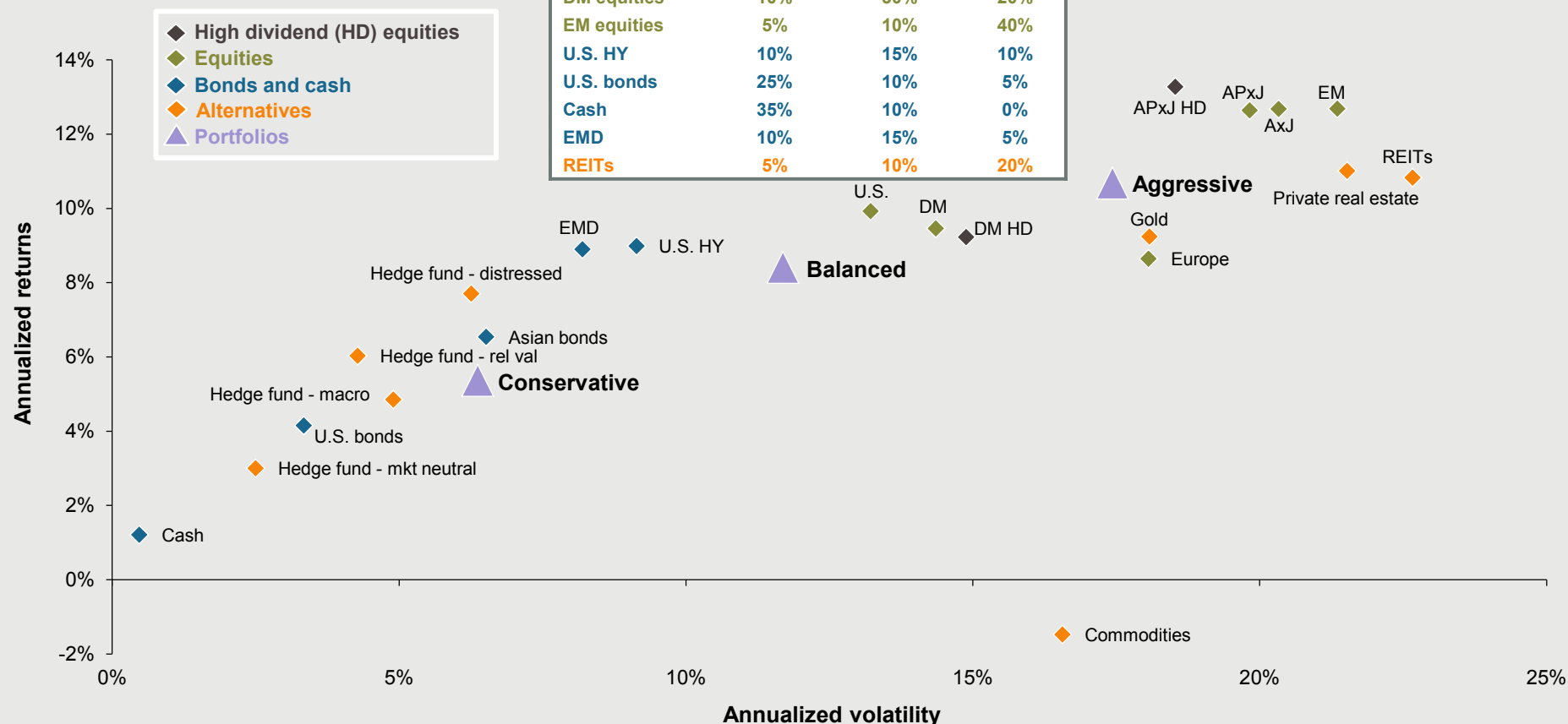
*Reinvestment in cash based on the same month U.S. three-month Treasury bill (secondary market) yield.

