

REVIEW OF MARKET PERFORMANCE

CALENDAR YEAR 2018



Nothing worked in 2018, as equities led declines among asset classes

GLOBAL ASSET CLASS PERFORMANCE: CY 2018

Total Return (%) • US Dollar



Slowing economic growth, central bank tightening, adverse political developments, and the ongoing US-led trade spat weighed on sentiment and asset returns last year. Equities, which outperformed in 2017, posted some of the largest declines, and a dollar rebound detracted further (except for Japanese stocks). Fixed income provided little protection, and weak commodity prices dented real assets performance.

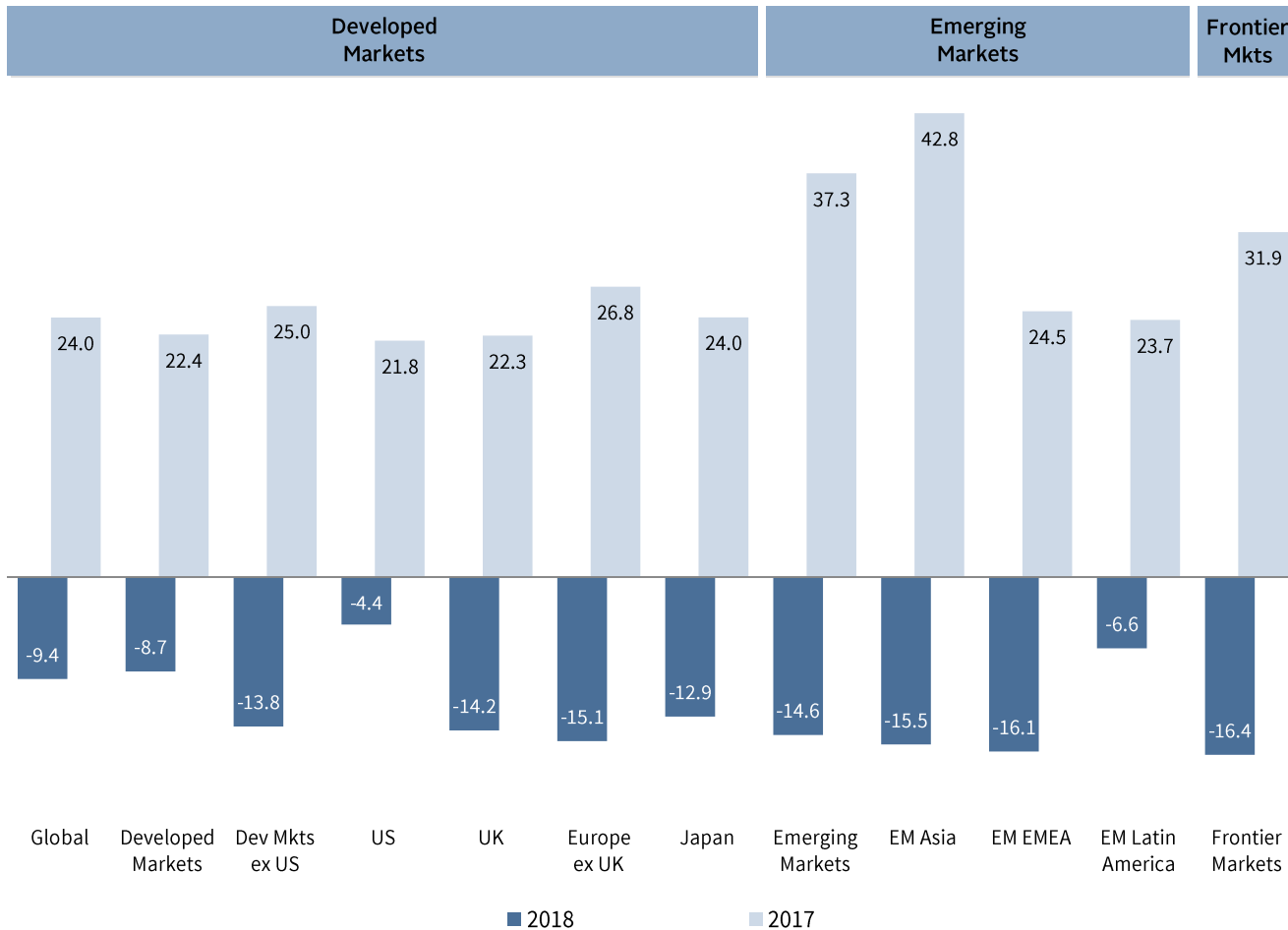
Sources: Alerian, Bloomberg Index Services Limited, Federal Reserve, FTSE International Limited, Hedge Fund Research, Inc., Intercontinental Exchange, Inc., MSCI Inc., Standard & Poor's, and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Asset classes represented by: MSCI World Index ("World"), S&P 500 Index ("US"), MSCI UK Index ("UK"), MSCI Europe ex UK Index ("Europe ex UK"), MSCI Japan Index ("Japan"), MSCI Emerging Markets Index ("Emerging Markets"), Alerian MLP Total Return Index ("MLP"), 80% Datastream World Oil & Gas Index and 20% Datastream World Mining Index ("NRE"), FTSE® EPRA/NAREIT Global Real Estate Index ("Global RE"), Bloomberg Commodity TR Index ("Cmnty"), LBMA Gold Price ("Gold"), Datastream 10-Year US Treasury Bond Index ("10-Yr US Treasury"), FTSE® World Government Bond Index ("World Gvt"), Bloomberg Barclays US High Yield Bond Index ("US HY"), Bloomberg Barclays US Corporate Investment Grade Bond Index ("US IG Corp"), Hedge Fund Research Fund Weighted Composite Index ("Hedge Funds"), and Nominal Trade Weighted US Dollar Index: Broad ("USD"). Total return data for all MSCI indexes are net of dividend taxes. Hedge Fund Research data are preliminary for the preceding five months.

Global ex US stocks underperformed in contrast to the year prior

GLOBAL EQUITY PERFORMANCE: CY 2018 VS CY 2017

Total Return (%) • US Dollar



Equities declined across the globe, a stark contrast to the broad gains in 2017. US markets outpaced global peers and buoyed aggregate performance. Emerging markets, which outperformed in 2017, declined sharply, buffeted by headwinds from a stronger dollar, rising US rates, and ongoing trade disputes. The United Kingdom's Brexit drama and Italy's budget standoff with the European Commission spurred European equity underperformance.

Equity markets were choppy after an abnormally calm 2017

GLOBAL EQUITY PERFORMANCE

As of December 31, 2018

Cumulative Wealth of Global Equities: CY 2017 & CY 2018

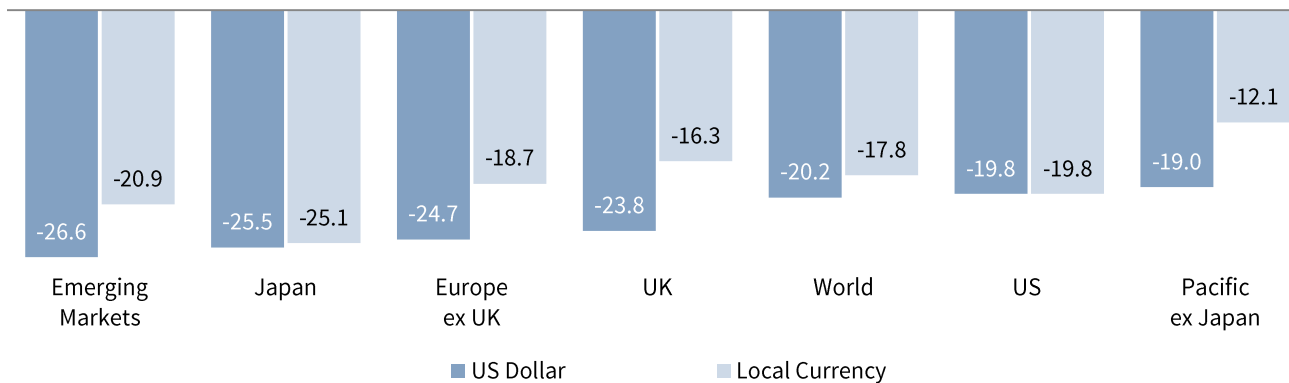
December 31, 2016 = 100 • Local Currency



Global equities peaked on January 26, 2018, and never regained those levels. US equities experienced two corrections of more than 10%, the second of which nearly ended the decade-long bull market. Most other major global ex US equity regions entered a bear market in USD terms, though local currency performance was less extreme.

Peak-to-Trough Drawdowns for Select Equity Regions: CY 2018

Price Return (%)

