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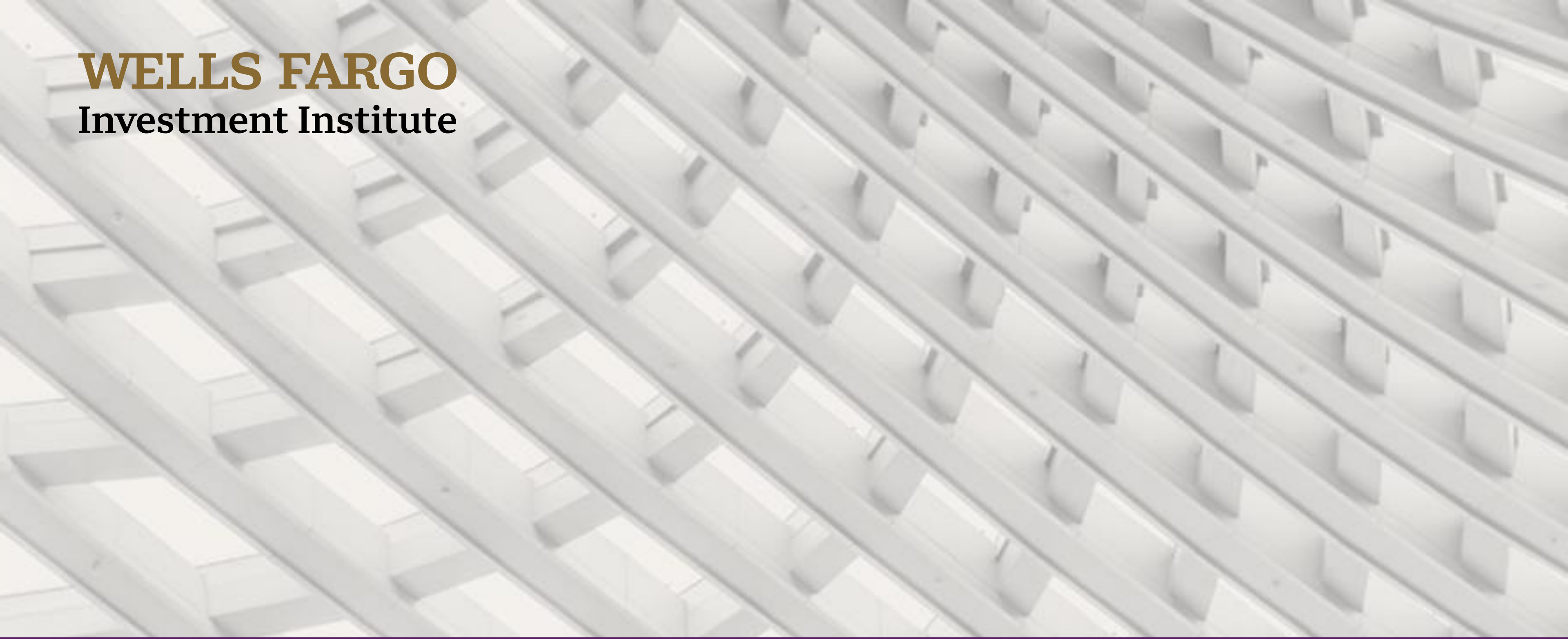

FIRST QUARTER **2020**

Market Charts

Turning data into knowledge

All data shown in the charts as of fourth quarter (Q4) 2019 and reflect the most recent information available. Please see disclosures for the risks associated with the asset classes and for the definitions of market-based and economic indexes.

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Economy highlights

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Macro

- We believe the global economy should grow 3.0% in 2020.[1]
- Consumers have been key to U.S. growth in 2019 as a strong labor market supported spending.
- Global trade tensions have recently eased as the U.S. and China struck a "Phase One" deal and the U.S.-Mexico-Canada Agreement (USMCA) progresses toward enactment. Some currency volatility is expected (for example, the U.S. dollar, euro, and yen) as trade may continue to be a source of uncertainty into 2020.

Domestic

- We believe the U.S. economy will continue to grow over the next 12 months. We do not anticipate a U.S. economic recession, but the signs of an aging cycle are present.
- Consumer confidence and business sentiment are likely to underpin economic growth in 2020.
- Strong consumer balance sheets and income growth are expected to support household spending this year.

International

- Europe is the laggard in the developed economy outlook, struggling with weak, trade-sensitive manufacturing.
- China's growth may slip below 6%. Phase One may have brought some relief in the short term, but in the long run fallout from trade tensions may ripple through the domestic economy and affect growth in other emerging markets.

1. All economic forecasts in this presentation are provided by Wells Fargo Securities Economics Group as of December 18, 2019.

Global economy scorecard

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Metric	World	U.S.	Eurozone	Japan	China
GDP growth (%YoY) as of 9/30/2019[1]	3.6	2.1	1.2	1.7	6.0
Inflation (%YoY) as of 11/30/2019[1]	3.6	2.1	1.0	0.5	4.5
Manufacturing Index level[2] as of 12/31/2019	50.1	47.2	46.3	48.8	51.5
Central bank rate (%) as of 12/31/2019	–	1.50 – 1.75	0.00	(0.10) – 0.00	4.35
Consumer Confidence Index level as of 12/31/2019	–	126.5 ↑	-8.1 ↓	38.7 ↑	124.3 ↑
Unemployment rate (%) as of 11/30/2019[3]	–	3.5	7.5	2.2	3.6

Sources: Bloomberg, International Monetary Fund, and Wells Fargo Investment Institute. Consumer confidence scale differs by region/country. Up or down arrow indicates an increasing or decreasing level from the previous quarter. GDP = gross domestic product. YoY = year over year.

Key Takeaways

- China is leading a modest recovery of manufacturing activity abroad.
- Emerging market growth recovery is countering weakening developed market growth.

1. World data is as of December 31, 2018.
2. U.S. Manufacturing Index level is the Institute for Supply Management Manufacturing Index®, which is a composite index based on the diffusion Indexes of five of the Indexes with equal weights: new orders, production, employment, supplier deliveries, and inventories. Global, eurozone, Japan, and China Manufacturing Index levels use the Markit Manufacturing PMI Index, which is an index developed from monthly business surveys used to monitor the condition of industries and businesses. An index value over 50 indicates expansion; below 50 indicates contraction. The values for the index can be between 0 and 100.
3. Eurozone data is as of October 31, 2019. China data is as of September 30, 2019

The world at a glance

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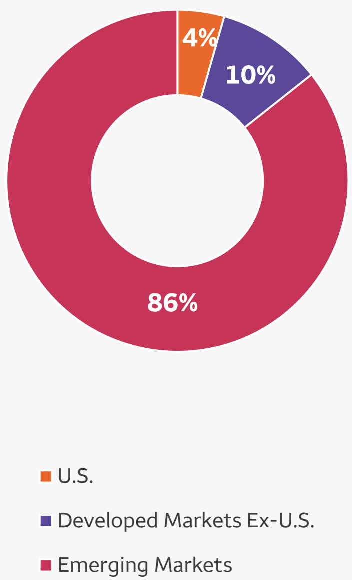
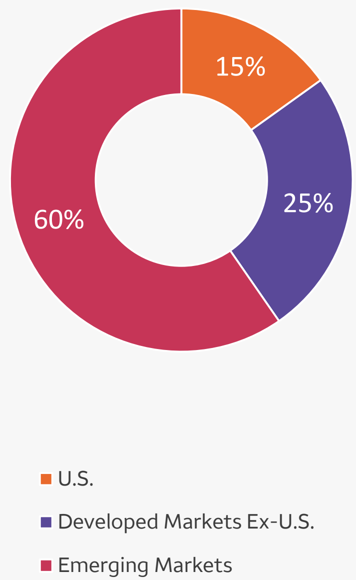
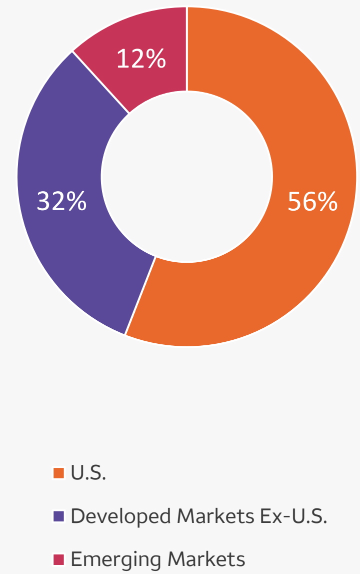
Population



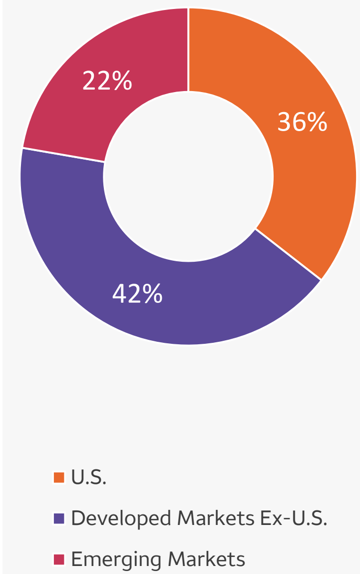
Gross domestic product (PPP)



Stock capitalization



Bonds outstanding



Sources: IMF Global Economic Outlook database, October 2019; MSCI, as of November 30, 2019; and Bank for International Settlements, as of June 30, 2019. Emerging markets includes frontier markets. Purchasing power parity (PPP) is a theory which states that exchange rates between currencies are in equilibrium when their purchasing power is the same in each of the two countries. Stock capitalization is based on country weightings in the MSCI All Country World Index. MSCI All Country World Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of 23 developed and 23 emerging markets. An index is unmanaged and not available for direct investment.

Key Takeaways

- The vast majority of the world's population resides in emerging and frontier markets. These regions comprise nearly 60% of the global economy but only a little more than 10% of the world's equity markets.
- Emerging markets carry about 20% of the global government debt.

Factors that affect the global economy

Global economic forces

Tailwinds

- Accommodative central bank policies
- Low interest rates
- Positive (but slowing) corporate earnings
- Steady household spending growth
- China and other major economies signal additional fiscal stimulus

Headwinds

- Lingering trade tensions
- Geopolitical risks
  - U.S. political uncertainties
  - Brexit agreement
  - Populist trends
- Slowing international economies
- Mixed U.S. economic data
- Weakening business confidence

Source: Wells Fargo Investment Institute, as of December 31, 2019. Subject to change.

Key Takeaways

- Geopolitical and recession risks subside, for now, amid modest, but steady economic growth.
- Household spending remains the main source of global growth.

Contribution to global GDP growth

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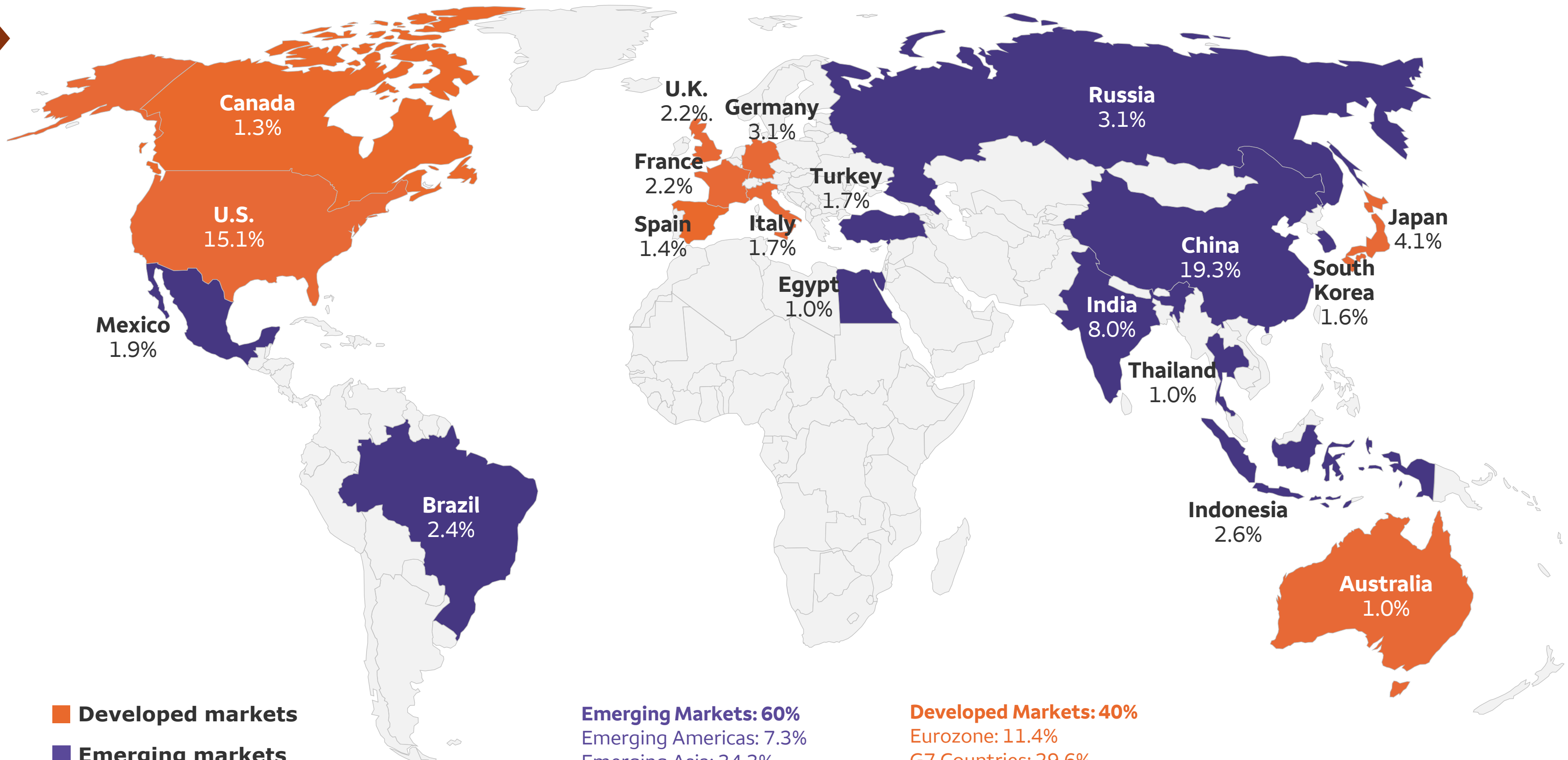


Developed markets
Emerging markets

Emerging Markets: 60%
Emerging Americas: 7.3%
Emerging Asia: 34.3%
Emerging Europe: 7.1%
Middle East/North Africa: 6.4%
Sub-Saharan Africa: 3.1%

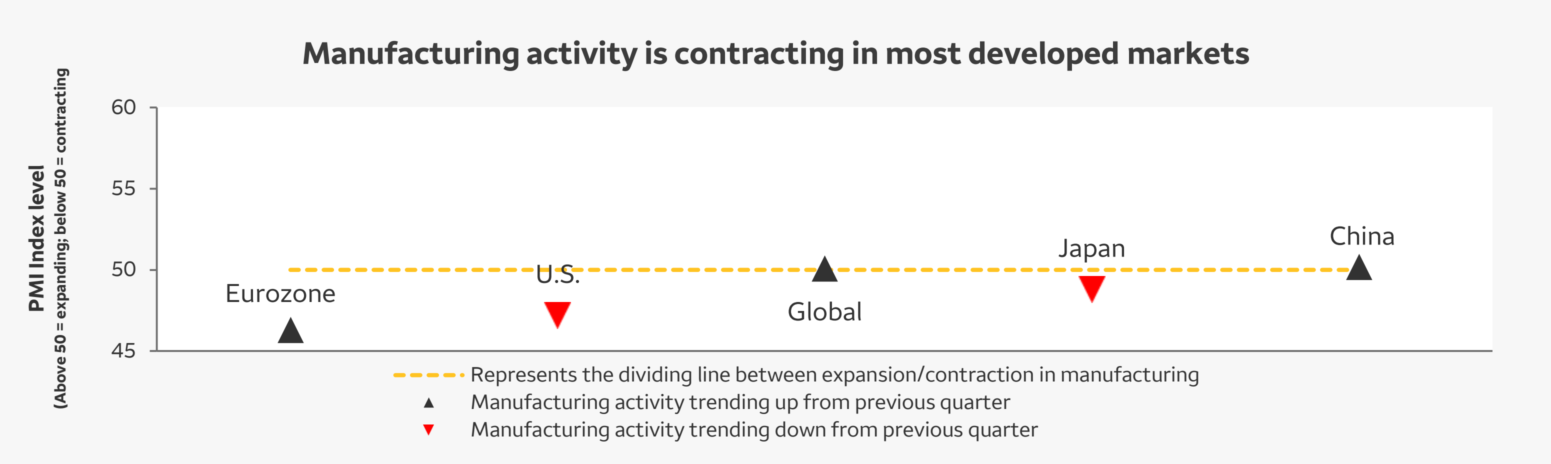
Developed Markets: 40%
Eurozone: 11.4%
G7 Countries: 29.6%

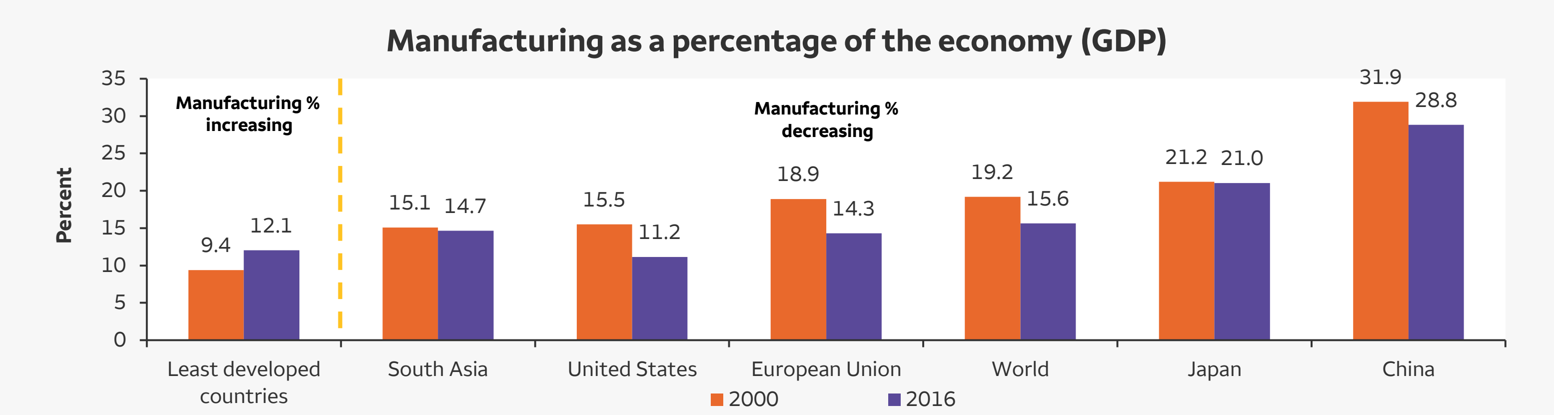
Source: International Monetary Fund and Wells Fargo Investment Institute, as of December 31, 2019. G7 countries include Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

Key Takeaways

- We expect the global economy to expand around 3% this year. The world's two largest economies, the U.S. and China, contribute about 35% to global economic growth.
- Growth rates across regions and countries are uneven. We expect developed economies to generally grow more slowly than emerging countries in 2020.

Manufacturing is slowing



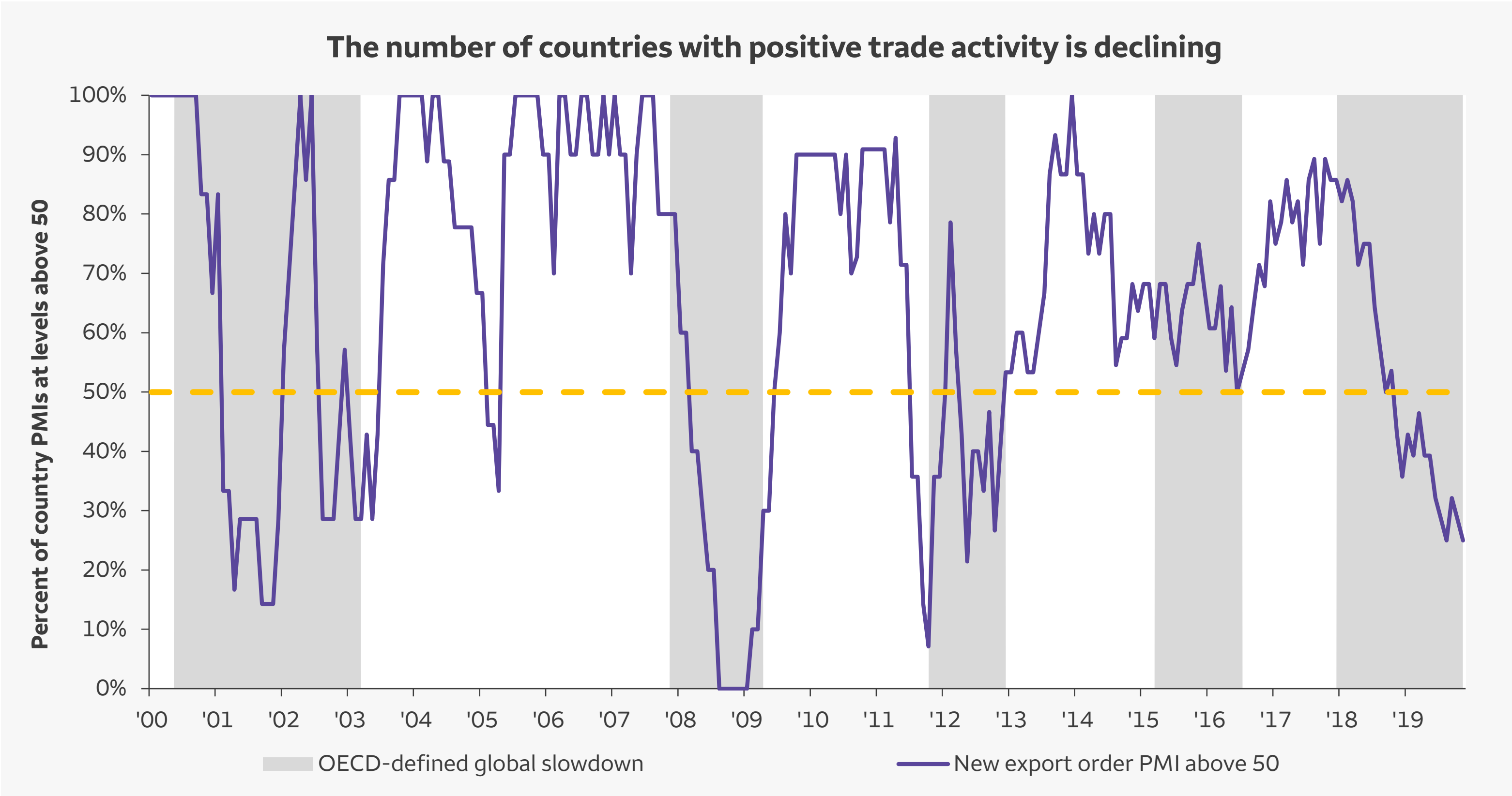


Sources: Bloomberg, HSBC Markit and Wells Fargo Investment Institute, as of December 31, 2019, World Bank national accounts data, and OECD National Accounts data files as of December 31, 2017. The PMI Index is an index developed from monthly business surveys used to monitor the condition of industries and businesses. GDP = gross domestic product.

Key Takeaways

- Rising wages in China and in certain other emerging economies have made certain manufacturing activities more viable in developed markets.
- Remaining cost advantages are significant enough to keep emerging economies as an integral part of the global supply chain.

Global trade bottoming?



Sources: Wells Fargo Investment Institute and Markit, as of November 30, 2019. Data represent the number of country-level Purchasing Managers' Index (PMIs) globally that are above 50. A level above 50 is consistent with positive trade activity. Dashed lines represent level of 50%. OECD = Organisation for Economic Co-operation and Development.

Key Takeaways

- The U.S. and China agreed to a limited "Phase One" trade deal, accompanied by the U.S.-Mexico-Canada Agreement (USMCA) updating the North American Free Trade Agreement (NAFTA).
- Global trade activity steadies in sync with growth in the global economy.

Key global trade indicators

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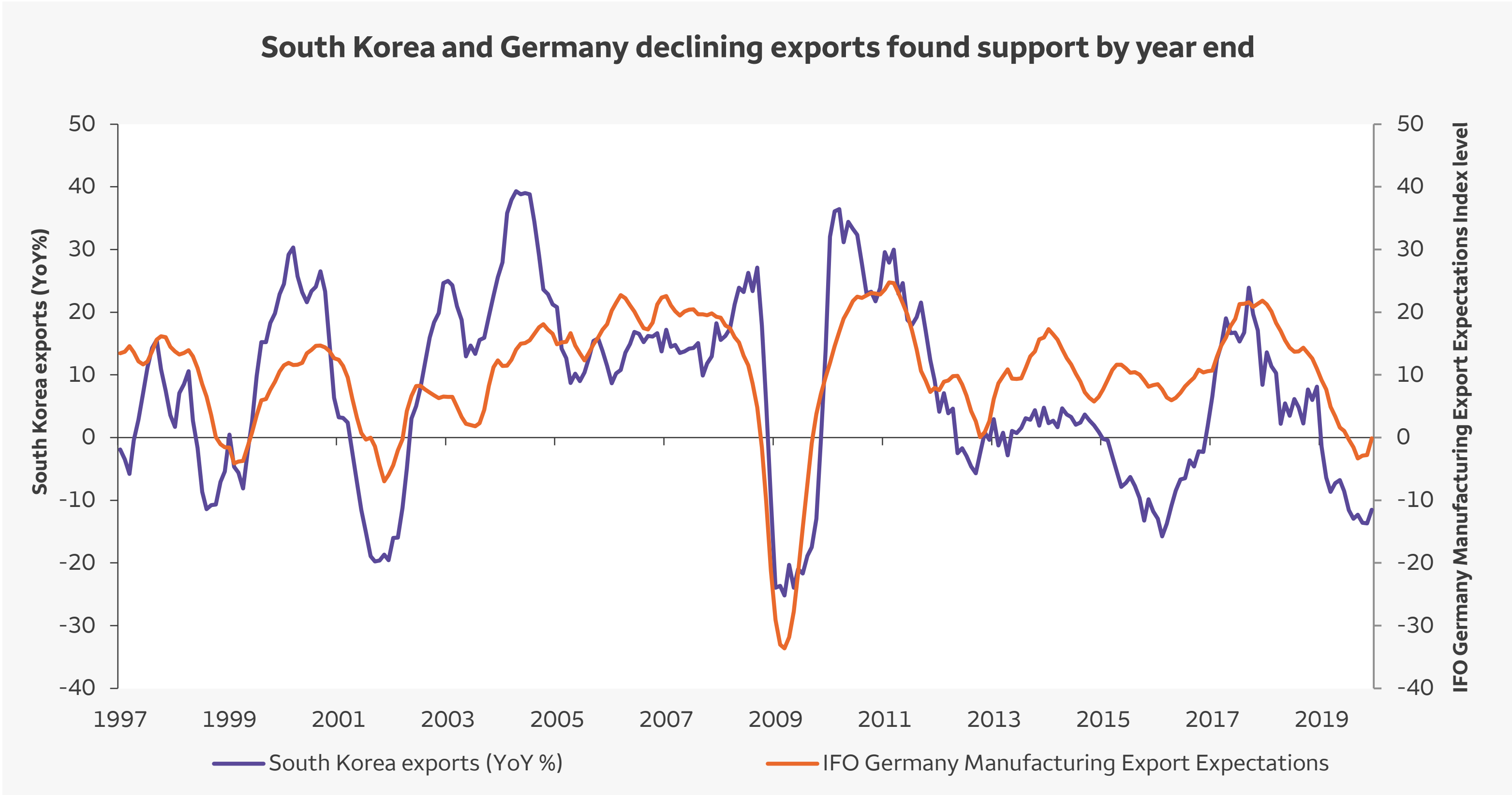

Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. The IFO Germany Manufacturing Export Expectations is a composite index based on a survey of manufacturers, builders, wholesalers and retailers. The index is compiled by the Ifo Institute for Economic Research. YoY = year-over-year.

Key Takeaways

- Top-rated manufacturing in Germany sets the tone for the eurozone with declines in 2019.
- The double-digit declines in bellwether exports from South Korea in 2019 stabilized by year end.

Global monetary policy in action

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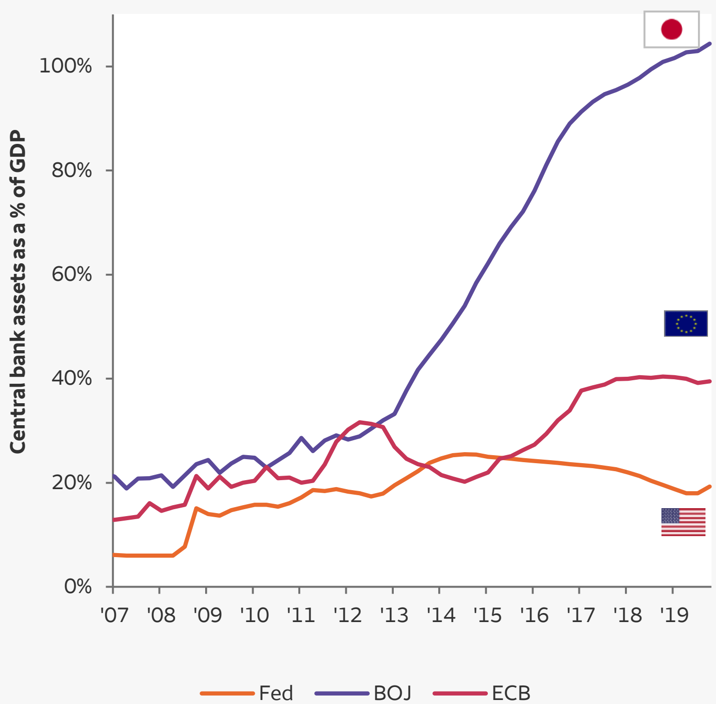
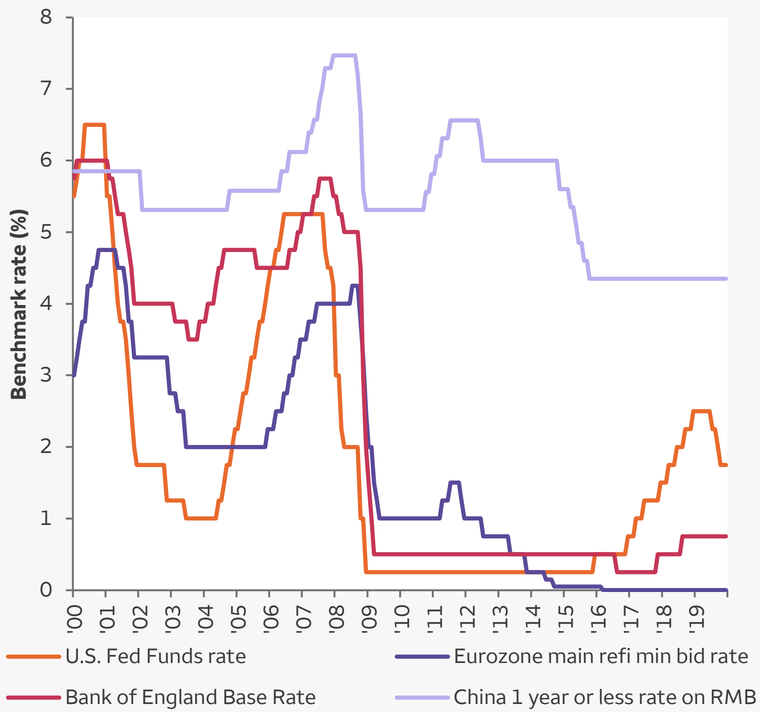
Economy
Equities
Fixed Income
Real Assets
Alternative Investments
Currencies
Asset Allocation
Risk Considerations
Index Definitions

Japan has expanded its balance sheet far more than the U.S. and the eurozone



Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. BOJ = Bank of Japan. ECB = European Central Bank. GDP = gross domestic product.

Global benchmark rates remain low



Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. Headline central bank policy rates of selected countries.

Key Takeaways

- The Bank of Japan and the European Central Bank continue to emphasize easy monetary conditions in an effort to promote growth and reduce deflationary pressures.
- The Federal Reserve (Fed) moves to the sidelines in avoiding further rate cuts next year.

Inflation across regions

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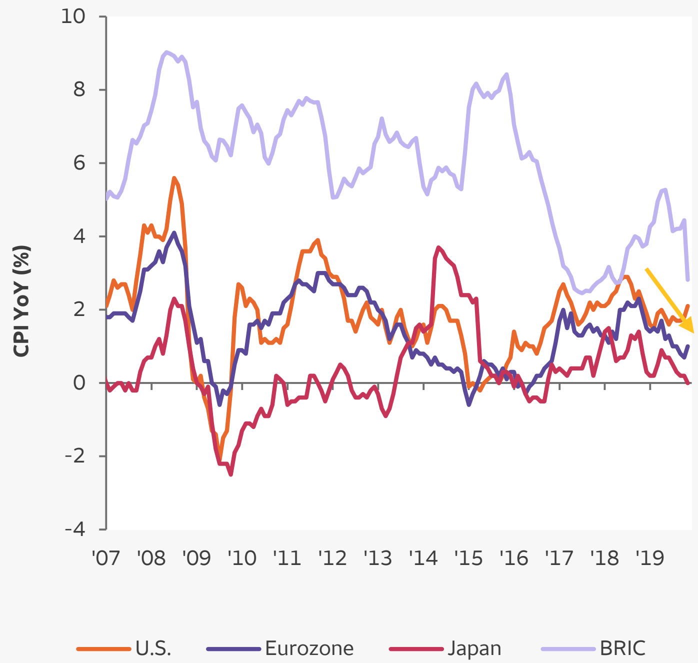
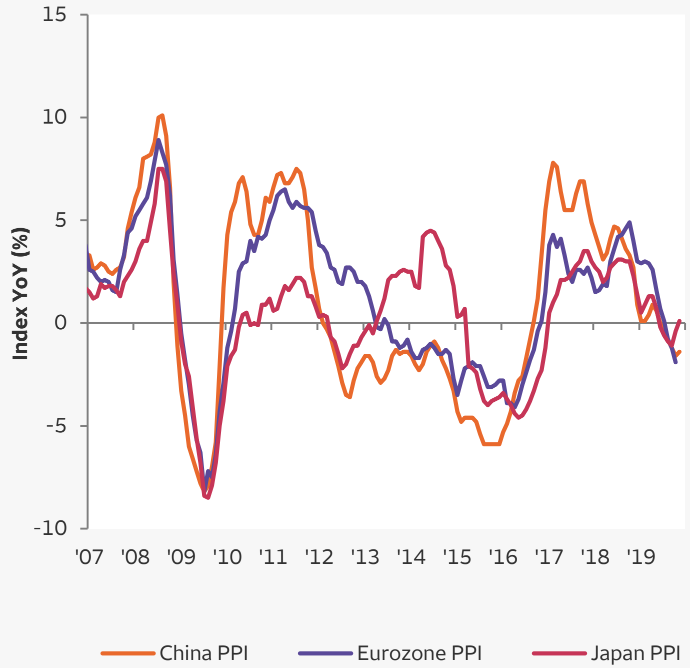
Inflation outside of the U.S. is slowing



Declining costs for producers



Sources: Bloomberg, FactSet, and Wells Fargo Investment Institute, as of November 30, 2019. BRIC is an acronym for the economies of Brazil, Russia, India, and China. CPI is the Consumer Price Index, which measures the price of a fixed basket of goods and services purchased by an average consumer. PPI is the Producer Price Index, which measures the average change over time in the selling prices received by domestic producers for their output. The prices included in the PPI are from the first commercial transaction for many products and some services. YoY = year-over-year.

Key Takeaways

- Inflation is expected to rise in the U.S., Japan, and emerging markets, but should generally remain below central-bank targets.
- Low inflation rates allow central banks to maintain easy monetary policy, even as policy is put on hold by some.

Where are we today?

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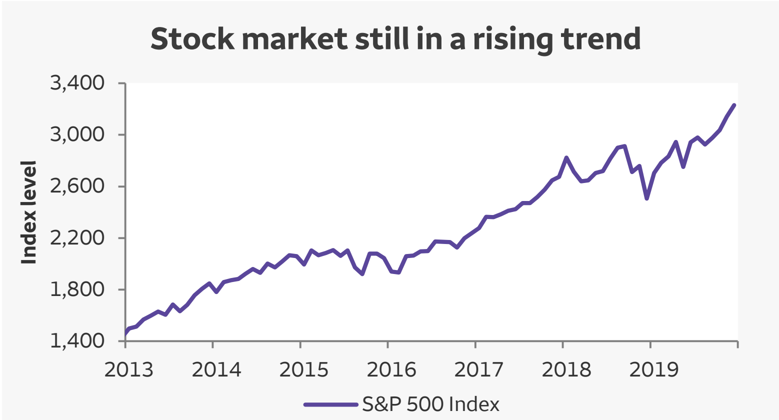

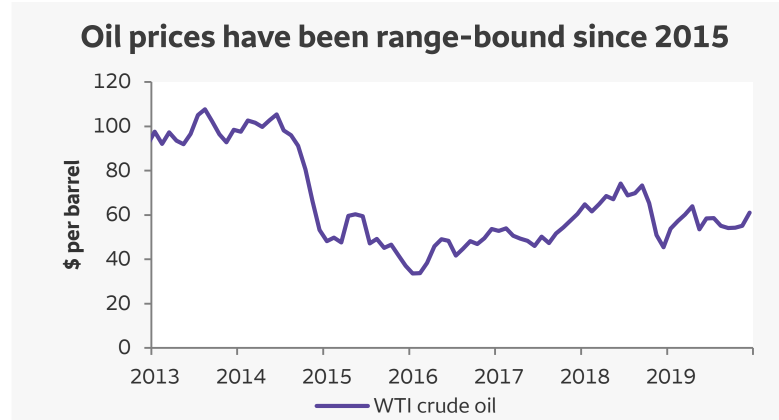

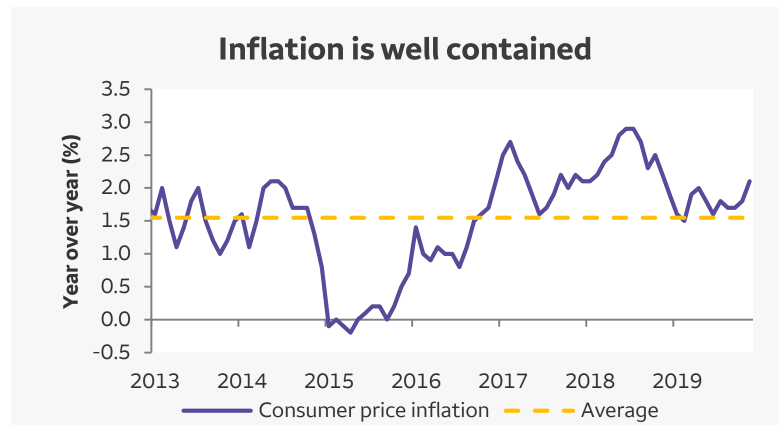

Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. Consumer price inflation as of November 30, 2019. For illustrative purposes only. S&P 500 Index is a market capitalization-weighted index composed of 500 widely held common stocks that is generally considered representative of the U.S. stock market. The Consumer Price Index measures the average price of a basket of goods and services. West Texas Intermediate (WTI) is a grade of crude oil used as a benchmark in oil pricing. U.S. Dollar Index (USDX) measures the value of the U.S. dollar relative to the majority of its most significant trading partners. This index is similar to other trade-weighted indexes, which also use the exchange rates from the same major currencies. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Key Takeaways

- Low interest rates and ample liquidity are likely to support risk assets over perceived safe-haven assets.
- Central banks face challenges with making progress toward their target inflation objectives.

Where are we headed?

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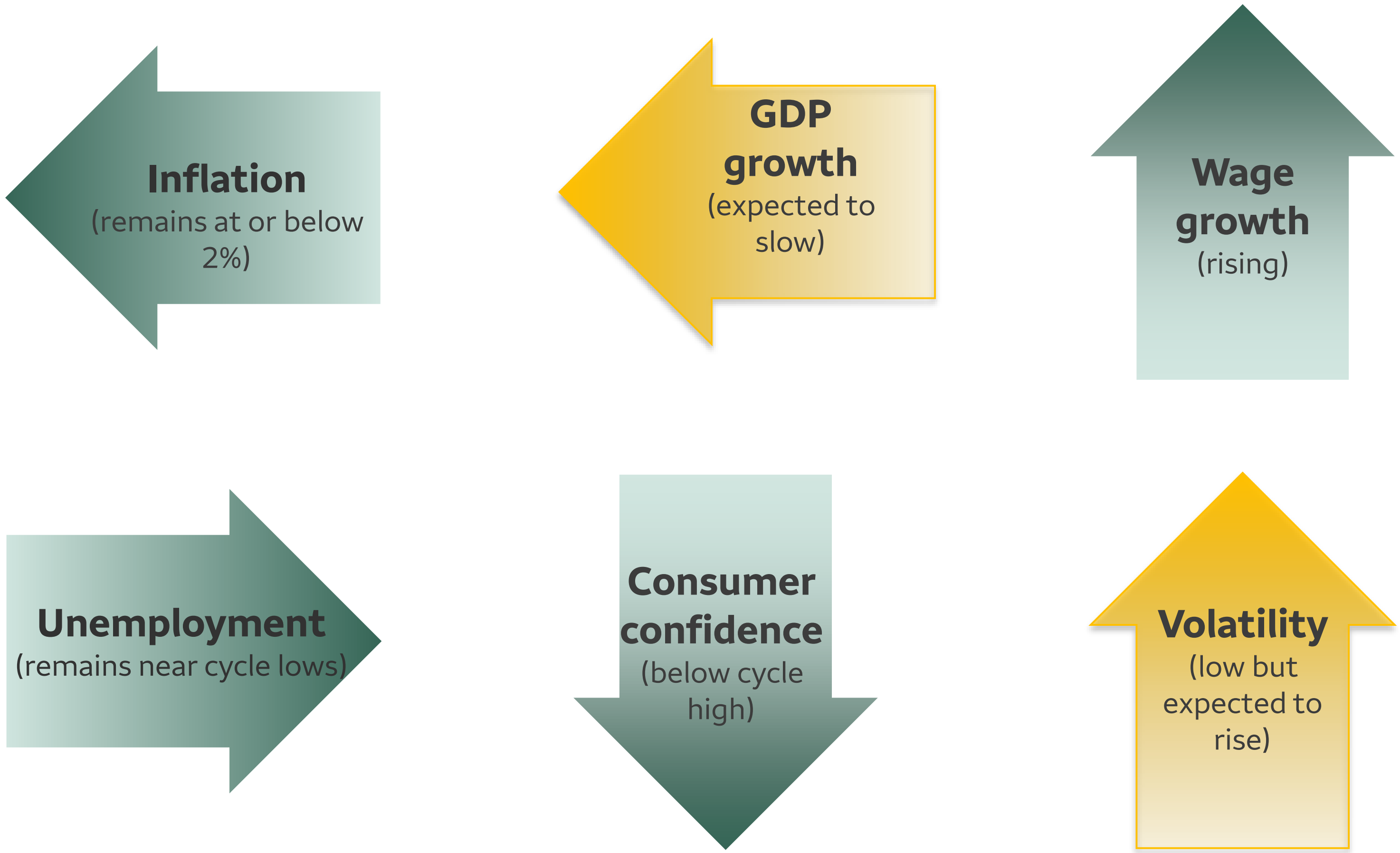

Source: Wells Fargo Investment Institute, as of December 31, 2019. Subject to change. GDP = gross domestic product.

Key Takeaways

- Geopolitical risks, including trade and tariffs, weigh periodically on consumer and business confidence.
- We expect U.S. economic growth to slip below 2% in 2020.
- Inflation pressures are contained by structural headwinds, even as wage pressures build gradually.

U.S. inflation expectations are starting to rise

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Economy

Equities

Fixed Income

Real Assets

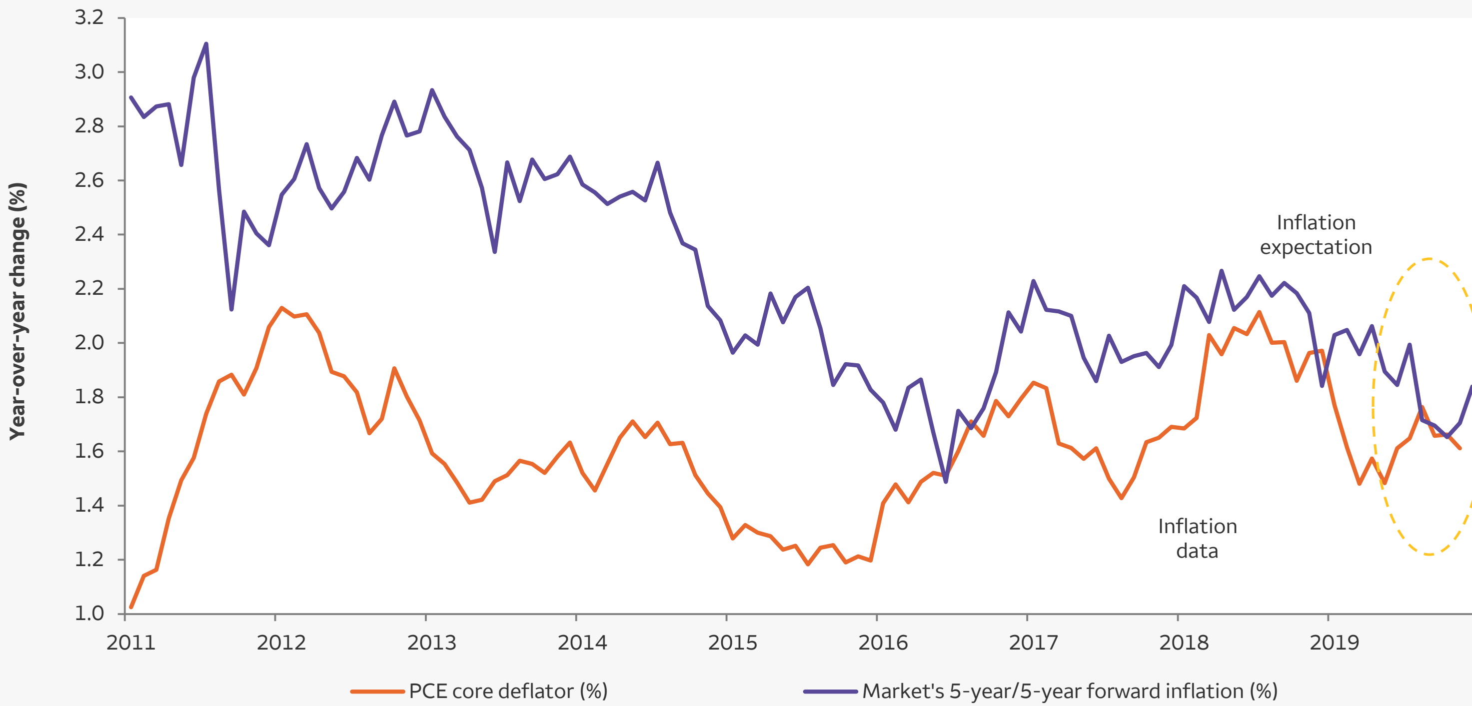
Alternative Investments

Currencies

Asset Allocation

Risk Considerations

Index Definitions



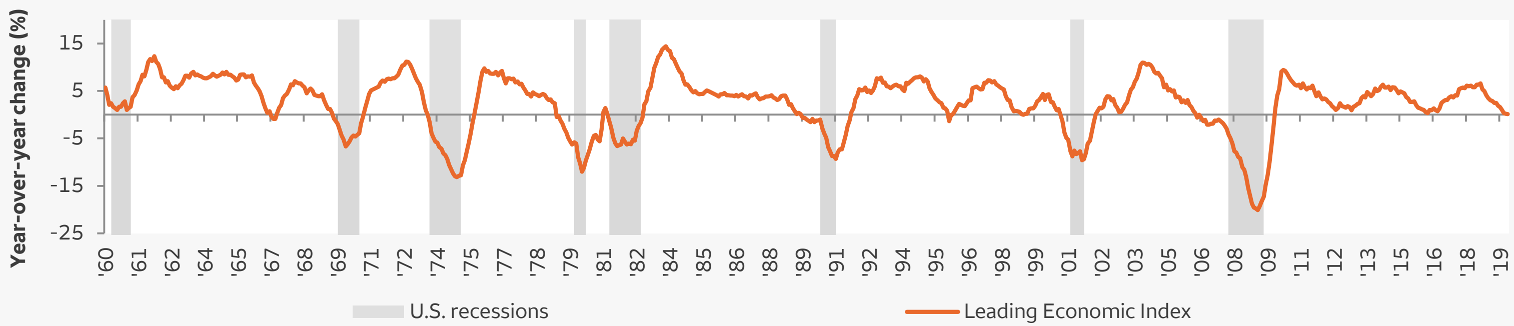
Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. PCE core deflator (%) as of November 30, 2019. PCE deflators (or personal consumption expenditure deflators) track overall price changes for goods and services purchased by consumers. Deflators are calculated by dividing the appropriate nominal series by the corresponding real series and multiplying by 100. The market's 5-year/5-year forward inflation rate is a common measure that is used by central banks and dealers to look at the market's future inflation expectations.

