

Eye on the Market Outlook 2020

J.P. MORGAN ASSET MANAGEMENT



Ghosts of Christmas Past. After a very positive year for investors in 2019, we expect lower positive returns on financial assets in 2020 as some Ghosts of Christmas Past reappear. We don't expect a global or US recession, and anticipate a modest growth and profits rebound now that worst case trade outcomes may be avoided. Even so, high valuations, reduced effectiveness of monetary easing, the repricing of unprofitable companies and rising corporate cost pressures will likely constrain the equity market's advance. The two big risks that could cause problems for investors: (a) a spike in inflation that forces the Fed to make a U-turn on policy rates, and (b) a comprehensive progressive restructuring of the US economy after the 2020 election.

Our Ghosts of Christmas Past cover

This year's cover depicts *Ghosts from Christmas Past*, all of whom have returned to either celebrate or bemoan some notable trends for the year 2020:



Franklin D. Roosevelt, the most progressive President of the 20th century who once proposed a 100% income tax and whose reforms shifted economic power from Wall Street to Washington, is celebrating the even more progressive proposals of Elizabeth Warren



Richard Nixon, who bullied Federal Reserve Chair Arthur Burns in the early 1970s into lowering policy rates through a series of trademark “dirty tricks” and false press reports, is enjoying the sight of Donald Trump doing some of the same to Fed Chair Jerome Powell. Policy rates net of inflation are once again around zero despite a growing economy at full employment



Henry VIII, who in 1533 made England a sovereign, independent nation not subject to externally imposed laws through *The Act in Restraint of Appeals*, is pleased about a possible Brexit. Henry is joined by Prime Minister **Margaret Thatcher**. In our reincarnation, we depict the Margaret Thatcher that raised concerns about a European superstate exercising dominance from Brussels, and who told biographer Charles Moore in her later years that Britain should leave the EU. While Boris Johnson's victory in December reduces some Brexit/referendum uncertainty, Conservatives maintain they will not soften Brexit terms and will not seek an extension at the end of 2020; whether the EU agrees is another matter entirely



Mao Zedong, who ruled Communist China from its establishment in 1949 until his death in 1976, is delighted to see Xi Jinping proclaimed “President for Life” as China scraps the two-term limit it had imposed on presidents since the 1980s. President Xi has cited Mao's “long march” struggle against the Kuomintang as precedent for China's current strategic conflict with the US, which indicates a limit to which China will compromise on mercantilist policies that it sees in its own self-interest



Herbert Hoover sees his reflection in Trump, who also imposes tariffs on imported goods and deports immigrants. After the recent Phase I deal, tariffs are still at the highest level in 40 years and could rise again depending on Chinese compliance. On immigration, Hoover's Administration launched the “American Jobs for Real Americans” campaign and reimbursed state and local governments for deportation measures. Hoover's deportations took place when unemployment was 15%-20% compared to 3.5% today



Charlemagne's reunited Western Roman Empire stretched from the English Channel to the Balkan Peninsula, but disintegrated shortly after his death in 814 A.D. in a series of civil wars. As a force for a united Europe, Charlemagne is unhappy to see the Eurozone project floundering yet again with low growth, trillions in negative yielding government debt, political fragmentation and limited progress on Federalism



The Pets.com Sock Puppet has become a metaphor for the dot.com era: In 1999, Pets.com made \$620K in revenue and had operating losses of \$20 million, since it was selling merchandise for roughly one-third of what it cost the company to buy it. The puppet is wagging his tail, since while we have not reached the excesses of the late 1990s, the share of US market capitalization and corporate spending from young, unprofitable companies is at its highest level since then. To bookend the Pets.com saga, SoftBank has now abandoned its investment in the dog-walking app Wag, which it had valued at over \$600 million

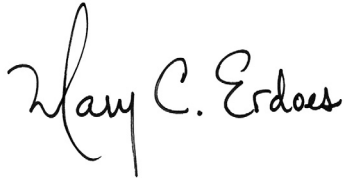
MARY CALLAHAN ERDOES
Chief Executive Officer
J.P. Morgan Asset & Wealth Management

As we welcome a new year and a new decade, I want to thank you for the continued trust and confidence you place in J.P. Morgan. We are indeed privileged to serve as your trusted advisor.

For the past 17 years, my investment partner Michael Cembalest has thoughtfully shared market insights to take into the coming year. It's always an enlightening and entertaining read, and this year is no different. In "**Ghosts of Christmas Past**," Michael and his team discuss their expectations for another year of global expansion, but also take a close look at how Fed policy and a possible progressive overhaul of the U.S. economy could affect global growth and investment portfolios.

As always, helping you better position your portfolios for the future is our top priority. We hope you enjoy this piece and we wish you good health, happiness and success in the coming year.

Most sincerely,

A handwritten signature in black ink that reads "Mary C. Erdoes". The signature is written in a cursive style with a large, looping initial 'M'.



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Ghosts of Christmas Past

January 1, 2020

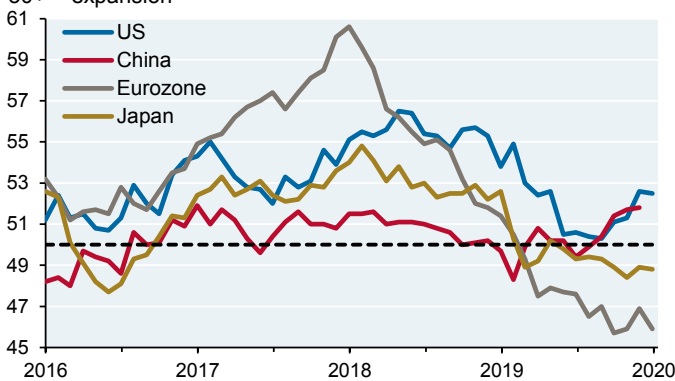
Executive Summary

Now that worst case trade war outcomes *look* like they will be avoided¹, we feel a bit better about the global economic outlook for 2020. Our best estimate is that tariffs and other trade sanctions reduced 2019 S&P 500 earnings growth potential by 7%-8%, and were the primary factors driving global growth from its 4.1% peak in early 2018 to 2.9% by Q3 2019. The charts below show the trade war impact not just on trade itself, but also on global manufacturing, corporate earnings, and capital spending.

What’s interesting about the US-China trade war: as shown in the first chart, Europe and Japan bore the harsher brunt of it, given their greater reliance on exports and precarious growth trends in the first place. While there wasn’t a *GDP growth* recession last year, there was an *earnings* recession in the US, Europe and Japan. While we expect earnings to rebound in 2020, that’s priced into most equity markets.

Regional manufacturing business surveys

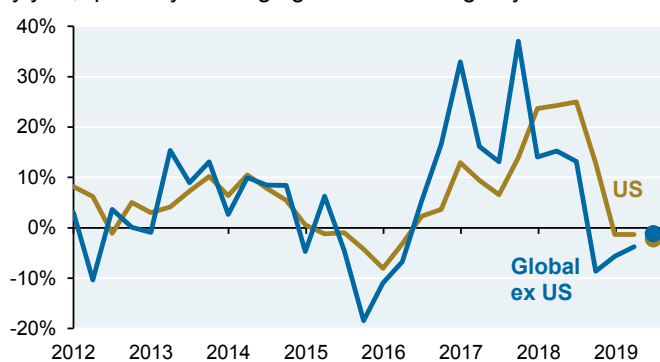
50+ = expansion



Source: Markit PMI. December 2019.

Global and US corporate earnings

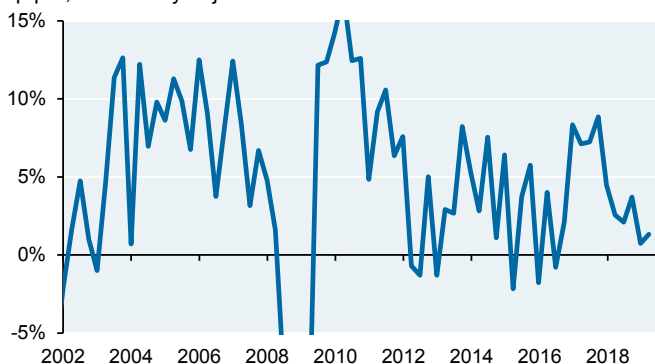
y/y %, quarterly earnings growth excluding buybacks



Source: Factset, Morgan Stanley. MSCI ACWI ex US & S&P500. Dec 16 '19.

Global capital spending stuck in neutral

q/q %, seasonally adjusted annual rate



Source: J.P. Morgan Global Economic Research. Q2 2019.

Trade stagnating after 50 years of globalization

6m/6m %, seasonally adjusted annual rate



Source: Netherlands Bureau for Economic Policy Analysis. October 2019.

¹ There’s still plenty of **uncertainty** about exactly what was agreed to and whether the two sides will agree on enforcement provisions, creating risks that the Trade War reignites again in 2020. See footnote on page 7.



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We expect a modest growth and profits rebound in 2020 (outside of Japan²), in part due to a surge in coordinated central bank easing which typically leads to a manufacturing boost 7-9 months later. Emerging Market central banks are an important part of this process. EM inflation has reached an all-time low of 3.5%-4.0% (down from 10% in the late 1990's and 6% over the last decade), indicating that EM central banks have more room to ease if necessary. A modest upturn in global new orders combined with a decline in the inventory overhang suggests improved growth in 2020, and as shown on the prior page, manufacturing surveys are already picking up in the US and China.

We expect 5%-7% earnings growth in the US in 2020; this number would be higher, but is dragged down by the energy sector and by problems at Boeing. We expect roughly the same earnings growth in Europe, although we do not expect a substantial narrowing of the performance gap between the two regions (see page 13 for more on the remarkable outperformance of US equities vs developed markets).

Central banks rate cuts lead global manufacturing

50+ = expansion Central bank cuts, 8 month lead



Source: Country Central Banks, Markit PMI, Bloomberg. November 2019.

Rising new orders and falling inventory overhang point to 2020 rebound, Business surveys, 50+ = expansion

50+ = expansion



Source: Markit PMI. November 2019.

Global semiconductor sales recovering

3 month average, US\$ billions



Source: Semiconductor Industry Association. October 2019.

² The positive turn in leading indicators does not extend to **Japan** given rising risks of recession. Japan's economy may shrink by 2.5% in Q4 2019, and October retail sales fell by -7.1% y/y after a sales tax hike. The Tankan manufacturing report fell to its lowest level in 6 ½ years, and service sector surveys are now falling as well.

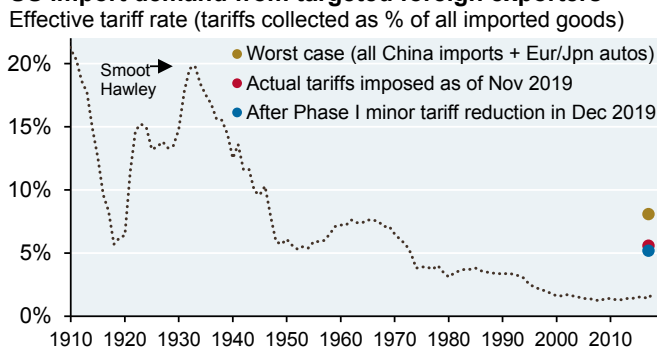


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However, even after the US/China Phase I deal, trade and investment barriers remain:

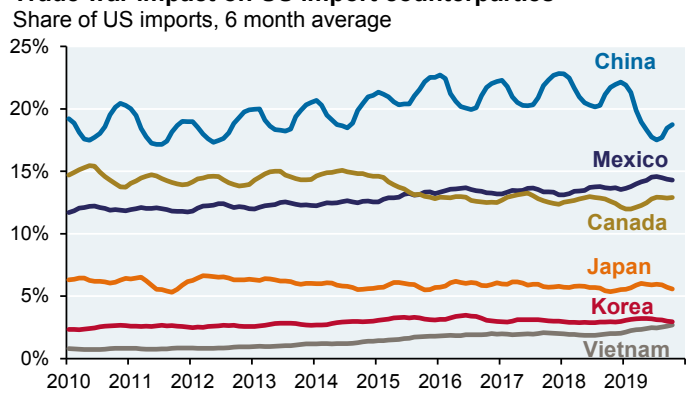
- The US Dep't of Commerce is preparing to release its **entity restriction list** and product export rules that involve limits on export of “emerging and foundational technologies”. The scope of these rules will affect tech, industrials, agribusiness, etc, narrowing the range of permissible trade and investment. Bottom line: while US-China *trade* flows may normalize, bilateral foreign direct *investment* might not
- China is ramping up security regulations on hardware, software and data. China is also increasing domestic content requirements, and has passed a **Cryptography Law** which reportedly bans virtual private networks (all company email and data transfer will be required to use Chinese operated communication systems that are fully open to China’s Cybersecurity Bureau)
- A November Senate report on China’s “*Thousand Talents Plan*” detailed the resources it provides to Chinese researchers studying in the US (and funded by US taxpayers) who illicitly transfer intellectual property back to China³. These kinds of disclosures may create obstacles in future negotiations, which are already impacted by a growing understanding of China’s extreme mercantilism (last chart)
- Trump may still impose penalties on \$110 billion of US auto/parts imports from Europe and Japan (even though the deadline for imposing Section 232 tariffs has passed); the US is pursuing a Section 301 investigation against France for digital taxes, and may do the same against Italy, Turkey and Austria (see page 25); and there may be European retaliation for US tariffs on imported European goods (which the WTO approved as compensation for EU Airbus subsidies)

US tariff history and projections assuming no change in US import demand from targeted foreign exporters



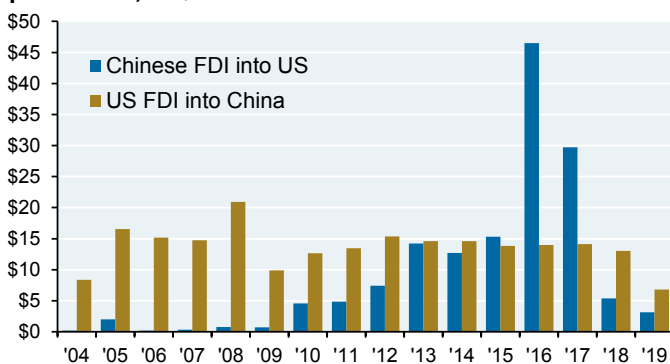
Source: Esteban Ortiz-Ospina and Max Roser "International Trade", US International Trade Commission, USITC, US Census, JPMAM. Nov 2019.

Trade war impact on US import counterparties



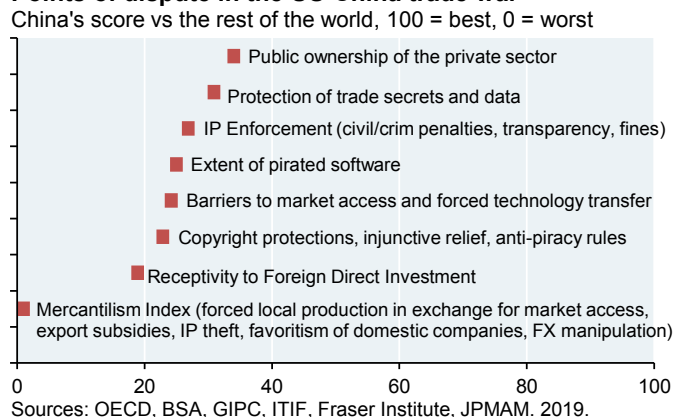
Source: US Census Bureau. October 2019.

Decline in bilateral foreign direct investment may be permanent, US\$ billions



Source: Rhodium Group. 2019 data is YTD through Q2.

Points of dispute in the US-China trade war



Sources: OECD, BSA, GIPC, ITIF, Fraser Institute, JPMAM. 2019.

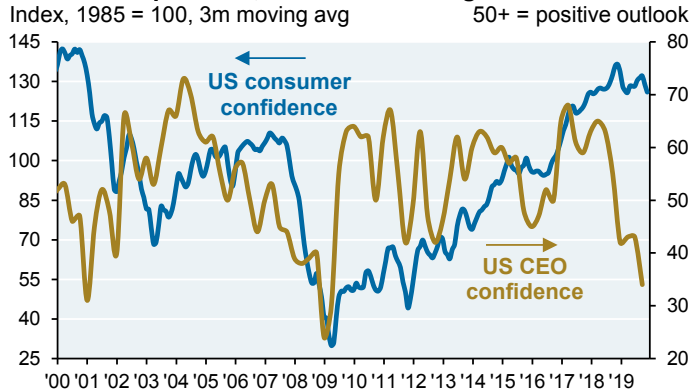
³ “*Threats to the U.S. Research Enterprise: China’s Talent Recruitment Plans*”, US Senate Subcommittee, November 2019. Examples include a US Dep’t of Energy funded researcher that removed 30,000 electronic files from a national lab before leaving for China. Others took intellectual property and patent information to file similar patents in China.