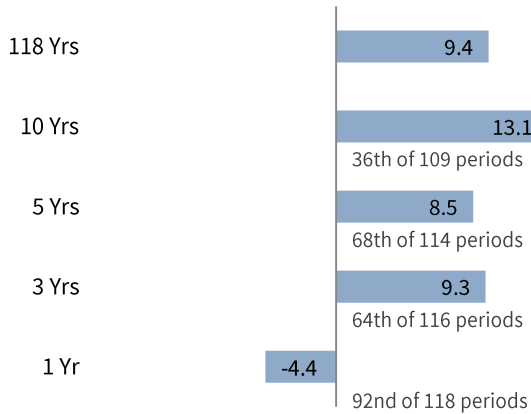


Performance fell to the lower end of the calendar year returns distribution

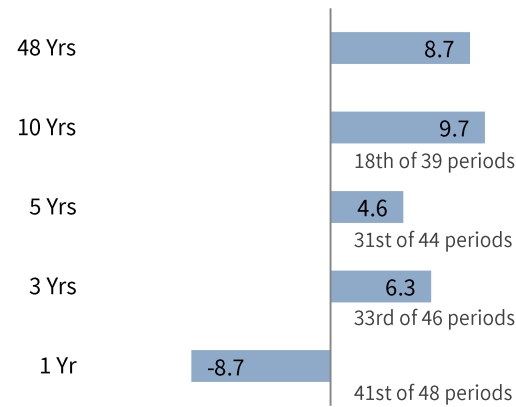
AVERAGE ANNUAL COMPOUND RETURNS FOR VARIOUS TIME PERIODS

Periods Ended December 31, 2018 • Total Return (%) • US Dollar

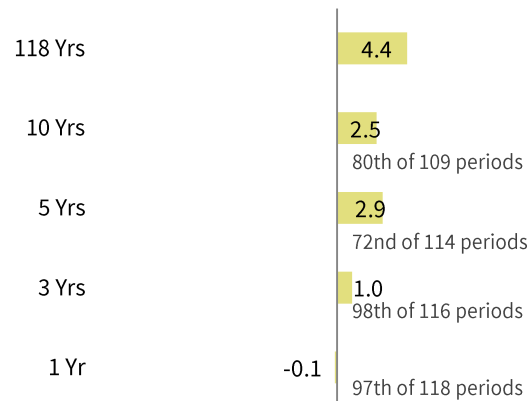
US Equities



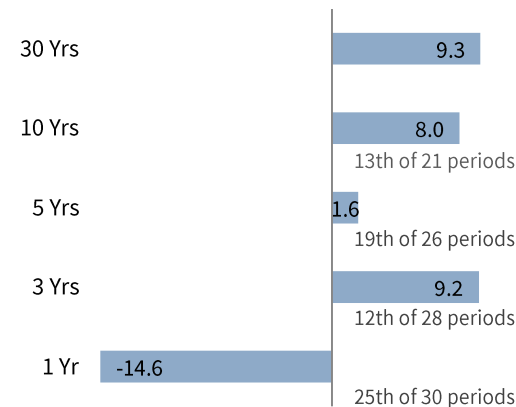
Developed Markets Equities



10-Yr US Treasury



Emerging Markets Equities



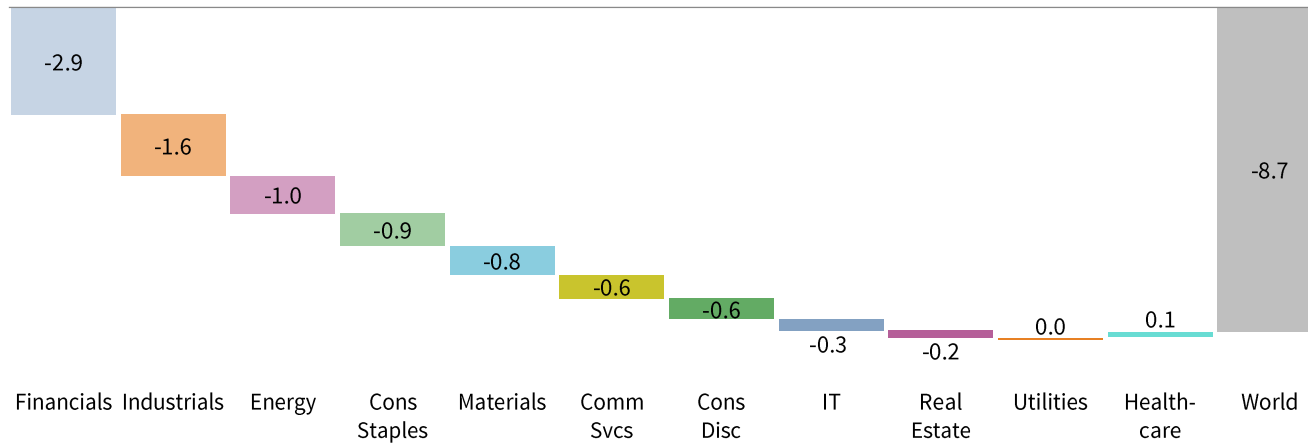
Calendar year returns in 2018 landed in the bottom quartile of historical observations. Results from a longer view looked more encouraging; however, as 2008 rolled out of the most recent ten-year lookback period. Developed markets equities returned an above average 9.7%, the top ten-year period since 2000. At 8.0%, emerging markets fared worse, despite outperformance in the prior year. The most recent trailing ten-year period for US Treasuries ranked poorly—performance was lower only about 25% of the time.

Nearly all sectors detracted from index-level performance

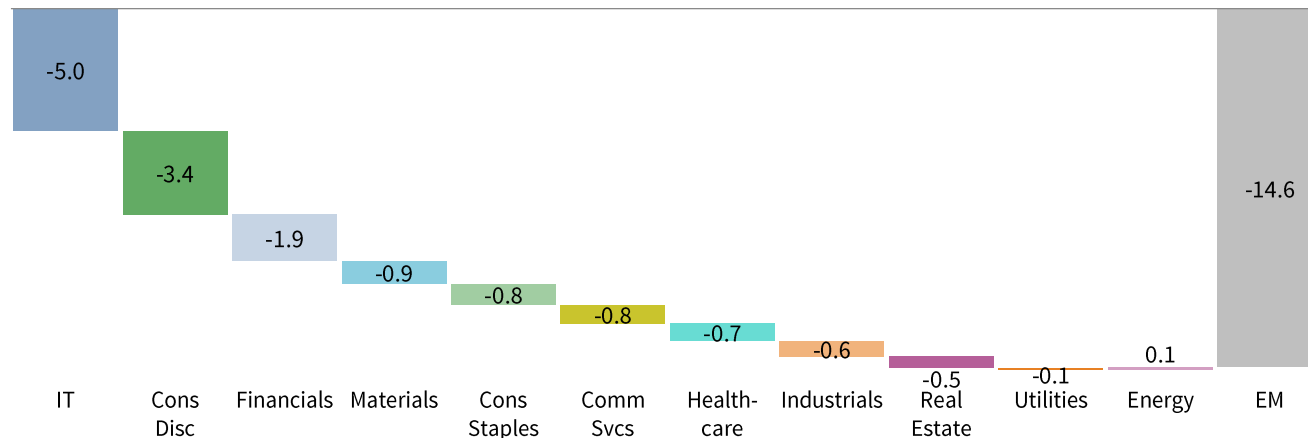
SECTOR CONTRIBUTIONS TO TOTAL RETURN: CY 2018

Percent (%) • US Dollar

Developed Markets



Emerging Markets

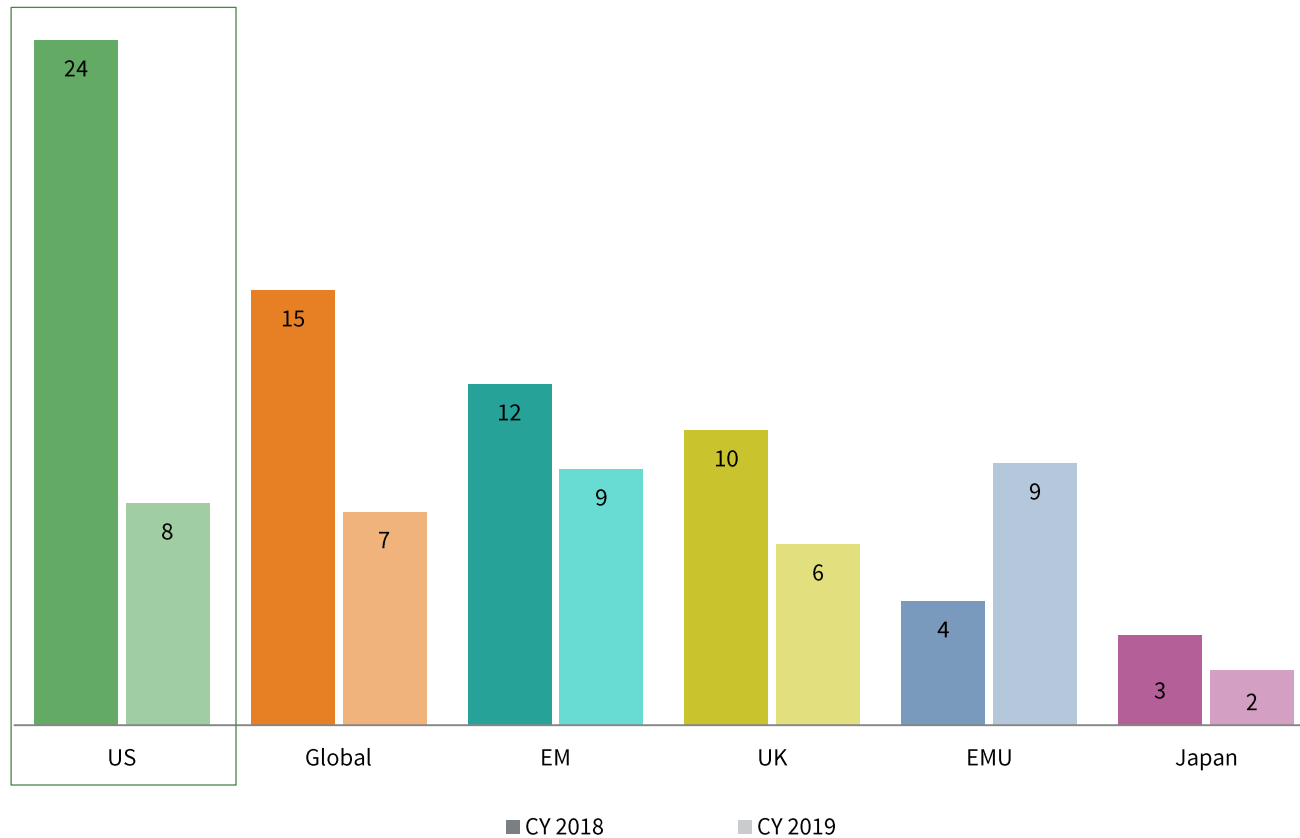


Information technology and consumer discretionary detracted the most from emerging markets performance, but less so from developed markets. Once-high-flying Chinese technology stocks, such as Baidu, Alibaba, and Tencent (the so-called “BAT” stocks), and other emerging IT stocks clipped roughly 500 basis points (bps) from the emerging index’s return. In general, cyclical sectors detracted more relative to defensives.

Analysts believe 2018 US EPS growth surpassed other regions, thanks to a tax-cut boost

EPS GROWTH ESTIMATES FOR SELECT REGIONS: CY 2018 & CY 2019

As of December 31, 2018 • Percent (%)



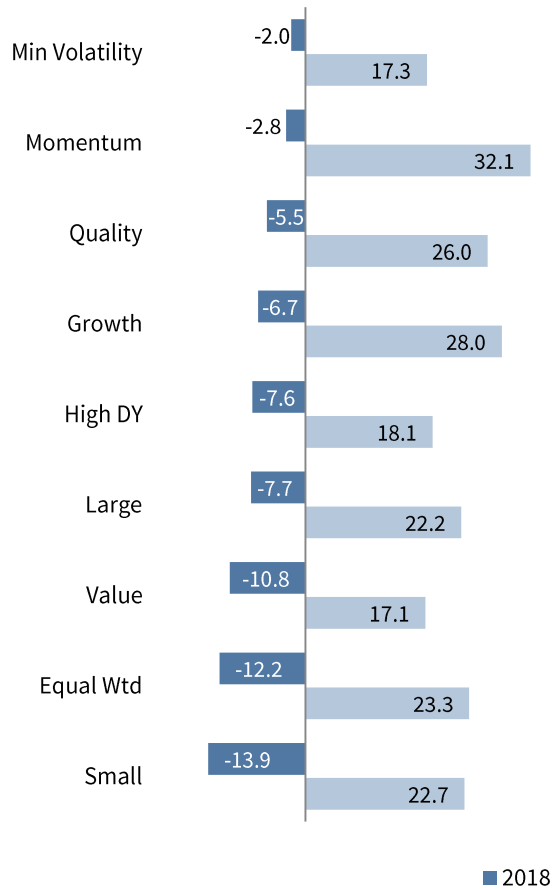
The United States generally lagged global peers in terms of EPS growth following the commodity-induced earnings recession of 2015–16, but that dynamic reversed last year due, in part, to relatively loose US fiscal policy and strong economic fundamentals. EPS growth in other regions slowed, but remained healthy, as the global economic upswing desynchronized. Thus far, analysts expect corporate profit growth to slow further in 2019.

