ECONOMIC AND MARKET COMMENTARY

3rd Quarter 2019

SMITH SHELLNUT WILSON

OUR MISSION

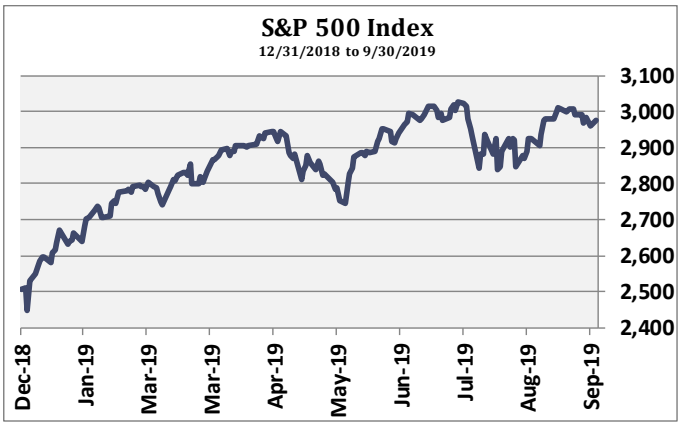
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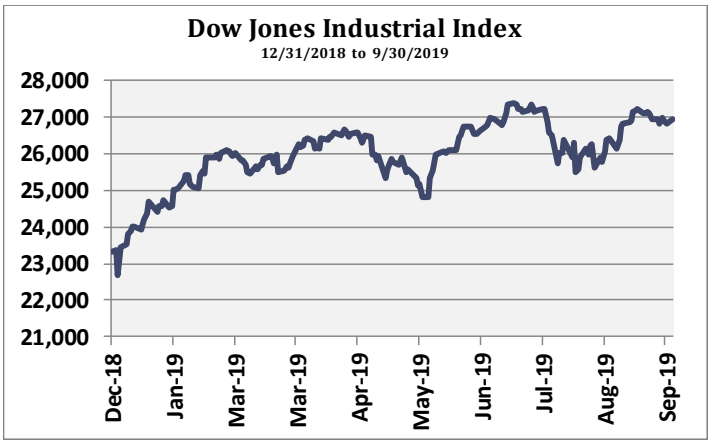
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I. THIRD-QUARTER EQUITY MARKET RECAP

The third quarter saw a flurry of developments related to trade, monetary policy and politics. Both the U.S. and China added tariffs on one another's goods, before later modifying the degree and timing of these trade barriers. The Federal Reserve cut rates for a second time this year, and the European Central Bank cut rates for the first time in three years, solidifying a global dovish monetary policy tilt. Attacks on Saudi Arabia's oil infrastructure sent oil prices reeling, and ramped up the specter of further conflict in the Middle East. On the political front, House Democrats opened an impeachment inquiry of President Donald Trump.

U.S. equity indexes absorbed the multifarious shocks with relative equanimity, ending the quarter with modest positive gains. For the quarter, the Dow posted a total return of 1.83%, while the S&P 500 and NASDAQ indexes logged in at 1.70% and 0.18%, respectively, overcoming an intra-quarter drawdown of approximately 6%. Gains were paced by the utilities, telecommunications and financial sectors, while the basic materials, healthcare and oil and gas sectors posted losses for the quarter.

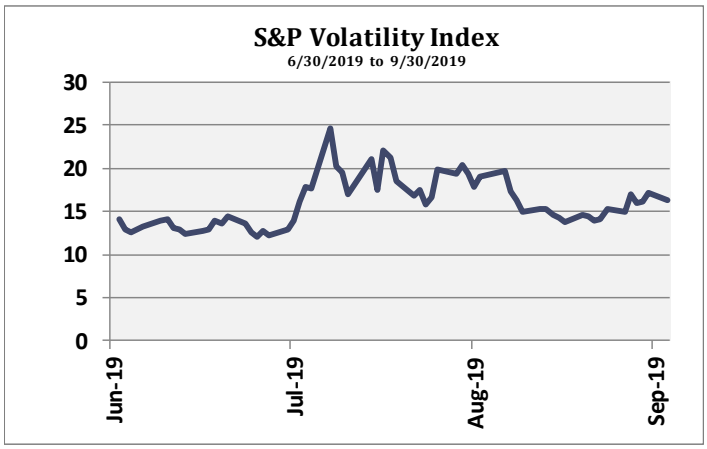




In a turn, value stocks handily beat their growth counterparts, with the S&P 500 Value Index rising 2.83% for the quarter while the S&P 500 Growth Index rose by a scant 0.72%.

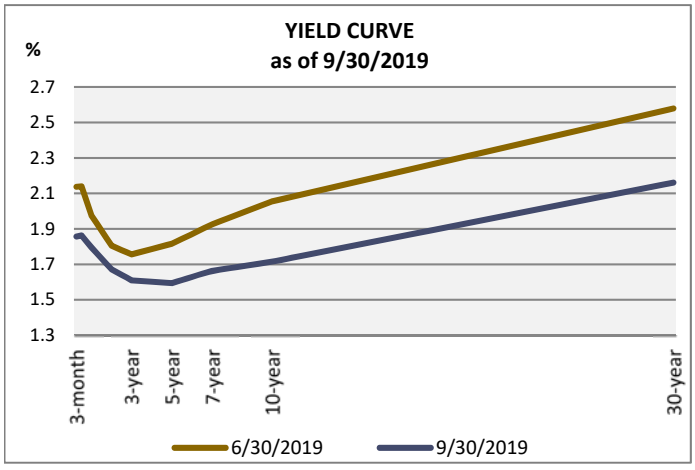
Volatility, as measured by the Chicago Board Options Exchange VIX index, spiked during the quarter in response to the buffeting geopolitical and economic headwinds.

*Registration of an Investment Adviser does not imply any certain level of skill or training.