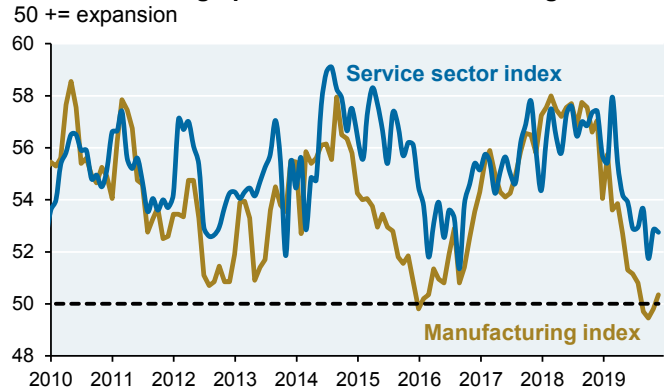
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Part of our optimism for 2020 is based on the continued strength of the US consumer. US consumption is close to its highest share of global GDP since 2008 and consumers are still optimistic, in contrast to US CEOs. Part of the reason: while manufacturing is trading water, service sectors that make up a larger share of the economy are doing better. As shown on pages 9-10, most measures of US wages, labor markets, household debt, consumer delinquencies and housing look pretty healthy.

Consumer optimistic, CEOs retrenching

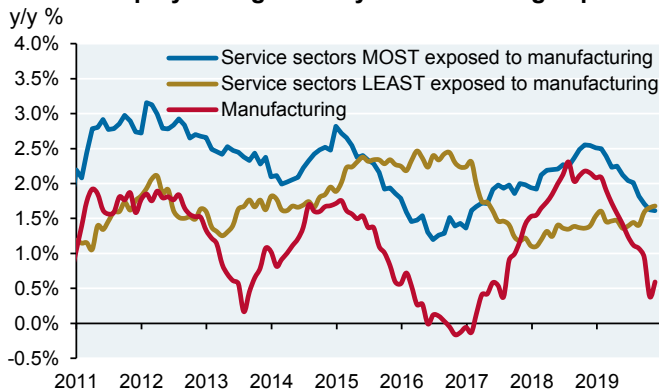


Services holding up better than manufacturing



It's clear from the data why Trump is looking for a way out of the trade war. US manufacturing employment growth weakened since the trade war began, and now service sector employment most exposed to manufacturing is slowing as well. With US growth temporarily boosted by unsustainable fiscal stimulus (i.e., largest budget deficit on record at a time of full employment), the Administration's trade war is arguably undercutting its own growth strategy fueled by tax cuts and deregulation.

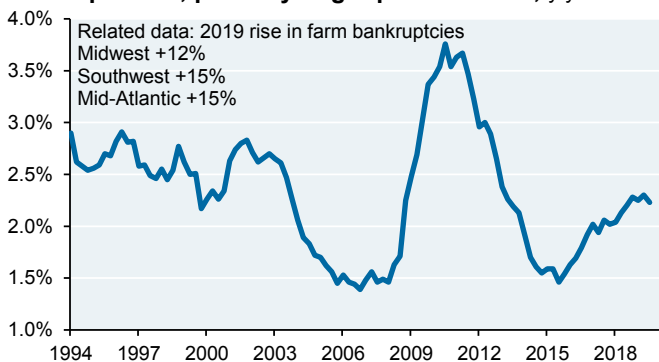
Private employment growth by manufacturing exposure



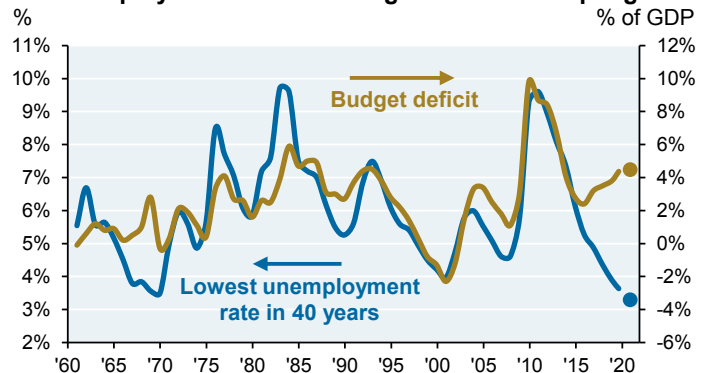
Falling trucking employment: economic consequences, and possibly political ones as well, 6 month change, %



Rising farm loan delinquency rates: small economic consequences, possibly larger political ones, y/y



US unemployment rate and budget deficit decoupling



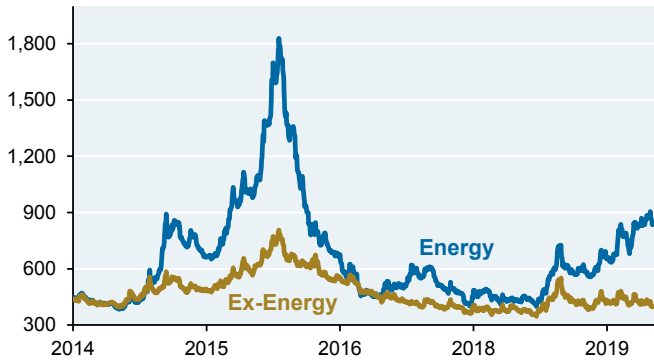


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Another headwind for 2020: valuations are high, and we are starting to see cracks in risky and poorly underwritten investments. Valuations have been on the high side for a while given easy central bank money, but there are signs that investors are starting to be more discerning about risk and cash flow fundamentals. Example #1: energy. Credit spreads for energy companies are widening even as overall high yield spreads don't. Furthermore, after a decade of energy sector underperformance vs the overall market, there has been a collapse in energy-related debt and equity issuance.

US high yield spreads

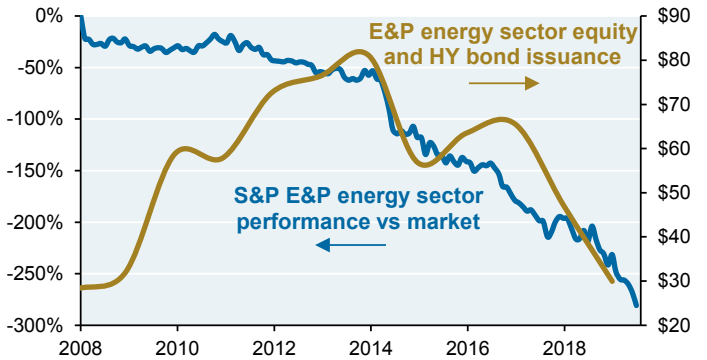
Spread to worst



Source: Bloomberg, JPM HY Strategy team. December 11, 2019.

E&P sector relative performance and issuance

S&P 500 E&P energy sector - S&P 500 total return US\$, billions



Source: Bloomberg. November 2019. Issuance data for 2019 annualized.

There has also been a spike in “weakest link” companies, which refers to companies rated B- or worse with negative outlooks (below, left). And as most investors are aware, some 2019 tech IPOs have been poor performers. However, as we discuss on page 26, this is mostly the case with IPOs of companies claiming to be technology firms but which lack some of their critical attributes.

A spike in weakest link companies

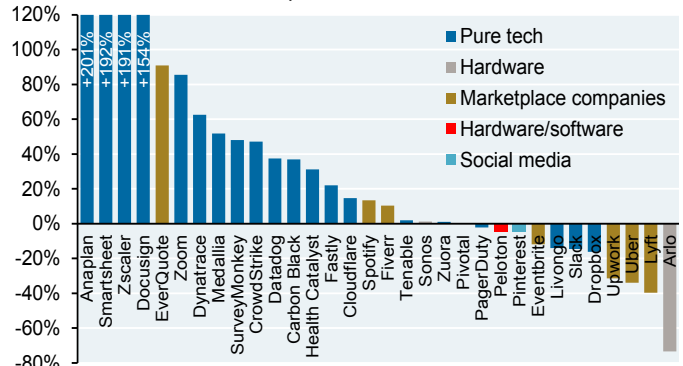
Number of issuers rated B- or lower with negative outlooks or ratings on CreditWatch with negative implications



Source: S&P Global Ratings Research. November 18, 2019.

Real tech IPOs are doing just fine

Performance relative to IPO price



Source: J.P. Morgan Asset Management, Bloomberg. December 30, 2019.

US equity valuation measures: high vs history. As shown in the table on the next page, most valuation measures are around the 90th percentile of historical expensiveness. These measures crept up during 2019, since the double-digit equity rally in 2019 was based **almost entirely on multiple expansion**, in contrast to the 2009-2018 period when the US equity rally was driven primarily by earnings growth. While we expect profits to rise modestly in 2020, gains may be limited due to rising labor, interest, depreciation and SG&A costs, all of which are trending higher relative to revenues.



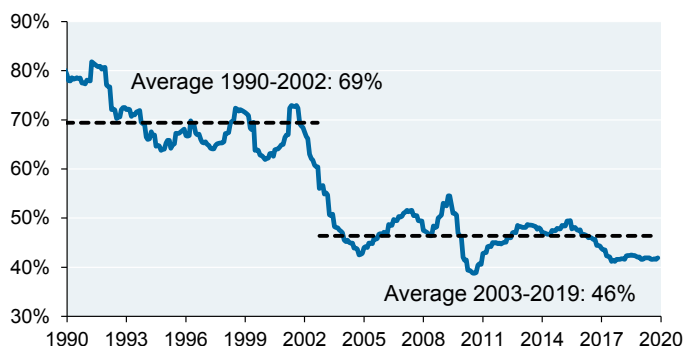
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Some research I see focuses on free cash flow yields, but the apparent cheapness of this measure is due to a **sharp decline in capital spending intensity** of US companies since 2008. If you were to measure free cash flow yield only since 2009, it looks just as expensive as the other measures.

S&P 500 valuation metric	Current	Historical percentile
US market cap / GDP	199%	99th
Enterprise value / Sales	2.5x	99th
Enterprise value / EBITDA	12.7x	93rd
Price / Book	3.6x	90th
Cyclically adjusted P/E	27.8x	89th
Forward P/E	18.4x	88th
Cash flow yield	7.2%	85th
Free cash flow yield	4.1%	53rd
S&P earnings yield - 10Y UST	362 bps	28th
Median metric		89th

Source: Goldman Sachs Investment Research. EBITDA = earnings before interest, tax, depreciation, and amortization. December 16, 2019.

Capital spending as % of cash flow from operations, US S&P 500 ex financials



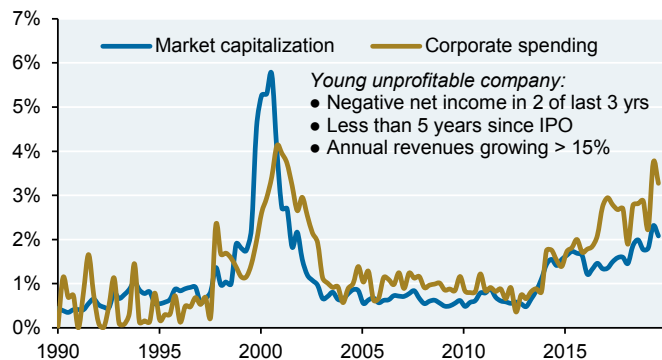
Source: Goldman Sachs Investment Research. November 2019.

Here's another measure worth watching which we discuss in more detail on page 26. There's a growing number of firms we refer to as **"YUCs": Young Unprofitable Companies**, which have negative net income, rapid sales growth and which have been around for less than 5 years. I don't think we will ever re-live the lunacy that took place at the end of the 1990's⁴, but as shown below, some measures are getting there. The portion of US market capitalization made up of YUCs is around a third of the 2000 peak, and the YUC share of total corporate spending on SG&A, capital spending and R&D is even higher. If investors tire of financing the YUCs, consequences for growth and large cap tech profits could be material.

Nevertheless, the **slow pace of net US equity supply should mitigate the duration and downside of the next selloff**, whether it takes place with or without a US recession. As a reminder, after the 20% selloff that took place in December 2018, the S&P 500 staged its fastest bear-market recovery on record over the subsequent 100 days. As we discussed last November, the magnitude of the next selloff would have to be 35%-45% in order to validate the viral bearish predictions of the [Armageddonists](#).

Young Unprofitable Companies

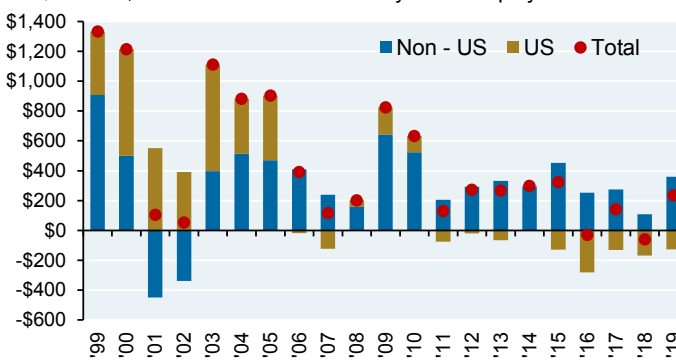
% of total market cap and corporate spending



Source: Factset, J.P. Morgan Asset Management. Q3 2019.

Unprecedented low levels of net US equity supply

US\$ billions, based on MSCI All Country World Equity Index



Source: JPM Global Markets Strategy Flows & Liquidity Report. Nov 2019.

⁴ At the end of the 1990's, the two CEOs of TheGlobe.Com were invited to speak at J.P. Morgan's internal Managing Director meeting, the first one I was invited to. I checked my Bloomberg terminal to see what the company did, and it said **"TheGlobe.Com has no publicly announced business model at this time"**. I asked around and no one else had any idea what they did either. Their stock disintegrated over the next few months.



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The big risks for 2020⁵. Based on what we’ve discussed so far, we believe that 2020 should offer investors another year of global expansion and 7%-10% returns in equity markets. But like Odysseus crossing the Strait of Messina, investors in 2020 face two substantial risks. In Homer’s *Odyssey*, Odysseus had to survive both a Sea Monster (Scylla) and a giant whirlpool (Charybdis):



For investors, one 2020 peril is a pickup in US wage or price inflation that indicates that the Fed has made a serious mistake in cutting real rates to zero (again). The Fed’s thinking on policy rates has undergone a massive shift since 2007, with current estimates of the natural real rate of interest at less than 1% (actual real policy rates are even below this level). The other peril: a progressive overhaul of the US economy after the election (bans on stock buybacks, increased corporate tax rates, sector-level collective bargaining, etc; see pages 22-24). The 2nd chart is one way to illustrate the breadth of the 2020 progressive agenda: Warren’s tax increase proposals are roughly 2.5 times the level of FDR’s tax increases that took place during the Great Depression, a time when US unemployment reached 22%.

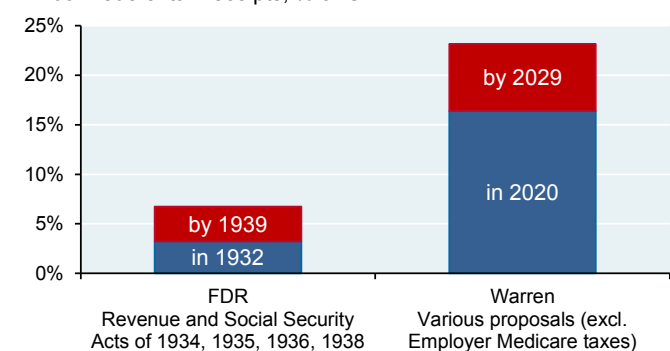
A radical change in Fed thinking about real policy rates
Estimated natural real interest rate (R-star)



Source: Laubach-Williams, Federal Reserve Bank of NY. Q3 2019.

Progressive tax increases

Annual Federal tax receipts, % of GDP



Sources: JPMAM, FRB (St Louis), NTU, CRFB, CBO. 2019.

⁵ **Of course, a third big risk is that the Trade War reignites again.** US Trade Rep Robert Lighthizer and Vice Premier Liu He are expected to sign the Phase I trade agreement in early January. After that, we would not expect any more tariffs on China, and do not expect **material** tariffs or penalties on US auto/parts imports from Europe and Japan. However, some observers doubt that Chinese agricultural imports from the US will reach the \$50 bn measure Trump cited (which is 2x the 2017 level). Furthermore, while Chinese officials confirmed the existence of a deal at a December press conference, they were not precise about commitments on agriculture purchases, market opening or structural reforms, emphasizing that the text still needed to be legally scrubbed and translated into Chinese. The tentativeness of the Phase I agreement is reinforced by how small Trump’s tariff reduction was (see chart page 3).