Minimum volatility protected capital

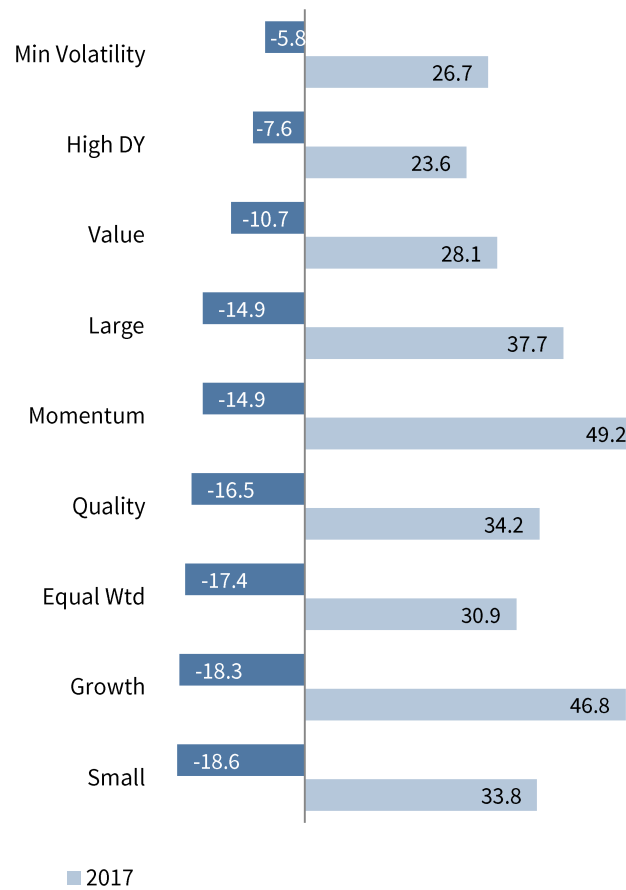
EQUITY PERFORMANCE BY FACTOR AND STYLE: CY 2018 VS CY 2017

As of December 31, 2018 • US Dollar • Percent (%)

Developed Markets



Emerging Markets

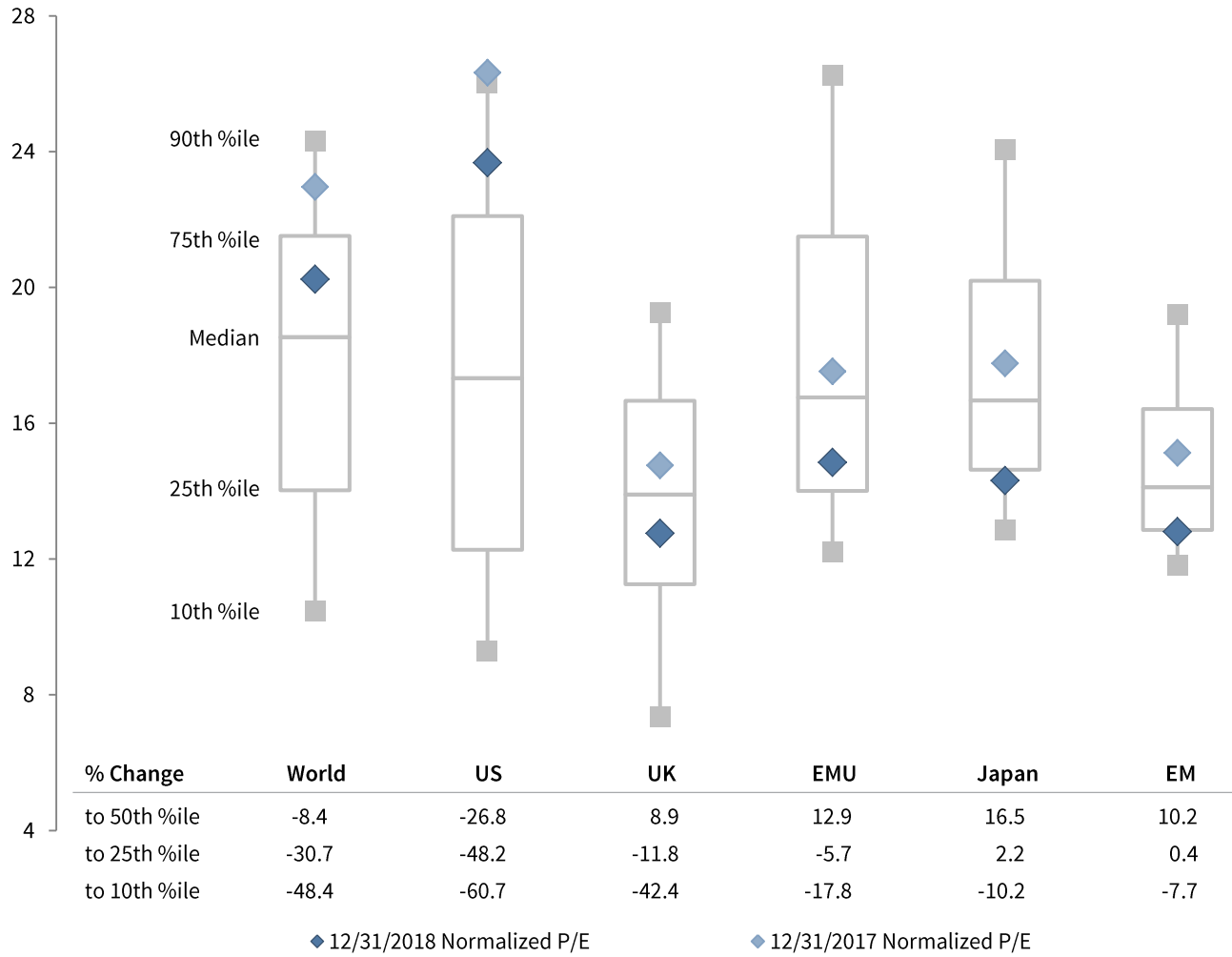


As expected in down markets, minimum volatility delivered top performance among factors. In developed markets, growth outperformed value for the ninth calendar year since 2008, but value bested growth in emerging markets after significantly underperforming in 2017. Small caps lagged all categories in developed and emerging markets alike and significantly underperformed large-cap counterparts, which marked a trend reversal for developed markets.

Valuations fell below median in most markets, but remained elevated in the United States

NORMALIZED PRICE-EARNINGS RATIOS BY REGION: CY 2018 VS CY 2017

As of December 31, 2018

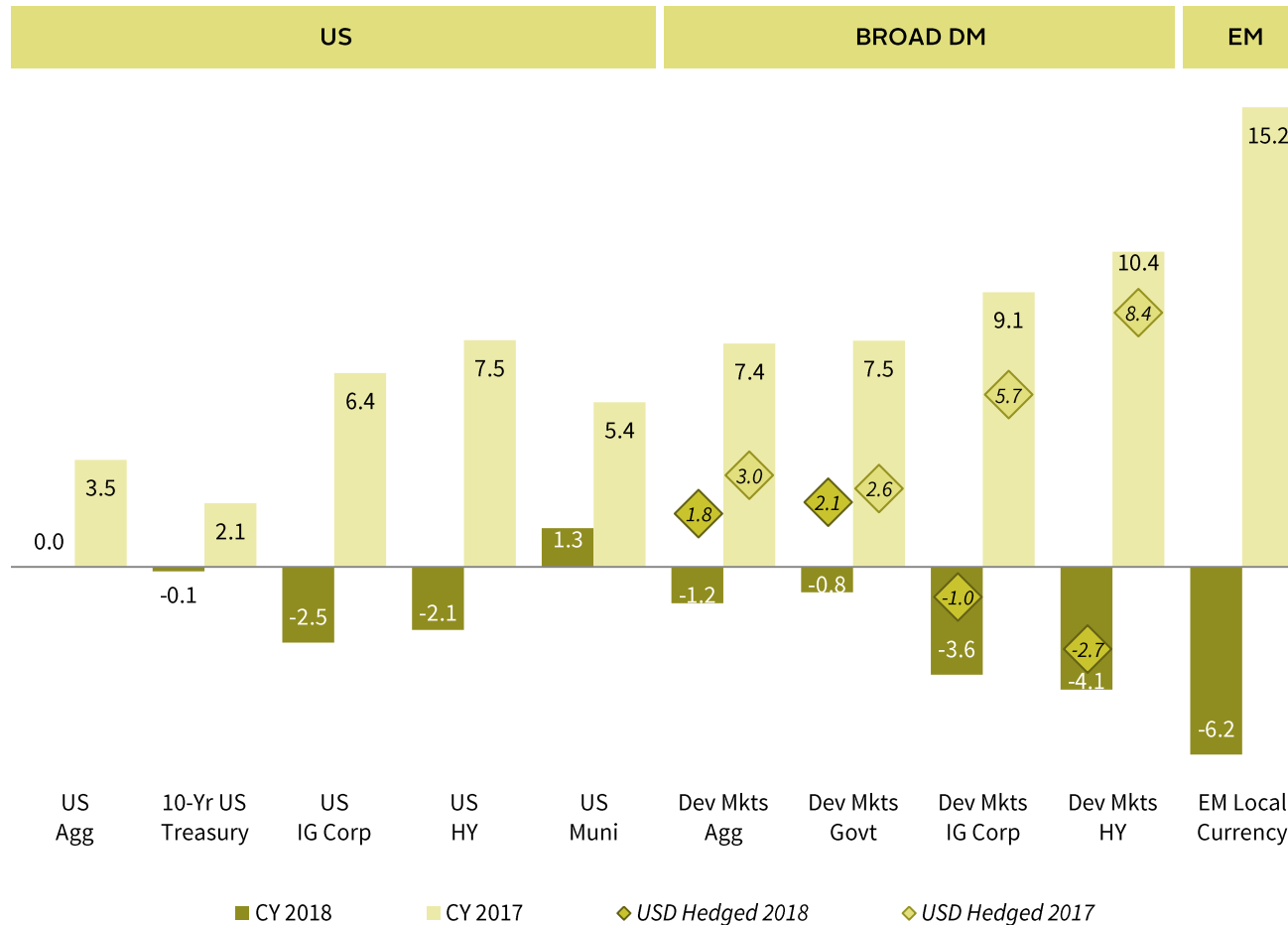


Despite the sharp fourth quarter sell-off, US equity valuations ended the year well above average levels—in the 86th percentile of historical observations. Other developed and emerging markets valuations fell throughout the year as earnings held up amid widespread price declines. All major market valuations outside the United States ended the year below median, while the valuation multiple of developed markets in aggregate remained elevated, primarily stemming from the hefty allocation to US shares.