Key Takeaways

- U.S. inflation is still muted by slower economic growth, falling import prices and structural restraints.
- We expect inflation (as measured by the Consumer Price Index) to rise around 2% in 2020.

Insight from U.S. leading indicators

Leading economic indicators have softened for the third significant slowdown in this expansion



Tracking the components of the LEI

INDICATOR	SHORT-TERM TREND	LONG-TERM TREND
Leading Economic Index	Neutral	Neutral
Average workweek	Strengthening	Strengthening
Unemployment claims (less are better)	Weakening	Weakening
New orders: consumer goods and materials	Strengthening	Strengthening
ISM New Orders Index	Weakening	Weakening
New orders: nondefense capital goods excluding aircraft	Weakening	Neutral
Building permits	Strengthening	Neutral
S&P 500 Index	Strengthening	Strengthening
Leading Credit Index	Neutral	Weakening
Interest rate spread (10-year UST less federal funds)	Neutral	Strengthening
Avg. consumer expectations for business and economic conditions	Neutral	Weakening

Sources: Bloomberg and Wells Fargo Investment Institute, as of November 30, 2019. The Conference Board Leading Economic Index® (LEI) is a composite average of 10 leading indicators in the U.S. It is one of the key elements in the Conference Board's analytic system, which is designed to signal peaks and troughs in the business cycle. The ISM Manufacturing Index® is a composite index based on five indicators with equal weight. Short-term trend = current versus three-month moving average. Long-term trend = current versus 12-month moving average.

Key Takeaways

- Leading indicators can be useful for signaling future economic events, such as an economic slowdown. Leading indicators are currently flashing "yellow".
- Declines in the Leading Economic Indicator (LEI) Index still are well short of the historic threshold for a recession.

Components of U.S. GDP

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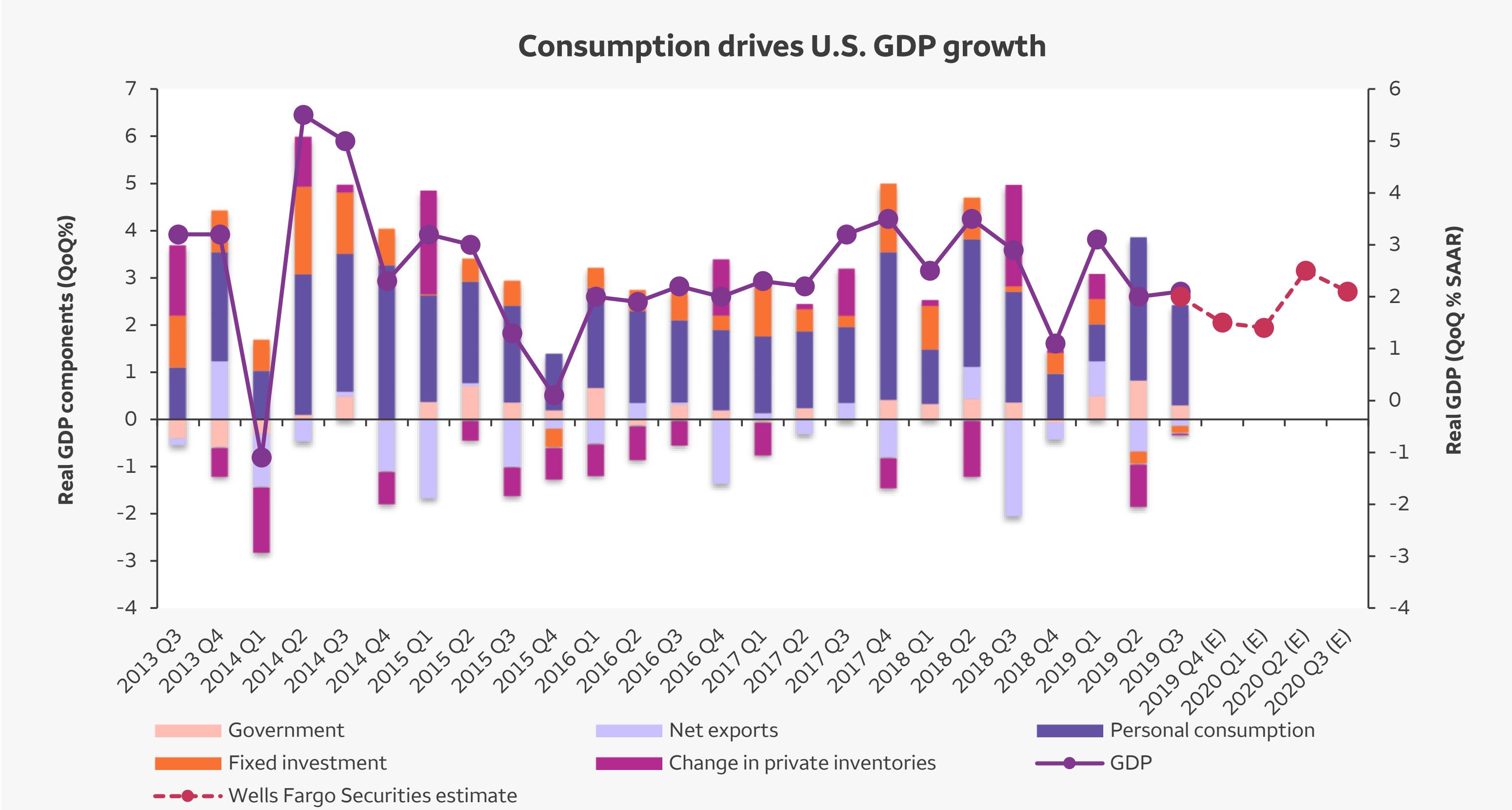

Sources: Bloomberg, Wells Fargo Securities, and Wells Fargo Investment Institute, as of December 31, 2019. Wells Fargo Securities forecasts, as of December 18, 2019. Forecasts are not guaranteed and are subject to change. GDP = gross domestic product. QoQ = quarter over quarter. SAAR = seasonally adjusted annual rate.

Key Takeaways

- “Early-cycle” consumer spending and housing are picking up the slack from weak, late-cycle business investment.
- The U.S. economy is projected to grow slightly below 2% in 2020, down from a projected 2% rate in 2019.

Steady job gains have underpinned the U.S. economic recovery

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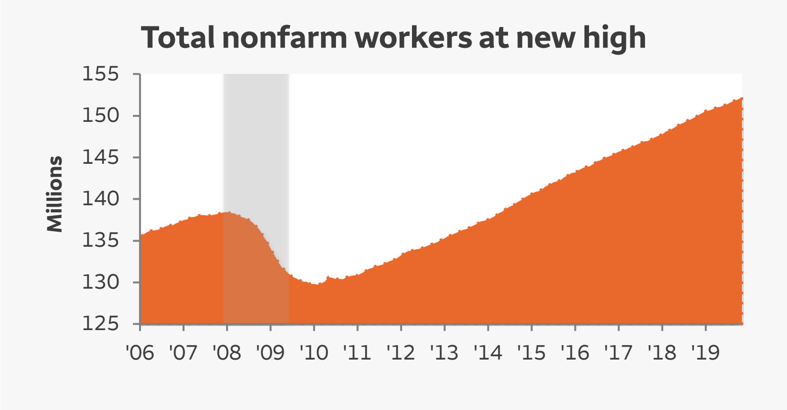
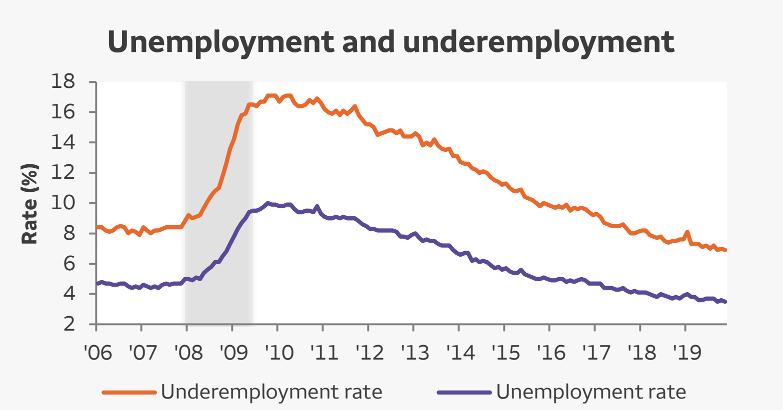
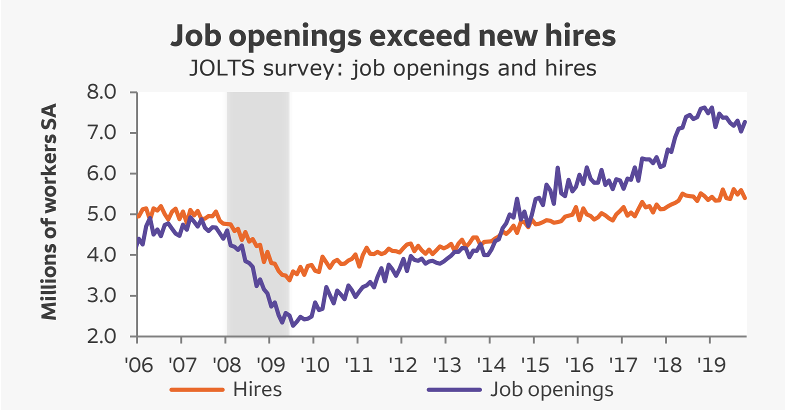
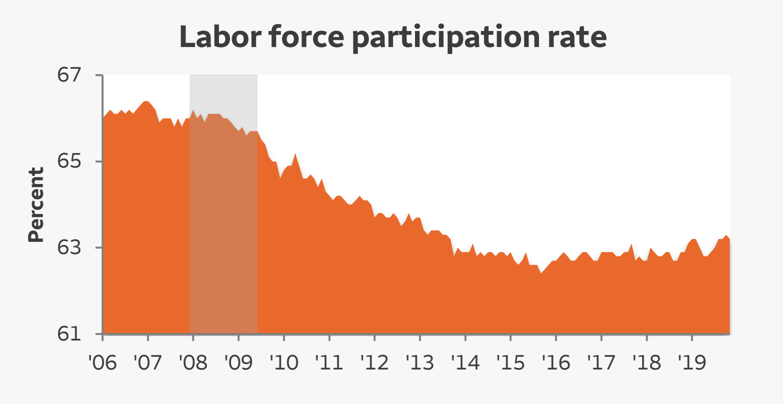






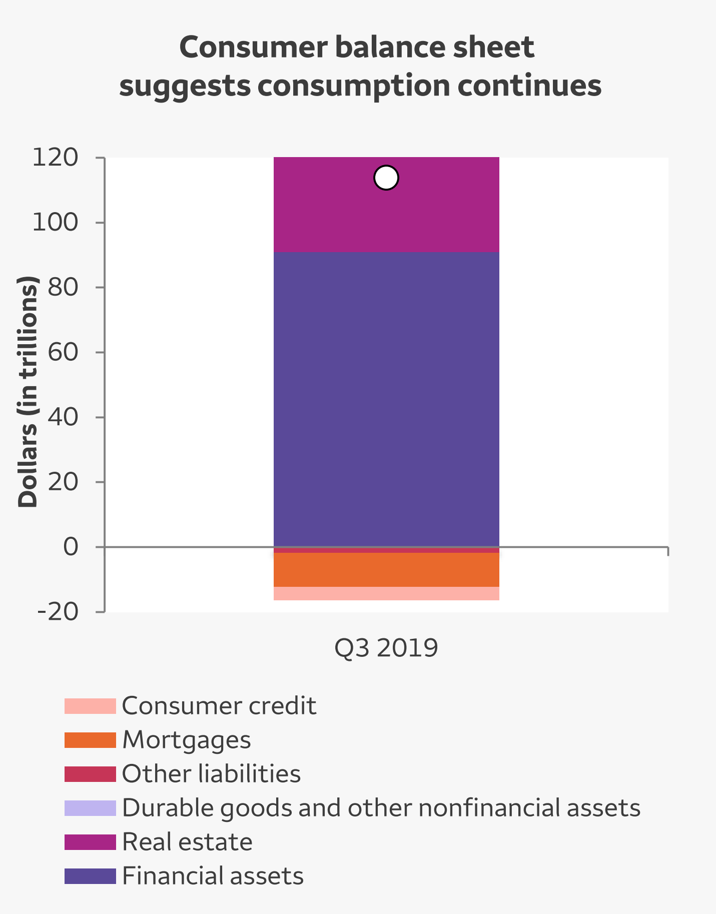


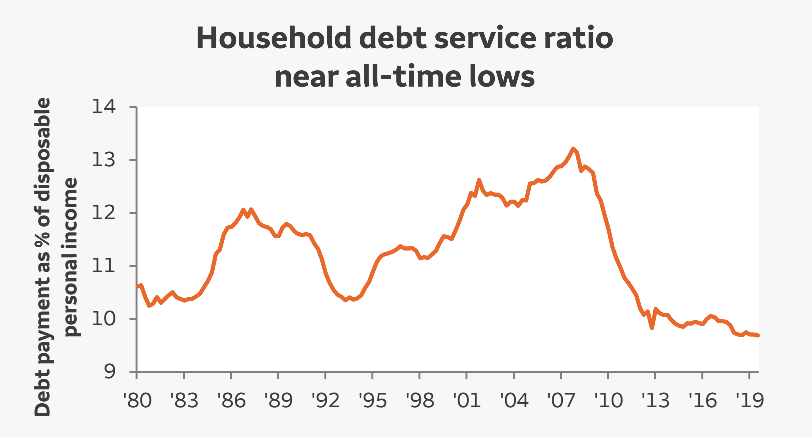
Sources: Bloomberg and Wells Fargo Investment Institute, as of November 30, 2019. JOLTS data as October 31, 2019. JOLTS = Job Openings and Labor Turnover Survey. Shaded area represents a U.S. economic recession. SA = seasonally adjusted.

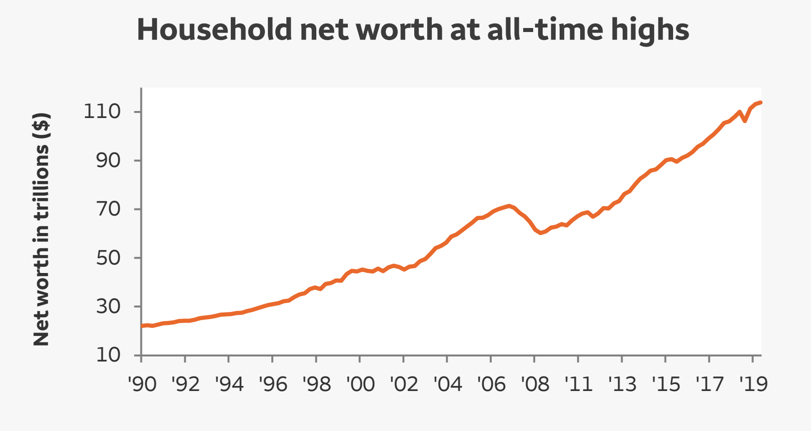
Key Takeaways

- A tight labor market has driven the unemployment rate down to a fifty-year low, while lifting job openings nearly 25% above the number of unemployed and well above the pace of hiring.
- We find broad evidence that the U.S. economy is generating jobs supportive of household formation and housing market improvement.

U.S. consumer in good shape







Sources: Bloomberg, Federal Reserve Board, and Wells Fargo Investment Institute, as of September 30, 2019.

Key Takeaways

- Consumer balance sheets are in much better shape today than they were a decade ago, supported by still-subdued mortgage debt.
- Rising home prices and higher stock prices have led to a rebound in total U.S. household net worth, to nearly $114 trillion.

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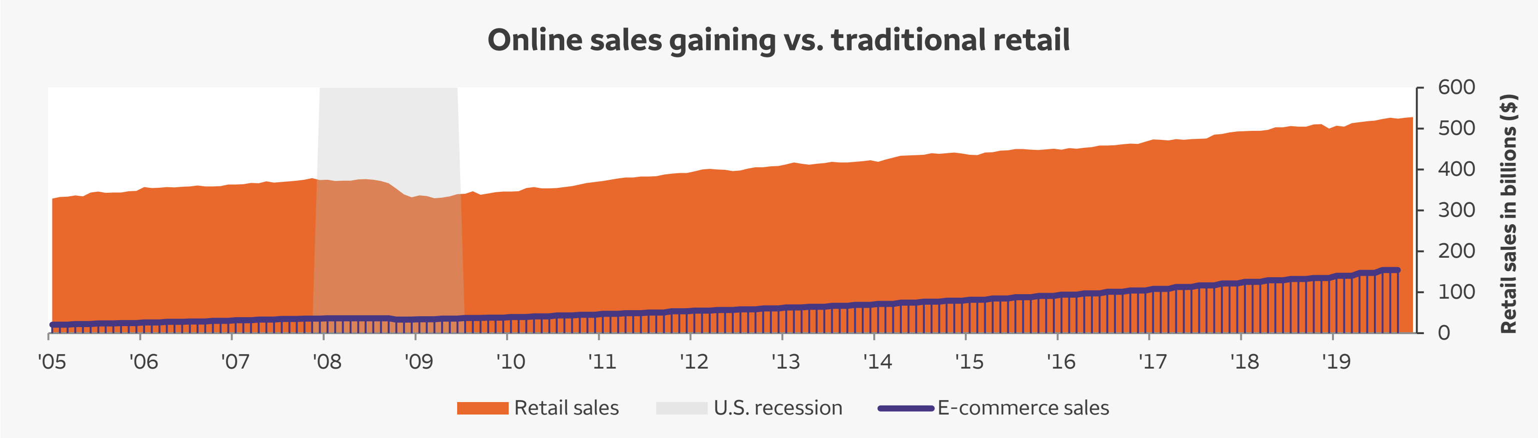
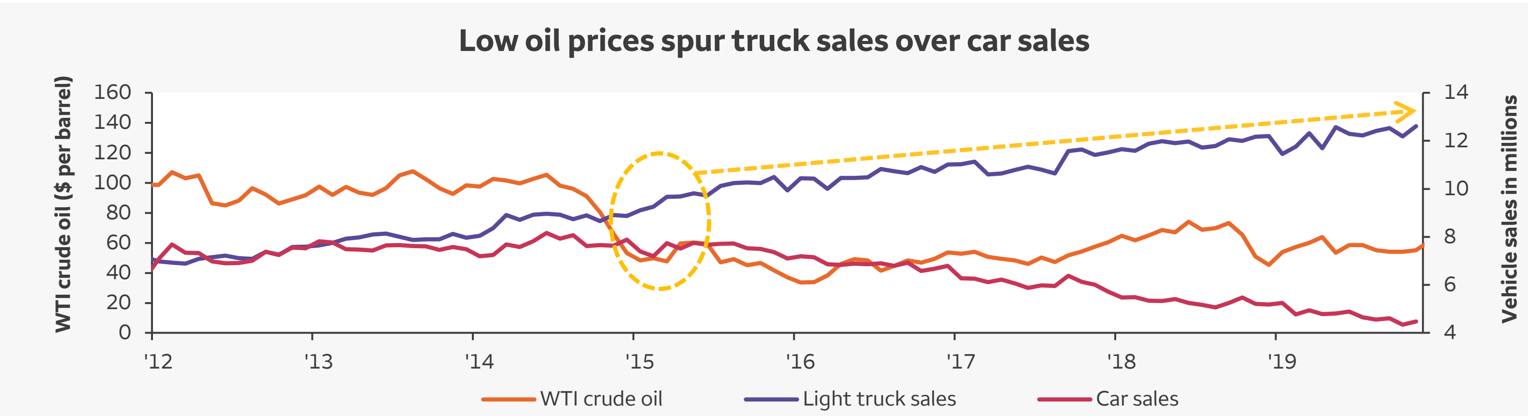
Changing consumer behavior





Sources: Bloomberg and Wells Fargo Investment Institute, as of November 30, 2019. E-commerce sales as of September 30, 2019. West Texas Intermediate (WTI) is a grade of crude oil used as a benchmark in oil pricing.

Key Takeaways

- Online sales are becoming a larger percentage of total retail sales, growing nearly 12% in 2019 in contrast to slippage in receipts by brick-and-mortar outlets.
- Lower oil prices may have an impact on the types of purchases consumers are making. For example, while car sales have been declining, truck and SUV sales have surged on lower gasoline prices.

Housing data is mixed

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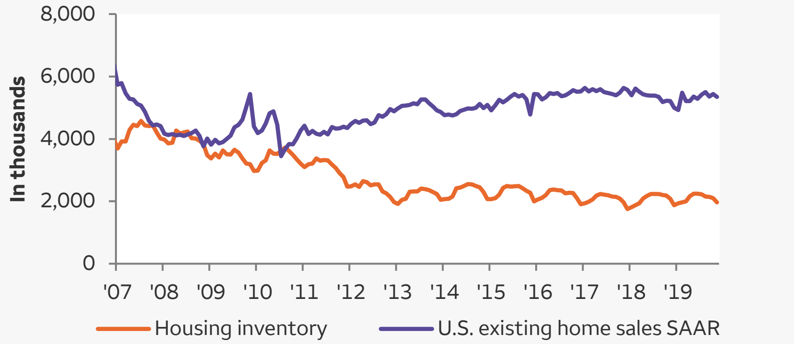
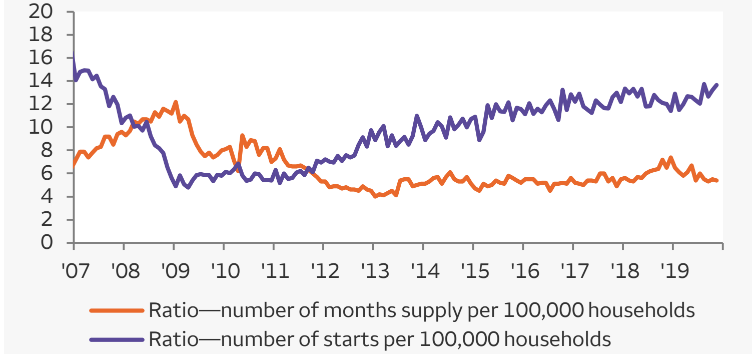
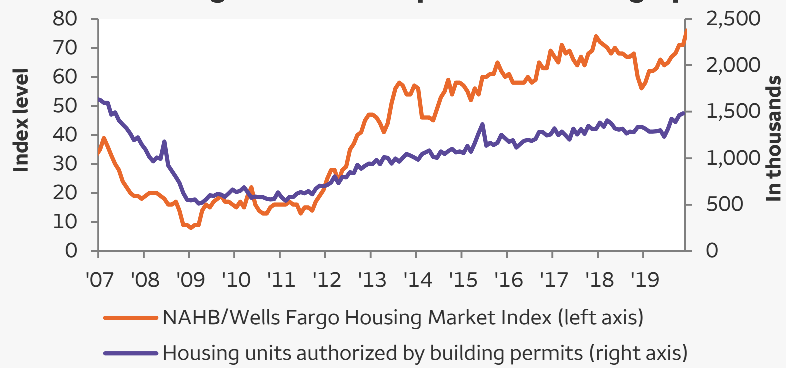
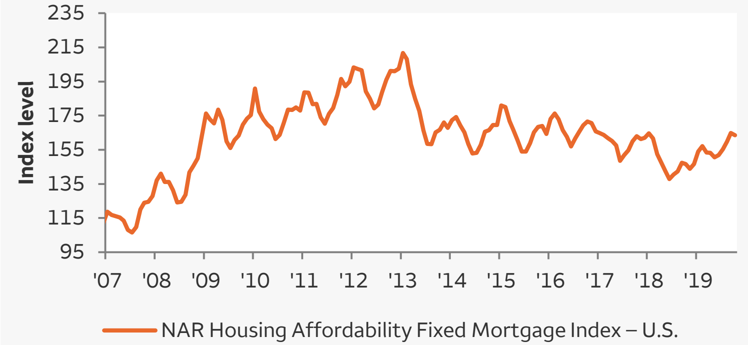






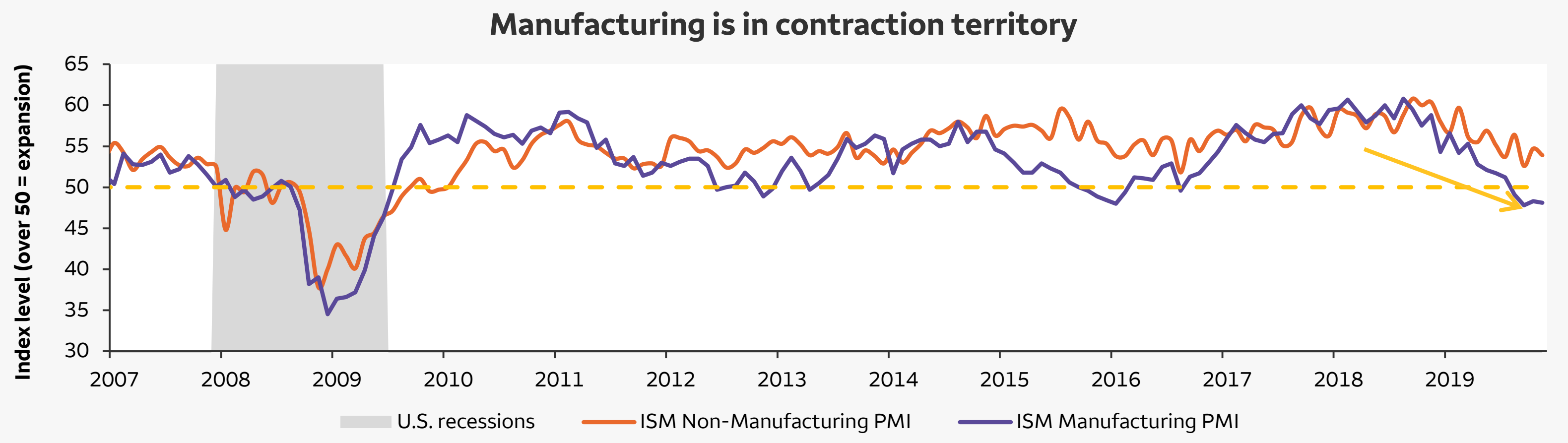


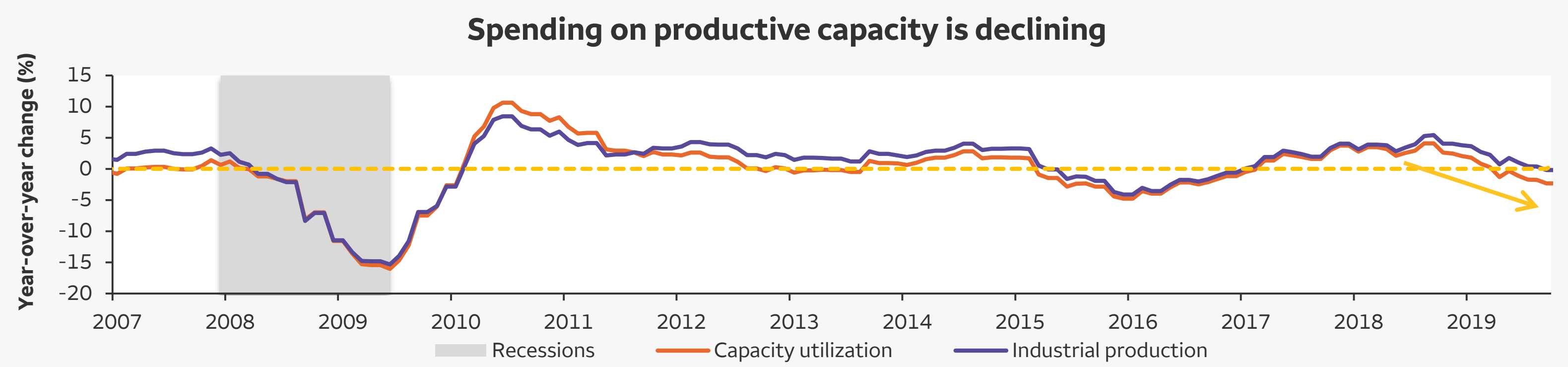
Sources: Bloomberg and Wells Fargo Investment Institute, as of November 30, 2019. SAAR = seasonally adjusted annual rate. NAHB/Wells Fargo Housing Market Index as of December 31, 2019. NAR Housing Affordability Index as of October 31, 2019. NAHB (National Association of Home Builders)/Wells Fargo Housing Market Index is a widely watched gauge of the outlook for the U.S. housing sector. The NAR (National Association of Realtors®) Housing Affordability Index measures whether or not a typical family could qualify for a mortgage loan on a typical home.

Key Takeaways

- Housing's unusual, late-cycle strength has been supported by low borrowing costs, a stubborn supply shortage, and elevated job-market confidence.
- Elevated home prices have left housing demand increasingly interest rate sensitive.
- Construction levels and home sales are supportive of U.S. economic growth.

U.S. manufacturing hit by trade uncertainty





Sources: Bloomberg, Institute for Supply Management, and Wells Fargo Investment Institute, as of December 31, 2019. The Institute for Supply Management (ISM) Manufacturing Index® is a composite index based on five indicators with equal weights. The ISM Non-Manufacturing Index® is a composite index based on four indicators with equal weights.

Key Takeaways

- The ISM Manufacturing Index has softened due to recent protectionist pressures, weak overseas growth and a pullback in oil-industry capital spending.
- Weakness in trade-sensitive manufacturing has not spilled over to the services sector.

Companies favoring labor over capital

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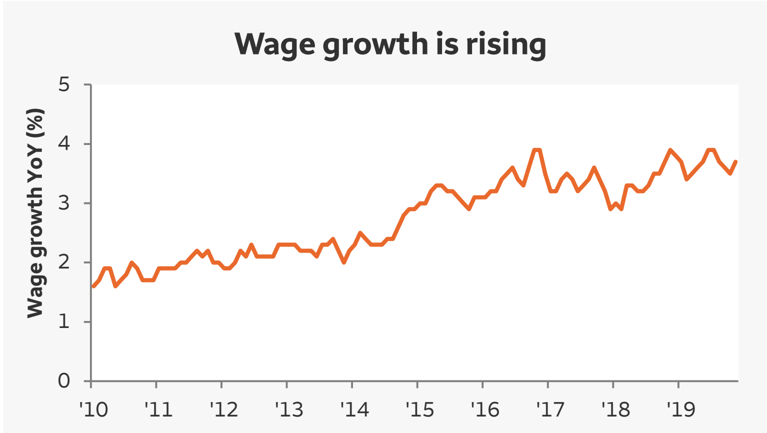

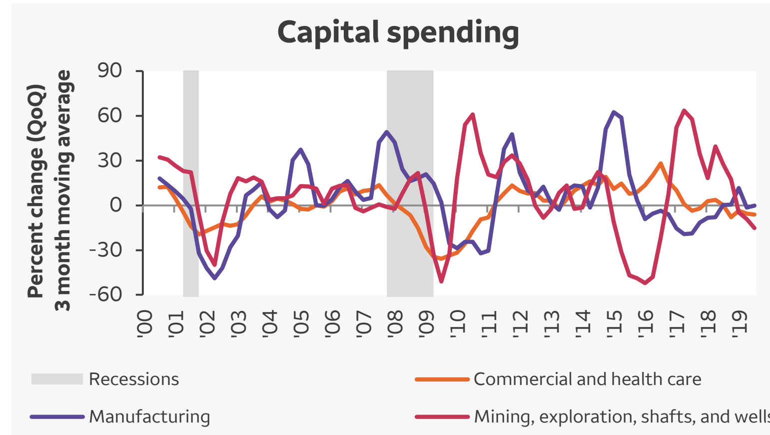

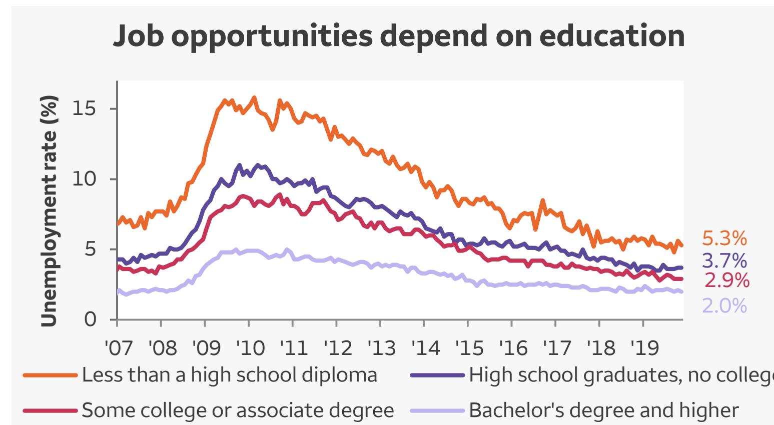

Sources: Bloomberg, Bureau of Economic Analysis, Bureau of Labor Statistics, FactSet, and Wells Fargo Investment Institute. Unemployment and Wage growth as of November 30, 2019. Compensation/corporate income, job growth, and capital spending as of September 30, 2019. Shaded area represents time frame of a U.S. economic recession. YoY = year-over-year. QoQ = quarter-over-quarter.

Key Takeaways

- Since the recession, companies have been steadily hiring workers but have inconsistently invested in capital.
- Strong labor demand has spread beyond skilled, to lower-paid, less-skilled workers.

Uncertainty weighs on confidence

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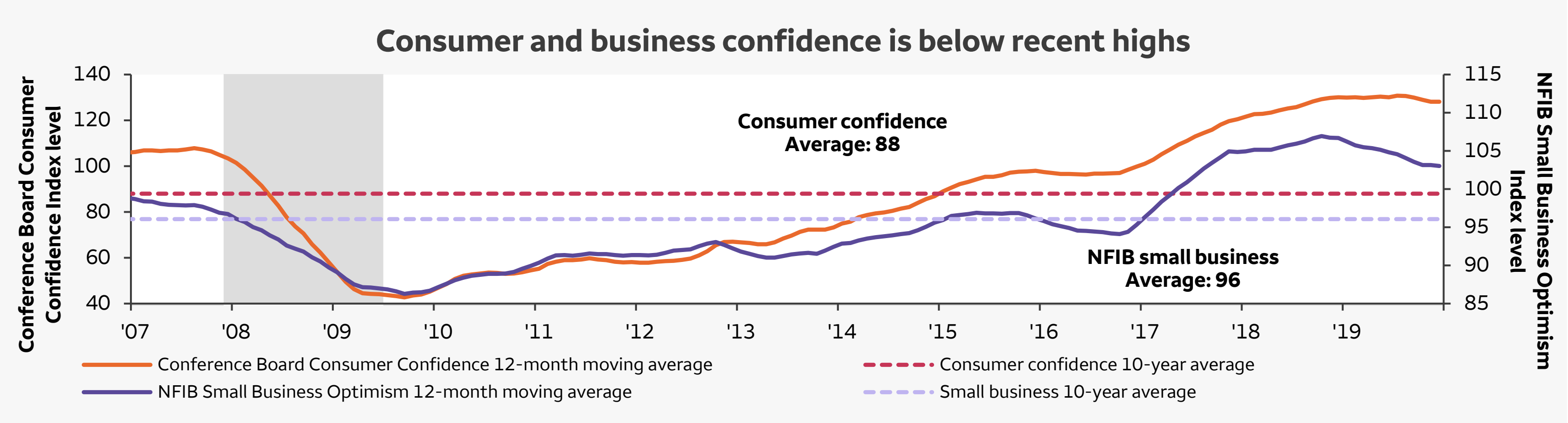
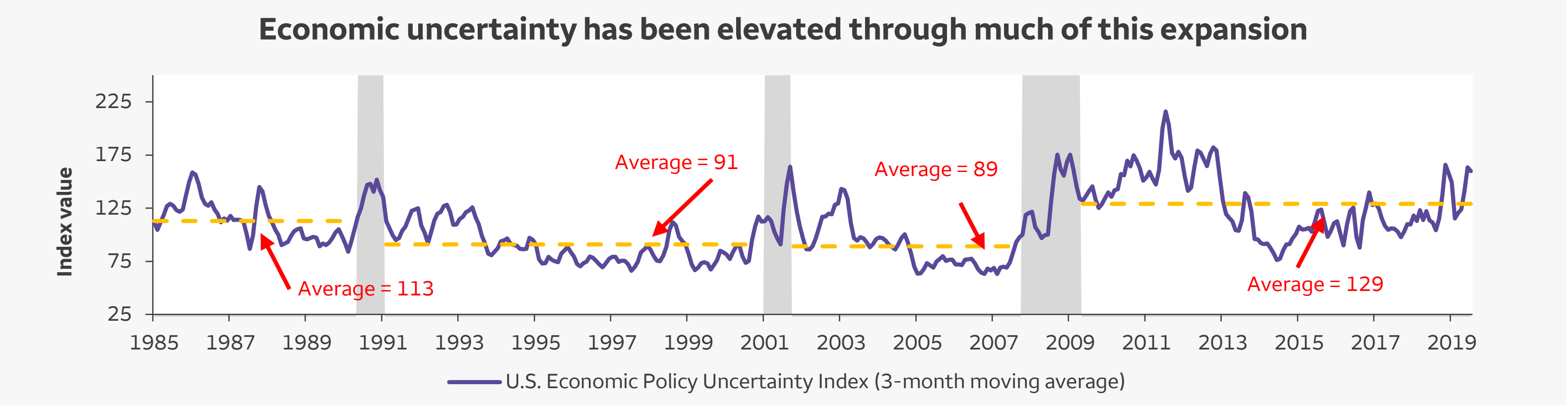




Sources: The Conference Board; National Federation of Independent Business (NFIB); Economic Policy Uncertainty Index—Baker, Bloom, and Davis; Bloomberg; and Wells Fargo Investment Institute, as of December 31, 2019. Shaded area represents a U.S. economic recession. The Consumer Confidence Index (CCI) tracks sentiment among households or consumers. The NFIB Small Business Index tracks the general state of the economy as it relates to businesses.

Key Takeaways

- Consumer and business confidence have suffered recently as trade disputes and global geopolitical concerns have weighed on sentiment.
- Economic policy uncertainty is down from its mid-2019 peak, but is still elevated.

Equities highlights

General

- Softening economic data and ongoing trade uncertainty continue to be headwinds for global equities and may lead to higher volatility in equities markets.
- We expect periods of market uncertainty in the near term but realize that volatility can often present opportunities for investors.

Domestic

- Despite uncertainties, major U.S. equity indexes continue moving higher.
- We expect greater volatility in the near term, but steady earnings growth should help buffer near-term uncertainties to some extent.
- Adjusting for tax-related earnings improvements, U.S. equity prices appear fairly valued at current levels.
- The current bull market is the longest in the history of the S&P 500 Index.
- In general, we currently favor the more cyclical sectors that are sensitive to the ebb and flow of the domestic economy.

International

- Looking ahead, developed market equities earnings growth may lag until trade tensions and Brexit uncertainties ease.
- Despite some progress, trade and geopolitical concerns could prove challenging for emerging markets.

Equity scorecard

Asset class	4Q19 return (%)	YoY return (%)	P/E (trailing 12 months)			Dividend yield (%)
			Current	20-year average	20-year median	
U.S. Large Cap Equities	9.07	31.49	21.60	18.78	18.08	1.82
U.S. Mid Cap Equities	7.06	30.54	23.87	21.82	21.30	1.73
U.S. Small Cap Equities	9.94	25.52	39.24	42.23	37.54	1.43
Developed Market ex-U.S. Equities	8.21	22.66	18.56	24.47	17.73	3.37
Emerging Market Equities	11.93	18.88	15.43	13.70	13.32	2.64
Frontier Market Equities	6.64	18.34	10.58	–	–	3.85

Sources: Bloomberg, and Wells Fargo Investment Institute, as of December 31, 2019. YoY = year over year. P/E = price/earnings. For illustrative purposes only. Large cap = S&P 500 Index. Mid cap = Russell Midcap Index. Small cap = Russell 2000 Index. Developed market Ex-U.S. = MSCI EAFE Index. Emerging market = MSCI Emerging Markets Index. Frontier market = MSCI Frontier Markets Index. Yields represent past performance and fluctuate with market conditions. Current yields may be higher or lower than those quoted. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** Please see the end of the report for the definitions of the indexes.

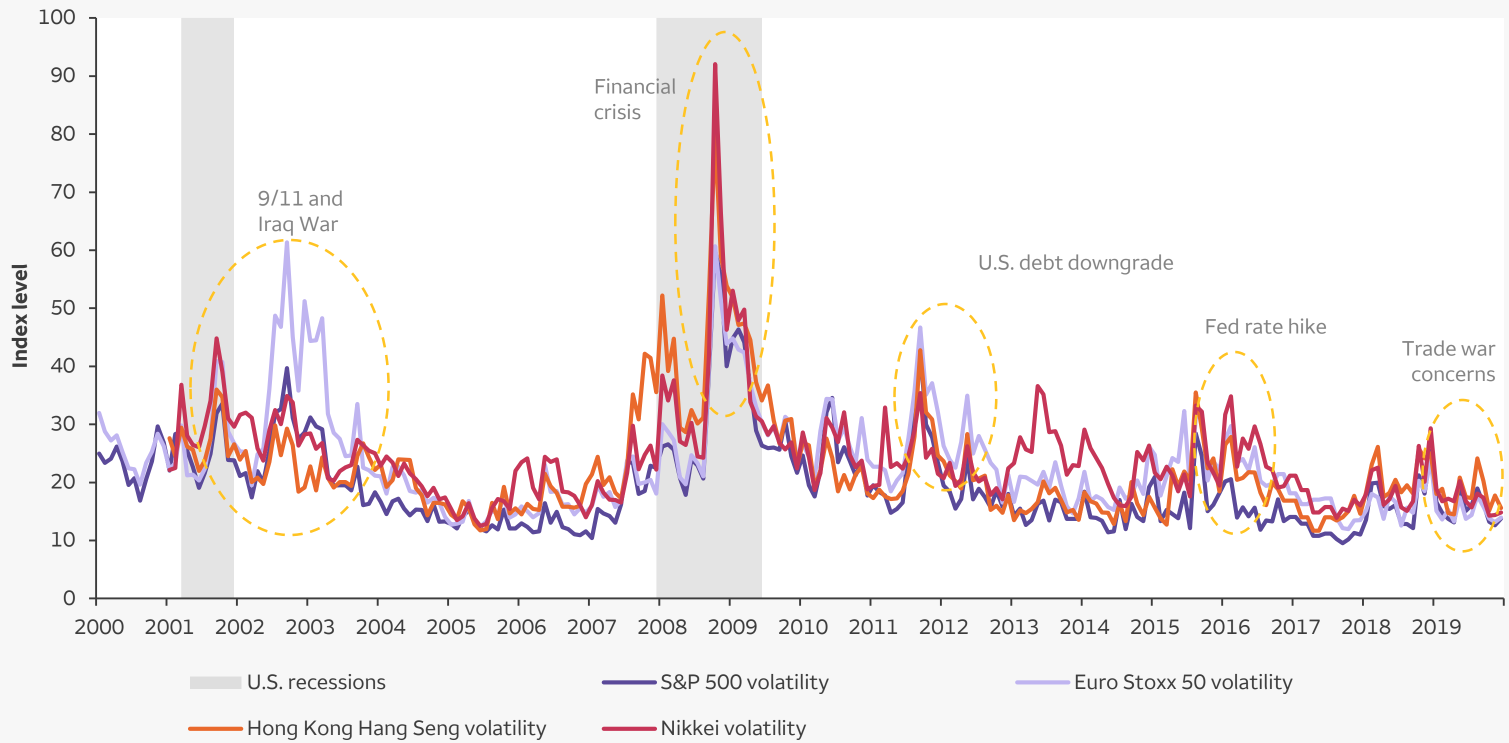
Key Takeaways

- Despite uncertainties, major U.S. equity indexes continued moving higher in the fourth quarter of 2019.
- Softening economic data and ongoing trade uncertainty continue to be headwinds for global equities and may lead to higher volatility in equities markets.

*Note: March 2009 to June 2009 P/Es for small cap have been removed due to their outlier condition.

Volatility spiked several times during this cycle

Markets have moved together when volatility spikes



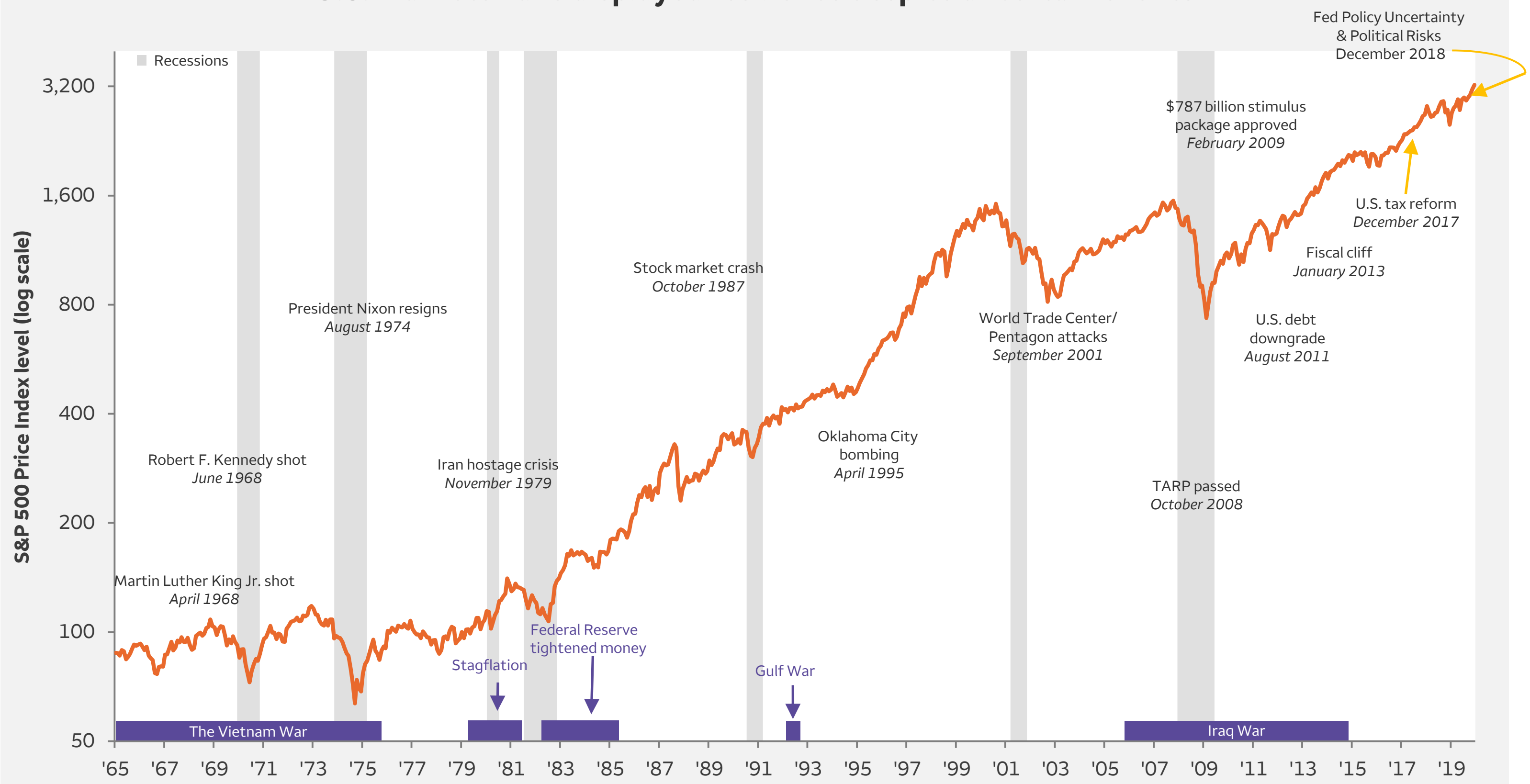
Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. S&P 500 volatility measured by the CBOE Volatility Index® (VIX®). Euro STOXX 50 volatility measured by the VSTOXX Index. Hong Kong Hang Seng volatility measured by the HSI Volatility Index. Nikkei volatility measured by the VNKY Index. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** Please see the end of the report for the definitions of the indexes.

Key Takeaways

- Since the financial crisis, global equity markets have experienced periodic spikes in volatility due to a number of factors.
- We expect periods of market uncertainty in the coming year, but investors should realize that volatility can often present opportunities.

