The Decline of Western Centralization, Part II. This year’s cover repeats last year’s punch bowl theme, but with weather conditions worsening now that the spigot is open and liquidity is being drained. For the first time in 20 years, markets will have to survive without support from central banks. While equity valuations are much cheaper after the fall selloff, tighter monetary policy, shrinking excess capacity, slower global growth and unresolved trade issues will limit the market rebound in 2019. While we expect US GDP and profits to continue to rise, they don’t always translate into rising asset prices this late in the cycle, particularly with the shift by the Trump administration away from its market-friendly 2017 policies. See inside cover for more details.
2018 Outlook: The Decline of Western Centralization, Part I

This year’s cover art repeats last year’s punch bowl theme, but with weather conditions worsening due to central bank liquidity withdrawal. The punch bowl is inspired by Fed Chair William McChesney Martin, who explained to his audience in 1955 that the Federal Reserve is often the chaperone who must remove the punch bowl just when the party starts to really warm up.

The returns shown in the banner on the front cover represent year-to-date returns through December 26, 2018 on a theoretical portfolio with 65% in the MSCI World Equity Index or the S&P 500, and 35% in the Barclays Global Aggregate Fixed Income Index or the Barclays US Aggregate Fixed Income Index.

Cover art by Gary Bullock.
Mary C. Erdoes

At the start of every year, Michael Cembalest—our Chairman of Market & Investment Strategy, and my investment partner of 22 years—lays out an ever-entertaining and incredibly insightful summary of issues to help position portfolios for the coming year. I always look forward to this piece, and this year’s “The Decline of Western Centralization, Part II” is especially thought-provoking.

As always, ensuring you are well-positioned for both the near and long term is our top priority. All of us at J.P. Morgan stand ready to help you make the most of this unique period in time. We hope you enjoy this piece, and more importantly, we wish you good health, happiness and success in the coming year.

On behalf of all my colleagues, thank you for your continued trust and confidence in J.P. Morgan.

Most sincerely,

Mary C. Erdoes
The Decline of Western Centralization, Part II

January 1, 2019

Executive Summary

While the world’s largest economies are still growing, the longest and largest era of central bank intervention in history is coming to an end. For the first time in almost 20 years, demand for financial assets will be based on institutional and individual investors, with almost no help from central banks. Stocks and corporate bonds got cheaper during the fall selloff, but global growth and earnings revisions are rolling over now, and I don’t think the recent episode was just a run-of-the-mill mid-cycle correction. Unresolved trade issues and a move by the Trump administration away from its 2017 market-friendly policies (see pages 9-10) are likely to cap a post-correction rebound. All things considered, it looks like a volatile, positive single-digit year for diversified portfolios in 2019, following 2018 when diversified stock-bond mixes generated negative returns from -7% to -4%\(^1\). A trade deal with China could result in substantial upside for markets, with EM assets likely to benefit the most.

The Decline of Western Centralization: a 20 year period of central bank intervention comes to an end

Developed economy and emerging economy central bank net purchases of G4 financial assets, % of world GDP, rolling 12m

Note: The G4 is normally comprised of the US, the Eurozone, the UK and Japan; we also include Switzerland. In the chart, we include G4 central bank purchases by looking at changes in their own balance sheets, and include purchases of G4 assets by emerging economy central banks and by non-G4 developed country central banks by looking at changes in their foreign exchange reserves ex-gold. Sources include individual central bank disclosures, the IMF’s International Financial Statistics database, a 2014 analysis from Niall Ferguson and Moritz Schularick and J.P. Morgan Asset Management. 2018.

\(^1\) Based on a 65/35 split of the MSCI Developed World Equity Index and the Barclays Global Fixed Income Aggregate Index, and a 65/35 split of the MSCI US Equity Index and the Barclays US Aggregate Fixed Income Index, as of December 26, 2018.
Why is central bank stimulus coming to an end? Don’t central banks care about equity markets?

Central bank mandates are based on wage and price stability over the long run. G4 central bank asset purchases are slowing since the weakest labor market conditions which existed a decade ago have become the tightest conditions, as measured by unemployment rates and labor shortages. Consumer price inflation and wage inflation aren’t soaring, but they are back to “normal” levels that do not require abnormally easy monetary policy. In the US, a proxy for excess capacity (“the output gap”) shows that there is none left. While markets were disappointed in December that the Fed raised rates and intends to do so again in 2019, based on the charts below, I don’t know how any US central banker could now avoid establishing a fed funds rate above the rate of inflation, as it was for most of post-war history.


![Image of Developed world consumer price inflation and wages](source: J.P. Morgan Economic Research. Q3 2018)


Emerging market central banks are slowing purchases of G4 assets as well

In recent years, emerging market central banks also bought G4 assets. The goal: increase rainy-day reserves, and/or prevent FX appreciation. Now they’re slowing their purchases as well:

- **Reversal of US rate cycle.** When US rates were close to zero, many EM countries intervened to prevent their higher-yielding currencies from appreciating. This process is now working in reverse as US rates rise, reducing the need for EM intervention. EM currencies declined by ~10% in 2018 following a 30% decline from 2012 to 2016. Biggest decliners in 2018: Turkish Lira (-29%), Russian Ruble (-16%), South African Rand (-15%), Brazilian Real (-15%), and Chilean Peso (-11%)

- **Credit concerns.** Investor concerns about asset quality led to capital outflows in many EM countries, forcing EM central banks to liquidate their reserves

- **Declining oil and other commodity prices.** The decline in oil prices forced Saudi Arabia to draw down on its FX reserves by roughly $235 bn from 2014 to 2017 to fund entitlement spending. Declines in industrial metals prices over the same period led to similar dynamics elsewhere in the EM world, and now industrial metal and oil prices are declining again

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2 Of all central bank purchases and sales of G4 assets since 2000, roughly 60% were driven by developed world central banks, with the remainder driven by EM central banks. EM countries with the largest central bank purchases and sales: China, Russia, Saudi Arabia, India, Brazil and Korea.
What will the Decline of Western Centralization look like?

The G4 central bank balance sheet decline is expected to be gradual, but markets often react to changes in flows, rather than changes in stock. The chart on the right shows the “cold turkey” aspect of G4 central banks slowing their asset purchases: only Japan is still a small net buyer.

On policy rates, the Fed intends to raise them only twice in 2019, leaving the funds rate 50-75 bps above the rate of consumer price inflation. Some economist estimates for the funds rate are higher, although they have been falling recently. Even the modest rate hikes so far have begun to negatively affect US growth through a slowdown in housing. On Europe, markets expect short rates to be below 2% for another ten years. This latter expectation creates scope for disappointment if rising German inflation forces the ECB’s hand.

On fiscal stimulus. US fiscal stimulus is peaking and now set to decline. In the rest of the developed world, fiscal stimulus peaked a couple of years ago and is now around neutral.
Why does the Decline of Western Centralization matter so much?

Stimulus withdrawal is easier for markets to withstand when growth is stable/improving. Unfortunately, global growth is softening. Manufacturing surveys are not indicating recession, but since last year’s Outlook, global growth looks to have declined from ~3.75% to 3.00%. On the margin, that’s a lot in terms of corporate revenue and earnings growth, which explains why earnings revisions are rolling over (second chart). While most developed and developing economies are still expanding, a falling number of countries are experiencing above-trend growth.

![Global business surveys](source: J.P. Morgan Economic Research. November 2018.)

![Global earnings revisions](source: IBES, JPMAM. December 2018. Series are 3m moving averages.)

![World still expanding, but fewer countries above trend](source: JPMAM, Factset. Trend = 2-year average. November 2018.)
Stimulus withdrawal combined with slower growth leads to repricing of overpriced assets. The clearest example of central bank intervention driving up asset prices: the ECB, whose purchases of sovereign and corporate bonds have been greater than amounts issued by European governments and companies. This degree of financial repression was (a) bizarre, (b) resulted in 20%-50% of Eurozone gov’t bonds trading with yields below 0%, and (c) led to a shift in risk-taking to absurd levels. The second chart shows how by the middle of 2017, almost all Italian BB-rated high yield bonds traded tighter than US Treasury bonds. As someone with 31 years at J.P. Morgan, this might be the single biggest fixed income distortion I have ever seen. I still can’t believe it as I am writing this. As a reminder of what happened in the past when central banks were too easy for too long: see page 38 on the surge in poorly underwritten credit derivatives from 2004 to 2007.

Small wonder that after all the financial repression by central banks, investor allocations to cash fell to their lowest levels on record by 2016. As policy rates rise in the US and investors take profits on investments they never meant to hold for the long haul, that’s beginning to change. The $32 billion outflow from active US equity mutual funds in the week ending December 18, 2018 was the largest on record. In the process, elevated P/E multiples have been falling around the world despite only modest declines in earnings expectations. The last chart on European P/E multiples and earnings is characteristic of what’s happening in the US, China and Japan as well.