**Returns are total (gross) returns based on MSCI indices in U.S. dollar terms. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

Annualized returns and volatility

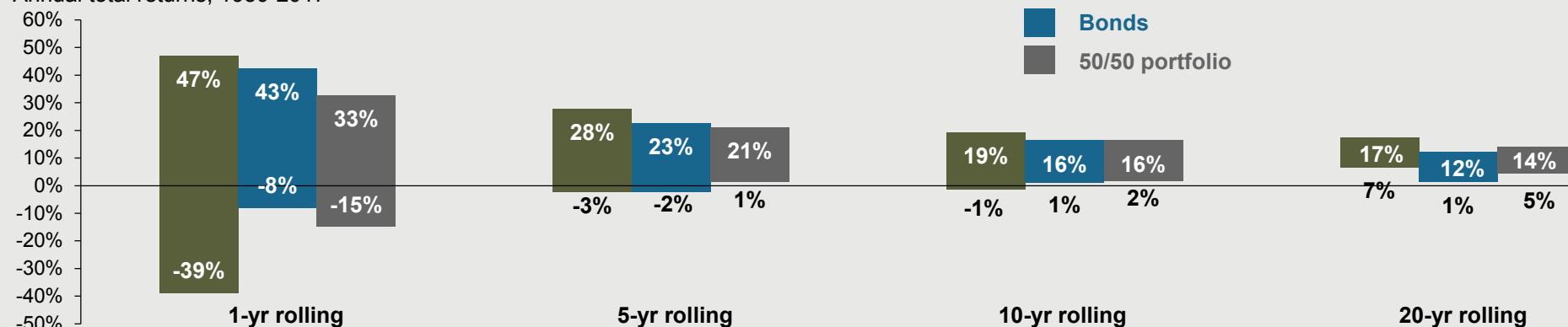
Total returns in USD*



Source: Bloomberg Finance L.P., Dow Jones, FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. Hypothetical portfolios were created to illustrate different risk/return profiles and are not meant to represent actual asset allocation. USD total return calculations are based on MSCI Total Return, Bloomberg Barclays and J.P. Morgan indices. AxJ stands for MSCI AC Asia ex-Japan and APxJ stands for MSCI AC Asia Pacific ex-Japan. *Monthly total returns between 31/12/02 and 31/12/17 used for all asset classes. Past performance is not a reliable indicator of current and future results. Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

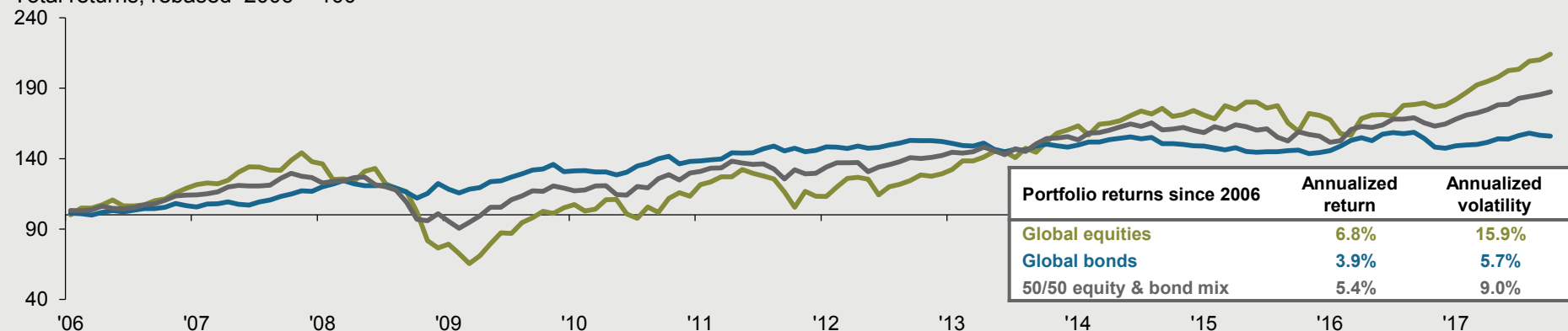
Range of U.S. equity, U.S. bond and blended total returns

Annual total returns, 1950-2017



Portfolio returns: Global equities, global bonds vs. equity and fixed income blend