Market resilience

U.S. markets have displayed resilience despite uncertain events



Sources: Wells Fargo Investment Institute, Bloomberg, and Ned Davis Research, as of December 31, 2019. For illustrative purposes only. A price index is not a total return index and does not include the reinvestment of dividends. The S&P 500 Index is a market-capitalization-weighted index considered representative of the U.S. stock market. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** There is no guarantee equity markets will perform similarly during other periods of uncertainty. All investing involves risk including the possible loss of principal.

Key Takeaways

- Market uncertainty is a fact of life, and volatility is a normal part of market behavior.
- Even serious financial crises, like the one that contributed to the 2008 market downturn, historically have recuperated over the course of the market cycle.

After the Fed's first rate cut

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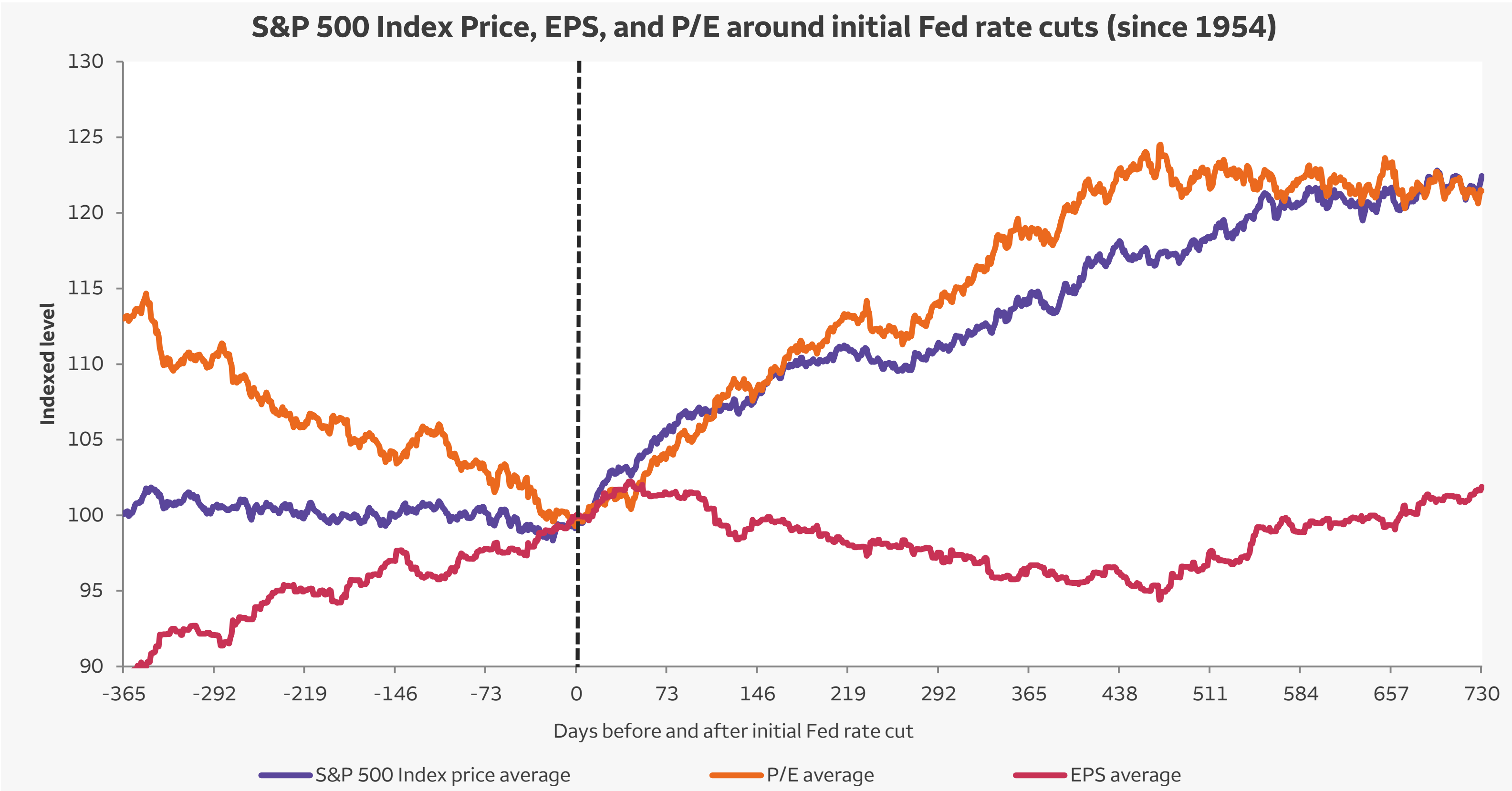

Sources: Bloomberg, Ned Davis Research Group, and Wells Fargo Investment Institute, as of December 31, 2019. P/E = price-to-earnings. EPS = earnings per share. For illustrative purposes only. The S&P 500 Index is a market-capitalization-weighted index considered representative of the U.S. stock market. **Past performance is no guarantee of future results.** An index is unmanaged and not available for direct investment. There is no guarantee any asset class will perform in a similar manner in the future or in other rising rate environments. Indexed to 100 as of the initial rate cut date.

Key Takeaways

- Historically, U.S. stocks continue to perform well while the Federal Reserve (Fed) is cutting interest rates.

Free cash flows support the equity market

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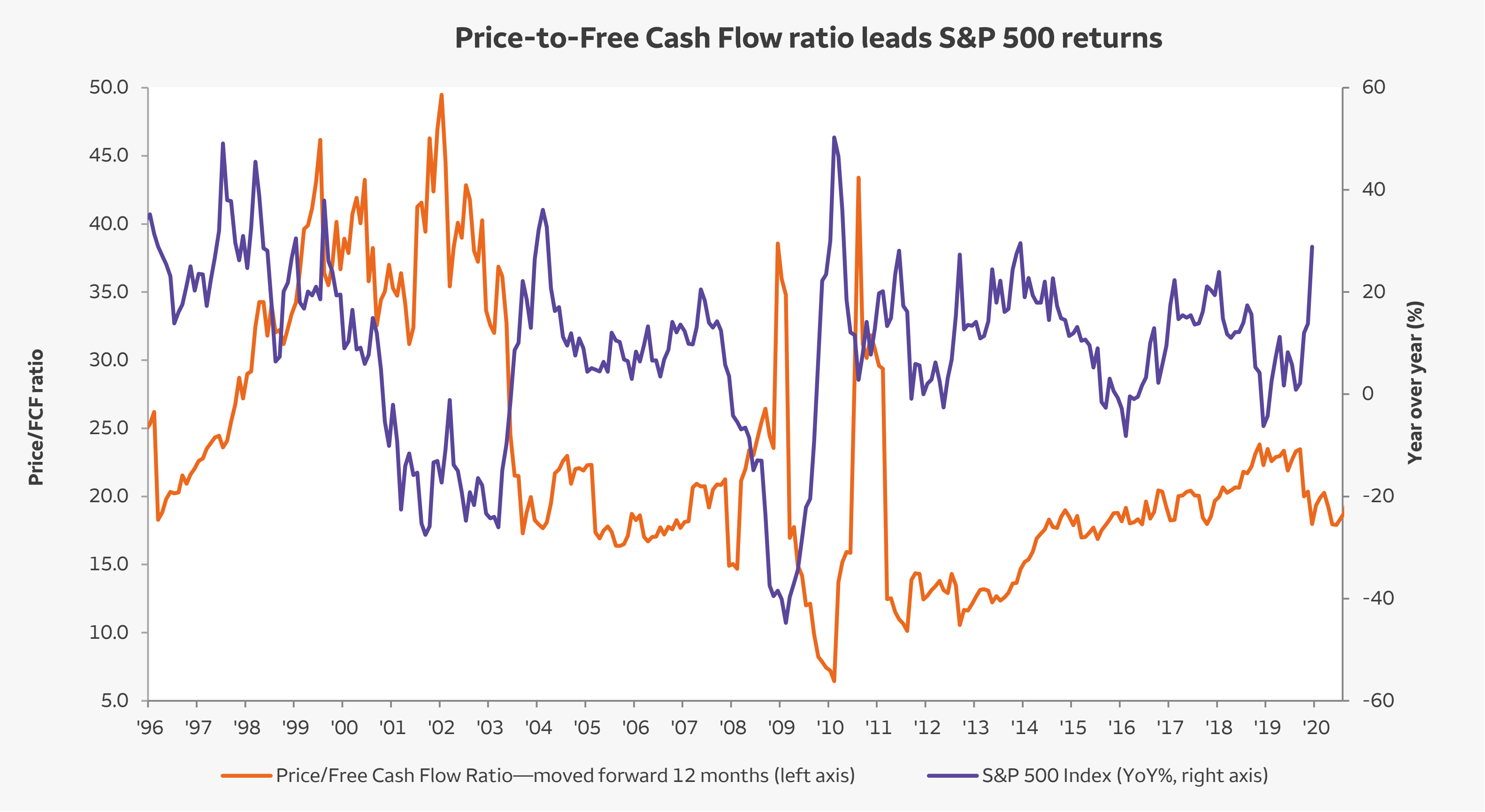
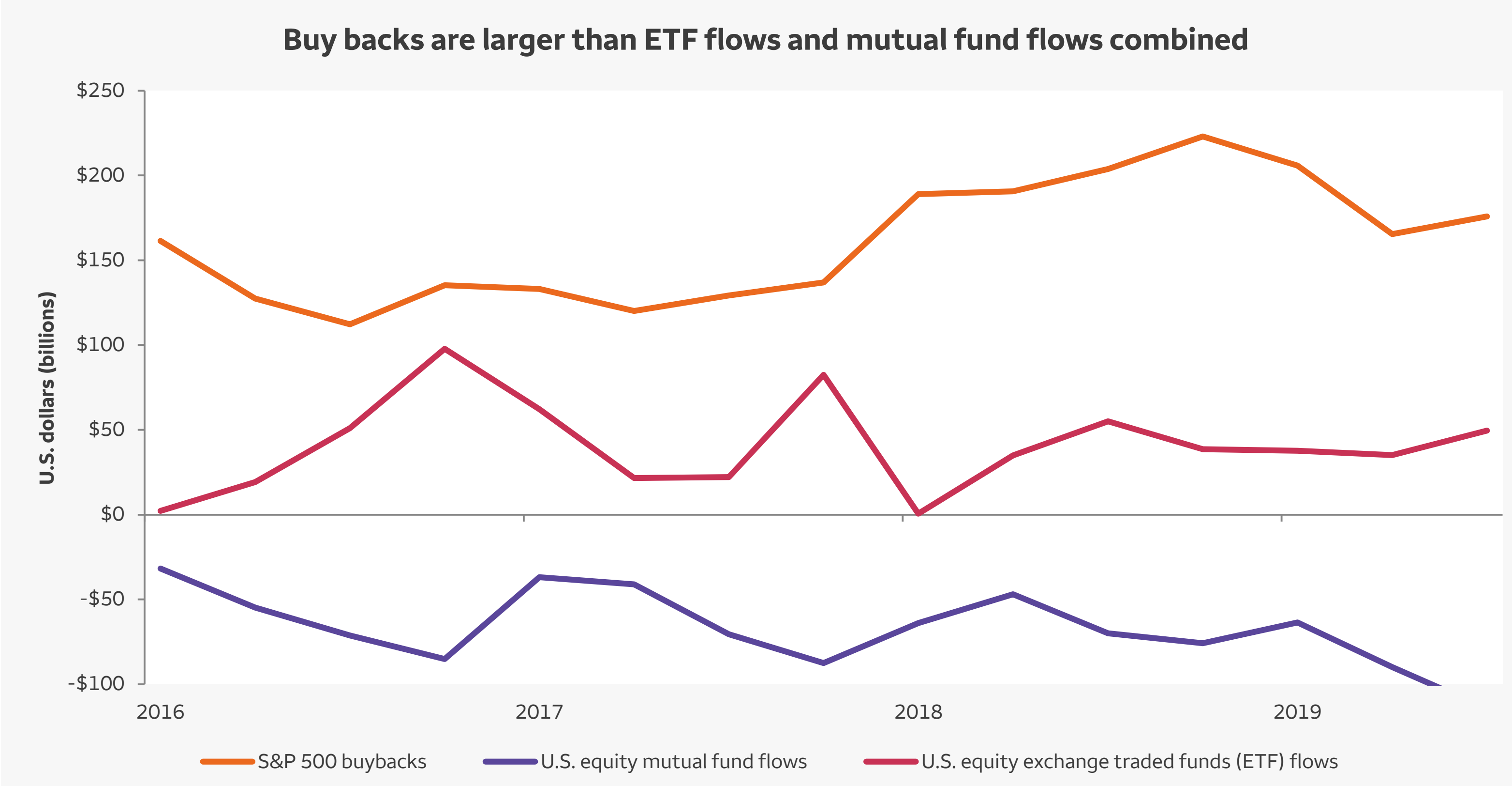


Sources: Bloomberg, FactSet, IBES, and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. FCF = Free Cash Flow. YoY = year over year. Price/FCF ratios represent the total price of the index divided by its free cash flow. The S&P 500 Index is a market-capitalization-weighted index considered representative of the U.S. stock market. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Key Takeaways

- Strong corporate cash flows have supported the current U.S. equity market and may continue fueling the record U.S. equity bull market.

Buybacks exceed fund flows



Sources: S&P Dow Jones, Investment Company Institute, and Wells Fargo Investment Institute, as of September 30, 2019. For illustrative purposes only.

Key Takeaways

- Free cash flow has helped companies to buy back stock, which has supported the U.S. equity market.
- The corporate tax cuts, announced in late 2017, went into effect in 2018 may possibly have contributed to an increase in buybacks.

Room to run? Or running out of room?

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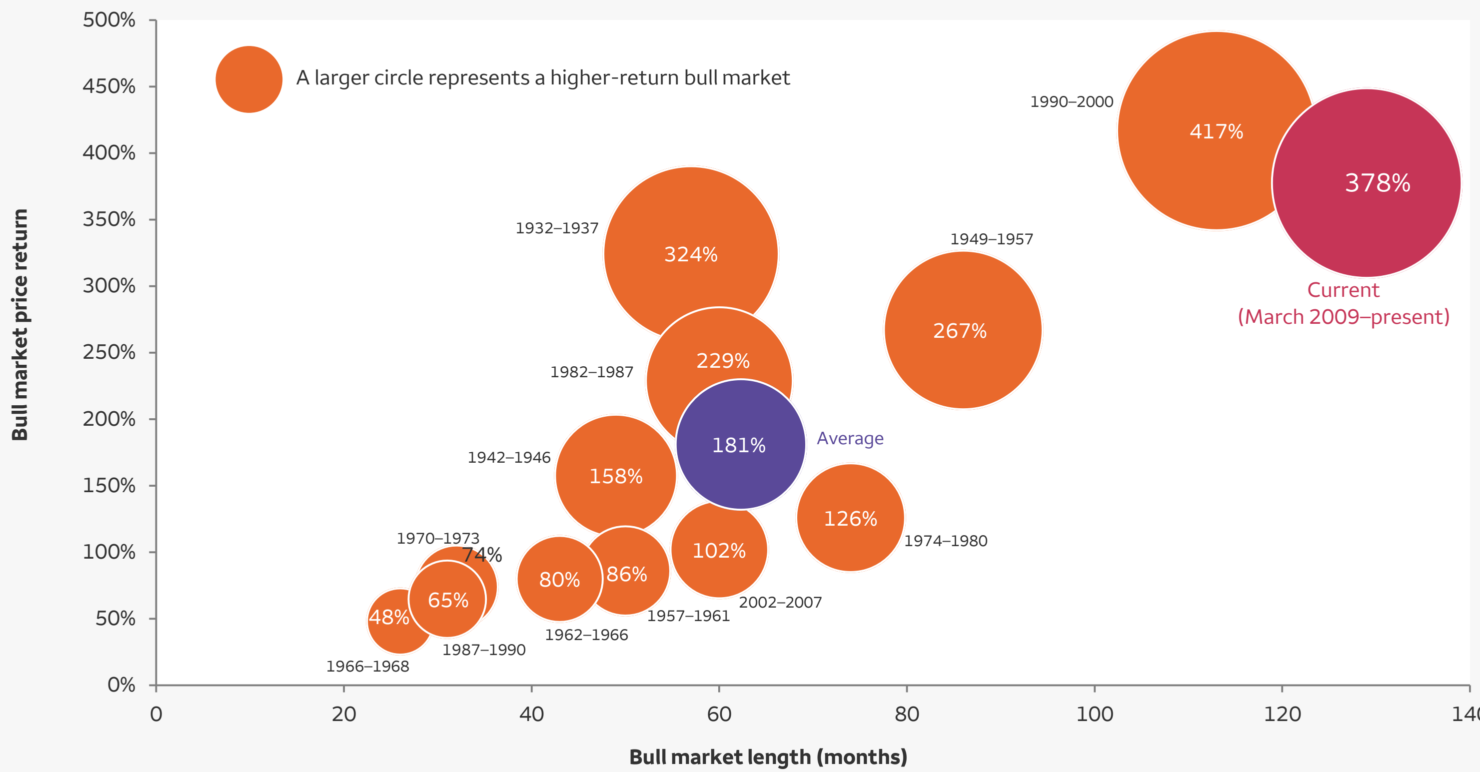
By our measures this bull is the longest on record



Sources: Bloomberg and Wells Fargo Investment Institute, as December 31, 2019. Market represented by the S&P 500 Index. The S&P 500 Index is a market-capitalization-weighted index considered representative of the U.S. stock market. For illustrative purposes only. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** A price index is not a total return index and does not include the reinvestment of dividends.

Key Takeaways

- The current recovery has far surpassed the return and duration of the average bull market and now has become the longest bull market in history.
- There have been two “near bears” with markets declining 20% intraday, but the market closed higher than the 20% decline we are using to mark the end of a bull market.

Staying the course

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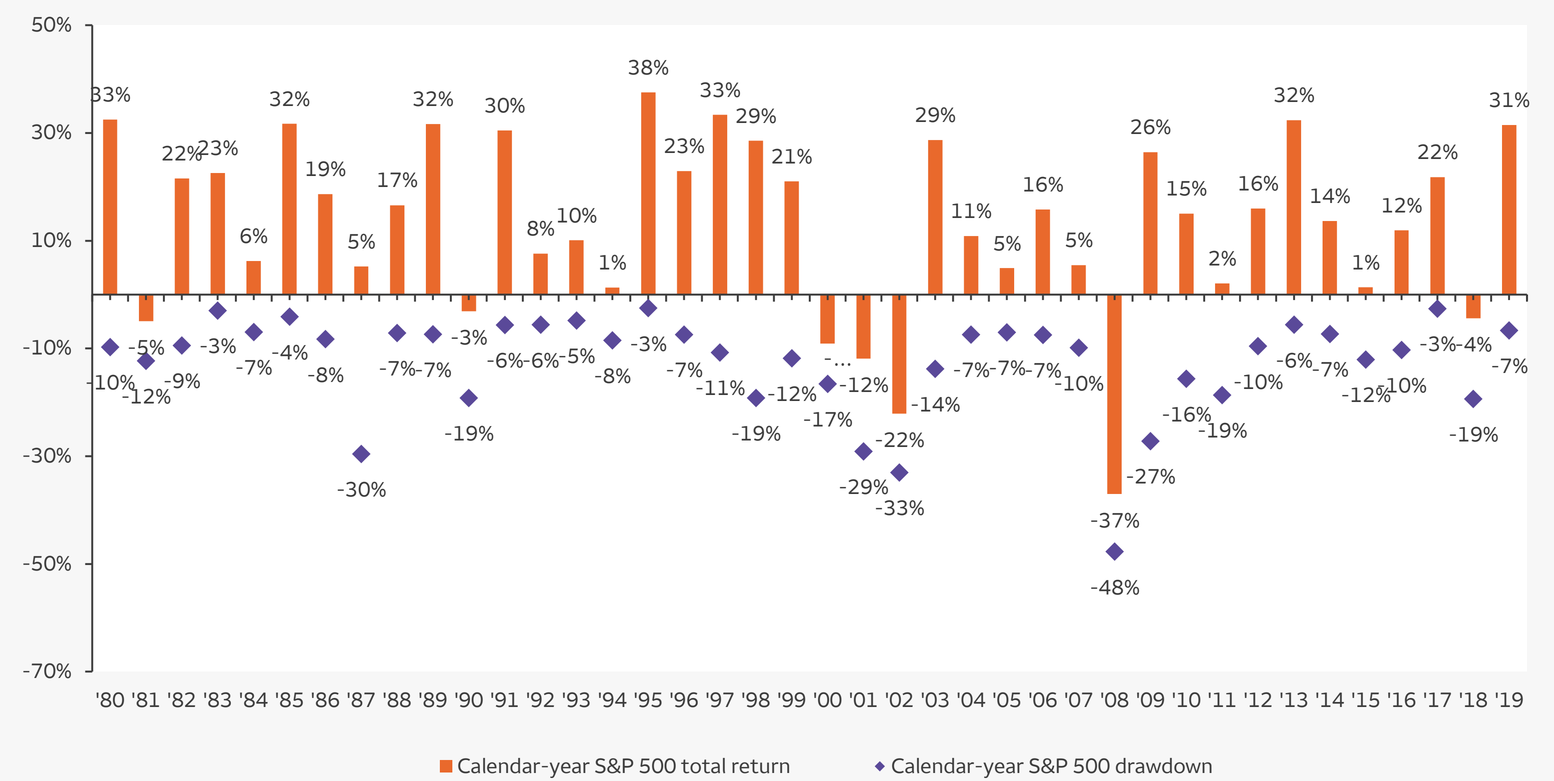
A correction is no reason to exit the market



Sources: Morningstar Direct and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. Severe intra-year corrections do not necessarily indicate subpar performance for the calendar year. Analysis was compiled using the daily price of the S&P 500 Total Return Index. The S&P 500 Index is a market-capitalization-weighted index considered representative of the U.S. stock market. Calendar-year drawdowns represent the largest market drops from peak to trough for each year. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Key Takeaways

- Market corrections can be difficult to endure, however they can offer opportunities for investors to purchase high-quality stocks at reasonable prices.
- There have been two 19% corrections during this bull market. We define a bear market as one that closes down 20% from its prior peak.

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S&P 500 returns before and during U.S. economic recessions

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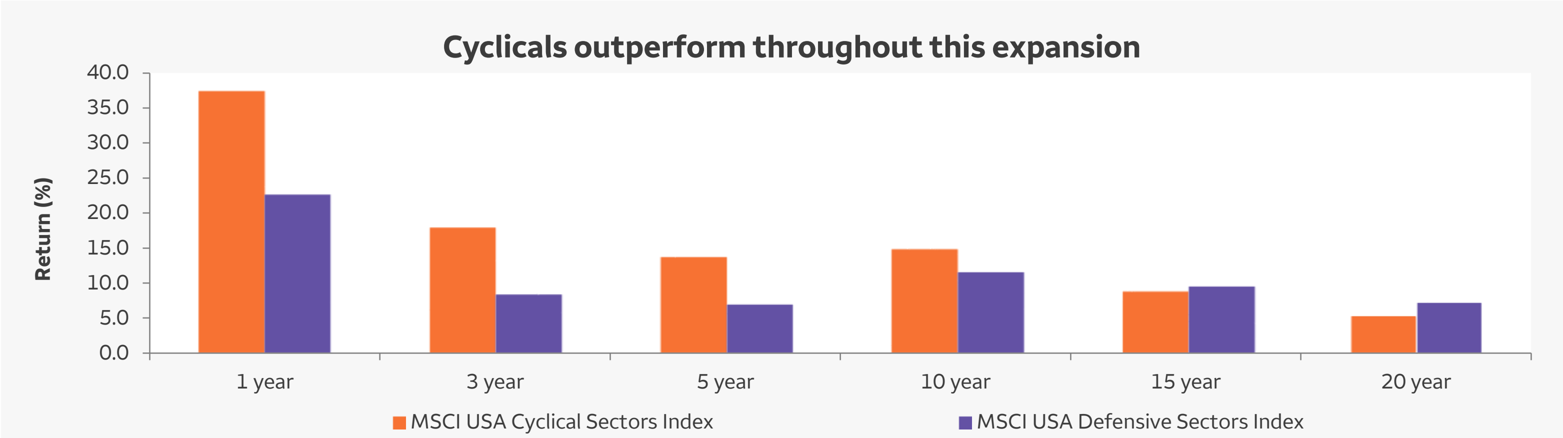
U.S. economic recessions	Return preceding recession (%)				Return during recession (%)
	Prior 6 months	Prior 12 months	Prior 18 months	Prior 24 months	
August 7, 1929	17.89	49.46	67.03	64.95	-79.95
May 4, 1937	-4.02	21.06	32.57	77.60	-43.69
February 9, 1945	7.89	17.22	17.93	29.30	20.61
November 9, 1948	-4.52	-1.96	2.60	1.08	5.60
July 5, 1953	-8.63	-2.75	1.84	12.57	16.09
August 7, 1957	7.82	-4.33	5.45	10.50	-11.80
April 6, 1960	-1.02	-0.16	11.50	36.23	9.75
December 9, 1969	-10.52	-15.89	-10.59	-5.10	-6.49
November 9, 1973	-4.65	-7.22	0.53	11.48	-20.52
January 8, 1980	5.14	10.27	14.82	18.92	7.81
July 5, 1981	-6.76	9.52	20.77	25.59	11.18
July 5, 1990	0.99	10.93	27.02	28.96	5.76
March 6, 2001	-15.98	-9.88	-7.62	-1.70	-10.65
December 9, 2007	-0.20	6.73	20.15	19.48	-37.52
Average	**-1.18**	**5.93**	**14.57**	**23.56**	**-9.56**
Percent of the time positive	36%	50%	86%	86%	50%

Sources: Bloomberg, National Bureau of Economic Research, and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. The S&P 500 Index is a market-capitalization-weighted index considered representative of the U.S. stock market. **Past performance is no guarantee of future results**. An index is unmanaged and not available for direct investment. There is no guarantee any asset class will perform in a similar manner in the future or in other rising rate environments.

Key Takeaways

- A recession does not seem imminent. However, despite some progress, trade policy issues may curtail the U.S. economic expansion, which may lead to an eventual recession.
- From a historical lens, U.S. large-cap equities have been largely positive 12, 18, and 24 months leading into a recession.

Cyclicals – a star in recent years



	Index name	% weight	QTD % change	YTD % change	12-month forward P/E	Dividend yield %
	S&P 500	**100.0**	**9.07**	**31.49**	**18.17**	**1.81**
Defensive	Communication Services	10.39	9.00	32.69	18.76	1.23
Cyclical	Consumer Discretionary	9.75	4.47	27.94	22.22	1.27
Defensive	Consumer Staples	7.20	3.51	27.61	20.20	2.70
Defensive	Energy	4.35	5.49	11.81	17.67	3.81
Cyclical	Financials	12.95	10.47	32.13	13.37	1.95
Defensive	Health Care	14.20	14.37	20.82	16.17	1.65
Cyclical	Industrials	9.05	5.54	29.37	16.90	1.96
Cyclical	Information Technology	23.20	14.40	50.29	21.76	1.23
Cyclical	Materials	2.65	6.38	24.58	18.37	2.15
Cyclical	Real Estate	2.93	-0.54	29.01	40.23	3.13
Defensive	Utilities	3.32	0.75	26.35	19.89	3.24

Sources: FactSet, I/B/E/S Estimates, Morningstar Direct, and Wells Fargo Investment Institute, as of December 31, 2019. YTD = year to date. QTD = quarter to date. P/E = price/earnings. For illustrative purposes only. Yields represent past performance and fluctuate with market conditions. Current yields may be higher or lower than those quoted above. The S&P 500 Index is a market-capitalization-weighted index considered representative of the U.S. stock market. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Key Takeaways

- We favor cyclical sectors whose earnings growth should improve with economic growth.
- In a maturing economic expansion, we favor sectors with higher quality factors, such as attractive return on equity and low debt exposure.

Dividend yields outside of the U.S. are attractive

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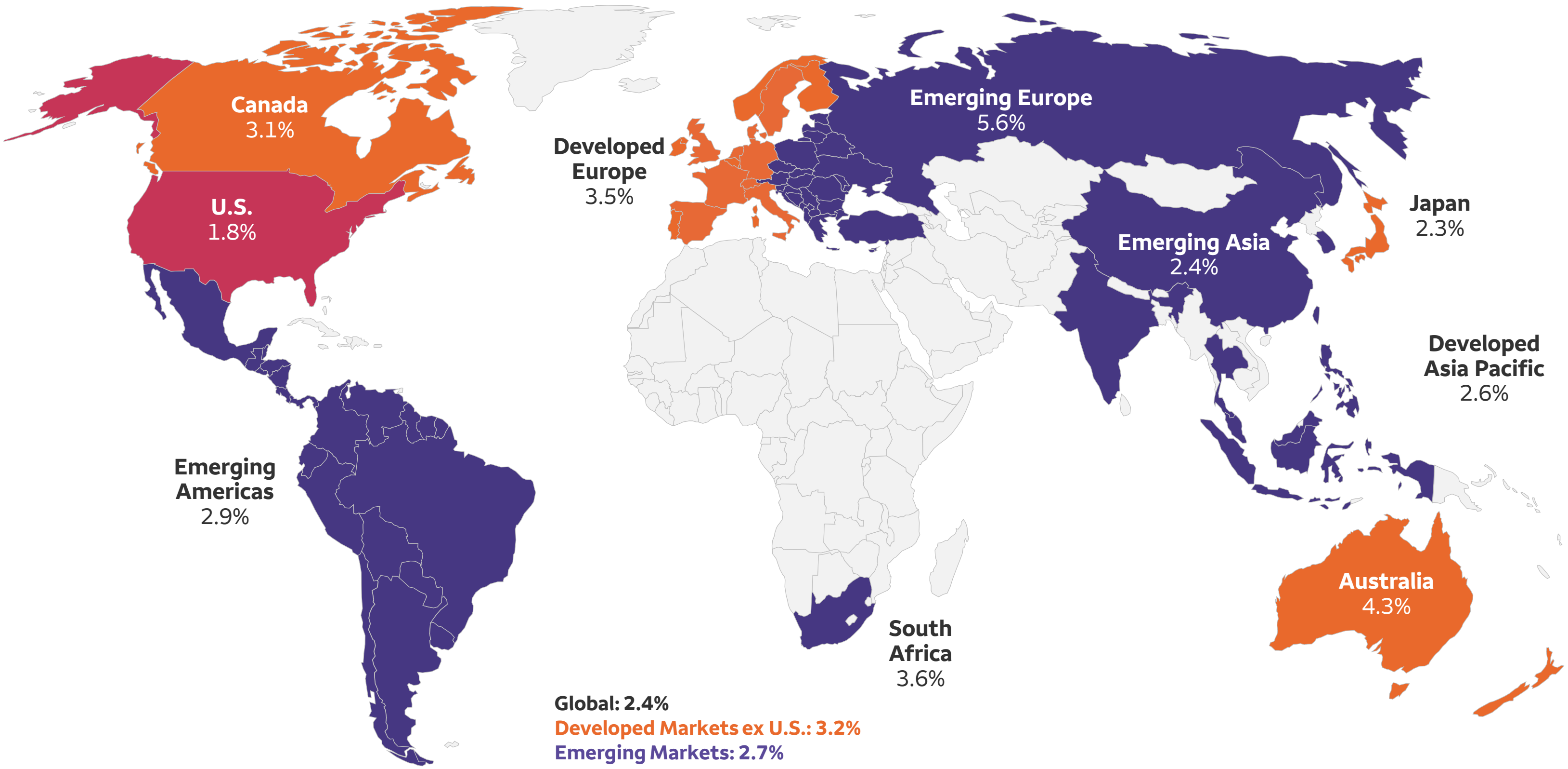

Source: MSCI, Bloomberg, and Wells Fargo Investment Institute, as of December 31, 2019. Yields represent past performance and fluctuate with market conditions. Current yields may be higher or lower than those quoted. **Past performance is no guarantee of future results.** Canada: MSCI Canada Index, U.S.: MSCI U.S. Index, Emerging Americas: MSCI Emerging Markets (EM) Latin America Index, Developed Europe: MSCI Europe Index, Emerging Europe: MSCI EM Europe Index, Emerging Asia: MSCI EM Asia Index; Japan: MSCI Japan Index, Developed Asia Pacific: MSCI Asia Pacific, Australia: MSCI Australia Index, South Africa: MSCI South Africa Index, Global: MSCI ACWI Index, Developed Markets: MSCI World ex USA Index, and Emerging Markets: MSCI Emerging Markets. An index is unmanaged and not available for direct investment. Definitions of the indices and descriptions of the risks associated with investment in these asset classes are provided at the end of the presentation.

Key Takeaways

- Dividend yields in many regions outside of the U.S. are attractive.

International markets: bulls and bears

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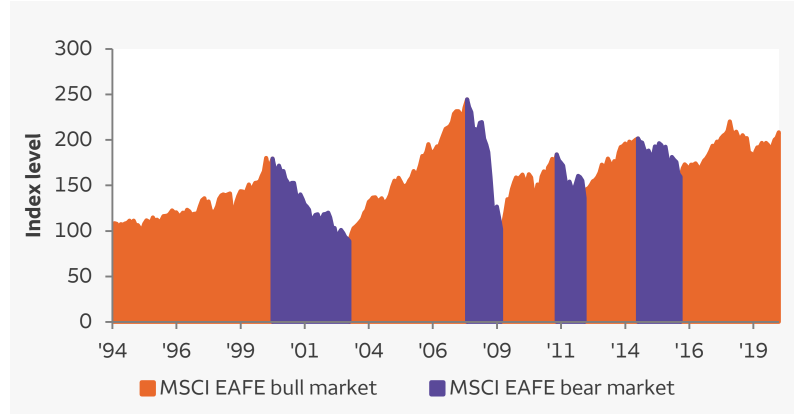
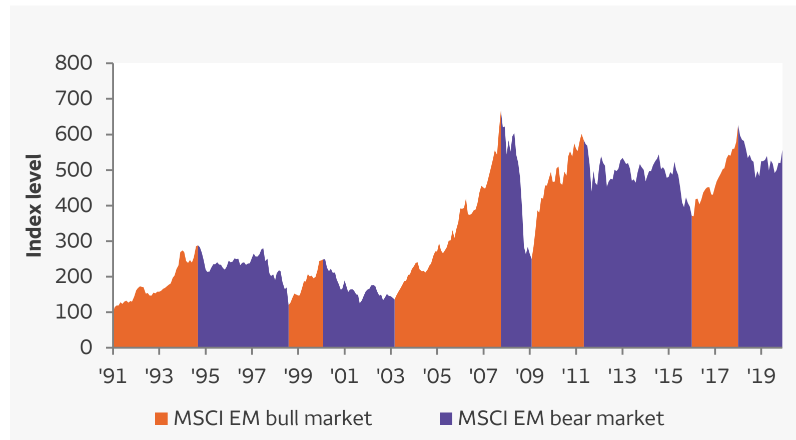
MSCI EAFE Index, Dec. 1993–Dec. 2019				
Bull start	Bull end	Duration—months	Returns—total	Returns—annualized
Dec-93	Mar-00	76	109%	13%
Mar-03	Oct-07	55	205%	28%
Feb-09	Apr-11	26	68%	27%
May-12	Jun-14	25	50%	22%
Feb-16	–	46	56%	12%
Average		45.6	98%	20%



MSCI EM Index, Jan. 1991–Dec. 2019				
Bull start	Bull end	Duration—months	Returns—total	Returns—annualized
Jan-91	Sep-94	44	233%	39%
Aug-98	Feb-00	17	62%	38%
Mar-03	Oct-07	55	425%	44%
Feb-09	May-11	26	123%	43%
Jan-16	Jan-18	24	89%	37%
Average		33.2	186%	40%



Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. The MSCI EAFE Index and the MSCI Emerging Markets Index are equity Indexes that capture large- and mid-cap representation across 21 developed market countries (excluding the U.S. and Canada), and 24 emerging market countries, respectively, around the world. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Key Takeaways

- International bull markets have become shorter in duration and more frequent than before.

Developed market divergence

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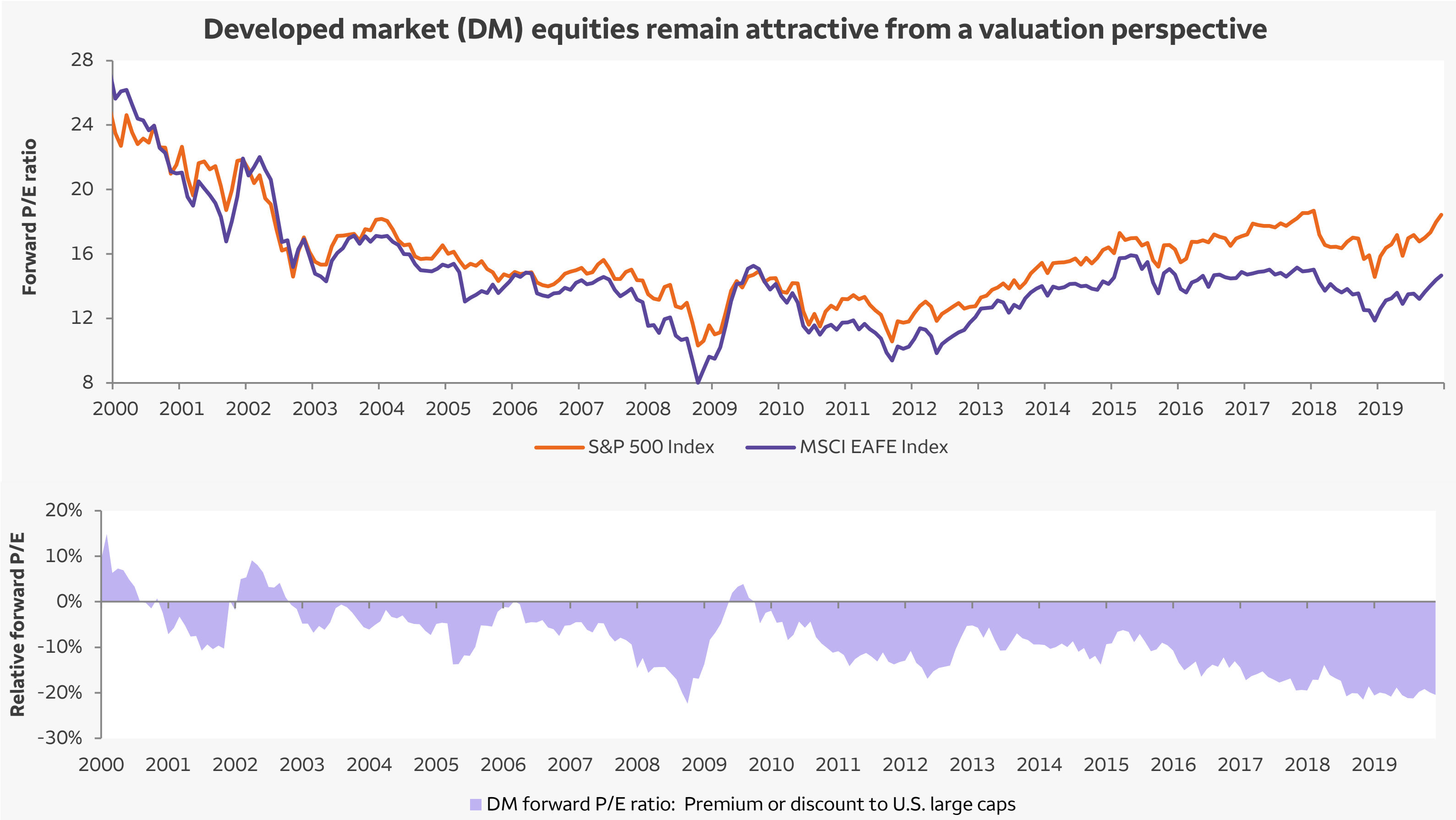

Sources: FactSet, IBES and Wells Fargo Investment Institute, as of December 31, 2019. P/E = price/earnings ratio. For illustrative purposes only. The MSCI EAFE Index is an equity index which captures large- and mid-cap representation across developed market countries around the world, excluding the U.S. and Canada. The S&P 500 Index is a market-capitalization-weighted index considered representative of the U.S. stock market. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Key Takeaways

- Aside from the geopolitical, trade, and growth challenges, we have seen some fundamental improvement in DM equities.
- DM valuations versus U.S. large caps are attractive, but geopolitical uncertainty remains a headwind for the asset class.

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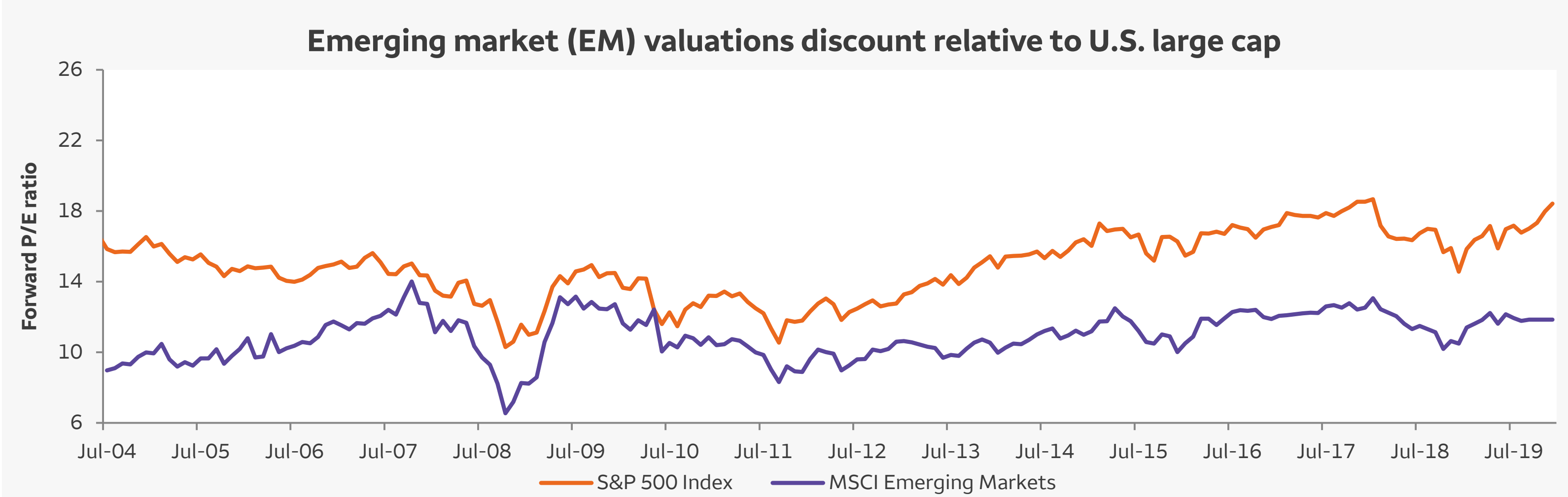
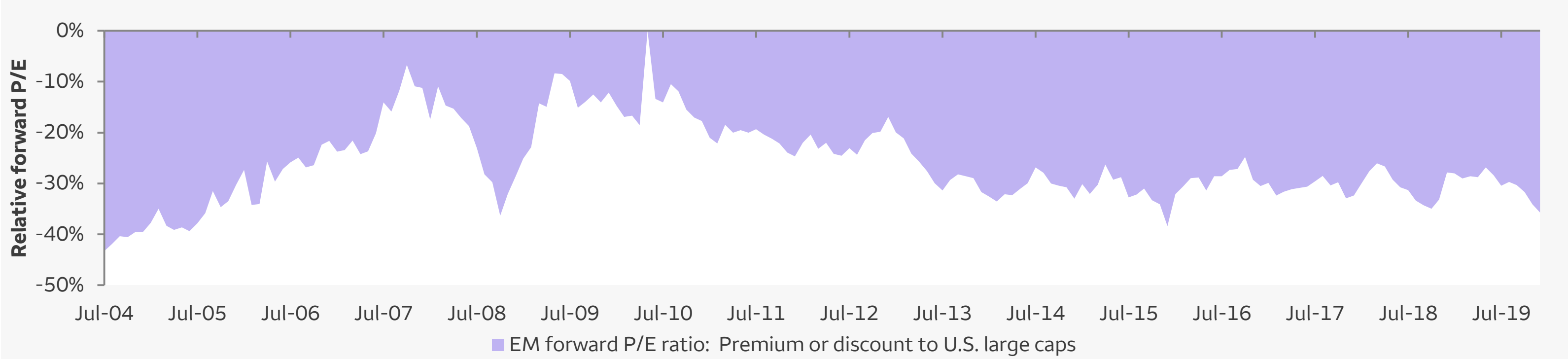
Emerging market earnings support equities





Sources: FactSet, IBES and Wells Fargo Investment Institute, as of December 31, 2019. P/E = price/earnings ratio. For illustrative purposes only. The MSCI Emerging Markets Index is a free-float-adjusted market-capitalization-weighted index designed to measure equity market performance of emerging markets. The S&P 500 Index is a market-capitalization-weighted index considered representative of the U.S. stock market. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Key Takeaways

- Forward valuations are more in-line with historical averages, as trade uncertainty lingers and adds pressure to companies' supply costs.
- Looking ahead, we expect emerging economies to continue to take a more balanced approach to growth and bolster their own consumers' spending.

Fixed-income highlights

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General

- Yields available in many segments of the bond market are still materially lower than investors have historically experienced.
- Despite the low rates, yields are still positive in many types of fixed income classes.

Domestic

- U.S. bond yields have ticked lower on global growth and trade-related concerns.
- Although short-term and long-term U.S. Treasury yields currently are similar, we do not see this flattening of the yield curve foreshadowing a near-term recession.
- We believe that unless the 10-year U.S. Treasury yield moves below the 1-year Treasury yield by 25 basis points[1], or this inversion persists for more than four weeks, the economy is likely to continue growing in the near term.
- The difference between the yields of high-quality and low-quality bonds has narrowed. Currently, we see little risk-adjusted value in high-yield corporate bonds.

International

- Developed market government bond yields remain low as economic growth and deflationary concerns remain in the eurozone.
- Emerging market fixed income may struggle in 2020 as valuations weaken and geopolitical uncertainties persist.

1. 100 basis points equals 1%.

Fixed-income scorecard

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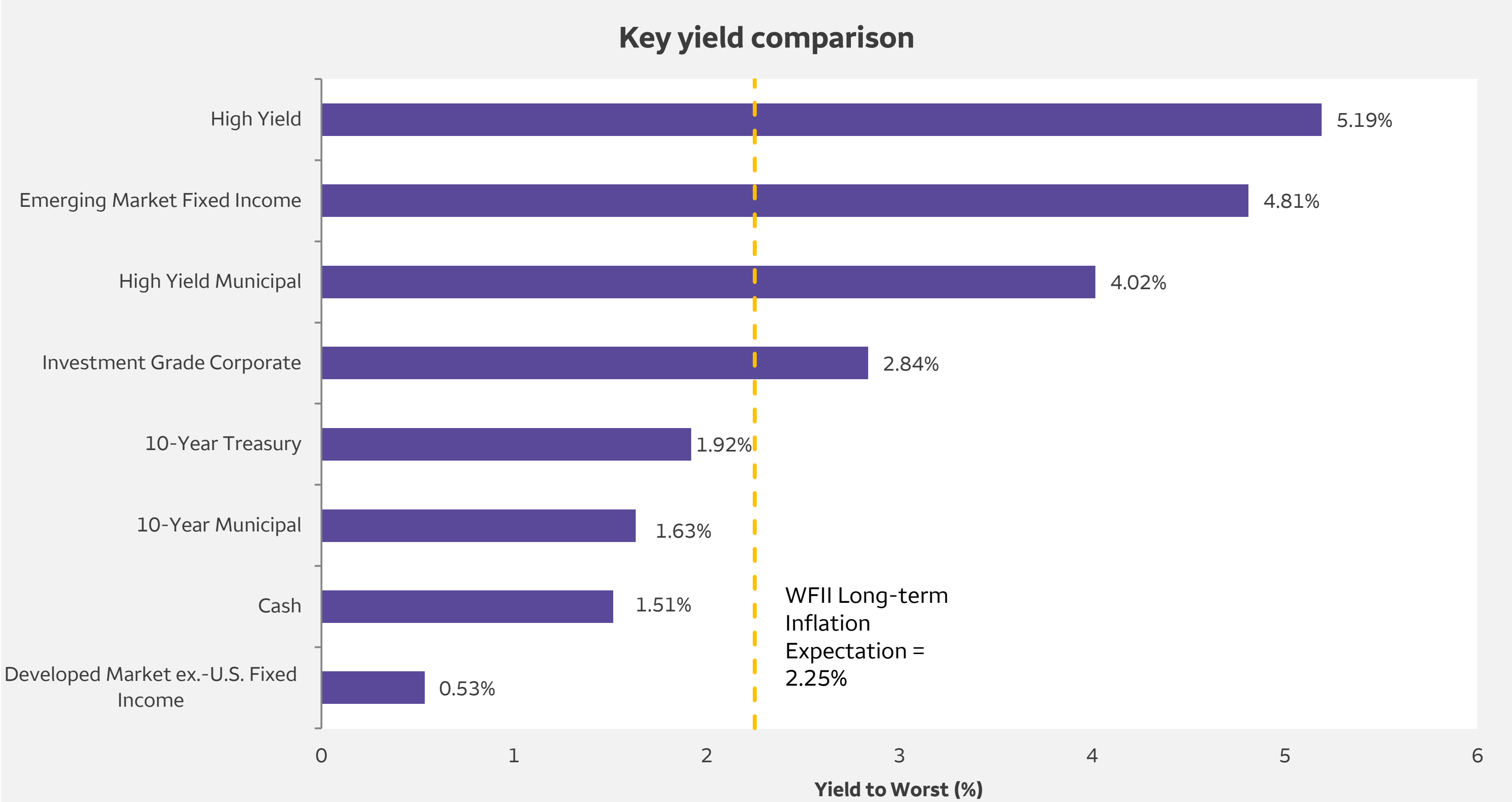
Asset class	4Q19 return (%)	YoY return (%)	Duration (years)	Yield to Worst (%)
U.S. Short Term Taxable Fixed Income	0.57	4.04	1.80	1.75
U.S. Intermediate Term Taxable Fixed Income	0.50	7.32	4.36	2.37
U.S. Long Term Taxable Fixed Income	-1.12	19.57	15.73	3.07
High Yield Taxable Fixed Income	2.61	14.32	2.96	5.19
Developed Market ex.-U.S. Fixed Income	-2.41	5.23	9.67	0.53
Emerging Market Fixed Income	2.09	14.42	7.80	4.81

Sources: FactSet and Wells Fargo Investment Institute, as of December 31, 2019. YoY = year over year. Duration is a measure of a bond's sensitivity to interest rates. For illustrative purposes only. Short term taxable = Bloomberg Barclays U.S. Aggregate 1–3 Year Bond Index. Intermediate term taxable = Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index. Long term taxable = Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index. High Yield taxable = Bloomberg Barclays U.S. Corporate High Yield Bond Index. Developed market ex-U.S. = J.P. Morgan GBI Global Ex U.S. Index (Unhedged). Emerging market = J.P. Morgan EMBI Global Index (USD). Yields and returns represent past performance and fluctuate with market conditions. Current performance may be higher or lower than that quoted above. **Past performance is no guarantee of future results.** An index is unmanaged and not available for direct investment. Please see the end of the report for the definitions of the indexes.