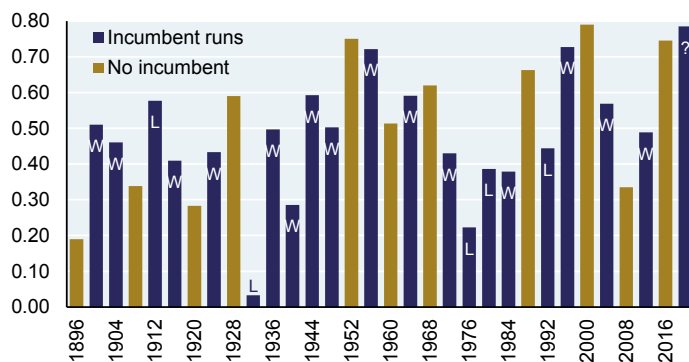


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Assessing the big risks. On a US inflation surprise, we believe this is unlikely for the reasons discussed on pages 17-18. As for a progressive overhaul of the US economy, that will depend on the US electorate, and whether unorthodoxies and misdeeds of the President (chronicled in great detail elsewhere) offset a pretty strong US economy. The first chart below shows how current conditions⁶ compare favorably for Trump as an incumbent compared to history. However, that didn't help Republicans much in the 2018 midterm elections, when the GOP lost 40 seats; that's a very large number given how positive economic and market conditions were at the time. There are clearly other factors driving the electorate right now.

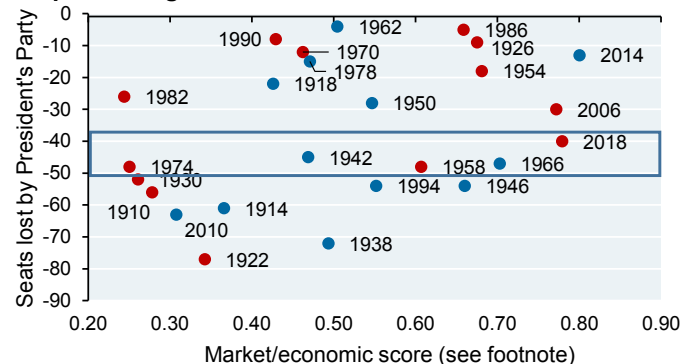
2020: strongest election tailwinds since 1896

Market/economic score (see footnote)



Sources: J.P. Morgan Asset Management. 2019.

GOP lost a large number of House seats in 2018 midterms despite strong market and economic conditions



Source: J.P. Morgan Asset Management. 2019. Red= GOP, Blue = Dem.

In the remainder of the Outlook, we answer 10 questions we've been receiving from clients as we head into 2020.

- [1. Why don't I think there will be a US recession in 2020?](#)
- [2. What are the greatest risks to investors in credit markets when the next recession occurs?](#)
- [3. Why do US equity markets keep outperforming Europe and Japan?](#)
- [4. How is China doing at a time of trade conflict, and what are implications for EM investors?](#)
- [5. Why is US inflation dead?](#)
- [6. What are negative interest rates doing to European banks?](#)
- [7. Will value stocks ever stop underperforming growth?](#)
- [8. What are the greatest risks to markets from a possible progressive overhaul of the US economy?](#)
- [9. What is going on in US IPO markets?](#)
- [10. What is the most interesting breakthrough I learned about in 2019?](#)

Michael Cembalest
J.P. Morgan Asset Management

⁶ Our US market and economic conditions score incorporates consumer price inflation, producer price inflation, unemployment level, change in unemployment, US per capita GDP vs the G10, equity market returns/volatility and home price appreciation. They were selected based on their availability since the late 1800's.



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US 2020

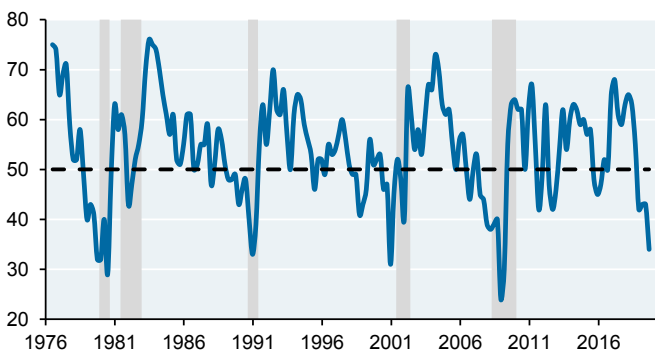
[1] Why don't I think there will be a US recession in 2020?

Most recessions occur due to Fed tightening in response to rising wage/price inflation, or due to a shock to financial conditions (debt/banking crisis, oil shock, global trade war, etc). On inflation, conditions outlined on pages 17-18 are likely to keep Fed tightening at bay for another year. After adjusting for structural changes in the US economy, the latest recession models now include business surveys like the PMI/ISM, core inflation, the shape of the yield curve out to 18 months, credit spreads and the private sector financial balance. **Using this approach, US recession probabilities out 12-24 months are ~25%.**

On systemic shocks, the trade war dented CEO confidence, and 67% of respondents to the September 2019 Duke CFO survey believe the US will be in recession by the end of 2020. However, the strength of US consumer balance sheets (lowest debt service obligations in 40 years) and in US labor markets (lowest unemployment in 50 years) offsets some weakness in manufacturing. While labor conditions are lagging indicators, the degree of strength suggests enough resilience to avoid recession due to the aftershocks of the trade war. So far, US consumers bore the primary costs of tariffs; however, a shift to domestically-produced US goods, lower US importer profits, lower Chinese exporter profits and a declining Chinese exchange rate absorbed part of the cost as well. The complete halt in Boeing **737 Max** production could reduce US growth in the first quarter of next year by 0.3%-0.4%; a rebound would of course boost growth by the same amount, but it is unclear when/if that will happen.

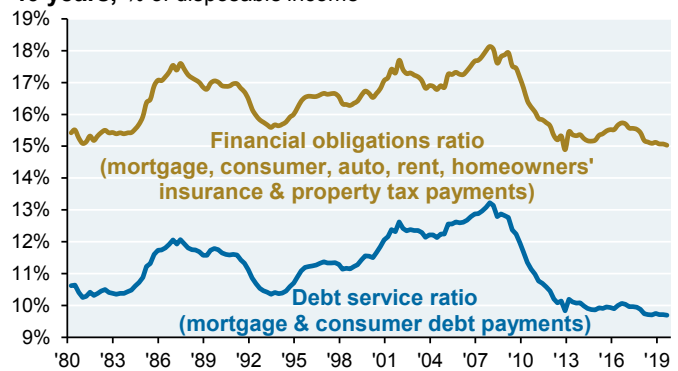
CEO business confidence plummeting

50+ = positive outlook



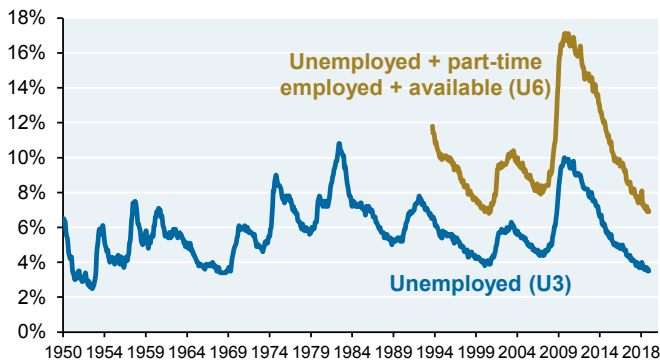
Source: The Conference Board. Q3 2019. Grey bars indicate recessions.

Lowest household debt service to income obligations in 40 years, % of disposable income



Source: US Federal Reserve. Q3 2019.

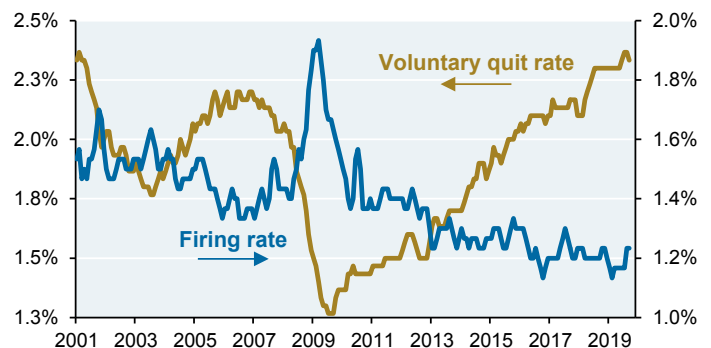
Lowest unemployment rate in 50 years



Source: BLS. November 2019. "Available" indicates people who are not working nor looking for a job but have looked for a job in the past 12 months.

Signs of a healthy US labor market

% of labor force, 3-month moving average



Source: Bureau of Labor Statistics. October 2019.



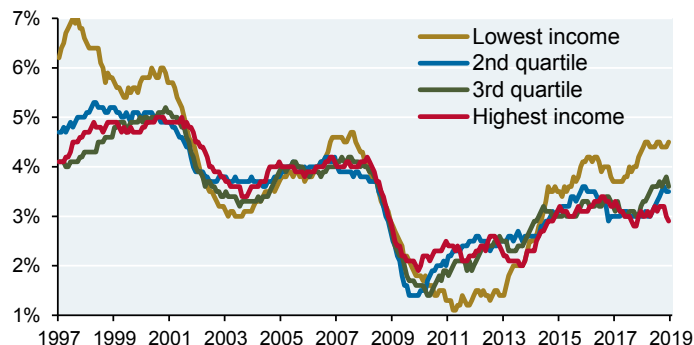
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Here's another look at the strength of US consumers, who currently benefit from wage growth across all quartiles of income and low levels of household debt service. As a result, we are not surprised to see stable consumer spending and stability in the savings rate. Consumer delinquencies are stable, although we are seeing evidence of early-stage weakness in both credit cards and in subprime auto. On housing, most data look good, including a 20-year high in the NAHB Homebuilder Index in November.

US 2020

Wages rising across all levels of income

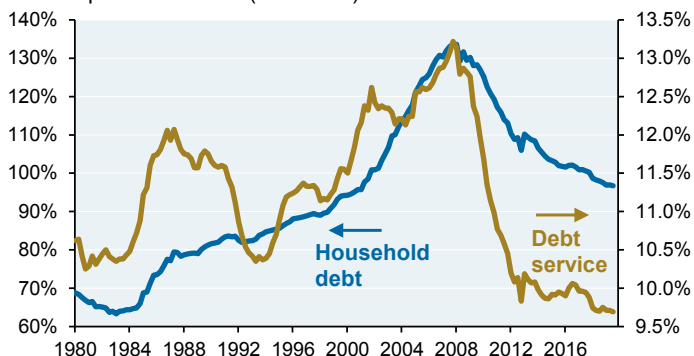
12 month moving average of monthly median wage growth, %



Source: Federal Reserve Bank of Atlanta. November 2019.

Household debt

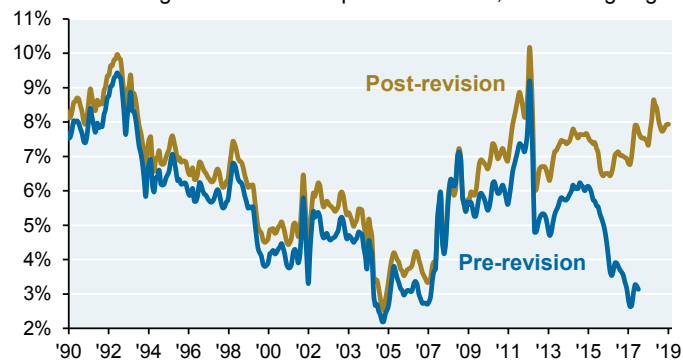
% of disposable income (both axes)



Source: Federal Reserve. Q3 2019.

Sharp upward revision in US savings rate

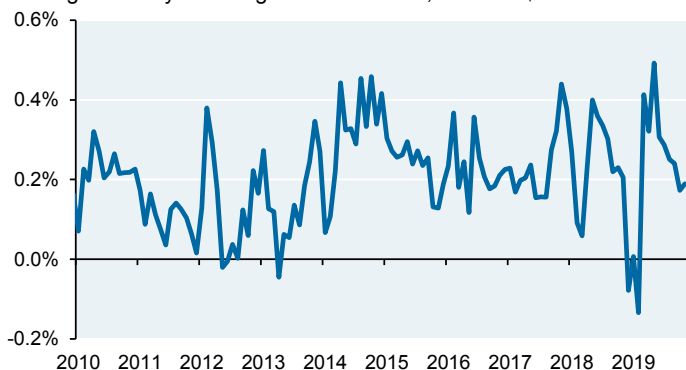
Personal savings rate as % of disposable income, 3m moving avg



Source: BEA. November 2019. Pre-revision data refers to May 2018 revision.

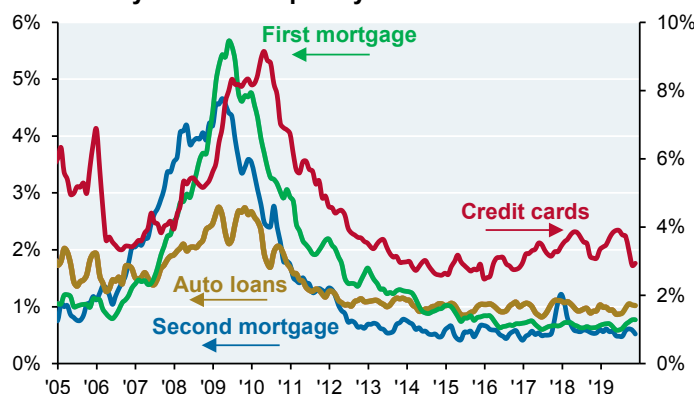
Real consumer spending

Average monthly % change over 3 months, 2012 US\$



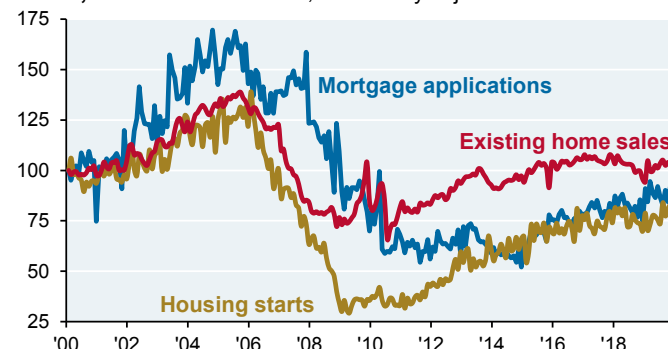
Source: Bureau of Economic Analysis. November 2019.

US 90+ days loan delinquency transition rates



Source: S&P Dow Jones Indices, Experian. November 2019.

Housing starts, mortgage applications, and existing home sales, Index Jan 2000 = 100, seasonally adjusted



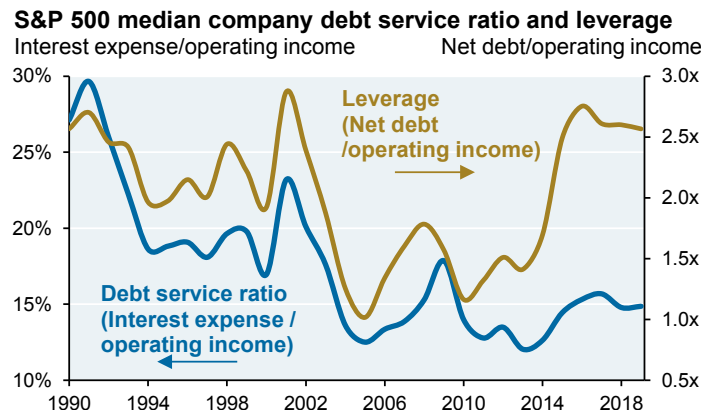
Source: US Census Bureau, Mortgage Bankers Association, National Association of Realtors. November 2019.



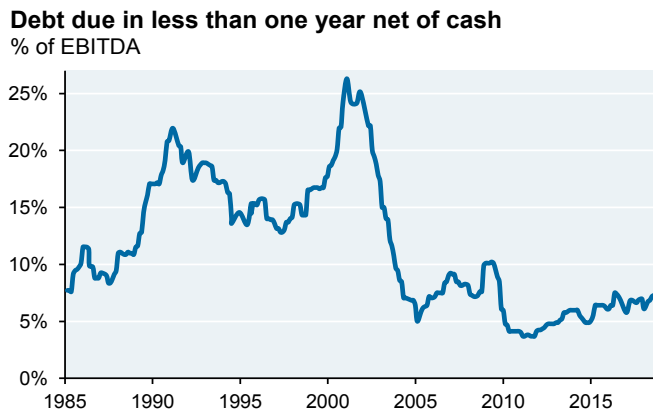
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[2] When the next US recession does occur, what are the biggest risks to investors in credit?