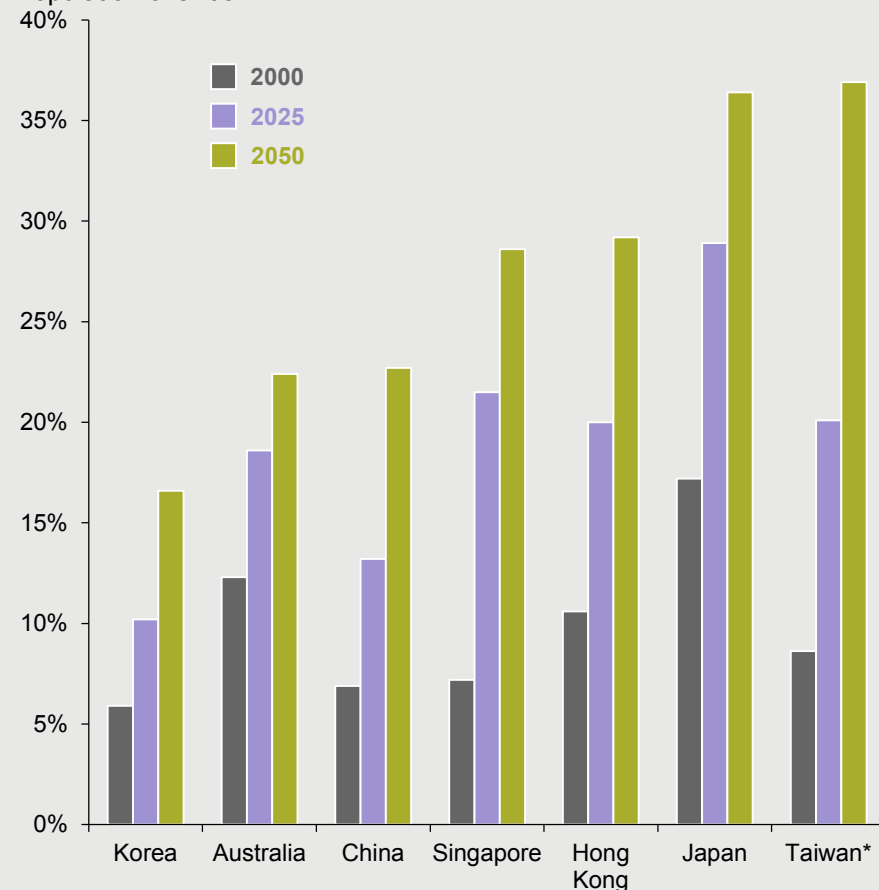
Total returns, rebased 2006 = 100



Source: Bloomberg Finance L.P., FactSet, J.P. Morgan Asset Management; (Top) Robert Shiller, Strategas/Ibbotson, U.S. Federal Reserve; (Bottom) MSCI. Returns shown are based on calendar year returns from 1950 to 2017. "Large cap equity" represents the S&P 500 Shiller Composite and "Bonds" represents the Strategas/Ibbotson for periods from 1950 to 1980 and the Bloomberg Barclays Aggregate after index inception in 1980. Global equities represented by MSCI AC World Index, global bonds represented by Bloomberg Barclays Aggregate Global Bond Index. Past performance is not a reliable indicator of current and future results.
Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