Key Takeaways

- U.S. short-term and high yield corporate bonds performed well in the fourth quarter of 2019 as the Federal Reserve cut rates for the third time last year.
- International developed bonds pulled back in the fourth quarter but were still up in 2019, while emerging market bonds outperformed.
- We favor higher credit quality and a diversified income approach across fixed income asset classes.

Yield available despite low rates



Sources: Bloomberg, FactSet, and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. High Yield: Bloomberg Barclays U.S. Corporate High Yield Bond Index, Emerging Market: J.P. Morgan EMBI Global Index, High Yield Municipal: Bloomberg Barclays U.S. Municipal High Yield Index, Investment Grade Corporate: Bloomberg Barclays U.S. Corporate Bond Index, Cash: Bloomberg Barclays US Treasury Bills (1–3M) Index, and Developed Market ex-U.S.: J.P. Morgan GBI Global Ex U.S. Index. Yields represent past performance and fluctuate with market conditions. Current yields may be higher or lower than those quoted above. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** Please see the end of the report for the definitions of the indexes.

Key Takeaways

- Yields are still materially lower than investors have historically experienced.
- Diversifying income streams can potentially lessen portfolio volatility and reduce the probability of dramatic swings in the levels of income provided.

Developed market yields remain low

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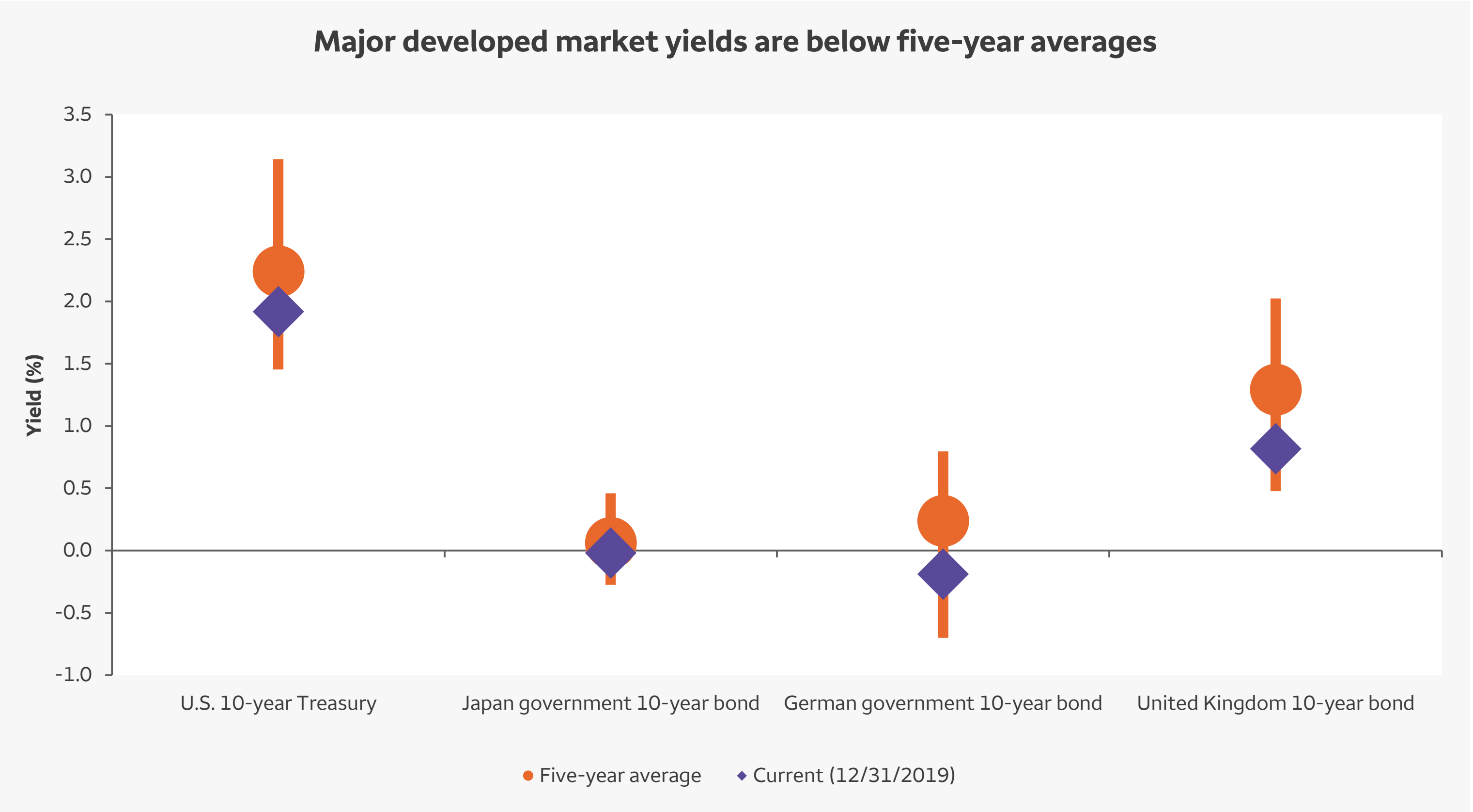

Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. Yields represent past performance and fluctuate with market conditions. Current yields may be higher or lower than those quoted above. **Past performance is no guarantee of future results.**

Key Takeaways

- Developed market government bond yields are low given slow economic growth and deflationary concerns in the eurozone.
- U.S. bond yields are below recent highs as global growth and trade-related concerns persist.

Yield curve signaling diminishing worries

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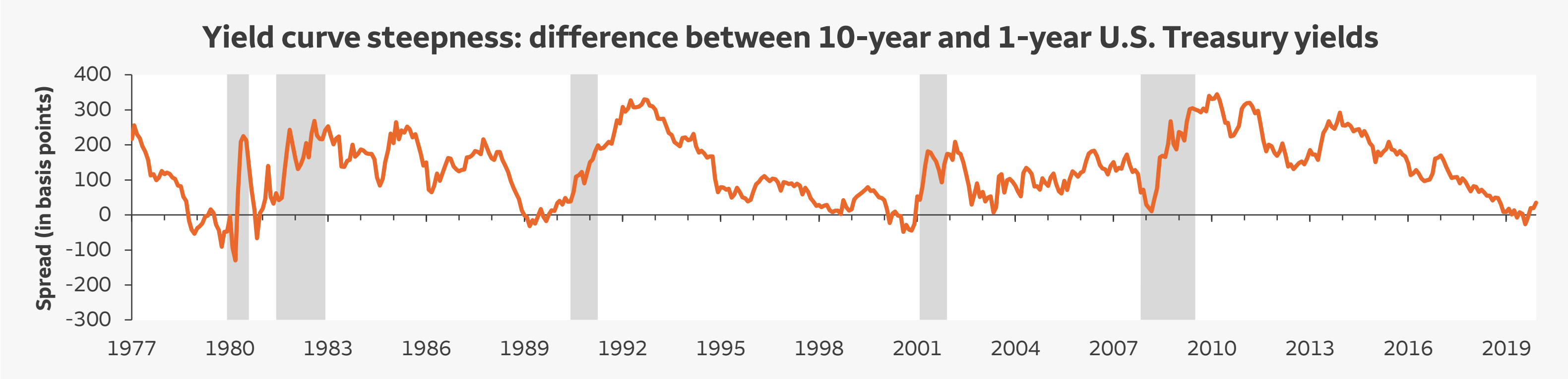

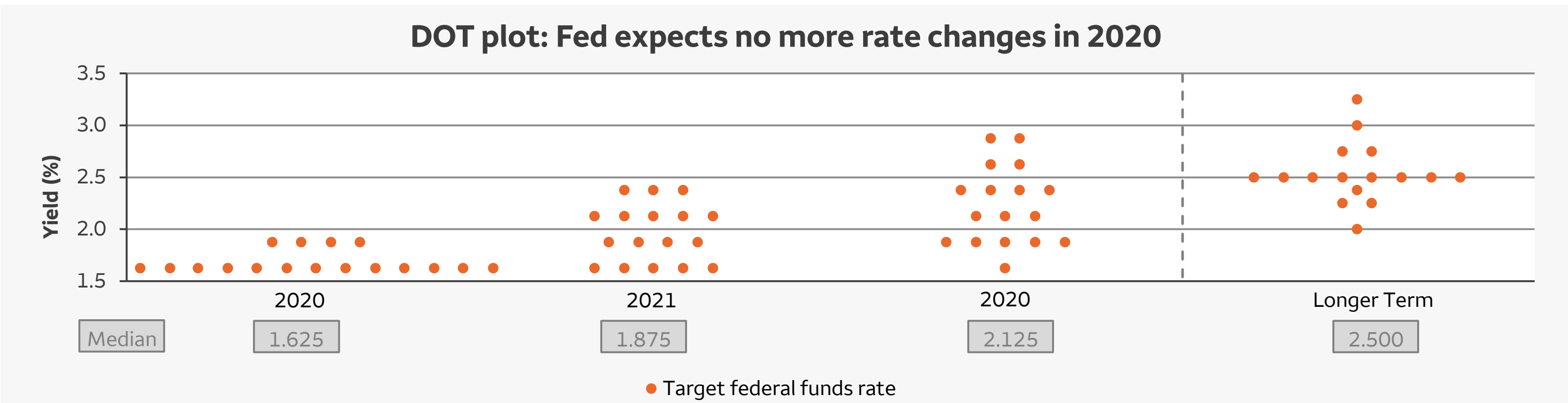

Note: The dot plot shows the projections of the 16 members of the Federal Open Market Committee (the rate-setting body within the Fed). Each dot represents a member's view on where the federal funds rate should be at the end of the various calendar years shown as well as in the long run.

Sources: Federal Reserve Board, Bloomberg, and Wells Fargo Investment Institute, as of December 31, 2019. Fed dot plot as of December 11, 2019. For illustrative purposes only. Ten-Year Treasury Constant Maturity and the One-Year Constant Maturity Indexes are published by the Federal Reserve Board and are based on the average yield of a range of Treasury securities, all adjusted to the equivalent of a 10-year maturity and the equivalent of a one-year maturity. Shaded area represents time frame of a U.S. economic recession. Yields represent past performance and fluctuate with market conditions. Current yields may be higher or lower than those quoted above. **Past performance is no guarantee of future results**. 100 basis points equals 1%.

Key Takeaways

- The yield curve historically has inverted (short-term rates higher than long-term rates) before a recession. Various portions of the yield curve inverted last year.
- We believe that the U.S. bond market has been signaling concerns over future economic weakness.
- The dot plot implies no changes in rates in 2020. We expect the Federal Reserve to take a wait-and-see approach to monetary policy in 2020.

Municipal bonds remain rich

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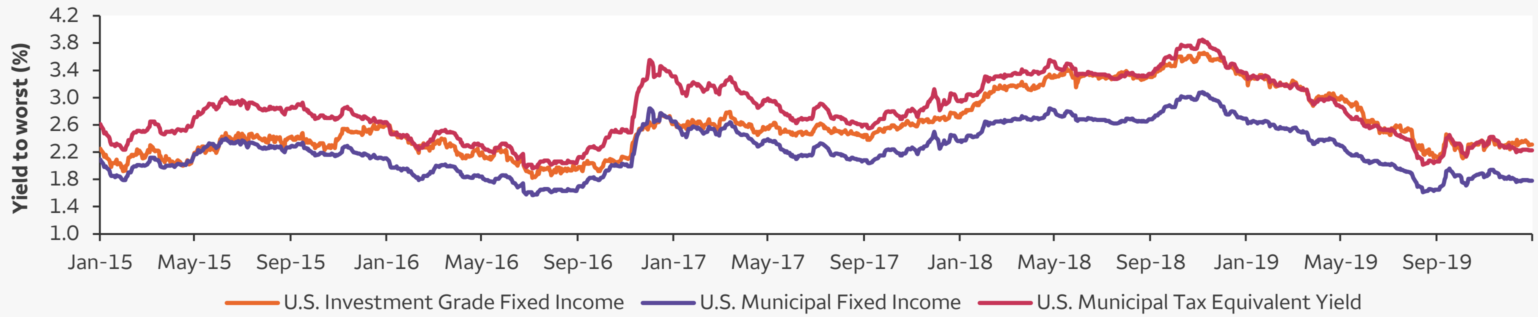
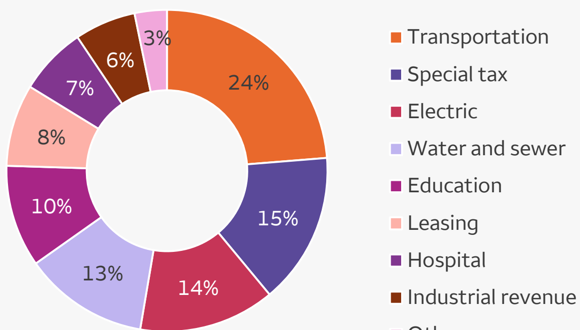
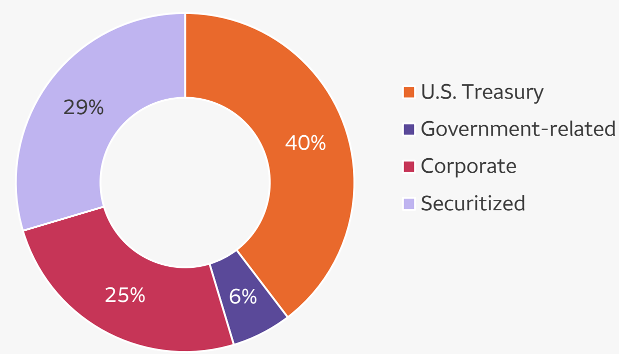
Municipal bonds still offer tax benefits



Municipal sectors by market value



Investment-grade sectors by market value



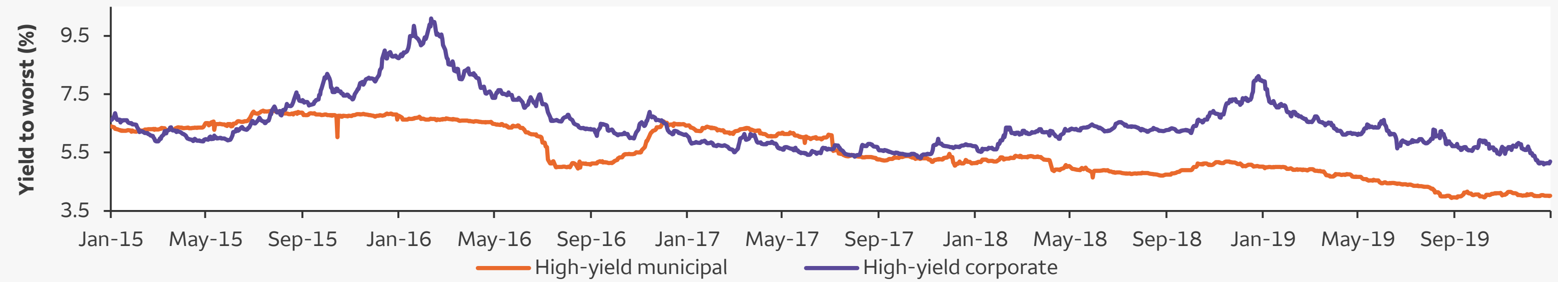
Sources: Bloomberg Barclays, FactSet, and Wells Fargo Investment Institute, as of December 31 2019. For illustrative purposes only. Investment grade represented by Bloomberg Barclays U.S. Aggregate Bond Index. Municipal represented by Bloomberg Barclays Municipal Bond Index. Yields represent past performance and fluctuate with market conditions. Current yields may be higher or lower than those quoted above. **Past performance is no guarantee of future results.** An index is unmanaged and not available for direct investment. Please see the end of the report for the definitions of the indexes.

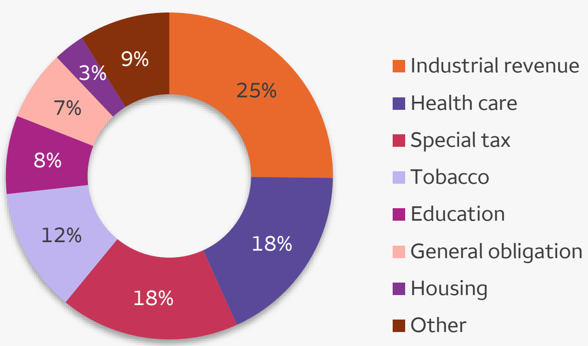
Key Takeaways

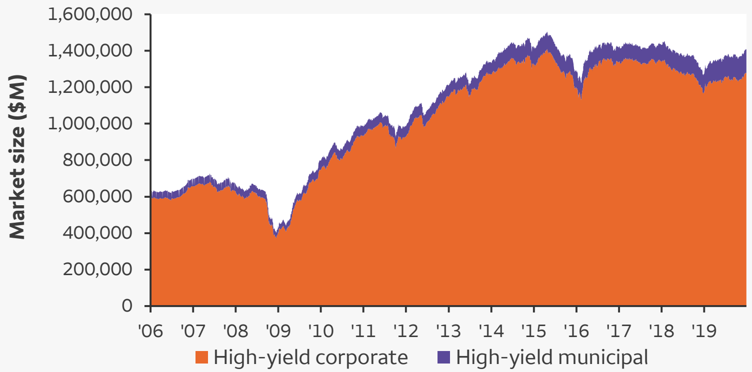
- Strong demand, coupled with lower supply, has pushed muni valuations to historically rich levels.
- Despite relatively high current valuations, investors in the highest effective tax brackets may still benefit from holding municipal securities as part of fixed-income positioning. We expect municipal demand to remain strong in high-tax states.

Tax equivalent yield assumes a 20% effective tax rate. Yield to worst is the lowest potential yield that can be received on a bond without the issuer actually defaulting.

High-yield munis have been steady performers





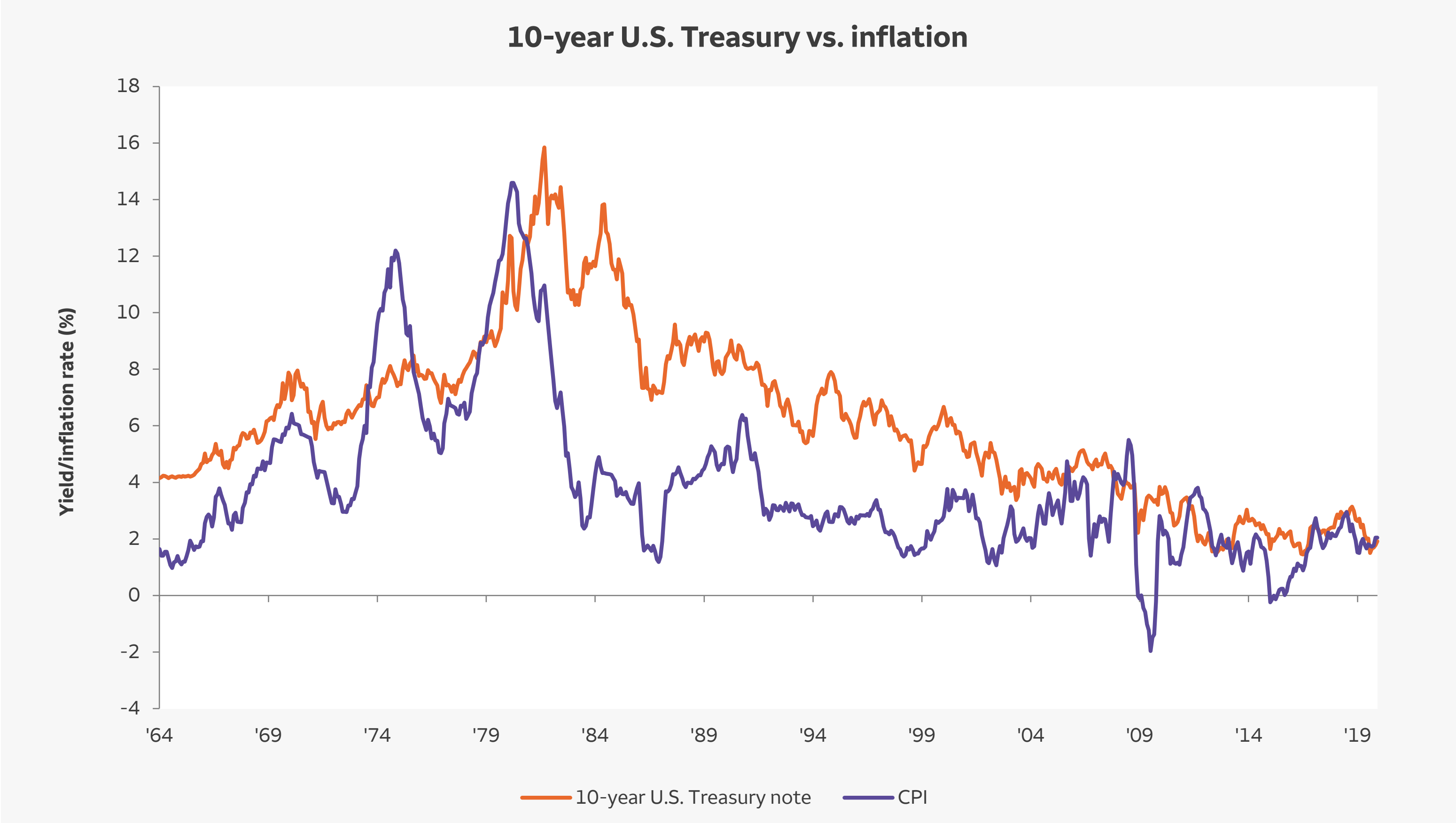


Sources: Bloomberg Barclays, FactSet, and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. High-yield municipal = Bloomberg Barclays High Yield Municipal Bond Index. High-yield corporate = Bloomberg Barclays U.S. Corporate High Yield Bond Index. Yields represent past performance and fluctuate with market conditions. Current yields may be higher or lower than those quoted above. **Past performance is no guarantee of future results.** Yield to worst is the lowest potential yield that can be received on a bond without the issuer actually defaulting. An index is unmanaged and not available for direct investment. Please see the end of the report for the definitions of the indexes.

Key Takeaways

- High-yield municipal bonds have performed relatively well as the search for yield continues to attract strong inflows.
- We recommend that investors reduce exposure to high-yield municipal debt and favor investment-grade municipal and/or taxable bonds as part of a well-diversified portfolio as the underlying fundamentals are weakening.

Inflation rate and T-bond yield converge



Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31 2019. Consumer Price Inflation (CPI) is as of November 30, 2019. For illustrative purposes only. Yields represent past performance and fluctuate with market conditions. Current yields may be higher or lower than those quoted above. **Past performance is no guarantee of future results.** CPI measures the price of a fixed basket of goods and services purchased by an average consumer.

Key Takeaways

- Real yields on 10-year U.S. Treasury bonds have fallen as nominal yields and inflation converge.
- Low forecasted inflation rates have us cautious on the use of Treasury Inflation-Protected Securities (TIPS) sector.

Credit market spreads

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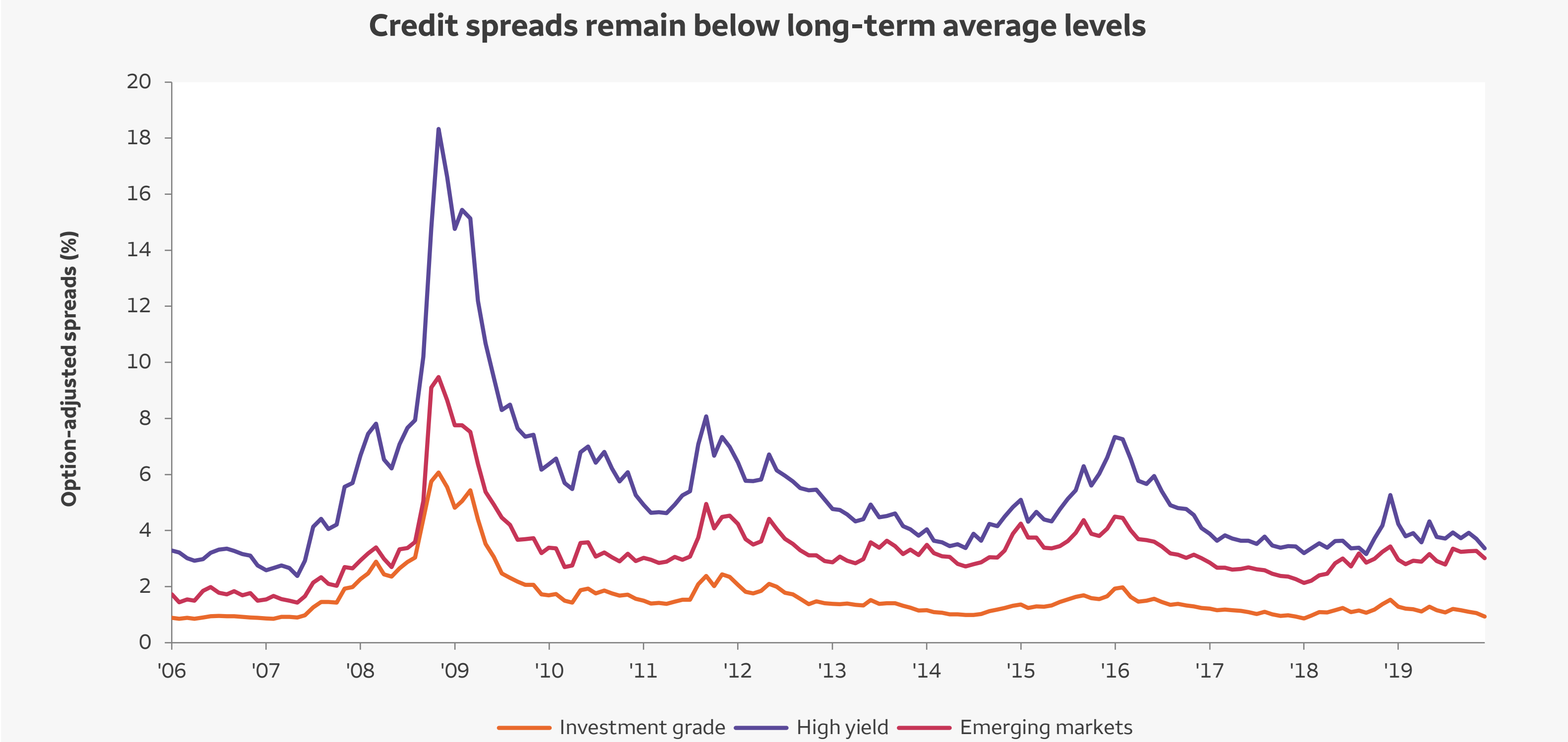
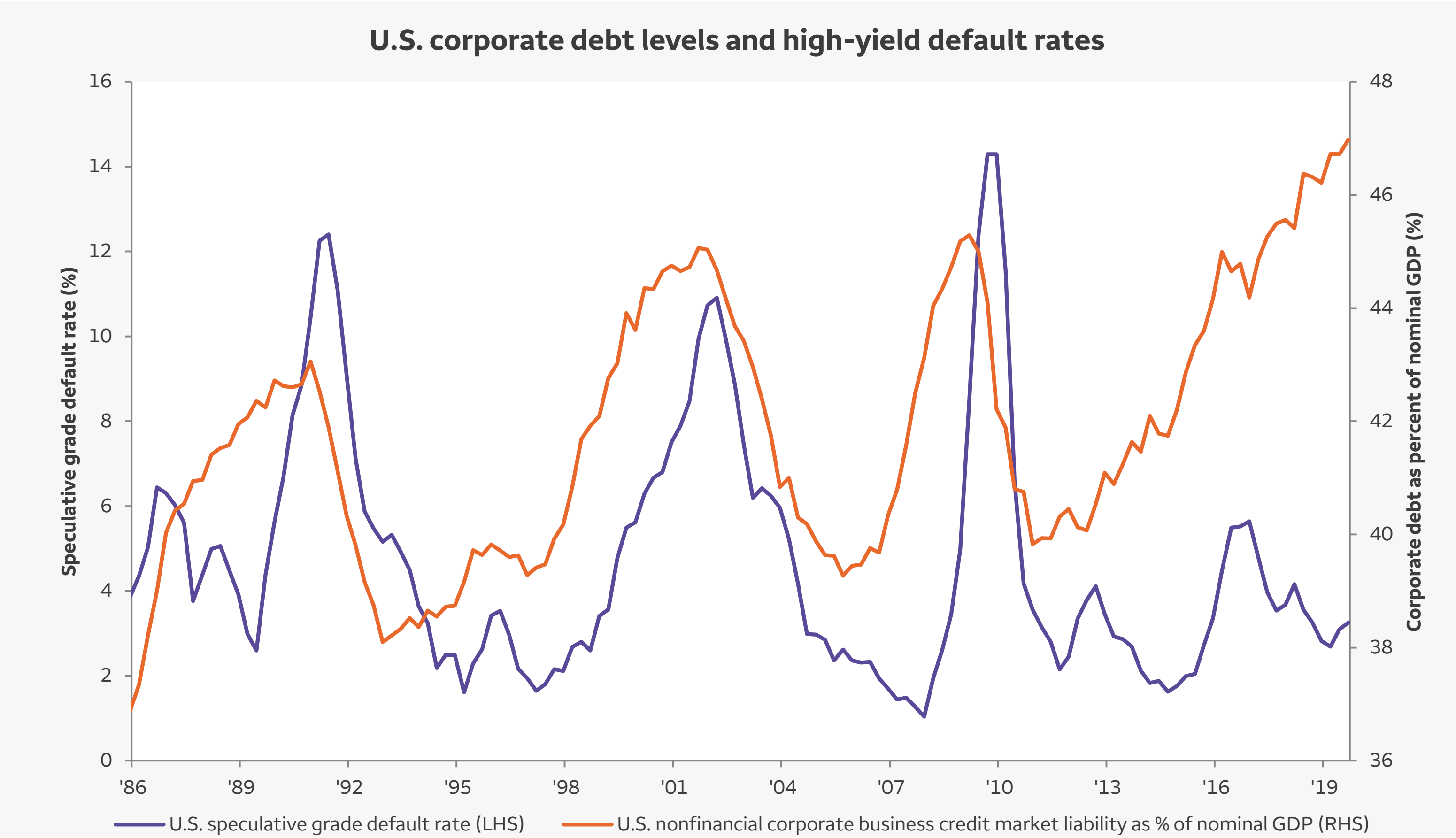


Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. Option-adjusted spread is the difference in yield over equivalent-duration Treasuries. Investment grade represented by Bloomberg Barclays U.S. Aggregate Bond Index. High yield represented by Bloomberg Barclays U.S. Corporate High Yield Bond Index. Emerging markets represented by J.P. Morgan Emerging Markets Bond Index Global (USD). **Past performance is no guarantee of future results.** An index is unmanaged and not available for direct investment. Please see the end of the report for the definitions of the indexes.

Key Takeaways

- Credit spreads on taxable bond sectors have tightened over the past couple of years as investors believe credit fundamentals are sound and 12-month forward default rates decline.
- Credit spreads tend to increase during periods of uncertainty and decrease during periods of stability.

A growing disconnect



Sources: Bloomberg, Moody's, and Wells Fargo Investment Institute, as of September 30, 2019. The nonfinancial corporate debt data includes both High Yield (HY) and investment-grade (IG) corporate debt.. GDP = gross domestic product.

Key Takeaways

- Corporate default rates remain low by historical standards—given where we are in the credit cycle and the current level of corporate debt outstanding.
- Despite some positive high-yield corporate tailwinds such as low default rates , we see risks rising and limited upside potential.

Real assets highlights

General

- Individual commodity prices tend to move together, over very long bull and bear cycles. These "super-cycles" often last a decade or longer.
- China was the main driver of the last two commodity super-cycles (bull – 1999-2010, bear – 2011 to present). Slowing Chinese gross domestic product (GDP) growth, since 2011, triggered our current bear super-cycle.
- We expect slow-but-positive global economic growth to be the prevailing factor influencing real assets in 2020 and anticipate that commodities will be neutral performers.

Oil

- Crude oil, and energy derivatives such as gasoline, could outperform other commodities in 2020.
- We expect price support from the volatile geopolitical backdrop in oil-producing countries.

Gold

- Global gold production growth has declined somewhat in recent years, which could provide a trigger for an upside price move.
- Gold prices have benefitted as the buildup in global negative yielding debt has some investors using gold as a potential hedge.
- Money supply growth globally has also been rising recently, especially relative to gold supplies. History suggests that gold prices tend to rise when this happens.

REITs

- Despite weakening fundamentals, real estate investment trusts (REITs) have performed well due to declining interest rates. Lower interest rates make REIT dividend yields relatively attractive, but the age of the economic expansion is a concern.

Real assets scorecard

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Asset class	4Q19 return (%)	YoY return (%)	Yield (%)
Commodities	4.42	7.69	–
Energy commodities	5.82	11.78	–
Agricultural commodities	7.11	1.72	–
Precious metals commodities	3.72	17.02	–
Base metals commodities	-0.25	6.98	–
Global REITs	1.96	23.06	3.80
U.S. REITs	0.13	28.66	3.62
International REITs	5.68	21.75	3.62

Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. YoY = year over year. For illustrative purposes only. Indexes in order represented by Bloomberg Commodity Index, Bloomberg Energy Subindex, Bloomberg Agriculture Subindex, Bloomberg Precious Metals Subindex, Bloomberg Industrial Metals Subindex, FTSE All Equity REITs Index, FTSE EPRA/NAREIT Developed Index, FTSE EPRA NAREIT Developed ex-U.S. REITs Index. Yields represent past performance and fluctuate with market conditions. Current yields may be higher or lower than those quoted above. **Past performance is no guarantee of future results.** An index is unmanaged and not available for direct investment. Please see the end of the report for the definitions of the indexes.

Key Takeaways

- Agricultural commodities outperformed in Q4 as unfavorable weather conditions led to supply concerns.
- Overall, we expect divergence in commodity prices with oil outperforming other commodities as global growth concerns persist.
- We remain cautious on real estate investment trusts (REITs) this late in an economic expansion as fundamentals weaken.

Economy
Equities
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Risk Considerations
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Commodity super-cycles

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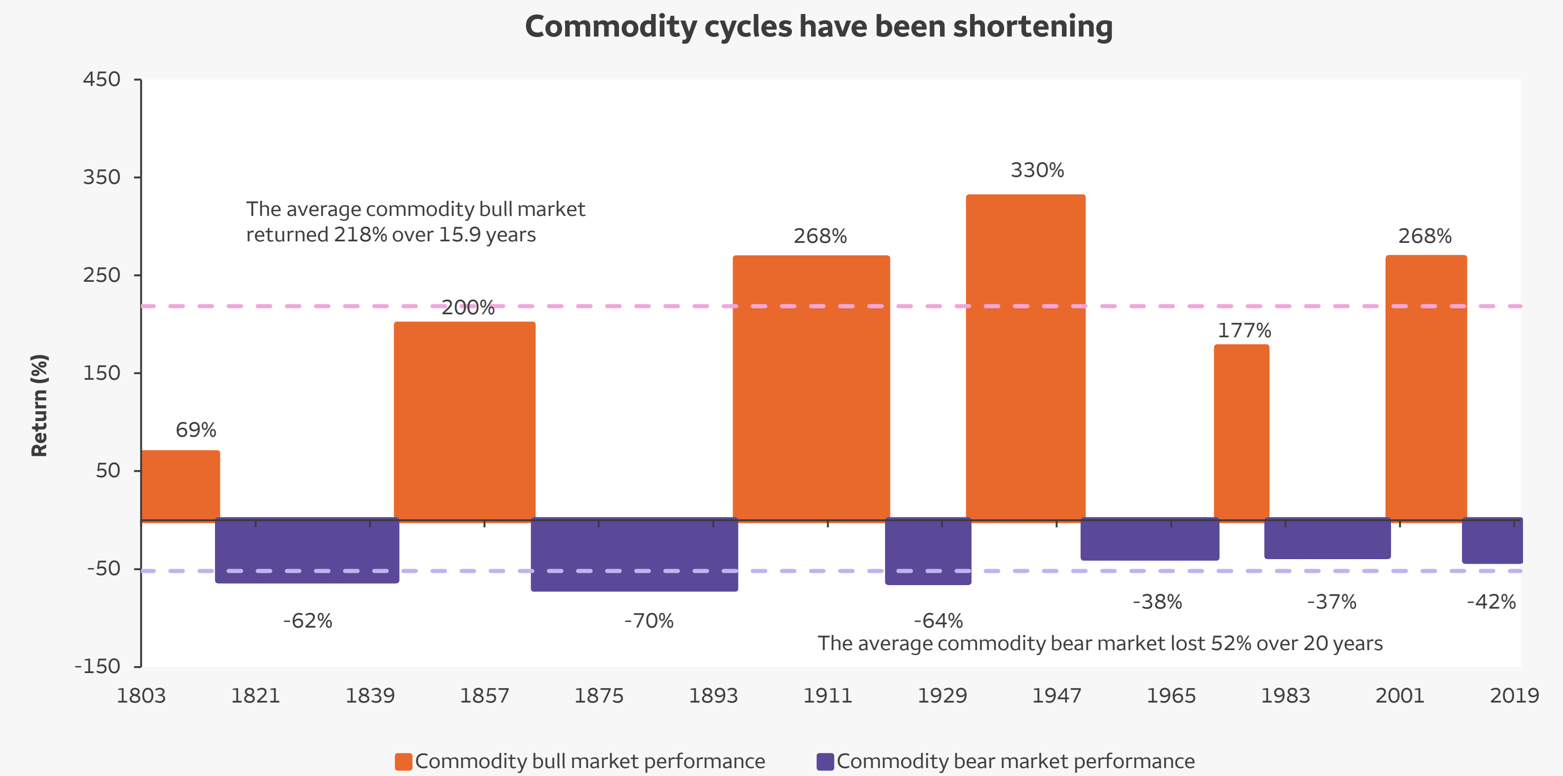

Sources: Bloomberg, Ned Davis Research, and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. NDR Commodity Composite used for December 1802–February 1972. Reuter's Continuous Commodity Index used for March 1972–September 2019. The Reuters Continuous Commodity Index is an equal-weighted geometric average of commodity price levels relative to the base year average price. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** Please see the end of the report for the definitions of the indexes.

Key Takeaways

- Commodities tend to move together in super-cycles. These cycles have gradually shortened in length over time.
- The current commodity bear super-cycle, which began in 2011, may be shorter than the 20-year average. Excessive supplies, built-up during the bull years, remain a concern. Price rallies should remain capped.

China is the big commodity consumer

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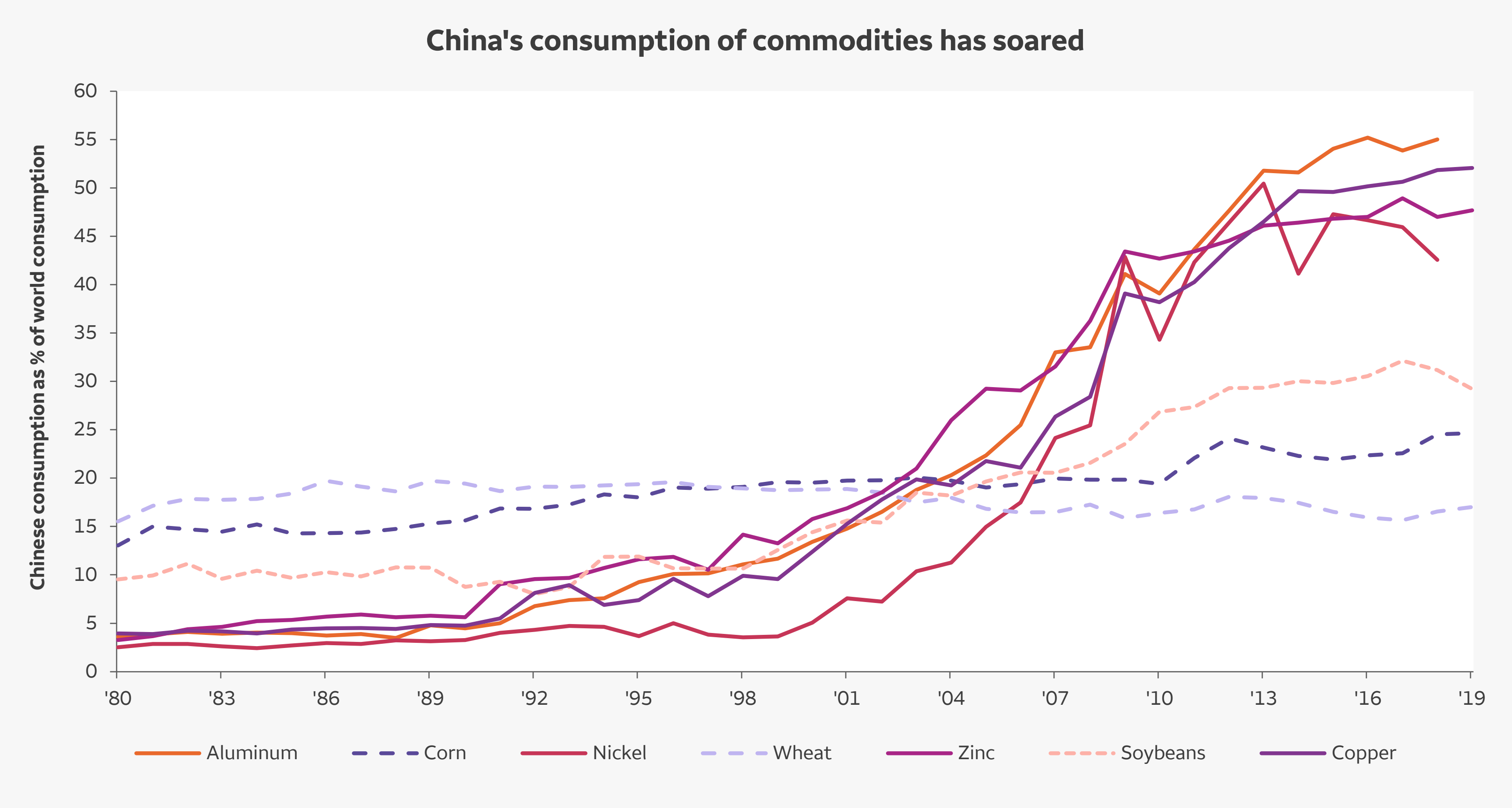

Sources: Bloomberg, U.S. Department of Agriculture, World Bureau of Metal Statistics, and Wells Fargo Investment Institute, as of December 31, 2019. Consumption data for Aluminum and Nickel as of August 31, 2018.

Key Takeaways

- China is one of the world's largest commodity importers today, accounting for more than 45% of the world's demand for industrial metals.
- China's commodity consumption growth, however, has slowed since 2011. This is, in part, why commodity prices are no longer rising like they did in the early 2000s.

U.S. creating massive oil supplies

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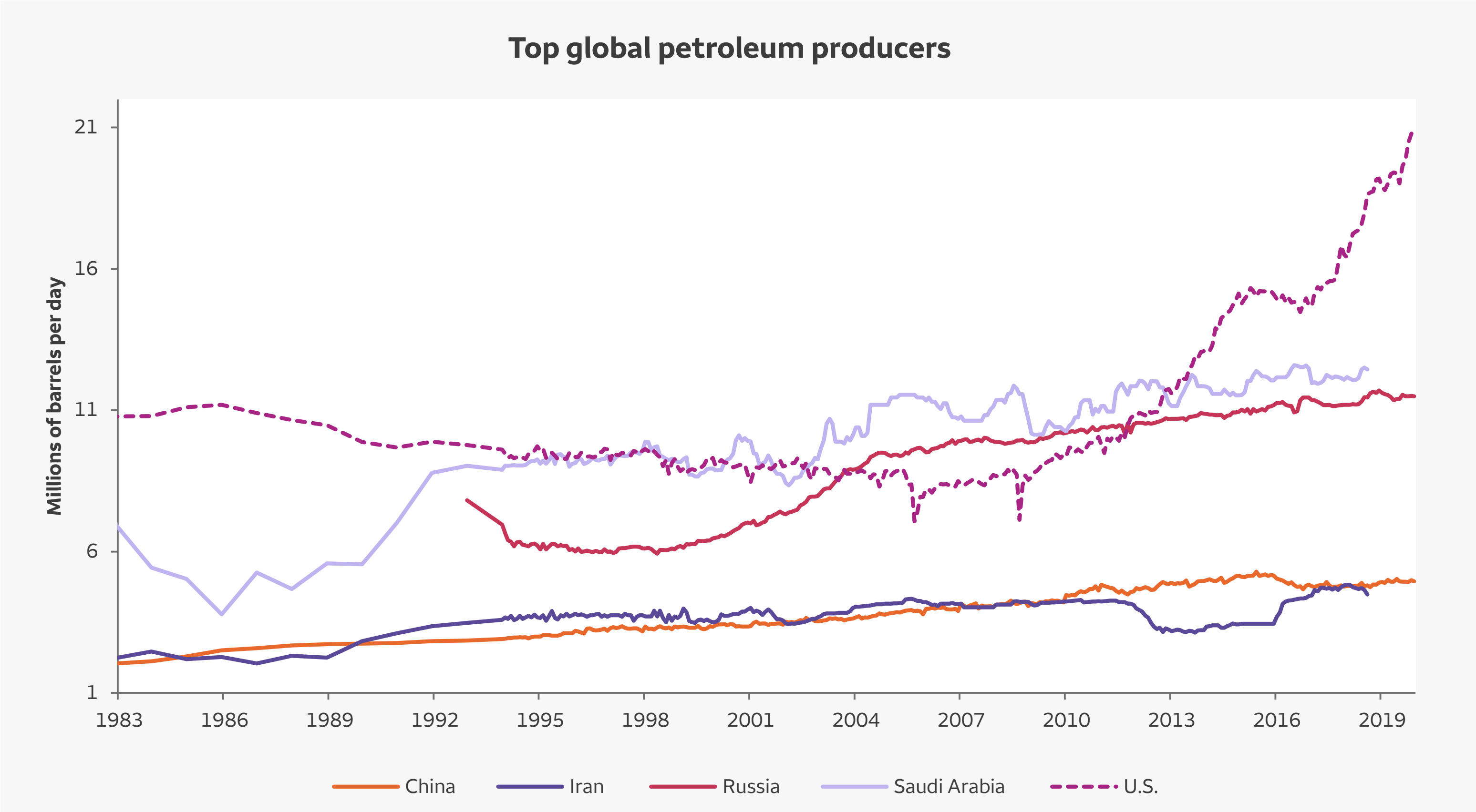
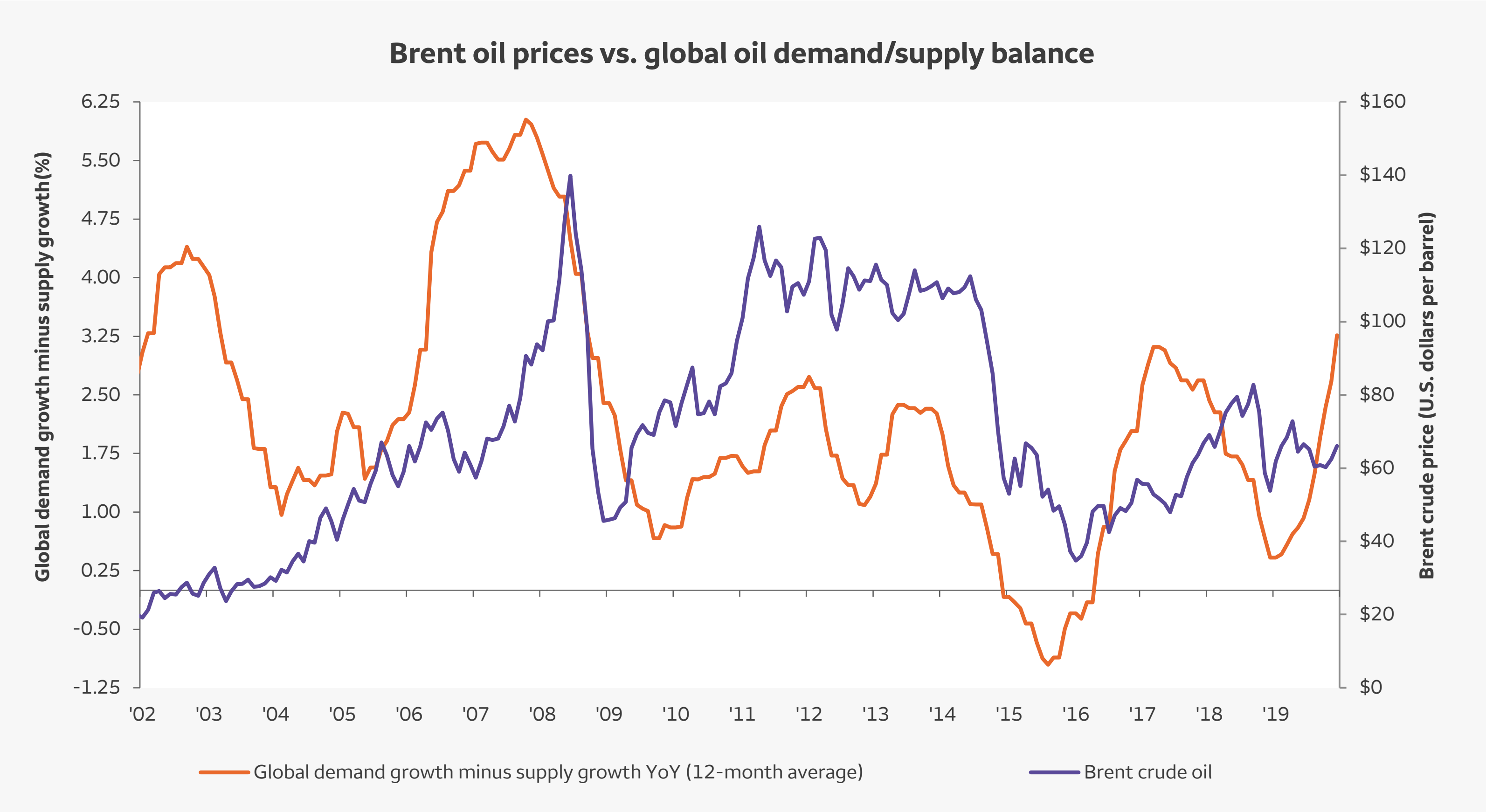


Sources: U.S. Energy Information Administration and Wells Fargo Investment Institute, as of December 31, 2019. Iran and Saudi Arabia data through August 31, 2018.