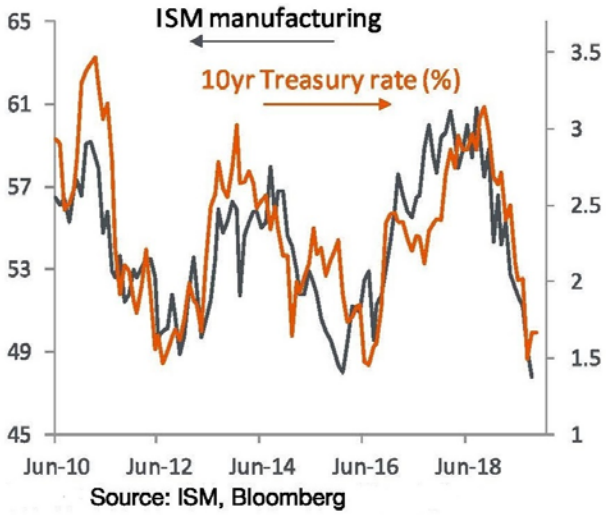
II. THIRD-QUARTER BOND MARKET RECAP

After spiking by approximately 40 basis points during the first two weeks of September, U.S. Treasury yields ended the quarter lower, with the 10-year Treasury dropping by 36 basis points during the quarter, while 5-year and 2-year yields fell by 24 and 17 basis points, respectively. The front end of the yield curve remained inverted during the quarter, with the inversion extending out to the 5-year part of the curve during the quarter.



Over the past decade, long-term Treasury yields have closely tracked the performance of the Institute for Supply Management's (ISM) manufacturing index, rising when the index strengthens and falling when the index weakens. Given the recent drop in the ISM index to a decade low, a drop in the ten-year Treasury rate below the 1.50% level appears probable.

A manufacturing slump should pressure interest rates lower.



III. HOW LONG CAN YOU GO: MONETARY POLICY OPTIONS FOR THE NEXT RECESSION

Excerpted from an article by Paul Eitelman

This is the longest U.S. economic expansion ever. And while expansions don't simply die of old age, it's prudent for investors and central bankers to think now about the potential consequences of the next global recession.

The next five years are likely to prove very challenging for monetary policymakers. Slowing demographic trends, lackluster productivity growth and other factors have conspired to depress the level of real interest rates relative to decades past.

An immediate consequence of secularly lower interest rates is that central banks are more likely to find themselves constrained by the zero lower bound—which occurs when the short-term

nominal interest rate is at or near zero—during an economic downturn.

The Federal Reserve is keenly aware of this possibility and has tapped Fed Vice Chairman Richard Clarida to spearhead the Fed's review of potential unconventional policy triggers to combat the next recession.

The Monetary Policy Menu

Unconventional monetary policy tools are often misunderstood by the public. The basic idea is that when overnight interest rates have already been cut to zero, a central bank can still provide further accommodation by guiding longer-term interest rates down, also.

So what unconventional ammunition do central bankers have to fight the next recession? As a starting point, we would expect interest rates to be slashed to the effective lower bound across the developed markets. Forward guidance naturally comes next—an explicit commitment to keep interest rates at zero for an extended period of time. After that comes a battery of more extreme tools that either implicitly or explicitly target the longer-end of the yield curve.

- Quantitative easing is a central bank's large-scale asset purchase program. In theory, it can target a range of investment vehicles, but some jurisdictions explicitly forbid purchases of some securities. For example, the Federal Reserve Act does not allow the Fed to purchase corporate bonds or stocks. Not so for the European Central Bank (the ECB), the Bank of Japan (BOJ), and the Bank of England (BOE). Of course, with enough time, laws can be changed.

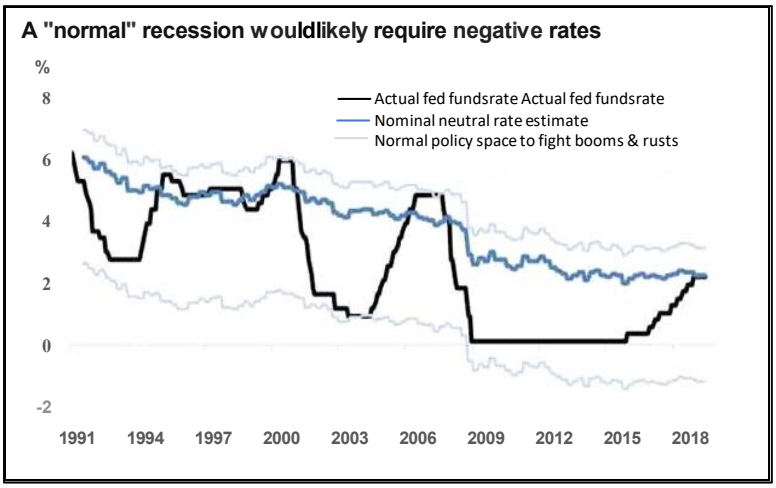
In the table (see top right), we note in red tools that are illegal under current law. The other characterizations in the table are based on our own assessment of the likelihood of a measure, based on its merits and on public statements from former and current leaders of the respective central banks.

Monetary Toolbox	Fed	ECB	BOJ	BOE
Negative rates	Unlikely	Likely	Possible	Unlikely
Forward guidance	Likely	Likely	Possible	Likely
QE (Treasury/Agency)	Likely	Likely	Possible	Likely
Operation Twist	Likely	Possible	Possible	Possible
Yield curve control	Possible	Unlikely	Likely	Possible
QE (corporate bonds)	Illegal	Likely	Likely	Likely
QE (stocks/REITs)	Illegal	Possible	Likely	Unlikely
Raise inflation target	Unlikely	Possible	Unlikely	Possible
Price level targeting	Likely	Possible	Likely	Possible
Nominal GDP targeting	Unlikely	Unlikely	Possible	Unlikely
Loan Support programs	Possible	Likely	Likely	Likely
"Helicopter drop"	Unlikely	Illegal	Possible	Unlikely

Source: Russell Investments, July 2019

- Negative rates are viewed unfavorably in the United States.

