Bond Market Contact Group
(European Central Bank)

Bond market outlook

12 February 2019

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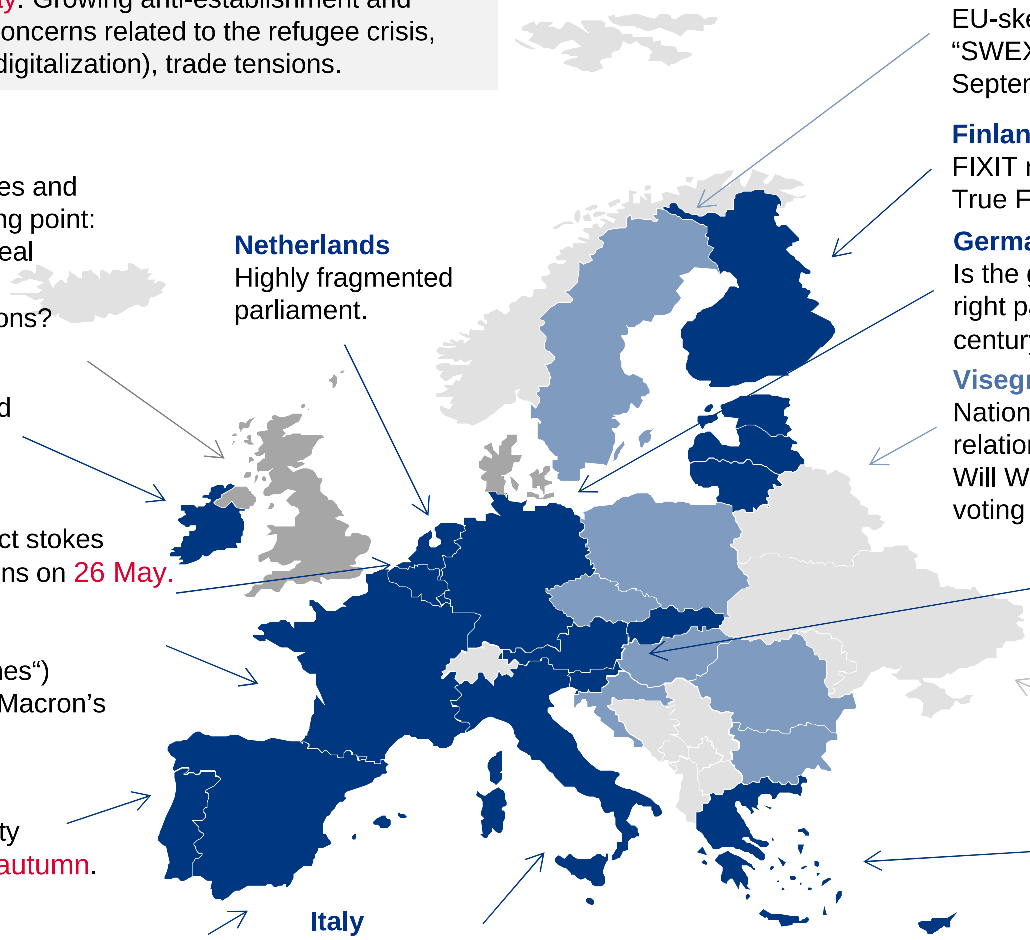
Key developments

- **Politics: Europe is still not running short of political risks**, with investors currently being most watchful of the Brexit negotiation endgame, potential lack of Italian fiscal discipline, "gilet jaunes" headwind on French President Macron's envisaged reform path and US-China trade tensions. Moreover, the European Parliamentary elections will be an existential moment for the continent – a struggle between Eurosceptic populists and more mainstream, establishment candidates.
- **Macro:** World economic growth, while still hovering at around potential, is now clearly beyond its peak. **Downside risks to the economic outlook have increased** in light of the ongoing loss of cyclical momentum, a multitude of unresolved (geo-)political tensions and rising medium-term recession probabilities. Positive output gaps and tighter labour markets are expected to result in a gradual rise in core inflation over time, but headline inflation will be depressed significantly over the next couple of months due to the collapse in oil prices. Ongoing de-globalisation would c.p. clearly be inflationary.
- **Monetary policy: Global central bank liquidity has peaked in 2018, which is deemed to be a structural headwind for financial markets**. The Federal Reserve is close to the end of its rate-hiking cycle in 2019. While acknowledging the more prominent downside risks to the Eurozone economy, the ECB has not yet capitulated on its "slow-motion exit". With net asset purchases having ended in December, besides the forward guidance on interest rates, the stock of assets and reinvestments are the key policy parameters. (T)LTROs back on the agenda.
- **Fixed Income:** Currently, more than one third of the Eurozone government bond universe is carrying a negative nominal yield. Eurozone sovereign bond markets remain prone to volatility, even if the ECB is inclined to follow a smooth path of normalisation. Overall, **forthcoming withdrawal of monetary policy accommodation and negative term premia pose downside risks for government bond markets** in the developed world **over the medium term**.
- **FX:** We expect that **a gradual phasing-out of cyclical and monetary "US exceptionalism"**, structural factors (in particular the US "twin deficit") and a still supportive valuation backdrop will offer moderate upside for the euro against the dollar. But tensions around Italy need to subside first.