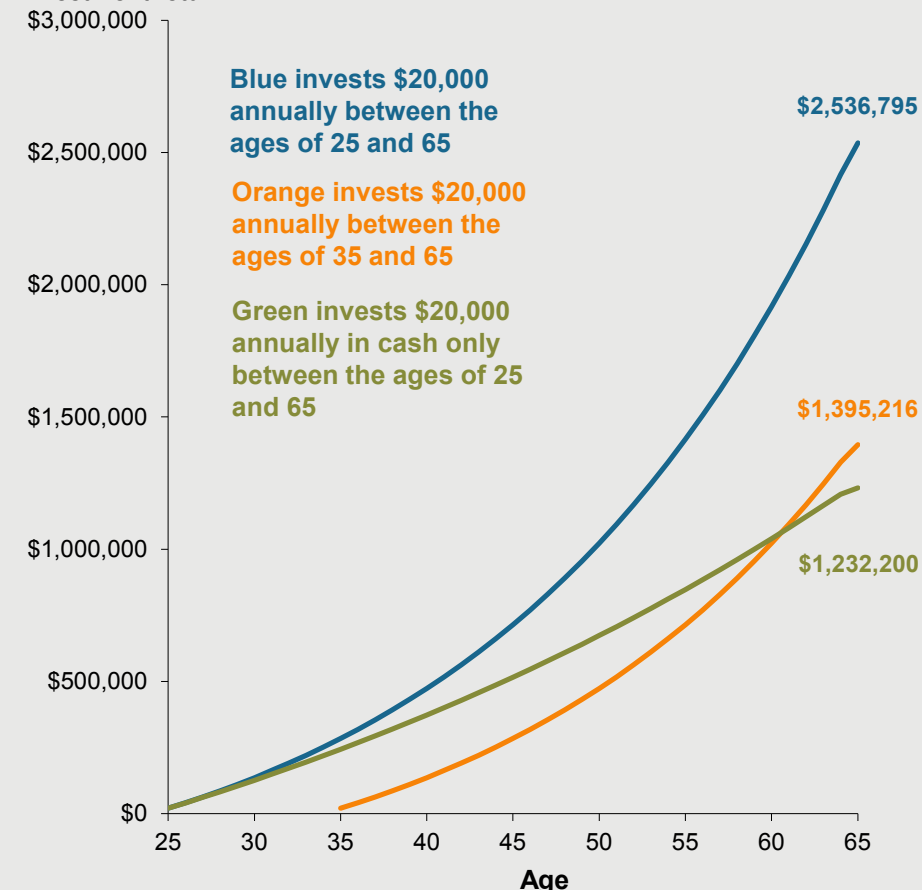
Aging population

Population over 65



Accumulation of investment at 5% growth per year

Investment return



Source: J.P. Morgan Asset Management; (Left) National Development Council of Taiwan (NDC), United Nations Population Project (UN).

For illustrative purposes only, assumes a 5% return on investment and a 2% return on cash. Actual investments may incur higher or lower growth rates and charges.

*All data from UN except for Taiwan, which is from NDC.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

Sustainable investing strategies consider:



Environmental: Issues relating to the quality and functioning of the natural environment and natural systems, e.g., carbon emissions, environmental regulations, water stress and waste



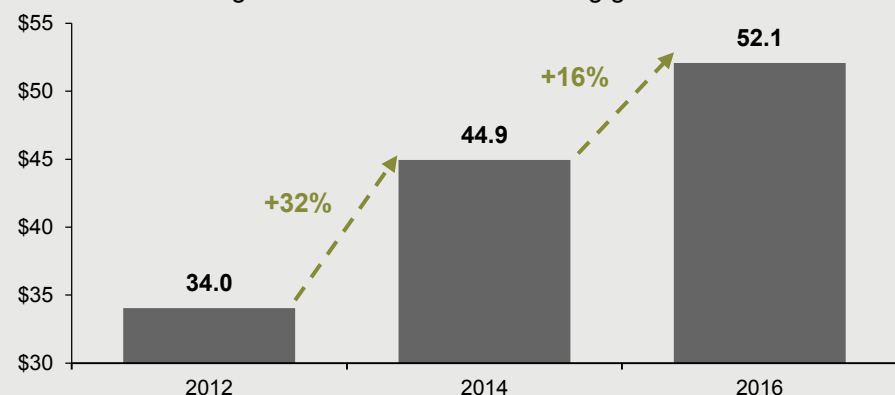
Social: Issues relating to the rights, well-being and interests of people and communities, e.g., labor management, health & safety and product safety



Governance: Issues relating to the management and oversight of companies and other investee entities, e.g., board, ownership and pay