Investor allocations to cash fell to record lows by 2016


Investor allocations to cash fell to record lows by 2016

Eurozone multiples collapse as earnings growth slows


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3 “How bad is the Q4 selloff”, UBS Equity Strategy, December 18, 2018.
Guardrails against a larger collapse: lower systemic risks and lower equity supply

In Q4, developed world equities fell 15%-20% from their 2018 peaks. There are 3 factors which argue against the larger equity collapses of the 1970’s and 2000’s, illustrated below.

- The decline in global current account imbalances, which was a large contributor to the 2008 crisis. This reduces risks of violent cross-border capital outflows that destabilize markets
- Bank capital, liquidity and reliance on deposits rather than wholesale funding have all improved. In addition, shadow banking is now back at 2000 levels, and the gross market value of OTC derivatives declined from $35 trillion in 2008 to $10 trillion in 2018. See pages 35-42 for more details
- Technical factors may eventually provide support to equity markets. Low IPO/secondary offerings and stock buybacks resulted in almost zero global equity supply growth over the last 3 years. This trend is heavily impacted by the US, where the S&P divisor (a proxy for equity supply) is back at its 2001 level, and poised to decline further after more stock buybacks in 2019. However, there might be too much optimism on this latter point, since peak buybacks are probably behind us, based on Flow of Funds data and company reports/announcements

A history of S&P 500 drawdowns since 1969

Source: Bloomberg, JPMAM. December 24, 2018.

A decline in global imbalances

Absolute value of all country current account surpluses and deficits, % of world GDP


Decreased risk in the financial system

<table>
<thead>
<tr>
<th>Bank risk-weighted-capital ratio</th>
<th>2007</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>8.5%</td>
<td>13.9%</td>
</tr>
<tr>
<td>Europe</td>
<td>8.0%</td>
<td>16.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bank liquid assets as % of short term liabilities</th>
<th>2007</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>41%</td>
<td>48%</td>
</tr>
<tr>
<td>Europe</td>
<td>35%</td>
<td>40%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bank loan-to-deposit ratio</th>
<th>2007</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>97%</td>
<td>76%</td>
</tr>
<tr>
<td>Europe</td>
<td>139%</td>
<td>105%</td>
</tr>
</tbody>
</table>


Slow growth in global equity supply


The Q4 2018 selloff. The table shows peak 2018 valuations and where they stood at year end, with percentiles compared to history. All percentiles were below median as of December 26th. P/E ratios can be a moving target as earnings growth declines, but investors are being paid to take risk for the first time in many years, according to the data below.

<table>
<thead>
<tr>
<th>US equities</th>
<th>European equities</th>
<th>EM equities</th>
<th>High yield</th>
<th>Investment grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>S&amp;P 500</td>
<td>Stoxx 600</td>
<td>MSCI EM</td>
<td>US HY</td>
<td>US IG</td>
</tr>
<tr>
<td>Fwd P/E</td>
<td>Fwd P/E</td>
<td>Fwd P/E</td>
<td>Spreads (bps)</td>
<td>Spreads (bps)</td>
</tr>
<tr>
<td>Peak 2018 level</td>
<td>18.5</td>
<td>15.1</td>
<td>13.2</td>
<td>305</td>
</tr>
<tr>
<td>Percentile vs history</td>
<td>86%</td>
<td>91%</td>
<td>59%</td>
<td>89%</td>
</tr>
<tr>
<td>Current level</td>
<td>14.3</td>
<td>12.0</td>
<td>10.3</td>
<td>534</td>
</tr>
<tr>
<td>Percentile vs history</td>
<td>42%</td>
<td>34%</td>
<td>18%</td>
<td>35%</td>
</tr>
</tbody>
</table>


Since the 1920’s, there have been twenty episodes of P/E multiple contractions of 20% or more. In fifteen of these twenty episodes, US equity market returns were positive over the next 12 months, averaging 12%. A rebound could be sparked by short-covering after a December surge in short interest on the S&P ETF, which took place at a time of very thin year-end markets. However, lower valuations for stocks and corporate bonds would represent more of a clear-cut buying opportunity if this were a run-of-the-mill mid-cycle correction without the overhang of central bank stimulus withdrawal, and without the unorthodoxies of the Trump administration, which we review on the following page.

While cheaper valuations lower the bar for investors in 2019, the upside appears more limited than in the past, unless there’s a deal with China. For 2019, we expect volatile, single digit returns on diversified stock/bond mixes given all the risks and headwinds.
Here’s an exhibit I use to discuss the Trump administration and its impact on markets, by drawing on prior Presidents and common policies. In addition to items mentioned below, there’s also the unprecedented level of turnover for investors to deal with, which has no historical parallel; senior level turnover in the Trump administration now exceeds the prior four Presidents combined.

For investors, most market-positive impacts of Trumpism occurred in 2017. Its market-negative policies began in 2018, and will probably last into 2019. I sympathize with FedEx CEO Fred Smith, who said this when cutting his profit forecast and international delivery capacity for 2019: “I'll just conclude by saying most of the issues that we are dealing with today are induced by bad political choices.”

### Elements of Trumpism for investors

<table>
<thead>
<tr>
<th></th>
<th>Jackson</th>
<th>Hoover</th>
<th>JFK</th>
<th>Nixon</th>
<th>Reagan</th>
<th>Bush</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anti-globalization</strong></td>
<td>Tariffs and trade wars</td>
<td>Re-engineering the economy, and triggering a bear market</td>
<td>Bullying of Federal Reserve Chairman</td>
<td>Deregulation and tax cuts</td>
<td>Large fiscal deficits outside of recession</td>
<td></td>
</tr>
<tr>
<td><strong>Loyalty based political patronage</strong></td>
<td>Deportation of undocumented workers</td>
<td>Attacks on individual companies</td>
<td>Political scandals and constitutional risks</td>
<td>Government shutdowns</td>
<td>Conservative court appointments</td>
<td></td>
</tr>
</tbody>
</table>

**Anti-globalization.** Trump’s anti-globalist shift vs prior post-war Presidents is similar to Jackson’s foreign policy compared to his predecessors. Key premise: America wants to be left alone and has little interest in the Wilsonian project of spreading democracy/liberty. But when attacked or at risk, wars must be fought with all available force.

**Tariffs.** If all tariffs ever mentioned by Trump were implemented, US tariff rates could rise from 1.5% to 10% and be the largest rise in 50 years. This includes taxes on all Chinese imports and taxes on US auto imports from Europe/Japan. See further discussion on pages 14 and 31.

**Re-engineering of the economy and attacks on individual companies.** In April 1962, JFK accused US Steel and other steel companies of inappropriate price increases, citing “pursuit of power and profits exceeding their public responsibility” and a “wholly unjustifiable and irresponsible defiance of the public interest”. Steel companies were threatened with audits and rollback of depreciation allowances, and Attorney General Robert Kennedy sent FBI agents to the homes of steel executives. After JFK’s attack on US Steel, a 20% bear market took place (the worst decline in the 1942-1974 period) as investors lost confidence. A few months later, JFK responded to market weakness with new depreciation allowances, an investment tax credit and a tax cut, but the damage was done. There are parallels between JFK’s interventions on domestic prices and Trump’s intervention on export prices, and as well as parallels to Trump’s public attacks on Amazon, Comcast, Boeing, Delta, ESPN, GM, Lockheed Martin, Merck, Nordstrom, Toyota and the Washington Post. Both are concerning for long-term investors.

**Bullying of Federal Reserve Chairman.** Nixon threatened to double the number of Fed board members to dilute the Fed Chairman’s powers, and floated negative stories about Chairman Arthur Burns in the press. Trump has been blunter, reportedly asking aides whether he can fire the Central Bank President, as Turkish and Argentine autocrats have done in the past. Administration factotums rejected the idea, but for investors used to an independent Federal Reserve overseeing the world’s largest reserve currency, the damage was done. Turkish and Argentine P/E multiples are in single digits, reflecting a lack of investor confidence in their policies and policymakers.

Notes continued on following page…
Deregulation. In 2017, the Federal Register of government regulations expanded by the lowest number of new pages since 1992; new pages were 25% below the 2009-2016 average. “Regulation and Red Tape” was the largest problem cited by small business in the 2014 NFIB small business survey. It has declined and is now cited as the 3rd largest problem, behind labor quality and taxes.

Tax cuts. The 2017 Tax Cuts and Jobs Act was the 4th largest tax cut as a percentage of GDP since 1950, and only slightly smaller than the 2009 stimulus. US corporate marginal effective tax rates fell from the highest in the OECD to below median. Corporate tax cut reform has been an objective of both parties. In 2010, President Obama’s Bipartisan Fiscal Commission proposed a switch to a territorial tax system as well: “the current system puts US corporations at a competitive disadvantage vs their foreign competitors. A territorial tax system should be adopted to help put the US system in line with other countries, leveling the playing field”. There was no consensus on personal tax cuts, however. Furthermore, personal tax cuts were financed in part by a one-time tax on non-repatriated offshore earnings. During the Presidential campaign, Trump pledged to use these taxes to finance infrastructure, which would have had a much greater growth multiplier than tax cuts for higher income taxpayers.