Source: Allianz Global Investors, as of 31 January 2019. The statements contained herein may include statements of future expectations and other forward-looking statements that involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in such statements. We assume no obligation to update any forward-looking statement.

Politics: Europe rumbles on

EU and the Eurozone
EU Parliament election on 26 May. Growing anti-establishment and centrifugal political forces given concerns related to the refugee crisis, terror, economic disruption (e.g. digitalization), trade tensions.



UK
BREXIT as “leap in the dark”. Tories and Parliament split over Brexit. Sticking point: Irish border. Situation in flux: No deal crash-out? Delay of 29 Mar Brexit day? 2nd referendum? Snap elections?

Ireland
Minority government. Brexit-related foreign-policy challenges ahead.

Belgium
Controversy over UN migration pact stokes government crisis. Parliam. elections on 26 May.

France
Public demonstrations (“Gilet Jaunes“) underline challenges to President Macron’s reformist stance.

Portugal
Surprisingly stable left-wing minority government. Parliam. elections in autumn.

Spain
Minority government under Sanchez on shaky ground. Local and regional elections on 26 May. Independence aspirations in Catalonia remain simmering uncertainty factor. Lack of budget discipline.

Netherlands
Highly fragmented parliament.

Italy
Political instability impedes reforms. High stock of NPLs. Populist, euro-sceptic M5S-Lega government. Clash with Brussels over 2019 budget – but deficit procedure averted at present despite fiscal easing.

Sweden
EU-skeptical Sweden Democrats (pro “SWEXIT") the third strongest party in September parliamentary elections.

Finland
FIXIT movement weakened. Far-right, EU-sceptic True Finns lag far behind in 2018 presid. elections

Germany
Is the grand coalition falling apart? AfD first far-right party in Bundestag in more than half a century. Federal state elections in autumn.

Visegrád countries
Nationalist, EU-sceptic governments. Worsening relationship with EU incl. infringement procedures. Will Warsaw and Budapest risk loosing its EU voting rights?

Austria
Coalition of ÖVP and right-wing FPÖ against Macron’s EMU reform proposals

Ukraine
Tied up in continued conflict with Russia over Crimea. Presidential election:31 Mar.

Greece
Fragile government. Parliamentary elections looming in autumn. Successful completion of 3rd rescue package, improved short-term creditworthiness, but still pending reform agenda.

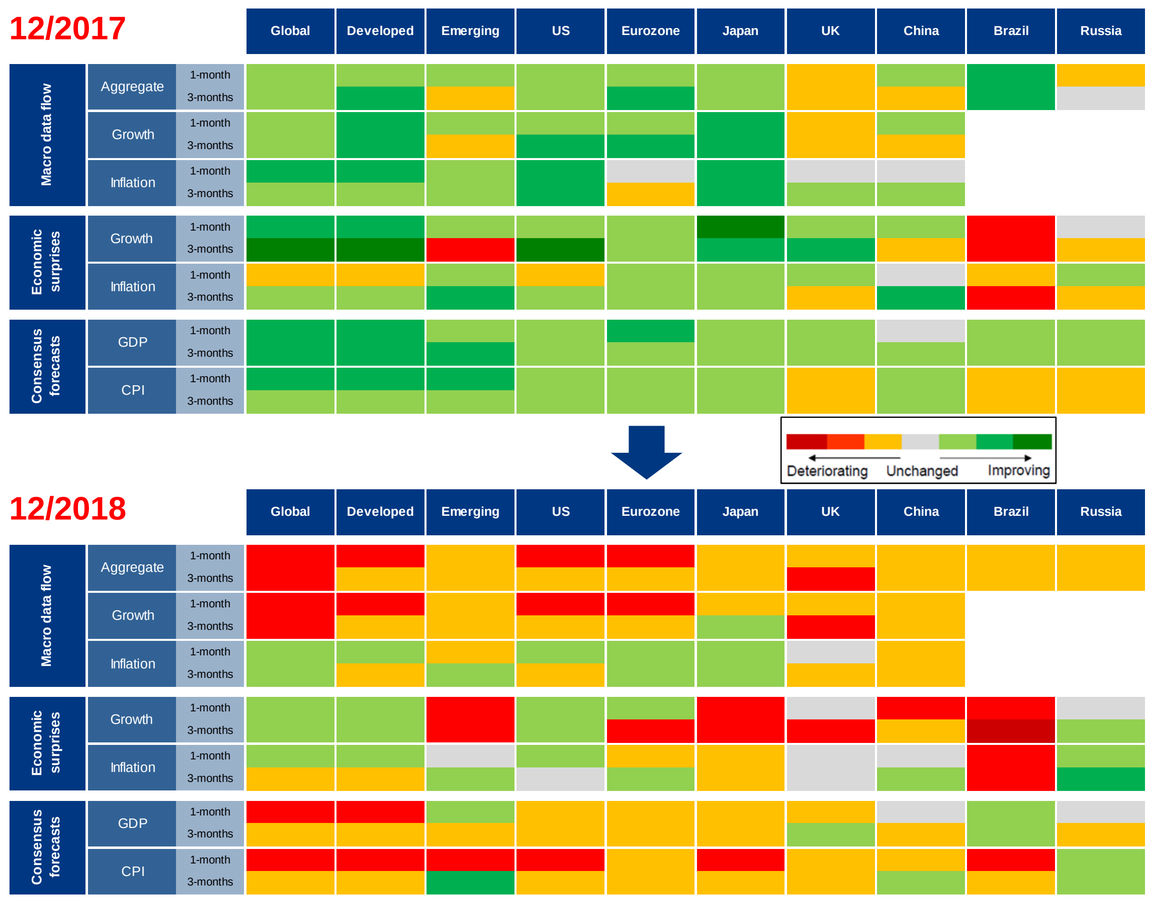
EMU member state
EU, non-EMU member state
EU member state with an opt-out