Bond performance was broadly negative in 2018

GLOBAL BOND PERFORMANCE: CY 2018 VS CY 2017

Total Return (%) • US Dollar

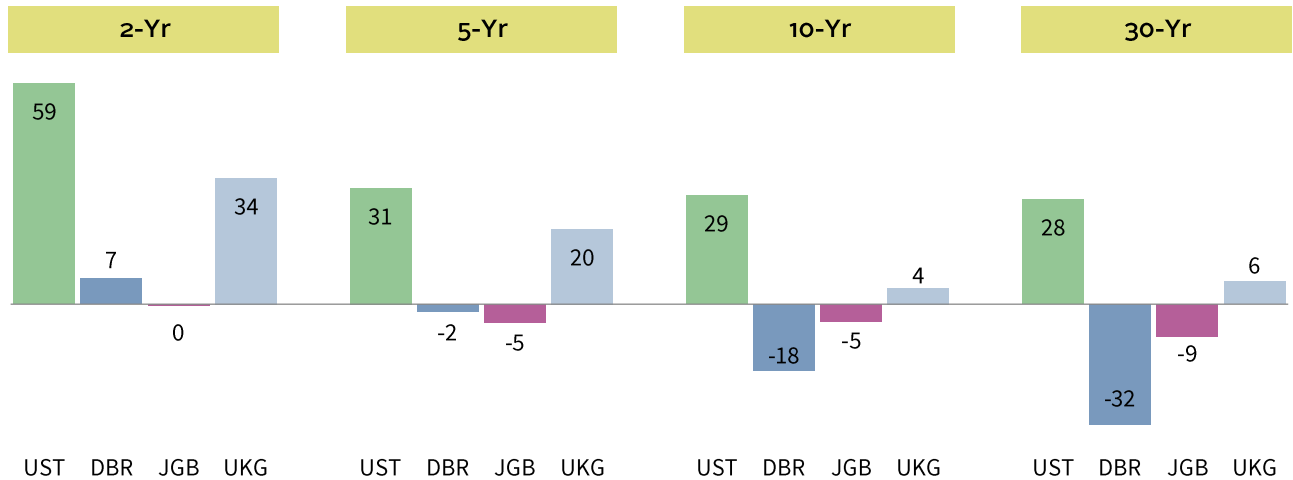


Rising US rates and dollar strength weighed on fixed income performance in unhedged USD terms, but hedging global currency exposure improved results. US municipal bonds delivered the lone positive return, whereas EM local currency debt underperformed amid concerns surrounding external funding needs. In general, sovereign bonds outperformed investment-grade and high-yield corporate counterparts.

US Treasury yields climbed across the curve

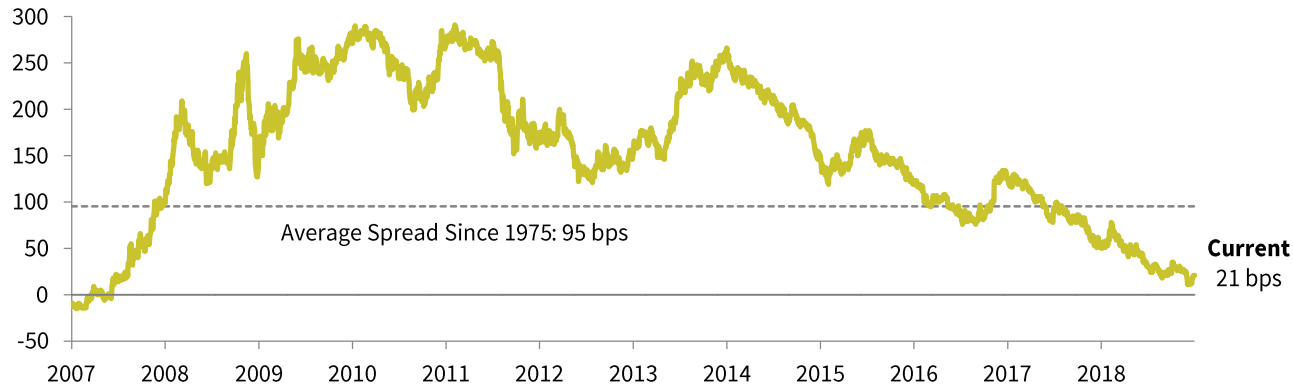
CHANGE IN YIELD VS 12 MONTHS AGO FOR VARIOUS GOVERNMENT BOND MATURITIES

As of December 31, 2018 • Basis Points (bps)



10-YR/2-YR TREASURY YIELD SPREAD

January 1, 2007 – December 31, 2018 • Basis Points (bps)

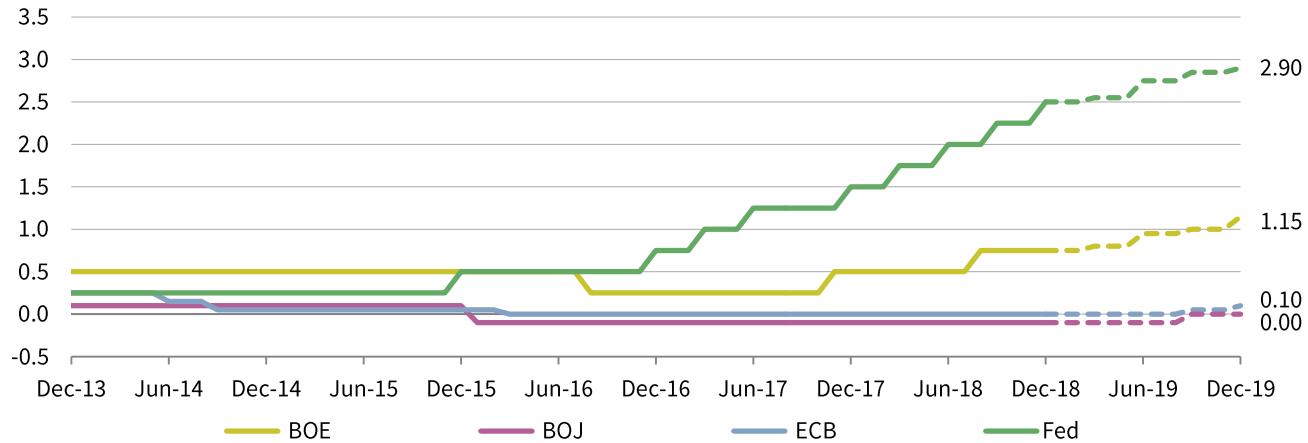


US short-term rates rose more than long-dated rates, which caused the Treasury yield curve to flatten further and even invert at certain maturities. In fact, as of year-end, one-year US Treasuries yielded more than their two-, three-, five-, and seven-year counterparts. One key measure, the ten-year/two-year spread, sank to its lowest level since mid-2007 and sparked concerns regarding implications for economic growth.

US policy rates rose and departed crisis-era accommodative levels

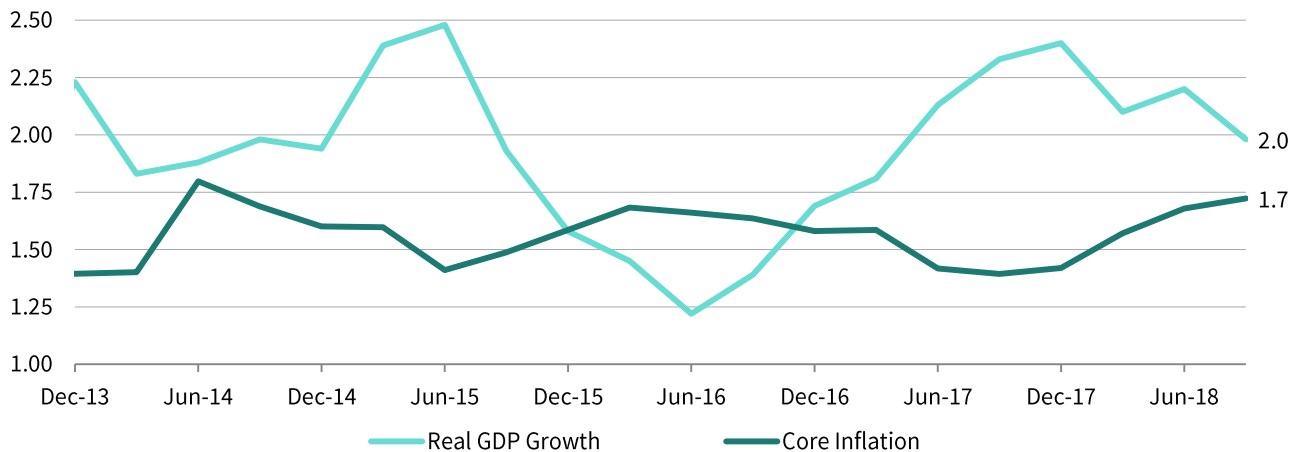
CENTRAL BANK POLICY RATES

December 31, 2013 – December 31, 2019 • Percent (%)



G7 CORE INFLATION AND GDP GROWTH

Fourth Quarter 2013 – Third Quarter 2018 • Year-Over-Year Percent Change (%)

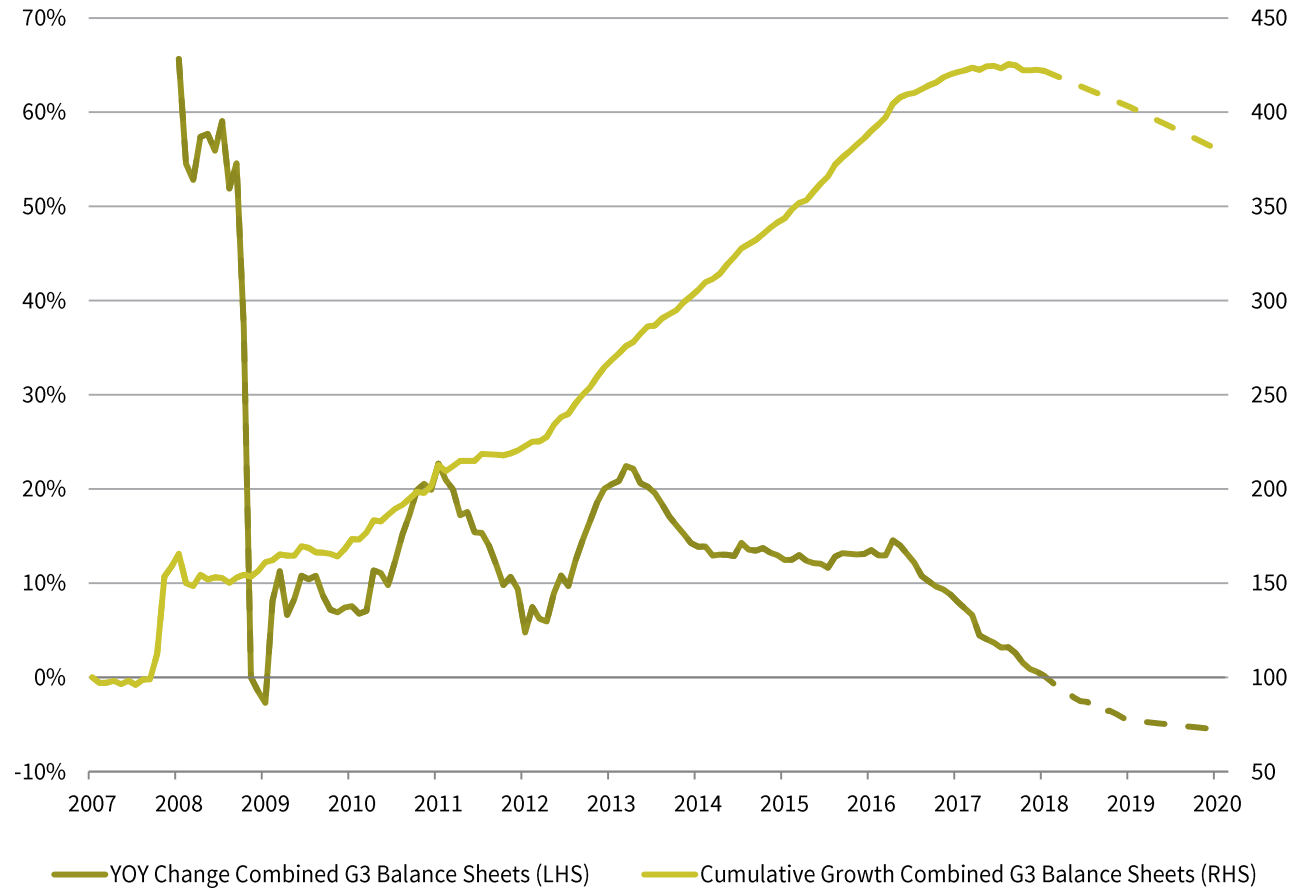


The Federal Reserve raised rates four times last year to a target upper bound of 2.50% by year end—a full percentage point above the level one year ago. The Bank of England lifted rates 25 basis points at its early-August meeting, the only other G4 central bank to hike rates. Stubbornly low inflation below the common 2% target and economic growth headwinds led the Bank of Japan (BOJ) and European Central Bank (ECB) to stand pat.