At first glance, credit markets don't appear to pose outsized risks to the US economy. While corporate debt *levels* are high, corporate debt *service* levels are not (first chart). This is a reflection of low interest rates, low credit spreads and companies having termed out their debt maturities (e.g., low near-term debt maturities as a % of cash flow).

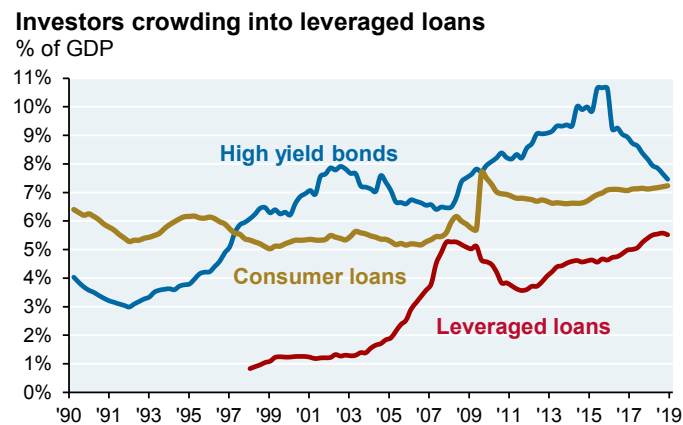


Source: JPMAM, Bloomberg. December 30, 2019.

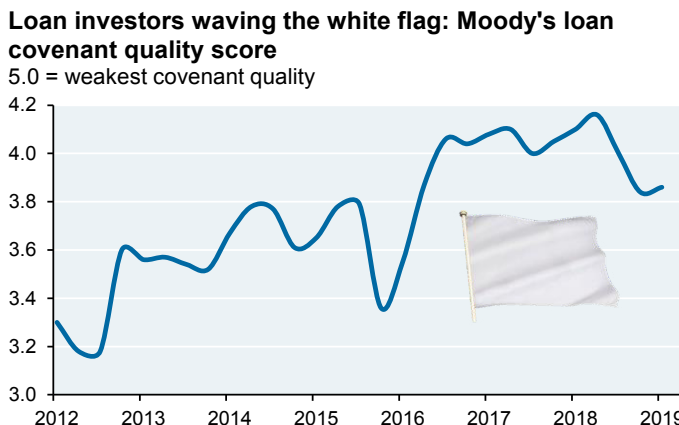


Source: Bridgewater. May 2019.

However, I do believe that the next recession will put pressure on leveraged loans: that's where investors have been clustering at a time of low interest rates. As seen on the right from our July 2019 [special issue Eye on the Market](#), there has been a sharp deterioration in leveraged loan covenant protections⁷.



Source: J.P. Morgan Global Research, BEA, FRB. Q3 2019.



Source: Moody's. Q2 2019.

There are other signs of stress once you look beyond the median company and focus on the weakest ones. As shown at the top of the next page, around 40% of mid and small cap companies face substantial restructuring risks despite low interest rates, and S&P now reports a spike in "weak link" companies. Low interest rates can forestall a recession for a while, and they certainly help companies with debt service burdens. But when a recession hits, loan and bond prices are more influenced by companies unable to meet refinancing needs than by those unable to cover interest. As a result, the next recession may entail higher-than-expected losses on leveraged loans and high yield bonds that cannot be refinanced.

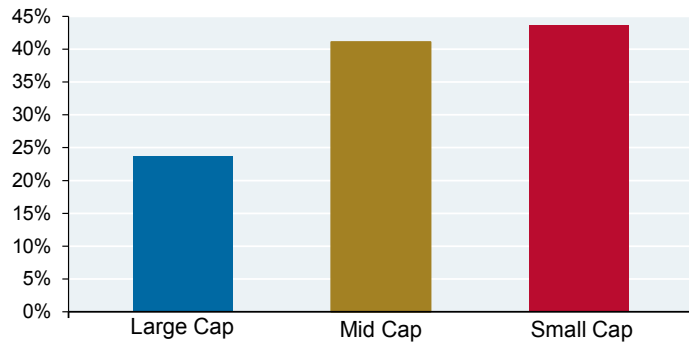
⁷ Our July 2019 piece analyzed the **decline in lender protections** that derive from leverage and interest coverage maintenance tests, mandatory prepayments from asset sales, negative covenant restrictions, restricted payments clauses and a variety of clauses designed to limit leakage of assets from the collateral pool, investments in or transfers to unrestricted subsidiaries and affiliates, the ability to add senior pari-passu or priority debt and lien dilution by non-guarantor subsidiaries. We also looked at how coverage and leverage measures are artificially boosted by increasing use of **"EBITDA add-backs"**, which refers to companies adding back non-recurring expenses and assumed merger synergies/cost savings to earnings, thereby artificially enhancing any measure derived from EBITDA. We concluded with a look at three recent examples of **collateral stripping** made possible by the decline in covenant protections.

CREDIT MARKETS



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Percentage of non-financial companies with elevated restructuring risk, % of respective market cap



Source: Bloomberg, J.P. Morgan Asset Management. Q3 2019. Elevated restructuring risk is defined as a ratio of EBIT to interest expense < 3.

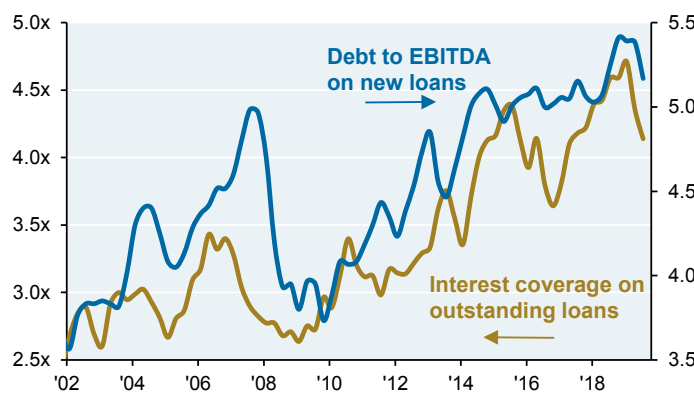
A spike in weakest link companies

Number of issuers rated B- or lower with negative outlooks or ratings on CreditWatch with negative implications



Source: S&P Global Ratings Research. November 18, 2019.

Loans: high interest coverage and high leverage as well

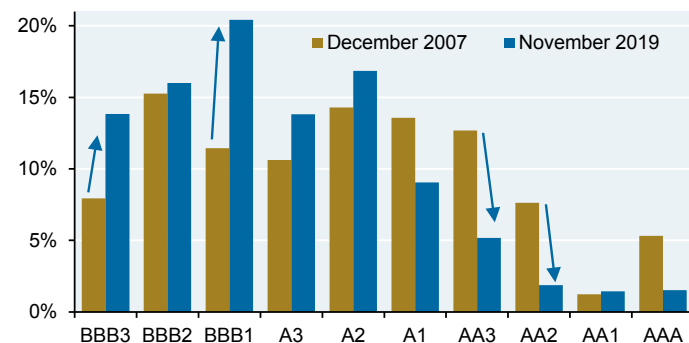


Source: S&P Global Market Intelligence LCD. Q3 2019.

When the next recession hits, there could also be stress on **investment grade corporate bonds**, given the increase in the BBB share of the market compared to 2007. What could make matters worse: the impact of the Volcker Rule, which led to a decline in market making and proprietary trading in the US relative to the surge in fixed income supply. This could lead to pricing bottlenecks when/if investors exit.

BBB rated bonds take over post-crisis

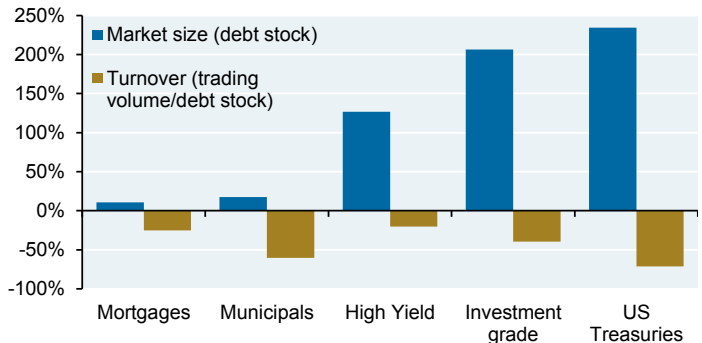
% of US investment grade corporate bond index



Source: ICE/BAML, JPMAM. November 2019.

Debt stock expanding while liquidity shrinks

Change in market size and turnover, 2006-2017



Source: SIFMA, Finra Factbook, Bloomberg, JPMAM. 2017.

CREDIT
MARKETS



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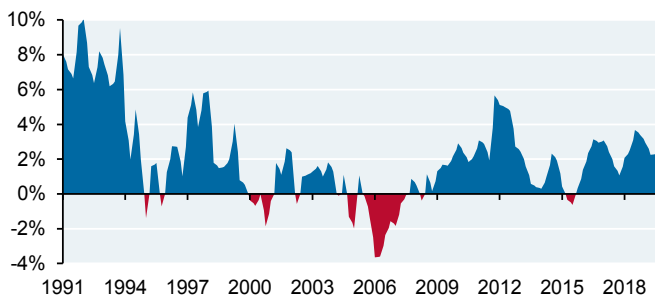
[3] Why does the US equity market keep outperforming Europe and Japan?

When someone tells you they're making a contrarian recommendation to overweight Europe or Japan vs the US, be sure and ask them how many times they made the same recommendation before. Why? **Because they were probably wrong when they did, and by a lot.** As we have illustrated multiple times, a strategy to overweight the US and Emerging Markets vs Europe and Japan has been one of the most consistently successful asset allocation approaches I have ever seen, and it worked *again* in 2019. Since January 2010, US equities generated total returns of 252% vs 94% for Japan and 75% for Europe.

Why has the US consistently outperformed Europe and Japan? The most plausible reasons have more to do with micro than macro⁸. Think about where the largest equity market gains often come from in a low-growth world: the **Tech sector**, rather than sectors with lower and more volatile earnings growth (Basic Materials, Energy, Industrials). In the US, the Tech sector's weight is much higher than the other three, while the reverse is true in Europe and Japan (3rd chart). Second, when we look *within* sectors, US companies generally have higher profitability than European and Japanese counterparts (table). As a result, something unusual would have to happen for the US to underperform on a sustained basis.

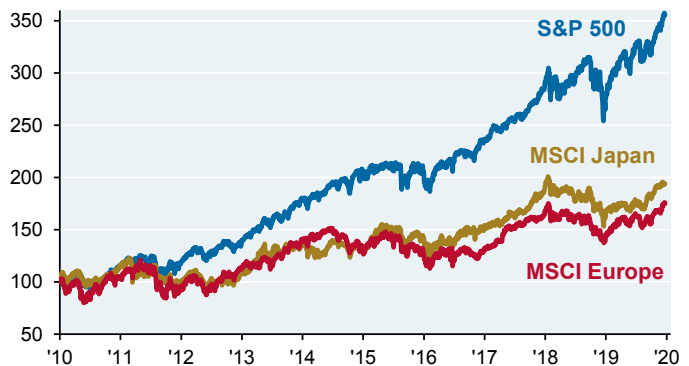
US
OUTPERFORMANCE

Overweight US & EM, underweight Europe & Japan
3-year rolling out (under) performance vs MSCI All World Index



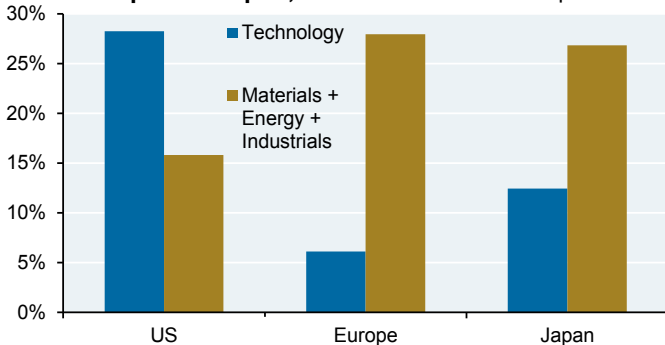
Source: Bloomberg, JPMAM. Q3 2019. All equity portfolio, rebalanced quarterly. 10% OW to US, 10% UW to Europe, 5% OW to EM, 5% UW to Japan. Assumes no currency hedging.

US outperforming Europe and Japan
Total return in US\$, Jan 2010 = 100



Source: Bloomberg. December 30, 2019.

High growth tech drives US markets, growth laggards drive Europe and Japan, % of total index market cap



Source: Bloomberg. December 30, 2019. Technology includes: GICS level 1 Information Technology + GICS level 3 Interactive Media & Services.

Return on Assets						
Country	Consumer Staples	Consumer Discretionary	Technology	Healthcare	Communication Services	Financials
US	5.9	6.1	9.8	5.6	5.6	1.2
Europe	6.3	4.2	5.3	5.5	1.6	0.4
Japan	3.5	3.6	4.3	4.2	4.1	0.3
Return on Equity						
Country	Consumer Staples	Consumer Discretionary	Technology	Healthcare	Communication Services	Financials
US	27.0	30.5	29.6	18.4	14.5	10.4
Europe	16.4	13.2	11.2	19.0	8.7	7.9
Japan	11.7	9.9	9.1	8.7	14.2	6.6

Source: Bloomberg. December 30, 2019.

⁸ Here's a macro explanation: since 2014, the **prime income population** (aged 30-49) in the US has been growing faster than in Europe. UN data indicates that this gap is expected to grow even wider from 2020-2025, as the US prime income population expands by 5% while the **European prime income population declines by 3%**.



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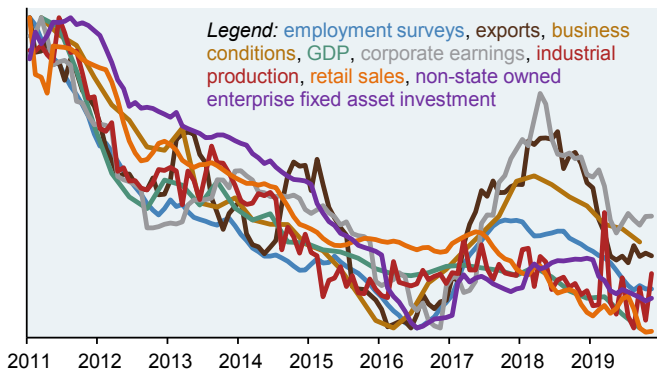
[4] How is China doing at a time of trade conflict, and what are implications for EM investors?

China can be selective about what information it reports; some government agencies have actually stopped publishing important data⁹. So, we take different approaches to get a sense for what’s going on using high-frequency data less subject to non-reporting or manipulation. Both charts below tell the same story: **after a stimulus-driven rise in 2017 and early 2018, China’s economy has been gradually slowing down**. Details include the slowest fixed asset investment growth since 1996, the weakest loan growth since December 2017, the lowest CPI excluding food since April 2016 and the sharpest decline in industrial profits since 2011. Again, these are **coincident** indicators of current activity.

Part of the China weakness is due to the trade war; some is related to a deliberate slowing of growth to rein in the shadow banking sector; and another part is a structural decline that has been foreseen for years as China slows its extraordinary pace of capital spending. In 2014, the Conference Board predicted a decline in Chinese GDP growth to 5.5% by 2019 and to 4% by 2025, a view that is unfolding in real time. As for the trade war, only 10%-20% of Chinese corporate revenues are sourced outside China, and according to MSCI, only 2.8% of Chinese corporate revenues are due to sales to the US. **The larger problems are domestic ones**, including the need for \$350 bn in capital for struggling regional banks.

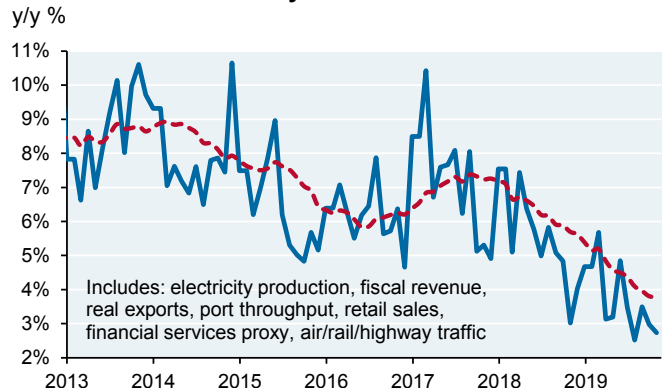
CHINA

Our China economy monitor



Source: CFLP, Markit, CC, PBOC, CNBS, MSCI, JPMAM. November 2019.

