Macro for Trust Level Review

John Rothfield

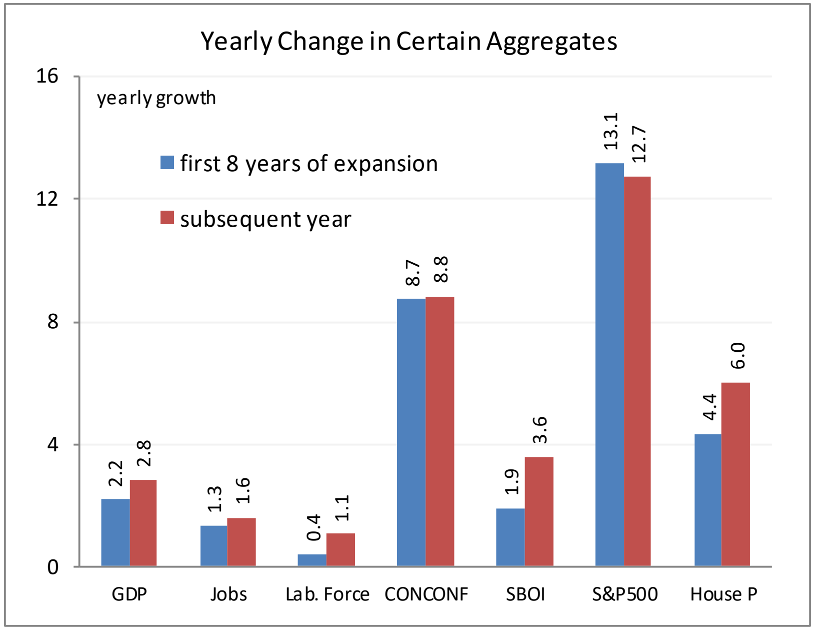
Investment Office

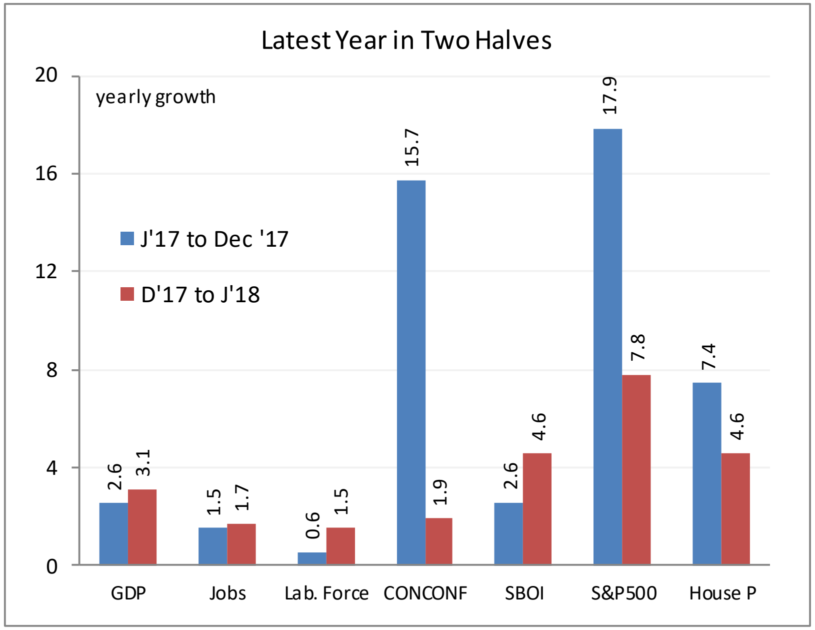
CalPERS

Trending

Positive	Same Trend	Negative
- US economic growth Accelerated to high 2s in the latest year vs low 2s in the prior year. **- US consumer** Sharp upward revision to measured savings flow = more ammunition to spend going forward. **- Small business plans** To expand and hire … despite difficulties in finding qualified workers. **- US corporate earnings and sales** 8% sales and 20% earnings growth in year to 2Q18. Catalyzing accelerated investment in IT equipment. **- US mining and manufacturing** Arguably a global phenomenon. Strong hiring outperformance by 'mining' states. **Housing trends** Accelerating household growth + shift from renters to owners, esp. for younger and lower income cohorts. **- US financial stability** Fed: U.S. financial system remains substantially more resilient than during decade before financial crisis. **- Global business cycle** A robust starting point from which to prosecute 'trade wars'.	**- US leverage** US non financial debt is stable at ~ 250%/GDP, right through the expansion **- External imbalances** Stable US external deficit (2.5%/GDP) broadly matched by combined surplus of Euro area, Japan and China.	**- Cycle prolongation yet to be demonstrated** Labor force participation and productivity need to improve in order to prolong the US expansion. **- Low personal savings ratio** Low savings cushion increases risk when financial markets (or expectations) turn adverse. **- HH balance sheet drivers less robust** Plans to buy home (as affordability drops) and expectations for stock market may have peaked. **- QE and rates unwind are happening** Lower monetary base growth meets still-rising debt, especially in EM space. **- Emergent trade wars** Significant misunderstanding of trade imbalance drivers ignites policies where everybody loses. **- Disruptive geopolitics** Nationalism and bloc realignments create uncertainty that bleeds into the economic sphere.

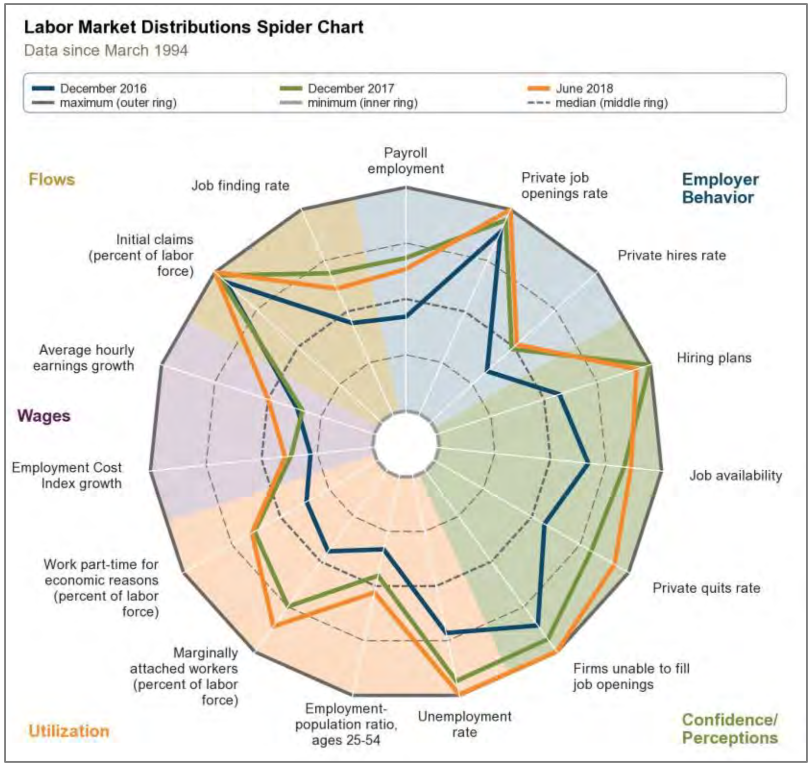
Diminishing market response to good economic news

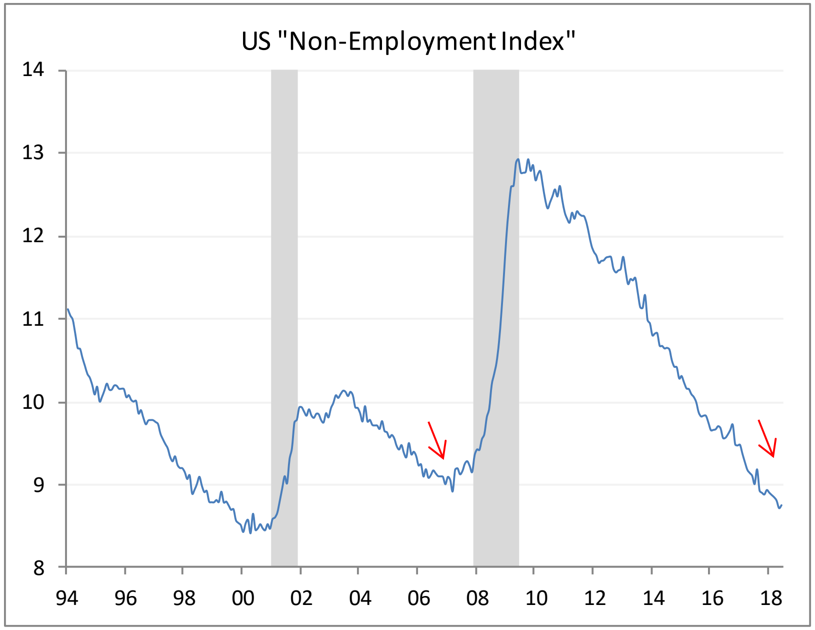




CalPERS | Investment Office
Global Fixed Income

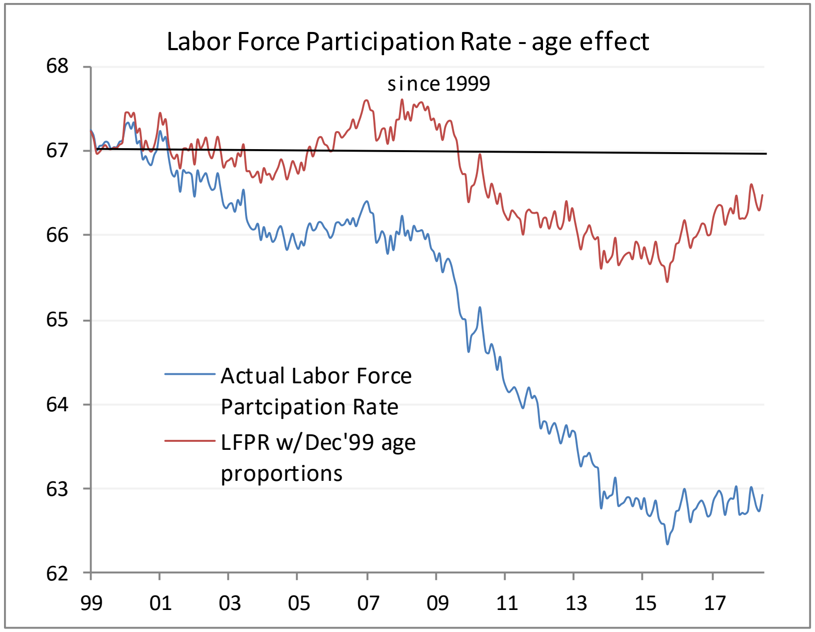
US labor market – pushing against constraints

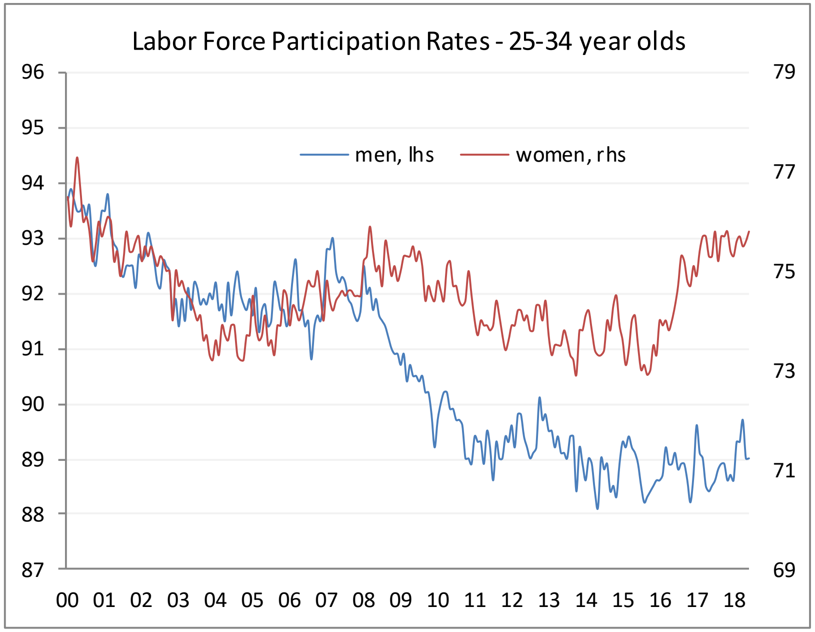




Note: Non-employment is a calculated measure of labor resources left to hire – or expand hours.

US labor market – supply headwinds

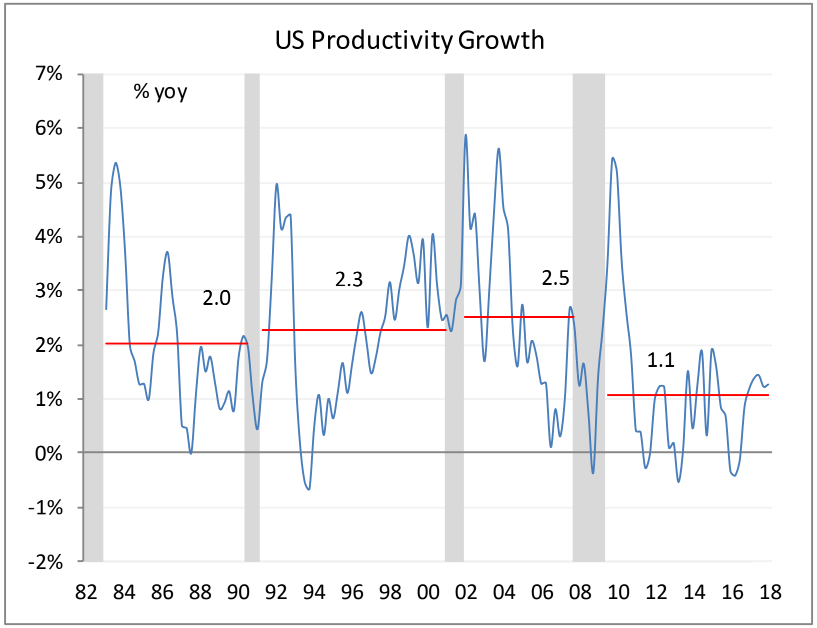


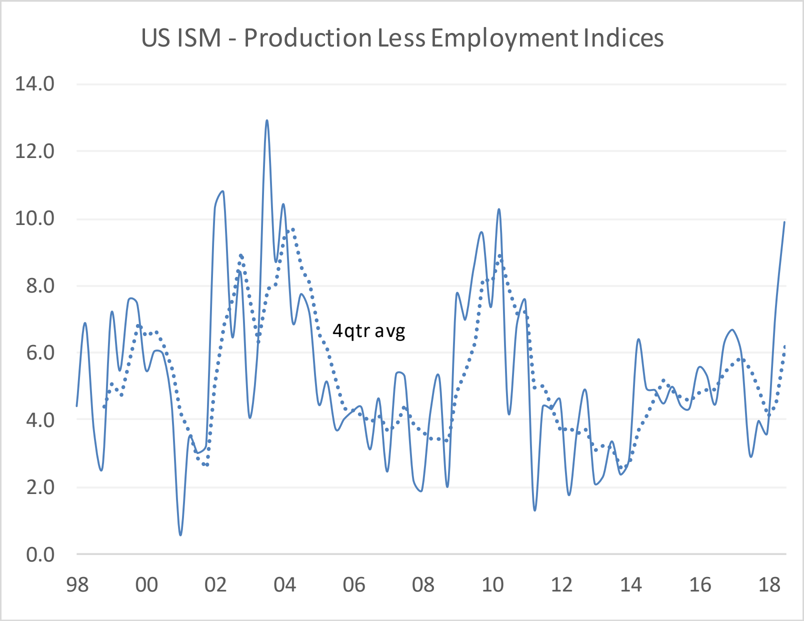


Ageing population – with more still to come – is the major driver of tepid US labor force participation.