Large fiscal deficits outside recession. The US has the largest fiscal deficit as a percentage of GDP at a time of full employment in over 50 years. The 2018 deficit was 3.8%, and is projected to rise to 4.6% in 2019 (CBO).

Loyalty-based political patronage. As a frequent flyer, my preferred example: Trump proposed that his personal pilot run the Federal Aviation Administration.

Deportations of undocumented workers. US Immigration and Customs Enforcement arrests of non-criminal undocumented immigrants rose by 171% in 2017 vs 2016. These deportations are occurring at a time of full employment and large job shortages in construction (see page13). There are parallels with Hoover’s deportations of undocumented immigrants via the Mexican Repatriations of the 1930’s, but that’s where the parallels end: US unemployment ranged from 10% to 20% in the 1930’s when Hoover’s programs were enacted. Given the impact of a restrictive immigration policy on wage inflation at a time of full employment, it seems inconsistent to also attack the Federal Reserve for raising rates.

Political scandals and constitutional crises. US equity markets dropped by 15% after the October 1973 Saturday Night Massacre, when Nixon fired the Special Prosecutor and the Attorney General resigned. This price action was sudden, and part of a 40% S&P 500 selloff from Sep ’72 to Dec ’74 that was mostly driven by stagflation. However, the 15% selloff in October/November 1973 was directly related to the unfolding constitutional crisis. The best piece so far on parallels to the 1970’s: “The Eerie Parallels Between Trump and the Watergate Road Map”, Atlantic Monthly, November 20, 2018.

Government shutdowns. Reagan was one of the first Presidents willing to shut down the government in the pursuit of fiscal or policy goals. There were three brief shutdowns during his first administration.

Conservative court appointments. Eighty percent of Trump Federal Judiciary nominees have ties to the conservative Federalist Society. Similarly, all federal judges appointed by George W Bush were either members of the Federalist Society or were approved by the group.

For more on the President’s policies and implications for the 2020 election, please see our 2018 holiday piece which examined the possibility of voters facing the most polarized choice in 100 years.
The fall selloff came as a surprise to many investors and strategists, since most expect another year of US growth in 2019. However, as we wrote in October⁵, as business cycles age, GDP and profits often keep growing even after asset prices peak. That’s the lesson of the 5 cycles before 2000 shown in the table: when markets peaked, there was still a year to go of economic and earnings growth (the last two cycles were exceptions). It looks like 2018 will be another entry in the top part of the table.

**Asset prices tend to peak before growth/profits**

<table>
<thead>
<tr>
<th>US equity market peak</th>
<th>Next 12 month S&amp;P 500 return</th>
<th>Months until economic data peak</th>
<th>Next 12 month earnings growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-1966</td>
<td>-7%</td>
<td>10</td>
<td>4%</td>
</tr>
<tr>
<td>Nov-1968</td>
<td>-13%</td>
<td>9</td>
<td>2%</td>
</tr>
<tr>
<td>Dec-1972</td>
<td>-19%</td>
<td>11</td>
<td>27%</td>
</tr>
<tr>
<td>Nov-1980</td>
<td>-13%</td>
<td>9</td>
<td>4%</td>
</tr>
<tr>
<td>Aug-1987</td>
<td>-18%</td>
<td>19</td>
<td>41%</td>
</tr>
<tr>
<td>Sep-2018</td>
<td>-15%</td>
<td>??</td>
<td>??</td>
</tr>
<tr>
<td>Aug-2000</td>
<td>-25%</td>
<td>1</td>
<td>-16%</td>
</tr>
<tr>
<td>Oct-2007</td>
<td>-25%</td>
<td>4</td>
<td>-23%</td>
</tr>
</tbody>
</table>


**It was a great run over the last decade.** Even with the selloff, the 13% annualized price return on the S&P from March 2009 to December 2018 has only been matched 3 times in the post-war era: briefly in 1959 and 1992, and during a few months at the end of the 1990’s. While we expect modestly positive returns next year after the correction, it’s worth holding plenty of liquidity to take advantage of opportunities that may arise, particularly with cash poised to yield a positive real return, at least in the US. Emerging Markets have the least demanding valuations in the world and are worth a look for under-risked investors, particularly if there is a cease-fire in the trade war. See pages 31-32 for more details.

Michael Cembalest
J.P. Morgan Asset & Wealth Management

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Thoughts on the financial crisis, 10 years later p. 35

Anyone trying to understand the crisis should start with banks, but not end there. We review the important and underappreciated crisis points: the hijacking of Fannie/Freddie balance sheets, the impact of broker-dealer deregulation, the implosion of bond reinsurers and outsized contributions of individual firms to systemic risk at the time. We conclude with what has changed since.

United States

There’s plenty of good news on the US economy:

- Business surveys still in expansion mode; latest PMI reading one of the strongest since 1978
- December same-store retail sales registered among the highest readings in 20 years
- Consumer/small business confidence surveys are at their highest levels in years
- Wages are rising across all levels of income, supported by the strongest employer hiring and wage growth intentions since 2000

Even so, there’s a drag coming from rising interest rates and fading effects of tax cuts, which we believe will reduce GDP growth from 3.40% in Q3 2018 to 2.25% by the end of 2019. Early estimates of Q4 2018 growth are already at 2.60%. There are already signs of weakness in housing (see page 14), and lower readings on capital spending surveys and new orders, albeit from high levels.
US households are in much better shape than they were a decade ago. Homeowners’ equity has now surpassed 2007 peaks, household debt levels and debt service have declined, and surveys show low levels of firings and plenty of voluntary job departures. Here’s another positive sign on the consumer: the BEA made a massive upward revision to the US savings rate, which had been mentioned as an Achilles’ heel of the recovery. However, keep an eye on construction job shortages (last chart); above-trend wage inflation could increase pressure on the Fed to keep raising rates in 2019.

**Homeowners’ equity above pre-crisis levels**

US$ trillions

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<tbody>
<tr>
<td>Equity</td>
<td>$6</td>
<td>$8</td>
<td>$12</td>
<td>$14</td>
<td>$16</td>
</tr>
</tbody>
</table>


**Signs of a healthy US labor market**

% of labor force, 3-month average

<table>
<thead>
<tr>
<th>Year</th>
<th>2001</th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
<th>2015</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firing rate</td>
<td>1.3%</td>
<td>1.5%</td>
<td>1.8%</td>
<td>2.0%</td>
<td>2.3%</td>
<td>2.0%</td>
<td>1.5%</td>
<td>1.3%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Voluntary quit rate</td>
<td>1.9%</td>
<td>1.8%</td>
<td>1.7%</td>
<td>1.6%</td>
<td>1.5%</td>
<td>1.4%</td>
<td>1.3%</td>
<td>1.2%</td>
<td>1.1%</td>
</tr>
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</table>


**Sharp upward revision in US savings rate**

Personal savings rate, 3 month moving average

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-revision</td>
<td>0.5%</td>
<td>1.0%</td>
<td>1.5%</td>
<td>2.0%</td>
<td>2.5%</td>
<td>3.0%</td>
<td>3.5%</td>
<td>4.0%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Post-revision</td>
<td>1.0%</td>
<td>1.5%</td>
<td>2.0%</td>
<td>2.5%</td>
<td>3.0%</td>
<td>3.5%</td>
<td>4.0%</td>
<td>4.5%</td>
<td>5.0%</td>
</tr>
</tbody>
</table>


**Job openings rate: construction**

<table>
<thead>
<tr>
<th>Year</th>
<th>2001</th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
<th>2015</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>0.5%</td>
<td>1.0%</td>
<td>1.5%</td>
<td>2.0%</td>
<td>2.5%</td>
<td>3.0%</td>
<td>3.5%</td>
<td>4.0%</td>
<td>4.5%</td>
</tr>
</tbody>
</table>


Job openings in construction are at the highest levels in 20 years, and that’s before the possible termination of the Temporary Protected Status program, under which 300,000 people from Central America are allowed to remain and work in the US. The larger programs are scheduled to end in 2019/2020. Trump has filed to terminate these programs, but has been blocked in Federal courts. These individuals primarily live and work in Florida, Texas and California, three states with massive rebuilding programs underway due to hurricanes, floods and wildfires.
**Headwinds: interest rates.** As shown in the 1st chart, housing is already slowing after only a 0.5% increase in mortgage rates and with Fed Funds still barely above inflation. In addition to variables shown, homebuyer traffic has declined as well. Another housing headwind: for the first time in a decade, the average homeowner no longer has an “in the money” option to move, since prevailing mortgage rates have now moved above the average outstanding mortgage rate owed by US homeowners. Housing/autos are turning from a positive contributor to growth to a small negative contributor. From an investor’s perspective, this shift translated into 20% underperformance by housing and autos vs the S&P 500 in 2018. We expect only a modest housing downturn given the continued excess of household formation over completions, and the increase in pent-up demand from young adults still living at home.