If we overlay the policy space that has historically been required by the U.S. Federal Reserve to fight booms and busts, we find that the Fed would likely need to cut rates well below zero in the next recession in order to provide a normal degree of policy accommodation. In the chart below, you'll see that the lower pale blue band of normal policy space is already in negative territory.



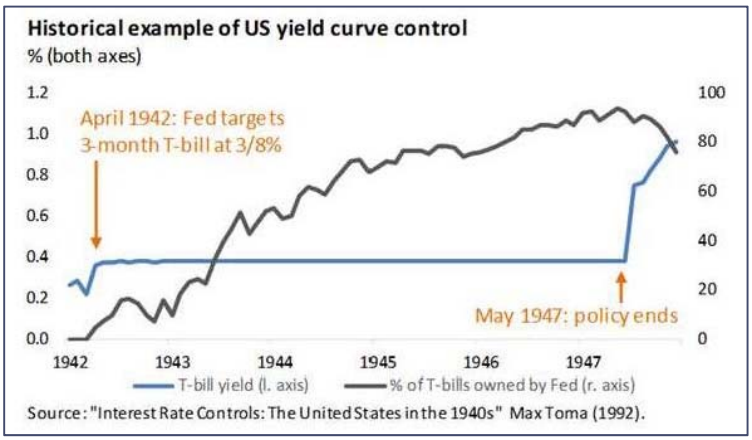
Source: Russell Investments, FRBNY, Federal Reserve Board. Data June 2019.

In a series of internal memos, Fed researchers estimated that rates could not be taken below negative 35bps without prompting significant cash hoarding. Further, the economic benefits of such cuts were not seen to be significant relative to the uncertainties surrounding impacts to money market funds and bank profitability. We suspect the mixed experiences with negative rates in Europe and Japan have not changed the Fed's view.

- Forward guidance is a commitment to keep interest rates at the lower bound for an extended period of time. If the market believes this guidance, then the setting on overnight rates gets transmitted further out on the curve—closer to the tenors at which households and businesses actually borrow. This tool has been effective in the United States and globally and is very likely to be employed again.

- Maturity extension programs are in many ways just a finetuning of quantitative easing. The Fed's Operation Twists are the most well-known historical example of this, where the central bank sells its short-term securities and invests the proceeds in longer-duration securities. Similar to other unconventional tools, the goal is to lower longer-term rates that are more impactful for the real economy. Considering the fact that the Fed minutes from May 2019 discussed this, it seems highly likely that these programs will be used again.

- Yield curve control is an extreme version of quantitative easing, in which the central bank commits to buy whatever it takes to achieve a targeted yield level. The Bank of Japan implemented a yield curve control policy in September 2016, with its decision to target the 10-year Japanese government bond yield at around 0%. There is precedent for yield curve control in the United States and the United Kingdom as well, as both central banks capped yields in the1940s to help finance World War II.



- A higher inflation target is a wonky-but-potential response to the effective lower bound on rates. The premise is that if nominal interest rates are constrained by zero, a central bank can push interest rates deeper into negative territory if future inflation is expected to be higher. The problem with this proposal is twofold. First of all, in the United States, selling this to Congress would likely prove an uphill battle. Secondly and more importantly, with most central banks undershooting their inflation targets presently, raising those targets would likely lack credibility. And if inflation expectations did not rise, the announcement would prove useless. This is particularly true if the central bank were to try such a strategy during a recession, when the output gap was large and disinflationary pressures were at their strongest.

- Price level targeting and what are more broadly known as inflation make-up strategies appear to be an early front runner in the Fed's policy review. The premise is that a central banker should not only be satisfied that Inflation is currently running at 2%, but he or she should be committed to allowing temporary inflation overshoots to make up for past undershoots of the target. In effect, the goal is to achieve 2% inflation over the business cycle.

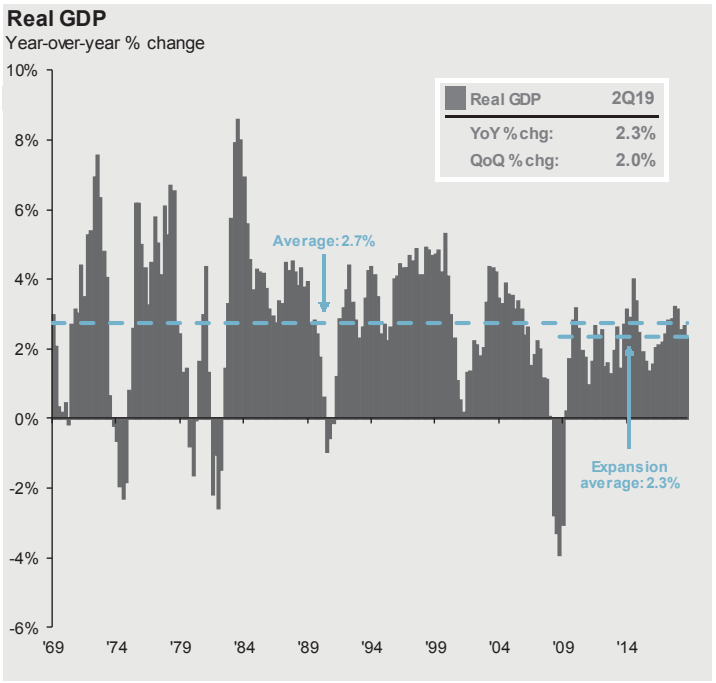
In the most recent Monetary Policy Report to Congress, the prescription from a price-level rule suggested that the federal funds rate should be only 0.13% (versus the current policy setting of 1.75-2.00%). If the Fed adopted this framework, operationally it wouldn't necessarily cut interest rates on a dime, but it could mean a much more protracted hold than in the past.