Also, amongst prime age persons, a standout is low participation by 25-34 year old males.

US productivity – imminent boost?

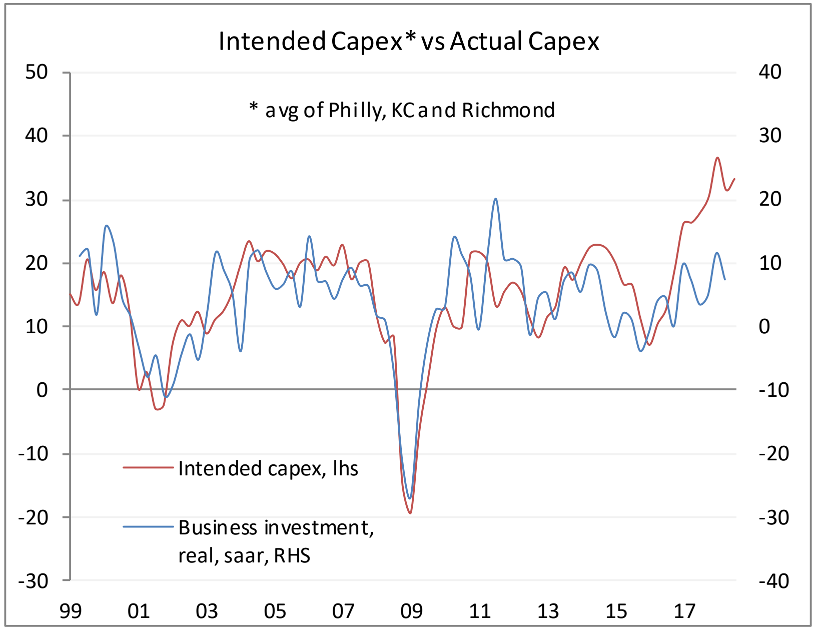


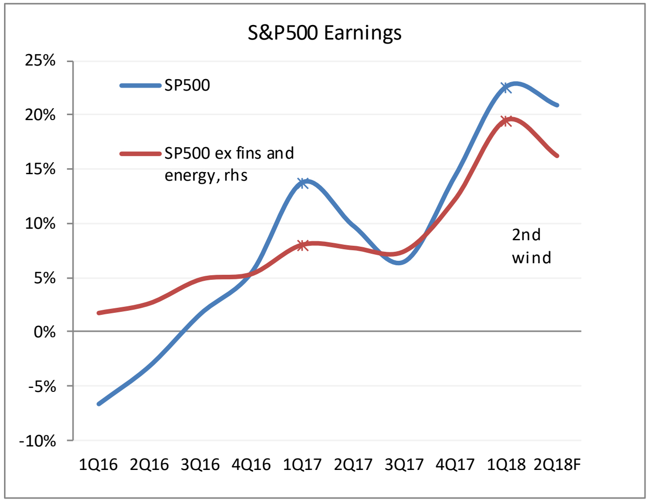


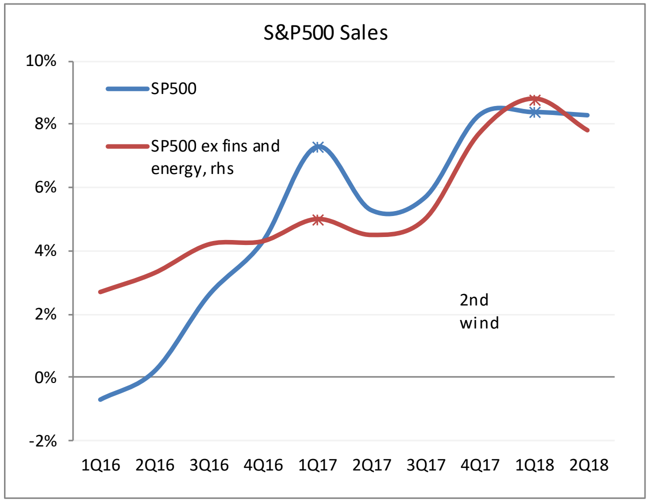
The current economic expansion is characterized by low measured productivity growth.

Firm surveys are at least showing a stronger expected rise in production than jobs (= productivity) ahead.

Business capex



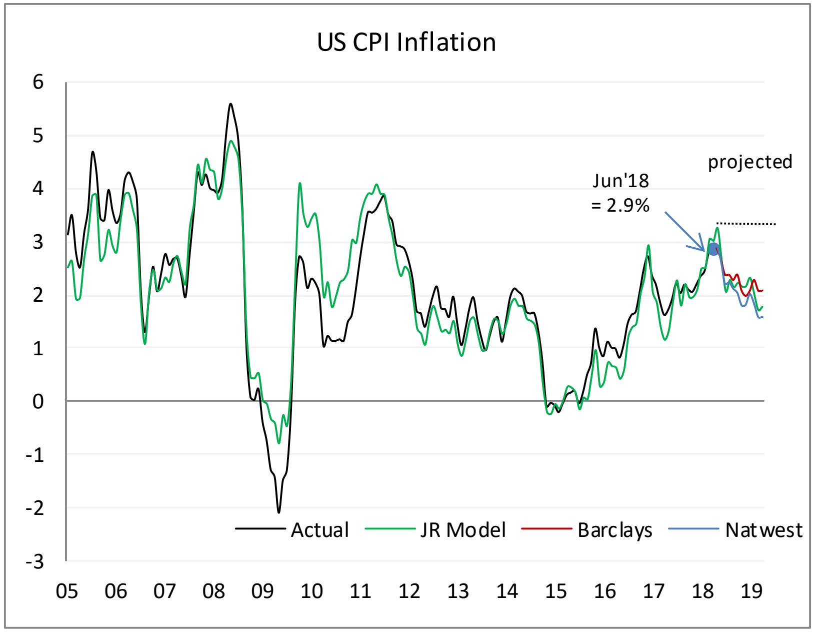


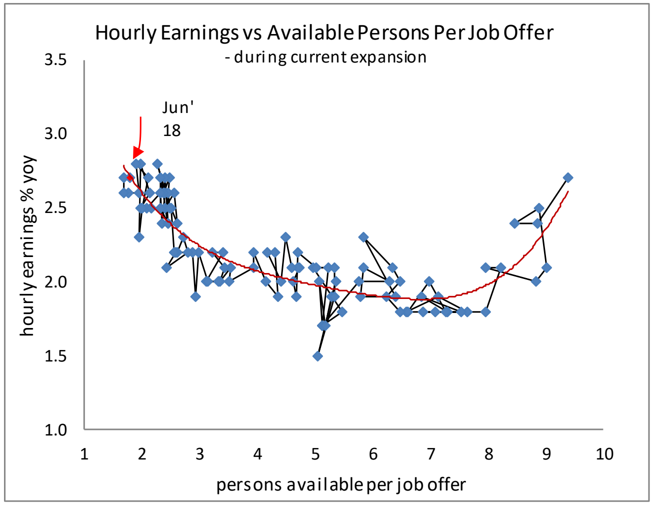


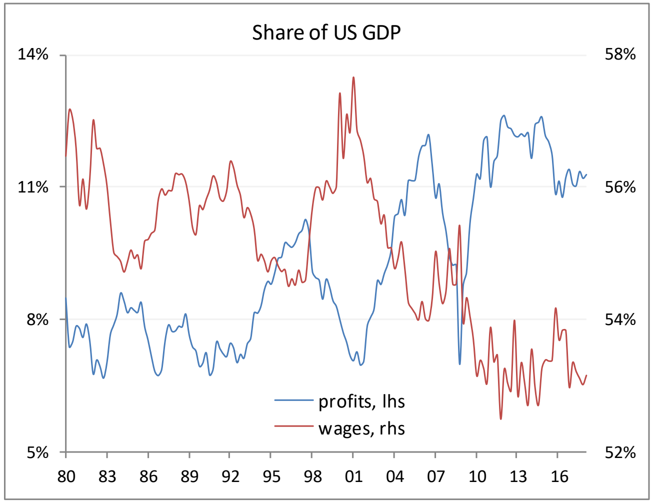
Strong corporate sales and earnings, and capex intentions, have - so far - been slow to ignite actual capex.

CalPERS Investment Office Global Fixed Income

US inflation







Peak in energy, flatter "Phillips curve" and low wage share of GDP all argue <u>against</u> a major inflation event.

Business Cycle

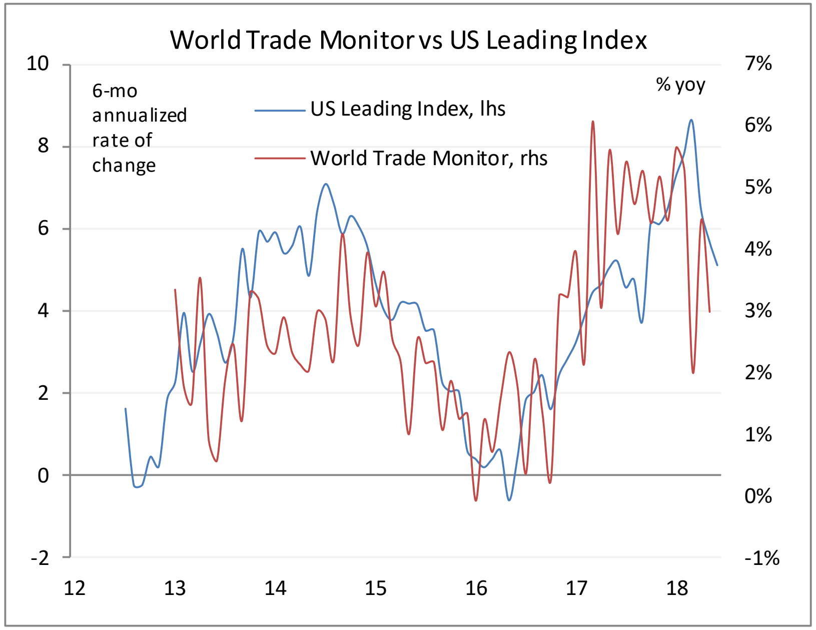
United States		
Early	Mid	Late
	KC Fed LMCI	Job Offers vs Pool
	Employed to Pop	U-Rate
	Chicago Fed NAI	SBOI Hard to Fill
	Real Disp. Income	Personal Savings Ratio
	Housing Affordability	Consumer Confidence
	Small Business Plans	Net Worth/ DI
	Plans to Buy Home	Output gap
	Real Oil Price	Yield Curve
	Fed tightening	
	Profit share	
	Leverage + RoW	

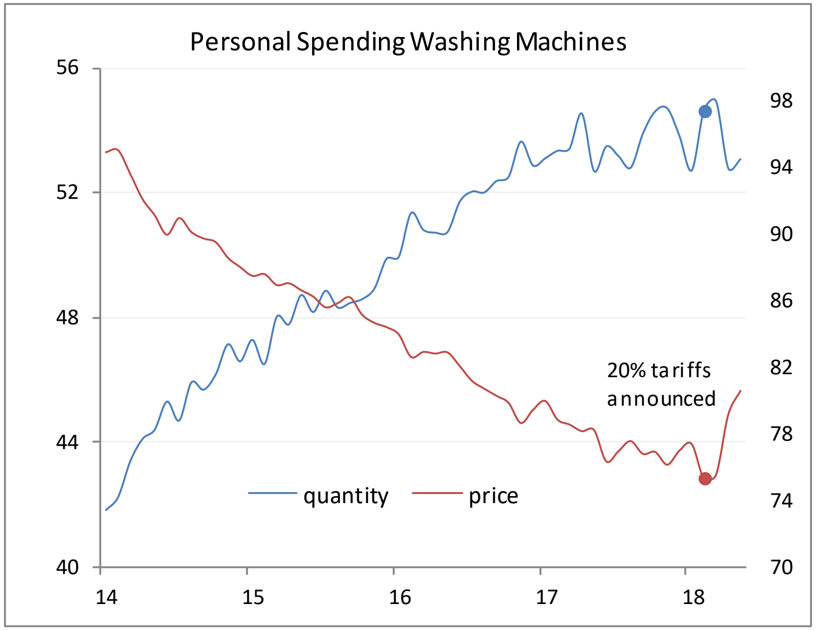
China	Japan	Europe
SOFT/ EASING	LATE	MID+
Rebounding	Mid	Mid
Residential	ESRI Leading Index	Ifo
Cargo, rail	Economy Watchers	PMIs
Electricity	Late	Consumption
Foreign trade	Output gap	Employment
Decelerating	Tankan Factor Ut'n	U-rate
Fixed Asset Invest.	U-Rate	ECB taper (Apr'17)
Car sales	OECD LEI	Late
Peaking	Conf. Board LEI	Business Climate
Li Keqiang index		Bus. Limiting factors
CPI, PPI		
CNY TWI		

SUMMARY – ROOM TO RUN

- Many US indicators are still considered mid cycle.
- Fed is around ½ way through expected rate cycle (somewhat earlier in its balance sheet roll-off.)
- Euro area hard and soft data easing back, capacity pressures starting to build.
- Japan has very high output gap and surge in labor supply may wane without more foreign workers.
- China to loosen fiscal, RRR (and FX) to offset debt workout, trade uncertainty.

Risks: Trade War

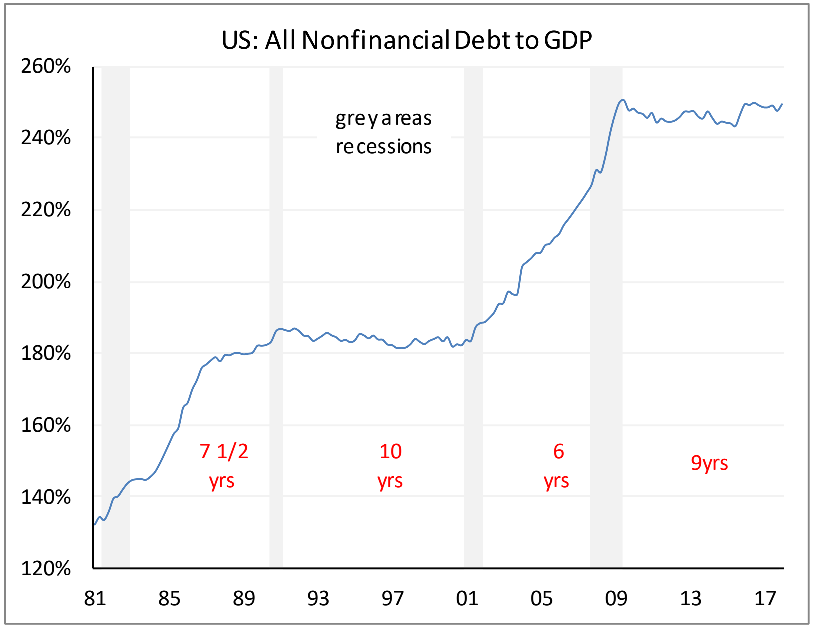


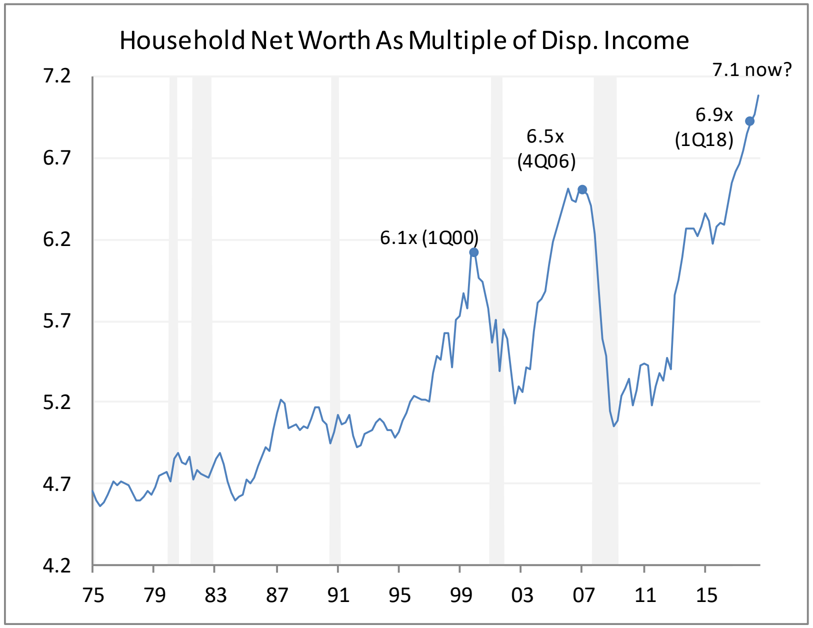


US economic momentum has been fueled by global trade acceleration. Trade wars will jeopardize that.