**Headwinds: tariffs.** If the full range of proposals were implemented, US consumer price inflation could rise faster than markets expect. If a deal is reached (see page 31), the impact of existing tariffs would be small; see point #3 in tariff chart below. However, if additional Section 301 tariff hikes on China take place and/or if there are Section 232 tariffs on US auto imports (points #4 and #5), investors would be looking at the largest globalization rollback in 50 years⁶. Even tariffs imposed so far have some bite: while they look small relative to GDP, consumer spending and S&P earnings, I think it makes more sense to consider their impact on specific sectors and companies, which is larger (4th chart).

---

5 Peter Navarro, head of the White House National Trade Council, wrote a book called “Death by China: Confronting the Dragon – A global call to action”.

---

**Housing measures declining as rates rise**  
% y/y change

<table>
<thead>
<tr>
<th>2017</th>
<th>1H 18</th>
<th>Sep-Nov 18</th>
</tr>
</thead>
<tbody>
<tr>
<td>12%</td>
<td>9%</td>
<td>6%</td>
</tr>
<tr>
<td>9%</td>
<td>6%</td>
<td>3%</td>
</tr>
<tr>
<td>6%</td>
<td>3%</td>
<td>0%</td>
</tr>
<tr>
<td>3%</td>
<td>0%</td>
<td>-3%</td>
</tr>
<tr>
<td>0%</td>
<td>-3%</td>
<td>-6%</td>
</tr>
<tr>
<td>-3%</td>
<td>-6%</td>
<td>-9%</td>
</tr>
</tbody>
</table>

Source: NAR, Census, MBA, JPMAM. November 2018.

**Consumer products would be hit by next round of tariffs**  
US imports from China by economic category, US$ billions

- **Capital**: $120
- **Intermediate**: $100
- **Consumer**: $140

**US tariffs on China as a share of selected measures**

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>12%</td>
<td>14%</td>
<td>16%</td>
<td>18%</td>
<td>20%</td>
<td>22%</td>
<td>24%</td>
<td>26%</td>
<td>28%</td>
<td>30%</td>
</tr>
<tr>
<td>8%</td>
<td>10%</td>
<td>12%</td>
<td>14%</td>
<td>16%</td>
<td>18%</td>
<td>20%</td>
<td>22%</td>
<td>24%</td>
<td>26%</td>
<td>28%</td>
</tr>
<tr>
<td>6%</td>
<td>8%</td>
<td>10%</td>
<td>12%</td>
<td>14%</td>
<td>16%</td>
<td>18%</td>
<td>20%</td>
<td>22%</td>
<td>24%</td>
<td>26%</td>
</tr>
<tr>
<td>4%</td>
<td>6%</td>
<td>8%</td>
<td>10%</td>
<td>12%</td>
<td>14%</td>
<td>16%</td>
<td>18%</td>
<td>20%</td>
<td>22%</td>
<td>24%</td>
</tr>
<tr>
<td>2%</td>
<td>4%</td>
<td>6%</td>
<td>8%</td>
<td>10%</td>
<td>12%</td>
<td>14%</td>
<td>16%</td>
<td>18%</td>
<td>20%</td>
<td>22%</td>
</tr>
</tbody>
</table>

Longer-dated risks: corporate debt. While household debt is low relative to history, the opposite is true for US companies, whose debt relative to equity and cash flow is close to the highest levels on record. Furthermore, the current median debt to cash flow figure of ~2.0x does not reflect the wide distribution around this level. The second chart shows substantial portions of the small cap and large cap universe with much higher leverage, and/or negative cash flow. According to JP Morgan Global Markets Strategy, 50% of US and European BBB-rated issuers have higher leverage than the BB average\(^7\). Note: EBITDA measures cash flow by adding back interest, taxes and non-cash charges to earnings.

While debt service is low due to the decline in rates and spreads, it’s already rising and will gradually take a bite out of highly leveraged sectors (staples, telecom, utilities, etc) as corporate debt reprices to higher yields. This is a longer dated risk, given the time it will take for this to happen. High yield default rates are very low despite the sharp rise in leverage. Easy money from central banks created ample demand for high yield, but we do not expect this unusual gap to last forever.

**Corporate debt**

Universe = largest 1,500 stocks

**Distribution of leverage at small and large cap companies**

% of equity index market cap

**High yield default rates low despite sharp rise in debt**

Debt to GDP (non-financial companies)

HY default rate

---

On valuations and earnings

We expect earnings growth to continue in 2019, but at a much lower rate than in 2018 when the global economy was growing at a faster pace and when US earnings benefitted from tax cuts, and since higher interest rates tend to negatively affect earnings for value stocks (financials, staples and healthcare).

It can be hard to determine exactly when high valuations become an issue for markets, which can rise despite them. Even so, I felt last summer that high valuations would soon become a headwind given rising policy rates, tariff risks and plenty of investor complacency. Some valuation measures fell sharply during the late 2018 correction. While many are still higher than average (see table), much lower historical valuations typically coincided with periods of very high inflation and/or recession.

<table>
<thead>
<tr>
<th>S&amp;P 500 valuation metric</th>
<th>Current</th>
<th>Historical percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>US market cap / GDP</td>
<td>164%</td>
<td>88%</td>
</tr>
<tr>
<td>EV / Sales</td>
<td>2.0x</td>
<td>87%</td>
</tr>
<tr>
<td>Cyclically adjusted P/E</td>
<td>24.0x</td>
<td>81%</td>
</tr>
<tr>
<td>Price / Book</td>
<td>2.9x</td>
<td>70%</td>
</tr>
<tr>
<td>EV / EBITDA</td>
<td>10.1x</td>
<td>69%</td>
</tr>
<tr>
<td>Forward P/E</td>
<td>14.3x</td>
<td>56%</td>
</tr>
<tr>
<td>Free cash flow yield</td>
<td>5.1%</td>
<td>20%</td>
</tr>
<tr>
<td>S&amp;P earnings yield - 10Y UST</td>
<td>422 bps</td>
<td>18%</td>
</tr>
<tr>
<td>Median metric</td>
<td></td>
<td>70%</td>
</tr>
</tbody>
</table>


US valuation measures

Deviation from long-term average

S&P 500 forward P/E ratio

Home prices

Commercial real estate prices


---

8 “It’s Time for Investors to Play Defense”, an interview I did with Barron’s, July 17, 2018.

9 Percentiles vs history are sensitive to start dates and end dates. The table above starts in 1976, when P/E multiples were depressed given inflation at the time. Using 1976 as a start date and a Dec 21st end date, the current P/E multiple ranked in the 56th percentile. On page 8, we used a 1985 start date to coincide with inception of S&P operating earnings and a Dec 26th end date, in which case the current P/E multiple ranked in the 42nd percentile. Either way, the percentile of US P/E ratios declined sharply from elevated levels earlier in 2018.

Note: the free cash flow percentile in the table is low vs history in part due to the substantial post-2002 decline in the capital spending intensity of most large cap companies. Since 2002, S&P 500 capital spending as % of cash flow from operations has averaged 40-50%. Before 2002, it averaged 60-80%.
What looks oversold: technology, banks and mining; healthcare unclear given possible reform

FAANG premiums have collapsed, and the tech sector trades at one of the smallest premiums to the market in history. Banks also trade at low multiples, similar to levels that preceded the financial crisis. As we illustrated in the Executive Summary, we believe systemic risks in the financial sector are lower now. Metals/Mining stocks are understandably depressed given the secular and cyclical slowdown in China, but current levels are also pricing in high probabilities of a global recession in 2019 and a bad ending to the US-China trade war.

**Tech P/E ratios relative to the market at cycle peaks**


**Bank P/E ratios relative to the market at cycle peaks**


**Metals/Mining: price to sales relative to the market**


On **drug pricing**, here are some Democratic proposals to control them. It’s unclear what support they have in the Senate or White House, but I believe something may pass in 2019, clouding the outlook for healthcare investors.

- Drug price controls on gouging, defined as increases over medical inflation and costs
- Allow “dual eligible” drugs to be purchased at lower Medicaid pricing
- Gov’t can negotiate drug pricing
- Independent board to track/set drug pricing
- Limit tax deduction for advertising
- Require disclosure of development costs
- Increase Medicaid rebate as percentage of manufacturing price
- Reduce biologic patents to 7 years from 12 years
- Cap out of pocket costs at $250 per month
- Reduce Medicare Part B drug prices
- Require FDA pre-approval for ads
- Allow drug re-importation

On US credit market risks

Central banks purchased $14 trillion in securities since 2009, which drove down interest rates and led to massive growth in both issuance of and demand for corporate debt. This coincided with the impact of the Volcker rule in the US, which led to a decline in market making and proprietary trading. As a result, as shown in the first chart, an explosion in fixed income supply took place alongside a collapse in fixed income liquidity. This could lead to problems when/if investors exit, and would be all the more ironic since this conundrum would be linked to central bank policy and also to a policy named for an ex-central banker. In other words, this should have been anticipated by the architects of these policies.