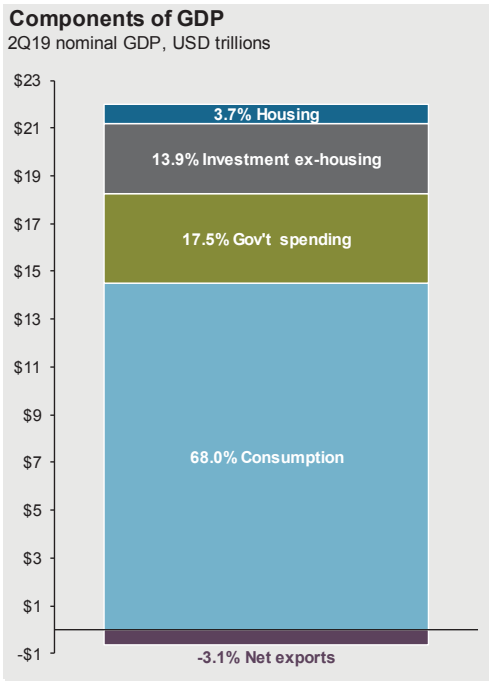
The above list of recession-fighting options is by no means exhaustive. It is entirely possible that other experimental methods are being discussed behind closed doors at the Fed, the ECB or other central banks. But the bottom line is that the extraordinary monetary policy tools that were used to fight the Great Financial Crisis/Great Recession will be required again and should be judged as ordinary in a world of secularly lower interest rates. Tools like forward guidance and quantitative easing were considered the first-best options for delivering stimulus in the aftermath of the Great Financial Crisis/Great Recession, and these are likely to be the first ports of call when conditions sour again. To be clear, though, central banks are very low on ammunition and that means a heavier burden will be placed on fiscal policy in the next economic downturn.

The source of the information in this commentary is SSW and Bloomberg unless otherwise noted.

Economic growth and the composition of GDP

Economy

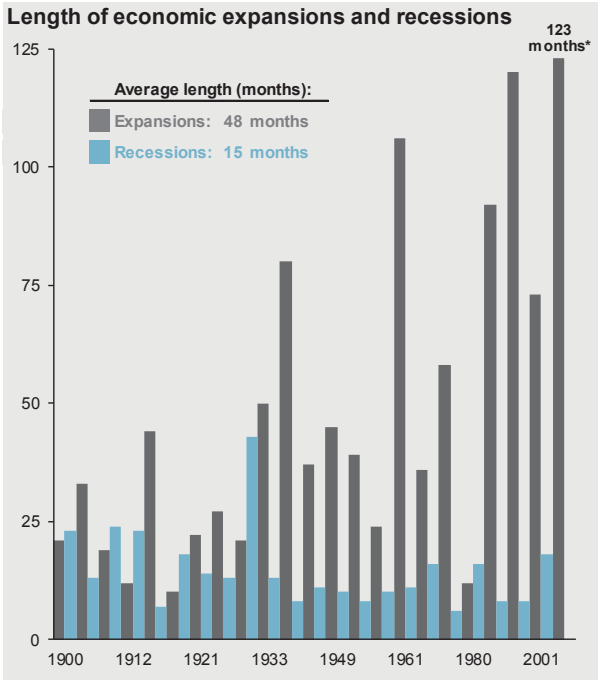


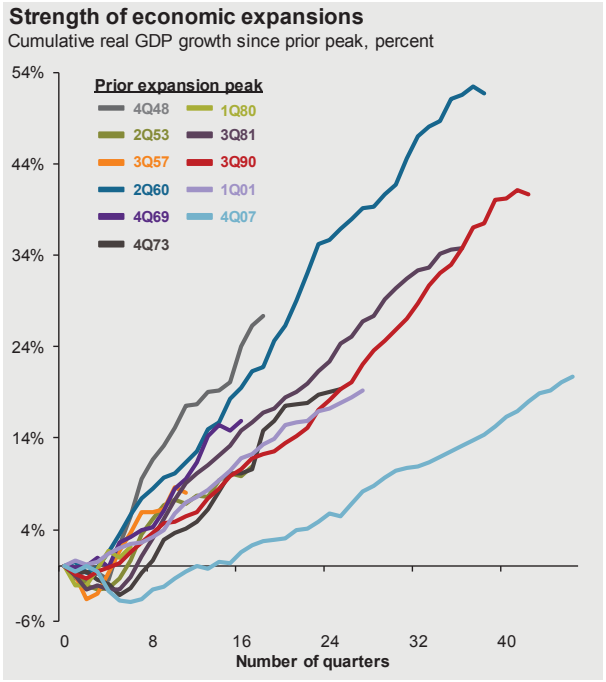


Source: BEA, FactSet, J.P. Morgan Asset Management.
Values may not sum to 100% due to rounding. Quarter-over-quarter percent changes are at an annualized rate. Average represents the annualized growth rate for the full period. Expansion average refers to the period starting in the third quarter of 2009.
Guide to the Markets – U.S. Data are as of September 30, 2019.

The length and strength of expansions

Economy





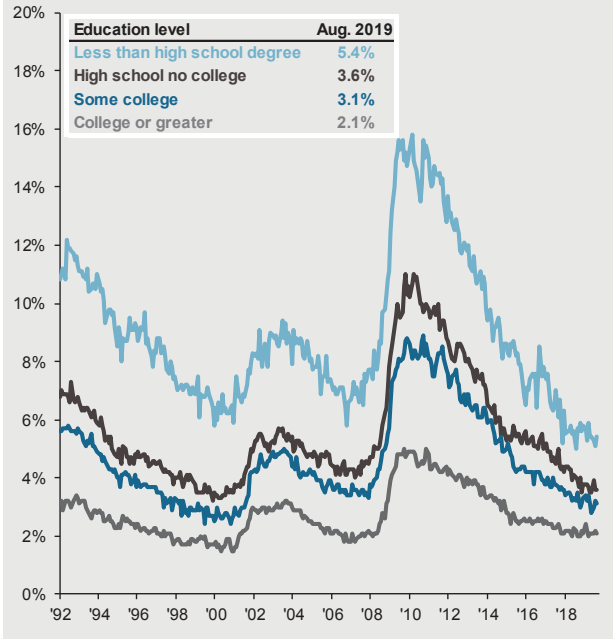
Source: BEA, NBER, J.P. Morgan Asset Management. *Chart assumes current expansion started in July 2009 and continued through September 2019, lasting 123 months so far. Data for length of economic expansions and recessions obtained from the National Bureau of Economic Research (NBER). These data can be found at www.nber.org/cycles/ and reflect information through September 2019. Past performance is not a reliable indicator of current and future results.
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Employment and income by educational attainment