Monetary stimulus waned, led by the Fed's balance sheet wind-down

G3 CENTRAL BANK BALANCE SHEET GROWTH

December 31, 2007 – December 31, 2020 • December 31, 2007 = 100 • Local Currency



Fed policy normalization proceeded last year with nearly \$375B worth of assets trimmed from the balance sheet. Both the ECB and BOJ slowed their rate of balance sheet growth during the year, the latter involved in what many termed a “stealth taper.” Additionally, in December, the ECB formally ended new purchases within its Asset Purchase Program, but plans to continue reinvesting proceeds from the existing portfolio.

Corporate bonds spreads widened after hitting decade lows

OPTION-ADJUSTED SPREADS ON US INVESTMENT-GRADE AND HIGH-YIELD BONDS: CY 2017 & CY 2018
 December 31, 2016 – December 31, 2018 • Basis Points

US Investment-Grade Bonds



US High-Yield Bonds

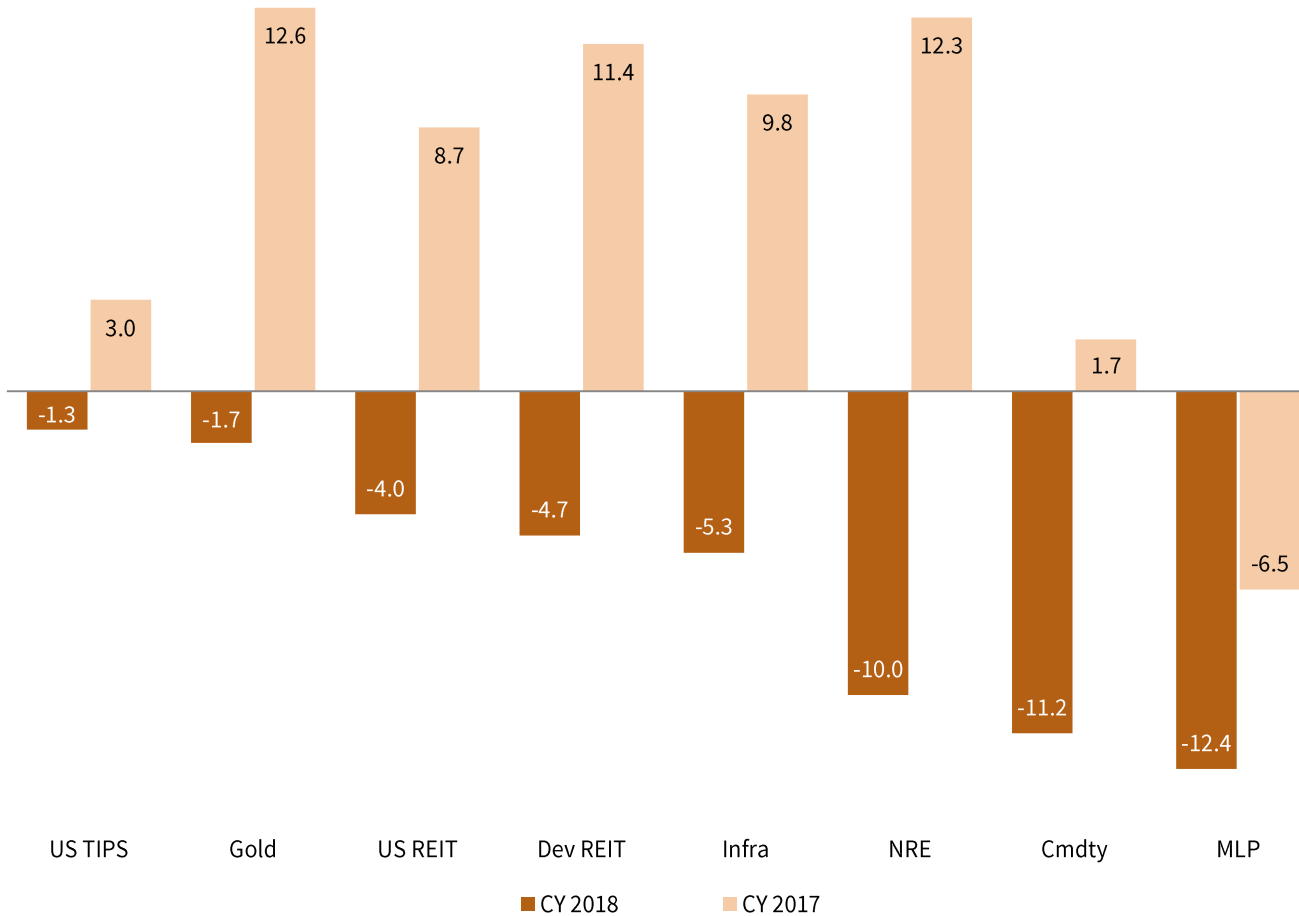


Spreads for both investment-grade and high-yield bonds initially compressed to their lowest levels since 2007 on rising Treasury yields and solid corporate fundamentals. Despite a subsequent sharp widening, spreads remained low by historical standards and well below levels reached during other recent periods of market stress in 2011 and late 2015.

Public real assets ended the year squarely in the red

REAL ASSET AND INFLATION SENSITIVE PERFORMANCE: CY 2018 VS CY 2017

Total Return (%) • US Dollar

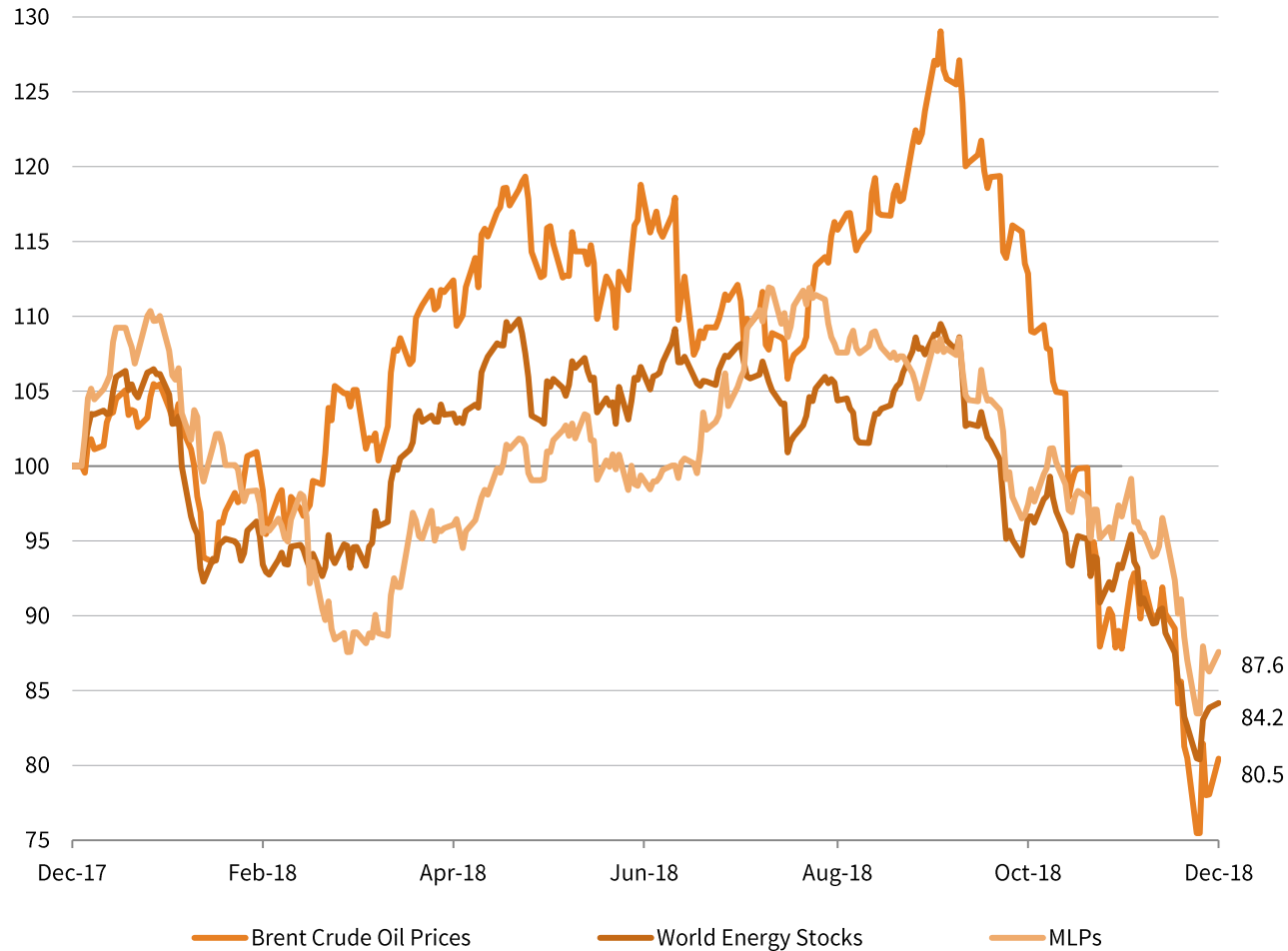


Commodity futures delivered one of the largest declines as US-China trade tensions and slowing economic growth weighed on prices. Weak prices contributed to negative returns for natural resources equities and MLPs, while higher real rates adversely impacted US TIPS. In fourth quarter, gold prices rallied amid broad market turmoil and pared declines from earlier in the year.