China coincident activity tracker

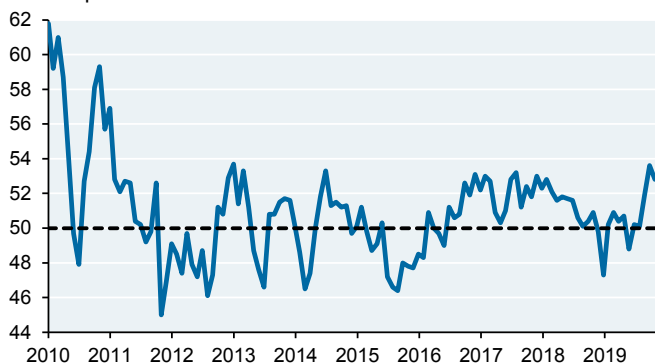


Source: Bank of America Merrill Lynch. November 2019.

While coincident indicators are weak, there are some signs of a revival in 2020, such as the pickup in new manufacturing orders. However, these signals are tentative and highly dependent on government stimulus.

China new orders rebounding

50+=expansion



Source: Markit PMI. November 2019.

⁹ For details, see “The Case of the Mysterious Vanishing Statistics”, Gavekal Dragonomics, October 17, 2019.

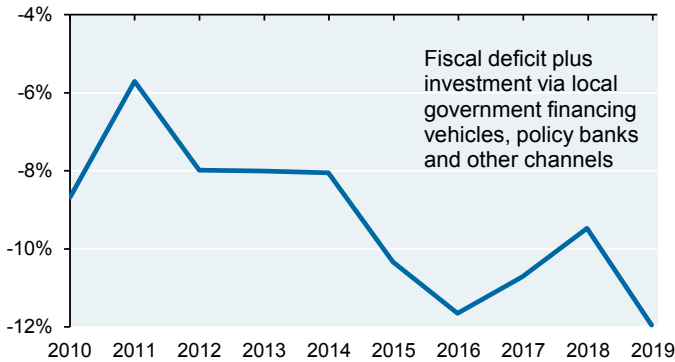


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China increased fiscal spending and other support levers¹⁰ again in 2019, but so far, the impact on private sector credit measures¹¹ is very modest. While corporate and household debt to GDP ratios increased by a small amount in 2019, this was more a signal of slowing GDP growth than of an increase in credit demand.

China's "fully-loaded" fiscal deficit

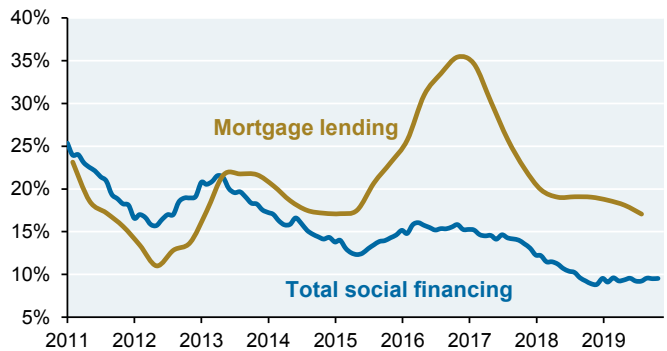
Augmented deficit, % of GDP



Source: CEIC, J.P. Morgan Asset Management. 2019.

Limited response to stimulus so far from private sector

y/y %

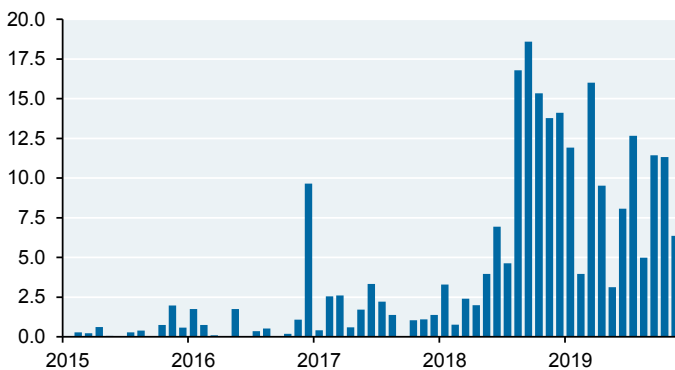


Source: J.P. Morgan Asia Pacific Equity Research, PBOC. November 2019.

Other stresses in China: rising private sector corporate bond defaults, which are a byproduct of both a slowing economy and a liquidity squeeze due to tighter regulation of credit in "excess-capacity" sectors. Debt markets have become more difficult to access for private sector Chinese companies, while state owned enterprises continue to issue. This is not the direction that China presumably wants to go, given its stated interest in having capital channeled to the more innovative parts of its economy. The lack of liquidity for private companies coincides with a sharp decline in capital spending by private firms as well, which we capture in our China monitor.

Bond defaults by Chinese private firms

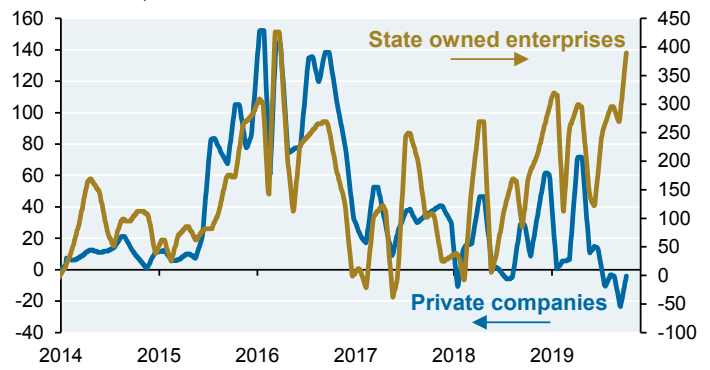
RMB billions



Source: Gavekal, Wind. November 2019.

Private companies losing access to debt markets

Net issuance, RMB billions



Source: Gavekal, Wind. November 2019.

¹⁰ China has asked local governments to **speed up issuance of infrastructure debt** in 2020, and lowered capital requirements for infrastructure investment projects, allowing larger debt to equity ratios. Minimum capital investment ratios for ports and shipping projects will be lowered to 20% from 25%.

¹¹ **Total Social Financing** refers to financing provided to the real economy in China from banks (RMB & foreign currency loans, entrusted loans, trust loans, corporate bonds, financial institution holdings of non-financial corporate equity, insurance company repayments, industry fund investments, and investment property) and from direct financing channels (bill acceptances, equity fundraising, corporate bonds, local gov't bonds).

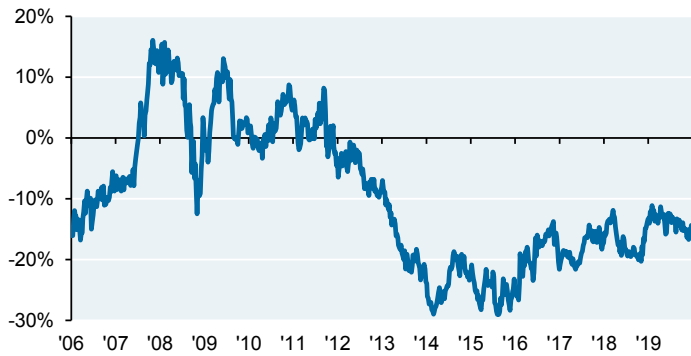


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If there's a rebound in China after the trade deal, which equity markets could benefit most? Part of the rationale that I often see for adding European equities is that they would benefit from a rebound in Chinese growth. Our analysis of the last 15 years confirms that European equities generally do benefit when China leading indicators pick up. However, Emerging Market equities tended to rise a bit more. Furthermore, EM equities trade at a discount to Europe, although not by as much as they used to given the weaker performance of EM earnings. EM equities have underperformed Europe over the last decade, in part due to the gradual slowdown in Chinese growth.

Emerging Markets: P/E discount vs Europe

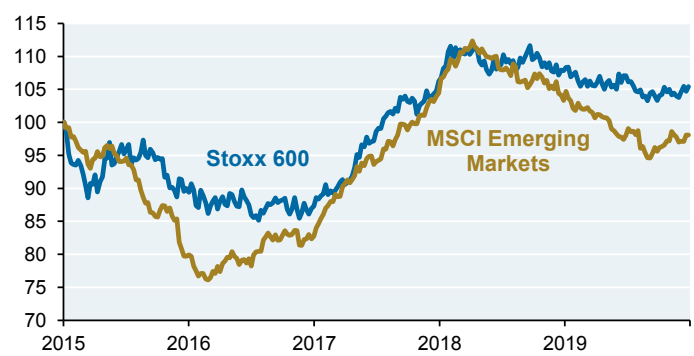
MSCI EM P/E discount/premium vs Stoxx 600 based on fwd earnings



Source: Datastream, IBES, J.P. Morgan Asset Management. Dec 27, 2019.

Europe vs Emerging Markets: 12-month forward earnings

Index, US\$, January 1, 2015 = 100



Source: Datastream, IBES, J.P. Morgan Asset Management. Dec 27, 2019.

CHINA

One of the key things to keep in mind when investing in emerging markets: the over- or undervaluation of EM currencies. The poor performance of EM equities in 2014-2016 was in part a consequence of overvalued EM exchange rates in 2013. As shown below, a multifactor assessment of EM exchange rates shows that they are roughly at fair value, after accounting for nominal exchange rates and bilateral differences in trade, inflation, productivity and current account deficits.

Real trade weighted Emerging Market currency basket



Source: Goldman Sachs Economic Research. October 2019.



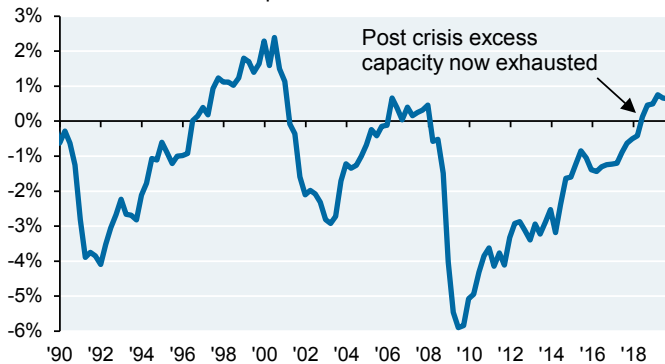
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[5] Why is US core inflation dead?

First of all, it's not dead. There's little to no excess capacity left in the US economy and core inflation is both steady and not far from the Fed's preferred 2% rate. But the Fed is *acting* as if it's dead by reducing rates yet again to be at or below the rate of inflation. So, what is the Fed seeing other than stable inflation expectations that makes its board members so complacent about inflation risks going forward?

US "output gap": a measure of spare capacity

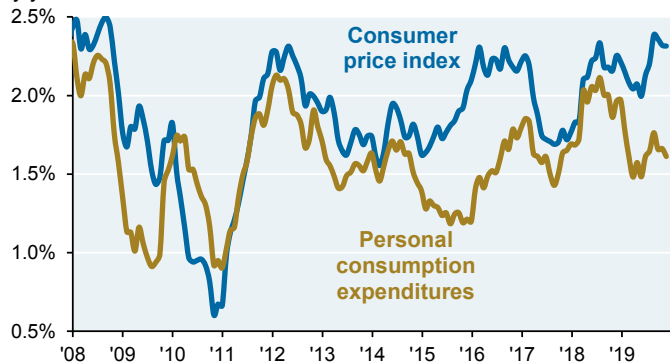
%, Actual GDP relative to potential GDP



Source: Congressional Budget Office. Q3 2019.

US core CPI and PCE

y/y %

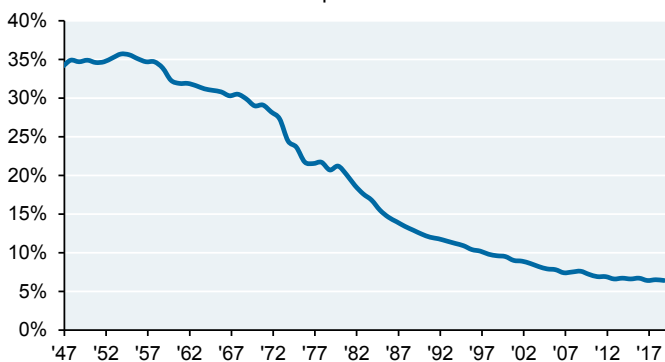


Source: BLS, BEA. November 2019.

We have shown the next few charts before, since they're the foundation of the Fed's belief that inflation will remain low enough to justify continued easy monetary policy. The charts illustrate the decline in labor bargaining power, the increased speed of retail price readjustments, the impact of globalization on wages, the reduced inclination of companies to respond to labor cost increases with price hikes, deflation from the tech sector and the rise of industrial robots¹². These factors have all contributed to low, stable US inflation, and an all-time high in the percentage of countries with low and stable inflation as well.

Decline in labor bargaining power

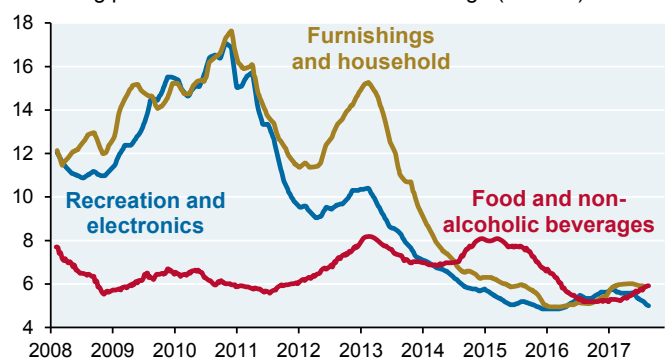
Private sector union membership



Source: Pre '83 Hirsch, post '83 BLS. 2018.

Online retailing increases price transparency

How long prices remain the same after a change (months)



Source: A. Cavallo, NBER WP. 2018. Regular prices exclude sale events.

US INFLATION

¹² While **robot shipments** to the US rose by 60% from 2013 to 2018, China is the leader in the robot deployment, with 4x more installations in 2018 than in the US. The reason this matters for US inflation and the Fed: increased Chinese use of robots could dilute the impact of rising wages in China as its labor supply shrinks, and sustain the deflationary impact in the US of Chinese goods imports. As shown on page 3, while US goods imports from China have declined due to the trade war and the rise in tariffs, China is still the largest import counterparty for the US.



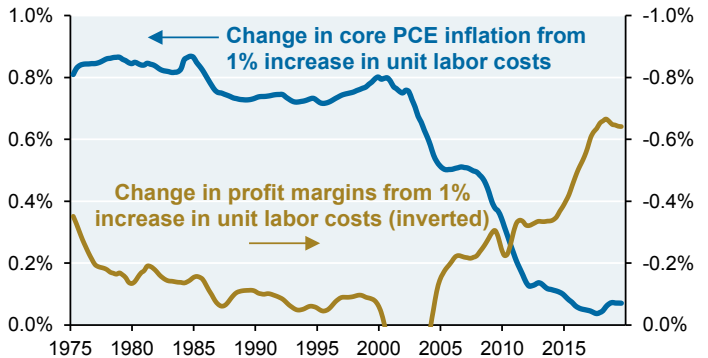
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Globalization and US employee compensation



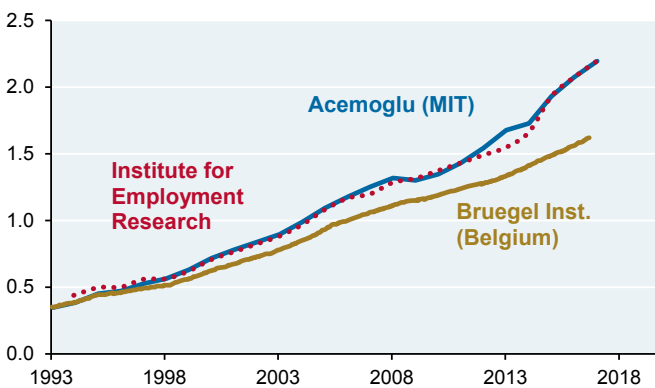
Source: World Bank, Bureau of Economic Analysis. Q3 2019.