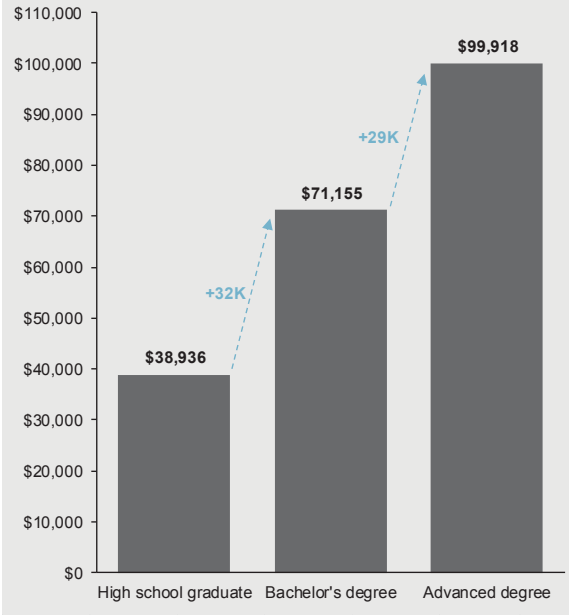
Economy

Unemployment rate by education level



Average annual earnings by highest degree earned

Workers aged 18 and older, 2018



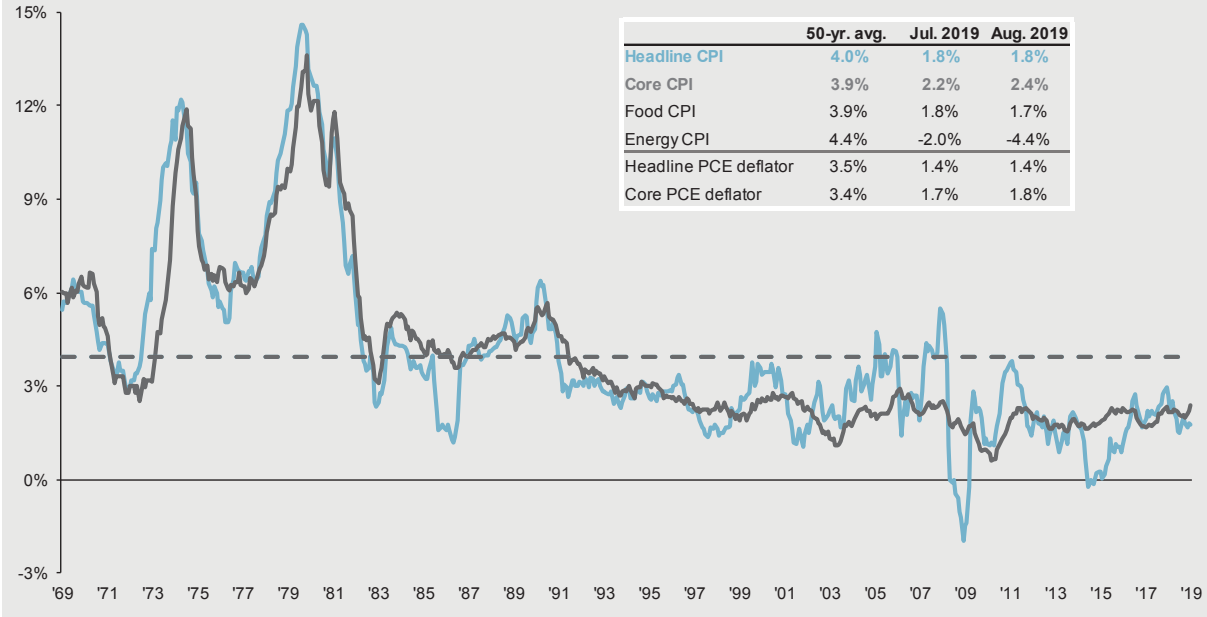
Source: J.P. Morgan Asset Management; (Left) BLS, FactSet; (Right) Census Bureau.
Unemployment rates shown are for civilians aged 25 and older. Earnings by educational attainment comes from the Current Population Survey and is published under historical income tables by person by the Census Bureau.
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Inflation

Economy

CPI and core CPI

% change vs. prior year, seasonally adjusted



	50-yr. avg.	Jul. 2019	Aug. 2019
Headline CPI	4.0%	1.8%	1.8%
Core CPI	3.9%	2.2%	2.4%
Food CPI	3.9%	1.8%	1.7%
Energy CPI	4.4%	-2.0%	-4.4%
Headline PCE deflator	3.5%	1.4%	1.4%
Core PCE deflator	3.4%	1.7%	1.8%