Example of tariff “incidence”: Since tariffs announced on washing machines, prices +7%, quantity sold -3%.

Risks: Leverage and Valuation





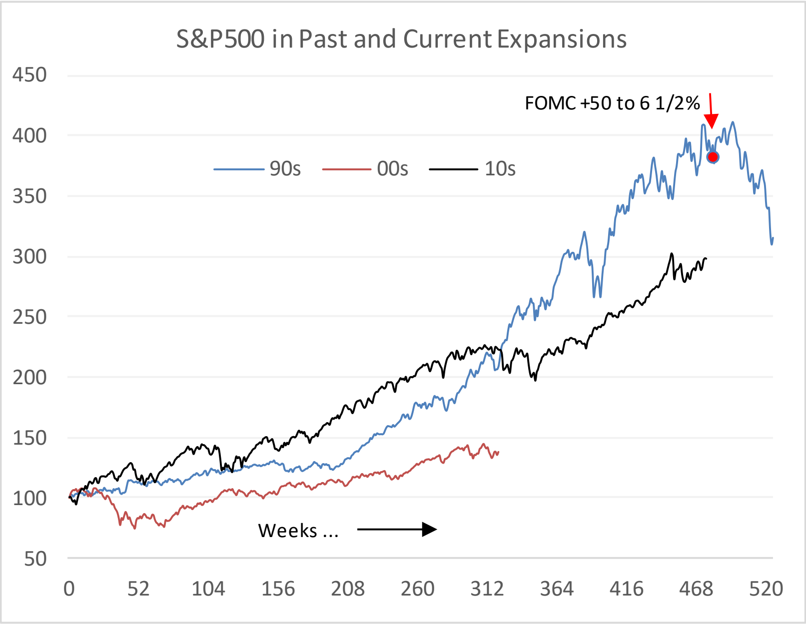
Low risk

Fed: "Borrowing among highly levered and lower-rated businesses remains elevated, although the ratio of household debt to disposable income continues to be moderate."

Higher risk

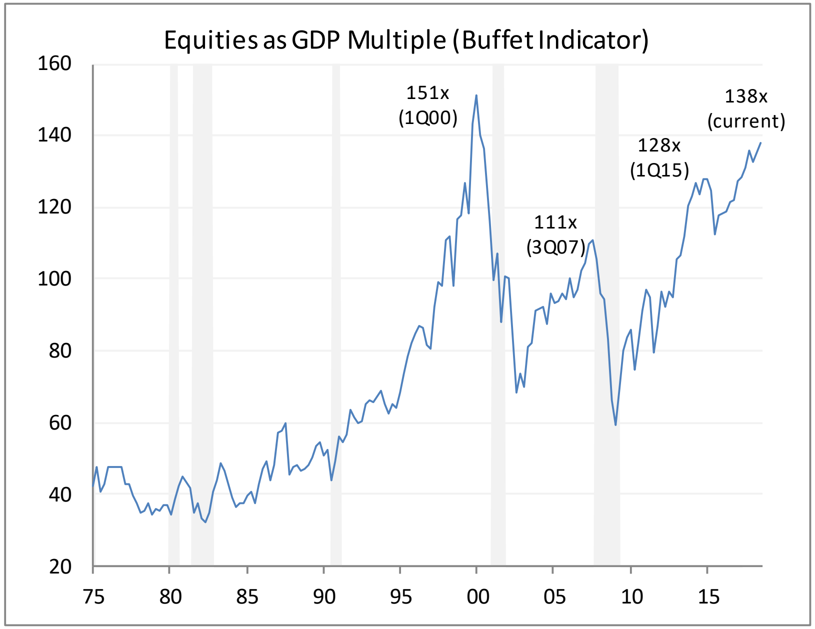
Fed: "Asset valuations continue to be elevated despite declines since the end of 2017 in the forward price-to-earnings ratio of equities and the prices of corporate bonds."

Risks: Comparison with 1990s expansion



Current expansion is a year away from the 1990s record. "Great recession" displacement and demographics have arguably driven a less frothy stock market.

Last Fed hike in that cycle was May 2000, ten months before expansion ended. By December 2000 Fed was focused on downside economic risks.

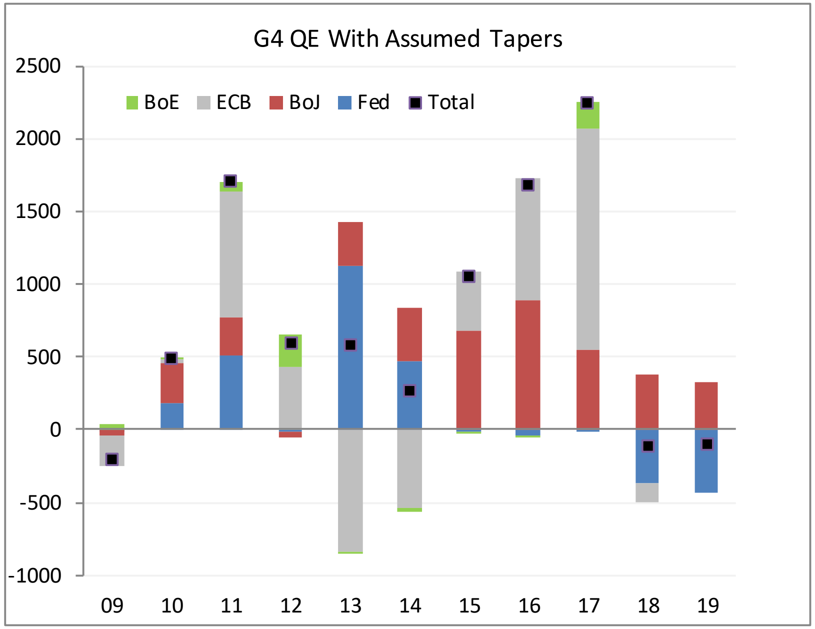


As a multiple of nominal GDP, equities have rarely exceeded today's valuations.

Risks: Central banks

<u>Cautious Fed</u>

- Symmetric inflation target.
- Fiscal stimulus peaks next year.
- Wary of trade disengagement's impact on business uncertainty.
- Aware of easing global QE.
- Fed balance sheet to stay 'much bigger' than before crisis'.
- Rules are complex and varied.



Economic success brings with it liquidity withdrawal, thus harder for financial markets to respond favorably.

Investment Office
Global Fixed Income

Scenarios

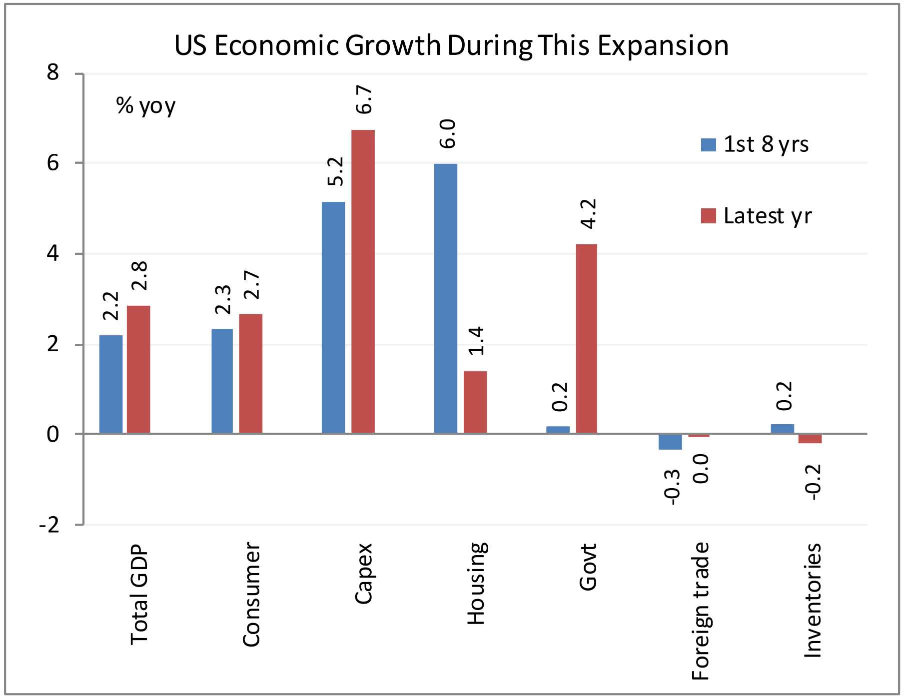
DOWNSIDE (33%)	CENTRAL (50%)	UPSIDE (17%)
"Valuation and policy risks"	"Growth improvement sustains"	"Positive Synchronicity"
"Free lunch" in early stage of fiscal stimulus gives way to higher rates and 'crowding out'.	Modest rise in US potential growth sustains expansion through 2020.	Self reinforcing acceleration in US productivity, helping tax reform to partly 'pay for itself'.
'Virtuous' cycle of balance sheet repair and spending unwinds.	Momentum in global economy levels out but does not fall away.	Globally, infrastructure accelerates, tech worries turn out to be idiosynchratic.
US' disruptive engagement threatens global upswing and CA recycling. Watch China flows and CNY.	Federal Reserve allows the expansion (and inflation) to run for longer.	
	China has the tools to manage the downside to its economy from trade disruptions.	
	Well signaled (and flexible) removal of stimulus here and abroad.	

Macro: Supporting Charts

John Rothfield

Investment Office

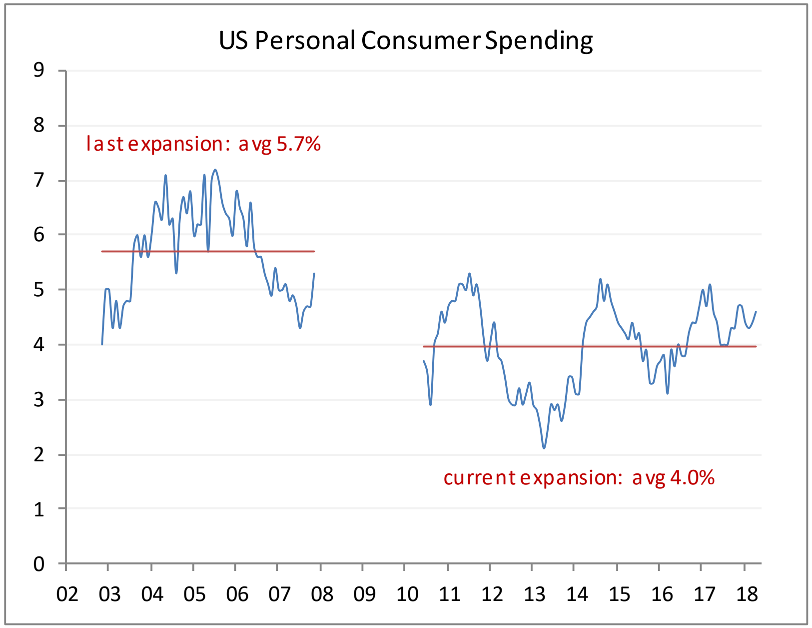
US economic growth

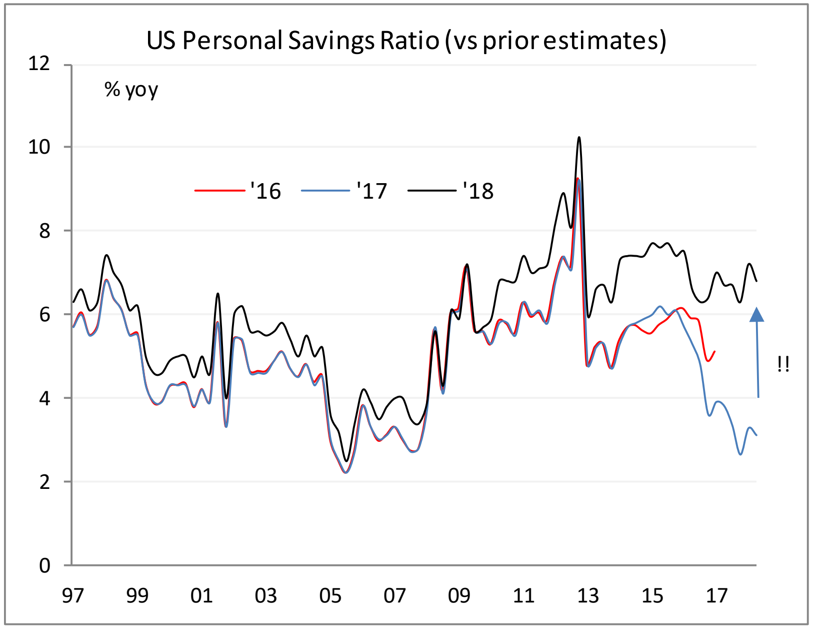


Acceleration in past year.

- Consumer solid on income, taxes balance sheet and confidence.
- Higher defense, S&L spending.
- Business supported by two year global upswing.
- Initial free ride on fiscal crowding out.
- Strong mining investment.
- Some front running of US exports where retaliatory tariffs are feared.

Consumer - spending

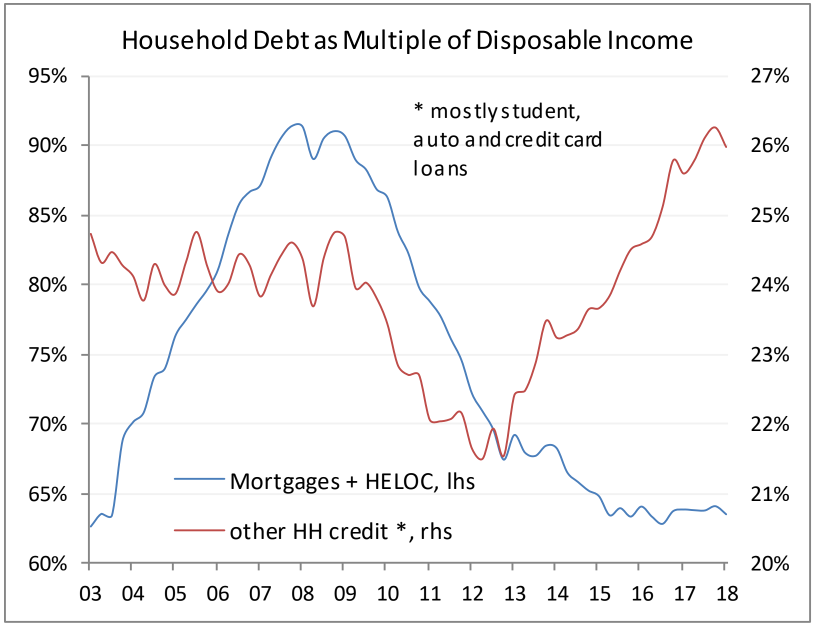




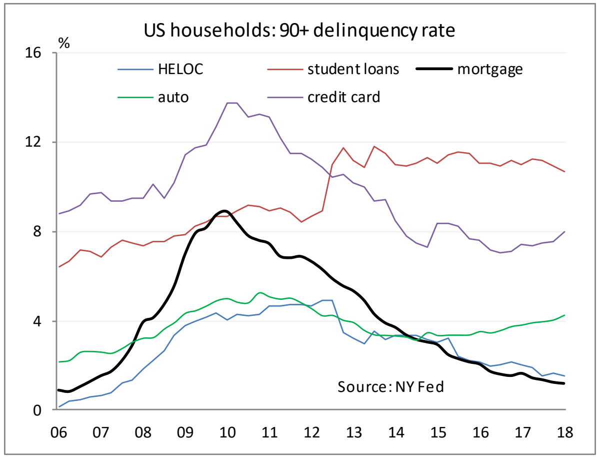
Consumer spending growth picks up to above its expansion average.