Companies now responding to labor cost changes through margins rather than prices



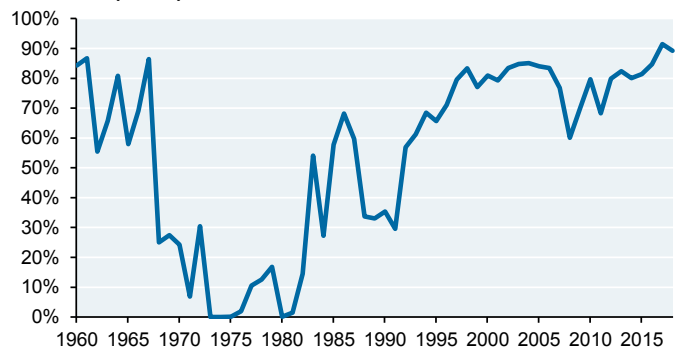
Source: J.P. Morgan Economic Research. Q3 2019.

US: industrial robots per thousand workers



Source: MIT, IAB, Bruegel Institute. 2018.

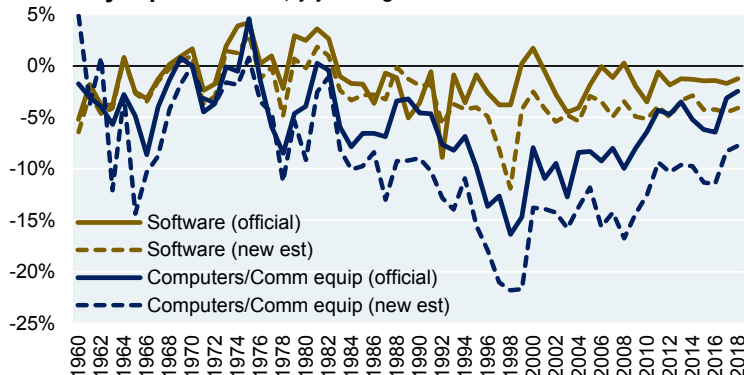
Percentage of world GDP with low, positive headline inflation (0-4%)



Source: World Bank, J.P. Morgan Asset Management. 2018.

The deflationary impact of the tech sector. Some Fed researchers have taken a closer look at the debate around whether US productivity is mismeasured due to difficulty in capturing productivity gains from the ICT sector (information, communication and technology). They now estimate that ICT prices have in reality declined at a *much* faster pace than was reported in official inflation data. Given the ICT sector's multiplier effect on the rest of the economy, **this could explain why the Fed has been able to run such easy monetary policy over the decade without stoking wage or price inflation.**

New analysis from the Fed shows more ICT deflation than officially reported data, y/y change



Source: Byrne and Corrado, "ICT Prices and ICT Services: What do they tell us about Productivity and Technology?", 2017, updated 2019.

Reasons for lower revised ICT inflation estimates:

- Better estimates of efficiency improvements from hard-to-quantify advancements in operating systems, open-source software, cloud computing, storage and computing capacity
- More industry subsets included, such as cloud computing and systems design services (14 in alternative measure vs 7 in official data)
- New software price index including not just application software, but also systems/OS software for desktops, portable devices, networks and enterprises
- More accurate and broader industry pricing data

US INFLATION



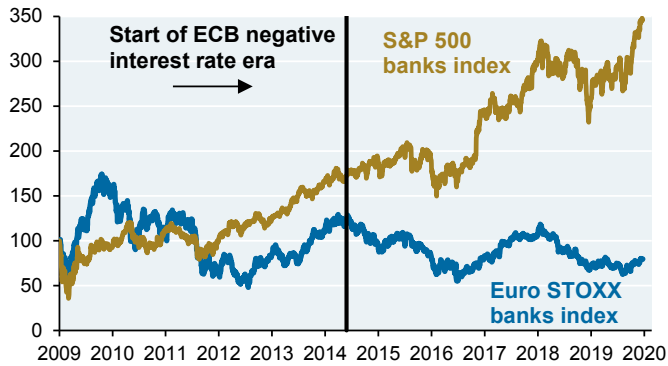
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[6] What are negative policy rates doing to European banks?

From an investor’s perspective, nothing good. European bank equity returns and valuations have trailed the US since negative policy rates began in 2014. We don’t know the counterfactual, and perhaps the ECB would argue that without negative rates, the region would be in even worse shape and rising corporate defaults would make life even worse for banks. Whatever the case, negative rates have been a major headache for bank investors in Europe, and it doesn’t look like they’re going away.

US vs Europe: banks total return performance

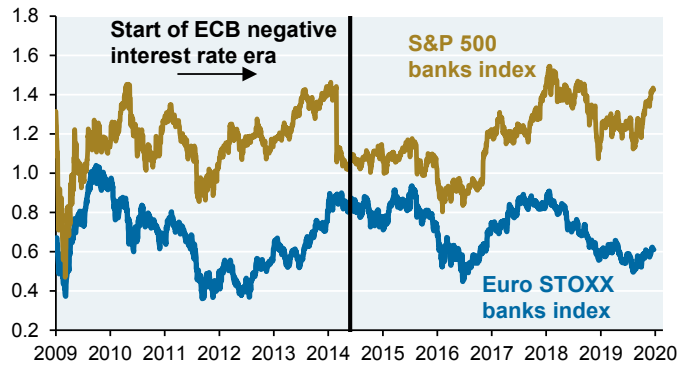
Total return in US\$, Jan 2009 = 100



Source: Bloomberg. December 30, 2019.

US vs Europe: banks price to book

Ratio

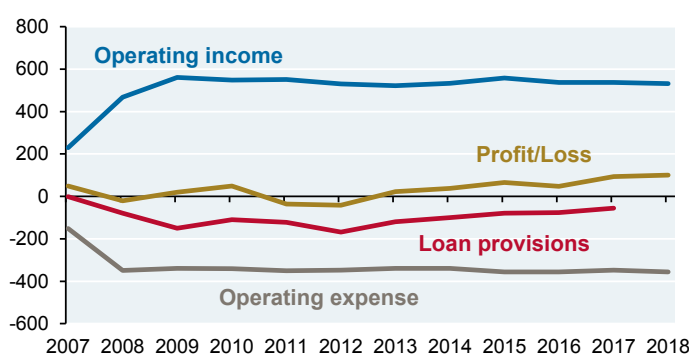


Source: Bloomberg. December 30, 2019.

In fact, **the ECB is considering cutting rates even further**. ECB policy rates are currently -0.5%, and amazingly, the ECB might reduce them to -1.0%. Current net interest margins of German banks are 0.9%. If German banks passed half the impact to depositors¹³, their net interest margins could fall by 25%. But if *none* of the impact were passed along, their net interest margins could fall in half from current (paltry) levels. Last point: for anyone looking at the minor rise in European bank profits in the last couple of years, be aware that this is almost entirely due to reduced loan loss provisions, rather than rising operating income or falling operating expenses. In other words, this is not an organic increase in bank profits.

Banks profitability driven by falling loan provisions

EUR billions



Source: ECB, Barclays European Research. 2018.

Percentage of J.P. Morgan GBI Broad Index trading with negative yields

Country	Total	1-3 Years	3-5 Years	5-7 Years	7-10 Years	10+ Years
Denmark	100%	100%	100%	100%	100%	100%
Germany	87%	100%	100%	100%	100%	55%
Finland	78%	100%	100%	100%	100%	0%
Sweden	73%	100%	100%	100%	50%	0%
Netherlands	72%	100%	100%	100%	100%	17%
Austria	68%	100%	100%	100%	100%	0%
France	65%	100%	100%	100%	100%	0%
Ireland	62%	100%	100%	100%	100%	0%
Belgium	56%	100%	100%	100%	100%	0%
Japan	51%	100%	100%	100%	100%	0%
Spain	35%	100%	100%	15%	0%	0%
Portugal	35%	100%	100%	0%	0%	0%
Italy	14%	60%	0%	0%	0%	0%
Total	52%	93%	85%	69%	74%	5%

Source: J.P. Morgan Global Index Research, J.P. Morgan Asset Management. December 11, 2019.

Whether negative rates are a symptom, a disease or a cure, I hope they never emigrate from Europe. Princeton economist Markus Brunnermeier believes in a “reversal rate”: a tipping point beyond which damage to banks by further rate reductions outweighs benefits to the economy, in which case more **easing becomes contractionary rather than stimulative**. In other words, as bank profitability falls, their ability to generate new capital deteriorates, which undermines their ability to make new loans.

¹³ Some smaller German banks announced that they will begin charging **negative deposit rates to new accounts**.

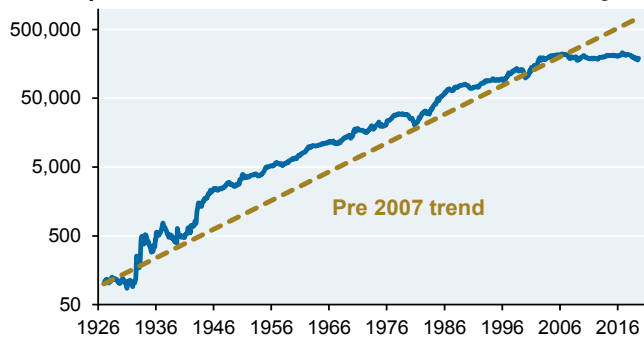


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[7] Will value stocks ever stop underperforming growth?

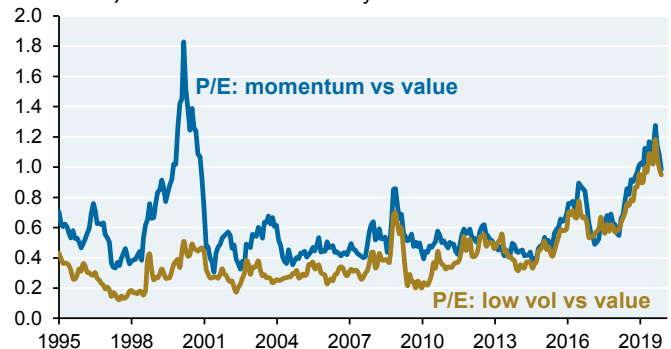
Since 2010, value has underperformed growth to an extent rarely seen in the last 70 years, a time when being a value-oriented investor paid significant dividends for investors and active managers. In recent years however, investors piled into growth, momentum and bond proxy stocks, either in pursuit of scarce earnings growth or desperately needed dividends. The underperformance of value has been a significant challenge for active equity managers since 2010, a topic we addressed in detail in a special issue *Eye on the Market* released earlier this year¹⁴.

Cumulative excess return of cheapest value stocks over most expensive value stocks, Index, Jan 1926 = 100, log scale



Source: French Data Library, J.P. Morgan Asset Management. Universe = NYSE, AMEX, Nasdaq. October 2019.

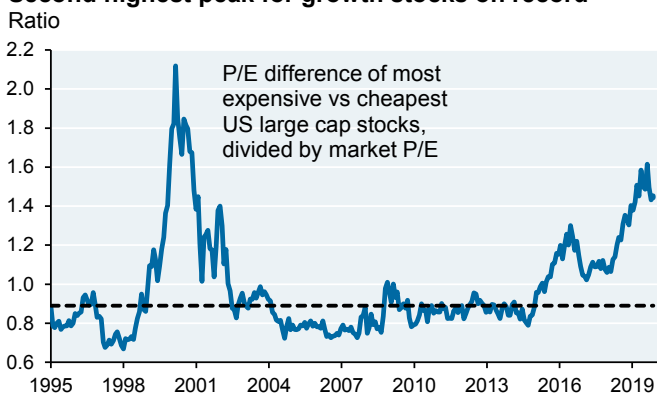
Premium paid for momentum and low vol at historic highs vs value, P/E difference divided by market P/E



Source: J.P. Morgan Asset Management. November 2019.

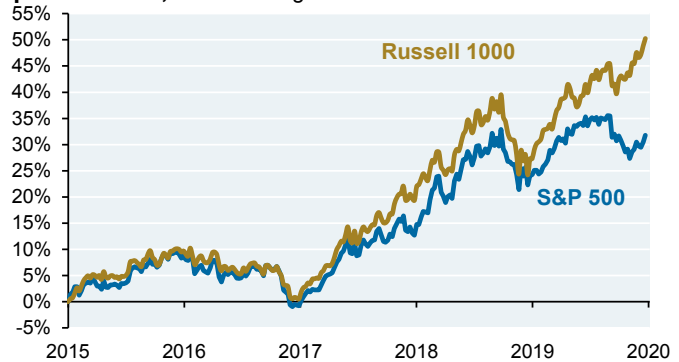
Other than technicals showing extreme P/E discounts for value stocks, are there *fundamental* reasons to believe they might reverse some of their underperformance? Towards the end of 2019, value started to see signs of life relative to growth stocks, although it was confined to large cap stocks so far. Stresses in the IPO and pre-IPO market appeared to spark increased concern about the proliferation of IPOs with little to no earnings growth (see page 26-27), and about overpriced growth stocks at risk from an anti-trust revival outlined in the next section. Other catalysts could include an eventual recovery in energy stocks now that capital discipline has returned to the sector, and the eventual normalization of US monetary policy.

Second highest peak for growth stocks on record



Source: J.P. Morgan Asset Management. November 2019.

S&P 500 and R1000 growth versus value cumulative performance, Cumulative growth return - cumulative value return



Source: Bloomberg. December 27, 2019.

VALUE INVESTING

¹⁴ [Active Equity Management industry analysis](#). We analyzed the performance of 6,700 active equity managers across 23 style categories since 1996. As you would expect, there were significant performance challenges in US large cap core, value and growth styles. However, we also found that more than 50% of managers outperformed in several other US and non-US categories since 2014 despite all the market distortions introduced by the Federal Reserve, which I consider a positive sign for the long term viability of active equity management.



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For value investors, the time to despair may be ending. We have company in believing that the possible last days of extreme value underperformance are unfolding.

- Cliff Asness of AQR, who generally cautions against “factor timing”, has increased his bet on value as a factor¹⁵. According to AQR, in the first eight years after the financial crisis, value underperformance was “rational”, since expensive companies could justify price premiums by delivering on earnings, sales, margins etc. However, for the past 2 years, value underperformance had less to do with fundamentals and was mostly a reflection of “irrational” changes in investor sentiment (i.e., multiple expansion)
- To support this assertion, Asness uses the chart below. It shows the relative valuation of the cheapest versus the most expensive US large cap and mid cap stocks based on price/book, price/earnings (trailing and forward) and price to sales. The spread between the cheapest and most expensive stocks is at its widest level since 2002, although it is nowhere near the peaks of 1999-2000

How cheap is value? Very

Composite premium for growth stocks vs value based on of price/book, price/trailing earnings, price/forward earnings and price/sales, Index, 100 = average



Source: Cliff Asness, “It’s Time for a Venial Value-Timing Sin”. August 2019.

One last comment on the possibility of a sustained US value recovery. In the past, US value outperformance vs growth generally coincided with US *underperformance* vs Europe. Some of these periods occurred during the unsustainable Southern European growth/credit boom in 2005/2006 which I do not believe will repeat itself. Even so, a US value recovery could occur at the same time as a repricing of expensive US growth stocks, in which case Europe could outperform the US, at least temporarily.

VALUE INVESTING

¹⁵ Cliff Asness, “It’s Time for a Venial Value-Timing Sin”. November 7, 2019.



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[8] What are the greatest risks to markets from a possible progressive overhaul of the US economy?

The tables below outline progressive proposals on taxation, the corporate sector, labor, energy, healthcare, investment, trade and student debt, most of which have been put forward by Senator Warren. For many of these proposals to be adopted, Democrats would have to take control of the Senate and not just the White House; the new Senate Majority Leader would have to agree to put these proposals on the docket; *and* Democrats might have to end the filibuster. However, in the wake of recent precedent (Trump’s unilateral actions on environmental, trade and border issues), some progressive policies could be enacted via Executive Action and regulation rather than through legislation.