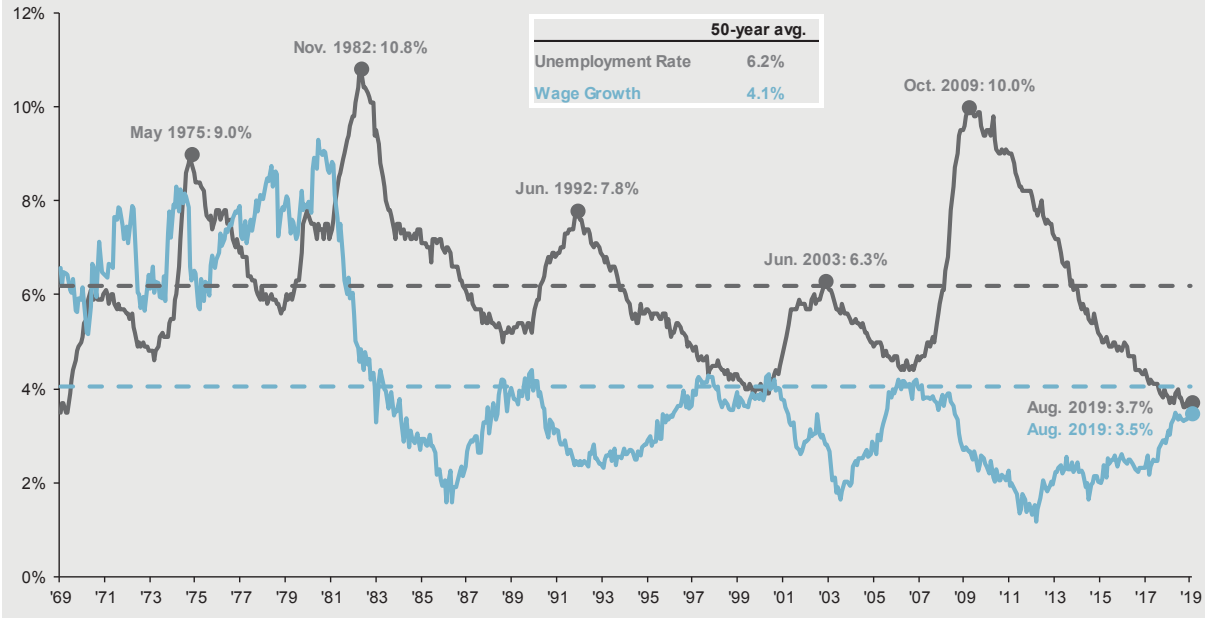
Source: BLS, FactSet, J.P. Morgan Asset Management.
CPI used is CPI-U and values shown are % change vs. one year ago. Core CPI is defined as CPI excluding food and energy prices. The Personal Consumption Expenditure (PCE) deflator employs an evolving chain-weighted basket of consumer expenditures instead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

Economy

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

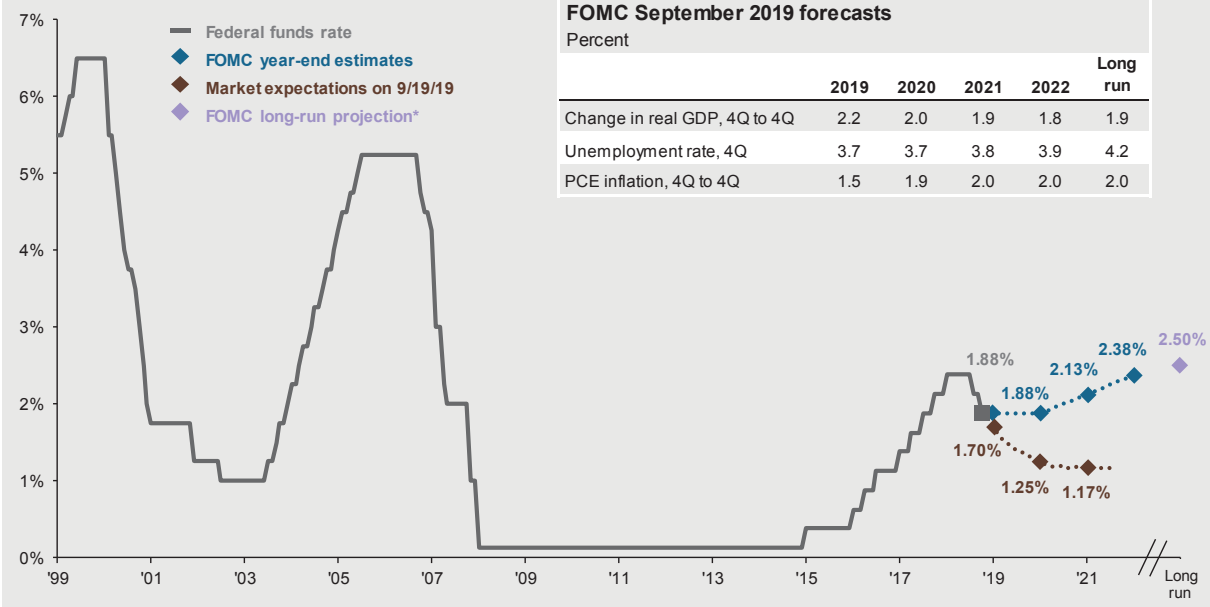


Source: BLS, FactSet, J.P. Morgan Asset Management.
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The Fed and interest rates

Fixed income

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



FOMC September 2019 forecasts
Percent

	2019	2020	2021	2022	Long run
Change in real GDP, 4Q to 4Q	2.2	2.0	1.9	1.8	1.9
Unemployment rate, 4Q	3.7	3.7	3.8	3.9	4.2
PCE inflation, 4Q to 4Q	1.5	1.9	2.0	2.0	2.0