Weak crude oil prices weighed on energy equities and MLPs

PERFORMANCE OF SELECT ENERGY ASSETS

December 31, 2017 – December 31, 2018 • December 31, 2017 = 100 • US Dollar

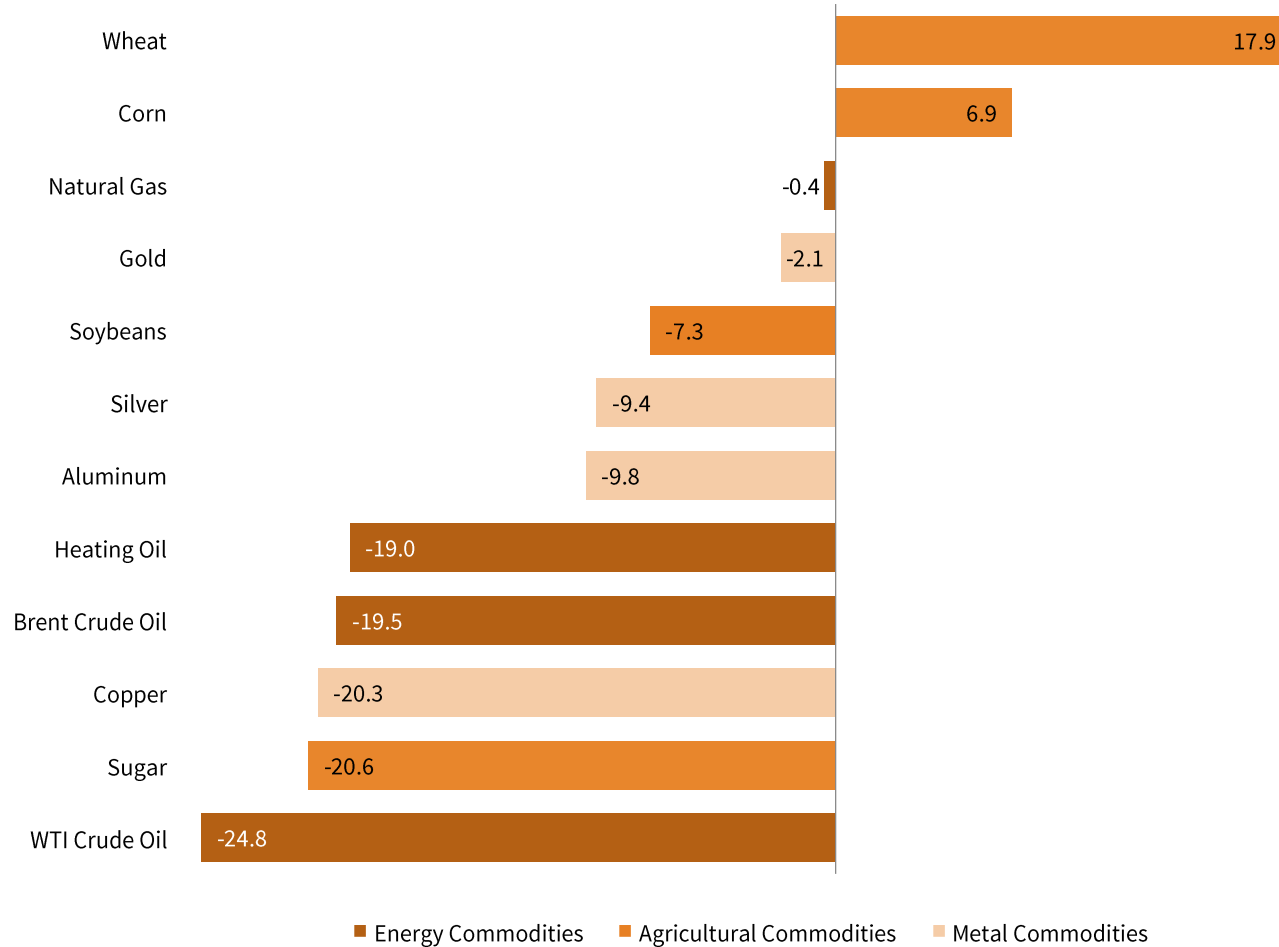


Oil prices trended upward for most of the year as Brent prices briefly surpassed \$80/barrel. Venezuelan exports plummeted, and markets expected further supply disruptions as the United States re-imposed sanctions on Iran; OPEC, all the while, signaled no plans to increase production. In fourth quarter, however, the US administration granted waivers to eight major buyers of Iranian oil, and US production and inventories reached record levels, which resulted in a 42% peak-to-trough price plunge.

Most commodity spot prices fell

SELECT COMMODITY SPOT PERFORMANCE: CY 2018

As of December 31, 2018 • Percent (%) • US Dollar

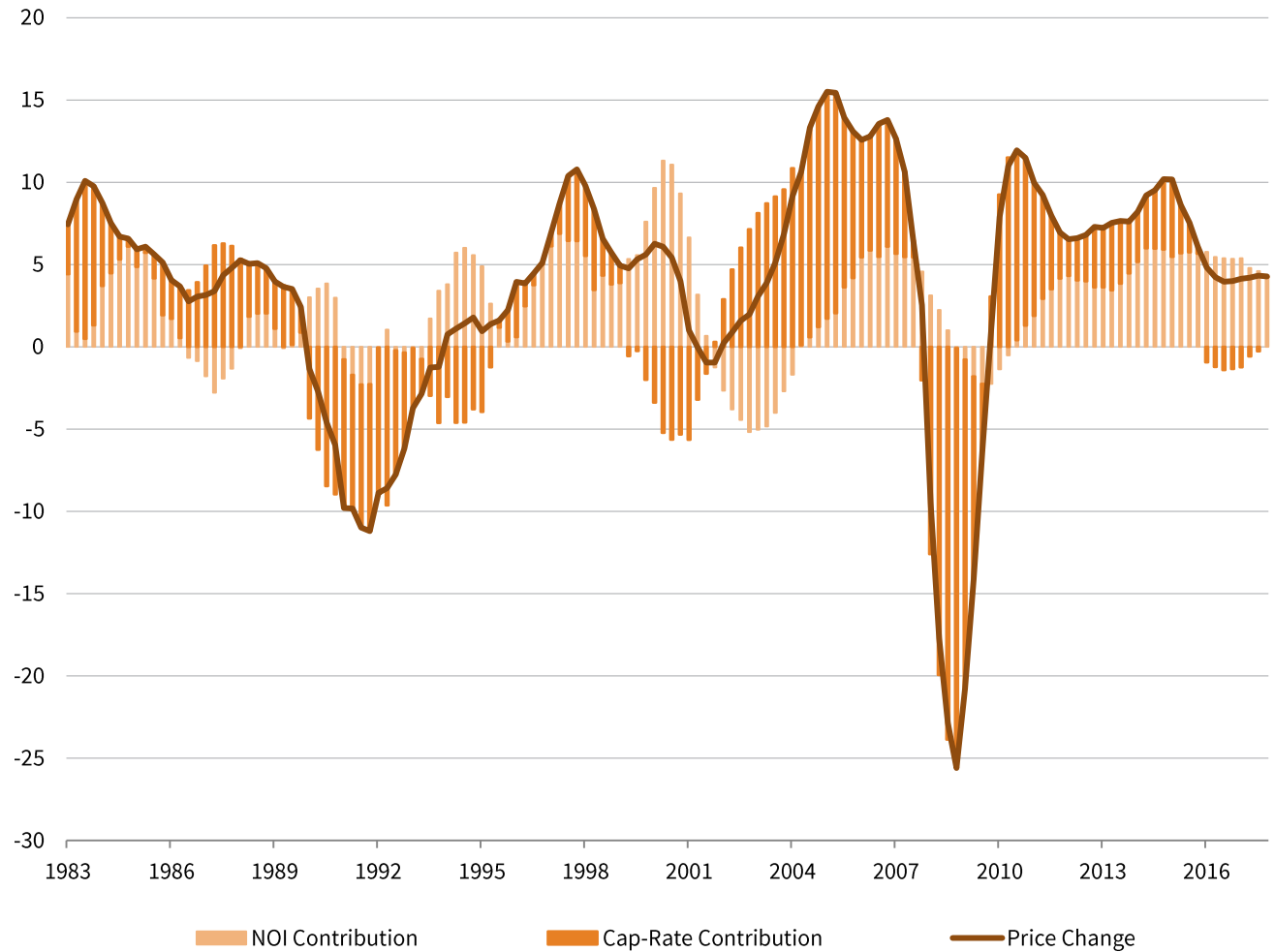


Industrial metals prices suffered along with energy commodities last year. Copper prices, a barometer of economic health, dropped amid deteriorating US-China trade tensions and a Chinese economic growth slowdown. Among energy commodities, natural gas prices held up on stronger US demand due to a colder-than-expected late-fall/early-winter season.

US commercial real estate price growth stabilized

CONTRIBUTION TO COMMERCIAL PROPERTY PRICE CHANGES

Fourth Quarter 1983 – Third Quarter 2018 • Percent (%)

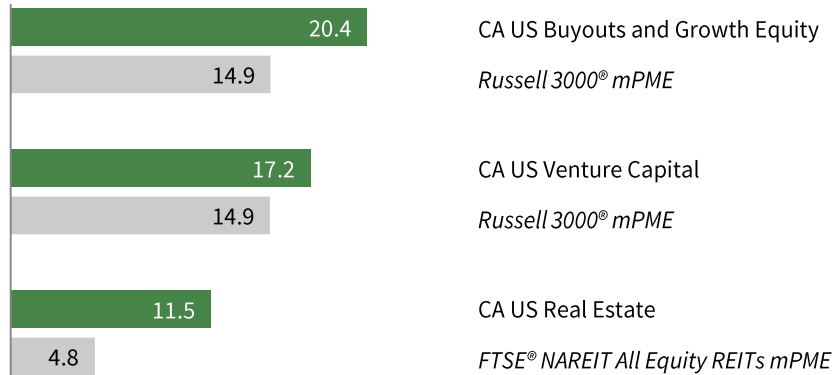


Low single-digit price growth was the slowest since the recovery in 2010. A negative price drag from increasing cap rates disappeared by third quarter, but still detracted from price gains overall. NOI growth slowed to the lowest clip since 2014, but remained above the historical median. Among property types, industrial properties enjoyed some of the strongest NOI growth on record, while retail properties struggled.