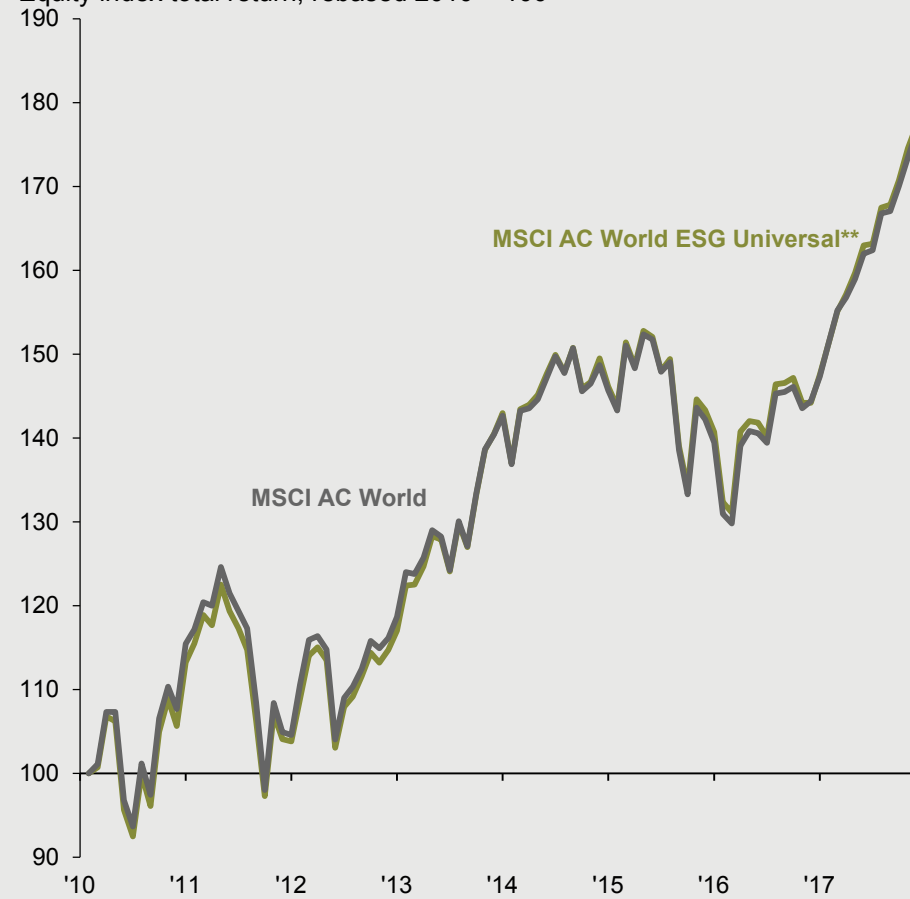
Demand for sustainable investing strategies in Asia

USD billions managed under sustainable investing guidance*



Sustainable investing performance

Equity index total return, rebased 2010 = 100



Source: J.P. Morgan Asset Management; (Bottom left) Global Sustainable Investment Alliance; (Right) MSCI.

*Represents assets managed using one or more sustainable investment strategies, including sharia-compliant funds, excluding Japan and Australia. **MSCI AC World ESG Universal is constructed based on MSCI AC World Index with consideration of both market capitalization and MSCI-defined ESG metrics. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – Asia. Data reflect most recently available as of 31/12/17.

J.P. Morgan Asset Management: Index Definitions

All indexes are unmanaged and an individual cannot invest directly in an index. Index returns do not include fees or expenses.

The **S&P 500 Index** is widely regarded as the best single gauge of the U.S. equities market. This world-renowned index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. Although the S&P 500 Index focuses on the large-cap segment of the market, with approximately 75% coverage of U.S. equities, it is also an ideal proxy for the total market. An investor cannot invest directly in an index.

The **Tokyo Stock Price Index (TOPIX)** is a composite index of all common stocks listed on the First Section of Tokyo Stock Exchange (TSE). The index is basically a measure of the changes in aggregate market value of TSE common stocks. The base for the index is the aggregate market value of its component stocks as of the close on January 4, 1968. The aggregate market value is calculated by multiplying the number of listed shares of each component stock by its price and totaling the products derived there from.