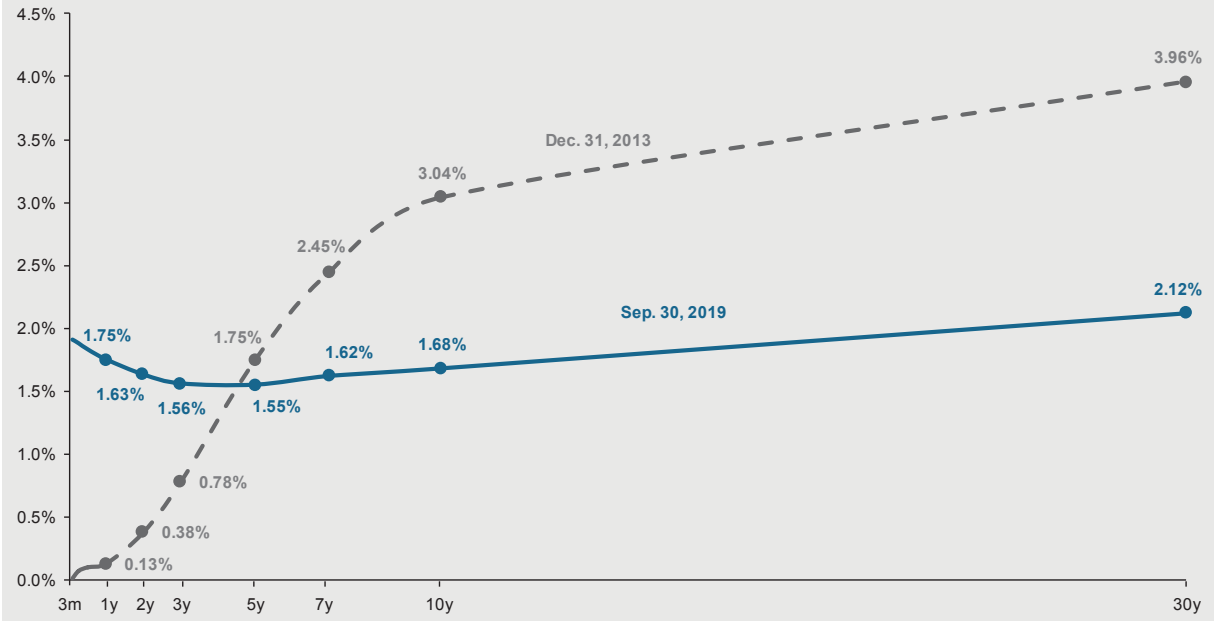
Source: Bloomberg, FactSet, Federal Reserve, J.P. Morgan Asset Management.
Market expectations are the federal funds rates priced into the fed futures market as of the following date of the September 2019 FOMC meeting and are through August 2022. *Long-run projections are the rates of growth, unemployment and inflation to which a policymaker expects the economy to converge over the next five to six years in absence of further shocks and under appropriate monetary policy.
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Yield curve

Fixed income

Yield curve
U.S. Treasury yield curve

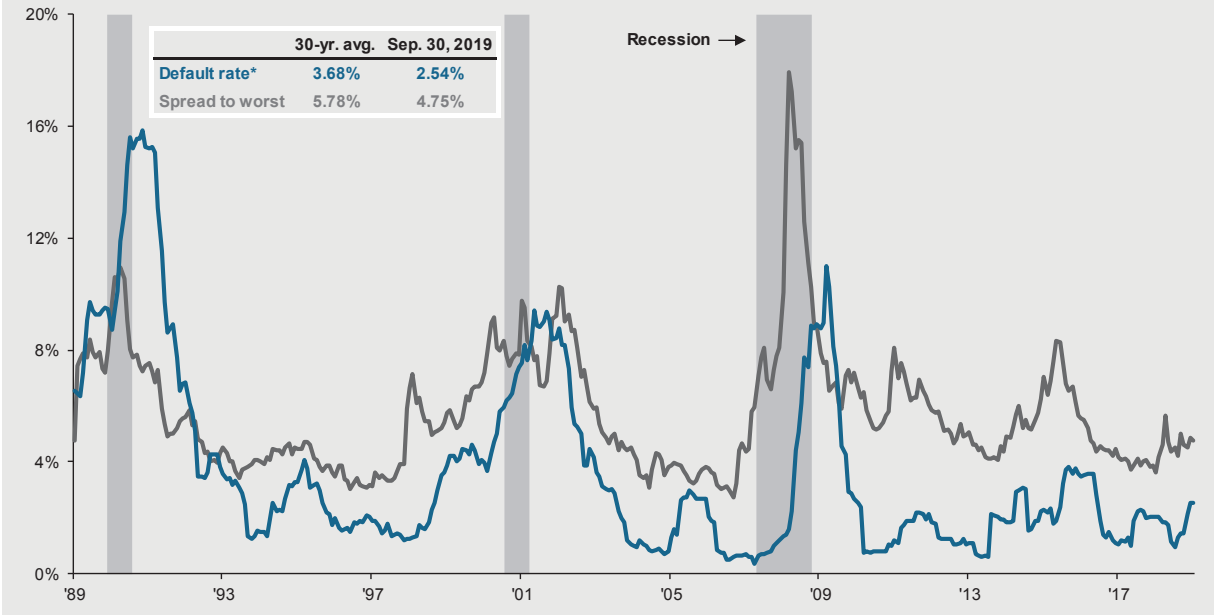


Source: FactSet, Federal Reserve, J.P. Morgan Asset Management.
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High yield bonds