Key Takeaways

- Thanks to the shale revolution, the U.S. is now the world’s largest petroleum producer.
- Oil production continued to climb in 2019, but oil prices remained elevated as geopolitical uncertainties and concerns surrounding trade rose.

Geopolitical concerns override fundamentals



Sources: Bloomberg, Energy Information Administration, and Wells Fargo Investment Institute, as of December 31, 2019.

Key Takeaways

- Oil prices have been volatile due to heightened geopolitical tensions, OPEC (Organization of the Petroleum Exporting Countries) production cuts, growing U.S. supplies, and concerns about trade.
- These global uncertainties are driving prices more than balancing supply and demand.

Economy

Equities

Fixed Income

Real Assets

Alternative Investments

Currencies

Asset Allocation

Risk Considerations

Index Definitions

All that glitters…

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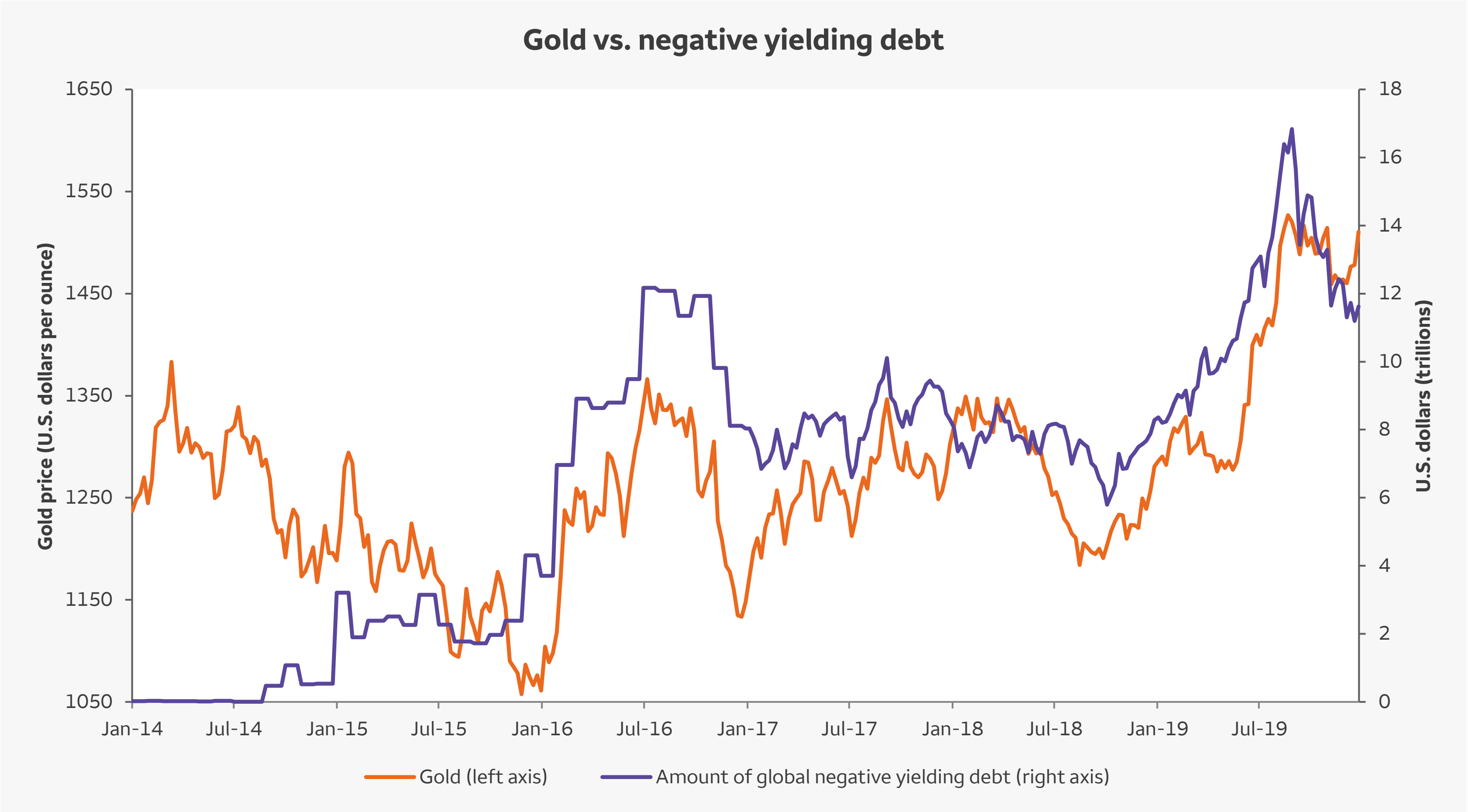
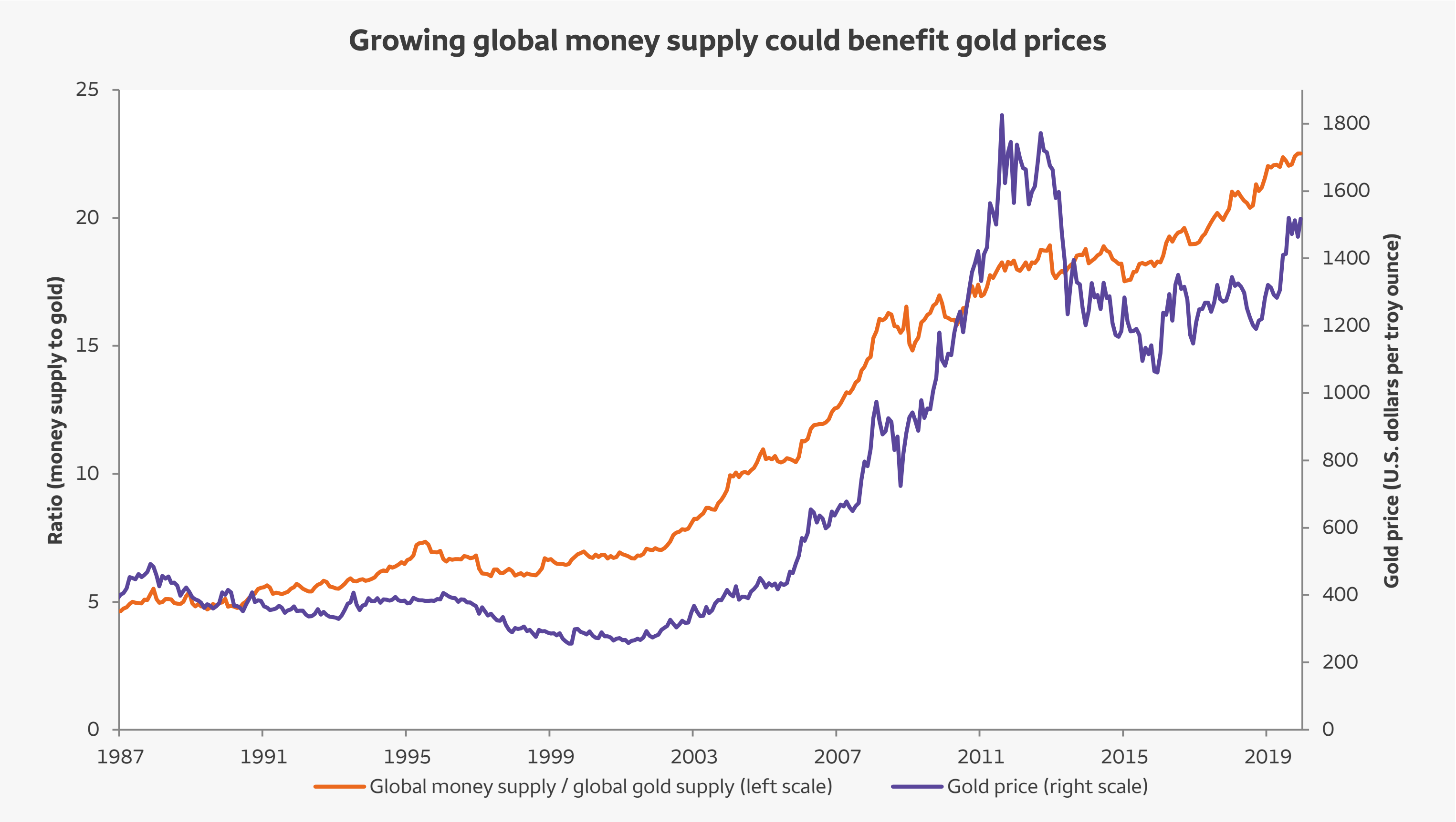


Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019.

Key Takeaways

- Investors purchased gold as a potential hedge against negative yielding debt.

Global monetary easing is helping gold



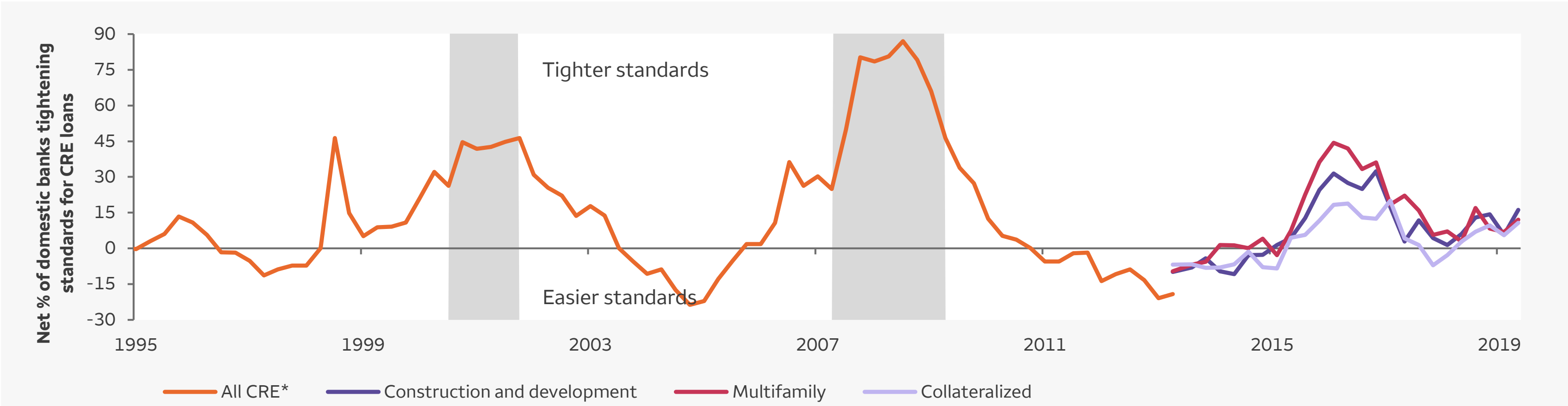
Sources: Bloomberg, U.S. Geological Survey, World Bank, Federal Reserve Economic Data, and Wells Fargo Investment Institute, as of November 30, 2019. Global Money Supply estimated by combining M2 Measures for the U.S., UK, China, Japan, Canada, and the eurozone. Ratio is the global money supply divided by the global gold supply.

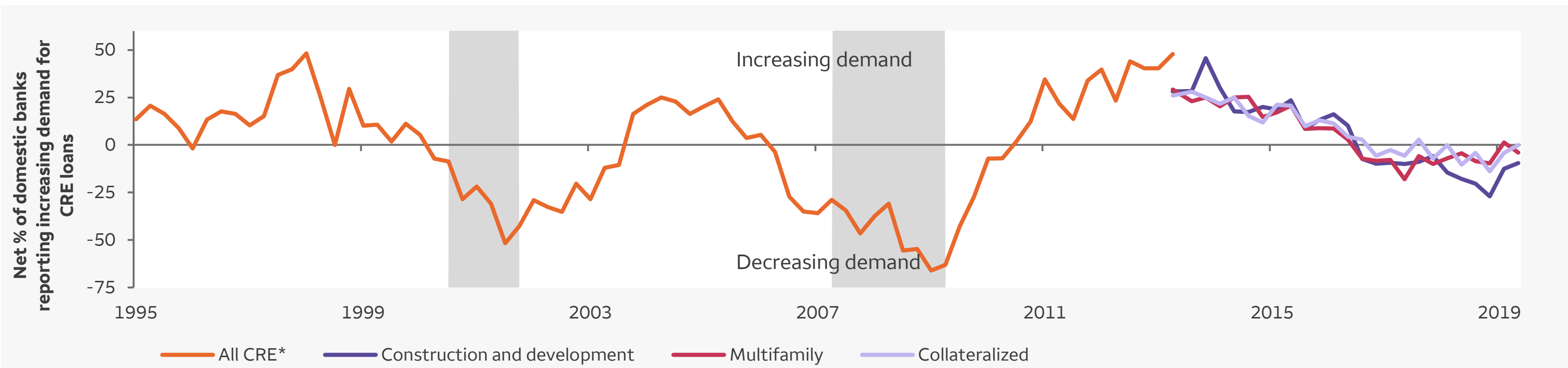
Key Takeaways

- Gold is benefitting from growing global money supplies.
- History suggests that investors will buy gold when money supplies outpace gold supplies.

REITs fundamentals are soft

Lending standards for commercial real estate loans





Sources: Bloomberg, Federal Reserve Board, and Wells Fargo Investment Institute, as of December 31, 2019. REITs = real estate investment trusts. For illustrative purposes only. Shading represents U.S. recessions. **Past performance is no guarantee of future results.** *All CRE data discontinued September 30, 2013.

Key Takeaways

- This late in an economic expansion, we remain cautious on real estate investment trusts (REITs).

REITs in a declining interest rate environment

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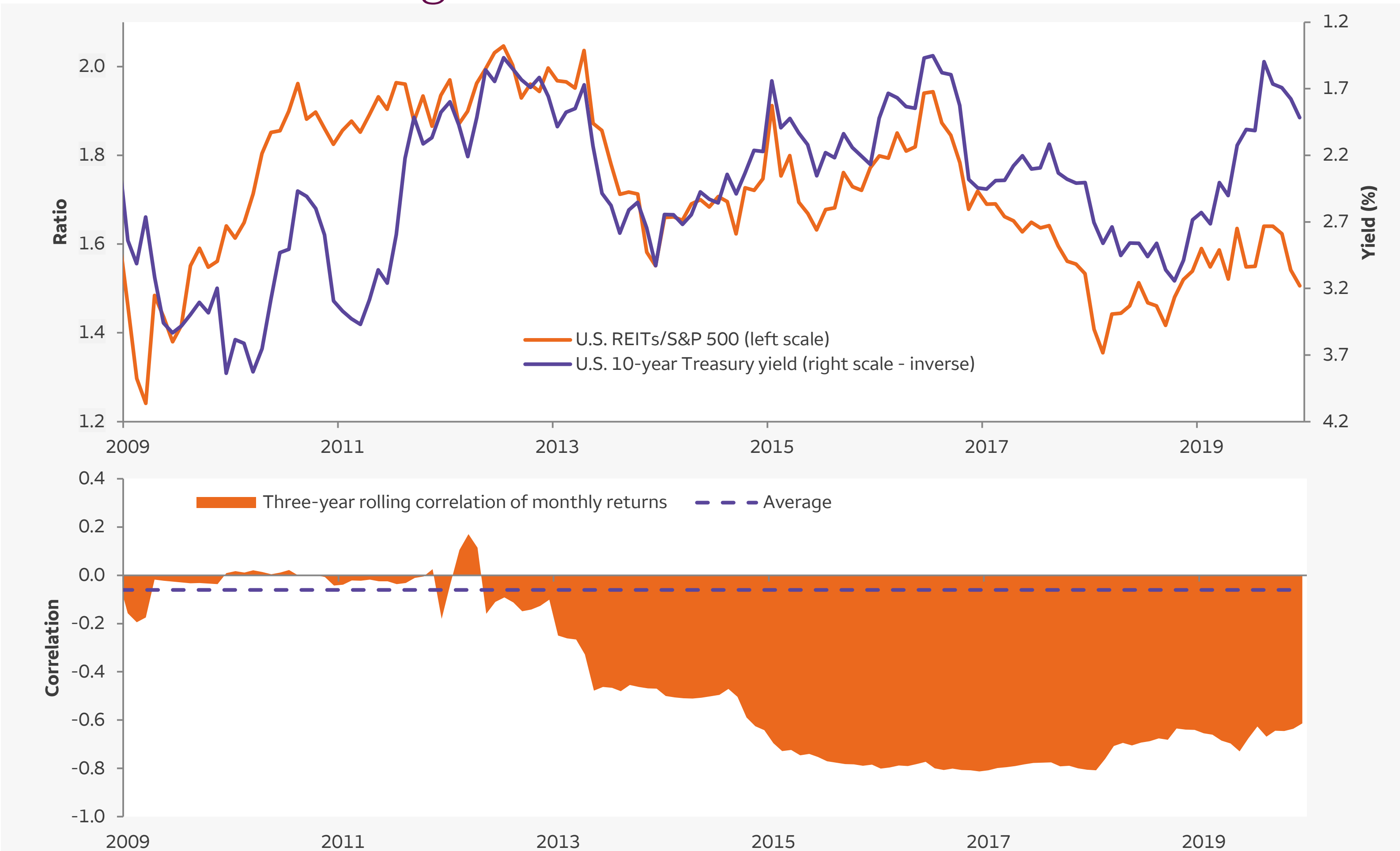

Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. REIT = real estate investment trust. Ratio is the FTSE NAREIT All Equity REIT Index divided by the S&P 500 Index. **Past performance is no guarantee of future results.** An index is unmanaged and not available for direct investment. Please see the end of the report for the definitions of the indexes.

Key Takeaways

- U.S. REITs have performed well due to declining interest rates in 2019.
- While low interest rates make REIT dividend yields attractive to investors, we remain cautious due to the weakening fundamentals.

Alternative investments highlights

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Hedge funds

- Over a long time horizon, a traditional portfolio of stocks and bonds has seen increased returns and decreased risk by adding hedge funds.
- Hedge funds can potentially mitigate portfolio losses and participate in equity market upturns.
- Hedge funds, and active management in general, have historically performed better in the latter stages of an economic and credit cycle.
- There may be an opportunity in credit as somewhat slower U.S. economic and corporate earnings growth should magnify the differences between fundamentally strong and weak companies.

Private capital

- Multiples remain above historical averages; however, we see a broader opportunity for investors to raise their exposure to private equity. We remain focused on geographic opportunities and secondary funds.
- Private equity funds have been able to deliver strong returns and have outperformed global equities in various time frames.
- Private credit historically has provided an attractive premium given the complexity of lending to entities that are unable to borrow from traditional capital market sources.
- Private real assets have performed well over a full market cycle offering diversification via non-correlated return streams, yet we believe that risks for the class are rising in the aging economic cycle.

Alternative investments scorecard

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Index	Oct. – Nov. 2019 return (%)	3Q19 return (%)	YTD return (%)	YoY return (%)
HFRI Fund Weighted Composite as of 11/30/2019	1.73	-0.51	8.53	5.78
HFRI Event Driven as of 11/30/2019	1.15	-0.90	5.73	3.27
HFRI Macro as of 11/30/2019	-0.82	1.70	5.81	5.99
HFRI Relative Value as of 11/30/2019	0.48	0.07	6.00	4.19
HFRI Equity Hedge as of 11/30/2019	3.22	-1.41	11.16	6.89
Cambridge Associates U.S. Private Equity as of 6/30/2019	1.73	-0.51	8.53	5.78
ILPA Private Credit as of 6/30/2019	1.15	-0.90	5.73	3.27
NCREIF Property as of 9/30/2019	-0.82	1.70	5.81	5.99

Sources: Bloomberg, FactSet, Institutional Limited Partners Association (ILPA), and Wells Fargo Investment Institute, as of November 30, 2019, 2019. YoY = year over year. YTD = year to date. For illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results; assume the reinvestment of dividends and other distributions; and do not reflect deductions for fees, expenses, or taxes applicable to an actual investment. Unlike most asset-class Indexes, HFR index returns are net of all fees. Because the HFR Indexes are calculated based on information that is voluntarily provided, actual returns may be higher or lower than those reported. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** Please see the end of the report for the definitions of the indexes. The Cambridge Index uses a horizon calculation based on data compiled from more than 1,400 institutional-quality buyout, growth equity, private equity energy, and subordinated capital funds formed between 1986 and 2017. The funds included in the index report their performance voluntarily, and therefore, the index may reflect a bias towards funds with records of success. **More information on the limitations of utilizing this Index can be found at the end of this presentation.**

Key Takeaways

- Hedge funds have tended to benefit from a reduction in equity correlations as well as greater dispersion among sectors, industries, and geographies.

Alternative investments scorecard

Alternative investments, such as hedge funds and private equity/private debt funds, are not suitable for all investors and are only open to accredited or qualified investors within the meaning of the U.S. securities laws. They are speculative and involve a high degree of risk that is suitable only for those investors who have the financial sophistication and expertise to evaluate the merits and risks of an investment in a fund and for which the fund does not represent a complete investment program. While investors may potentially benefit from the ability of alternative investments to potentially improve the risk/reward profiles of their portfolios, the investments themselves can carry significant risks. There may be no secondary market for alternative investment interests, and transferability may be limited or even prohibited. Hedge fund strategies, such as Equity Hedge, Event Driven, Macro, and Relative Value, may expose investors to risks such as short selling, leverage, counterparty, liquidity, volatility, the use of derivative instruments, and other significant risks.

Real estate has special risks, including the possible illiquidity of the underlying properties, credit risk, interest rate fluctuations, and the impact of varied economic conditions.

Diversification benefits of hedge funds

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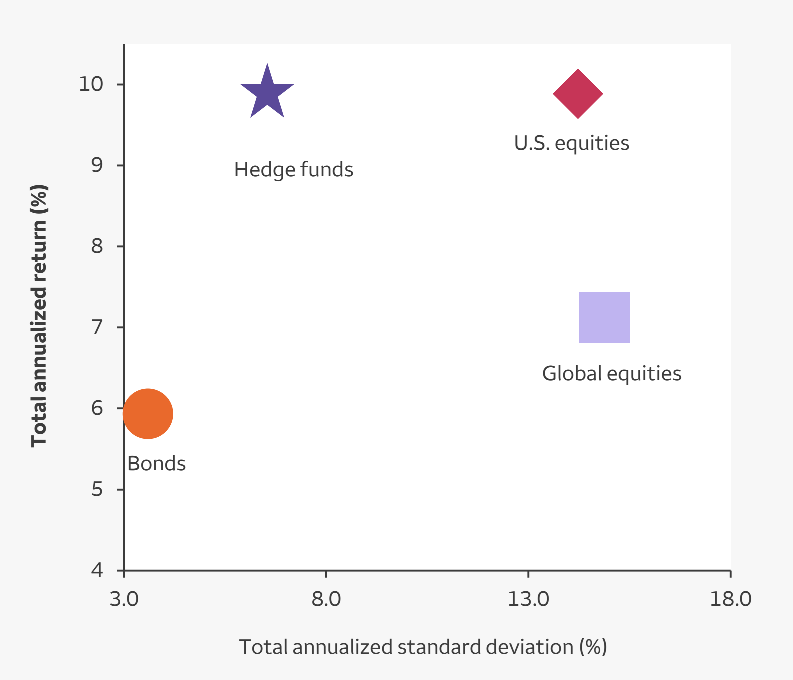
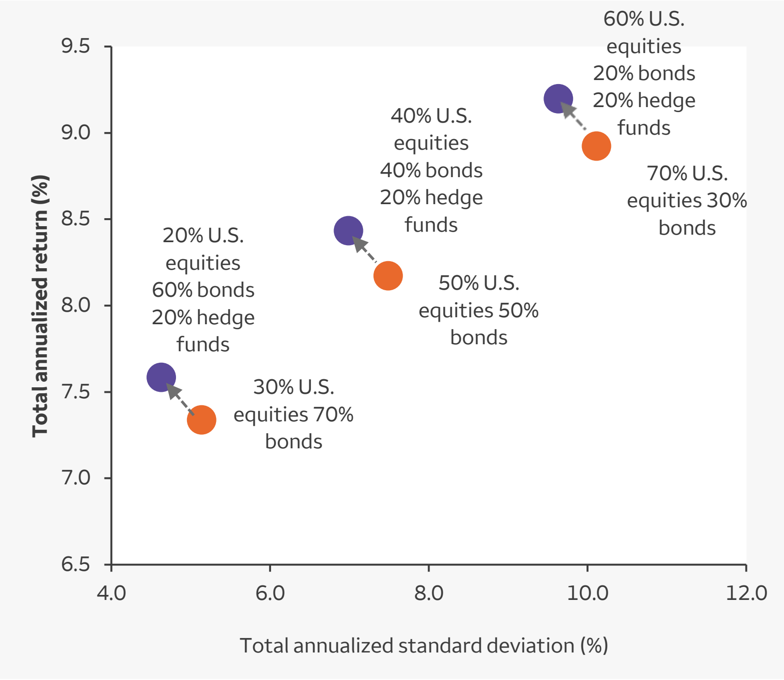
Hedge funds can potentially reduce risk in a portfolio of stocks and bonds





Sources: Morningstar Direct and Wells Fargo Investment Institute, January 1, 1990–November 30, 2019. Bonds = Bloomberg Barclays U.S. Aggregate Bond Index. U.S. equities = S&P 500 Index. Global equities = MSCI World Index. Hedge funds = HFRI Fund Weighted Composite Index. For illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions and do not reflect deduction for fees, expenses, or taxes applicable to an actual investment. Unlike most asset class Indexes, HFR Index returns are net of all fees. Because the HFR Indexes are calculated based on information that is voluntarily provided actual returns may be lower than those reported. An index is unmanaged and not available for direct investment **Hypothetical and past performance is no guarantee of future results.** Standard deviation is a measure of the volatility of returns. The higher the standard deviation, the greater volatility has been. Please see the end of the report for the definitions of the indexes.

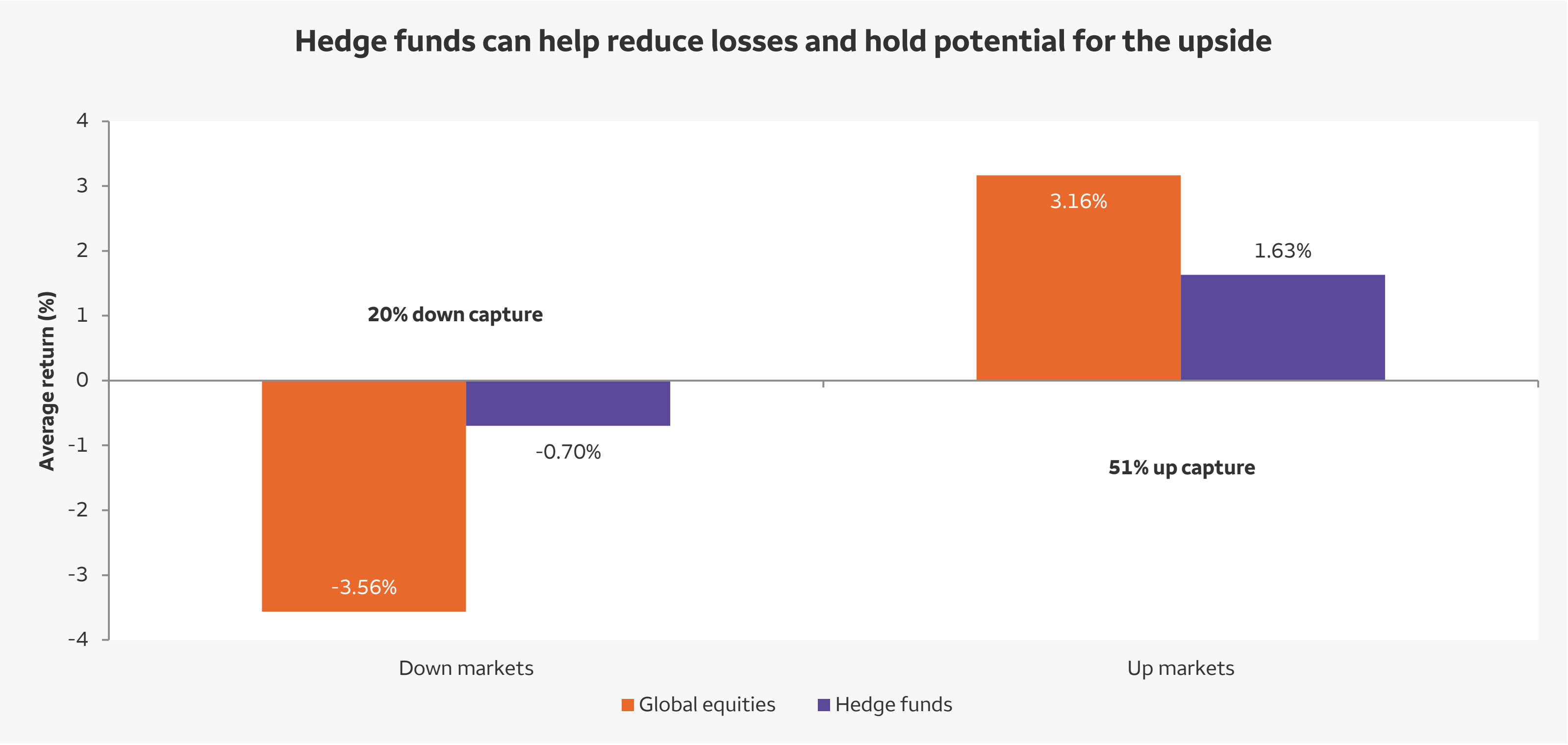
Alternative investments, such as hedge funds, are not suitable for all investors and are only open to accredited or qualified investors within the meaning of the U.S. securities laws. They are speculative and involve a high degree of risk that is suitable only for those investors who have the financial sophistication and expertise to evaluate the merits and risks of an investment in a fund and for which the fund does not represent a complete investment program.

Key Takeaways

- Adding hedge funds to a traditional portfolio of stocks and bonds historically has increased returns and decreased risk.

Diversification strategies do not guarantee investment returns or eliminate the risk of loss.

Hedge funds may win by not losing



Sources: Morningstar Direct and Wells Fargo Investment Institute, January 1, 1990–November 30, 2019. Hedge funds represented by the HFRI Fund Weighted Composite Index. Global equities represented by the MSCI World Index. For illustrative purposes only. Index does not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. HFR Index returns are net of all fees. Because the HFR Indexes are calculated based on information that is voluntarily provided actual returns may be lower than those reported. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** Please see the end of the report for the definitions of the indexes.

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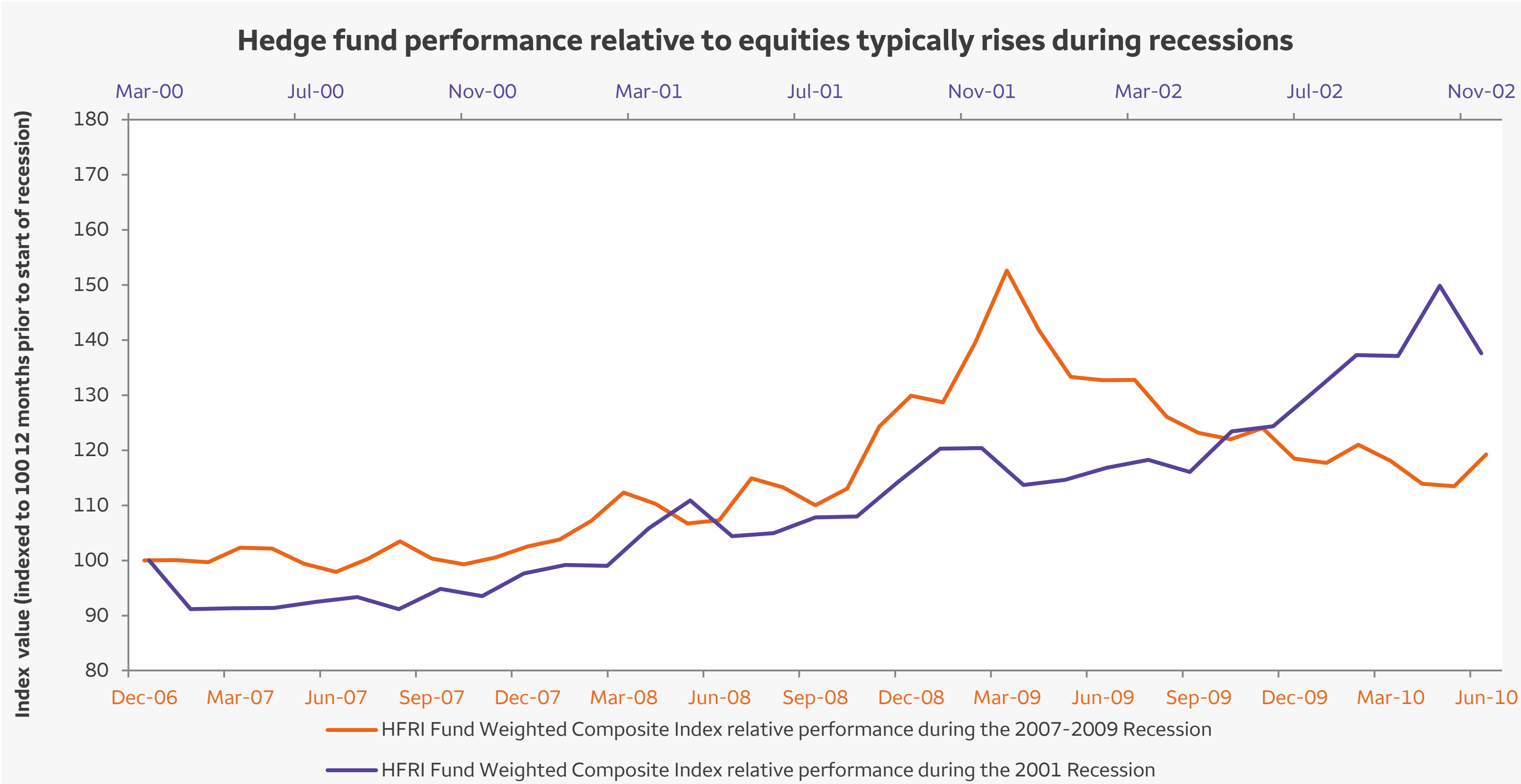
Key Takeaways

- Hedge funds can potentially reduce losses during periods of negative global equity market performance while maintaining participation in the upside.

Upside capture ratio measures a manager's performance in up markets relative to the market (benchmark) itself. It is calculated by taking the security's upside capture return and dividing it by the benchmark's upside capture return. Downside capture ratio measures a manager's performance in down markets. In essence, it tells you what percentage of the down market was captured by the manager.

Active strategies tend to outperform late cycle



Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. Chart shows performance of the HFRI Fund Weighted Composite Index relative to the S&P 500 Index from 12 months preceding to 12 months post recession. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. Unlike most asset class Indexes, HFR Index are net of all fees. Because the HFR Indexes are calculated based on information that is voluntarily provided actual returns may be lower than those reported. **Past performance is no guarantee of future results.** Please see the end of the report for the definitions of the indexes.

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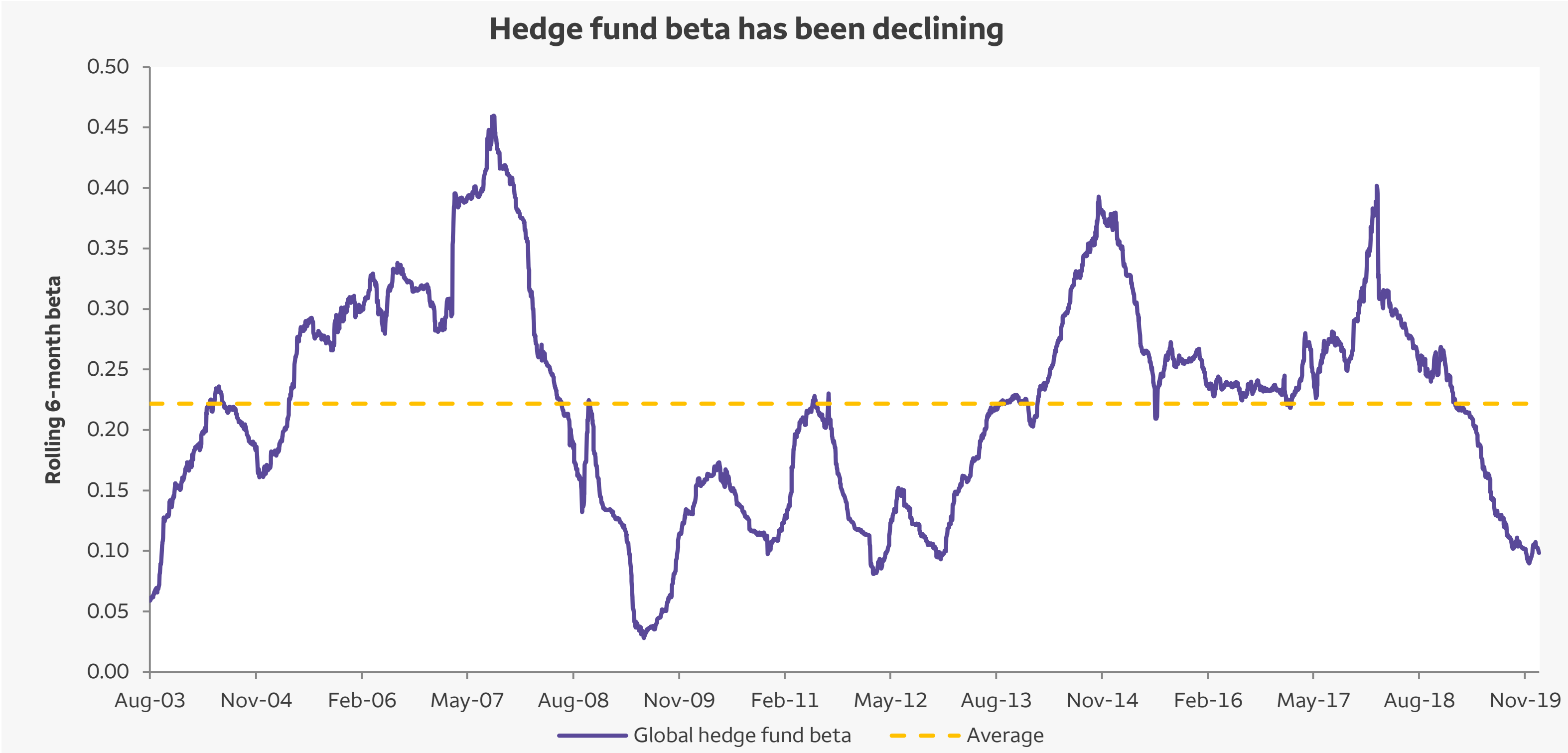
Key Takeaways

- Historically, transitioning into the latter stages of the cycle has coincided with an improvement in both the absolute and relative performance of hedge funds.
- Late cycle, certain active managers may outperform passive ones.

Hedge funds have performed as expected despite low exposure to global equity markets



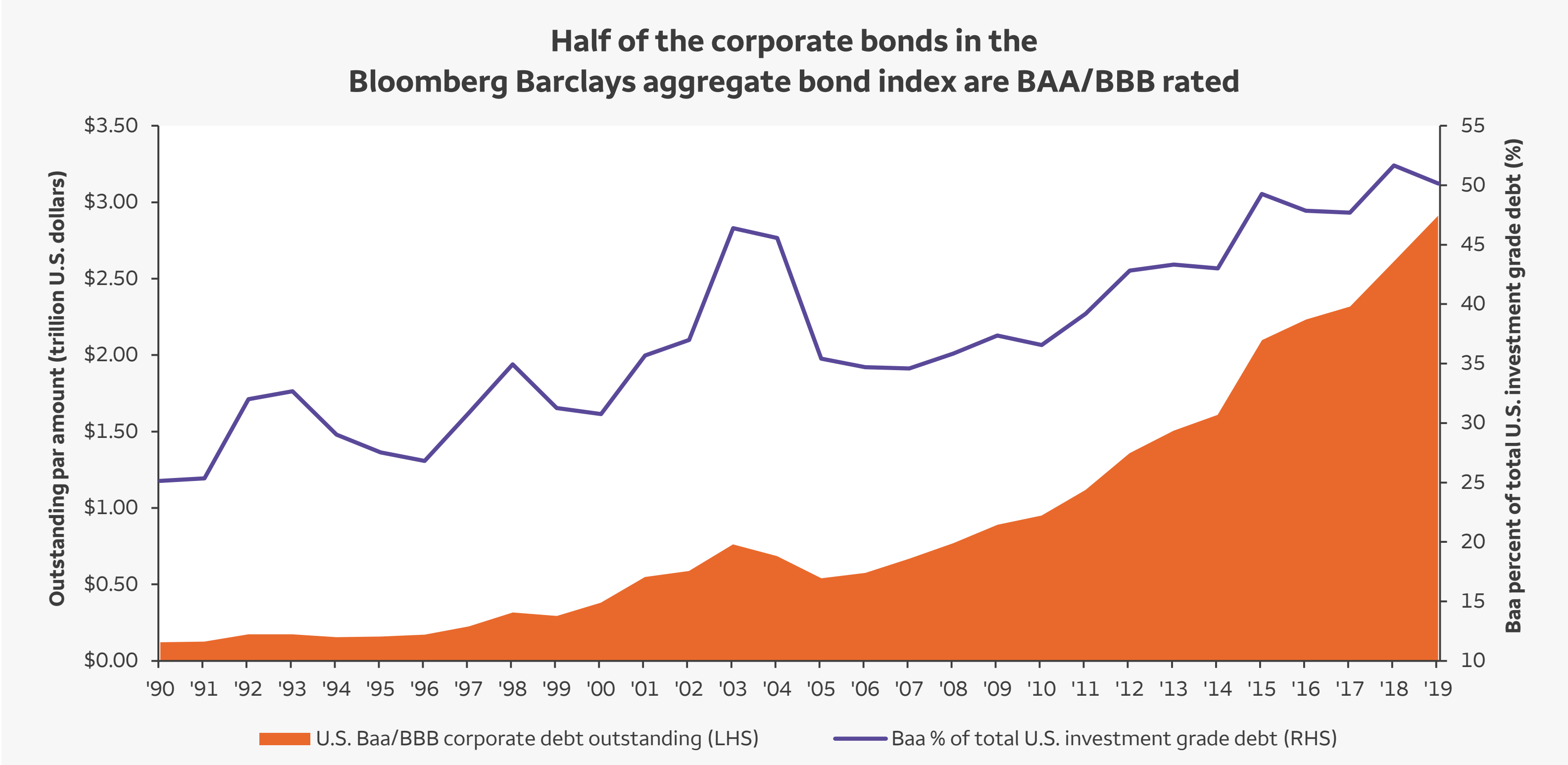
Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. Beta is relative to the MSCI World Index. Hedge funds represented by the HFRX Global Hedge Fund Index. For illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. Unlike most asset class Indexes, HFR Index returns are net of all fees. Because the HFR Indexes are calculated based on information that is voluntarily provided actual returns may be lower than those reported. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** There is no guarantee any asset class will perform in a similar manner in the future or in other rising rate environments. Please see the end of the report for the definitions of the indexes.

Key Takeaways

- Global hedge funds beta, or the volatility of hedge funds compared to the volatility of the global equity market, remains low.

Alternative investments, such as hedge funds, are not suitable for all investors and are only open to accredited or qualified investors within the meaning of the U.S. securities laws. They are speculative and involve a high degree of risk that is suitable only for those investors who have the financial sophistication and expertise to evaluate the merits and risks of an investment in a fund and for which the fund does not represent a complete investment program.

Potential for corporate bond downgrades creates an opportunity in credit



Sources: Bloomberg Barclays and Wells Fargo Investment Institute, as of December 31, 2019. LHS = Left-hand side. RHS = Right-hand side. For illustrative purposes only. Bloomberg Barclays U.S. Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. An index is unmanaged and not available for direct investment. Please see the end of this presentation for notes associated with this chart and a description of the asset class risks. **Credit ratings are not intended to indicate the value, suitability, or merit of an investment. They are opinions of credit quality and, in some cases, the expected recovery in the event of default. Please see the end of this report for important information on credit ratings.**

Key Takeaways

- Somewhat slower U.S. economic and corporate earnings growth should magnify the differences between fundamentally strong and weak companies.
- The notably large proportion of these bonds (at the bottom rung of the investment-grade quality ladder) implies a potential for large-scale downgrades if fundamentals deteriorate.