The **Bombay Exchange Sensitive Index (SENSEX)**, first compiled in 1986, was calculated on a "Market Capitalization-Weighted" methodology of 30 component stocks representing large, well-established and financially sound companies across key sectors. The base year of SENSEX was taken as 1978-79. SENSEX today is widely reported in both domestic and international markets through print as well as electronic media. It is scientifically designed and is based on globally accepted construction and review methodology. Since September 1, 2003, SENSEX is being calculated on a free-float market capitalization methodology.

The **Korea Composite Stock Price Index (KOSPI)** is market capitalization based index on all common stocks listed on the Stock Market Division of the Korea Exchange (KRX) and excludes preferred stocks. The stock price index is calculated using the actual price traded on the market and not the "base price" used for market management such as establishment of price change limits. When no market price is available for issues that are not being traded or have halted trading, the latest closing price is used. KOSPI was assigned a base index of 100 set to January 4, 1980.

The **China Shenzhen Composite Index** is an actual market-cap weighted index that tracks the stock performance of all the A-share and B-share lists on Shenzhen Stock Exchange. The index was developed on April 3, 1991 with a base price of 100.

The **Euro Stoxx 600 Index** represents large, mid and small capitalization companies across 18 European countries.

The **MSCI® EAFE (Europe, Australia, Far East) Net Index** is recognized as the pre-eminent benchmark in the United States to measure international equity performance. It comprises 21 MSCI country indexes, representing the developed markets outside of North America.

The **MSCI Emerging Markets IndexSM** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. As of June 2007, the MSCI Emerging Markets Index consisted of the following 25 emerging market country indices: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey.

The **MSCI ACWI (All Country World Index) Index** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. As of June 2009 the **MSCI ACWI** consisted of 45 country indices comprising 23 developed and 22 emerging market country indices.

The following **MSCI Total Return IndicesSM** are calculated with gross dividends:
This series approximates the maximum possible dividend reinvestment. The amount reinvested is the dividend distributed to individuals resident in the country of the company, but does not include tax credits.

The **MSCI Europe IndexSM** is a free float-adjusted market capitalization index that is designed to measure developed market equity performance in Europe. As of June 2007, the MSCI Europe Index consisted of the following 16 developed market country indices: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

The **MSCI Pacific IndexSM** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the Pacific region. As of June 2007, the MSCI Pacific Index consisted of the following 5 Developed Market countries: Australia, Hong Kong, Japan, New Zealand, and Singapore.

The **MSCI Europe ex UK IndexSM** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in Europe, excluding the United Kingdom. The

MSCI Europe ex UK Index consists of the following 15 developed market country indices: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, and Switzerland.

The **MSCI Pacific ex Japan IndexSM** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the Pacific region, excluding Japan. As of June 2007, the MSCI Pacific Index consisted of the following 4 Developed Market countries: Australia, Hong Kong, New Zealand, and Singapore.

The **MSCI USA IndexSM** is designed to measure the performance of the large and mid cap segments of the U.S. market. With 586 constituents, the index covers approximately 84% of the free float-adjusted market capitalization in the U.S.. The MSCI USA Index was launched on December 31, 1969.

The **MSCI China IndexSM** captures large and mid cap representation across China H shares, B shares, Red chips and P chips. With 148 constituents, the index covers about 84% of this China equity universe. The MSCI China Index was launched on December 31, 1992.

The **MSCI Indonesia IndexSM** is designed to measure the performance of the large and mid cap segments of the Indonesian market. With 25 constituents, the index covers about 84% of the Indonesian equity universe. The MSCI Indonesia Index was launched on December 31, 1990.

The **MSCI Korea IndexSM** is designed to measure the performance of the large and mid cap segments of the South Korean market. With 105 constituents, the index covers about 84% of the Korean equity universe. The MSCI Korea Index was launched on December 31, 1989.