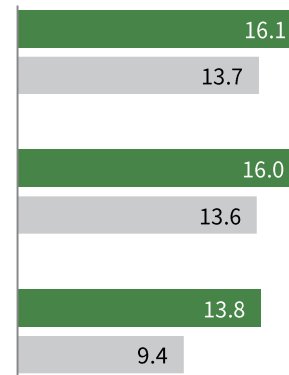
Private investments outperformed public equivalents in recent years

PERFORMANCE OF SELECT CAMBRIDGE ASSOCIATES PRIVATE INVESTMENT INDEXES VS PUBLIC EQUIVALENTS As of Second Quarter 2018 • Percent (%)

1-Yr Return



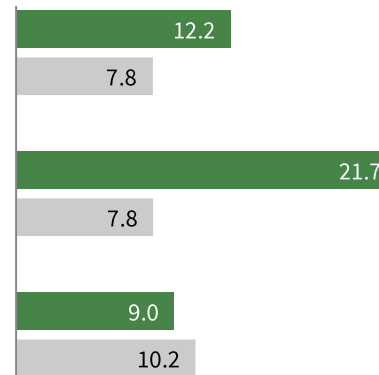
5-Yr Return



10-Yr Return



20-Yr Return

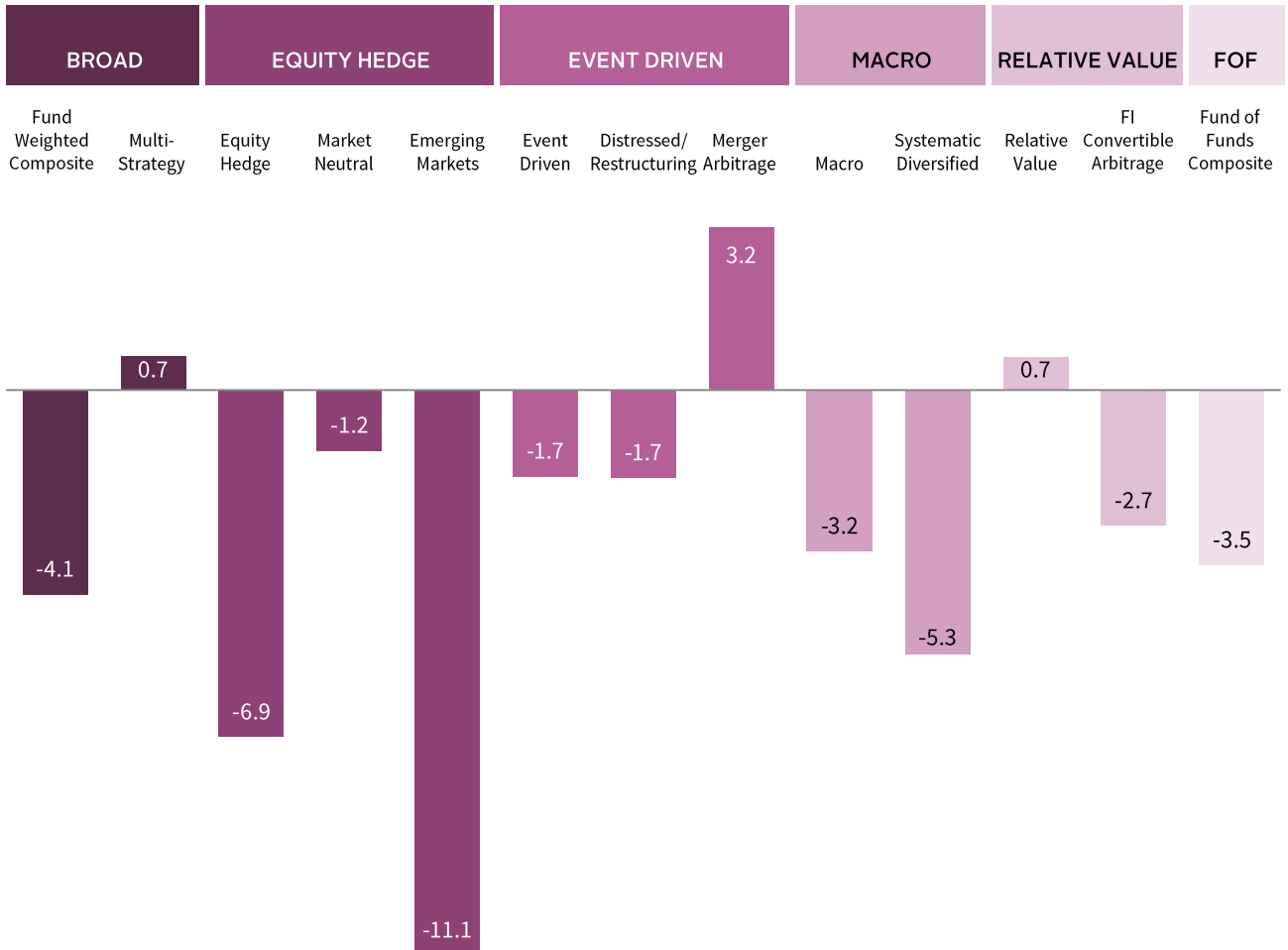


US buyouts and growth equity outperformed public markets over all trailing periods. US venture capital delivered the greatest degree of outperformance over the long term, and also outperformed or was roughly in line with public equivalents over shorter periods. US real estate performed well recently, but underperformed REITs over the trailing 10- and 20-year periods.

Equity hedge and macro strategies struggled

HEDGE FUND PERFORMANCE: CY 2018

Total Return (%)

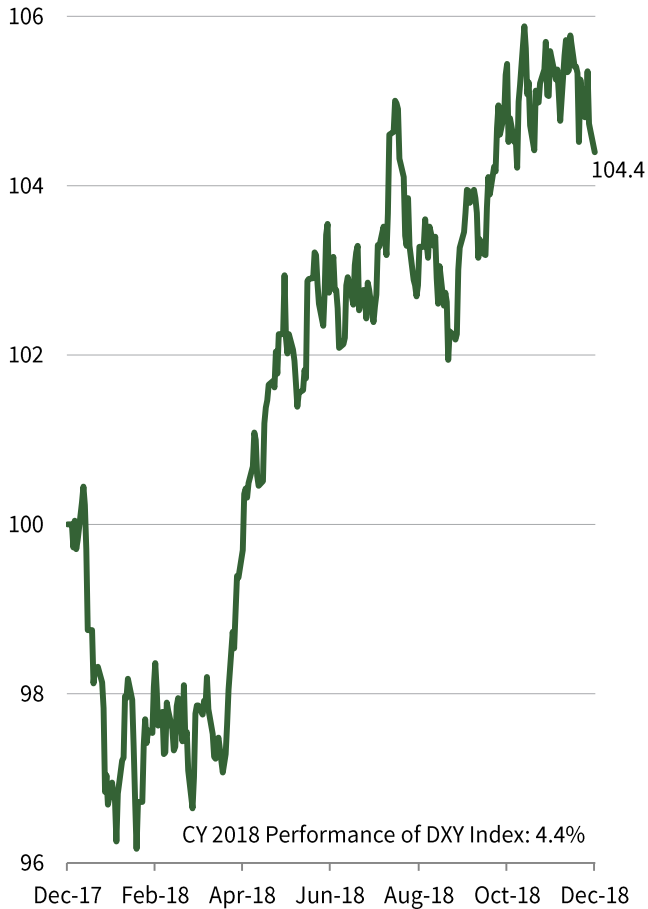


Preliminary data from Hedge Fund Research, Inc., suggest equity hedge funds trailed other strategies last year, and macro strategies also underperformed. Merger arbitrage stood out from the rest. Hedge funds struggled at a broad industry level, with the widely followed HFRI Fund Weighted Composite returning a preliminary -4.1%, and the HFRI Equity Hedge down nearly 7%.

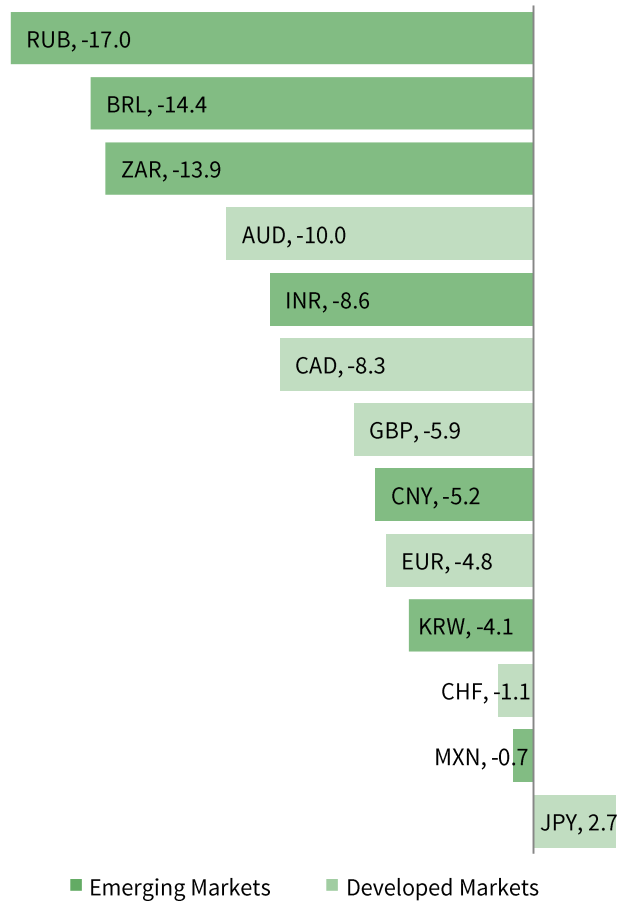
The dollar gained as the Fed hiked rates and economic momentum outshined peers

US DOLLAR INDEX

December 31, 2017 – December 31, 2018 • December 31, 2017 = 100



SELECT CURRENCY APPRECIATION VS USD: CY 2018

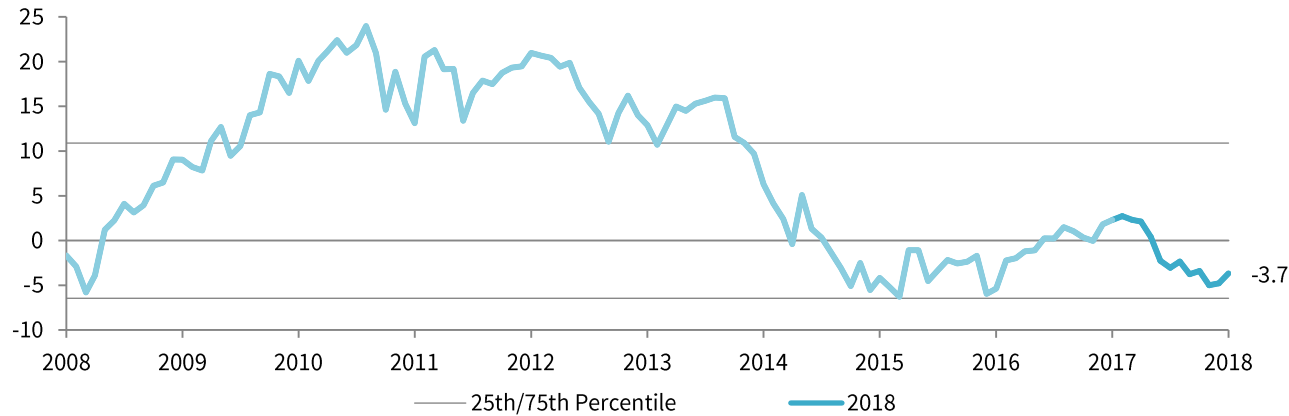


The US dollar rebounded from 2017 and ended the year up more than 4% versus a basket of major developed markets currencies. Every major currency (save for the safe-haven Japanese yen) depreciated vis-à-vis the US dollar, and emerging markets currencies generally fell more than developed peers. Among major emerging currencies, the Russian ruble, Brazilian real, and South African rand fell the most.