More details. Since 2007, the share of BBB-rated issuance has grown as the expense of higher-rated corporate bonds. As shown below, 2016 and 2017 were prime examples of this pattern. BBB yields have now widened by the largest amount vs trend since the 1980’s, other than during the financial crisis.
Non-US markets overview

A year ago, global growth was synchronized and rising; since then, US and non-US indicators have been softening. The first 3 charts show changes in business surveys, earnings revisions and business confidence. Outside the US, conditions are weaker.

Some of the most disappointing economic data has been coming from Europe. If there’s a negative growth surprise, it will be difficult for the ECB to do much about it: its short term interest rates are already negative, the ECB already owns 20%-30% of many Eurozone government bonds (close to their self-imposed 33% limit\(^\text{10}\)), and German wages/home prices are starting to heat up. For that and other reasons, we prefer Emerging Markets to Europe as a deep-value investment for 2019 (see page 32).

---

10 Compounding the problem: the private sector only owns 20%-25% of German and Dutch government bonds, given large amounts owned by non-EU central banks as well as by the ECB itself.
Europe

Eurozone balance of payments issues emerged in 2011. Since December of that year, European equities rose by 62%, in part due to trillions of Euros of intervention from the ECB. In contrast, the S&P 500 rose by 116% over the same time frame. On relative returns, I have less to say this year since I am becoming a broken record. 2018 was yet another year during which the US outperformed Europe and Japan.

As shown in the first chart, other than during the unsustainable mid-2000’s growth boom in Southern Europe, an equity overweight to the US generated positive returns in almost every period since I joined J.P. Morgan 31 years ago. While European equities trade at a discount to the US, that’s been true for the last few years and Europe still underperformed. I don’t see anything on the horizon in 2019 that is going to change that streak, particularly with European earnings revisions weakening faster than in the US. If anything, 2018 may be remembered as the year when the ECB was no longer able to offset the economic shackles of the Euro on France and Italy, which are headed back to 1% growth. The end.

US outperformed for most of the last 30 years
3-year rolling out (under) performance vs MSCI All World Index

Europe: P/E discount vs the US is par for the course
Stoxx 600 P/E discount vs S&P 500 based on forward earnings

Source: Bloomberg, JPMAM. Q3 2018.

Source: Datastream, IBES, JPMAM. December 24, 2018.

On European equities:

- The Stoxx 600 Index includes both Eurozone and non-Eurozone countries in Europe. Before 2006, International Financial Reporting Standards required European companies to amortize goodwill, and the amounts involved were at times substantial. As a result, pre-2006 P/E multiples for Europe are not comparable to post-2006 multiples, and can distort time series comparisons vs the US.
- The S&P 500 has higher weights to tech than the Stoxx 600, and lower weights to Financials and Consumer Staples. Even when adjusting for these differences, the P/E discount based on “sector-neutral P/E ratios” looks similar to the one shown above. Similarly, US outperformance vs Europe looks the same since 2010 whether we use market cap-weighted indices, or US/EU indices that have the same exact sector weights. In other words, US outperformance is not just due to the Tech sector, and also occurred in Financials, Consumer Discretionary and Energy sectors.
Ok that’s not really the end; here are a few more comments. A year ago, it looked like Europe was at the cusp of a region-wide revival. Growth estimates surged above 3% in early 2018, but that turned out to be the peak; growth rolled over since then. Based on earnings beats and revisions, Q3 2018 was one of the weakest quarters for Europe since 2014. Credit creation across Europe is modestly positive (in contrast to 2013-2015), but 2019 looks like another year of sub-2% growth in Europe. The ECB might consider more low-cost financing aimed at encouraging banks to lend to the private sector, particularly in Italy. However, ECB bazookas haven’t done much for investors: Eurozone equities are almost right back where they started in 2014, before 2.6 trillion Euros of intervention by the ECB (third chart).

When digging into European underperformance, we find that Europe’s return on equity is lower for most industries than for US counterparts. Just as importantly, Europe’s tech sector market cap weight is less than half of US levels, and its tech companies are both less profitable and more expensive (see table).

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History, the Euro and the future. I gave a presentation at our International Council meetings in Berlin last October, and at dinner, I interviewed Henry Kissinger. This was the 6th time I’ve had the chance to speak with Henry in front of our clients, and at age 95, he shows few signs of slowing down (intellectually). Most of the conversation was about China and Russia, but at the end, we talked about Europe and Germany, where Henry was born. I mentioned that German per capita GDP more than tripled from 1946 to 1960 (the Wirtschaftswunder), one of the fastest recoveries on record for a major economy, and which is an example of what international cooperation and diplomacy can accomplish.

Henry responded by remembering the vibrant energy in those post-war days, when leaders like Konrad Adenauer were brimming with new ideas on how to rebuild a Europe that had been destroyed (see boxes). Henry lamented the loss of vitality among Europe’s current leaders. We will not know for many years, but I reminded Henry that the jury is out as to whether efforts required to maintain the Euro are adding to European vitality, or subtracting from it. As shown in the second chart, the economic efficiency gap between Italy and Germany is not that different from the gap between the US and Mexico. These are not the raw materials for a typical monetary union.

Recollections of post-war Europe. “The ports in Europe and many in Asia had been destroyed or badly damaged; bridges had been blown up; railway locomotives and rolling stock had vanished. Great cities such as Warsaw, Kiev, Tokyo and Berlin were piles of rubble and ash. In Germany, it has been estimated, 70% of housing had gone and, in the Soviet Union, 1,700 towns and 70,000 villages. Factories and workshops were in ruins, fields, forests and vineyards ripped to pieces. Millions of acres in north China were flooded after the Japanese destroyed the dykes. Many Europeans were surviving on less than 1,000 calories per day; in the Netherlands they were eating tulip bulbs. Apart from the United States and allies such as Canada and Australia, who were largely unscathed by the war’s destruction, the European powers such as Britain and France had precious little to spare. Britain had largely bankrupted itself fighting the war and France had been stripped bare by the Germans. They were struggling to look after their own people and dealing with reincorporating their military into civilian society. The four horsemen of the apocalypse – pestilence, war, famine and death – so familiar during the middle ages, appeared again in the modern world.”

Margaret MacMillan, professor of international history at the University of Oxford, September 2009

Vienna, 1945. “Vienna is a ghost town with all the famous landmarks gone. The Rathaus and Parliament were bombed by retreating Germans, and the museums and stores are destroyed. Every house on Taborstrasse and Karmelitergasse was hit with artillery shells, and the city is full of bombed-out German vehicles. The Reichsbreude is the only bridge left standing. The people of Vienna are skeletons, and are starving to death. The Russian Army has no provisions from home, so they live off the fat of the land, and eat all the food and dairy products. They loot everything (jewelry, food, clothing) and then sell it on the black market. The people think the Americans are coming, but they are wrong and will be disappointed since the Russians are staying.”

Excerpt from a letter my uncle wrote on August 4, 1945. He emigrated from Vienna to the US in 1938, and was then drafted into the US army, fighting on the German front until the end of the war. In August 1945, he snuck into the Russian zone of Vienna to retrieve the ashes of his father from a local cemetery, and wrote a letter home describing the experience.
Unlike the 1800’s, when the US monetary union was reinforced by shrinking regional economic dispersions, some European dispersions rose with the inception of the Euro. This is the opposite of what was supposed to happen. Another sign of reverse integration: German bank lending to the periphery remains close to the lowest levels of the last decade.

**Death in Venice**

*Industrial Production Index, 12/31/1999 = 100*

The Italian budget deal lowers probability of default, but recession risk goes up. Italy reached a deal with Brussels, which eased investor concerns about near-term default risk. But since the deal was based on a lower budget deficit that results from reduced infrastructure investment and corporate tax hikes, Italy’s recession risk arguably goes up. Italy’s infrastructure quality ranks close to the bottom of the OECD, above only Mexico and Poland; cutting it is the last thing Italy needs. A budget deal prevents a near-term unraveling but does not argue for a lot of investor optimism.

**Italian: the cost of protecting against default**

*Italian 5 year CDS contract price (bps)*

From a broader perspective, Merkel’s decision not to run for Chancellor again in 2021 and the strikes in France (see next page) reduce the prospects of further fiscal integration or risk-pooling in the Eurozone, which was the dream of the Euro’s creators, and in my view one of the required precedents to narrow the valuation gap with the US.
Strikes in France might seem surprising since France did not suffer the huge unemployment spike seen in Italy and Spain. Even so, the wealth gap between France and Germany is at its widest level in 50 years, and the collapse in French growth is something that hasn’t occurred since the 19th century, other than during wartime. Macron’s shelved fuel tax hike was billed as climate-related, but with France having among the lowest carbon footprints and highest gasoline prices in the developed world, that rung hollow. The regressive fuel tax hike probably had more to do with France complying with Eurozone fiscal targets, which is painful for the French, whose taxes are already the highest in Europe. Some attribute strikes to greater activism of French workers (propensity to strike), but I think this goes deeper than that.
A brief comment on Brexit

My primary source for understanding Brexit is economist Malcolm Barr, who works for J.P. Morgan in London and has spent more time on the issue than he could ever have imagined. As of mid-December, a deal on the UK’s initial withdrawal has been reached with the EU. The deal seeks to create the time and political space for the UK and EU to discuss what happens next while keeping much of the status quo in place. Opposition to the deal in the House of Commons was sufficiently large for PM May to delay a vote on it at a late stage. Now that PM May has survived a confidence vote in her leadership among Conservative MPs, here’s what Malcolm believes may come next. Importantly, he does not assume a second referendum is the most likely outcome.