The **MSCI India IndexSM** is designed to measure the performance of the large and mid cap segments of the Indian market. With 71 constituents, the index covers about 84% of the Indian equity universe. The MSCI India Index was launched on December 31, 1993.

The **MSCI Japan IndexSM** is designed to measure the performance of the large and mid cap segments of the Japan market. With 315 constituents, the index covers approximately 84% of the free float-adjusted market capitalization in Japan. The MSCI Japan Index was launched on December 31, 1969.

The **MSCI Hong Kong IndexSM** is designed to measure the performance of the large and mid cap segments of the Hong Kong market. With 42 constituents, the index covers approximately 84% of the free float-adjusted market capitalization of the Hong Kong equity universe. The MSCI Hong Kong Index was launched on December 31, 1972.

The **MSCI Taiwan IndexSM** is designed to measure the performance of the large and mid cap segments of the Taiwan market. With 113 constituents, the index covers approximately 84% of the free float-adjusted market capitalization in Taiwan. The MSCI Taiwan Index was launched on December 31, 1989.

The **MSCI Environmental, Social and Governance (ESG) Universal Indices** are designed to address the needs of asset owners who may look to enhance their exposure to ESG while maintaining a broad and diversified universe to invest in. By re-weighting free-float market cap weights based upon certain ESG metrics tilting away from free-float market cap weights, the indices enhance exposure to those companies that demonstrate both a higher MSCI ESG Rating and a positive ESG trend, while maintaining a broad and diversified investment universe.

J.P. Morgan Asset Management: Index Definitions, Risks and Disclosures

West Texas Intermediate (WTI) is the underlying commodity for the New York Mercantile Exchange's oil futures contracts.

The **Bloomberg Commodity Index** is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification. Roll period typically occurs from 6th-10th business day based on the roll schedule.

The **Bloomberg Commodity Subindexes** represent commodity groups and sectors, as well as single commodities, that make up the Bloomberg Commodity Index. The subindexes track exchange-traded futures of physical commodities, and the commodity groups and sectors, like in the case of the broad index, are weighted to account for economic significance and market liquidity. The various subindexes include Agriculture, Energy, Livestock, Grains, Industrial Metals, Precious Metals and Softs.

The **Bloomberg Barclays High Yield Index** covers the universe of fixed rate, non-investment grade debt. Pay-in-kind (PIK) bonds, Eurobonds, and debt issues from countries designated as emerging markets (e.g., Argentina, Brazil, Venezuela, etc.) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included. Original issue zeroes, step-up coupon structures, and 144-As are also included.

The **Bloomberg Barclays 1-3 Month U.S. Treasury Bill Index** includes all publicly issued zero-coupon U.S. 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 **Bloomberg Barclays Corporate Bond Index** is the Corporate component of the U.S. Credit index.

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

The **J.P. Morgan EMBI Global Index** 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 GBI-EM Global Diversified** consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure. The weightings among the countries are more evenly distributed within this index.

The **J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI)**: The CEMBI tracks total returns of US dollar-denominated debt instruments issued by corporate entities in Emerging Markets countries, and consists of an investable universe of corporate bonds.

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

The **VIX-CBOE Volatility Index** measures market expectations of near-term volatility conveyed by S&P 500 Index (SPX) option prices.

The **MOVE-Merrill Lynch Option Volatility Index** is a blended implied normal volatility for constant one-month at-the-money options on U.S. Treasuries.

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.

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

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.

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.

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.

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.

International investing involves a greater degree of risk and increased volatility. Changes in currency exchange rates and differences in accounting and taxation policies can raise or lower returns. Also, some markets may not be as politically and economically stable as other nations. Investments in **emerging markets** can be more volatile. The normal risks of international investing are heightened when investing in emerging markets. In addition, the small 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.

Investments in **commodities** may have greater volatility than investments in traditional securities, particularly if the instruments involve 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.

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. Investing 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.

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The Market Insights program provides comprehensive data and commentary on global markets without reference to products. Designed as a tool to help clients understand the markets and support investment decision-making, the program explores the implications of current economic data and changing market conditions.

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