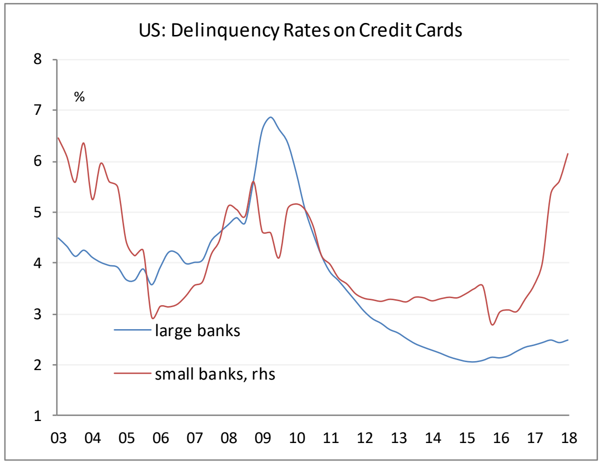
The 2Q18 US GDP report showed a huge upward revision to US household savings flow = much bigger spending cushion should balance sheets falter.

Consumer - debt



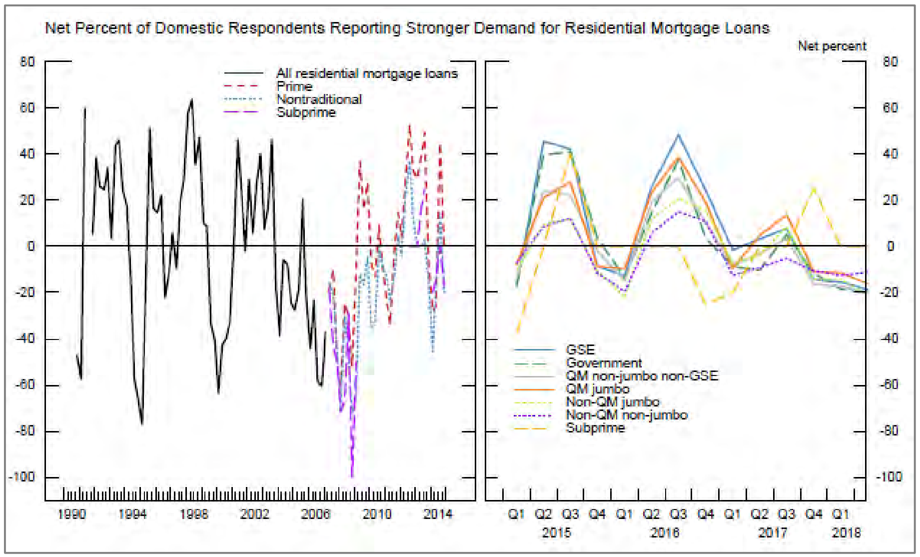
5 % point rise in personal income share for consumer credit, but outstanding mortgages flat as income share.



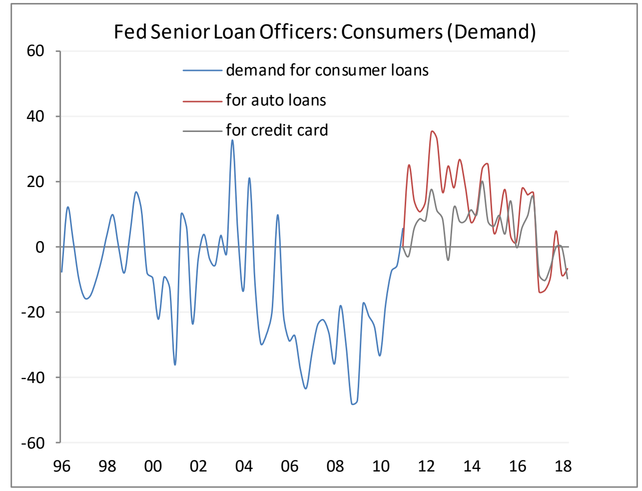


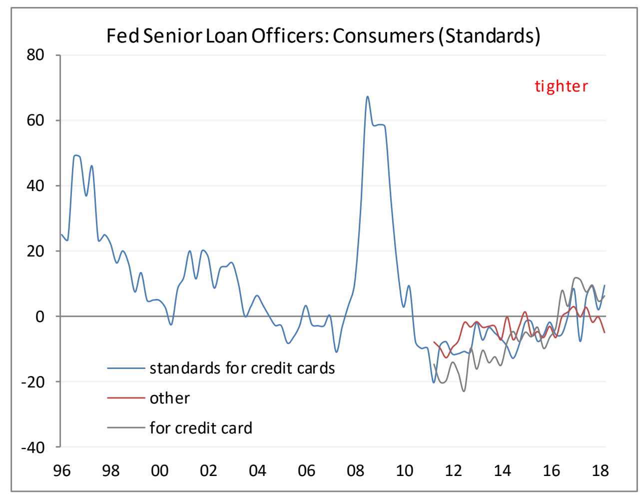
Delinquencies creeping up for credit cards and autos, with small banks seeing a spike in credit card delinquencies.

Consumer - credit



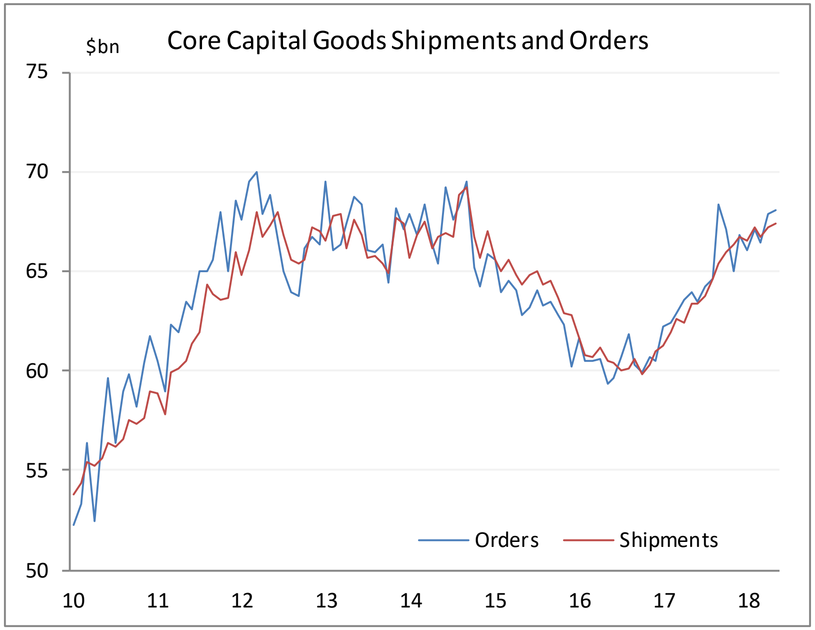
Soft demand for mortgages



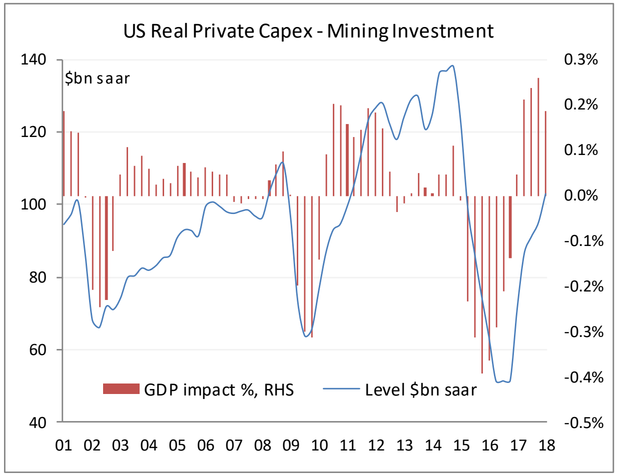


Easing demand and tightening standards for consumer loans

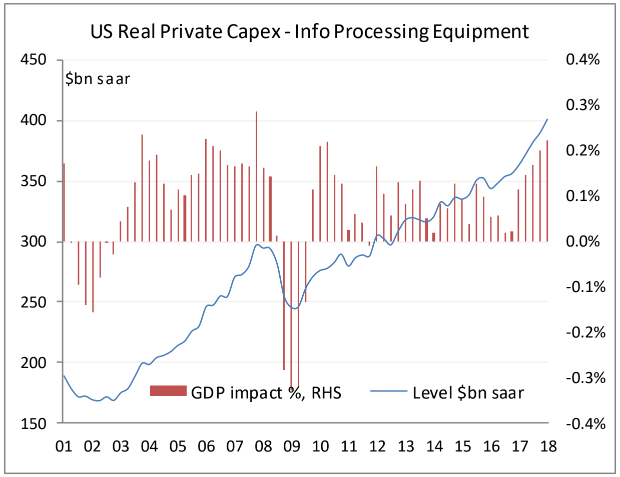
Business capex



Upswing began with the improvement in global trade, starting in 2016.



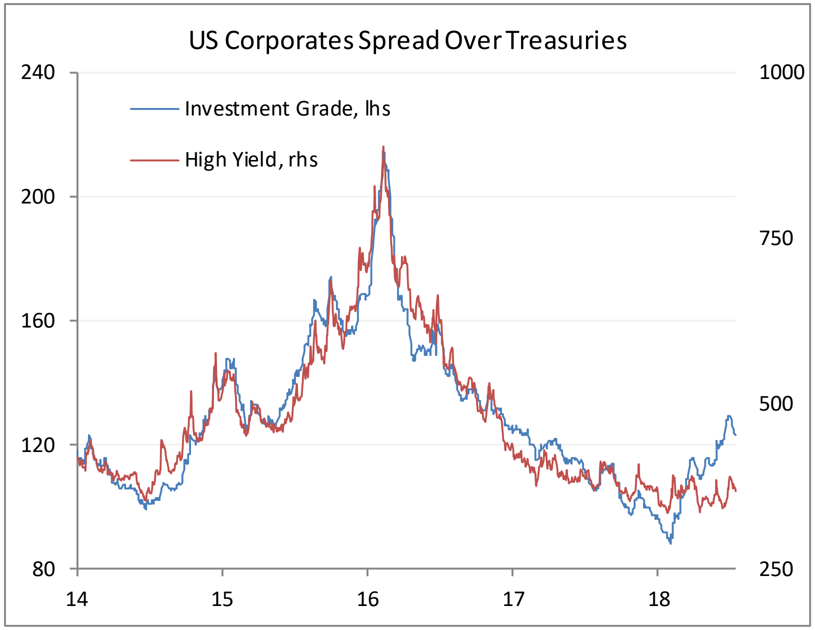
Positive mining investment related to rebounding energy prices.



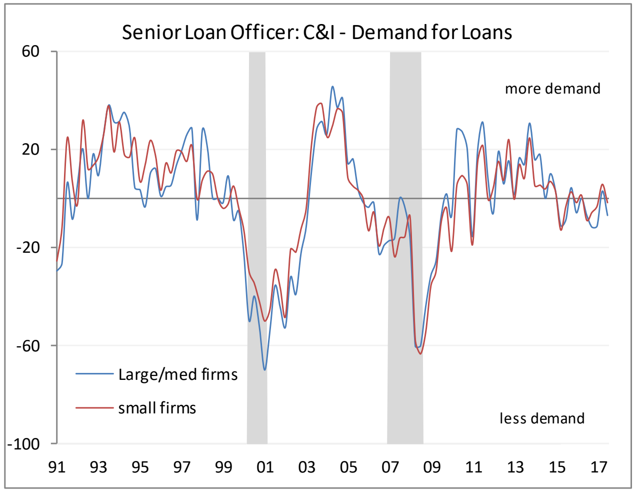
Business investment in information processing equipment has improved rapidly in recent quarters.

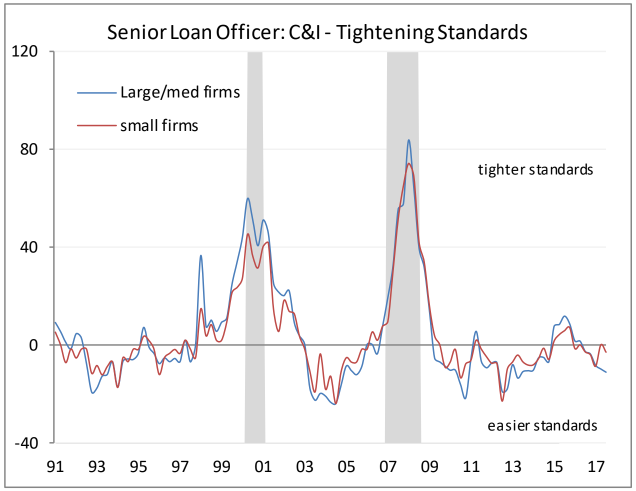
CalPERS Investment Office Global Fixed Income

Corporates



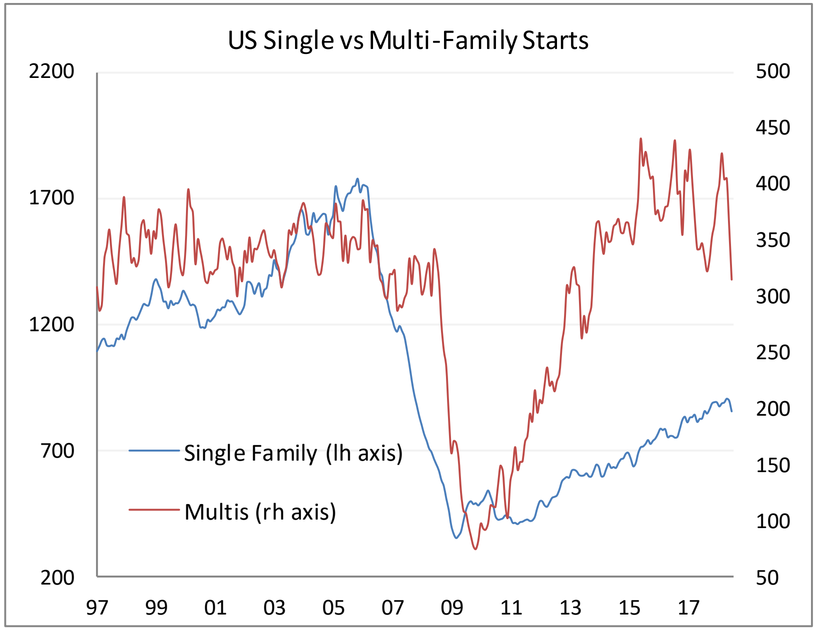
Corporate borrowing costs have risen as debt increases.