Opportunities in private equity

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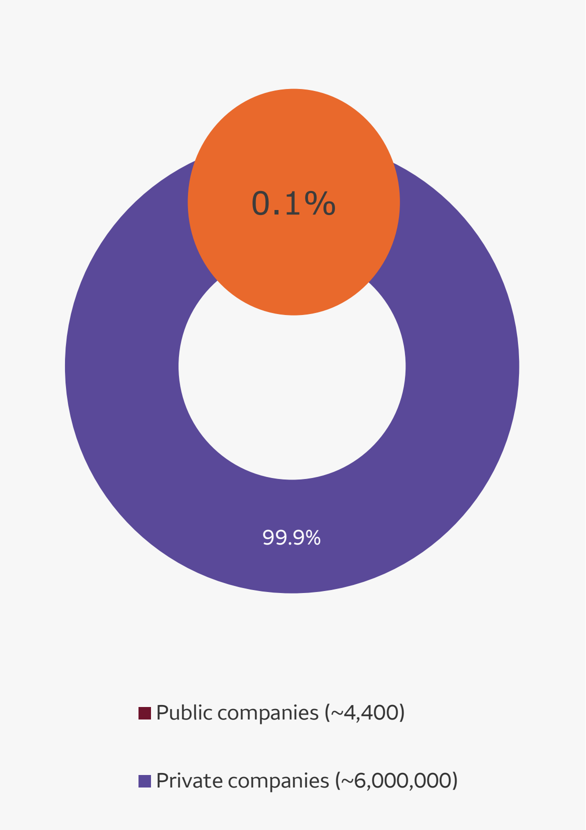

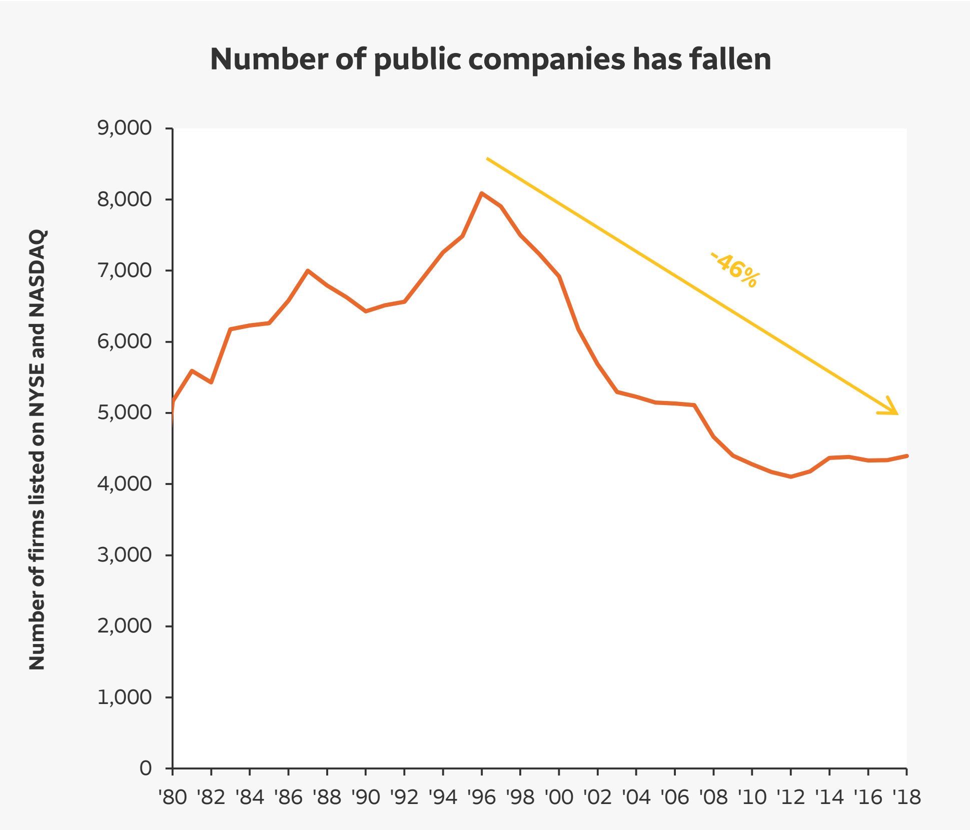

Sources: U.S. Census Bureau, World Federation of Exchanges, and Wells Fargo Investment Institute, as of December 31, 2018. NYSE = New York Stock Exchange. (~ = approximately). NASDAQ = National Association of Securities Dealers Automated Quotations.

Key Takeaways

- The majority of companies remain private, which inherently offers private capital strategies a robust opportunity set.
- The delist rate since 2000 is due to an unusually high rate of acquisitions of publicly listed firms.

Opportunities in private equity

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Economy

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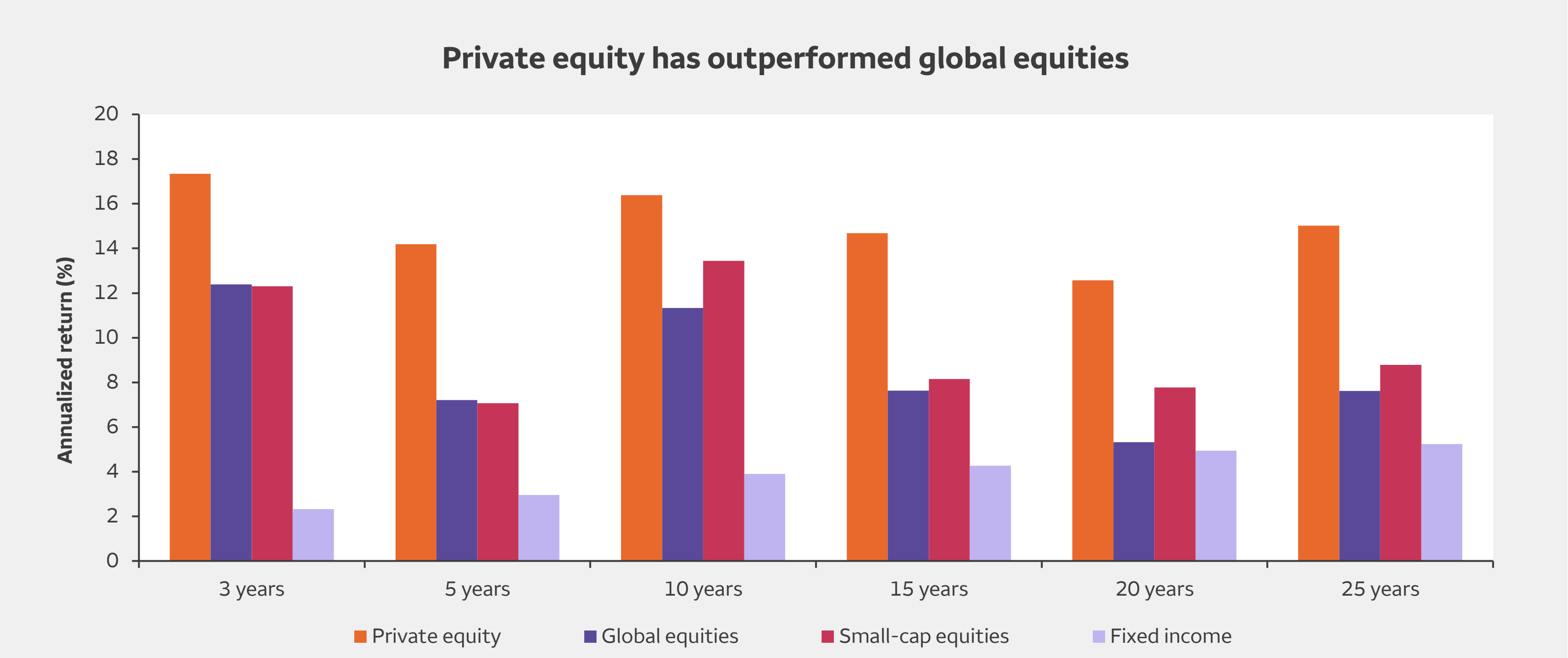


Sources: Morningstar Direct and Wells Fargo Investment Institute, as of June 30, 2019. Private equity = Cambridge Associates Private Equity. (Cambridge Index) Global equities = MSCI World Index. Small-cap equities = Russell 2000 Index. Fixed income = Bloomberg Barclays U.S. Aggregate Bond Index. For illustrative purposes only. **Past performance is no guarantee of future results.** An index is unmanaged and not available for direct investment. Please see the end of the report for the definitions of the indexes.

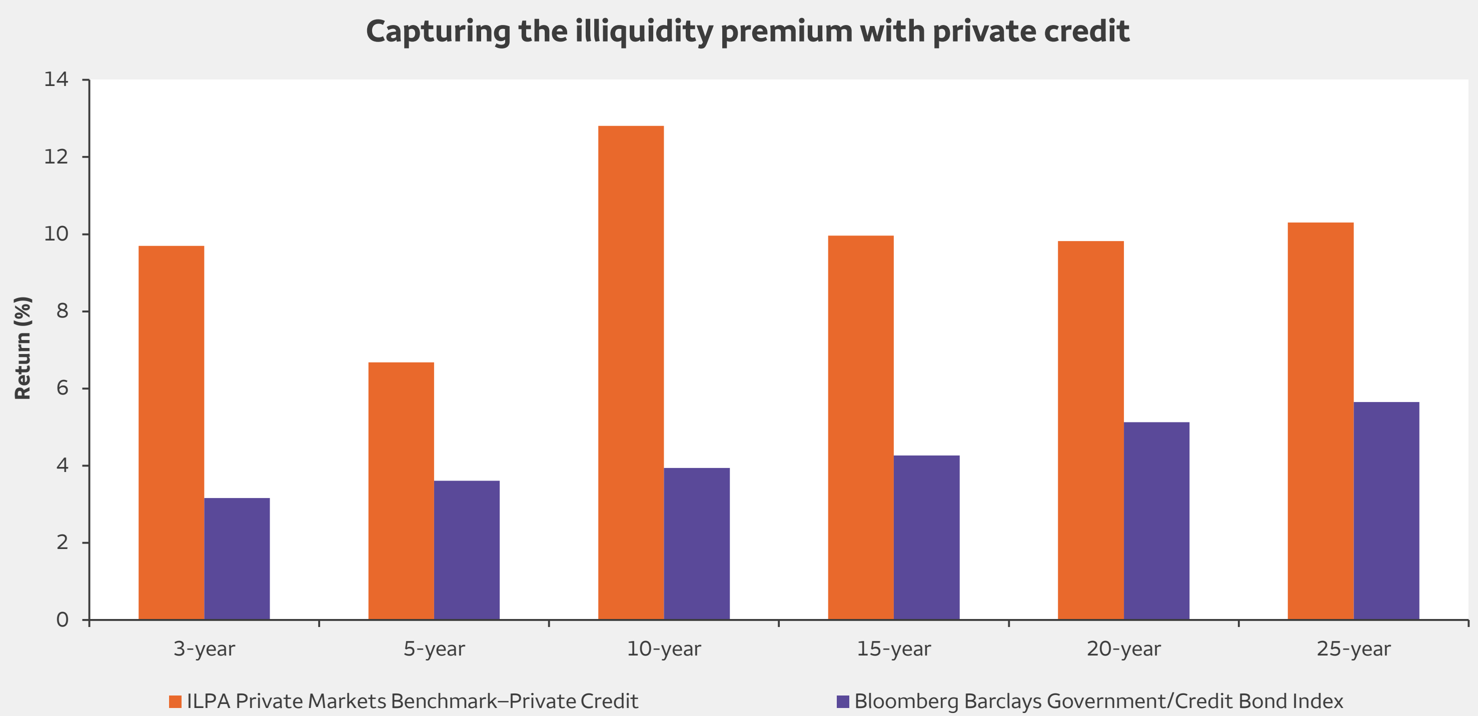
The Cambridge Index uses a horizon calculation based on data compiled from more than 1,400 institutional-quality buyout, growth equity, private equity energy, and subordinated capital funds formed between 1986 and 2017. The funds included in the index report their performance voluntarily, and therefore, the index may reflect a bias towards funds with records of success. **More information on the limitations of utilizing this Index can be found at the end of this presentation**

Alternative investments, such as private capital funds, are not suitable for all investors and are only open to accredited or qualified investors within the meaning of the U.S. securities laws. They are speculative and involve a high degree of risk that is suitable only for those investors who have the financial sophistication and expertise to evaluate the merits and risks of an investment in a fund and for which the fund does not represent a complete investment program.

Key Takeaways

- Private equity funds strive to deliver significant capital appreciation for investors over longer periods of time.
- Private equity funds have been able to deliver strong returns and have outperformed global equities in various time frames.

Private debt can provide an illiquidity premium



Sources: Bloomberg, Institutional Limited Partners Association (ILPA), and Wells Fargo Investment Institute, as of June 30, 2019. For illustrative purposes only. The ILPA Private Markets Benchmark – Private Credit Fund Index (ILPA) is a horizon calculation based on data complied from 269 private credit funds (credit opportunities and subordinated capital funds), including fully liquidated partnerships, formed between 1986 and 2017. Bloomberg Barclays U.S. Government/Credit Index is a broad-based index that measures the non-securitized component of the Barclays U.S. Aggregate Index. It includes investment-grade, U.S. dollar-denominated, fixed-rate Treasuries, government-related and corporate securities. Broad-based Indexes do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses, or taxes applicable to an actual investment. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results. More information on the limitations of utilizing ILPA can be found at the end of this presentation.**

Key Takeaways

- Though less liquid than public credit, private credit historically has provided an attractive premium given the complexity of lending to entities that are unable to borrow from traditional capital market sources.

Alternative investments, such as private capital funds, are not suitable for all investors and are only open to accredited or qualified investors within the meaning of the U.S. securities laws. They are speculative and involve a high degree of risk that is suitable only for those investors who have the financial sophistication and expertise to evaluate the merits and risks of an investment in a fund and for which the fund does not represent a complete investment program.

Opportunities in private real assets

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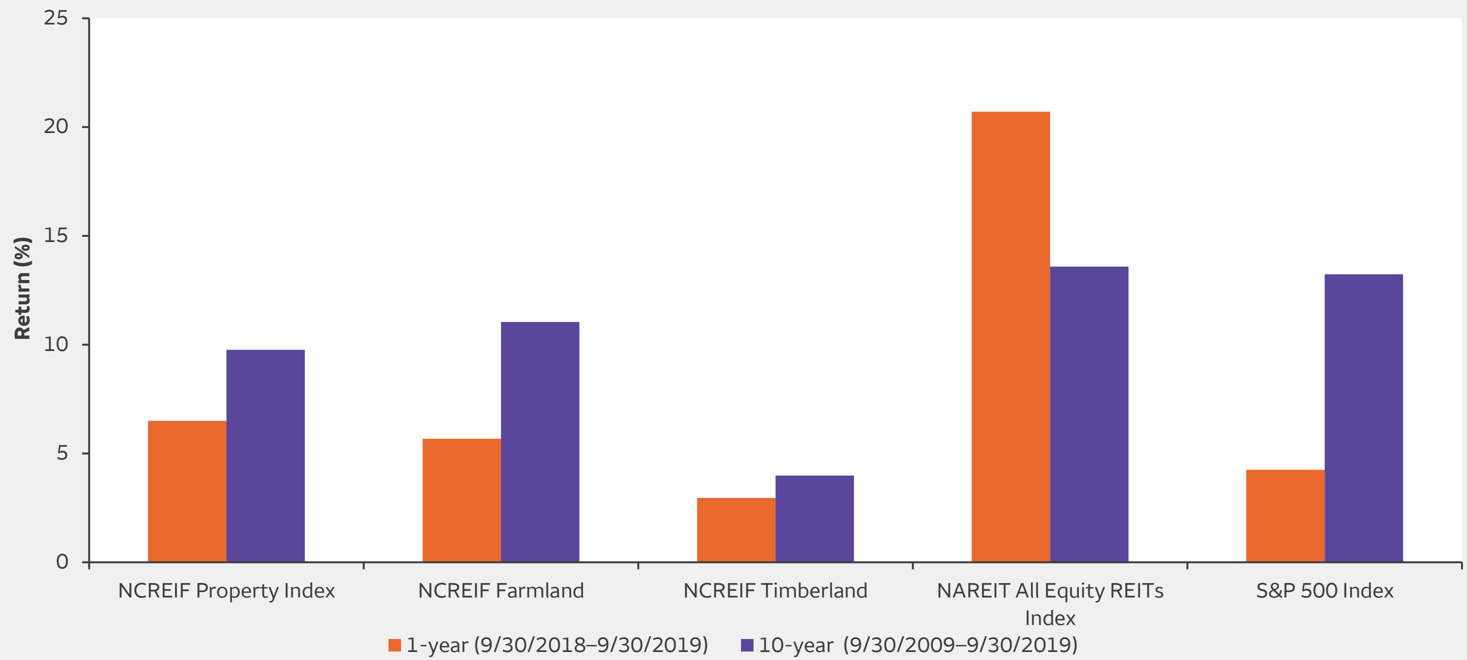
Private real assets have performed well



Sources: Bloomberg, National Council of Real Estate Investment Fiduciaries (NCREIF), and Wells Fargo Investment Institute, as of September 30, 2019. For illustrative purposes only. NCREIF Property Index is a composite total return for private commercial real estate properties held for investment purposes only. NCREIF Farmland Index is a composite return measure of investment performance of a large pool of individual farmland properties acquired in the private market for investment purposes only. NCREIF Timberland Index is a composite return measure of investment performance of a large pool of individual timber properties acquired in the private market for investment purposes only. NAREIT All Equity REIT Index is considered representative of the equity REIT market. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Key Takeaways

- Private real assets have performed well over a full market cycle offering diversification via non-correlated return streams, yet we believe that risks for the class are rising in the aging economic cycle.
- Private Real Estate (a sub-strategy of private real assets) features various strategies with differing risk/return profiles. At this point in the cycle, we are more constructive on value-add and opportunistic strategies.

Currencies highlights

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U.S. dollar

- The U.S. dollar moved down versus the major international currencies in the fourth quarter of 2019, but still remains relatively stable.
- We believe the U.S. dollar is nearing a cyclical peak. The U.S. dollar could depreciate moderately versus other developed market and emerging market currencies.

Developed currencies

- The euro remains relatively weak due negative yields, sluggish manufacturing (especially in Germany) and expectations of central bank activity.
- The yen has appreciated as the risk-averse global market reacted to ongoing trade disputes and geopolitical risks.

Emerging currencies

- We foresee mixed trends for emerging market (EM) currencies.
- The environment is still challenging for the currencies of Pacific Rim economies, which have elevated political risks and are exposed to trade disputes.
- By contrast, we believe the economies, such as Russia and Brazil, that are recovering after recessions, making fiscal reforms, and that have scope for positive political and institutional surprises stand the best chance to appreciate against the dollar.
- EM currencies are unlikely to rally significantly amid slowing global growth and rising geopolitical risks.

Currencies scorecard

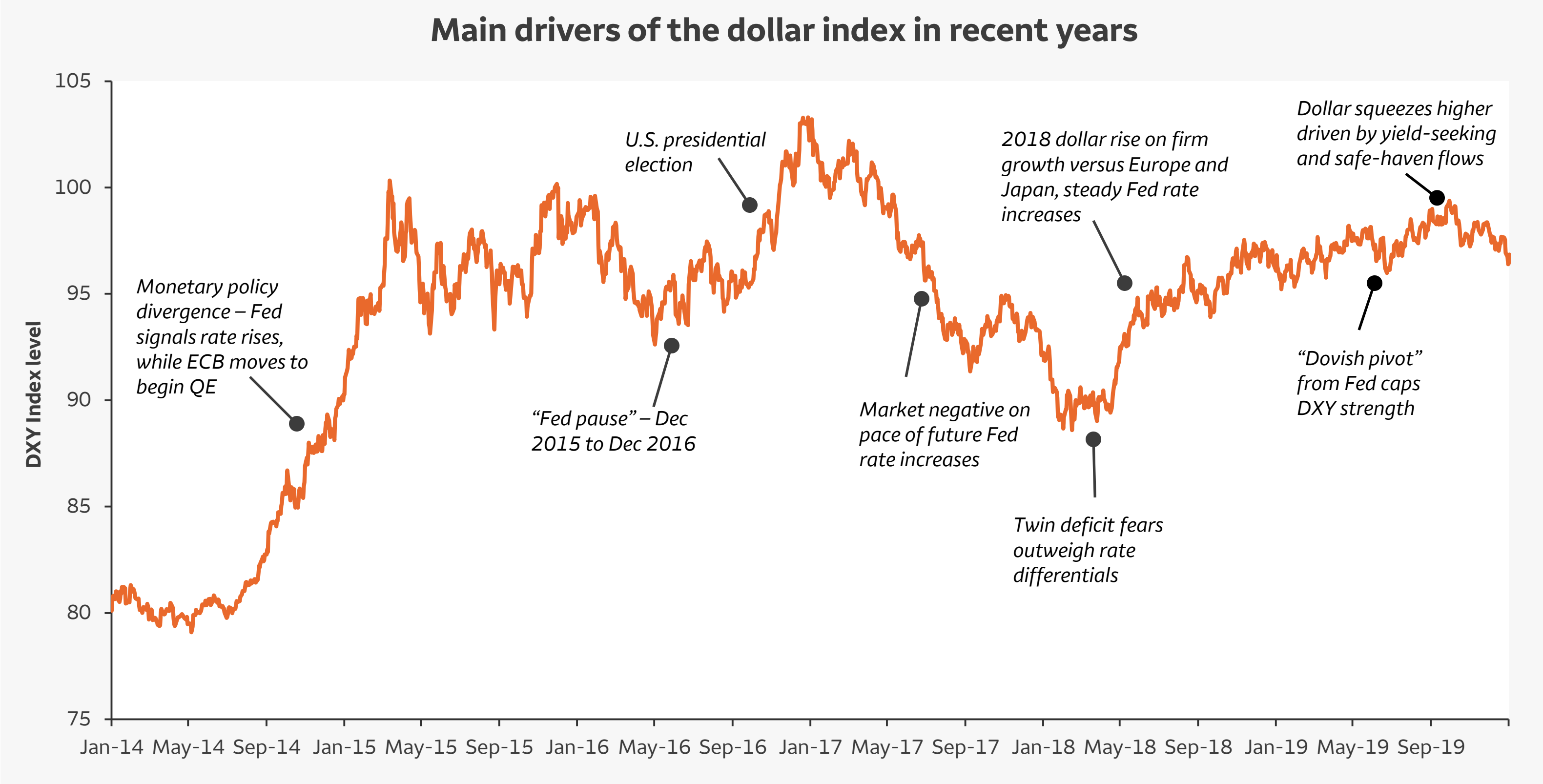
Metric	4Q19	QoQ change (%)	YoY change (%)	Year-end 2018
DXY Index	96.39	-3.01	0.22	96.17
Euro (dollars per euro)	$1.12	2.88	-2.22	$1.15
Japanese yen (yen per dollar)	¥108.61	-0.49	0.98	¥109.69
British pound sterling (dollar per pound)	$1.33	7.88	3.94	$1.28
Chinese renminbi (yuan per dollar)	¥6.96	-1.23	-1.23	¥6.88

Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. QoQ = quarter over quarter. YoY = year over year. The DXY Index measures the value of the U.S. dollar relative to major developed market currencies, notably the euro, the Japanese yen, and the British pound. An index is unmanaged and not available for direct investment.

Key Takeaways

- We believe the U.S. dollar is nearing a cyclical peak. We expect a growing supply of dollars to lead the dollar moderately lower.
- The euro remains undervalued but may recover only when the economy stabilizes and political risks subside. The dollar may be impacted by politics, deficit fears, and lower rate expectations.

The dollar likely to weaken somewhat

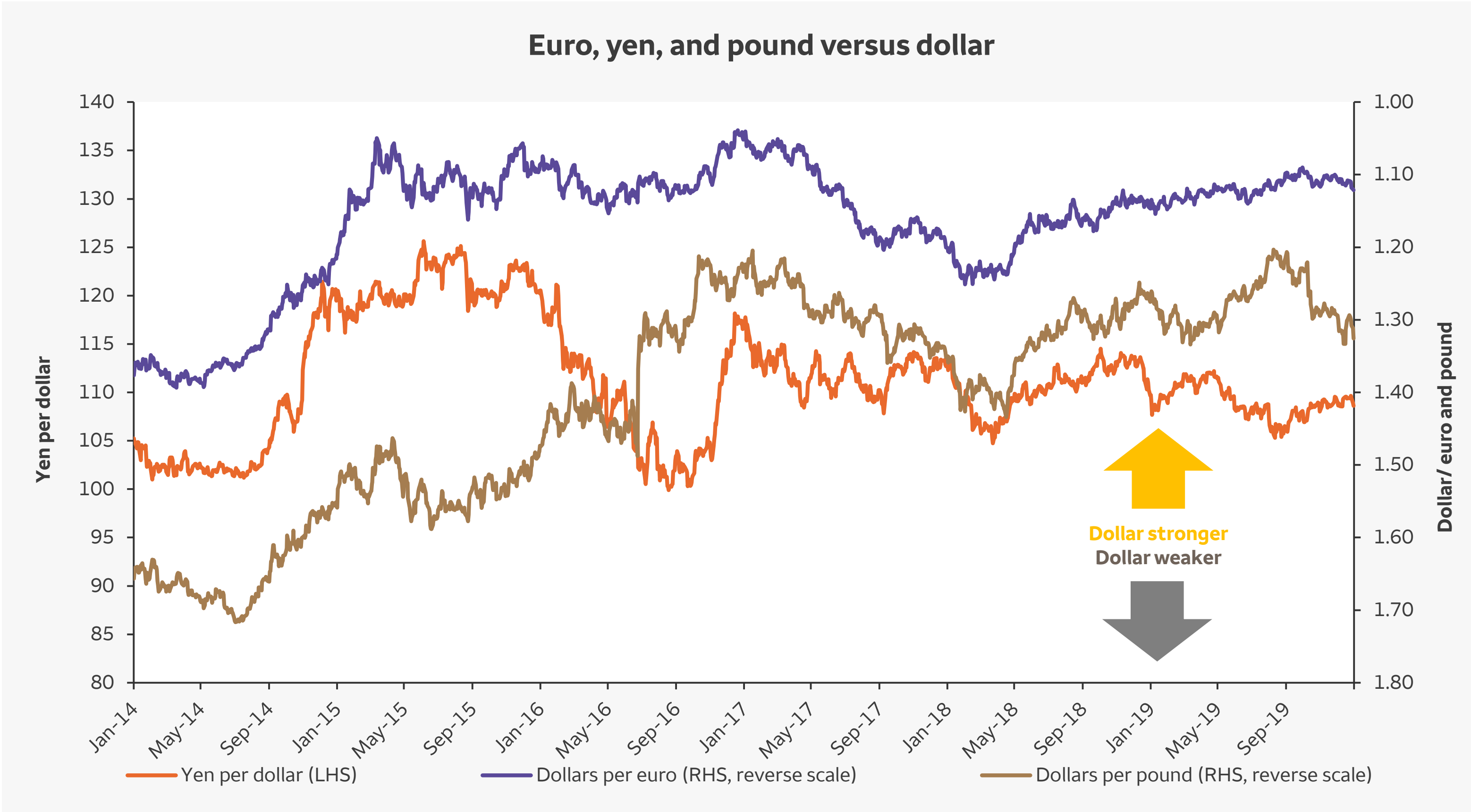


Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. The DXY Index measures the value of the U.S. dollar relative to major developed market currencies, notably the euro, the Japanese yen, and the British pound. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Key Takeaways

- Despite a bumpy year, the U.S. dollar ended about where it began in 2019.
- The dollar could weaken in 2020 if currency policies are included explicitly or implicitly in the resolution of trade disputes. But if political risks intensify, dollar strength may be maintained for longer than we anticipate.

Currency volatility has abated

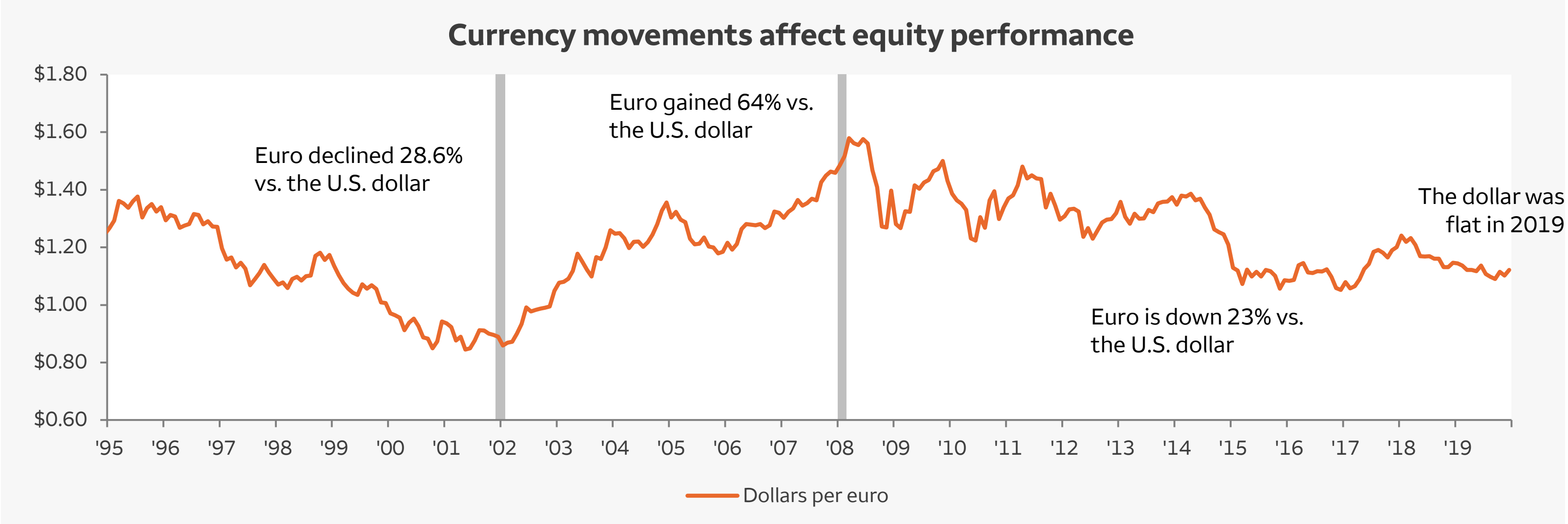


Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019.

Key Takeaways

- Sluggish growth, persistent low inflation and political risks have pressured the euro. However, expectations of Federal Reserve rate cuts and fears of a more active U.S. currency policy have capped dollar strength.
- Trade concerns and periodic bouts of risk aversion have pushed the yen higher, while recent UK election results and expectations of a Brexit deal have supported the British pound.

The euro and equity returns



Annual equity returns for the S&P 500 Index and the MSCI EAFE Index

	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19
S&P 500	38%	23%	33%	29%	21%	-9%	-12%	-22%	29%	11%	5%	16%	5%	-37%	26%	15%	2%	16%	32%	14%	1%	12%	22%	-4%	31%
MSCI EAFE	12%	6%	2%	20%	27%	-14%	-21%	-16%	39%	21%	14%	27%	12%	-43%	32%	8%	-12%	18%	23%	-4%	0%	2%	26%	-13%	23%

Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. The S&P 500 Index is a market-capitalization-weighted index generally considered representative of the U.S. stock market. The MSCI EAFE Index is a free-float-adjusted market-capitalization-weighted index that is designed to measure the equity market performance of 21 developed markets, excluding the U.S. and Canada. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Key Takeaways

- International equities, priced in U.S. dollars, have tended to outperform U.S. equities when the euro is appreciating versus the dollar.
- Uncertainty surrounding the economic recovery in the eurozone and central bank policy could create more currency volatility in the coming year.

Impact of the U.S. dollar

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Dollar strength or weakness impact on profits, manufacturing, and equity and fixed-income returns

	DOLLAR DEPRECIATION[1]	DOLLAR APPRECIATION[1]
Average quarterly change in corporate profits	1.15%	2.20%
Average quarterly change in U.S. manufacturing activity	-0.423	0.494
Average quarterly change in global manufacturing activity	0.104	-0.150
Average quarterly commodity total return	2.05%	-0.28%
Average quarterly global equity gross return (USD)	4.38%	0.42%
Average quarterly global equity gross return (LCL)	1.58%	1.28%
Average quarterly global fixed income total return (unhedged)	2.97%	-0.61%
Average quarterly global fixed income total return (hedged)	1.31%	1.11%

Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. Dollar represented by DXY Index (January 1, 1967–December 31, 2019). Corporate profits are seasonally adjusted (January 1, 1967–September 30, 2019). U.S. manufacturing represented by Institute for Supply Management Manufacturing PMI (January 1, 1967–December 31, 2019). Global manufacturing represented by J.P. Morgan Global Manufacturing Index (January 1, 1998–December 31, 2019). Commodities represented by Bloomberg Commodity Index (January 1, 1990–December 31, 2019). Global equities represented by MSCI All Country World Index USD/Local Currency (March 1, 1988–December 31, 2019). Global fixed income represented by Bloomberg Barclays Multiverse Index Hedged/Unhedged (March 1, 1999–December 31, 2019). Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses, or taxes applicable to an actual investment. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** Please see the end of the report for the definitions of the indexes.

Key Takeaways

- An appreciating U.S. dollar tends to contribute to corporate profits and U.S. manufacturing activity.
- A falling dollar typically enhances global equity, commodity, and unhedged fixed-income performance.

1. Dollar depreciation periods are quarters with a declining value in the DXY Index. Dollar appreciation periods are quarters with a rising value in the DXY Index. The DXY Index measures the value of the U.S. dollar relative to major developed market currencies, notably the euro, the Japanese yen, and the British pound.

EM currencies mirror the U.S. dollar

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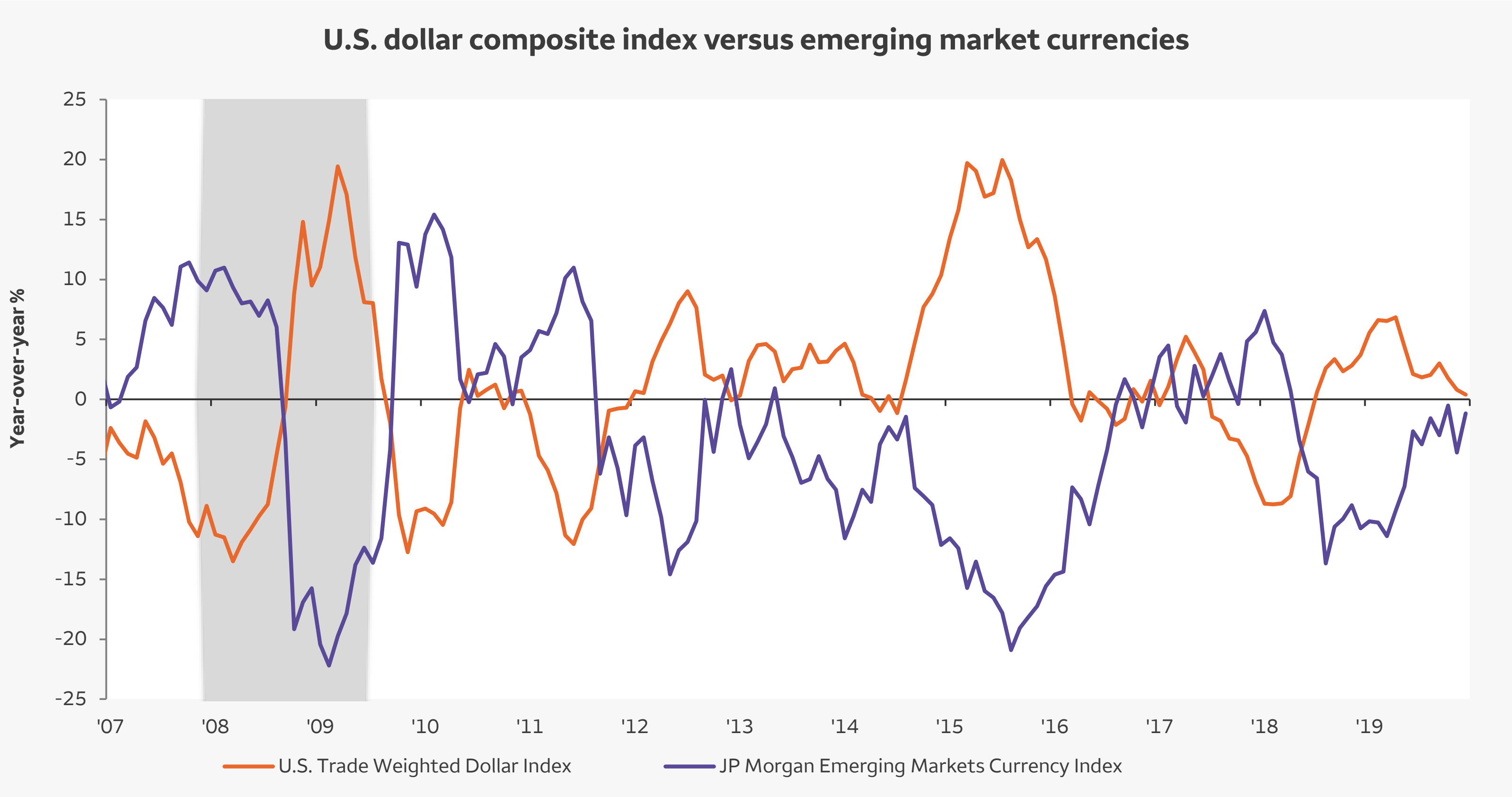

Sources: Bloomberg and Wells Fargo Investment Institute, as of September 30, 2019. Shaded areas represent periods of a U.S. economic recession. The U.S. Trade Weighted Dollar Index is a weighted average of the foreign exchange value of the U.S. dollar against a subset of the broad index currencies that circulate widely outside the country of issue. Major currencies index includes the Euro Area, Canada, Japan, United Kingdom, Switzerland, Australia, and Sweden. The J.P. Morgan Emerging Market Currency Index tracks the performance of emerging market currencies relative to the U.S. dollar. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Key Takeaways

- We foresee mixed trends for emerging market currencies. The environment is still challenging for the currencies of Pacific Rim economies, which have elevated political risks and are exposed to trade disputes.
- By contrast, we believe the economies, such as Russia and Brazil, that are recovering after recessions, making fiscal reforms, and that have scope for positive political and institutional surprises stand the best chance to appreciate against the dollar.

Asset allocation highlights

Background

- Historical performance may serve as a useful guide for investors, but markets frequently trade on factors outside of fundamental valuations for long periods of time.

Benefits of diversification and rebalancing

- Regularly rebalancing a portfolio can add value.
- Because each asset class has unique risk, return, and correlation characteristics, a diversified portfolio has the potential to provide more consistent returns with lower volatility.
- Attempting to reduce downside volatility is critical to long-term performance, as it can allow a portfolio to recover more quickly in the event of a catastrophic event.
- It's important to recognize that the more a portfolio loses in a downturn, the longer it takes to recoup those losses.

Dangers of market timing

- Missing even a handful of days when the market achieves its best gains can dramatically reduce returns.
- We do not advocate market timing, but we do believe that modest tactical shifts have the potential to take advantage of short-term investment opportunities or help mitigate short-term risks.

Asset allocation scorecard

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	Oct. – Nov. 2019 return (%)	3Q19 return (%)	YTD return (%)	YoY return (%)
Moderate Income four-asset group without private capital	1.38	1.36	11.63	10.42
Moderate Growth and Income four-asset group w/o private capital	2.87	0.76	16.35	11.89
Moderate Growth four-asset group without private capital	4.21	-0.10	19.44	12.09
60% MSCI ACWI/40% Bloomberg Barclays Multiverse	3.17	0.31	16.18	12.31
60% S&P 500 Index/40% Bloomberg Barclays U.S. Aggregate Bond Index	3.62	1.93	19.92	14.46

Sources: Bloomberg and Wells Fargo Investment Institute, as of November 30, 2019. YoY = year over year. YTD = year to date.
Performance results for the Moderate Income, Moderate Growth and income and 60/40 portfolios are hypothetical and for illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results; assume the reinvestment of dividends and other distributions; and do not reflect deductions for fees, expenses, or taxes applicable to an actual investment. Unlike most asset-class Indexes, HFR Index returns are net of all fees. Because the HFR Indexes are calculated based on information that is voluntarily provided, actual returns may be higher or lower than those reported. An index is unmanaged and not available for direct investment. **Hypothetical and past performance does not guarantee future results.** Compositions of the Moderate Income, Moderate Growth and Income, Moderate Growth Four-Asset Group without PC, and 60/40 are provided at the end of the report.

Key Takeaways

- A diversified portfolio typically helps smooth out returns over time.
- Adding alternative investment strategies can help enhance return potential and mitigate risk over a traditional portfolio consisting of stocks and bonds.

Diversification strategies do not guarantee investment returns or eliminate the risk of loss.

Market conditions can determine the choice of strategy

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Catastrophe
Cash
U.S. IG fixed income
Commodities
Hedge funds
Managed futures

Income
U.S. IG bonds
U.S. high-yield fixed income
Int'l bonds (DM/EM)
Large/Mid cap equity
DM equity
Real estate

Volatility
U.S. IG fixed income
DM fixed income
Hedge funds
Managed futures

Liquidity
Cash
U.S. IG fixed income
DM fixed income
Large cap equity
DM equity

Inflation
TIPS or short-term fixed income
DM bonds
Domestic equity
Int'l equity (DM/EM)
Real estate
Commodities

Growth
U.S. high-yield fixed income
EM fixed income
U.S. equity
Int'l equity (DM/EM)
Real estate
Private equity

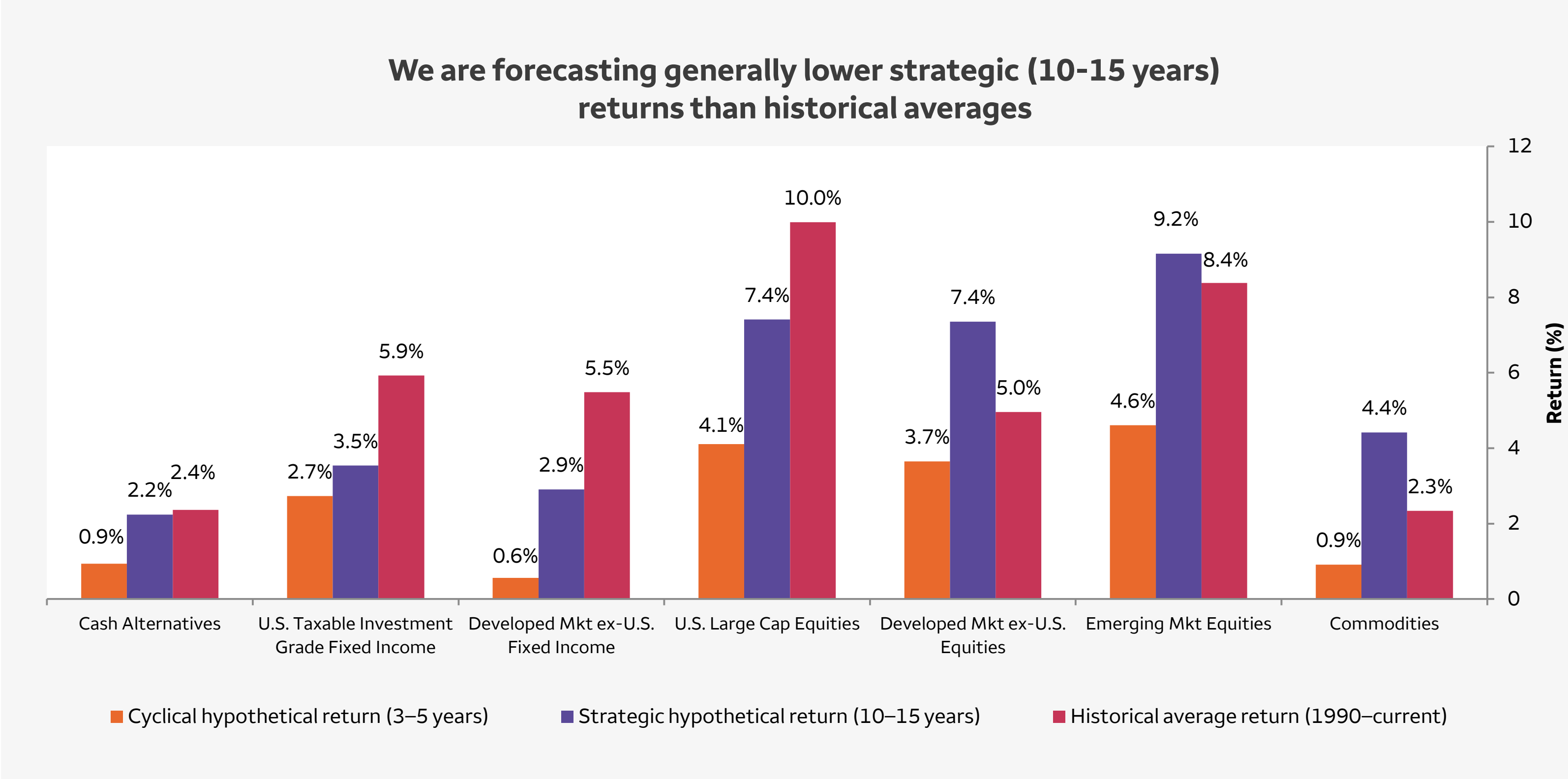
Source: Wells Fargo Investment Institute, as of December 31, 2019. IG = investment grade. DM = developed markets. EM = emerging markets. TIPS = treasury inflation-protected securities.

Key Takeaways

- Certain asset classes can be appropriate under different circumstances or for different investment objectives.

Hedge Funds, Managed Futures, Real Estate, and Private Equity funds are not suitable for all investors and are only open to "accredited" or "qualified" investors within the meaning of U.S. securities laws. Equity, fixed income, foreign, cash alternatives, and alternative investments are materially different investments with materially different risk and reward characteristics. These risk and reward characteristics should be evaluated carefully before making any investment decision.

Expect lower returns for longer



Sources: Bloomberg, and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. Cyclical return assumptions as of January 2, 2020. Strategic return assumptions are as of July 16, 2019. Cyclical and strategic hypothetical returns are forward-looking geometric return estimates from Wells Fargo Investment Institute of how asset classes and combinations of classes may respond during various market environments. Hypothetical returns do not represent the returns that an investor should expect in any particular year. They are not designed to predict actual performance and may differ greatly from actual performance. There are no assurances that any estimates given will be achieved. Historical average returns are for data from January 1991 to September 2019. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** Indexes in order represented by Bloomberg Barclays U.S. Treasury Bill (1–3 Month) Index, Bloomberg Barclays U.S. Aggregate Bond Total Return Index, JP Morgan GBI Global Ex U.S. Total Return Index, S&P 500 Total Return Index, MSCI EAFE Total Return Index, MSCI Emerging Markets Total Return Index, Bloomberg Commodity Index. Please see the end of the report for the definitions of the indexes.

Key Takeaways

- Investors may need to consider saving more or spending less in this environment to reach their financial goals.