Progressive Democratic Agenda		
Taxation	Corporate	Labor
Double capital gains tax rate on earners over \$1mm	Curb or prohibition on stock buybacks	Ban on state ‘right to work’ laws, ‘fair share’ fees to allow unions to collect fees from non-members
Eliminate step-up in basis on death	Break up big banks, reverse Trump dereg. on capital/liquidity, impose financial transaction taxes	Eliminate secret ballots in worker union elections
Tax unrealized capital gains every year	Break up big tech, reinstate Net Neutrality	Worker election of 40%+ of board members (co-determination)
Treat cap gains and dividends as ordinary income for tax purposes	Federal charter required by public companies with revenues >\$1bn, must produce “material public benefit”	Industry-level sectoral bargaining
Wealth tax of 2% over \$50mm	...and “material positive impact on society” to obtain charter from Dep’t of Commerce	Reduced classification of independent contract workers
Repeal indiv. tax cuts, means-test SocSec/Medicare, top estate tax rate of 77%	“Office of US Corporations” and State Attorney Generals can sue to revoke charters	Penalties for Federal contractors with gender pay disparities
New payroll tax of 14.8% > \$250k in income, possibly to include net inv income	Political expenditures subject to 75% approval by all shareholders	NLRB penalties on companies and executives for violating worker rights and wrongful termination
Eliminate corporate tax cuts, surtax on corporate profits over \$100mm	Private equity firms must guarantee repayment of debt and pensions of acquired companies	Increased protections for striking workers
Healthcare	Energy	Student debt
Medicare for All with no deductibles or copays	Ban hydraulic fracturing on private land and fracturing/drilling on federal land	Reduce student debt for 95% of Americans with student debt (45 million people)
Ban private health insurance	Ban fossil fuel exports, no new nuclear power plants	Wipe out student debt entirely for 75% of students with debt
Drug price caps, gouging penalties, and reimportation allowances	Repeal traditional energy friendly tax provisions	Universal free public college education
Allow HHS to manufacture/sub-contract generic drugs	\$3 trillion over 10 years to subsidize transition to 100% clean energy	Estimated cost = \$955 billion
Trade: a 9 point eligibility test for trade counterparties		
Enforce core labor rights of International Labour Organization such as collective bargaining and elimination of child labor		
Adhere to Trafficking Victims Protection Act		
Ratify Convention on Combating Bribery of Foreign Public Officials		
Uphold internationally recognized human rights		
Join Paris Climate Agreement and have a national plan to reduce long-term emissions		
Comply with tax treaties with the US and participate in the OECD Base Erosion and Profit Shifting project		
Recognize and enforce religious freedom		
Eliminate all domestic fossil fuel subsidies		
No inclusion on Department of Treasury monitoring list for currency practices		

Source: Cornerstone Macro Research, Urban Institute, Medium, CNBC, warren.senate.gov. 2019.

PROGRESSIVE SWEEP



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Potential equity market risks from a progressive agenda¹⁶

- **Equity market sector implications.** The greatest valuation risks could be in store for banks, biotech, chemicals, energy E&P, healthcare managed payers and service providers, independent power producers, integrated oil & gas, medical devices, megacap internet, payment processors, branded specialty pharmaceuticals and specialty/consumer finance. On **healthcare**, while a lot of negative sentiment is priced in already, many proposals are based on eliminating private sector rents in the healthcare system, so I could imagine additional downside risk depending on the details
- While there is little evidence that companies pursue stock buybacks *instead* of hiring and capital spending, there appears to be progressive support for **stock buyback restrictions or an outright ban**. Sectors most reliant on buybacks as a contributor to investor returns: Information Technology, Financials, and Consumer Discretionary. **Corporate demand for stock relative to investor demand is remarkable:** buybacks were the single largest source of US equity demand each year since 2011, averaging \$450 billion annually. In comparison, average annual demand from households, mutual funds, pension funds, and foreign investors was less than \$10 billion each
- In 2016, the US had the highest marginal effective corporate tax rate in the G-7 and within the 34 countries in the OECD. The 2017 tax bill lowered US corporate tax rates in line with other countries. As a result, **a repeal would push effective US corporate tax rates** back to where they were before. Corporate tax cuts boosted S&P earnings on a one-time basis by 8%-10% in 2018. Assuming a 17.5x multiple, a corporate tax cut repeal could in isolation reduce the fair value of the S&P 500 by the same amount. This assumes complete repeal of the corporate tax cuts, but does not include *additional* proposals by Senator Warren to impose a 7% windfall profit surtax on earnings over \$100 mm to finance renewable energy. Sectors that benefitted the most from tax cuts in terms of declining effective tax rates: Communication Services, Consumer Discretionary and Financials
- **Hydraulic fracturing** now accounts for 60%-80% of US oil, natural gas and natural gas liquid (NGL) production. As a result, domestically produced oil and gas derived from hydraulic fracturing also accounts for 40% of total US primary energy consumption. While US renewable power generation is growing, the pace is almost certainly not fast enough to immediately abandon fractured natural gas and oil given US goals of decommissioning aging coal and nuclear power plants, *and* of reducing reliance on foreign oil. In the absence of an interconnected, nationwide electricity grid and cheap energy storage, natural gas is a critical complement to intermittent renewable energy. For more details, see our [Cold Turkey](#) piece from September 2019

¹⁶ I don't think **redistribution** is inherently positive or negative for the economy; it depends on a lot of factors, such as the impact of higher tax rates on propensities to invest and consume at different income levels, the efficiency with which the Federal government allocates tax revenue to productive/unproductive programs, the impact of redistribution on consumer and investor sentiment, and the degree to which Federal revenue-raising targets are affected/circumvented by changes in corporate or individual behavior. Even so, I do think that the broader a redistribution agenda is, the greater the chance that it adversely impacts the private sector in unanticipated ways. And as shown on page 7, **Warren's tax hike proposals are 2.5x greater than the FDR tax hikes of the 1930's.**

In our June 2019 [analysis of Nordic countries](#), we found that in some ways, Nordic countries are even *more* business-friendly than the US; that their tax systems rely primarily on consumer (VAT) and payroll taxes to finance entitlements; and that their healthcare systems generally require both co-pays and deductibles to manage cost. In other words, **even the most progressive countries need a vibrant private sector and incentives for citizens to invest in new businesses and capital projects in order to afford redistribution in the first place.**



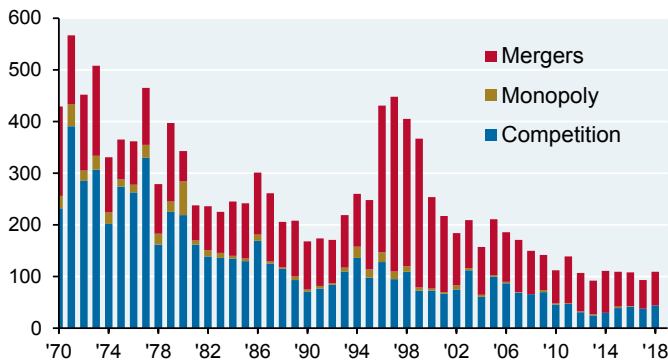
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- On tech**, there’s a debate as to whether tech giants are adversely affecting consumers, and/or if they are adversely impacting competitors. We will not debate that here; the regulatory table below shows that after a 50 year decline in anti-trust investigations (particularly on the tech sector), many politicians believe that the answer to one or both of these questions is “yes”. If an anti-trust revival targets the tech sector, it could have an adverse impact on markets since (a) the tech sector has seen the largest degree of concentration and consolidation of large firms, (b) the tech sector has more than doubled the return on the rest of the stock market since 2010 and (c) the largest tech companies have been active acquirers of both revenues and intellectual capital

Technology sector anti-trust and other proposals (below dotted line = already implemented)	
Companies affected	Action
Facebook, Google	New York/Texas launch antitrust investigations; 48 states sign onto Google investigation
Amazon, Apple, Facebook, Google	House Judiciary Committee requests tech executives’ emails in antitrust probe
Amazon	FTC launches antitrust investigation over anti-competitive behavior
Amazon, Facebook, Google	Broad Department of Justice antitrust investigation
FAANG	Warren proposes to break up tech companies, designate tech platforms as utilities separate from other businesses, and reverse anti-competitive mergers
California tech	"Digital data dividend" paid by tech companies to users whose data is monetized
Amazon, Uber, Lyft	California passes bill to reclassify gig-economy contract workers as employees
Facebook	Federal Trade Commission fines Facebook \$5 billion for privacy practices
Qualcomm	Ruling that Qualcomm violated antitrust law
Amazon, eBay, Airbnb	Require online platforms to collect local taxes

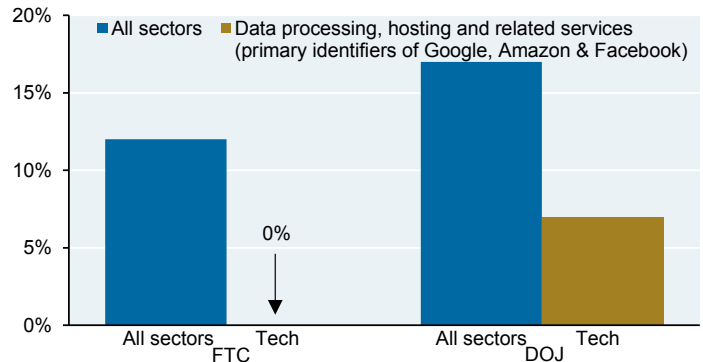
Source: Bloomberg, Bridgewater, LA Times, The Hill, FTC, WSJ, NYT. 2019

Number of Department of Justice antitrust investigations initiated



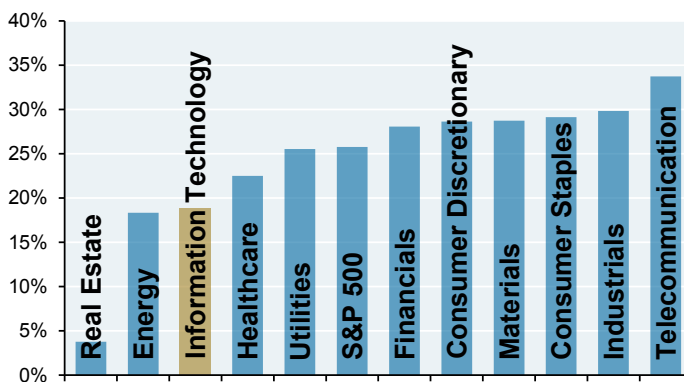
Source: United States Department of Justice. 2018.

Lower FTC/DOJ antitrust enforcement rates on tech sector
Rate of agency challenges



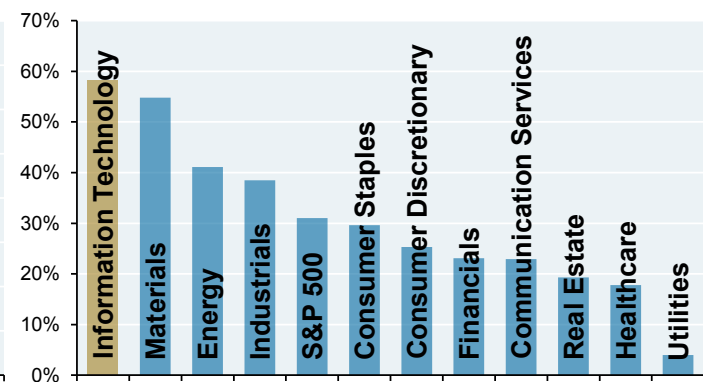
Source: Dr. Diana Moss, American Antitrust Institute. 2019.

S&P effective tax rate by sector



Source: S&P Global Market Intelligence. 2016.

S&P sales weighted foreign revenue exposure by sector



Source: S&P Global Market Intelligence. Q3 2019.

PROGRESSIVE SWEEP

***A closer look: customized European digital taxes designed to apply to US tech giants***

The US tech sector is facing mounting pressures in the form of **digital service taxes** (DST) on revenues paid to them by European advertisers. Tired of waiting for the OECD's "Pillar I" tax proposals to be sorted out, France, Italy, Austria and Turkey have enacted DSTs of their own. The tortured logic involved is based on a concept called "user-created value": since users of services like Facebook contribute to brand value by providing information to the company which enables it to earn ad revenues, such users are essentially undertaking so-called "supply-side functions" that would normally be undertaken by the business itself. Furthermore, the jurisdiction in which the users reside can tax this value as it is created, using locally generated advertising revenues as a value proxy. These digital taxes would be paid by the technology company in addition to whatever income or consumption taxes the company is already paying.

If this makes little sense to you, you're in good company. A 2019 IMF paper described the theoretical underpinning of DSTs as being highly problematic, while the Petersen Institute described DSTs as de facto tariffs whose discrimination against US firms could not be more blatant. European governments have simply drafted language that avoids conceding the obvious: they are **taxing consumption of US services exports**, which are de facto tariffs that in all likelihood violate existing bilateral tax treaties.

An assertion by the French Finance Minister that its DST does not "single out US companies" shows how disingenuous the arguments have now become:

- Given high worldwide revenue thresholds used in applying digital advertising taxes and the revenues that they apply to, **US tech giants are practically the only entities subject to them.** DST taxable revenues include digital advertising (Google, Facebook), digital marketplaces to sell goods and services (Amazon, eBay, Uber, Airbnb) and transmission of user data to other users (Facebook, Twitter). Subscription fees and in-app purchases are excluded, which could have affected European firms
- French officials have elsewhere stated that the DST was explicitly designed so as to avoid slowing down e-commerce innovation and the digitization of France's own businesses, and the French Finance Minister himself has referred to its DST as the "**GAFA**" tax (Google, Amazon, Facebook, Apple)
- The French DST is applied **to gross revenues rather than to net income** and also results in double (or triple) taxation, both of which contravene the architecture of the international tax system in the developed world. Some DST proposals allow for VAT taxes to be deducted first, which is another direct swipe at US firms that are not subject to them in their own jurisdiction
- Not long ago, **the OECD itself cautioned against creating new tax rules applied to the digital economy**, including a 2015 report with contributions and recommendations from an EU Commission of tax experts. In this report, the OECD wrote that "it is difficult, if not impossible, to ring-fence the digital economy from the rest of the economy for tax purposes". Apparently this view has changed

In December 2019, US Treasury Secretary Mnuchin wrote to the OECD indicating US opposition to the DST concept, citing "departures from arm's length transfer pricing and taxable nexus standards, longstanding pillars of the international tax system upon which US taxpayers rely". **How the US, the OECD and the WTO resolve all of this is unclear, although our international tax contacts believe that certain countries will proceed with digital taxes and face possible US retaliation.** The outcomes are important given the low effective tax rate of the US tech sector and its high degree of foreign sourced revenue, as shown on the prior page.



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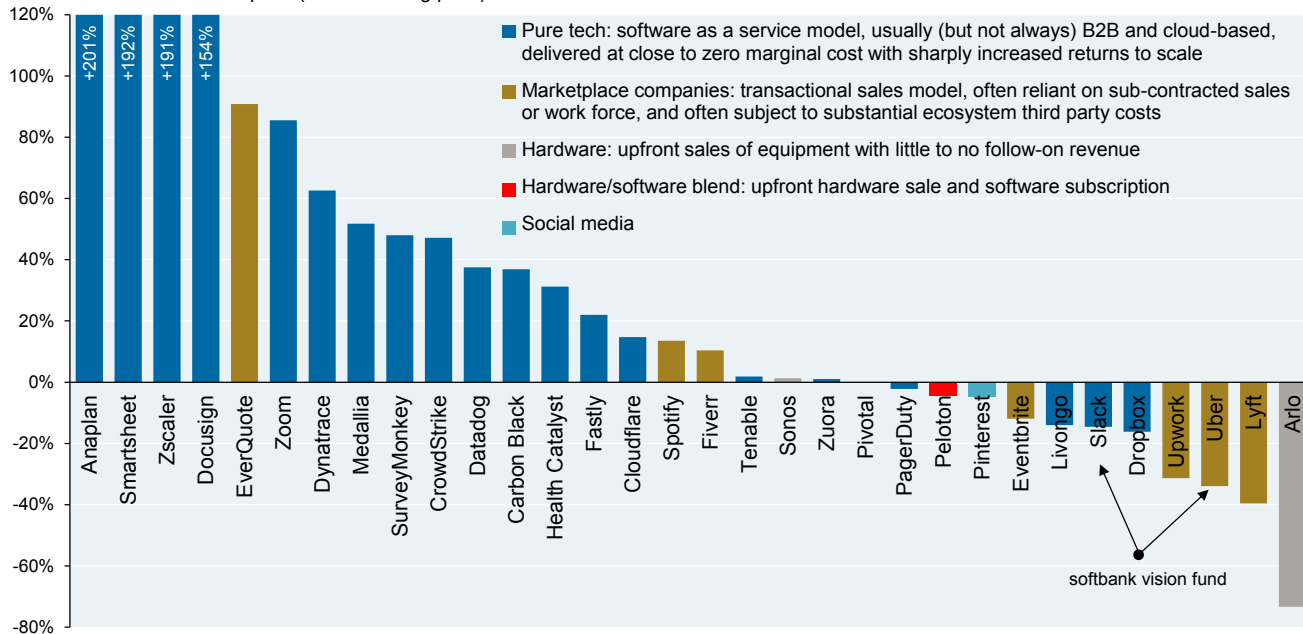
[9] The IPO market: “Prophets vs Profits”

The struggles of some tech companies in the IPO and pre-IPO market have gotten a lot of headlines recently. **What’s lost in the shuffle: most real technology IPO’s are doing just fine.** “Tangential tech” companies included in the broad tech category but which are not pure tech are for the most part the ones that are struggling. Many of these “tangential tech” companies have sales growth below 50% (above which post-IPO returns have generally been higher), and in the case of Uber, the company also fails the “rule of 40” test (i.e., sales growth plus free cash flow margin). To be clear, practically every single one of these IPO companies had a negative operating margin as of their most recent earnings report due to high SG&A spending, something investors expect will eventually change.