- The agreement with the EU will still fail to pass in the House of Commons at the first attempt in early January, since several Tory and Labour blocs believe that a better deal is possible; or because they prefer a shot at another referendum; or because they see Brexit as a means of bringing down the current government; or because of localized politics related to Northern Ireland and Scotland.

- Another no-confidence vote in the Commons, most likely prompted by Labour, is likely at some point. PM May will likely survive that.

- There is no better deal coming from the EU, and the path to another referendum is lengthy, divisive and complex (requiring either an Article 50 extension or the UK to revoke its Article 50 notification).

- All of the above suggest the current agreement will eventually pass the House of Commons, once various constituencies figure out that all other options are less palatable than what’s on the table.

- After the deal passes, PM May will likely step down at some point in 2019, yielding power to a Conservative with stronger pro-Brexit attitudes as negotiations on the future begin. However, the withdrawal agreement that will already have been signed will influence those talks, and place limits on the new PM’s approach. The “backstop” in the withdrawal agreement protects the peace in Ireland from a breakdown of those talks, and makes such a breakdown less likely.

- Much has been written about the agreement, but it’s just a roadmap for future discussions on all issues on the table: the trading regime between UK and EU (including the Irish border), free movement for EU citizens in the UK, jurisdiction of the European Court of Justice, the UK and the Common Agricultural Policy, etc. Few issues have been definitively resolved, so it’s still premature to judge Brexit’s ultimate impact on the UK. The “transition period” of status quo to allow discussion most likely will be extended to 2022. There’s an outside chance of a Norway-type arrangement which could last for years after 2022, and under which most things would remain as they are.

This is an abbreviated summary that could have gone on for pages. Many of our clients have studied 1,000 years of English history, its parliamentary democracy and its contribution to the Enlightenment. I can’t tell yet if Brexit is going to represent a high or low water mark in that canon (Malcolm, on the other hand, has made up his mind already).

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13 Clients with access to Morgan Markets can read any of Malcolm’s 87 Brexit pieces there.

14 The first British parliament is often cited as occurring in the year 1258 under the realm of Simon de Montfort, who summoned together the knights, barons and burgesses of major towns. By the 14th century, this had become the norm, and the gathering was referred to as the House of Commons.
While it’s tempting to dismiss all of this as politics without real consequences for investors, we’re keeping an eye on risks of a “hard” Brexit, which would carry substantial risks for the UK economy and investors in it. Here’s why: three sectors (production, distribution and financials) account for a large proportion of the UK economy’s tax payments, value added and employment. As per the table, these sectors have large exposures to the EU, as measured by the extent to which they rely on foreign workers, imports from the EU and exports to the EU.

<table>
<thead>
<tr>
<th>Tracking UK exposure to the European Union</th>
<th>Medical risks from a hard Brexit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribution to UK economy</td>
<td>Medical experts believe May’s plan to leave Euratom (EU atomic energy agency) will disrupt inward flows of isotopes used for cancer treatment/diagnosis, and put thousands of patients at risk of delays. The UK govt advised pharma companies to stockpile certain medicines just in case. However, nuclear material used in cancer treatment rapidly loses radioactivity and cannot be stockpiled. Euratom oversees the smooth and safe movement of nuclear materials between European states, and up to 80% of radioactive isotopes used in UK hospitals are imported from the Netherlands, France and Belgium.</td>
</tr>
<tr>
<td>Corporate tax, % of total</td>
<td>Source: British Medical Association</td>
</tr>
<tr>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>Global Value Added, % of total</td>
<td></td>
</tr>
<tr>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>Employment, % of total</td>
<td></td>
</tr>
<tr>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>UK Exposure to EU</td>
<td></td>
</tr>
<tr>
<td>Foreign workforce, % of total</td>
<td></td>
</tr>
<tr>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>Imports to inputs ratio</td>
<td></td>
</tr>
<tr>
<td>51%</td>
<td></td>
</tr>
<tr>
<td>Exports as % of total demand</td>
<td></td>
</tr>
<tr>
<td>52%</td>
<td></td>
</tr>
<tr>
<td>EU share of total exports</td>
<td></td>
</tr>
<tr>
<td>51%</td>
<td></td>
</tr>
</tbody>
</table>


So far, Brexit has exerted a modest drag on the UK, whose growth has lagged the developed world by 1%. Much of the weakness results from slower business investment. The market appears to be pricing in substantial no-deal Brexit risks. UK equities now trade at a large discount to Europe. If/when there’s clarity that what lay ahead is a multi-year process of negotiation rather than a violent divorce, the UK could be one of the better relative equity performers of 2019.

15 Brexit has contributed to misleading press reports, which might reflect the disposition of journalists to believe whatever they hear about Brexit. A November 2018 report in the Financial Times referred to $1 trillion (!!!) in UK equity outflows since the Brexit vote. After we sent a note to the FT pointing out the error, they revised the outflow figure down to $20 billion. Oops!
China and the Emerging Markets

China is now so large that we’re going to spend most of the Emerging Markets section discussing it. As shown in the first chart, China’s weight in the EM equity index is now 30%, a figure we expect to rise as more companies meet MSCI Index eligibility tests. The second chart is even more remarkable, and shows how other EM countries are becoming more and more tied to whatever happens in China.

Let’s start with our China monitor, which tracks 8 different variables. The 2017 recovery has begun to roll over, given the transient nature of China stimulus measures. Fiscal/monetary stimulus and the rise in corporate debt is important in understanding China: as per the IMF, China would have grown by 5.5% from 2012 to 2016 instead of by 7.25% if debt levels hadn’t increased. I’m not concerned about a balance of payments crisis, since China’s external debt/GDP is among the lowest in the world. Lower trend growth is the bigger risk. In its analysis of China’s future, the Conference Board estimated in 2014 that Chinese growth would converge to 4% by 2020-2025. I think that forecast is still on track.

Chinese car sales are also slowing, and were down 15% y/y in November; the series is too volatile for the chart. November retail sales and industrial production grew at their slowest pace in a decade.

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16 Chinese car sales are also slowing, and were down 15% y/y in November; the series is too volatile for the chart. November retail sales and industrial production grew at their slowest pace in a decade.
Tariff risks and semiconductor warfare. China’s reliance on exports has been declining, and it imports plenty of semiconductor equipment from Japan and other countries. However, this masks important realities about China’s reliance on the US. The US export ban on ZTE effectively shut the company down, since most of ZTE’s critical networking chips and optical component chips are sourced from US companies, and there are no substitutes outside of the US for Broadcom’s networking chips, Inphi’s optical chips or Intel’s microprocessors. As for Huawei, its core semiconductor suppliers include Intel, Qualcomm, and Micron, and software companies Microsoft and Oracle.

Here’s an assessment of the US multi-year lead in advanced semiconductors:

<table>
<thead>
<tr>
<th>US semi companies</th>
<th>Est. market share</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel, AMD</td>
<td>99%</td>
<td>Microprocessor chips for PCs/servers</td>
</tr>
<tr>
<td>NVIDIA, AMD</td>
<td>95%</td>
<td>Graphics processors for artificial intelligence, deep learning</td>
</tr>
<tr>
<td>Broadcom</td>
<td>95%</td>
<td>Networking chips for cloud datacenters</td>
</tr>
<tr>
<td>Qualcomm, Intel</td>
<td>70%</td>
<td>Smartphone cellular processing chips for 4G/5G</td>
</tr>
<tr>
<td>Texas Inst, Analog, Maxim</td>
<td>90%</td>
<td>Electric vehicle power management chips</td>
</tr>
<tr>
<td>Intel, NVIDIA</td>
<td>90%</td>
<td>Next generation fully autonomous car processors</td>
</tr>
</tbody>
</table>

China has been the big equity market loser in the trade war so far; its P/E multiples are close to the lowest levels in a decade. The tariff issue is starting to bite as some companies front-loaded investments in 2018 (which sets the stage for weaker demand in 2019), and/or began to move production out of China to other countries. Large Chinese and US exporters are both trading with P/E multiples of ~10x.
The risk of a large decline in the Chinese RMB

We address next steps in the trade war on page 31. If it escalates, China could respond with an RMB decline to restore competitiveness. To date, China has spent reserves to prevent the RMB from falling too much (ironically, the opposite intervention from what China did for many years). But if there were ever a time China could risk a large RMB decline, it might be now: capital outflows are stable in spite of the FX decline (perhaps due to government surveillance); its FX reserves have fallen slightly below the IMF’s estimate of adequate reserves; and China’s current account surplus has evaporated, highlighting its need for a more competitive currency. With its interest rate differential vs the US falling, a decline in the RMB would be the natural state of affairs anyway.