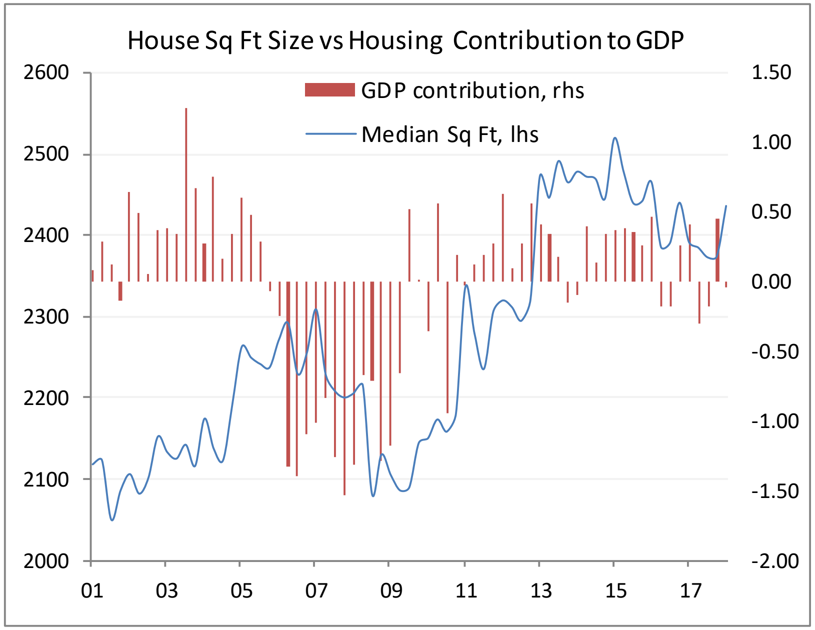


Commercial and industrial loans – softer demand and tighter lender standards, but still close to neutral.

Housing

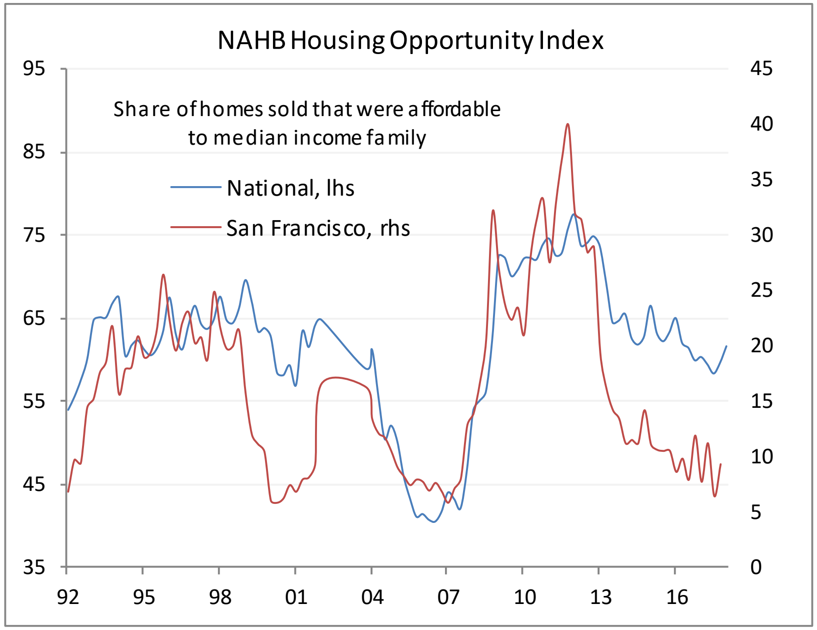


Single family has recently picked up relative to multi family starts.

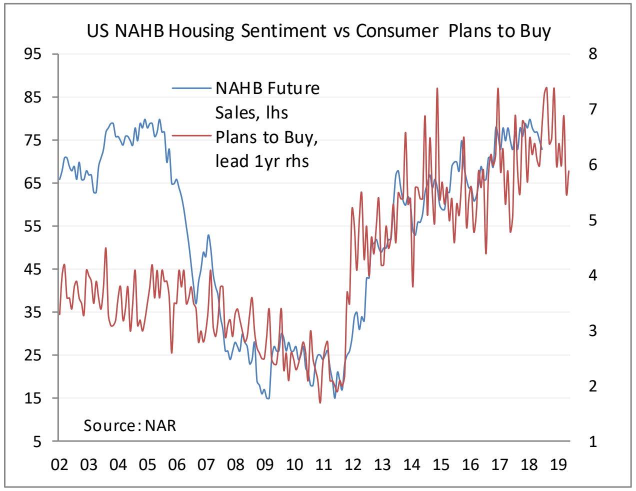


Square footage declines have been one reason for low GDP impact of housing cycle upswing.

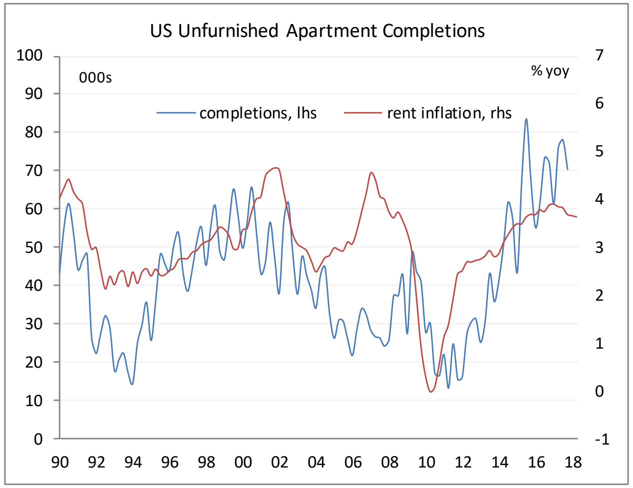
Housing – affordability



Apart from Bay Area, LA etc, housing has not become a 00s style bubble.

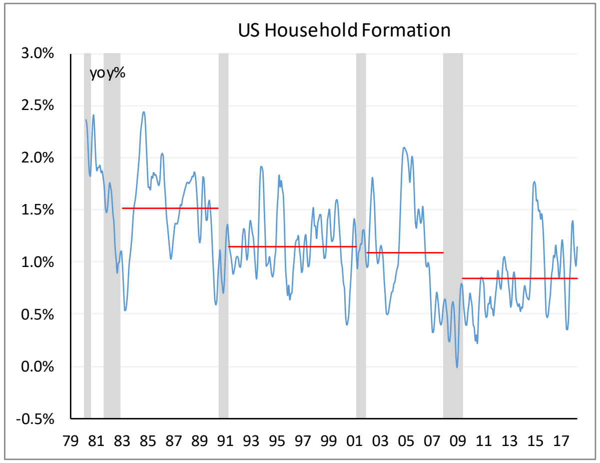


That said, jump in plans to buy have likely reached saturation.

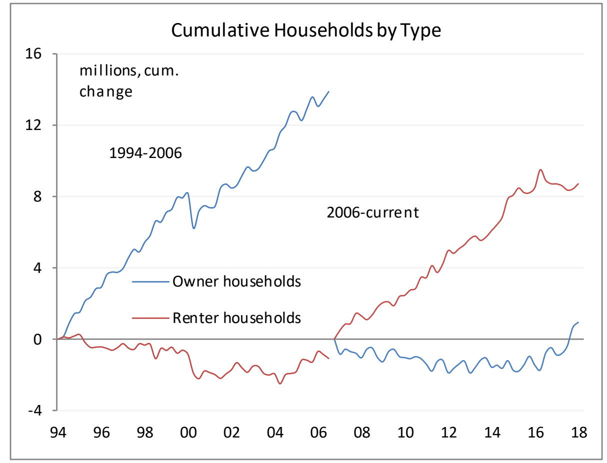


Bullish completions and rents cycle may be ending.

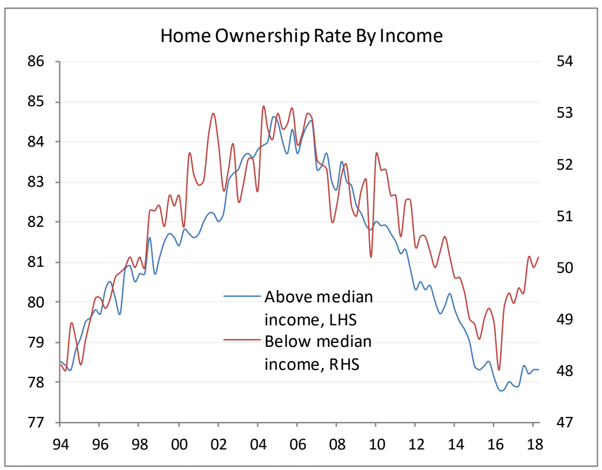
Housing - formation



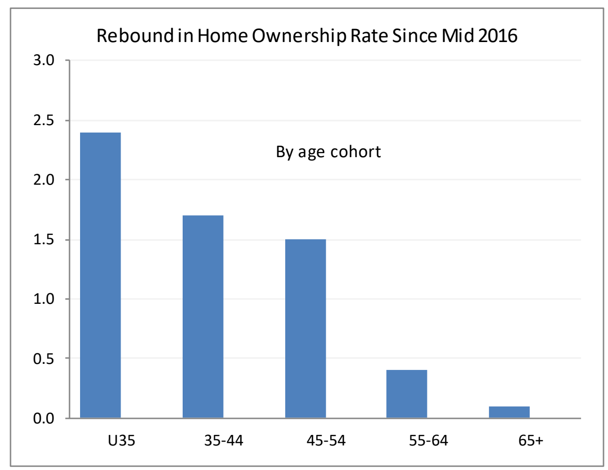
Overall household formation has improved



… and within the total, <u>owner</u> households cohort has improved



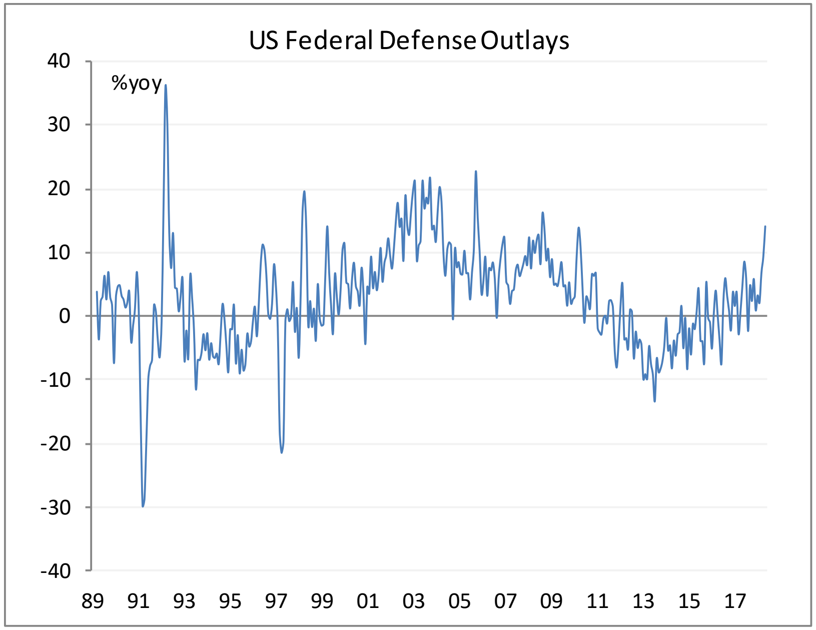
Ownership rate most improved for below median income earners

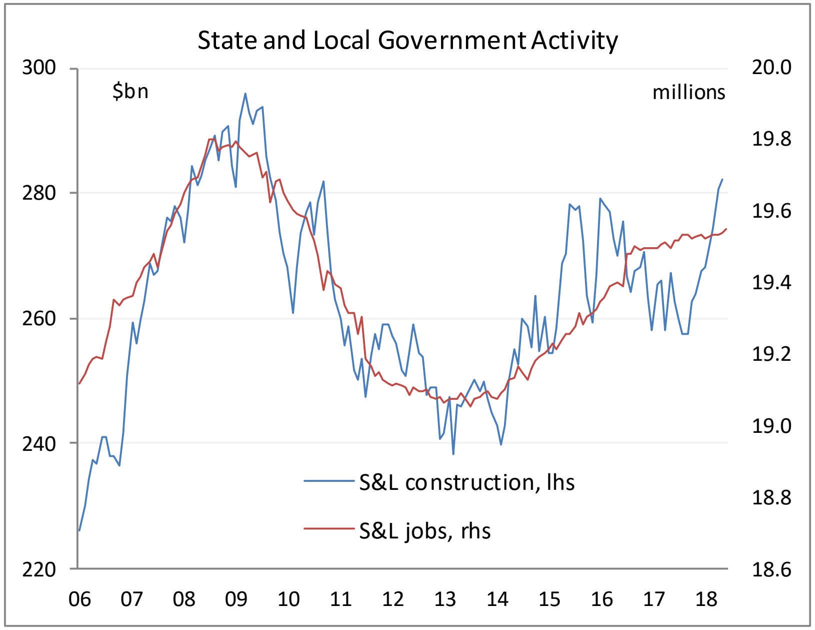


…. and for young age cohorts

CalPERS Investment Office Global Fixed Income

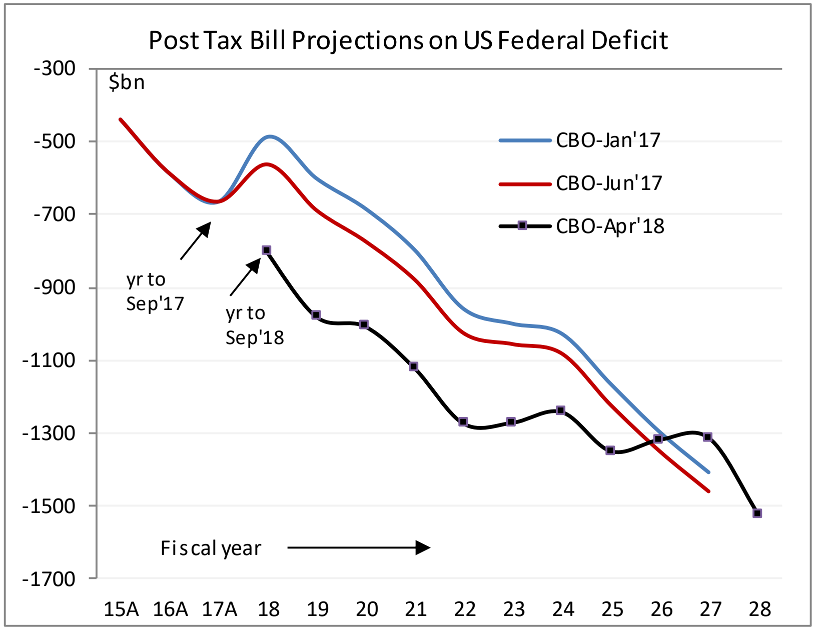
Government - spending

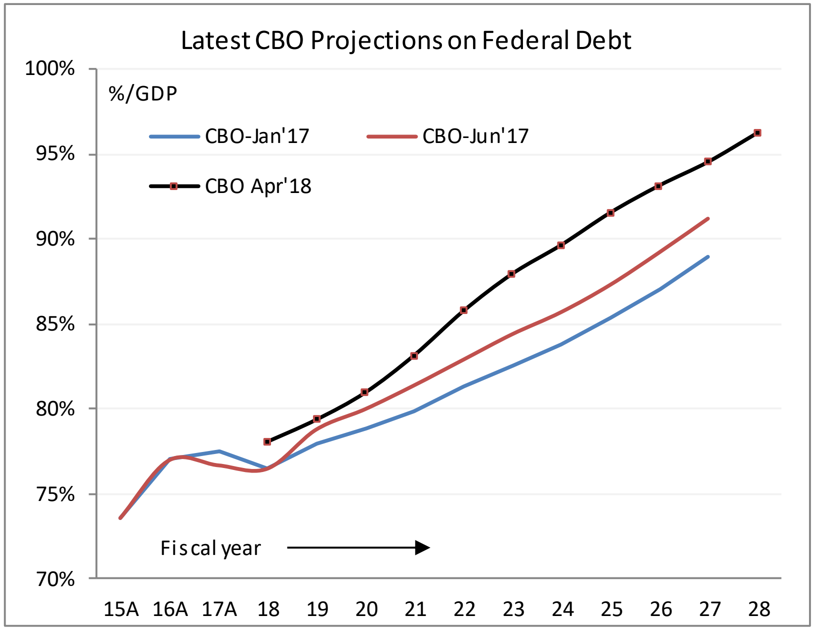




Public spending has been increasing for defense and at state and local level.