What’s wrong with the performance of 2018/2019 tech IPOs?

Not much, as long as what you’re buying is actually a real technology company

Performance relative to IPO price (or direct listing price)



Sources: Bloomberg, Company financials, Stratechery.com, JPMAM. December 30 2019. The companies above are shown for illustrative purposes only. Their inclusion should not be interpreted as a recommendation to buy or sell. The use of the above companies is in no way an endorsement for J.P.Morgan Asset Management investment management services.

This mixed bag outcome is part of a broader trend showing that diversified multi-sector IPO investing since 2010 hasn’t done much for investors. The latest study¹⁷ we’ve seen takes two approaches. The first is a portfolio that owned 200 IPOs since 2010, with proceeds to buy each new IPO sourced from selling the worst performers. Since inception, its relative performance has been flat to the market. The second study looked at relative performance of IPOs since 2010 assuming a 2-year hold: the median IPO return was 20% below the market. Average returns were better but still just matched market returns, benefiting from the 2% of IPOs that delivered returns > 200%. A lot of IPO underperformance can be attributed to the healthcare sector, the largest issuing and worst performing sector in the US IPO market since 2010.

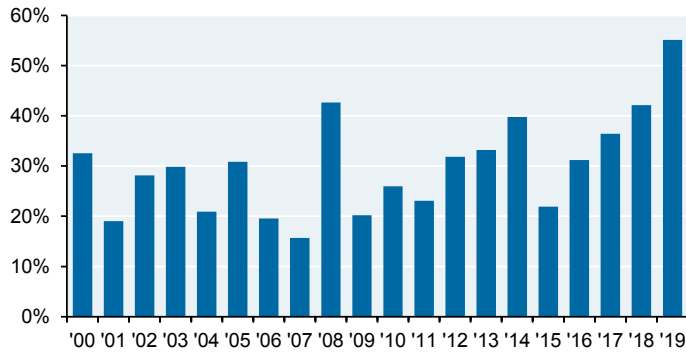
¹⁷ “What Matters for IPOs”, Goldman Sachs Global Strategy Paper, September 4, 2019.



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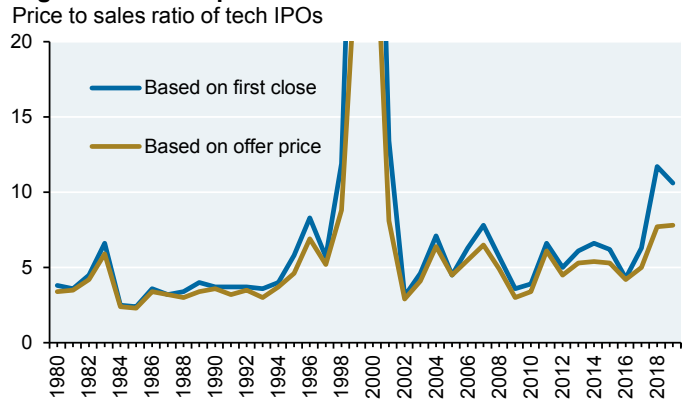
The **prophets** of the venture capital ecosystem (startup CEOs and venture funds that finance them) have reached new cycle peaks regarding private companies with **no profits**. Similarly, IPO investors are applying the highest price to sales ratios to tech IPOs since the late 1990s (valuations are still well below those levels but I'm not sure how much comfort that is worth).

Private equity share of capital going to companies not categorized as profitable



Source: Empirical Research Partners. 2019 data through September 2019.

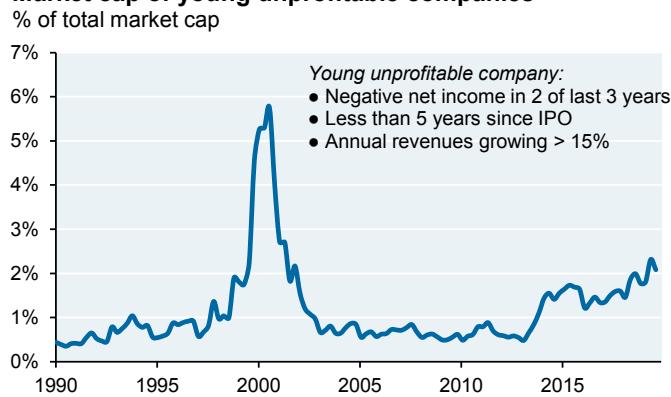
Highest tech IPO price to sales since the late 1990s



Source: Jay Ritter, University of Florida. Updated 2019 IPO statistics.

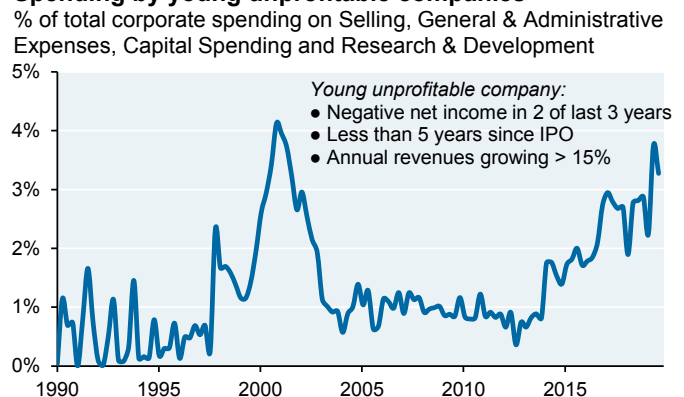
Here's a related measure we're watching. There's a growing number of firms we refer to as **"YUCs": Young Unprofitable Companies**, which have negative net income, rapid sales growth and which have been around for less than 5 years. I don't think we will ever relive the lunacy of the late 1990's, but as shown below, some measures are getting there. The portion of US market capitalization made up of YUCs is around one third of the 2000 peak, and the YUC share of total corporate spending on SG&A, capital spending and R&D is even higher. Other notable stats: spending by YUCs accounted for 0.15%-0.30% of US GDP growth in the last couple of years, and their demand for cloud services and digital advertising amounted to 10% of Google, Facebook and Amazon revenue. In other words, **if investors tire of financing the YUCs, reverberations for large and mid cap tech service providers and the US economy more broadly could be substantial.**

Market cap of young unprofitable companies



Source: Factset, J.P. Morgan Asset Management. Q3 2019.

Spending by young unprofitable companies



Source: Factset, J.P. Morgan Asset Management. Q3 2019.



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[10] What is the most interesting breakthrough I learned about in 2019?

Every year, I talk to enterprising people about the projects they're working on. In 2019, the most interesting breakthrough I learned about is related to the latest achievements in stem cell research. Deep geothermal energy via plasma-bit drilling was a close second¹⁸, but still too distant in terms of implementation.

We spent a day with the New York Stem Cell Foundation Research Institute¹⁹ in October. Imagine this: you walk into a clinic and provide a vial of blood or a piece of skin the size of an apple seed. Then, the remarkable happens: **scientists use your sample to create "blank slate" stem cells that are an avatar of your own genetic makeup, which are then transformed into any of over 200 specialized cells, such as heart, liver, pancreas, brain, etc.** The following scenarios are now possible scientifically, and not just in the realm of the imagination:

- You have a chronic genetic disease like amyotrophic lateral sclerosis (ALS), diabetes, multiple sclerosis or Parkinson's, and doctors want to try out different treatments since you are not responding well to standard ones. Instead of bombarding you in your weakened condition with these treatments, they can apply them instead to a petri dish with your own cells, since they will carry whatever disease you suffer from. If needed, researchers can test hundreds of different drug combinations, which would typically not be possible in any practical sense with an individual patient
- You suffer from a condition like macular degeneration, which is to date incurable. Scientists transform your blank slate stem cells into new retinal cells which effectively replace the dying ones inside your own body. Similarly, your stem cells can be transformed into hip bone cells to replace the need for inorganic materials for patients suffering from bone degeneration
- You're a scientist focused on diseases like Alzheimer's, and have been confined to experiments on mice and other lab animals. However, these animals do not develop Alzheimer's in nature, so the entire research process is fraught with uncertainties and dead ends. Similarly, diabetes cures for mice are not cures for humans. Instead, stem cells allow you to experiment with treatments using an inexhaustible supply of human cells carrying the disease. Furthermore, you can apply these treatments to a diverse population of cell donors, which is important since every individual with a given condition does not respond the same way to treatment. A potential related benefit: by testing human cells instead of animals, scientists might be able to shorten the drug approval timetable by 3-4 years and increase the probability of success by over 8 times

¹⁸ **Ultra-deep geothermal energy.** Standard utility-scale geothermal energy taps into steam or hot water at temperatures of 150°–200° C which is brought to the surface, where its heat is used to generate electricity through a steam turbine. Typical drilling depths are 150-200 meters below the surface. However, at 5-7 kilometers below the surface, there are geothermal resources of 400°-500° C at 200 bars of atmospheric pressure where water takes a form called supercritical fluid. Such fluids in theory could deliver 10x more power than traditional geothermal wells, and rival the power derived from nuclear power plants. We met with a company developing plasma-based drill bits that are designed to reach temperatures of 6,000° C with the goal of being able to drill to such depths. However, its efforts are in their infancy, and their estimates of plasma drilling costs that rise linearly with depth (as opposed to rising geometrically as with conventional drill bit techniques) have to be taken with a giant grain of salt until proven in more than just field studies. A lot of promise as potential renewable baseload power, but very early stage.

¹⁹ **NYSCF** is a multidisciplinary research lab with 225 scientists and partnerships with the world's leading universities and teaching hospitals. What makes NYSCF unique? Many academic research institutions are highly driven by the need to publish, which can deter from researching high risk/non-traditional experimental treatments. Instead, NYSCF can pursue them since it is an independent non-profit research institute that relies on private donors. Furthermore, the kinds of experiments that NYSCF conducts require a combination of disciplines: biologists, engineers, computer scientists, immunologists and neurologists. This multi-disciplinary approach is what allows them to reproduce high quality stem cells on a vast scale, reducing the bottleneck which had been hampering stem cell research efforts.



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What is the foundation of these discoveries? The creation of **induced pluripotent stem cells grown from adult skin or blood cells²⁰**, and which supplant much of the need for stem cells obtained from in-vitro fertilization (IVF/embryonic) sources. So far, stem cell research for chronic diseases is mostly taking place in multi-disciplinary labs like the one we visited. But the milestones are very promising so far:

- Drug combinations designed to slow down the progress of ALS and to destroy AML (leukemia) cancer cells were discovered using the process above, and are moving forward in clinical trials
- Patients are now receiving stem cell treatments for macular degeneration in early trials
- Stem cell treatments are being designed for Parkinson’s patients to replace and rebuild lost neurons
- Researchers are working on stem cell treatments that involve the production of new blood cells to combat sickle cell and other immune/metabolic disorders
- Cell samples from patient tumors can be used to generate “organoids”, which are effectively living cancerous tissue that can survive indefinitely and be used for cancer treatment research

Very early stage projects include studies of sensory neurons, obtained and sustained through stem cell creation, with the goal of developing better non-addictive treatments for chronic pain.

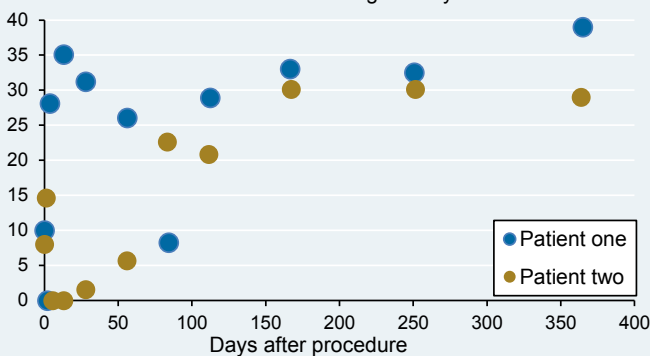
There’s a long road ahead for sufferers of chronic diseases being studied, given the time it takes to get new treatments approved, the time it takes for new treatments to propagate through the healthcare system, questions about whether such treatments would be covered under different insurance plans, and questions about the pluripotent stem cells themselves, since there are reports in some experiments of tumor formation emanating from the stem cells. Despite the uncertainties, stem cell clinical trials now underway may with the benefit of hindsight be seen as a new frontier in medical treatment that reduces mortality, disability and the economic costs associated with certain chronic diseases.

The latest research on stem cell transplants to treat age-related macular degeneration (AMD)

Two patients with acute wet AMD and recent rapid vision decline received a patch of cells derived from leftover IVF embryos in one eye as part of a phase 1, open-label, safety and feasibility study. Results were measured in terms of “visual acuity” (i.e., being able to read a standard LogMAR eye chart, which is the one with 5 block letters per line), and in reading ability measured in words per minute. Both patients improved on both fronts within the first year, although both required post-procedure hospitalization to treat retinal detachment and adverse side effects from immunosuppression procedures (since IVF cells were used that were not derived from the patient). Future stem cell studies will involve a patient’s own pluripotent cells instead, eliminating the need for immunosuppression.

Improvements in visual acuity

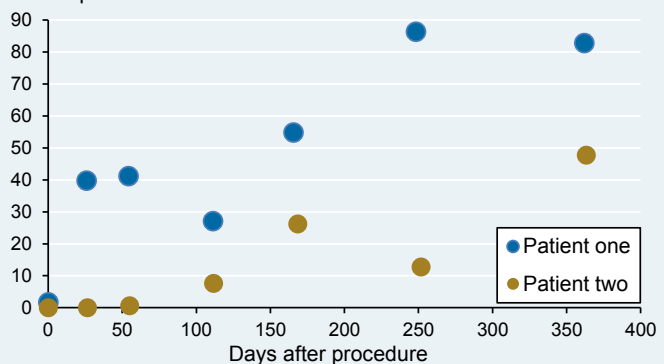
Number of letters read on standard LogMAR eye chart



Source: Nature Biotechnology, Cruz/Coffey et al, 2018.

Reading speed

Words per minute read



Source: Nature Biotechnology, Cruz/Coffey et al, 2018.

²⁰ **The importance of FDA-approved studies and treatments vs “Stem Cell Tourism”.** There are reports of adipose and other stem cell treatments which are quite different from FDA-approved stem cell studies, and which have been investigated by the New York Attorney General and other regulators for risks to patients. A study in the 2017 New England Journal of Medicine showed substantial adverse impacts from some unregulated macular degeneration treatments, including complete blindness.



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Acronyms

ACWI All Country World Index; **AMEX** American Stock Exchange; **BEA** Bureau of Economic Analysis; **BLS** Bureau of Labor Statistics; **CBO** Congressional Budget Office; **CC** China Customs; **CFLP** China Federation of Logistics and Purchasing; **CFO** Chief Financial Officer; **CRFB** Committee for a Responsible Federal Budget; **CNBS** China National Bureau of Statistics; **E&P** Exploration and Production; **EBITDA** Earnings before interest, tax, depreciation, and amortization; **ECB** European Central Bank; **EM** Emerging Markets; **FAANG** Facebook, Apple, Amazon, Netflix, and Google; **FDA** Food and Drug Administration; **FRB** Federal Reserve Board; **FTC** Federal Trade Commission; **GBI** Government Bond Index; **GICS** Global Industry Classification Standard; **GIPC** Global Innovation Policy Center; **HHS** United States Dep't of Health and Human Services; **IBES** Institutional Brokers' Estimate System; **IPO** Initial Public Offering; **ITIF** Information Technology and Innovation Foundation; **JPMAM** J.P. Morgan Asset Management; **MSCI** Morgan Stanley Capital International; **NAHB** National Association of Homebuilders; **NBER WP** National Bureau of Economic Research Working Papers; **NLRB** National Labor Relations Board; **NTU** National Taxpayer Union; **NYSE** New York Stock Exchange; **OECD** Organisation for Economic Co-operation and Development; **P/E** Price to Earnings; **PBOC** People's Bank of China; **PCE** Personal Consumption Expenditure; **PMI** Purchasing Managers' Index; **R&D** Research and Development; **RMB** Renminbi; **SG&A** Selling, General and Administrative Expenses; **SIFMA** Securities Industry and Financial Markets Association; **USITC** United States International Trade Commission; **WTO** World Trade Organization

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