How large a decline? Something like 10%-15% could offset the competitiveness loss from US tariffs. Given the high economic correlation of other EM countries shown earlier, this kind of move could be very destabilizing for countries whose corporate sector borrows extensively in hard currency.

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See “Foreign capital has been propping up China’s currency: here’s what happens when it leaves”, Ben Steil, Council on Foreign Relations, November 9, 2018.

China’s balanced trade account might seem like a surprise given its large goods surplus with the US. However, China runs a large services deficit with the world, and large overall deficits with Taiwan, Korea, Australia and Brazil.
There’s potential upside for Chinese and global markets if there’s a comprehensive trade deal. Chinese profits were improving in early 2018, but once tariff issues kicked in, profits rolled over and led to a decline in Chinese equities. This decline has been worsened by Chinese CEOs borrowing heavily against their own stock, either to obtain liquidity for their companies, or to make personal investments. As the Chinese equity market declined, margin calls on Chinese CEOs exacerbated the selloff.

J.P. Morgan Economic Research outlined how tariffs and an FX decline could affect its 2019 China profits growth outlook. The result: Chinese profits growth of 10% instead of 15%.

Earnings revisions
# of positive revisions less negative revisions as % of total companies

China 2019 earnings outlook
% y/y change

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Where to from here on tariffs?

Takeaways from the USMCA trade agreement with Mexico and Canada:

- Tariffs are being used as a means of exacting concessions rather than as a desired final step
- USMCA is still a rules-based agreement, which maintains the core of the international trading system
- The US opted for a multi-lateral agreement instead of several bilateral agreements
- Net economic impacts of USMCA vs NAFTA are very modest

That said, there are issues to be negotiated with China that were not sticking points with Mexico and Canada. The National Security Council and US trade reps may not have the final say, but they may be against a comprehensive deal absent Chinese concessions on IP transfer for economic and military purposes. The US and China have until February to build a framework to address trade-related matters, or Round 2 tariffs of 25% may come back into play. More US indictments of Chinese nationals for espionage in December highlight the importance of this issue to the Trump administration.

What the US is asking for:

- Increased market access through reduced tariffs in “non-critical” sectors (services and agricultural goods) and fewer restrictions and ownership requirements on inbound foreign direct investment
- Greater oversight and enforcement of cyber intrusions targeting US intellectual property and businesses
- Elimination of market-distorting industrial subsidies covered by the Made in China 2025 plan

China’s concessions so far:

- China has agreed to buy more US agricultural, industrial, and energy goods, and will temporarily reduce its tariff on US autos from 40% to 15%
- Enforcement of IP theft in specific instances, with punishments including restricted access to government financial support and bans on issuing corporate bonds
- Banned exports of the opioid drug fentanyl, and fewer restrictions on foreign investment in banking/autos
- Reconsideration of Qualcomm-NXP merger that China regulators rejected (this may be of little significance since Qualcomm already paid a breakup fee and will likely not pursue the deal)

At the session we had with Henry Kissinger last October in Berlin, he described the impasse as one in which both countries have more to gain by making a deal. But Henry also reminded us that our session took place on the 100th anniversary of the end of WWI, the ultimate example of unintended consequences taking a turn for the worse. We might end up with a mixed result: a deal with China under which Round 2 tariff increases to 25% do not take place, but the beginning of a tariff conflict with Europe and Japan regarding $300 bn of US auto/auto parts imports. We should know more by March.

The chart shows how global business sentiment has fallen faster than current activity. This gives us some sense of the potential upside if a deal is reached. If there’s no deal and more tariffs are put in place, costs would be shared by Chinese and European producers accepting lower margins and by US consumers who would see higher prices, and tempered in China by tax cuts and lower rates. Even so, markets would probably assume the worst, shoot first and ask questions later.
If you’re looking for a contrarian deep-value position for 2019, Emerging Markets seem more interesting than Europe. European and EM earnings have had the same trajectory since 2014, but Europe trades at a 15-20% P/E premium to EM. There are more deep value stocks in EM as denoted by the third chart on valuation spreads between the cheapest stocks and the regional average. Lastly, the EM share of global mutual fund and ETF holdings is close to the lowest level in a decade, suggesting that EM is even more unloved than Europe. If the EM currency index stabilizes after its 40% decline since 2012, that would help; but again, on that front, all roads lead back to China.

Europe vs Emerging Markets: 12-month forward earnings
Index, January 1, 2015 = 100

Source: Datastream, IBES, JPMAM. December 24, 2018.

Europe: P/E premium vs the Emerging Markets
Stoxx 600 P/E discount/premium vs MSCI EM based on fwd earnings

Source: Datastream, IBES, JPMAM. December 24, 2018.

Europe and Emerging Markets valuation spreads
Deviations of top quintile from long-term average


EM countries no longer worried about too much FX appreciation, EM currency index, Dec 31, 2009 = 100

Japan

Japanese corporate profits are booming, and have kept pace with the US. Capital spending on fixed assets and corporate plans to invest in software have been rising steadily, and at a much faster pace than before Abenomics began. One problem: profits aren’t helping workers/consumers. Japanese real household incomes fell for many years despite rising corporate profits, and are still stagnant.

Both the US and Japan had a profits rebound...
Earnings per share, trailing 12-months (both axes)

...but household incomes only rose in the US
Real HH earnings index (both axes), Japan is 3-mo. avg.

Japan capital investments
y/y % change

Japan software investments
y/y % change

More evidence of dormant consumers: inflation is still below the Central Bank’s target, and the deflationary mindset among Japanese consumers has been difficult to break. Spending intentions have only improved to neutral from their depths 2 years ago. Furthermore, Japan remains exposed to a trade war that results in a decline in the Chinese RMB (see page 29).

In 2018, international investors didn’t care much about the good earnings news and pulled money out of Japan anyway, at a pace rivaling 2008 and 2016. Since Abenomics began, the P/E ratio of Japanese stocks flirted with 15x on several occasions, only to fall back again. For international investors looking for value, Japanese equities could be interesting, but probably only if a global recovery takes root in 2019. And if that happens, emerging markets would probably benefit more than Japan.
10 years later: observations on the financial crisis

Anyone trying to understand the financial crisis should start with the banks, but not end there. The crisis resulted from a complex set of interactions involving banks, broker-dealers, investors, insurance companies, rating agencies, the Federal Reserve, politicians and policymakers. Remove any 2 or 3 of these protagonists, and the crisis would have been much smaller and less damaging. I wrote this section by drawing on pieces I wrote in the aftermath of the crisis. I find them useful when people oversimplify what happened, a trend which continues ten years later.

To be clear, banks in the US and Europe made many terrible underwriting decisions. As shown on the left, deposits in failed US banks in 2008/2009 exceeded the Great Depression when measured vs GDP. And as shown on the right, hundreds of billions of dollars in emergency borrowing facilities had to be made available by the Federal Reserve so that the crisis wouldn’t get even worse than it was. Plenty of financial sector regulation followed, much of which was sorely needed to restore solvency and confidence. But in terms of what led to all of this, well, that’s a more complicated story.

On the following pages, I review topics from the Eye on the Market archives that are worth remembering as part of the bigger picture:

- The role of policymakers in the housing crisis: the hijacking of GSE balance sheets
- Broker-dealers and deregulation
- Underwriting decisions by rating agencies, bond reinsurers and institutional investors
- Individual bank and broker-dealer contributions to systemic risk

I conclude with 2 pages on the aftermath: substantial and welcome changes in capital requirements, liquidity, leverage and shadow banking.
The role of policymakers in the housing crisis: the hijacking of GSE balance sheets

I wrote an in-depth piece about this entitled “Course of Empire”. The short version: for decades, Fannie Mae and Freddie Mac (the GSEs) purchased loans originated by banks as long as they conformed to accepted conservative loan to value and debt to income standards. That’s where things stood in 1990, with 10% or less of GSE loan purchases underwritten at “subprime” risk levels.

In 1993, a law was passed allowing Housing and Urban Development to set low and moderate lending targets for GSEs. The target started at 30% and rose to 50% by 2001. The goal: raise home ownership levels. In the wake of the bill, Fannie Mae issued a press release citing its commitment to transforming housing finance, vowing to provide $1 trillion in lending and citing a goal of eliminating the “no” in the mortgage application process. They succeeded, but at the cost of polluting their balance sheet with low quality loans (red lines in chart). The GSE share of the mortgage market rose from 35% to 60%, and mortgage origination volumes ballooned by a factor of 2.5x. Alan Greenspan and a few members of Congress tried to curtail some of this, but for the most part, “experts” thought it was a great idea. Case in point: in 2002, Nobel Laureate Joseph Stiglitz and future OMB Director Peter Orszag cited the probability of a shock to GSE balance sheets as “substantially less than one in 500,000”, and estimated the cost to the government of guaranteeing $1 trillion of mortgages at $2 million. That is not a misprint.