Government - debt





US federal debt and deficits set to rise sharply, even assuming personal tax “fiscal cliff” takes back last year’s tax cuts in 2025.

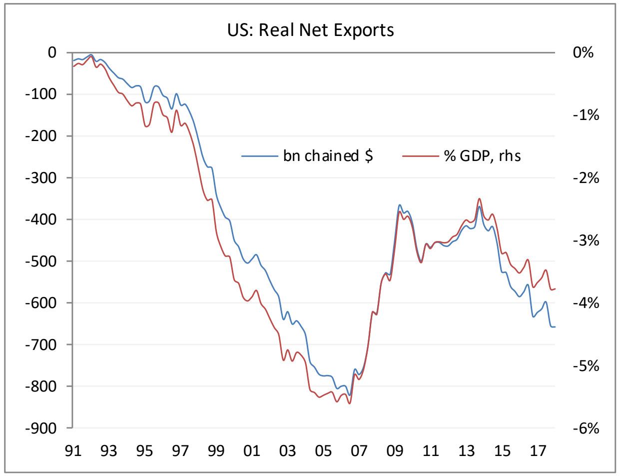
CalPERS Investment Office Global Fixed Income

Foreign Trade

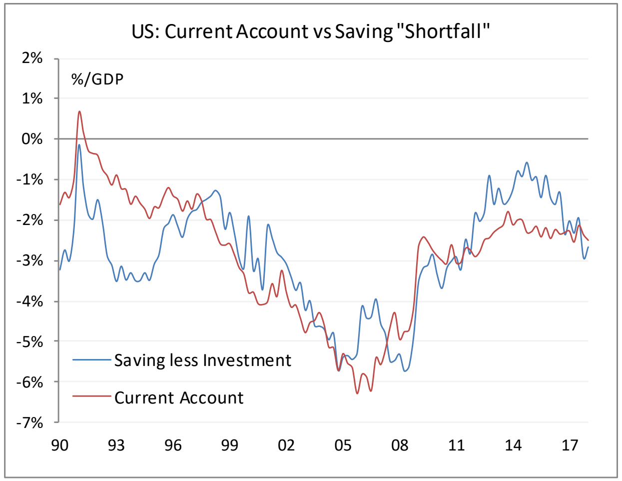
US Balance of Trade in Goods and Services with:

$bn	Total	Canada	Mexico	Japan	Korea	China	Germany	UK	Other EU	OPEC
2001	-362	-48	-26	-55	-12	-81	-31	2	-29	-34
2002	-419	-44	-33	-57	-12	-102	-40	-2	-32	-31
2003	-494	-47	-37	-54	-12	-123	-43	-4	-39	-50
2004	-610	-61	-42	-61	-18	-162	-50	-1	-45	-70
2005	-714	-72	-45	-67	-13	-201	-54	-2	-52	-90
2006	-762	-61	-59	-76	-10	-234	-55	2	-52	-100
2007	-705	-53	-69	-72	-9	-257	-51	11	-40	-119
2008	-709	-61	-59	-60	-7	-263	-50	9	-18	-169
2009	-384	-3	-42	-28	-5	-220	-32	10	-1	-52
2010	-495	-6	-58	-43	-4	-261	-39	9	-16	-86
2011	-550	-11	-57	-45	-5	-279	-53	15	-20	-114
2012	-537	-5	-54	-58	-8	-295	-66	12	-22	-81
2013	-461	-4	-48	-59	-9	-295	-73	5	-16	-47
2014	-490	-11	-51	-54	-15	-315	-80	11	-25	-27
2015	-499	4	-58	-55	-18	-334	-77	12	-38	31
2016	-502	7	-62	-56	-17	-308	-67	15	-40	17
2017	-552	3	-69	-57	-9	-336	-67	16	-50	9
1Q18	-156	4	-18	-15	0	-93	-19	6	-17	1

Trade deals or tariffs are unlikely to narrow the US trade deficit.



Exports will get temporary relief from strong shipments of soybeans etc ahead of retaliatory tariffs.



Ultimately the external imbalance reflects the US savings-investment gap.

Global - IMF Outlook Update

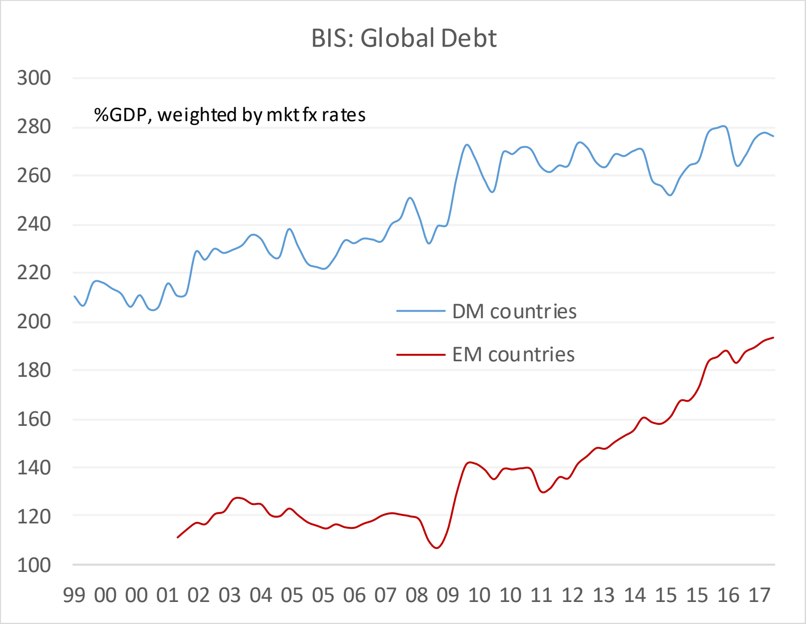
Table 1. Overview of the *World Economic Outlook* Projections
(Percent change, unless noted otherwise)

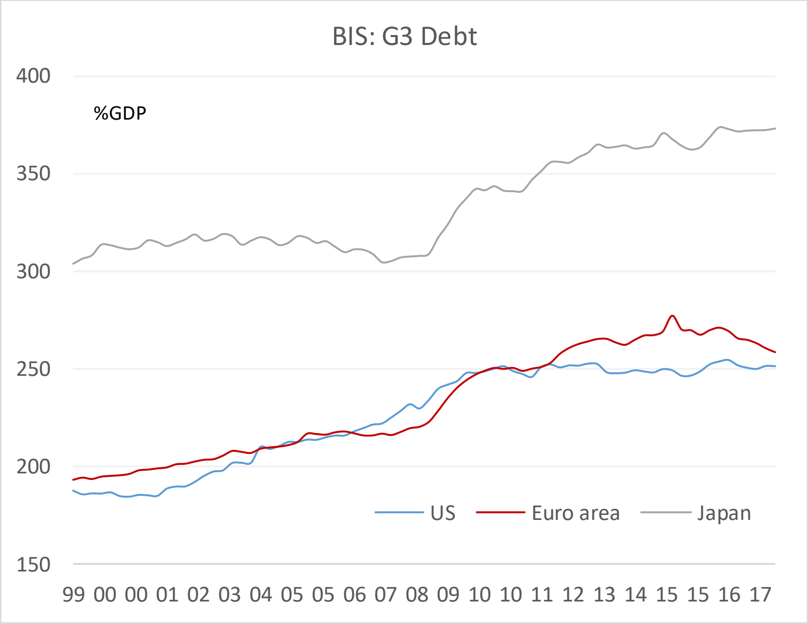
	Year over Year					
			Projections		Difference from April 2018 WEO Projections 1/	
	2016	2017	2018	2019	2018	2019
World Output	**3.2**	**3.7**	**3.9**	**3.9**	**0.0**	**0.0**
Advanced Economies	**1.7**	**2.4**	**2.4**	**2.2**	**–0.1**	**0.0**
United States	1.5	2.3	2.9	2.7	0.0	0.0
Euro Area	1.8	2.4	2.2	1.9	–0.2	–0.1
Germany	1.9	2.5	2.2	2.1	–0.3	0.1
France	1.1	2.3	1.8	1.7	–0.3	–0.3
Italy	0.9	1.5	1.2	1.0	–0.3	–0.1
Spain	3.3	3.1	2.8	2.2	0.0	0.0
Japan	1.0	1.7	1.0	0.9	–0.2	0.0
United Kingdom	1.8	1.7	1.4	1.5	–0.2	0.0
Canada	1.4	3.0	2.1	2.0	0.0	0.0
Other Advanced Economies 3/	2.3	2.7	2.8	2.7	0.1	0.1
Emerging Market and Developing Economies	**4.4**	**4.7**	**4.9**	**5.1**	**0.0**	**0.0**
Commonwealth of Independent States	0.4	2.1	2.3	2.2	0.1	0.1
Russia	–0.2	1.5	1.7	1.5	0.0	0.0
Excluding Russia	1.9	3.6	3.6	3.7	0.1	0.1
Emerging and Developing Asia	6.5	6.5	6.5	6.5	0.0	–0.1
China	6.7	6.9	6.6	6.4	0.0	0.0
India 4/	7.1	6.7	7.3	7.5	–0.1	–0.3
ASEAN-5 5/	4.9	5.3	5.3	5.3	0.0	–0.1
Emerging and Developing Europe	3.2	5.9	4.3	3.6	0.0	–0.1
Latin America and the Caribbean	–0.6	1.3	1.6	2.6	–0.4	–0.2
Brazil	–3.5	1.0	1.8	2.5	–0.5	0.0
Mexico	2.9	2.0	2.3	2.7	0.0	–0.3

<u>July 2018</u>

- Global growth is projected to reach 3.9 percent in 2018 and 2019, in line with the forecast of the April WEO, but the expansion is becoming less even, and risks to the outlook are mounting.
- The rate of expansion appears to have peaked in some major economies and growth has become less synchronized.
- Growth projections have been revised down for the euro area, Japan, and the United Kingdom, reflecting negative surprises to activity in early 2018.
- Among emerging market and developing economies, growth prospects are also becoming more uneven, amid rising oil prices, higher yields in the United States, escalating trade tensions, and market pressures on the currencies of some economies with weaker fundamentals.

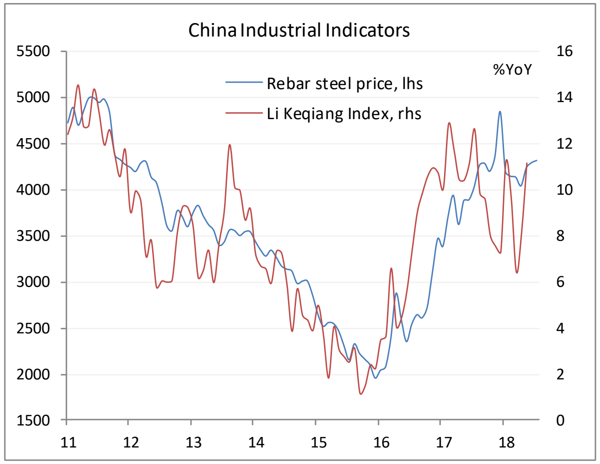
Debt still growing in Emerging Markets



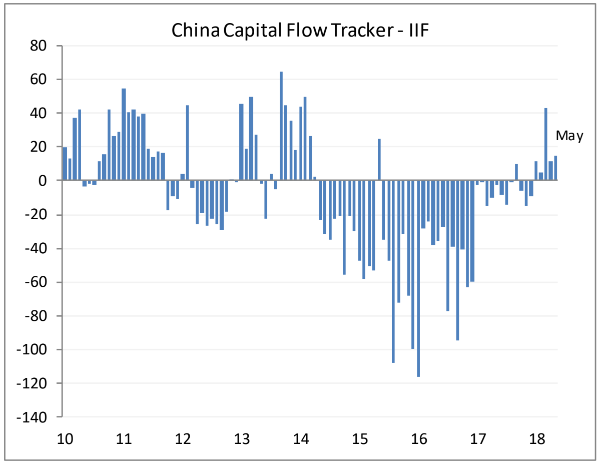


CalPERS Investment Office Global Fixed Income

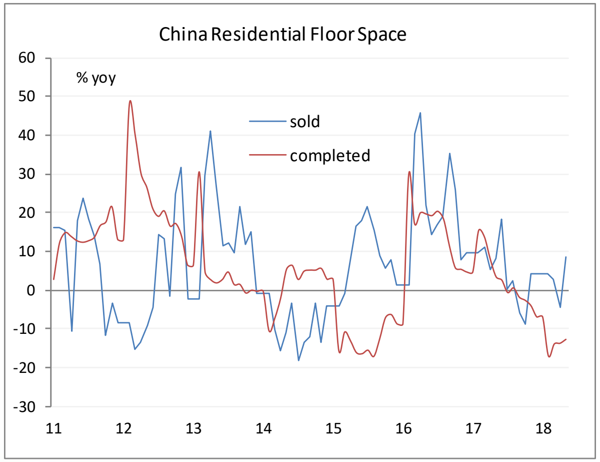
China doing ok, but risks around trade and flows



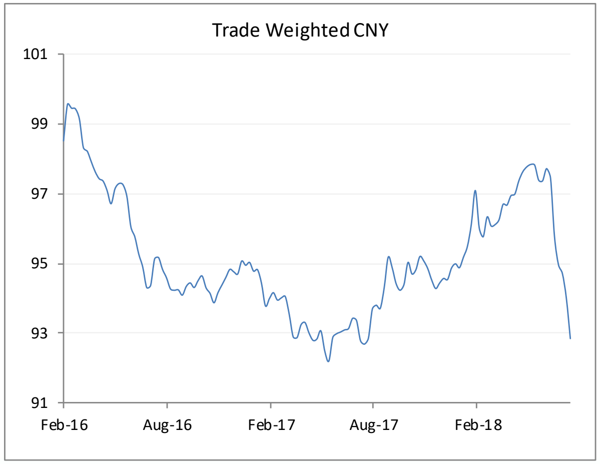
Industrial sector hanging on



China policy degrees of freedom needs benign flows to continue



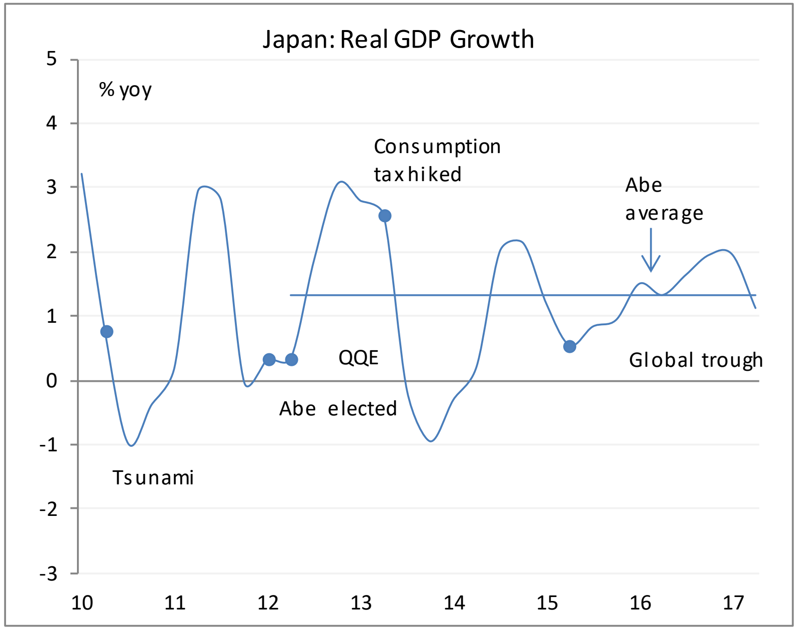
Residential mini-cycle may be bottoming out.