Fixed income

Default rate and spread to worst
Percent



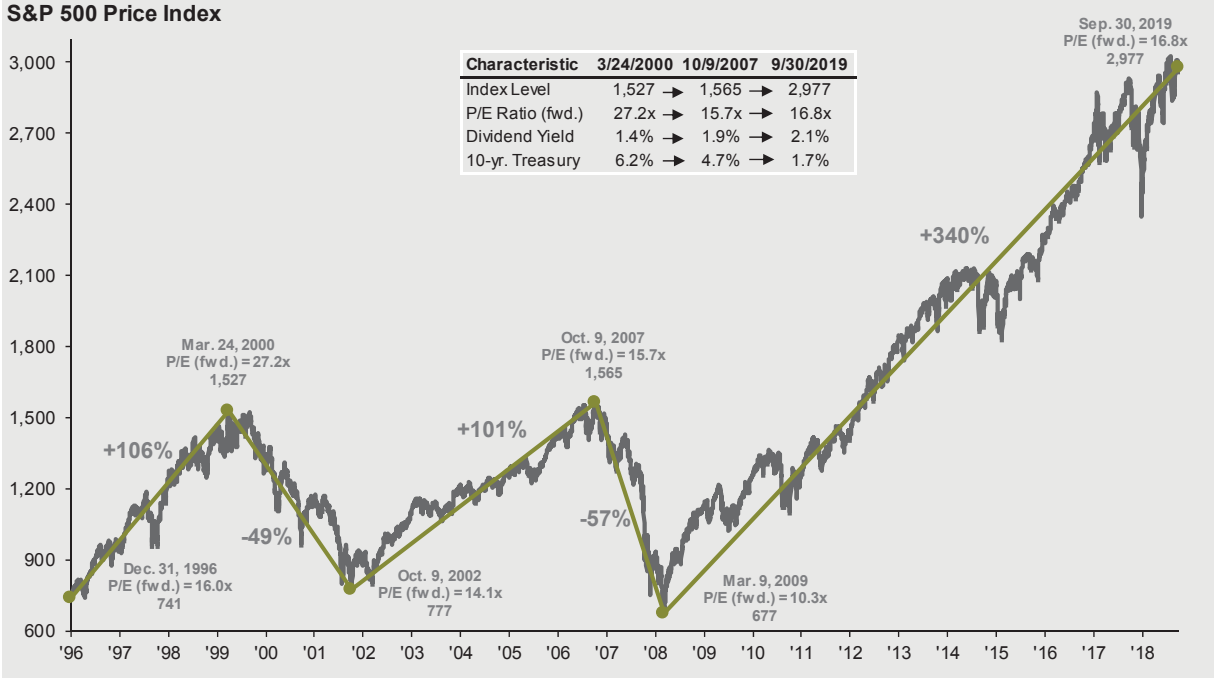
Source: J.P. Morgan Global Economic Research, J.P. Morgan Asset Management.
Default rates are defined as the par value percentage of the total market trading at or below 50% of par value and include any Chapter 11 filing, prepackaged filing or missed interest payments. Spread to worst indicated are the difference between the yield-to-worst of a bond and yield-to-worst of a U.S. Treasury security with a similar duration. High yield is represented by the J.P. Morgan Domestic High Yield Index. *Default rate is as of August 2019.
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S&P 500 Index at inflection points

Equities

S&P 500 Price Index



Source: Compustat, FactSet, Federal Reserve, Standard & Poor's, J.P. Morgan Asset Management.
Dividend yield is calculated as consensus estimates of dividends for the next 12 months, divided by most recent price, as provided by Compustat. Forward price to earnings ratio is a bottom-up calculation based on the most recent S&P 500 Index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates. Returns are cumulative and based on S&P 500 Index price movement only, and do not include the reinvestment of dividends. Past performance is not indicative of future returns.
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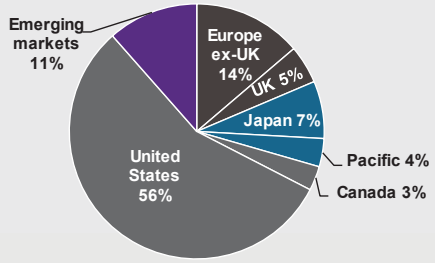
Global equity markets

International

Returns	2019 YTD		2018		15-years	
	Local	USD	Local	USD	Ann.	Beta
Regions						
U.S. (S&P 500)	-	20.6	-	-4.4	7.8	0.86
AC World ex-U.S.	14.2	12.1	-10.2	-13.8	5.7	1.11
EAFE	16.2	13.3	-10.5	-13.4	5.2	1.07
Europe ex-UK	21.1	16.0	-10.6	-14.4	5.7	1.22
Emerging markets	8.1	6.2	-9.7	-14.2	8.3	1.28
Selected Countries						
United Kingdom	13.8	10.2	-8.8	-14.1	4.1	1.01
France	22.6	16.9	-7.5	-11.9	5.4	1.23
Germany	16.1	10.7	-17.7	-21.6	6.1	1.34
Japan	9.9	11.5	-14.9	-12.6	4.0	0.75
China	8.1	7.8	-18.6	-18.7	9.9	1.25
India	3.7	2.1	1.4	-7.3	10.0	1.39
Brazil	19.0	10.8	16.7	-0.1	10.0	1.51
Russia	23.1	30.4	18.1	0.5	4.8	1.52

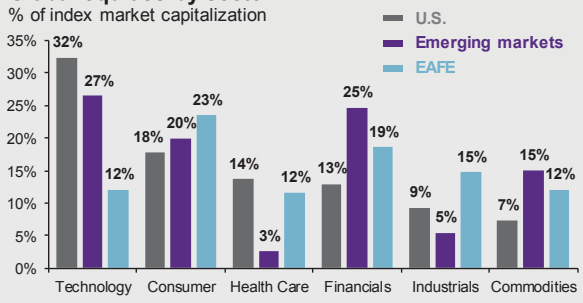
Weights in MSCI All Country World Index

% global market capitalization, float adjusted



Global equities by sector

% of index market capitalization



Source: FactSet, Federal Reserve, MSCI, Standard & Poor's, J.P. Morgan Asset Management.
All return values are MSCI Gross Index (official) data. 15-year history based on U.S. dollar returns. 15-year return and beta figures are calculated for the time period 12/31/03-12/31/18. Beta is for monthly returns relative to the MSCI AC World Index. Annualized volatility is calculated as the standard deviation of quarterly returns multiplied by the square root of 4. Chart is for illustrative purposes only. Please see disclosure page for index definitions. Past performance is not a reliable indicator of current and future results. Sector breakdown includes the following aggregates: Technology (communication services and technology), consumer (consumer discretionary and staples) and commodities (energy and materials). The graph excludes the utilities and real estate sectors for illustrative purposes.
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