Rebalancing benefits

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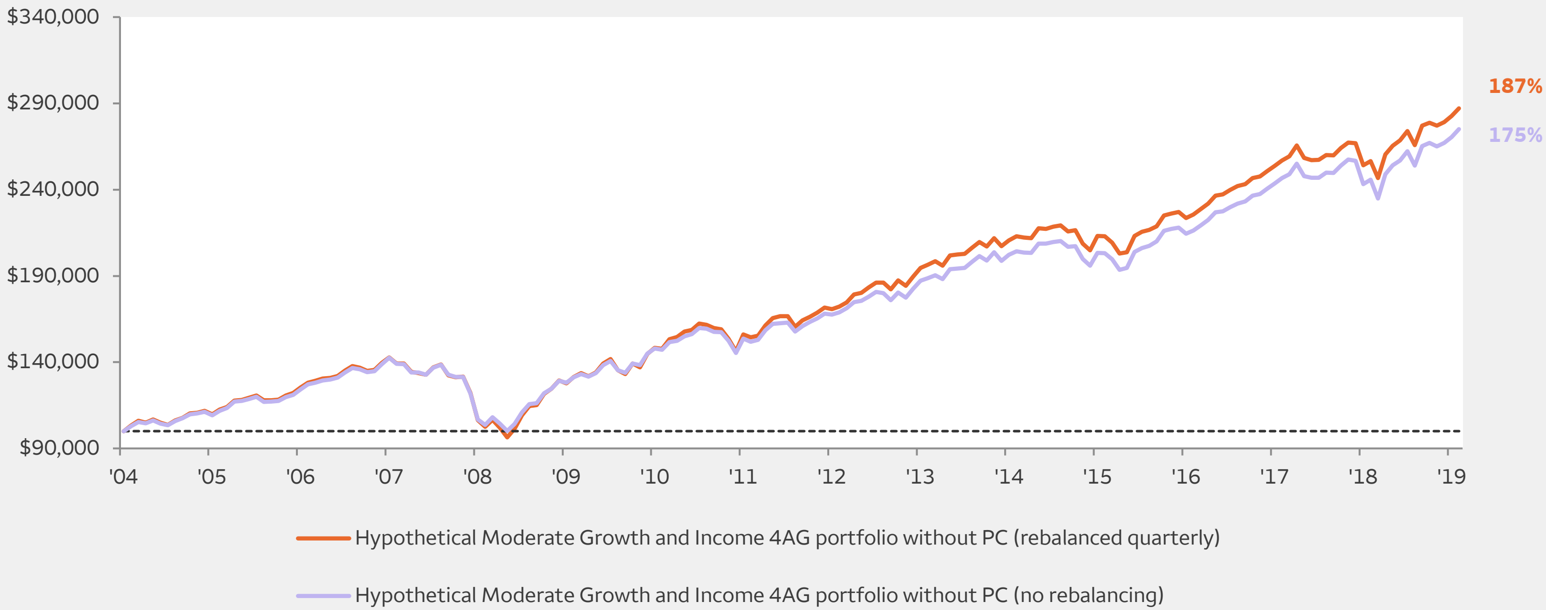
Hypothetical benefits of rebalancing: 15 years

(December 2004–November 2019)



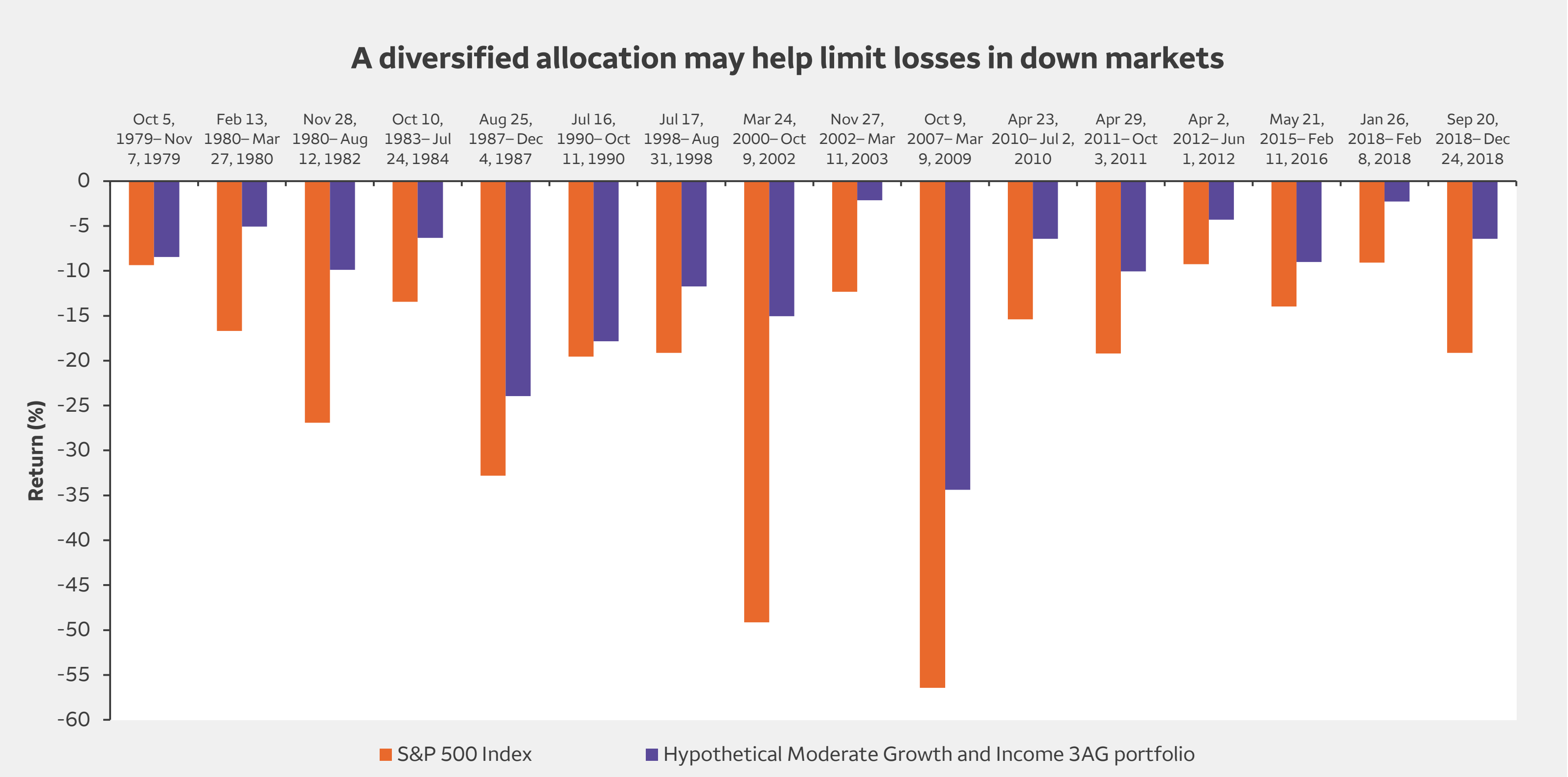
Sources: Morningstar Direct and Wells Fargo Investment Institute, as of November 30, 2019. Performance results for the Moderate Growth and Income 4AG portfolio without private capital (PC) and the 60/40 portfolios are hypothetical and for illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results; do not reflect actual portfolio returns or the experience of any investor; and do not reflect the impact of any fees, expenses, or taxes applicable to an actual investment. Unlike most asset-class Indexes, HFR Index returns are net of all fees. Because the HFR Indexes are calculated based on information that is voluntarily provided, actual returns may be higher or lower than those reported. An index is unmanaged and not available for direct investment. **Hypothetical and past performance is no guarantee of future results.** Composition of the Portfolios provided at the end of the report.

Key Takeaways

- Regularly rebalancing a portfolio can add value. The balanced portfolio that is rebalanced regularly outperformed the un-rebalanced portfolio this time period.

Diversification strategies do not guarantee investment returns or eliminate the risk of loss.

Diversification may reduce downside risk



Sources: Morningstar Direct and Wells Fargo Investment Institute, as of December 31, 2019. Performance results for the Moderate Growth and Income 3AG Portfolio is hypothetical and is presented for illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. An index is unmanaged and not available for direct investment. **Hypothetical and past performance does not guarantee future results.** Composition of the Portfolios provided at the end of the report.

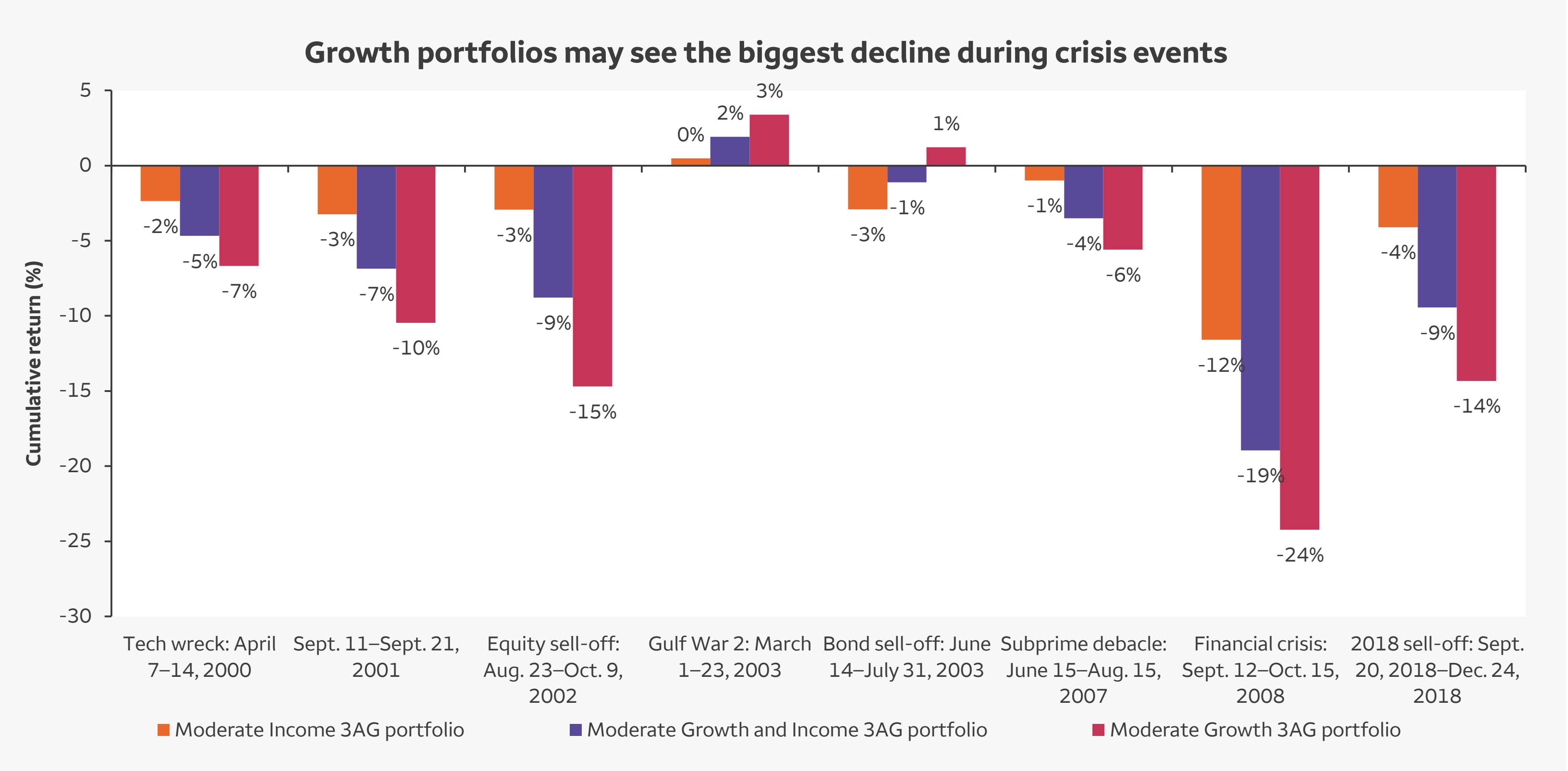
Note: Corrections are declines of 10% or more. Bear markets are declines of 20% or more.

Key Takeaways

- A diversified allocation may not experience losses as sharp as an all-equity position during an equity correction or bear market.
- Attempting to reduce downside volatility is critical to long-term performance, as it can allow a portfolio to recover more quickly in the event of a catastrophic event.

Diversification strategies do not guarantee investment returns or eliminate the risk of loss.

Crisis events' impact on performance



Sources: Morningstar Direct and Wells Fargo Investment Institute, as of December 31, 2019. Performance for the Moderate Income, Moderate Growth and income, and Moderate Growth 3AG Portfolios are hypothetical and for illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. An index is unmanaged and not available for direct investment. **Hypothetical and past performance is no guarantee of future results.** Composition of the Portfolios provided at the end of the report.

Key Takeaways

- During certain historical crisis events, growth-oriented allocations declined the most; income-oriented allocations tended to decline the least; and growth-and-income-oriented allocations experienced moderate declines.
- Growth allocations tend to rise more over time, but crisis events have had a bigger impact.

Diversification may improve risk-adjusted returns

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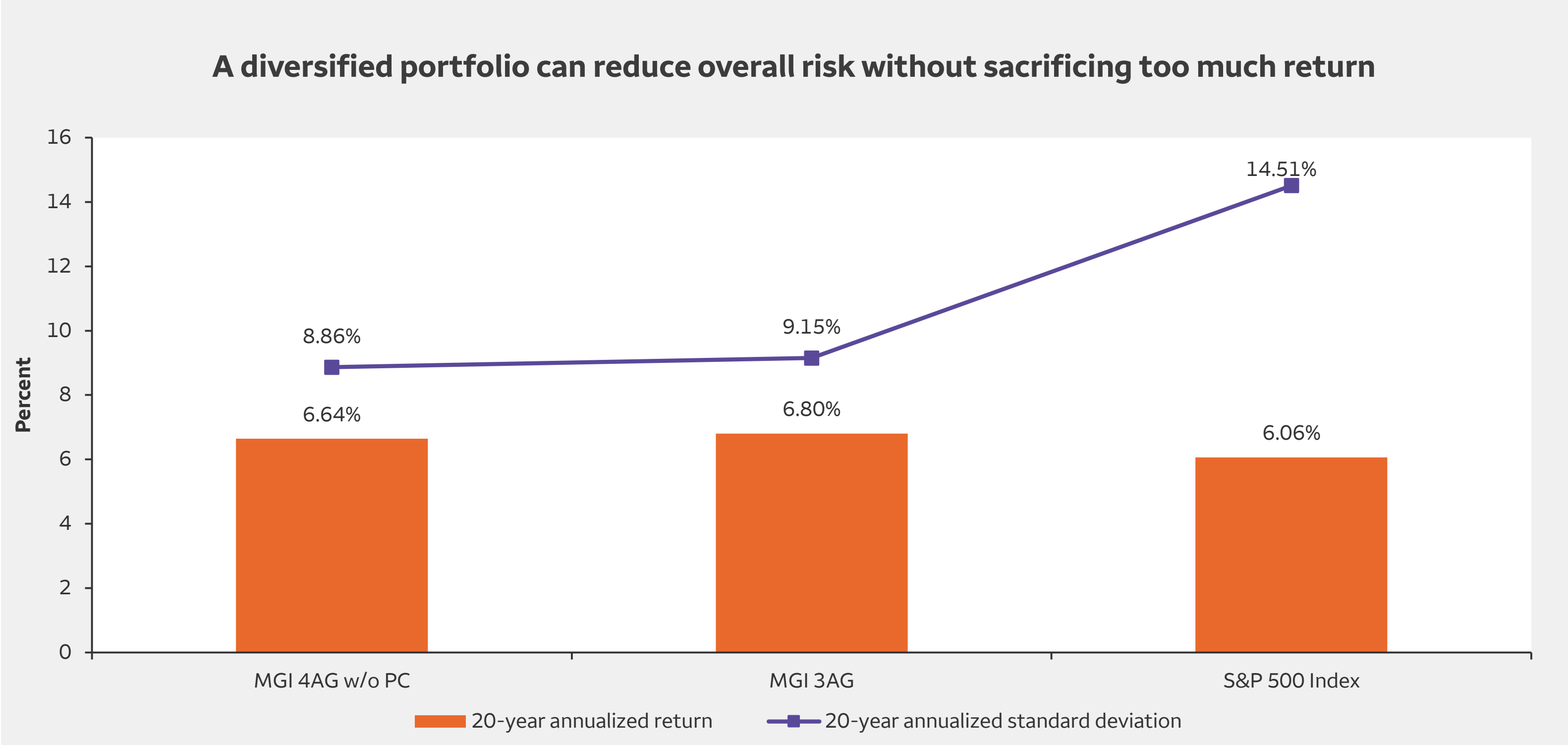
Index Definitions



Sources: Morningstar Direct and Wells Fargo Investment Institute, January 1, 2000–December 31, 2019. MGI 4AG w/o PC data is January 1, 1999–December 31, 2018. Performance for the MGI 4AG w/o PC and the MGI 3AG Portfolios are hypothetical and for illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. Unlike most asset class Indexes, HFR Index returns are net of all fees. Because the HFR Indexes are calculated based on information that is voluntarily provided, actual returns may be lower than those reported. An index is unmanaged and not available for direct investment. **Hypothetical and past performance does not guarantee future results.** Standard deviation is a measure of the volatility of returns. The higher the standard deviation, the greater volatility has been. The risk associated with the representative asset classes and the definitions of the Indexes are provided at the end of the report. Diversification does not guarantee investment returns or eliminate risk of loss. Composition of the Portfolios provided at the end of the report.

Key Takeaways

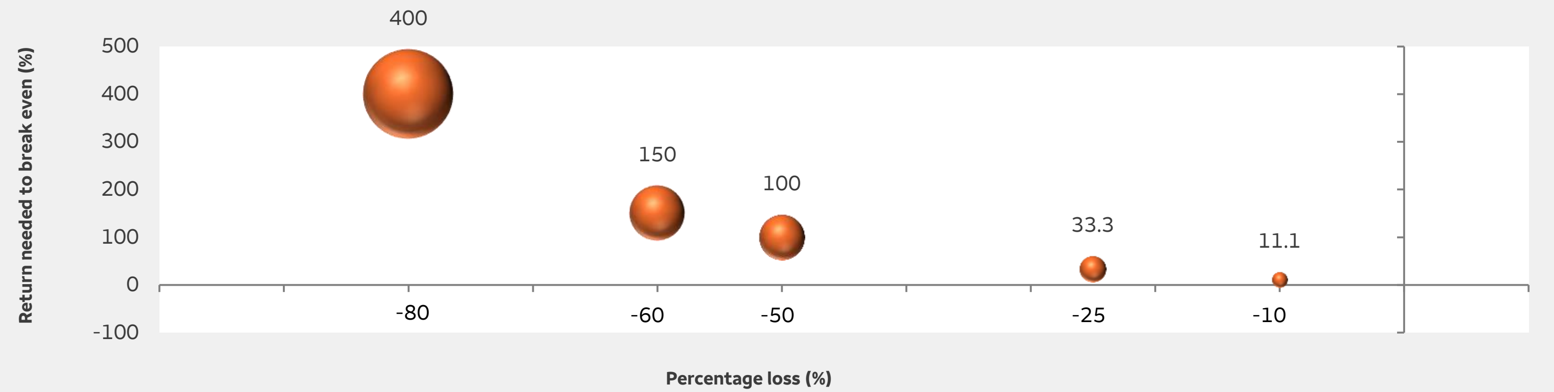
- Over time, a diversified portfolio can help mitigate volatility during times of market uncertainty and help smooth returns.
- Real assets and alternative investments add an element of diversification to a traditional portfolio comprised of stocks and bonds.

Diversification strategies do not guarantee investment returns or eliminate the risk of loss.

The greater the loss, the longer it takes to break even

WELLS FARGO Investment Institute

To break even in one period		Periods necessary to break even given a percentage return of		
If you lose	**You need ...**	**1%**	**5%**	**10%**
10%	11.1%	10.6	2.2	1.1
25%	33.3%	28.9	5.9	3.0
50%	100%	69.7	14.2	7.3
60%	150%	92.1	18.8	9.6
80%	400%	161.7	33.0	16.9

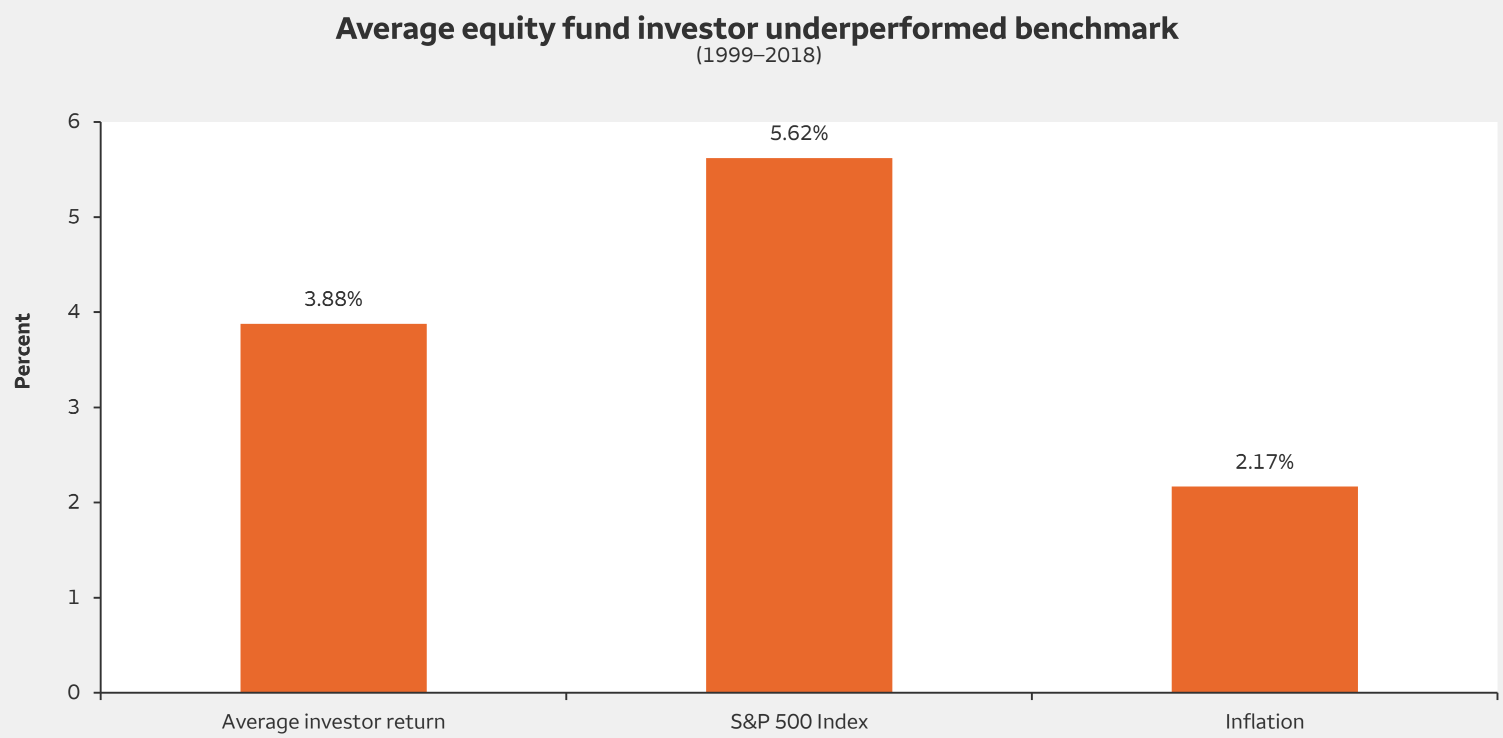


Source: Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. There is no guarantee it will be possible to break even. All investing involves risk including the possible loss of principal. **Past performance is no guarantee of future results.**

Key Takeaways

- It's important to recognize that the more a portfolio loses in a downturn, the longer it takes to recoup those losses.

Timing the market is risky



Source: Dalbar, Inc., 20 years from 1999–2018; "Quantitative Analysis of Investor Behavior," 2019, DALBAR, Inc., www.dalbar.com. For illustrative purposes only. Dalbar computed the average stock fund investor return by using industry cash flow reports from the Investment Company Institute. The average stock fund return figure represents the average return for all funds listed in Lipper's U.S. Diversified Equity fund classification model. All Dalbar returns were computed using the S&P 500 Index. The S&P 500 Index is a market capitalization weighted index composed of 500 stocks generally considered representative of the U.S. stock market. Returns assume reinvestment of dividends and capital gain distributions. The fact that buy and hold has been a successful strategy in the past does not guarantee that it will continue to be successful in the future. The performance shown is not indicative of any particular investment. An index is unmanaged and not available for direct investment. **Past performance is not a guarantee of future results.**

Key Takeaways

- Market timing is difficult. Investors who allow their emotions to get the best of them can suffer lower returns.

Timing the market is risky

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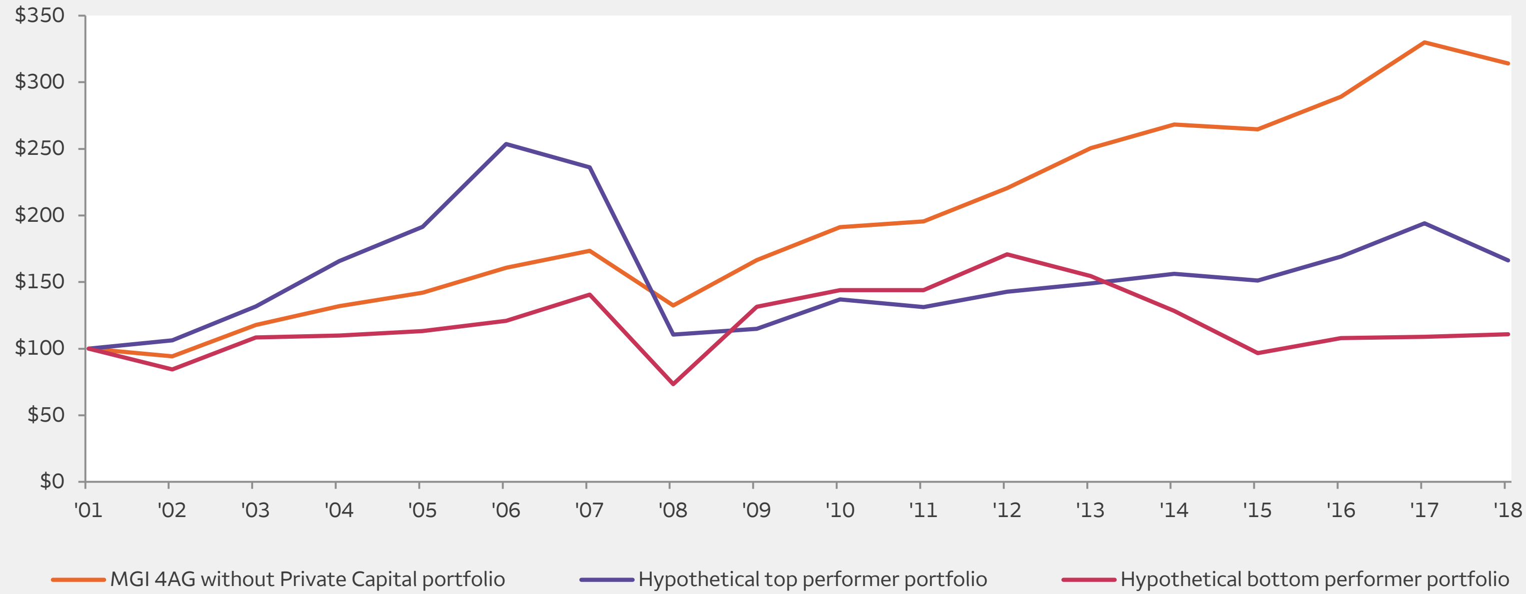
Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. The S&P 500 Index is a market capitalization weighted index composed of 500 stocks generally considered representative of the U.S. stock market. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** A price index is not a total return index and does not include the reinvestment of dividends.

Key Takeaways

- We do not advocate market timing, but we do believe that modest tactical shifts have the potential to take advantage of short-term investment opportunities or help mitigate short-term risks.
- Exiting the market after a bad day could be costly. The stock market's best days are often preceded by the worst days. Missing even a handful of days when the market achieves its best gains can dramatically reduce returns.

Behavioral biases could be costly

Chasing past winners or losers has not been a successful strategy



Sources: Morningstar Direct, Wells Fargo Investment Institute; December 31, 2018. Indexed to 100 as of December 31, 2001. The top performer portfolio consists of the top performing asset class of the previous year invested 100% in the portfolio in the current year. The bottom performer portfolio consists of the bottom performing asset class of the previous year invested 100% in the portfolio in the current year. Performance results for the Moderate Growth & Income 4 Asset Group without Private Capital Portfolio and the top and bottom performer portfolios are hypothetical and do not represent an actual portfolio in existence now or during the time period shown. Index return information is provided for illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns represent general market results, assume the reinvestment of dividends and other distributions and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. **Hypothetical and past performance is no guarantee of future results.** Unlike most asset class Indexes, HFR Index returns reflect deduction for fees. Because the HFR Indexes are calculated based on information that is voluntarily provided actual returns may be lower than those reported. An index is unmanaged and not available for direct investment. Please see the end of the presentation for the composition of the MGI w/o PC Portfolio, the risks associated with the representative asset classes and the definitions of the Indexes.

Key Takeaways

- Chasing the previous year's top-performing asset class or worst-performing investment is a strategy that some investors have tended to follow.
- We found that following the best-performing asset class (hot-hand fallacy) and worst-performing investment (gambler's fallacy) did not result in better performance than a diversified portfolio.

Diversification strategies do not guarantee investment returns or eliminate the risk of loss.

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Asset values have grown over time

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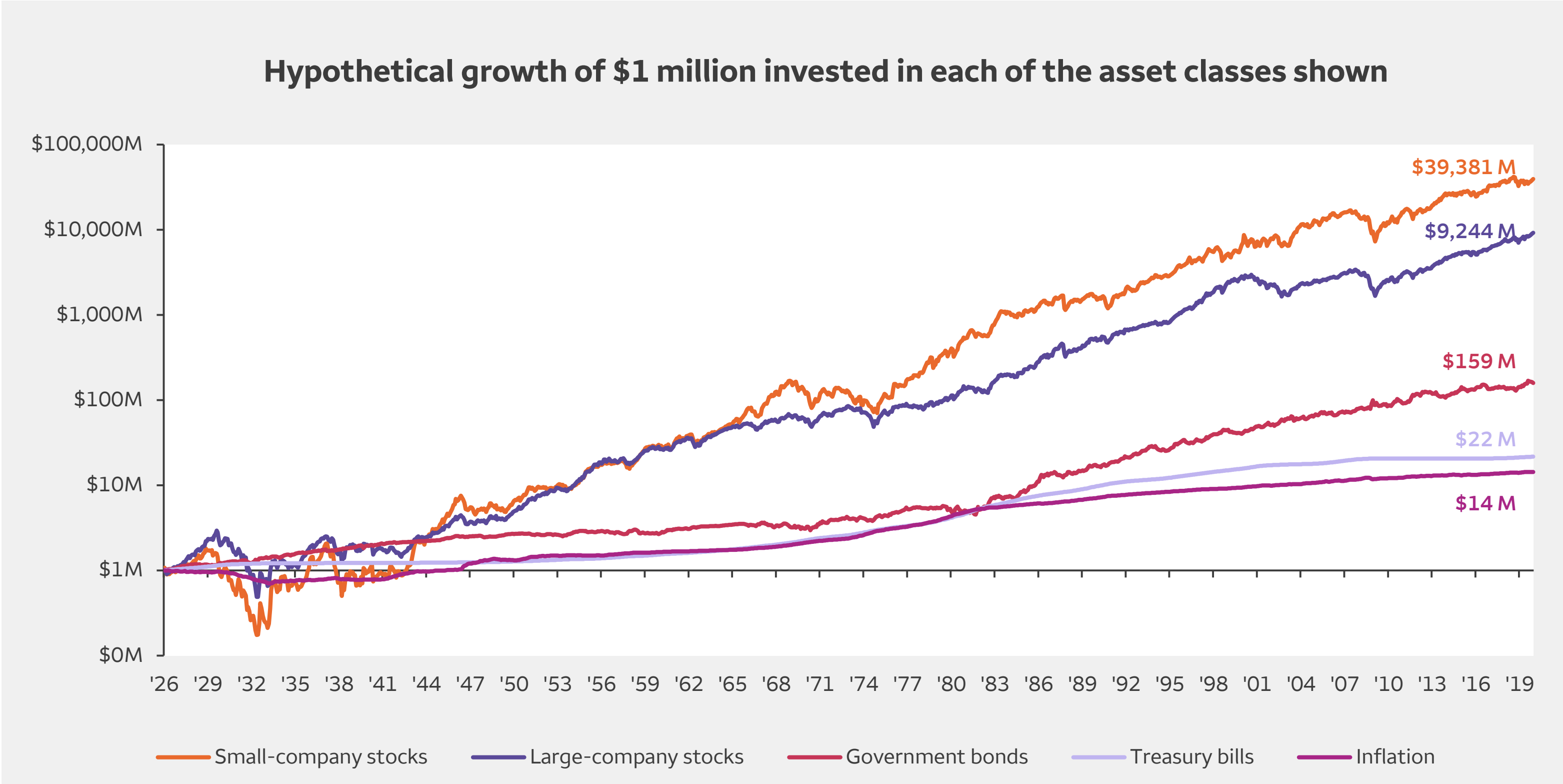

Sources: Morningstar Direct and Wells Fargo Investment Institute, as of December 31, 2019. **Small-company stocks:** IA SBBI U.S. Small Stock Index. **Large-company stocks:** S&P 500 Index. **Government bonds:** IA SBBI U.S. Long-Term Government Bond Index. **Treasury bills:** IA SBBI U.S. 30-Day Treasury Bill Index. **Inflation:** IA SBBI U.S. Inflation Index. For illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. An index is unmanaged and not available for direct investment. **Hypothetical and past performance is no guarantee of future results.** Please see the end of the report for the definitions of the indexes.

Key Takeaways

- Since 1926, riskier assets have outperformed less risky assets.
- U.S. Treasury bills have tracked inflation fairly closely over this time frame. More recently, T-bill yields have been lower than inflation.

Net flows of mutual funds (MFs) and exchange-traded funds (ETFs)

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Billions ($)		YTD 2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Domestic equity	MF	-251	-251	-236	-235	-170	-60	18	-159	-134	-81
	ETF	107	129	188	170	70	132	–	–	–	–
Int'l equity	MF	-14	34	71	23	111	69	84	1	5	39
	ETF	16	69	160	21	109	46	–	–	–	–
EM equity		1	4	13	-4	-4	7	33	17	12	27
Taxable bond	MF	191	-2	233	84	-40	16	-13	256	130	221
	ETF	123	92	116	77	51	48	–	–	–	–
Government bond		26	6	2	11	12	6	-51	34	3	4
High-yield bond		-28	-34	-18	7	-36	-44	56	35	22	19
Tax-exempt bond	MF	83	4	26	23	15	28	-58	50	-12	12
	ETF	9	6	5	6	4	3	–	–	–	–
Money market		489	90	107	-30	21	6	15	0	-124	-525

Sources: FactSet and Wells Fargo Investment Institute, as of November 30, 2019. Data compiled by Investment Company Institute (ICI). For illustrative purposes only. Data represents net new cash flows of mutual funds and net issuance of shares of ETFs. Numbers rounded to the nearest billion. For number of funds in each category according to ICI please refer to https://www.ici.org/research/stats/trends/trends_10_19. For definitions and components of each category according to ICI please refer to https://www.ici.org/research/stats/iob_update/iob_definitions.

Key Takeaways

- Investors have continued to increase their fixed income allocations this year, which has been a trend since 2014.
- Investors have continued to reduce their net U.S. equity allocations this year. This has been an ongoing trend since 2015.

Asset performance—correlations

	Cash	U.S. Taxable IG FI	Municipal FI	HY Taxable FI	DM ex-U.S. FI	EM FI	U.S. LC Equities	U.S. MC Equities	U.S. SC Equities	DM ex-U.S. Equities	EM Equities	Public Real Estate	Commodity	Hedge Funds
Cash	1.00	0.23	0.08	-0.20	0.00	0.00	-0.21	-0.14	-0.15	-0.13	-0.08	-0.02	0.14	0.01
U.S. Taxable IG FI		1.00	0.78	-0.08	0.55	0.34	-0.39	-0.33	-0.39	-0.26	-0.19	0.02	-0.07	-0.26
Municipal FI			1.00	0.17	0.39	0.50	-0.15	-0.08	-0.21	-0.03	0.04	0.20	0.06	0.00
HY Taxable FI				1.00	-0.01	0.71	0.70	0.73	0.67	0.69	0.76	0.71	0.46	0.74
DM ex-U.S. FI					1.00	0.27	-0.10	-0.10	-0.14	0.16	0.11	0.19	0.15	-0.06
EM FI						1.00	0.48	0.53	0.43	0.52	0.63	0.60	0.40	0.56
U.S. LC Equities							1.00	0.96	0.92	0.88	0.78	0.74	0.35	0.82
U.S. MC Equities								1.00	0.95	0.88	0.82	0.79	0.44	0.90
U.S. SC Equities									1.00	0.84	0.76	0.75	0.33	0.84
DM ex-U.S. Equities										1.00	0.88	0.81	0.46	0.86
EM Equities											1.00	0.72	0.48	0.88
Public Real Estate												1.00	0.42	0.71
Commodity													1.00	0.56
Hedge Funds														1.00

Source: Wells Fargo Investment Institute, January 1, 2000 to December 31, 2018. For illustrative purposes only. Correlation measures the degree to which asset classes move in sync; it does not measure the magnitude of that movement. There is no guarantee that future correlations between the Indexes will remain the same. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. Unlike most asset class Indexes, HFR Index returns are net of all fees. Because the HFR Indexes are calculated based on information that is voluntarily provided, actual returns may be lower than those reported. An index is unmanaged and not available for direct investment. Index correlations represent past performance. **Past performance is no guarantee of future results.**

Key Takeaways

- Correlations play an important role in portfolio diversification. In addition to risk and return, correlations are primary components of portfolio construction.

Indexes in order represented by Bloomberg Barclays U.S. Treasury Bill 1(–3 Month) Index, Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. Municipal Index, Bloomberg Barclays U.S. Corporate High Yield Bond Index, Bloomberg Barclays High Yield Muni Index, JPM GBI Global Ex U.S. Index, JPM EMBI Global Index, S&P 500 Index, Russell Mid Cap Index, Russell 2000 Index,, MSCI EAFE Index, MSCI EM Index, FTSE EPRA/NAREIT Developed Index, Bloomberg Commodity Index, HFRI Fund Weighted Index. IG = investment grade. FI = fixed income. LC = large cap. MC = mid cap. SC = small cap. HY = high yield. DM = developed market. EM = emerging market. Please see the end of the report for the definitions of the indexes.

Finding balance between risk and reward

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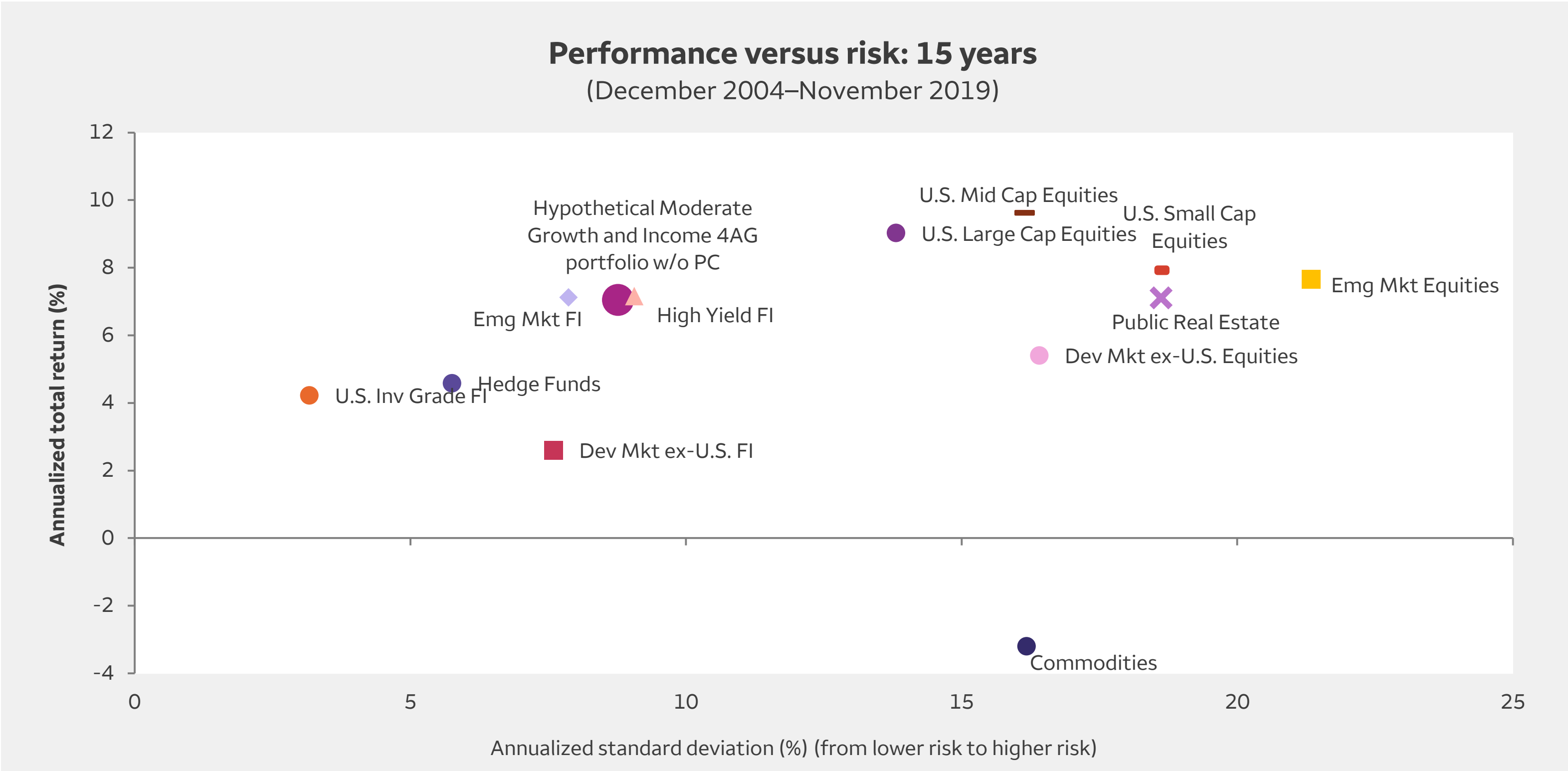

Sources: Morningstar Direct and Wells Fargo Investment Institute, as of November 30, 2019. Performance results for the MGI 4AG w/o PC Portfolio is hypothetical and is for illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. Unlike most asset class Indexes, HFR Index returns are net of all fees. Because the HFR Indexes are calculated based on information that is voluntarily provided actual returns may be lower than those reported. An index is unmanaged and not available for direct investment. **Hypothetical and past performance is no guarantee of future results**. Standard deviation is a measure of the volatility of returns. The higher the standard deviation, the greater volatility has been. Composition of the MGI 4AG w/o PC provided at the end of the report.

Key Takeaways

- A diversified portfolio may strike a good balance between risk and return.

Diversification strategies do not guarantee investment returns or eliminate the risk of loss. Indexes represented: U.S. Investment Grade FI = Bloomberg Barclays U.S. Aggregate Bond Index. Hedge Funds = HFRI Fund Weighted Index. Emerging Market FI = JP Morgan EMBI Global Index. High Yield FI = Bloomberg Barclays U.S. Corporate HY Bond Index. U.S. Mid Cap Equities = Russell Midcap Index. U.S. Small Cap Equities = Russell 2000 Index. Developed Market Ex-U.S. FI = JP Morgan GBI Global Ex U.S. Index. U.S. Large Cap Equities = S&P 500 Index. Developed Market Ex-U.S. Equities = MSCI EAFE Index. Emerging Market Equities = MSCI Emerging Markets Index. Public Real Estate = FTSE EPRA/ NAREIT Developed REITs Index. Commodities = Bloomberg Commodity Index. Please see the end of the report for the definitions of the indexes.

Don’t fight the Fed

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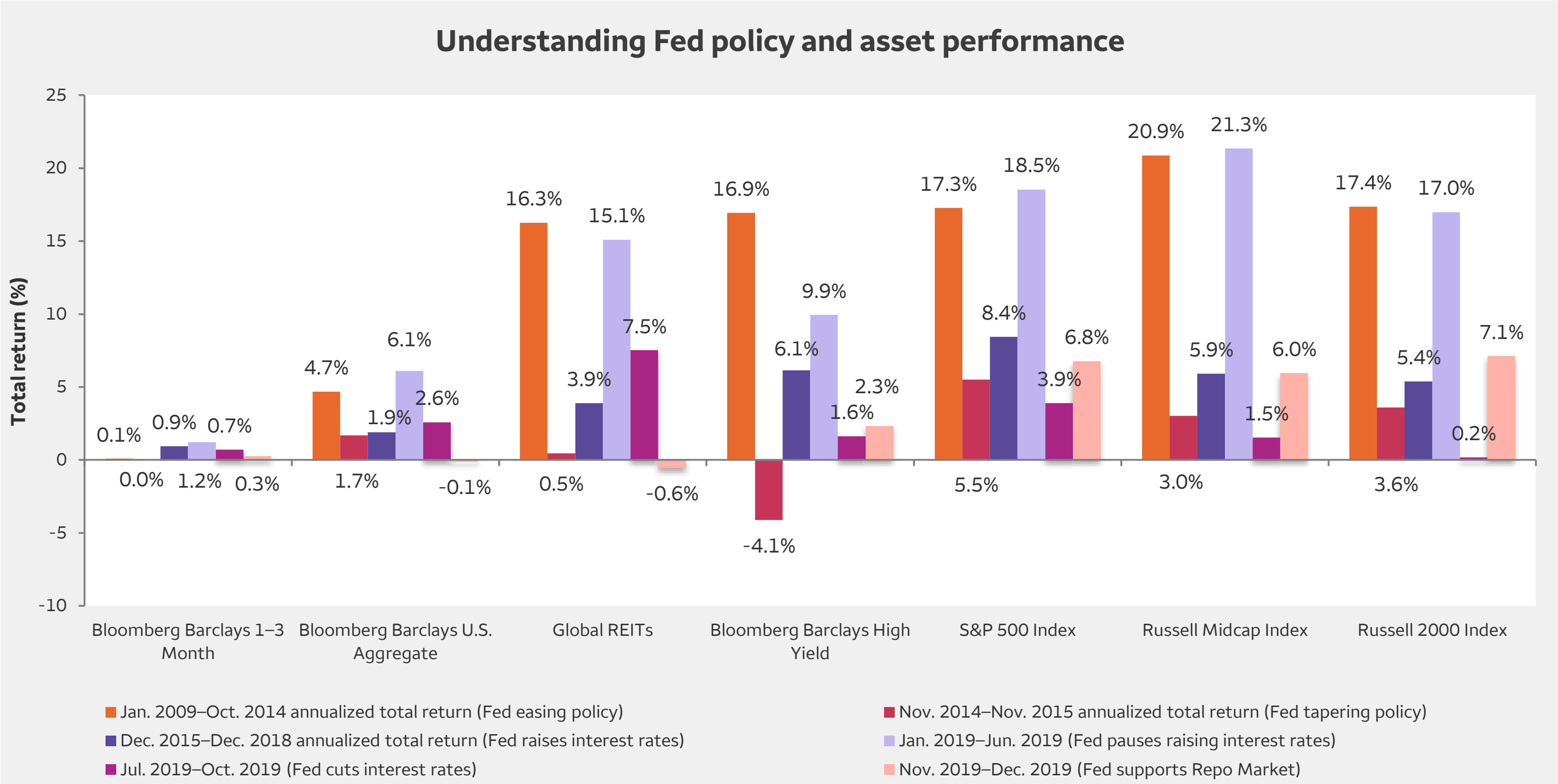

Sources: Bloomberg and Wells Fargo Investment Institute, as of December 31, 2019. For illustrative purposes only. Global REITs represented by FTSE EPRA/NAREIT Developed Index. Bloomberg Barclays High Yield represented by Bloomberg Barclays U.S. Corporate High Yield Bond Index. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions, and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** There is no guarantee any asset class will perform in a similar manner in the future. Please see the end of the report for the definitions of the indexes.

Key Takeaways

- As the next phase of monetary policy unfolds, our expectation is for investment gains to moderate from unsustainable levels experienced during the Federal Reserve’s quantitative easing period to more normalized returns with the potential for higher volatility.
- The Federal Reserve cut interest rates at its September 2019 meeting, but suggested it would monitor economic data for future cuts.

Economy

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Fixed Income

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Risk Considerations

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Broadly speaking…

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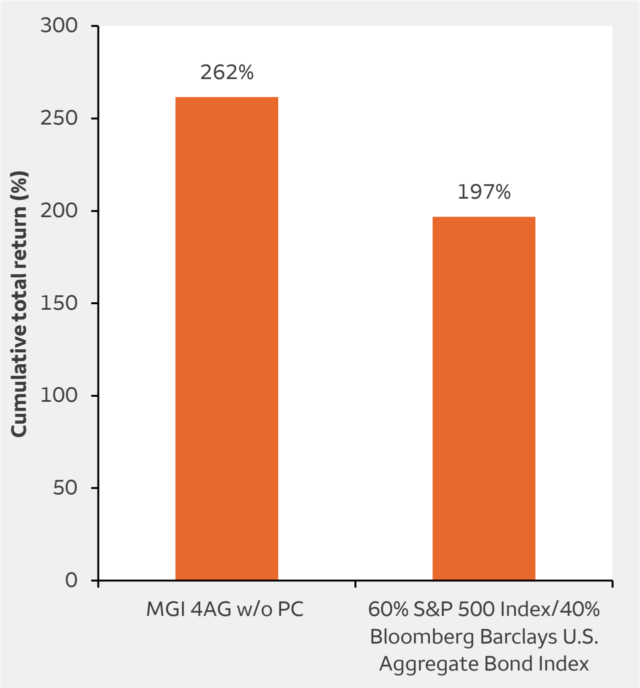
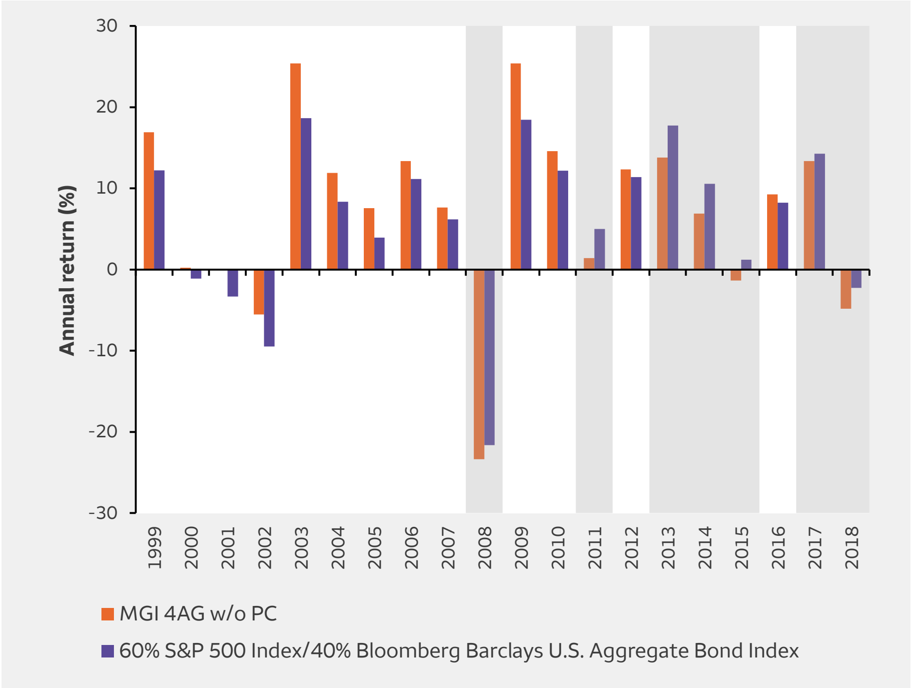
Broad diversification strategies outperformed in 13 of the past 20 years





Sources: Morningstar Direct and Wells Fargo Investment Institute, as of December 31, 2018. Performance results for the MG&I 4AG w/o PC and the 60% S&P 500 Index/40% Bloomberg Barclays Aggregate Bond Index Portfolios are hypothetical and for illustrative purposes only. Index returns do not represent investment performance or the results of actual trading. Index returns reflect general market results, assume the reinvestment of dividends and other distributions and do not reflect deduction for fees, expenses or taxes applicable to an actual investment. Unlike most asset class Indexes, HFR Index returns are net of all fees. Because the HFR Indexes are calculated based on information that is voluntarily provided actual returns may be lower than those reported. An index is unmanaged and not available for direct investment. **Hypothetical and past performance is no guarantee of future results.** Composition of the Portfolios provided at the end of this presentation.