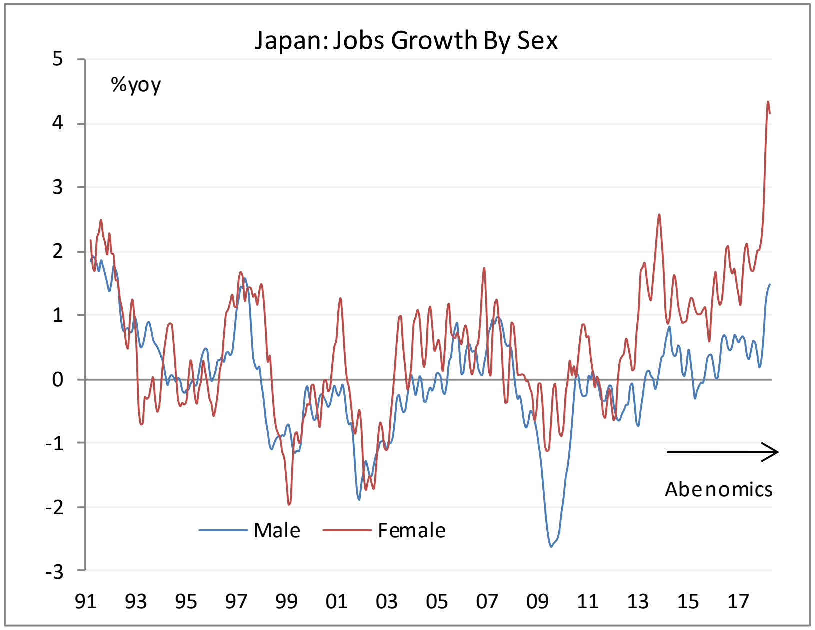


… but watch for any signs of weakness in Chinese Yuan

CalPERS Investment Office
Global Fixed Income

Japan is growing above potential

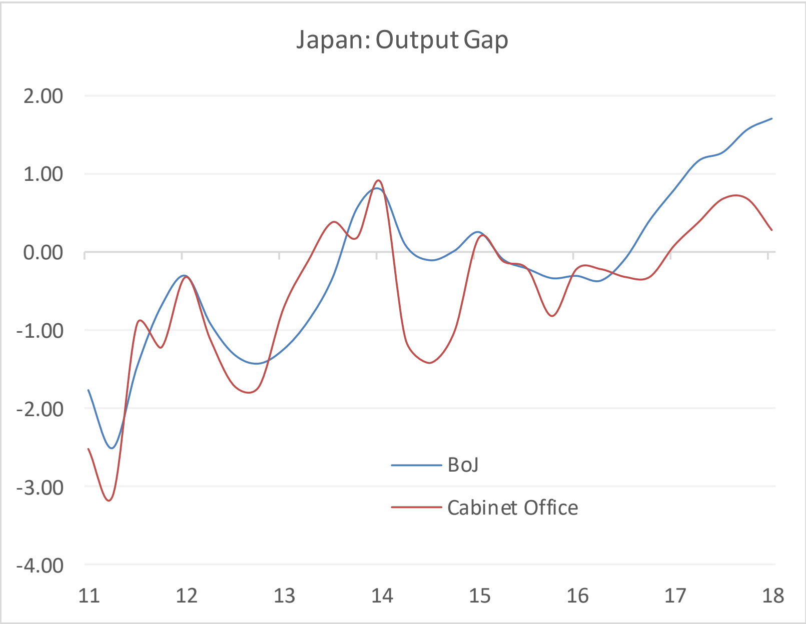


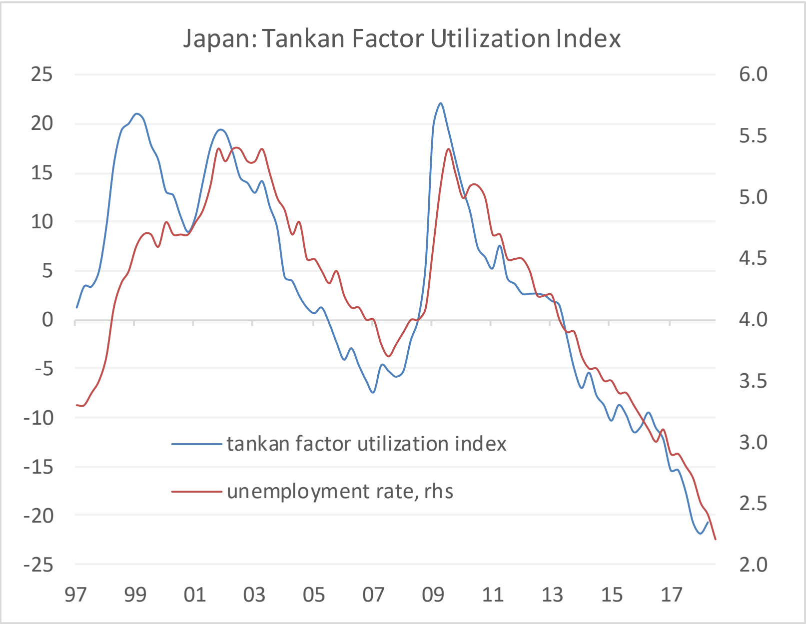


GDP growth through "Abenomics" period is actually a good result given demographics drag.

Measures to attract females into workforce have been successful, albeit lower paying/ productivity work on average.

Japan ... but with a short runway

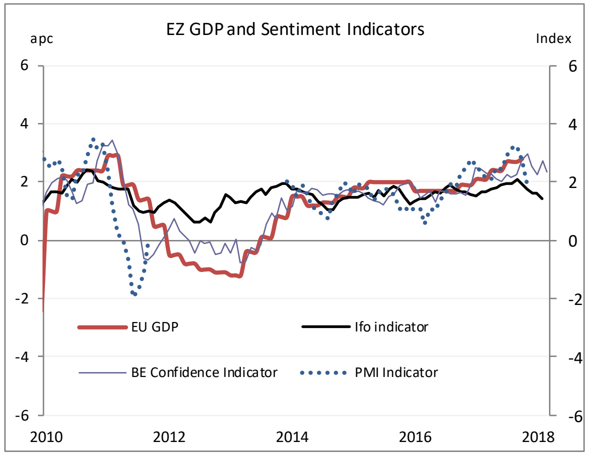




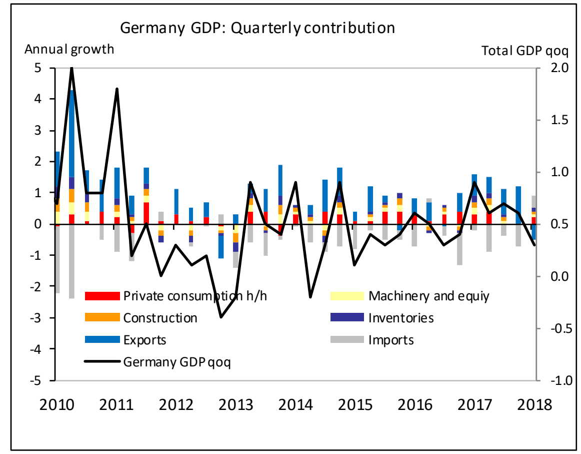
Output gap shows that the Japanese economy is overheated.

Same goes for unemployment rate and "use of existing capacity" from tankan survey.

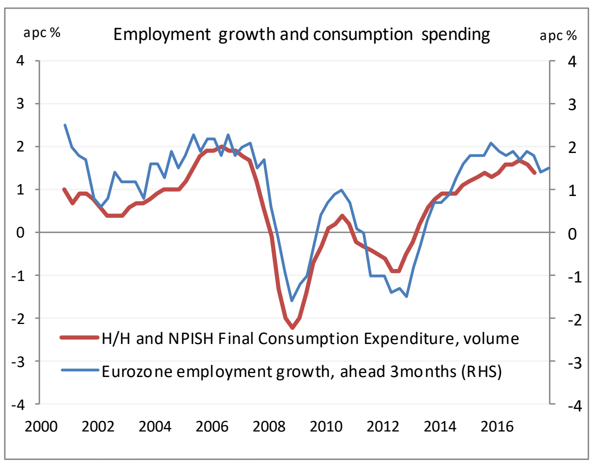
Euro Area- hard and soft data are easing back



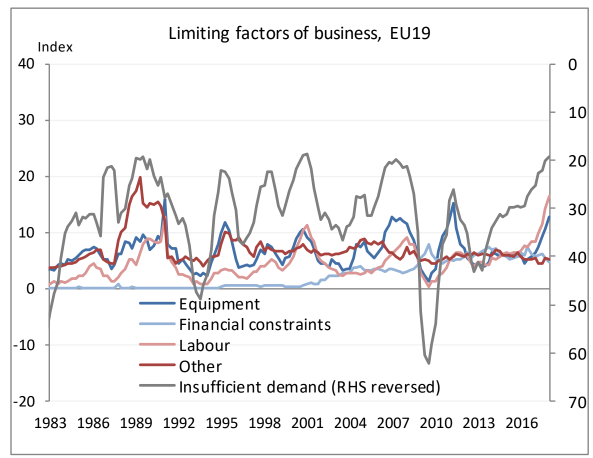
Forward momentum in growth is softening



Slowing world trade is impacting large exporting nations.



Consumption growth is easing back.



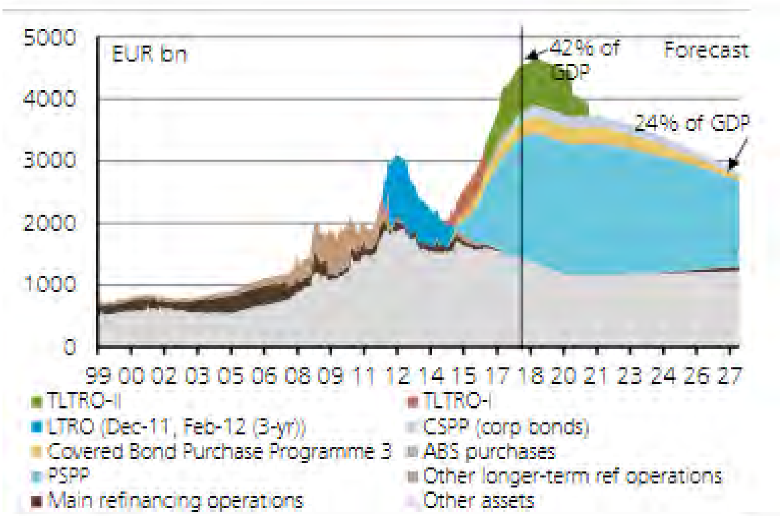
Capacity pressures are starting to build

CalPERS Investment Office Global Fixed Income

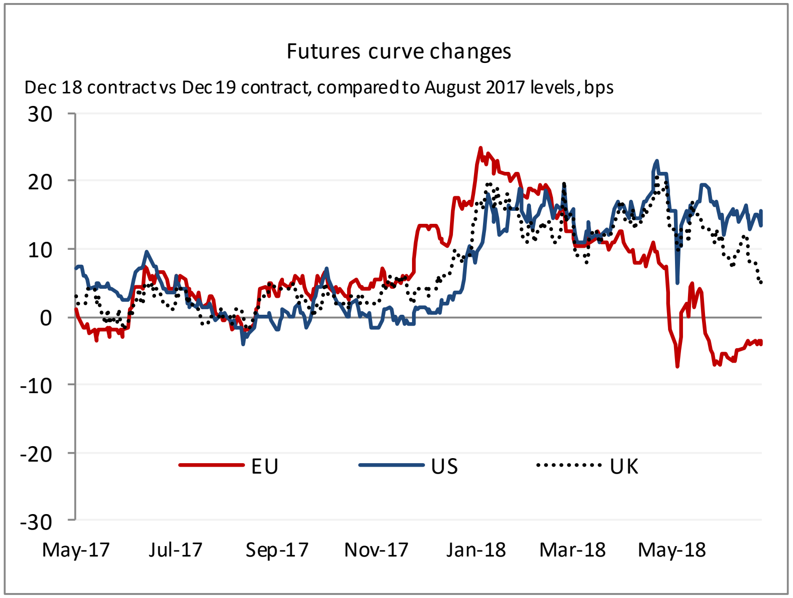
Euro Area- cautious ECB unwind

- QE purchases to reduce from €30bn/month to €15bn/month from October 2018;
- QE purchases to end December 2018;
- Depo rate unchanged until "*at least through the summer of 2019*"; and
- Reinvestment plan still unclear
  - ECB favors the stock of assets to move only very slowly.
  - Capital key restrictions make duration neutral purchases very difficult.

ECB balance sheet and UBS projection



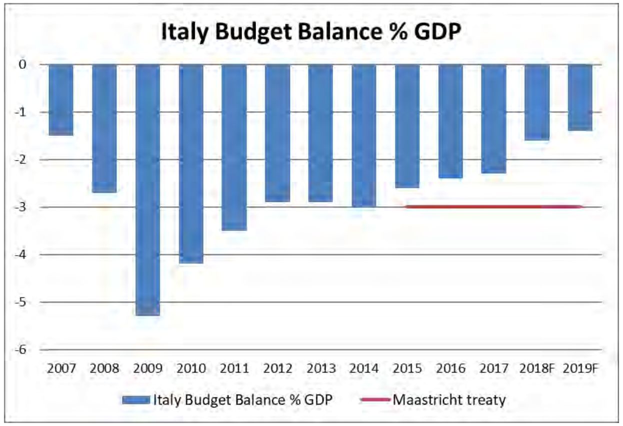
Source: Haver, ECB, UBS



Euro Area - political risk down but still present

Italy update – right-wing rhetoric has been pared back

- The new Italian government is comprised of an unconventional combination of right and left wings: Lega + M5S.
- The new government is “only” seeking 0.5% of GDP fiscal leeway for 2019, which is quite a dramatic decrease from the pre-election 6% pledges.
- The outcome has been market friendly, although Italian bond yields remain elevated.



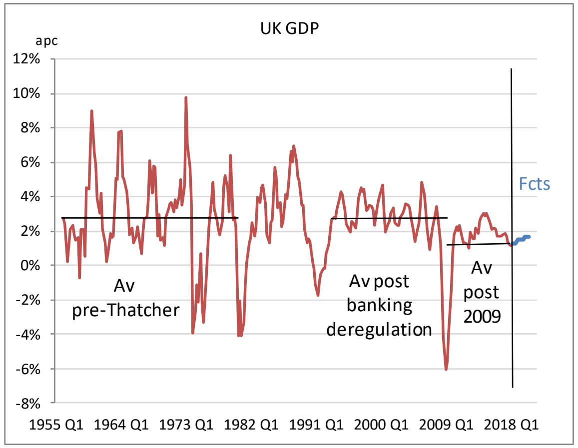
Spain update – Catalonia crisis is over

- Puigdemont was not successful trying to force central government’s hands; Quim Torra was appointed as the new President of Catalonia by the King of Spain. (Torra was a former lawyer and journalist from Catalonia, and does not belong to any political party.)
- Spanish PM Rajoy was ousted due to corruption within his party, Sanchez became the acting PM.
- Sanchez promised to have an early election but it is in his favor to delay. His party controls only 84 of 350 seats in the Congress.