Contagion fears resulted in broad emerging markets currency weakness

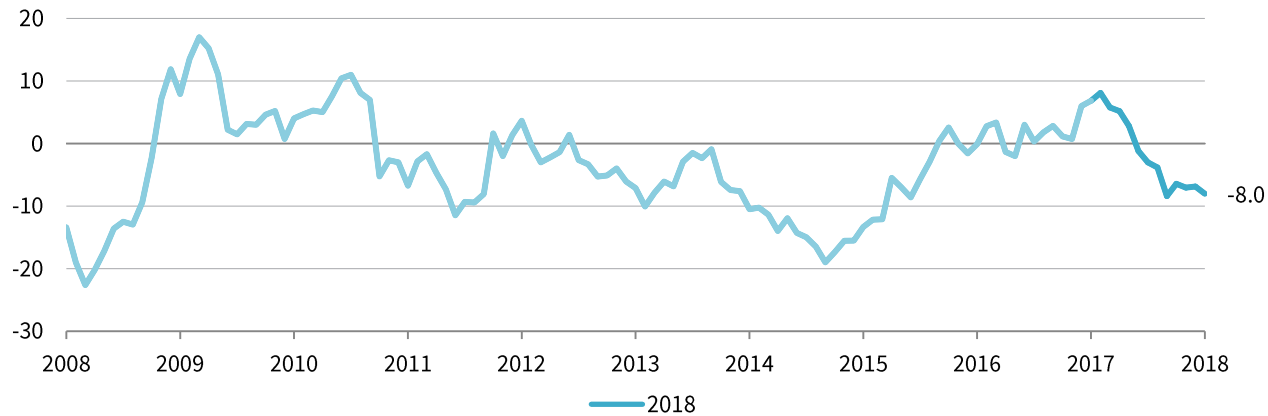
EM CURRENCY REAL EXCHANGE RATE VS USD: % FROM MEDIAN

December 31, 2008 – December 31, 2018 • Percent (%)



EM CURRENCY BASKET VS USD: PERFORMANCE

December 31, 2008 – December 31, 2018 • Trailing 12M Return (%)

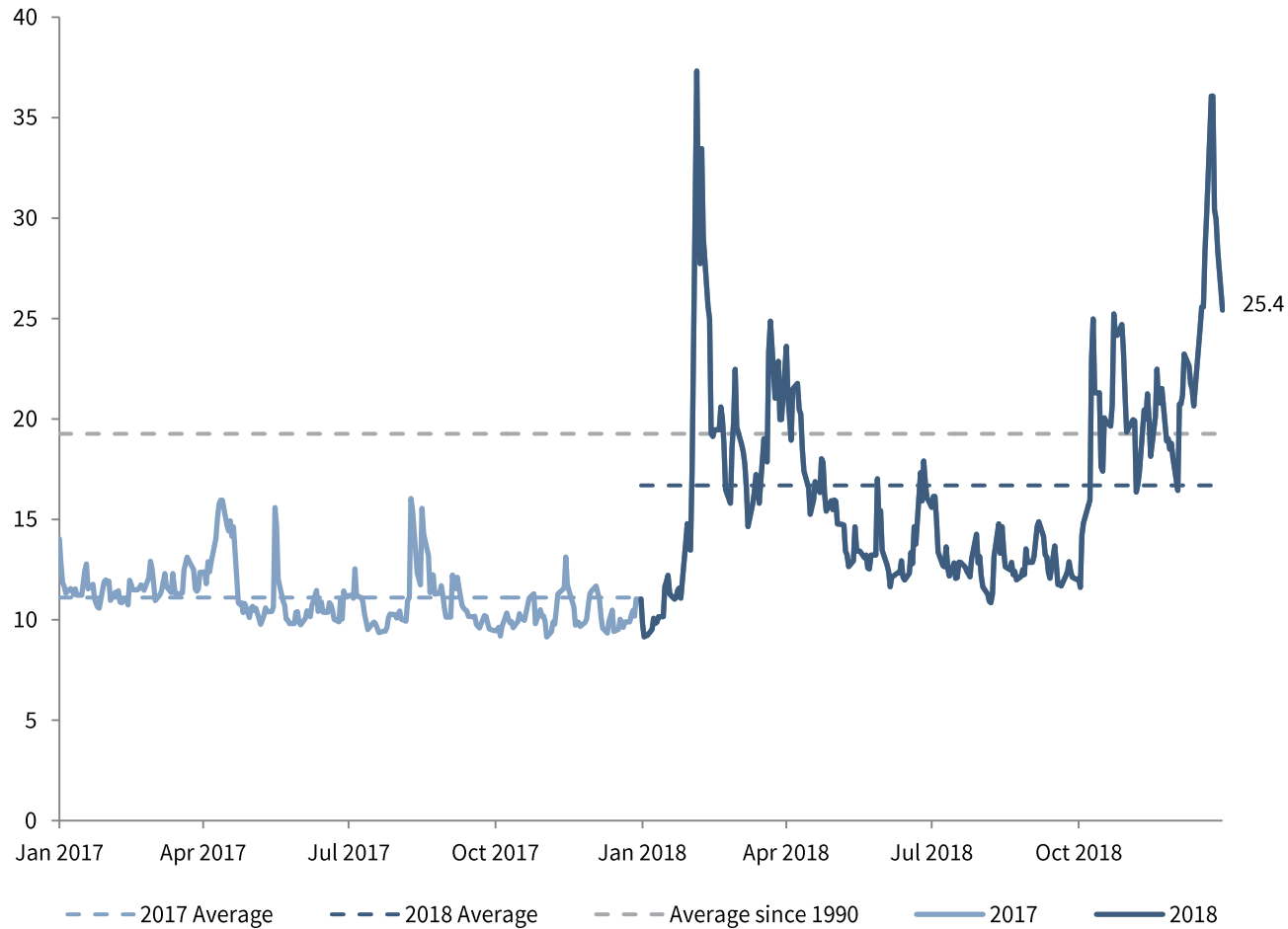


Despite healthier fundamentals relative to past crises, emerging markets currencies sold off, spurred by depreciation in those with high external debt levels, such as the Turkish lira and Argentine peso. Despite the broad sell-off, emerging markets currency valuations versus the US dollar never eclipsed the 25th percentile level. In addition, trailing 12-month returns approached -10%, but performance reached more extreme levels within the past ten years.

Equity volatility returned following a period of historically low levels

S&P 500 IMPLIED VOLATILITY: CY 2017 & CY 2018

January 1, 2017 - December 31, 2018 • Index Level

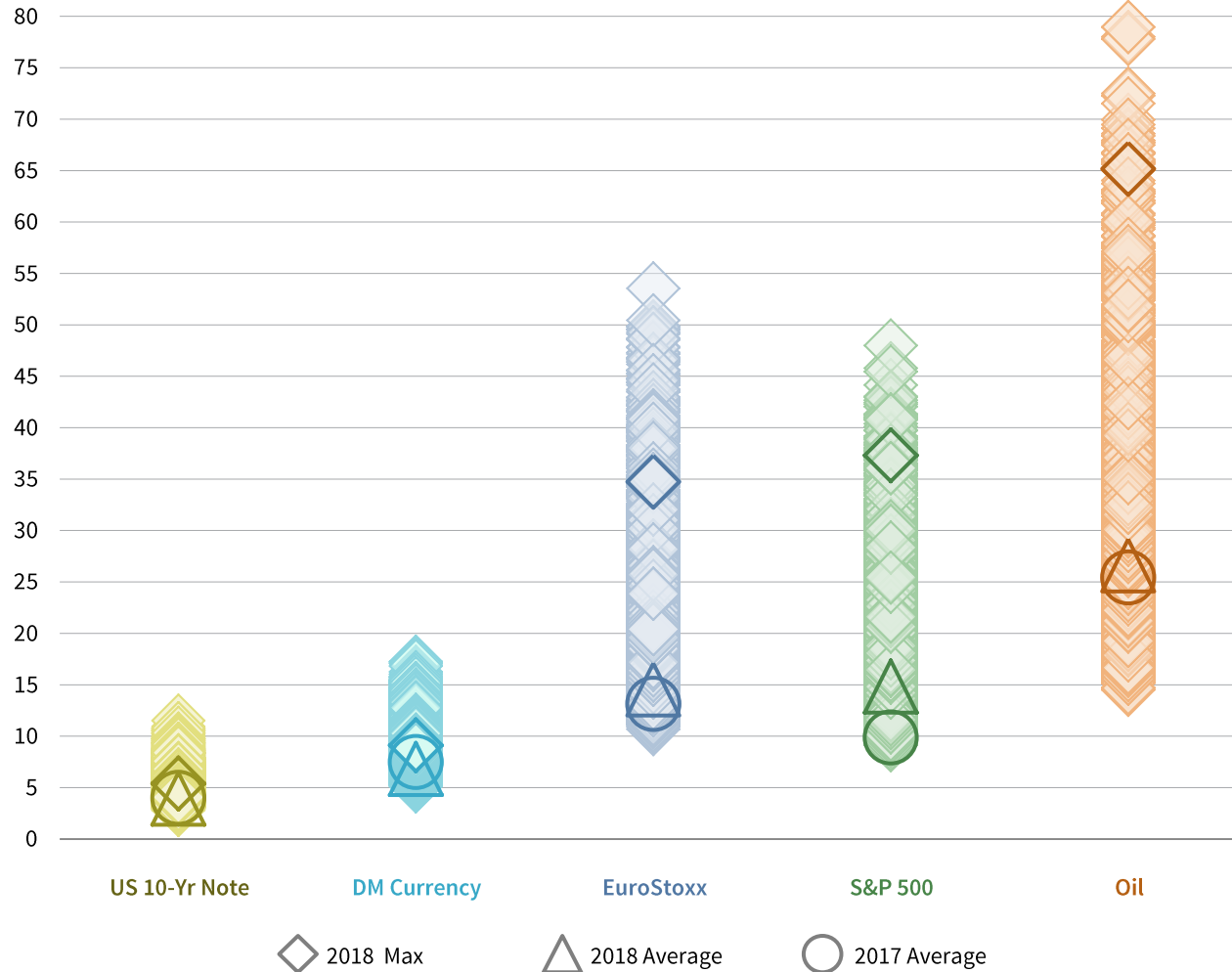


The VIX, in early February, spiked for the largest single-day percentage point change in its history since 1990, which coincided with the largest daily drawdown for the S&P 500 since 2011. Despite the higher equity market volatility environment in fourth quarter, a summer lull meant that the VIX average in 2018 remained below the full period average.

Average volatility in other markets was mostly muted

IMPLIED VOLATILITY OF VARIOUS MARKETS

March 31, 2009 – December 31, 2018 • Index Level



Equity market volatility outside the United States mirrored that of the VIX. Developed markets currency and US ten-year Treasury note volatility persisted near historical lows throughout the year. Crude oil was the standout as volatility in fourth quarter reached the highest levels since early 2016. The yearly average remained subdued, as the commodity trended higher until the crash.



Stuart Brown, Senior Investment Associate
Greg Gonsalves, Investment Associate

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