Key Takeaways

- Historical performance may serve as a useful guide for investors, but markets frequently trade on factors outside of fundamental valuations for long periods of time.

Diversification strategies do not guarantee investment returns or eliminate the risk of loss.

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Four-asset group w/o private capital—moderate growth and income

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD	'04-'18 average
Emg Mkt Equity 26.0%	Emg Mkt Equity 34.5%	Emg Mkt Equity 32.6%	Emg Mkt Equity 39.8%	Dev ex US Fixed Inc 11.4%	Emg Mkt Equity 79.0%	US Small Cap Equity 26.9%	Emg-Mkt Fixed Inc 8.5%	Emg Mkt Equity 18.6%	US Small Cap Equity 38.8%	US Large Cap Equity 13.7%	US Large Cap Equity 1.4%	US Small Cap Equity 21.3%	Emg Mkt Equity 37.8%	Cash Alternative 1.8%	US Large Cap Equity 27.6%	US Mid Cap Equity 8.9%
Dev ex US Equity 20.7%	Commod 21.4%	Dev ex US Equity 26.9%	Commod 16.2%	Inv Grade Fixed Inc 5.2%	High Yield Fixed Inc 58.2%	US Mid Cap Equity 25.5%	Inv Grade Fixed Inc 7.8%	Emg-Mkt Fixed Inc 18.5%	US Mid Cap Equity 34.8%	US Mid Cap Equity 13.2%	Emg-Mkt Fixed Inc 1.2%	High Yield Fixed Inc 17.1%	Dev ex US Equity 25.6%	CPI 1.7%	US Mid Cap Equity 27.6%	Emg Mkt Equity 8.3%
US Mid Cap Equity 20.2%	Dev ex US Equity 14.0%	US Small Cap Equity 18.4%	Dev ex US Equity 11.6%	Cash Alternative 1.8%	US Mid Cap Equity 40.5%	Emg Mkt Equity 19.2%	Dev ex US Fixed Inc 5.9%	Dev ex US Equity 17.9%	US Large Cap Equity 32.4%	60%,40% Portf 10.6%	60%,40% Portf 1.2%	US Mid Cap Equity 13.8%	US Large Cap Equity 21.8%	Inv Grade Fixed Inc 0.0%	US Small Cap Equity 22.0%	US Large Cap Equity 7.8%
US Small Cap Equity 18.3%	US Mid Cap Equity 12.7%	US Large Cap Equity 15.8%	Dev ex US Fixed Inc 11.3%	CPI 0.1%	Dev ex US Equity 32.5%	Commod 16.8%	High Yield Fixed Inc 5.0%	US Mid Cap Equity 17.3%	Dev ex US Equity 23.3%	Mod Grwth Inc Portf 6.9%	CPI 0.7%	US Large Cap Equity 12.0%	US Mid Cap Equity 18.5%	Dev ex US Fixed Inc -1.7%	60%,40% Portf 19.9%	US Small Cap Equity 7.5%
Dev ex US Fixed Inc 12.0%	Emg-Mkt Fixed Inc 10.7%	US Mid Cap Equity 15.3%	Hedge Funds 10.0%	Emg-Mkt Fixed Inc -10.9%	Emg-Mkt Fixed Inc 28.2%	High Yield Fixed Inc 15.1%	60%,40% Portf 5.0%	US Small Cap Equity 16.3%	60%,40% Portf 17.7%	Inv Grade Fixed Inc 6.0%	Inv Grade Fixed Inc 0.5%	Commod 11.8%	US Small Cap Equity 14.6%	High Yield Fixed Inc -2.1%	Dev ex US Equity 18.8%	High Yield Fixed Inc 7.0%
Mod Grwth Inc Portf 11.9%	Hedge Funds 9.3%	Mod Grwth Inc Portf 13.4%	Mod Grwth Inc Portf 7.6%	Hedge Funds -19.0%	US Small Cap Equity 27.2%	US Large Cap Equity 15.1%	CPI 3.0%	US Large Cap Equity 16.0%	Mod Grwth Inc Portf 13.8%	Emg-Mkt Fixed Inc 5.5%	Cash Alternative 0.0%	Emg Mkt Equity 11.6%	60%,40% Portf 14.3%	60%,40% Portf -2.3%	Mod Grwth Inc Portf 16.4%	Emg-Mkt Fixed Inc 6.9%
Emg-Mkt Fixed Inc 11.7%	Mod Grwth Inc Portf 7.6%	Hedge Funds 12.9%	Inv Grade Fixed Inc 7.0%	60%,40% Portf -21.6%	US Large Cap Equity 26.5%	Mod Grwth Inc Portf 14.6%	US Large Cap Equity 2.1%	High Yield Fixed Inc 15.8%	Hedge Funds 9.1%	US Small Cap Equity 4.9%	Dev ex US Equity -0.4%	Emg-Mkt Fixed Inc 10.2%	Mod Grwth Inc Portf 13.4%	US Large Cap Equity -4.4%	Emg-Mkt Fixed Inc 12.3%	Mod Grwth Inc Portf 6.6%
High Yield Fixed Inc 11.1%	US Large Cap Equity 4.9%	High Yield Fixed Inc 11.8%	Emg-Mkt Fixed Inc 6.3%	Mod Grwth Inc Portf -23.4%	Mod Grwth Inc Portf 25.4%	60%,40% Portf 12.2%	Mod Grwth Inc Portf 1.4%	Mod Grwth Inc Portf 12.3%	High Yield Fixed Inc 7.4%	Hedge Funds 3.0%	Hedge Funds -1.1%	Mod Grwth Inc Portf 9.2%	Dev ex US Fixed Inc 9.9%	Emg-Mkt Fixed Inc -4.6%	High Yield Fixed Inc 12.1%	60%,40% Portf 6.5%
US Large Cap Equity 10.9%	US Small Cap Equity 4.6%	60%,40% Portf 11.1%	60%,40% Portf 6.2%	High Yield Fixed Inc -26.2%	Hedge Funds 20.0%	Emg-Mkt Fixed Inc 12.0%	Cash Alternative 0.1%	60%,40% Portf 11.4%	CPI 1.5%	High Yield Fixed Inc 2.5%	Mod Grwth Inc Portf -1.4%	60%,40% Portf 8.2%	Emg-Mkt Fixed Inc 9.3%	Hedge Funds -4.7%	Emg Mkt Equity 10.6%	Dev ex US Equity 5.2%
Commod 9.1%	60%,40% Portf 3.9%	Emg-Mkt Fixed Inc 9.9%	US Mid Cap Equity 5.6%	US Small Cap Equity -33.8%	Commod 18.9%	Hedge Funds 10.2%	US Mid Cap Equity -1.5%	Hedge Funds 6.4%	Cash Alternative 0.0%	CPI 0.8%	US Mid Cap Equity -2.4%	Hedge Funds 5.4%	Hedge Funds 8.6%	Mod Grwth Inc Portf -4.8%	Inv Grade Fixed Inc 8.8%	Hedge Funds 4.5%
Hedge Funds 9.0%	CPI 3.4%	Dev ex US Fixed Inc 6.8%	US Large Cap Equity 5.5%	Commod -35.6%	60%,40% Portf 18.5%	Dev ex US Equity 8.2%	US Small Cap Equity -4.2%	Inv Grade Fixed Inc 4.2%	Inv Grade Fixed Inc -2.0%	Cash Alternative 0.0%	US Small Cap Equity -4.4%	Inv Grade Fixed Inc 2.6%	High Yield Fixed Inc 7.5%	US Mid Cap Equity -9.1%	Hedge Funds 8.6%	Inv Grade Fixed Inc 3.9%
60%,40% Portf 8.4%	Cash Alternative 3.0%	Cash Alternative 4.8%	Cash Alternative 4.8%	US Large Cap Equity -37.0%	Inv Grade Fixed Inc 5.9%	Dev ex US Fixed Inc 6.8%	Hedge Funds -5.3%	CPI 1.7%	Emg Mkt Equity -2.3%	Emg Mkt Equity -1.8%	High Yield Fixed Inc -4.5%	CPI 2.1%	Inv Grade Fixed Inc 3.5%	US Small Cap Equity -11.0%	Dev ex US Fixed Inc 4.4%	Dev ex US Fixed Inc 3.0%
Inv Grade Fixed Inc 4.3%	High Yield Fixed Inc 2.7%	Inv Grade Fixed Inc 4.3%	CPI 4.1%	US Mid Cap Equity -41.5%	Dev ex US Fixed Inc 3.9%	Inv Grade Fixed Inc 6.5%	Dev ex US Equity -11.7%	Dev ex US Fixed Inc 0.8%	Dev ex US Fixed Inc -5.1%	Dev ex US Fixed Inc -2.5%	Dev ex US Fixed Inc -4.8%	Dev ex US Fixed Inc 1.9%	CPI 2.1%	Commod -11.2%	Commod 2.5%	CPI 2.1%
CPI 3.3%	Inv Grade Fixed Inc 2.4%	CPI 2.5%	High Yield Fixed Inc 1.9%	Dev ex US Equity -43.1%	CPI 2.7%	CPI 1.5%	Commod -13.3%	Cash Alternative 0.1%	Emg-Mkt Fixed Inc -6.6%	Dev ex US Equity -4.5%	Emg Mkt Equity -14.6%	Dev ex US Equity 1.5%	Commod 1.7%	Dev ex US Equity -13.4%	CPI 2.3%	Cash Alternative 1.3%
Cash Alternative 1.2%	Dev ex US Fixed Inc -9.2%	Commod 2.1%	US Small Cap Equity -1.6%	Emg Mkt Equity -53.2%	Cash Alternative 0.1%	Cash Alternative 0.1%	Emg Mkt Equity -18.2%	Commod -1.1%	Commod -9.5%	Commod -17.0%	Commod -24.7%	Cash Alternative 0.3%	Cash Alternative 0.8%	Emg Mkt Equity -14.2%	Cash Alternative 2.1%	Commod -2.5%

DATA AS OF 11/30/2019

Sources: Morningstar Direct and Wells Fargo Investment Institute. Average is calculated as geometric mean. Average is calculated as 15 years from 2004–2018. Portfolios are rebalanced quarterly. The moderate growth and income and 60/40 portfolios are hypothetical. **Hypothetical and past performance does not guarantee future results.** An index is unmanaged and not available for direct investment. Please see the end of the report for the definitions of the indexes that correlate to each asset class.

Index definitions

Performance results for the MGI 4AG w/o private capital and 60/40 portfolios are hypothetical and for illustrative purposes only. Hypothetical results do not represent actual trading, and the results achieved do not represent the experience of any individual investor. In addition, hypothetical results do not reflect the impact of any fees, expenses, or taxes applicable to an actual investment. Unlike most asset-class Indexes, HFR index returns are net of all fees. The Indexes reflect the historical performance of the represented assets and assume the reinvestment of dividends and other distributions. An index is unmanaged and not available for direct investment. **Hypothetical and past performance does not guarantee future results.** Definitions of the Indexes and descriptions of the risks associated with investment in these asset classes are provided below.

60%/40% portfolio: 60% S&P 500 Index and 40% Bloomberg Barclays U.S. Aggregate Bond Index

Moderate Growth and Income without Private Capital: 3% Bloomberg Barclays U.S. Treasury Bills (1–3 Month) Index , 16% Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index, 6% Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index, 6% Bloomberg Barclays U.S. Corporate High Yield Bond Index, 5% JPM EMBI Global Index, 20% S&P 500 Index, 10% Russell Mid Cap Index, 8% Russell 2000 Index, 6% MSCI EAFE Index, 5% MSCI Emerging Markets Index, 3% HFRI Relative Value Index, 6% HFRI Macro Index, 4% HFRI Event Driven Index, 2% HFRI Equity Hedge Index.

- **Investment Grade Fixed Income: Bloomberg Barclays U.S. Aggregate Bond Index** is composed of the Bloomberg Barclays U.S. Government/Credit Index and the Bloomberg Barclays U.S. Mortgage-Backed Securities Index and includes Treasury issues, agency issues, corporate bond issues, and mortgage-backed securities.
- **High Yield Fixed Income: Bloomberg Barclays U.S. Corporate High Yield Bond Index** covers the U.S.-dollar-denominated, non-investment-grade, fixed-rate, taxable corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB= or below. Included issues must have at least one year until final maturity.
- **Cash Alternatives/Treasury bills: Bloomberg Barclays U.S. Treasury Bill (1–3 Month) Index** is representative of money markets.
- **Commodities: Bloomberg Commodity Index** is a broadly diversified index of commodity futures on 20 physical commodities, subdivided into energy, U.S. agriculture, livestock, precious metals, and industrial metals sectors. Commodity weights are derived in a manner that attempts to fairly represent the importance of a diversified group of commodities to the world economy.
- **Public Real Estate: FTSE EPRA/NAREIT Developed Index** is designed to track the performance of listed real estate companies and REITs in developed countries worldwide.
- **Hedge Funds: HFRI Fund Weighted Index** is a fund-weighted (equal-weighted) index designed to measure the total returns (net of fees) of the approximately 2,000 hedge funds that comprise the index. Constituent funds must have either $50 million under management or a track record of greater than 12 months. Substrategies include: HFRI Event Driven, Distressed/Restructuring Index, and HFRI Event Driven (Total) Index.
- **Developed Market Ex-U.S. Fixed Income: JP Morgan Global Ex U.S. Index (JPM GBI Global Ex-U.S.)** is a total return, market-capitalization-weighted index, rebalanced monthly, consisting of the following countries: Australia, Germany, Spain, Belgium, Italy, Sweden, Canada, Japan, the United Kingdom, Denmark, the Netherlands, and France.
- **Emerging Market Fixed Income: JPM EMBI Global Index** is a U.S.-dollar-denominated, investible, market-cap-weighted index representing a broad universe of emerging market sovereign and quasi-sovereign debt. While products in the asset class have become more diverse, focusing on both local currency and corporate issuance, there is currently no widely accepted aggregate index reflecting the broader opportunity set available, although the asset class is evolving. By using the same index provider as the one used in the developed market bonds asset class, there is consistent categorization of countries among developed international bonds (ex. U.S.) and emerging market bonds.
- **Developed Market Ex-U.S. Equities: MSCI EAFE Index (Europe, Australasia, Far East) Index** is a free-float-adjusted market-capitalization-weighted index designed to measure the equity market performance of developed markets, excluding the U.S. and Canada.
- **Emerging Market Equities: MSCI Emerging Markets Index** is a free-float-adjusted market-capitalization-weighted index designed to measure equity market performance of emerging markets.
- **U.S. Small Cap Equities: Russell 2000® Index** measures the performance of the 2,000 smallest companies in the Russell 3000® Index, which represents approximately 8% of the total market capitalization of the Russell 3000 Index.

Index definitions (continued)

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Investment Institute

- **U.S. Mid Cap Equities: Russell Midcap® Index** measures the performance of the 800 smallest companies in the Russell 1000® Index, which represent approximately 25% of the total market capitalization of the Russell 1000 Index.
- **U.S. Large Cap Equities: S&P 500 Index** consists of 500 stocks chosen for market size, liquidity, and industry group representation. It is a market-value-weighted index with each stock's weight in the index proportionate to its market value.
- **Inflation-CPI: IA SBBI U.S. Inflation Index** is a custom unmanaged index designed to track the U.S. inflation rate
- **HFRI Relative Value Index** maintains positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivative, and other security types.
- **HFRI Equity Hedge Index** maintains positions both long and short in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations, and valuation ranges of typical portfolios.
- **HFRI Macro Index** is composed of a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency, and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top-down and bottom-up theses, quantitative and fundamental approaches, and long- and short-term holding periods. Although some strategies employ RV techniques, macro strategies are distinct from RV strategies in that the primary investment thesis is predicated on predicted or future movements in the underlying instruments rather than realization of a valuation discrepancy between securities.
- **HFRI Event Driven Index** maintains positions in companies currently or prospectively involved in corporate transactions of a wide variety, including but not limited to mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance, and other capital structure adjustments. Security types can range from most senior in the capital structure to most junior or subordinated and frequently involve additional derivative securities. Event driven exposure includes a combination of sensitivities to equity markets, credit markets, and idiosyncratic, company-specific developments. Investment theses are typically predicated on fundamental characteristics (as opposed to quantitative) with the realization of the thesis predicated on a specific development exogenous to the existing capital structure.

While the HFRI Indexes are frequently used, they have limitations (some of which are typical of other widely used Indexes). These limitations include survivorship bias (the returns of the Indexes may not be representative of all the hedge funds in the universe because of the tendency of lower performing funds to leave the index); heterogeneity (not all hedge funds are alike or comparable to one another, and the index may not accurately reflect the performance of a described style); and limited data (many hedge funds do not report to Indexes, and, therefore, the index may omit funds, the inclusion of which might significantly affect the performance shown. The HFRI Indexes are based on information self-reported by hedge fund managers that decide on their own, at any time, whether or not they want to provide, or continue to provide, information to HFR Asset Management, L.L.C. Results for funds that go out of business are included in the index until the date that they cease operations. Therefore, these Indexes may not be complete or accurate representations of the hedge fund universe, and may be biased in several ways. Returns of the underlying hedge funds are net of fees and are denominated in USD.

NOTE: The 4 asset group without private capital Moderate Growth and Income Portfolio represents a balanced portfolio. A balanced portfolio composed of a variety of asset classes typically does not exhibit the same level of volatility as an individual asset class. This helps to smooth out portfolio performance over time.

Risk considerations

Asset allocation and diversification are investment methods used to help manage risk. They do not ensure a profit or protect against a loss. All investing involves risks, including the possible loss of principal. There can be no assurance that any investment strategy will be successful. Investments fluctuate with changes in market and economic conditions and in different environments due to numerous factors, some of which may be unpredictable. Each asset class has its own risk and return characteristics. Some of the risks associated with the representative index asset classes shown in the charts include:

Alternative investments: Alternative investments, including hedge funds and private capital funds, are speculative and entail significant risks, including those associated with potential lack of diversification, restrictions on transferring interests, no available secondary market, complex tax structures, delays in tax reporting, valuation of securities, and pricing. They trade in diverse complex strategies that are affected in different ways and at different times by changing market conditions. Strategies may, at times, be out of market favor for considerable periods with adverse consequences for the fund and the investor. An investment in these funds involves the risks inherent in an investment in securities and can include losses associated with speculative investment practices, including hedging and leveraging through derivatives, such as futures, options, swaps, short selling, investments in non-U.S. securities, junk bonds, and illiquid investments.

Commodities: The commodities markets are considered speculative, carry substantial risks, and have experienced periods of extreme volatility. Commodities may be affected by changes in overall market movements, commodity index volatility, changes in interest rates, or other factors affecting a particular industry or commodity. Investing in physical commodities, such as gold and other precious metals, exposes a portfolio to other risk considerations, such as potentially severe price fluctuations over short periods of time and storage costs that exceed the custodial and/or brokerage costs associated with a portfolio's other holdings. In addition to the risks of investing in commodities generally, investing in base metals carries additional risks. These metals are highly levered to the relative strength of the U.S. dollar, economic growth, and inflation. They cannot be held physically and are not easily converted to cash. Exposure to base metals is usually accessed through investments in stocks of mining companies, exchange-traded funds, mutual funds, or futures trading.

Currencies: Currency risk is the risk that foreign currencies will decline in value relative to that of the U.S. dollar. Exchange rate movement between the U.S. dollar and foreign currencies may cause the value of an investment to decline.

Equity securities: Stocks are subject to market risk, which means their value may fluctuate in response to general economic and market conditions, the prospects of individual companies, and industry sectors. The prices of **small/mid-company stocks** are generally more volatile than large-company stocks. They often involve higher risks because smaller and midsize companies may lack the management expertise, financial resources, product diversification, and competitive strengths to endure adverse economic conditions.

Risk considerations (continued)

Fixed income: Investments in fixed-income securities are subject to interest rate, credit/default, liquidity, inflation, and other risks. Bond prices fluctuate inversely to changes in interest rates. Therefore, a general rise in interest rates can result in a decline in the bond's price. Credit risk is the risk that an issuer will default on payments of interest and/or principal. This risk is heightened in lower-rated bonds. If sold prior to maturity, fixed-income securities are subject to market risk. All fixed-income investments may be worth less than their original cost upon redemption or maturity. High-yield fixed-income securities are considered speculative, involve greater risk of default, and tend to be more volatile than investment-grade fixed-income securities. **Municipal bonds** offer interest payments exempt from federal taxes, and potentially state and local income taxes. Municipal bonds are subject to credit risk and potentially the alternative minimum tax (AMT). Quality varies widely depending on the specific issuer. **U.S. government securities** are backed by the full faith and credit of the federal government as to payment of principal and interest if held to maturity. Although free from credit risk, they are subject to interest rate risk.

Foreign/emerging/frontier markets: Investing in foreign securities presents certain risks not associated with domestic investments, such as currency fluctuation, political and economic instability, and different accounting standards. This may result in greater share price volatility. These risks are heightened in emerging and frontier markets.

Real estate: Investing in real estate investment trusts (REITs) has special risks, including possible illiquidity of the underlying properties, credit risk, interest rate fluctuations, and the impact of varied economic conditions.

Treasury Inflation-Protected Securities (TIPS): TIPS are subject to interest rate risk, especially when real interest rates rise. This may cause the underlying value of the bond to fluctuate more than other fixed-income securities.

Portfolio compositions

Four-asset-group portfolios without private capital

Moderate Income: 3% Bloomberg Barclays U.S. Treasury Bills (1–3 Month) Index , 14% Bloomberg Barclays U.S. Aggregate 1–3 Year Bond Index, 31% Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index, 7% Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index, 7% Bloomberg Barclays U.S. Corporate High Yield Bond Index, 5% JPM EMBI Global Index, 10% S&P 500 Index, 5% Russell Mid Cap Index, 2% Russell 2000 Index, 4% MSCI EAFE Index, 4% HFRI Relative Value Index, 5% HFRI Macro Index, 3% HFRI Event Driven Index.

Moderate Growth and Income: 3% Bloomberg Barclays U.S. Treasury Bills (1–3 Month) Index , 16% Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index, 6% Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index, 6% Bloomberg Barclays U.S. Corporate High Yield Bond Index, 5% JPM EMBI Global Index, 20% S&P 500 Index, 10% Russell Mid Cap Index, 8% Russell 2000 Index, 6% MSCI EAFE Index, 5% MSCI Emerging Markets Index, 3% HFRI Relative Value Index, 6% HFRI Macro Index, 4% HFRI Event Driven Index, 2% HFRI Equity Hedge Index.

Moderate Growth: 2% Bloomberg Barclays U.S. Treasury Bills (1–3 Month) Index , 3% Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index, 3% Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index, 3% Bloomberg Barclays U.S. Corporate High Yield Bond Index, 3% JPM EMBI Global Index, 25% S&P 500 Index, 15% Russell Mid Cap Index, 14% Russell 2000 Index, 11% MSCI EAFE Index, 12% MSCI Emerging Markets Index, 2% HFRI Relative Value Index, 6% HFRI Macro Index, 2% HFRI Equity Hedge Index.

Three-asset-group portfolios

Moderate Income: 3% Bloomberg Barclays U.S. Treasury Bills (1–3 Month) Index , 19% Bloomberg Barclays U.S. Aggregate 1–3 Year Bond Index, 35% Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index, 7% Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index, 6% Bloomberg Barclays U.S. Corporate High Yield Bond Index, 5% JPM EMBI Global Index, 12% S&P 500 Index, 5% Russell Mid Cap Index, 4% Russell 2000 Index, 4% MSCI EAFE Index.

Moderate Growth and Income: 3% Bloomberg Barclays U.S. Treasury Bills (1–3 Month) Index , 4% Bloomberg Barclays U.S. Aggregate 1–3 Year Bond Index, 21% Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index, 7% Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index, 6% Bloomberg Barclays U.S. Corporate High Yield Bond Index, 5% JPM EMBI Global Index, 21% S&P 500 Index, 12% Russell Mid Cap Index, 8% Russell 2000 Index, 6% MSCI EAFE Index, 7% MSCI Emerging Markets Index.

Moderate Growth: 2% Bloomberg Barclays U.S. Treasury Bills (1–3 Month) Index , 2% Bloomberg Barclays U.S. Aggregate 1–3 Year Bond Index, 6% Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index, 3% Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index, 3% Bloomberg Barclays U.S. Corporate High Yield Bond Index, 3% JPM EMBI Global Index, 29% S&P 500 Index, 16% Russell Mid Cap Index, 13% Russell 2000 Index, 10% MSCI EAFE Index, 13% MSCI Emerging Markets Index.

Composition for hypothetical portfolios, slide 90:

Hypothetical top-performer portfolio: 2002: 100% Bloomberg Barclays U.S. Aggregate Bond Index (1–3Y); 2003: 100% Bloomberg Commodity Index; 2004: 100% MSCI Emerging Markets Index; 2005: 100% FTSE EPRA/NAREIT Developed Index; 2006: 100% MSCI Emerging Markets Index; 2007: 100% FTSE EPRA/NAREIT Developed Index; 2008: 100% MSCI Emerging Markets Index; 2009: 100% J.P. Morgan GBI Global ex-U.S. Index; 2010: 100% MSCI Emerging Markets Index; 2011: 100% Russell 2000 Index; 2012: 100% Bloomberg Barclays U.S. Aggregate Bond Index (10+Y); 2013: 100% FTSE EPRA/NAREIT Developed Index; 2014: 100% Russell 2000 Index; 2015: 100% Bloomberg Barclays U.S. Aggregate Bond Index (10+Y); 2016: 100% S&P 500 Index; 2017: 100% Russell 2000 Index; and 2018: 100% MSCI Emerging Markets Index.

Hypothetical bottom-performer portfolio: 2002: 100% MSCI EAFE Index; 2003: 100% S&P 500 Index; 2004: 100% Bloomberg Barclays 1–3 Month U.S. Treasury Bill Index; 2005: 100% U.S. Treasury T-Bill Constant Maturity Rate 3-Month Index; 2006: 100% J.P. Morgan GBI Global ex-U.S. Index; 2007: 100% Bloomberg Commodity Index; 2008: 100% FTSE EPRA/NAREIT Developed Index; 2009: 100% MSCI Emerging Markets Index; 2010: 100% Bloomberg Barclays U.S. Aggregate Bond Index (10+Y); 2011: 100% Bloomberg Barclays 1–3 Month U.S. Treasury Bill Index; 2012: 100% MSCI Emerging Markets Index; 2013: 100% Bloomberg Commodity Index; 2014: 100% Bloomberg Commodity Index; 2015: 100% Bloomberg Commodity Index; 2016: 100% Bloomberg Commodity Index; 2017: 100% Bloomberg Barclays 1–3 Month U.S. Treasury Bill Index; and 2018: 100% Bloomberg Barclays 1–3 Month U.S. Treasury Bill Index.

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Index definitions

Cash alternatives/Treasury bills:

Bloomberg Barclays U.S. Treasury Bills (1–3 Month) Index is representative of money markets.

IA SBBI U.S. 30-Day Treasury Bill Index is a custom index designed to measure the performance of U.S. Treasury bills maturing in 0 to 30 days.

Fixed income:

Bloomberg Barclays Corporate Bond BAA Index is a subset of the Bloomberg Barclays U.S. Corporates Index with an index rating of Baa1, Baa2, or Baa3.

Bloomberg Barclays Multiverse Index provides a broad-based measure of the global fixed-income bond market. The index represents the union of the Global Aggregate Index and the Global High-Yield Index and captures investment-grade and high-yield securities in all eligible currencies. Stand-alone Indexes such as the Euro Floating-Rate ABS Index and the Chinese Aggregate Index are excluded. The Multiverse Index family includes a wide range of standard and customized subIndexes by sector, quality, maturity, and country.

Short-term fixed income taxable:

Bloomberg Barclays U.S. Aggregate 1–3 Year Bond Index is unmanaged and is composed of the Bloomberg Barclays U.S. Government/Credit Index and the Bloomberg Barclays U.S. Mortgage-Backed Securities Index and includes Treasury issues, agency issues, corporate bond issues, and mortgage-backed securities with maturities of one to three years.

Intermediate-term fixed income taxable:

Bloomberg Barclays U.S. Aggregate 5–7 Year Bond Index is unmanaged and is composed of the Bloomberg Barclays U.S. Government/Credit Index and the Bloomberg Barclays U.S. Mortgage-Backed Securities Index and includes Treasury issues, agency issues, corporate bond issues, and mortgage-backed securities with maturities of five to seven years.

Long-term fixed income taxable:

Bloomberg Barclays U.S. Aggregate 10+ Year Bond Index is unmanaged and is composed of the Bloomberg Barclays U.S. Government/Credit Index and the Bloomberg Barclays U.S. Mortgage-Backed Securities Index and includes Treasury issues, agency issues, corporate bond issues, and mortgage-backed securities with maturities of 10 years or longer.

Investment-grade fixed income taxable:

Bloomberg Barclays U.S. Aggregate Bond Index is composed of the Bloomberg Barclays U.S. Government/Credit Index and the Bloomberg Barclays U.S. Mortgage-Backed Securities Index and includes Treasury issues, agency issues, corporate bond issues, and mortgage-backed securities.

U.S. municipal bond:

Bloomberg Barclays U.S. Municipal Index is considered representative of the broad market for investment-grade, tax-exempt bonds with a maturity of at least one year.

High-yield fixed income taxable:

Bloomberg Barclays U.S. Corporate High Yield Bond Index covers the U.S.-dollar-denominated, non-investment-grade, fixed-rate, taxable corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB= or below. Included issues must have at least one year until final maturity.

Investment-grade corporate fixed income:

Bloomberg Barclays U.S. Corporate Bond Index measures the performance of the investment-grade corporate bond market.

Index definitions (continued)

High-yield municipal fixed income:

Bloomberg Barclays U.S. Municipal High Yield Index measures the non-investment-grade and nonrated U.S.-dollar-denominated, fixed-rate, tax-exempt bond market within the 50 United States and four other qualifying regions (Washington, D.C.; Puerto Rico; Guam; and the Virgin Islands). The index allows state and local general obligation, revenue, insured, and prerefunded bonds; however, historically, the index has been comprised of mostly revenue bonds. The U.S. Municipal High Yield Index is a stand-alone index with no crossover into other Bloomberg Barclays taxable Indexes, such as the U.S. High Yield Index.

Government bonds:

IA SBBI U.S. Long-Term Government Bond Index is a custom unmanaged index designed to measure the performance of long-term U.S. government bonds, which includes U.S. Treasury and U.S. government agency bonds with maturities of seven years or longer.

Bloomberg Barclays U.S. Government/Credit Index includes investment-grade, U.S.- dollar-denominated, fixed-rate, taxable corporate- and government-related bonds.

Bloomberg Barclays U.S. Treasury 10+ Year Bond Index includes public obligations of the U.S. Treasury with a remaining maturity of 10 years or more.

Emerging market fixed income:

J.P. Morgan EMBI Global Index (USD) is a U.S.-dollar-denominated, investible, market-cap-weighted index representing a broad universe of emerging market sovereign and quasi-sovereign debt. While products in the asset class have become more diverse, focusing on both local currency and corporate issuance, there is currently no widely accepted aggregate index reflecting the broader opportunity set available, although the asset class is evolving. By using the same index provider as the one used in the developed market bonds asset class, there is consistent categorization of countries among developed international bonds (ex-U.S.) and emerging market bonds.

J.P. Morgan Emerging Markets Global Index (local currency) is a comprehensive global local emerging market index and consists of regularly traded, liquid fixed-rate, domestic currency government bonds.

Developed market fixed income:

J.P. Morgan GBI Global ex-U.S. Index (Unhedged) in USD is an unmanaged index market representative of the total return performance in U.S. dollars on an unhedged basis of major non-U.S. bond markets.

J.P. Morgan Non-U.S. Global Government Bond Index (Hedged) is an unmanaged market index representative of the total return performance, on a hedged basis, of major non-U.S. bond markets. It is calculated in U.S. dollars.

Equities:

Global equities:

MSCI All Country World Index (ACWI) is a free-float-adjusted market-capitalization-weighted index that is designed to measure the equity market performance of 23 developed and 23 emerging markets.

U.S. equities:

MSCI U.S. Equity Indexes are a domestic-only series—independent from MSCI's Global Equity Index family—which reflect the investment opportunities in the U.S. equity markets by market-capitalization size, by value and growth investment styles, and by sectors and industries.

The MSCI USA Cyclical Sectors Index is based on MSCI USA Index, its parent index and captures large and mid-cap segments of the US market. The index is designed to reflect the performance of the opportunity set of global cyclical companies across various GICS® sectors. All constituent securities from Consumer Discretionary, Communication Services, Financials, Industrials, Information Technology and Materials are included in the Index.

Index definitions (continued)

The MSCI USA Defensive Sectors Index is based on MSCI USA Index, its parent index and captures large and mid-cap segments of the US market. The index is designed to reflect the performance of the opportunity set of global defensive companies across various GICS® sectors. All constituent securities from Consumer Staples, Energy, Healthcare and Utilities are included in the Index.

Small-cap equities:

Small Company Stocks: IA SBBI U.S. Small Stock Index is a custom index designed to measure the performance of small-capitalization U.S. stocks.

Russell 2000® Index measures the performance of the 2,000 smallest companies in the Russell 3000® Index, which represents approximately 8% of the total market capitalization of the Russell 3000 Index

Mid-cap equities:

Russell Midcap® Index measures the performance of the 800 smallest companies in the Russell 1000® Index, which represents approximately 25% of the total market capitalization of the Russell 1000® Index.

Large-cap equities:

S&P 500 Index consists of 500 stocks chosen for market size, liquidity, and industry group representation. It is a market-value-weighted index with each stock's weight in the index proportionate to its market value.

Russell 1000® Index measures the performance of the 1,000 largest companies in the Russell 3000 Index, which represents approximately 92% of the total market capitalization of the Russell 3000 Index.

Emerging market equities:

MSCI Emerging Markets (EM) Index is a free-float-adjusted market-capitalization-weighted index designed to measure equity market performance of emerging markets.

MSCI EM Latin America Index captures large and mid cap representation across 6 Emerging Markets countries in Latin America. With 108 constituents, the index covers approximately 85% of the free float-adjusted market capitalization. in each country.

MSCI EM Europe Index captures large and mid cap representation across 6 Emerging Markets countries in Europe. With 72 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI EM Asia Index captures large and mid cap representation across 9 Emerging Markets countries in Asia. With 912 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI South Africa Index is designed to measure the performance of the large and mid cap segments of the South African market. With 46 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in South Africa.

Frontier market equities:

MSCI Frontier Markets Index is a free-float-adjusted market-capitalization-weighted index designed to measure equity market performance of the world's least developed capital markets.

Developed market ex-U.S. equities:

MSCI World ex USA Index captures large and mid cap representation across 22 of 23 developed markets countries excluding the United States. With 1,010 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI EAFE Index is a free-float-adjusted market-capitalization-weighted index designed to measure the equity market performance of developed markets, excluding the U.S. and Canada.

Index definitions (continued)

MSCI Europe Index captures large- and mid-cap representation across 15 developed market countries in Europe. With 444 constituents, the index covers approximately 85% of the free-float-adjusted market capitalization across the European developed market equity universe.

MSCI Canada Index is a free-float-adjusted market-capitalization-weighted index that is designed to measure the equity market performance of Canada.

MSCI Japan Index is designed to measure the performance of the large and mid cap segments of the Japanese market. With 323 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in Japan.

MSCI Asia Pacific Index captures large and mid cap representation across 5 Developed Markets countries and 9 Emerging Markets. countries in the Asia Pacific region. With 1,335 constituents, the index covers approximately 85% of the free float-adjusted market. capitalization in each country.

MSCI Australia Index is designed to measure the performance of the large and mid cap segments of the Australia market. With 68 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in Australia.

Nikkei 225 Index is the leading and most-respected index of Japanese stocks. It is a price-weighted index comprised of Japan’s top 225 blue-chip companies on the Tokyo Stock Exchange. The Nikkei is equivalent to the Dow Jones Industrial Average Index in the U.S.

EURO STOXX 50 Index is Europe's leading blue-chip index for the eurozone and provides a blue-chip representation of supersector leaders in the eurozone. The index covers 50 stocks from 12 eurozone countries: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and Spain.

Hong Kong Hang Seng Index is a market-capitalization-weighted index of 40 of the largest companies that trade on the Hong Kong Exchange. The Hang Seng Index is maintained by a subsidiary of Hang Seng Bank and has been published since 1969. The index aims to capture the leadership of the Hong Kong exchange and covers approximately 65% of its total market capitalization. The Hang Seng members are also classified into one of four subIndexes based on the main lines of business, including commerce and industry, finance, utilities, and properties.

Volatility Indexes:

VNKY Index: The Nikkei Stock Average Volatility Index is calculated by using prices of Nikkei 225 futures and Nikkei 225 options on the Osaka Securities Exchange. The real-time (every 15 seconds) calculation started from January 30, 2012. Final confirmation value (KAKUHOU) is 15:20 JPT.

VSTOXX Index is based on a new methodology jointly developed by Deutsche Borse and Goldman Sachs to measure volatility in the eurozone. VSTOXX is based on the EURO STOXX 50 Index options traded on Eurex. It measures implied volatility on options with a rolling 30-day expiry.

HSI Volatility Index aims to measure the 30-calendar-day expected volatility of the Hang Seng Index implicit in the prices of near-term and next-term Hang Seng Index Options, which are now trading on the Hong Kong Exchanges and Clearing Limited's derivatives market.

VIX: The Chicago Board Options Exchange Volatility Index reflects a market estimate of future volatility, based on the weighted average of the implied volatilities for a wide range of strikes. First- and second-month expirations are used until eight days from expiration, then the second and third are used.

Currencies:

U.S. Dollar Index (USDX/DXY) measures the value of the U.S. dollar relative to majority of its most significant trading partners. This index is similar to other trade-weighted Indexes, which also use the exchange rates from the same major currencies.

J.P. Morgan Emerging Market Currency Index tracks the performance of emerging market currencies relative to the U.S. dollar.

Note: MSCI makes no express or implied warranties or representations and shall have no liability whatsoever with respect to any MSCI data contained herein. The MSCI data may not be further redistributed or used as a basis for other Indexes or any securities or financial products. This report is not approved, reviewed, or produced by MSCI.

Index definitions (continued)

Commodities:

Bloomberg Commodity Index is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually, weighted two-thirds by trading volume and one-third by world production, and weight-caps are applied at the commodity, sector, and group level for diversification.

Energy sector: Bloomberg Energy Subindex is a commodity group subindex of the Bloomberg Commodity Index. It is composed of futures contracts on crude oil, heating oil, unleaded gasoline, and natural gas. It reflects the return of underlying commodity futures price movements only and is quoted in USD.

Agriculture sector: Bloomberg Agriculture Subindex is a commodity group subindex of the Bloomberg Commodity Index. It is composed of futures contracts on coffee, corn, cotton, soybeans, soybean oil, soybean meal, sugar, and wheat. It reflects the return of underlying commodity futures price movements only and is quoted in USD.

Precious metals sector: Bloomberg Precious Metals Subindex is a commodity group subindex of the Bloomberg Commodity Index. It is composed of futures contracts on gold and silver. It reflects the return of underlying commodity futures price movements only and is quoted in USD.

Base metals sector: Bloomberg Industrial Metals Subindex is composed of futures contracts on aluminum, copper, nickel, and zinc. It reflects the return of underlying commodity futures price movements only and is quoted in USD.

The Reuters Continuous Commodity Index is an equal-weighted geometric average of commodity price levels relative to the base-year average price.

REITs:

Global REITs/public real estate: FTSE EPRA/NAREIT Developed Index is designed to track the performance of listed real estate companies and REITs in developed countries worldwide.

Domestic REITs: FTSE NAREIT All Equity REITs Index is designed to track the performance of REITs representing equity interests in (as opposed to mortgages on) properties. It represents all tax-qualified REITs with more than 50% of total assets in qualifying real estate assets, other than mortgages secured by real property that also meet minimum size and liquidity criteria.

International REITs: FTSE EPRA/NAREIT Global Ex-U.S. Index is part of a range of Indexes designed to help U.S. investors benchmark their international investments. The index comprises large-, mid-, and small-cap stocks globally excluding the U.S. The index is derived from the FTSE Global Equity Index Series, which covers 98% of the world's investible market capitalization.

Hedge funds:

HFRI Fund Weighted Composite Index is a fund-weighted (equal-weighted) index designed to measure the total returns (net of fees) of the approximately 2,000 hedge funds that comprise the Index. Constituent funds must have either $50 million under management or a track record of greater than 12 months. Substrategies include HFRI Event-Driven, Distressed/Restructuring Index, and HFRI Event-Driven (Total) Index.

HFRI Macro Index consists of investment managers that trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed-income, hard currency, and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top-down and bottom-up theses, quantitative and fundamental approaches, and long- and short-term holding periods. Although some strategies employ RV techniques, macro strategies are distinct from RV strategies in that the primary investment thesis is predicated on predicted or future movements in the underlying instruments rather than realization of a valuation discrepancy between securities. In a similar way, while both macro and equity hedge managers may hold equity securities, the overriding investment thesis is predicated on the impact that movements in underlying macroeconomic variables may have on security prices, as opposed to equity hedge, in which the fundamental characteristics on the company are the most significant are integral to the investment thesis.

Index definitions (continued)

HFRI Event Driven Index maintains positions in companies currently or prospectively involved in corporate transactions of a wide variety, including but not limited to mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance, and other capital structure adjustments. Security types can range from most senior in the capital structure to most junior or subordinated and frequently involve additional derivative securities. Event driven exposure includes a combination of sensitivities to equity markets; credit markets; and idiosyncratic, company-specific developments. Investment theses are typically predicated on fundamental characteristics (as opposed to quantitative), with the realization of the thesis predicated on a specific development exogenous to the existing capital structure.

HFRI Relative Value Index maintains positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivative, or other security types.

HFRI Equity Hedge (Total) Index consists of investment managers that maintain positions both long and short in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations, and valuation ranges of typical portfolios. Equity hedge managers would typically maintain at least 50% (and may in some cases be substantially entirely invested) in equities, both long and short.

HFRX Global Hedge Fund Index is designed to be representative of the overall composition of the hedge fund universe. It is comprised of all eligible hedge fund strategies; including but not limited to convertible arbitrage, distressed securities, equity hedge, equity market neutral, event driven, macro, merger arbitrage, and relative value arbitrage. The strategies are asset weighted based on the distribution of assets in the hedge fund industry.

Private capital:

Private equity:

Private equity: Cambridge Associates LLC U.S. Private Equity Index® - The Cambridge Associates LLC U.S. Private Equity Index® uses a horizon calculation based on data compiled from more than 1,400 institutional-quality buyout, growth equity, private equity energy, and subordinated capital funds formed between 1986 and 2017. The funds included in the index report their performance voluntarily and therefore the index may reflect a bias towards funds with records of success. Funds report unaudited quarterly data to Cambridge and Associates when calculating the index. The index is not transparent and cannot be independently verified because Cambridge Associates does not identify the funds included in the index. Because Cambridge Associates recalculates the index each time a new fund is added, the historical performance of the index is not fixed, can't be replicated and will differ over time from the day presented. The returns shown are net of fees, expenses and carried interest. Index returns do not represent fund performance.

Private debt:

Private credit: ILPA (Institutional Limited Partners Association) Private Markets Benchmark - Private Credit Fund Index is a horizon calculation based on data compiled from 269 private credit funds (credit opportunities and subordinated capital funds), including fully liquidated partnerships, formed between 1986 and 2017. The pooled horizon return is net of fees, expenses, and carried interest. The funds in the index are exclusively those that ILPA members have invested in; the goal of the ILPA private markets benchmark effort is to create a private markets benchmark that represents the investible universe and fund performance for global, institutional investors. The benchmark is issued on a quarterly basis, approximately 140 calendar days after quarter end. All data included in the ILPA Benchmark is derived from the quarterly and annual audited financial statements that general partners produce for their limited partners. Performance statistics include rates of return (net IRR & public market equivalents) and investment multiples (DPI, RVPI and TVPI). These statistics are expressed in terms of time period (since-inception, year-to-date, etc.), quartile ranking, vintage year, geography and strategy. As the benchmark same size expands, the number of statistics, composites and types of analysis is expected to increase. Index returns do not represent fund performance.

Index definitions (continued)

Private real assets:

Private real estate: NCREIF Property Index is a quarterly time series composite total rate of return measure of investment performance of a very large pool of individual commercial real estate properties acquired in the private market for investment purposes only.

Farmland: NCREIF Farmland Index is a quarterly time series composite return measure of investment performance of a large pool of individual farmland properties acquired in the private market for investment purposes only.

Timberland: NCREIF Timberland Index is a quarterly time series composite return measure of investment performance of a large pool of individual timber properties acquired in the private market for investment purposes only.

Economic Indexes:

Institute for Supply Management (ISM) Manufacturing Index® is a composite index based on the diffusion Indexes of five of the Indexes with equal weights: new orders (seasonally adjusted), production (seasonally adjusted), employment (seasonally adjusted), supplier deliveries (seasonally adjusted), and inventories. An index value over 50 indicate expansion; below 50 indicates contraction. The values for the index can be between 0 and 100.

Institute for Supply Management (ISM) Non-Manufacturing Index is based on surveys of more than 400 non-manufacturing firms by the Institute for Supply Management. The ISM Non-Manufacturing Index tracks economic data.

Consumer Price Index (CPI) is a measure that examines the weighted average of prices of a basket of consumer goods and services, such as transportation, food, and medical care. It is calculated by taking price changes for each item in the predetermined basket of goods and averaging them.

Producer Price Index (PPI) program measures the average change over time in the selling prices received by domestic producers for their output.

IA SBBI U.S. Inflation Index is a custom unmanaged index designed to track the U.S. inflation rate.

NFIB Small Business Optimism Index is the small business optimism index compiled from a survey that is conducted each month by the National Federation of Independent Business (NFIB) of its members. The index is a composite of 10 seasonally adjusted components based on questions on the following: plans to increase employment, plans to make capital outlays, plans to increase inventories, expect economy to improve, expect real sales higher, current inventory, current job openings, expected credit conditions, now a good time to expand, and earnings trend.

Consumer Confidence Index (CCI) is designed to measure consumer confidence, which is defined as the degree of optimism on the state of the economy that consumers are expressing through their activities of savings and spending. Global consumer confidence is not measured.

Housing Marketing Index (HMI): The National Association of Home Builders (NAHB) Housing Market Index (HMI) is a weighted, seasonally adjusted statistic derived from ratings for present single-family sales, single-family sales in the next six months, and buyers traffic. A rating of 50 indicates that positive responses received from builders is about the same as the number of negative responses; ratings higher than 50 indicate more positive responses.

U.S. Dollar Index (USDX/DXY) measures the value of the U.S. dollar relative to majority of its most significant trading partners. This index is similar to other trade-weighted Indexes, which also use the exchange rates from the same major currencies.

West Texas Intermediate (WTI) is a light, sweet (that is, low sulfur) crude oil and is the main type of U.S. crude oil traded in U.S. futures markets.

The IFO Germany Manufacturing Export Expectations is a composite index based on a survey of manufacturers, builders, wholesalers and retailers. The index is compiled by the Ifo Institute for Economic Research.

Disclosures

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