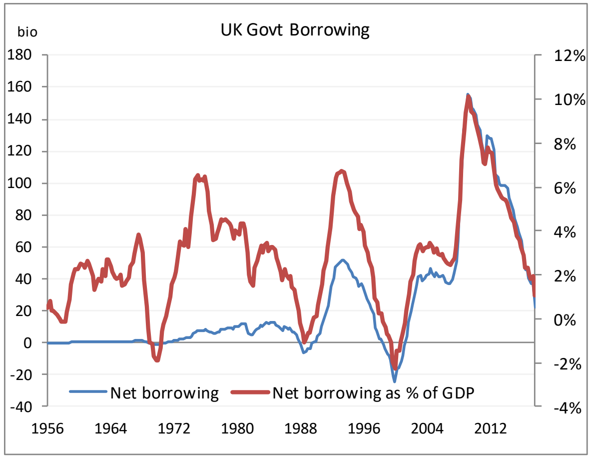
Germany coalition government update – delicately balanced

- A grand coalition was eventually agreed between the CDU, CSU, and SPD parties;
- The SPD leader, Martin Schulz, resigned his position due to SPD’s poor polling figures;
- Coalition delicately balanced but if it fails, there is a risk the AfD, the far right anti-immigration party, could increase its power in Bundestag.
- In a recent poll, the AfD surpassed the SPD in popularity and is gaining on the CSU.

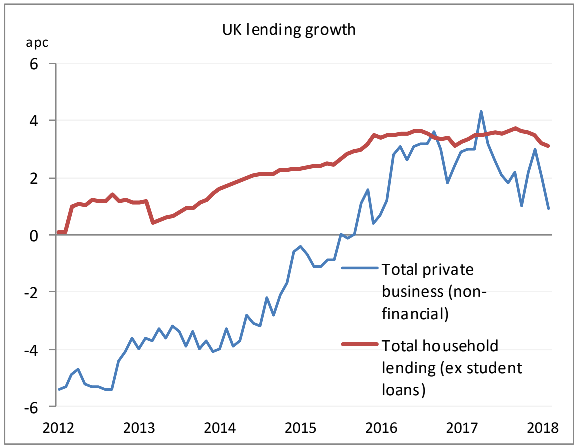
UK - Mediocre bounce back from cold winter



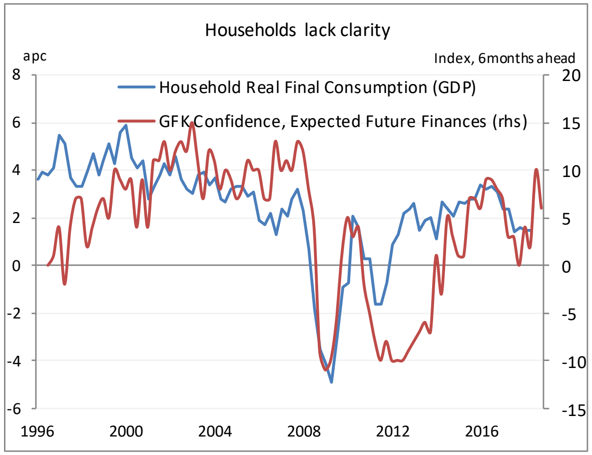
Growth weakened over the end of 2017 but analysts expect it to recover in 2019-2021.



Rising income tax and VAT receipts reduced govt deficit and borrowings.



Lending growth is tapering and auto loan growth falls.



Householders are facing uncertainty.

UK Brexit – increasingly looking difficult

The UK Conservative party continues to fight internally about its agreed stance on what the UK is willing to present as a negotiating stance to the EU.

This has led to a number of high profile resignations (Boris Johnson, David Davis) and risks a vote of no confidence, either ousting May as PM or leading to a general election.

Time is running out to negotiate with the EU.

The next European Parliament meeting is in October, where the EU will decide whether to move forward with negotiations. A lack of clarity of **the UK's stance will stymie this.**

A Canada-type model is the most recent working hypothesis.

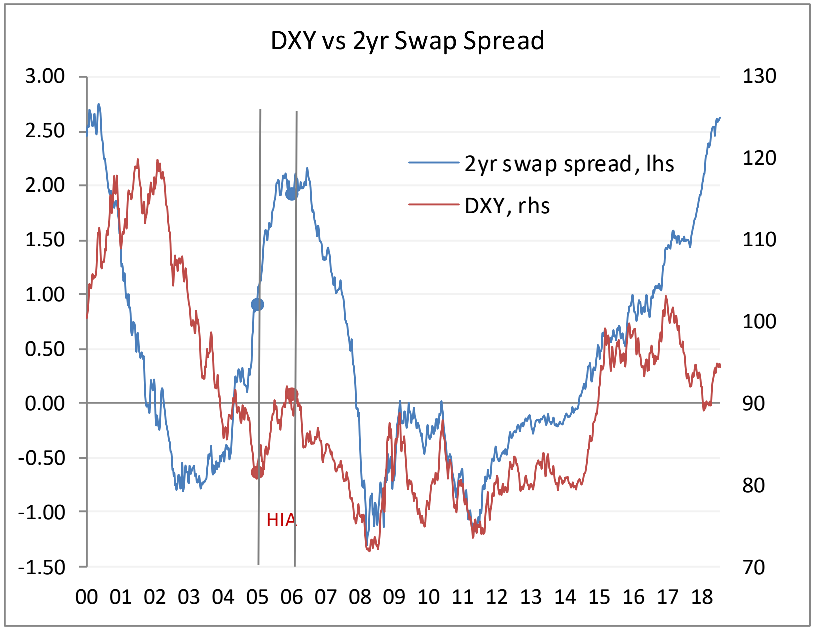
Prime Minister May ruled out a Norwegian-type model for the UK's relationship in a post-Brexit world. This model would mean the UK paid to be part of the single market and receive full access (goods and services trade) but would mean the UK is bound to accept all EU laws;

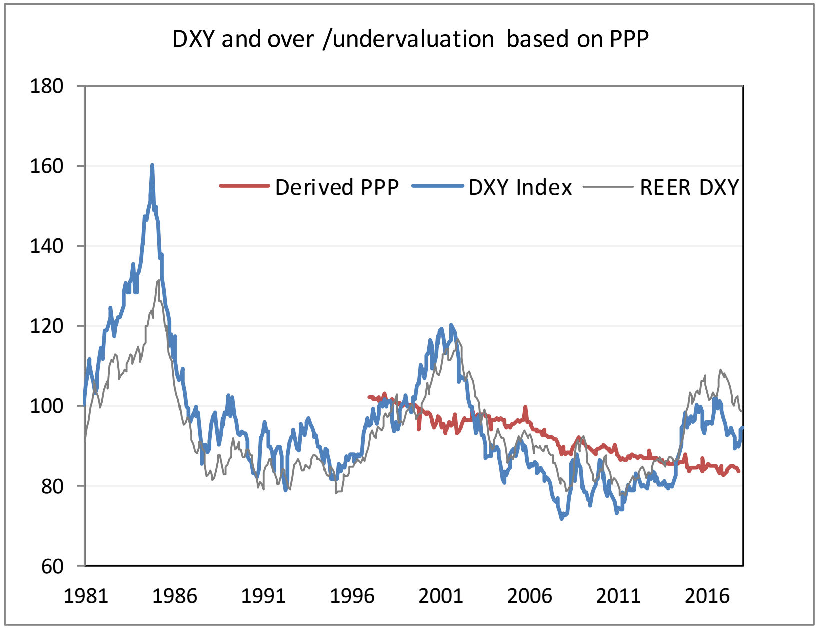
The Canada-type model – May's preferred option – will leave goods trade tariffs with the EU at zero but would result in restricted services trade (UK financial services are a major driver of growth and productivity). This model has implications for borders checks, and may require a border between Northern Ireland and its southern EU counterpart, something that would be contrary to The Good Friday Agreement and will not be accepted by Northern Ireland.

The UK and EU have started its next negotiation round, where the EU will consider the latest UK plan, known as the Chequers plan.

The implications for the UK changes daily, and is dependent upon politicking and tactics.

US dollar

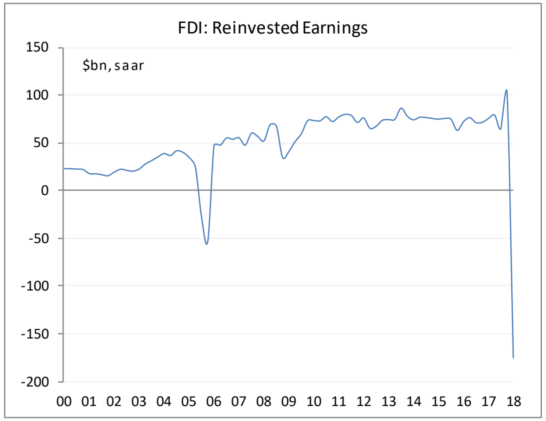


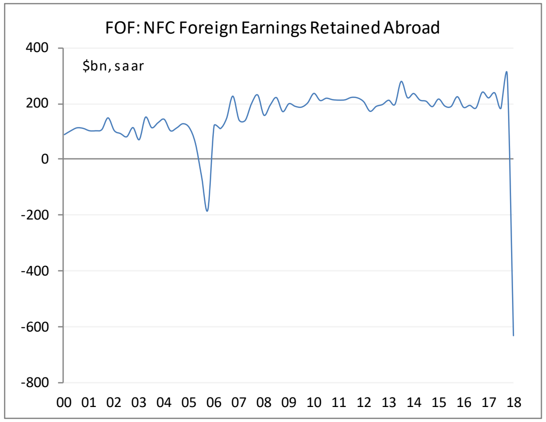


Tepid USD response to attractive rates (and repatriation).

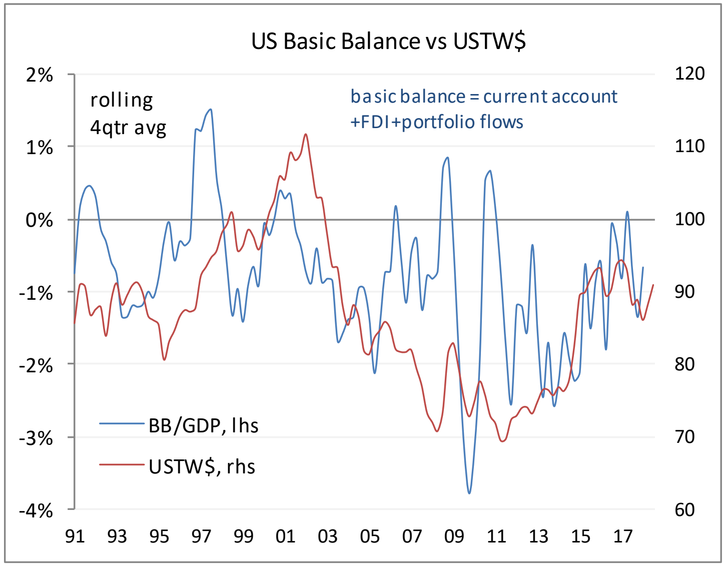
The dollar is already expensive.

US balance of payments - repatriations





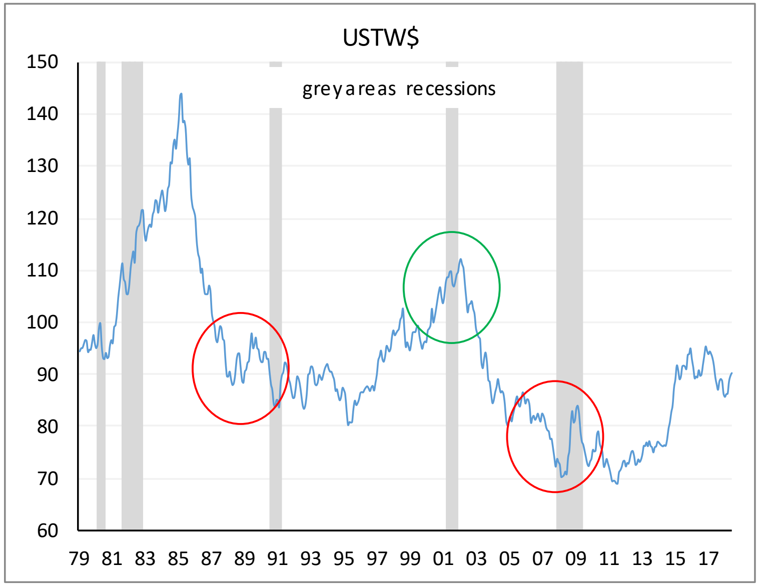
Positive FDI flows results from tax reform on retained earnings abroad … much bigger impact than 2005

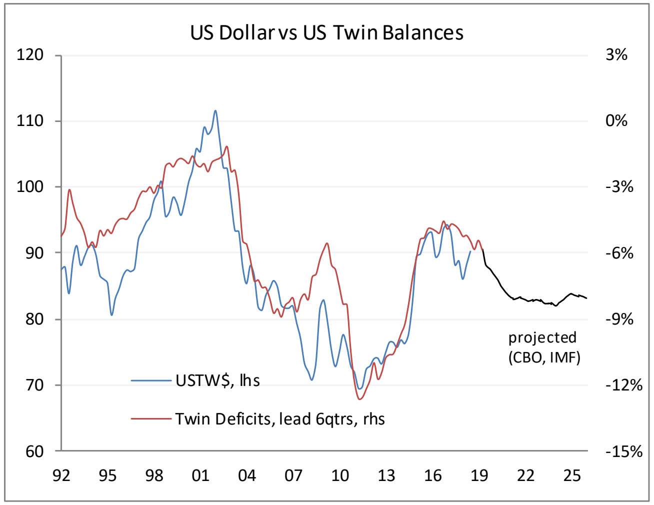


But overall, improvement in US "basic balance" stalls .. as does US$.

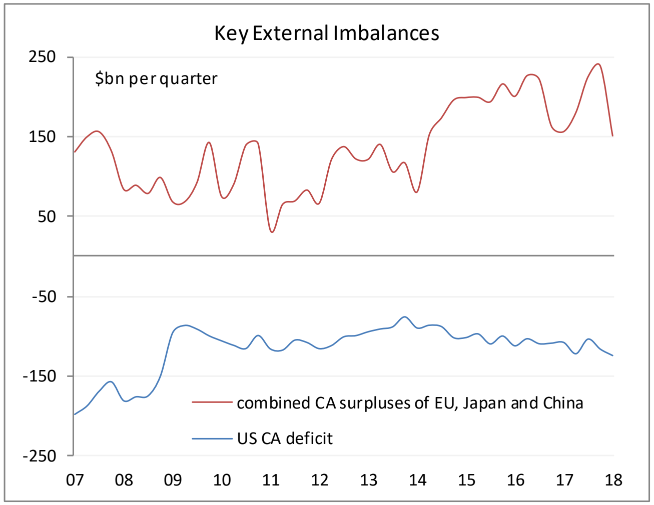
CalPERS Investment Office Global Fixed Income

US dollar





… especially when “twin deficits” are rising



Trade wars with US' major funders unlikely to end well.

<u>No guarantee of $US strength</u>

US deficits can be difficult to fund during late-business cycle periods

CalPERS | Investment Office Global Fixed Income