The important point: all of this preceded the rise in subprime and Alt A origination by the private sector. There are remarkable quotes from HUD in 2000 on how a deliberate blurring of the lines by the GSEs on the difference between conventional and subprime lending could redefine what conventional means; and how they expected GSEs to lead the market with the private sector following. They were right...banks and brokers eventually found a way to compete: by originating their own low quality loans, and selling them to the public in securitized products. To be clear, private sector defaults and losses per dollar of subprime were higher than on GSE loans; but there are many reasons to wonder how bad the former would have ever been had the latter not preceded them.

Radical transformation of GSE balance sheets following 1993 HUD lending guideline change preceded private sector subprime/Alt A expansion

Percent of annual underwriting (except Fannie/Freddie share based on total outstanding balances)

Source: American Enterprise Institute. J.P. Morgan Asset Management. November 2013. * The measures shown reflect underwriting at what was known to be effectively subprime level lending at the time. DTI = Debt to Income. CLTV = Combined Loan to Value.
**Broker-dealers and deregulation**

For all the talk about changing bank regulations, changing broker-dealer regulations may have played an even more prominent role in the scale of the crisis. As shown below, the 5 large US broker-dealers saw enormous balance sheet growth after 2003 when the Uniform Net Capital Rule was changed. One example: Lehman’s $690 billion balance sheet in 2007 was larger than all assets (in real terms) of banks that failed during the Great Depression. To finance its balance sheet, Lehman held just $22 billion in equity, and its largest single source of financing was short-term repurchase agreements, some with maturities as short as 24 hours. To understand how leveraged Lehman’s balance sheet had become, in early 2009 we replicated its 2004-2008 stock price closely by comparing it to a highly leveraged portfolio of high yield bonds, high grade bonds and equities, a relationship that did not exist before the SEC Uniform Net Capital Rule change.

![Growth in assets and major financial sector legislation](chart)

**Lehman’s evolution into a leveraged, risky portfolio accelerated after SEC rule repeal**, Index, 1994=100

Source: JPM. 2018.

To reinforce the point, here are some observations from Eric Rosengren at the Federal Reserve Bank of Boston on broker-dealer stability made in 2014 in a retrospective on the financial crisis:

- The most dramatic runs of the financial crisis affected broker-dealers
- Lehman’s collapse was not an isolated failure of a single broker-dealer. Bear Stearns failed earlier that year, Merrill experienced significant funding difficulties and was eventually acquired, and both Goldman and Morgan Stanley had to become bank holding companies. Foreign broker-dealers operating in the US experienced substantial losses that required significant rebuilding of capital
- Broker-dealers fund holdings in uninsured short-term credit markets, which makes them inherently more subject to runs than institutions that finance holdings with longer-term or insured borrowing. When investors lose confidence in broker-dealers, short-term funding “runs” from them, and broker-dealers lose their ability to effectively serve as middlemen
- While capital ratios and liquidity are higher and holdings of risky assets are lower, broker-dealer reliance on wholesale funding remains elevated
  - See chart on page 42 showing repo usage by broker-dealers, which has declined from 70% of liabilities in 2008 to 50%

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Underwriting decisions by rating agencies, bond reinsurers and institutional investors

There was actually a point in 2007 when the level of subordination below AAA investors in securitized commercial real estate loan transactions fell to 5%. In other words, a property writedown of just 5% on the pool could expose AAA investors to losses. These subordination levels were approved by rating agencies who ascribed ratings to them, and readily accepted by investors who bought them. The CMBS example is one in a sea of structured credit, which culminated in a $5.5 trillion peak in late 2007.

Another contributing factor: the decision by monoline insurers to “diversify” by providing guarantees to structured credit as well to municipal bonds. Municipals declined from 90% of insured annual risk to just 40% within a decade; this decline was remarkable, and added more fuel on the fire. From what I recall, rating agencies voiced concerns about “undiversified” monoline insurers, which prompted many of them to expand away from municipals by insuring untested and poorly underwritten structured credit.

This kind of euphoria could never have taken place without the involvement of banks and broker-dealers originating these loans, but also required rating agencies approving of their design, bond reinsurers willing to insure them and institutional investors willing to buy them. It’s also not a coincidence that a surge in structured credit started in 2004, the last time the Federal Reserve cut rates to 1% and left them there, arguably, for too long.

![Property decline cushion for AAA CMBS Investors](source: J.P. Morgan, Trepp, Rating agencies, Bloomberg, 2018)

![US asset-backed securities](source: SIFMA, 2017)

![Monolines become multi-lines](source: “Monolines and Mortgage Insurers: Implications from the Subprime Crisis,” November 2007, UBS Securities)

Individual bank and broker-dealer contributions to systemic risk

Contribution to systemic risk varied by firm, and is worth remembering as part of the historical record. The chart below shows three things:

- The change in balance sheet leverage heading into the crisis (x axis)
- Writedowns as a percentage of book value after the crisis (y axis)
- How much management paid itself and its employees heading into the whole mess (bubble size)

Firms at the lower left with smaller bubbles reduced leverage heading into the crisis, generated a lower rate of writedowns as the crisis unfolded, and shared more of their net income with shareholders rather than with management.

![Changing leverage, pre-crisis compensation and post-crisis writedowns](chart)


Notes on the chart:

- There’s lingering debate on the losses Goldman could have experienced had it not been bailed out of its AIG exposure at 100 cents on the dollar by the Federal Reserve. As noted in a 2015 review of the entire episode, (a) AIG counterparties were not required to take any haircut on their exposures, (b) the NY Fed initially refused to disclose the counterparties’ identities, and (c) Goldman received the largest share of AIG bailout funds directly attributable to specific counterparties.

- Losses at Bear Stearns and Lehman are understated since their losses only reflect what was realized through 2008, when they were either acquired or liquidated.

- European bank losses occurred in two waves, one from 2007 to 2010, and another from 2011 to 2015; the chart only captures the first wave.

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Here’s another look at firm-specific contribution to systemic risk: collateral postings by firm to the emergency Primary Dealer Credit Facility. This Federal Reserve lending facility extended $9 trillion in collateralized loans to banks and broker-dealers in 2008 and 2009. The amounts pledged and their relative collateral risk varied substantially by firm. The PDCF was closed on February 1, 2010, and all loans extended were repaid in full with interest. Even so, the chart is another way to understand each firm’s respective contribution to systemic risk at the time.

Primary Dealer Credit Facility cumulative collateral postings by firm

Aftermath: substantial improvements in capital, liquidity and shadow banking

In the wake of the financial crisis, there have been substantial regulatory changes which reduce systemic risk. We illustrate some of the more important ones below: the increase in risk-weighted capital ratios, increased availability of liquid assets relative to short term liabilities, the decline in loan-to-deposit ratios, and changes in the money market fund industry (which drove assets into government funds and away from prime funds).

### Rising capital ratios since crisis

<table>
<thead>
<tr>
<th>Risk-weighted capital ratio</th>
<th>2007</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


### Improving liquidity ratios since crisis

<table>
<thead>
<tr>
<th>Liquid assets as % of short term liabilities</th>
<th>2007</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


### Bank loan-to-deposit ratios

<table>
<thead>
<tr>
<th>Eurozone banks</th>
<th>US banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995-2017</td>
<td></td>
</tr>
</tbody>
</table>


### A shift to lower risk money market funds

<table>
<thead>
<tr>
<th>US$ trillions, assets under management*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lehman Crash</td>
</tr>
<tr>
<td>Money Market Reform</td>
</tr>
<tr>
<td>Government</td>
</tr>
<tr>
<td>Prime</td>
</tr>
</tbody>
</table>

Source: JPMAM. Feb 7, 2018. *Includes both institutional and retail funds.
The next two charts illustrate how US banks finance themselves: with more customer deposits, and less reliance on interbank loans and repo. The overall repo market has declined from $4.2 trillion to $2.2 trillion since 2008. Most of this decline resulted from broker-dealers shrinking their balance sheets; repo as a % of broker-dealer liabilities has declined as well but still represents ~50% of the total, down from 70% before the crisis. While 50% is still a high number, mitigating factors could include higher quality assets being financed, and longer term repos used to finance less liquid assets.

**Shadow banking’s share of liabilities** has now declined back to where it was in the year 2000. The decline in securities lending activity by institutional investors (see chart, right) partially explains why. What remains of institutional securities lending is typically structured with higher quality investments than in 2008. The end result is a gradually rising share of financial intermediation by commercial banks, and less by broker-dealers and other non-banks.

Stephen Cecchetti (Brandeis) and Kermit Schoenholtz (NYU) are the source for the bottom two charts, which come from their excellent “Money, Banking and Financial Markets” website at www.moneyandbanking.com.
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