Source: EU, national governments, J.P. Morgan, DZ Bank, Allianz Global Investors, as of 9 January 2019.

Macro: Global economy – increasing downside risks as momentum has started to reverse

While the global economic backdrop is still solid, …

… the macro news flow has deteriorated recently



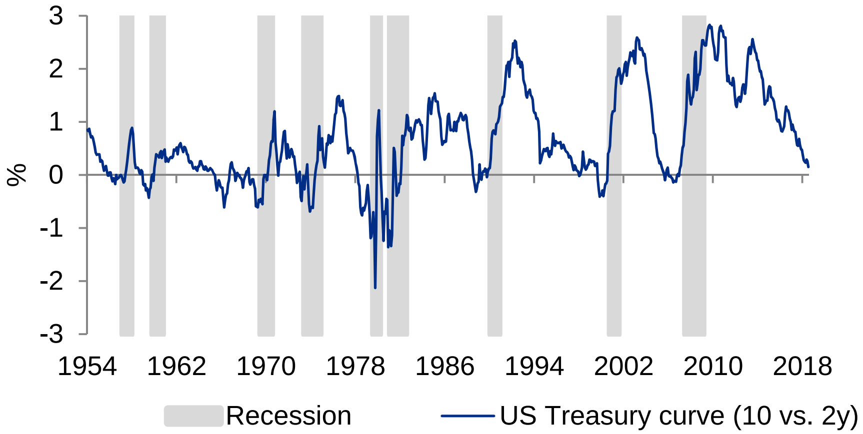
Following surprisingly strong and broad-based global growth in late-2017, the global macro data flow has deteriorated significantly over the course of last year.

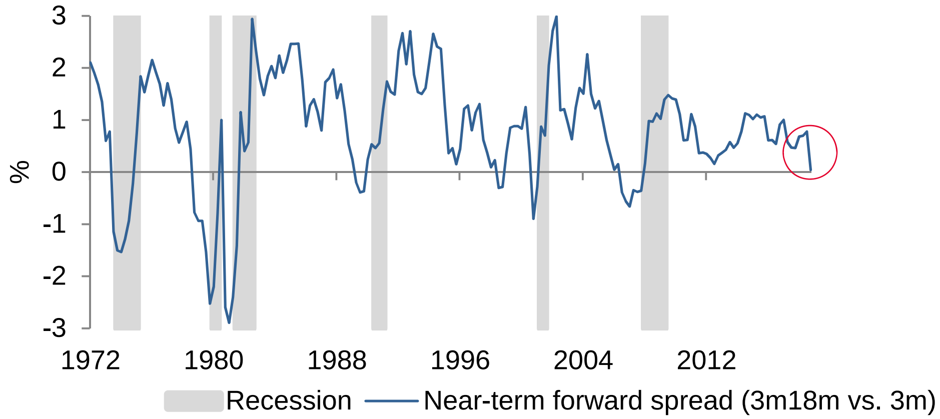
Source: Allianz Global Investors, Bloomberg, Datastream, Consensus Economics, as of 31 December 2018. The statements contained herein may include statements of future expectations and other forward-looking statements that involve known and unknown risks and uncertainities that could cause actual results, performance or events to differ materially from those expressed or implied in such statements. We assume no obligation to update any forward-looking statement.

Macro: Does the flattening of the yield curve foreshadow a US recession?

Yield curve and the business cycle

Inversion, not flattening per se, would be major cause of concern





Yield curve, recessions and equities

Curve tends to invert prior to recessions and equity market peaks

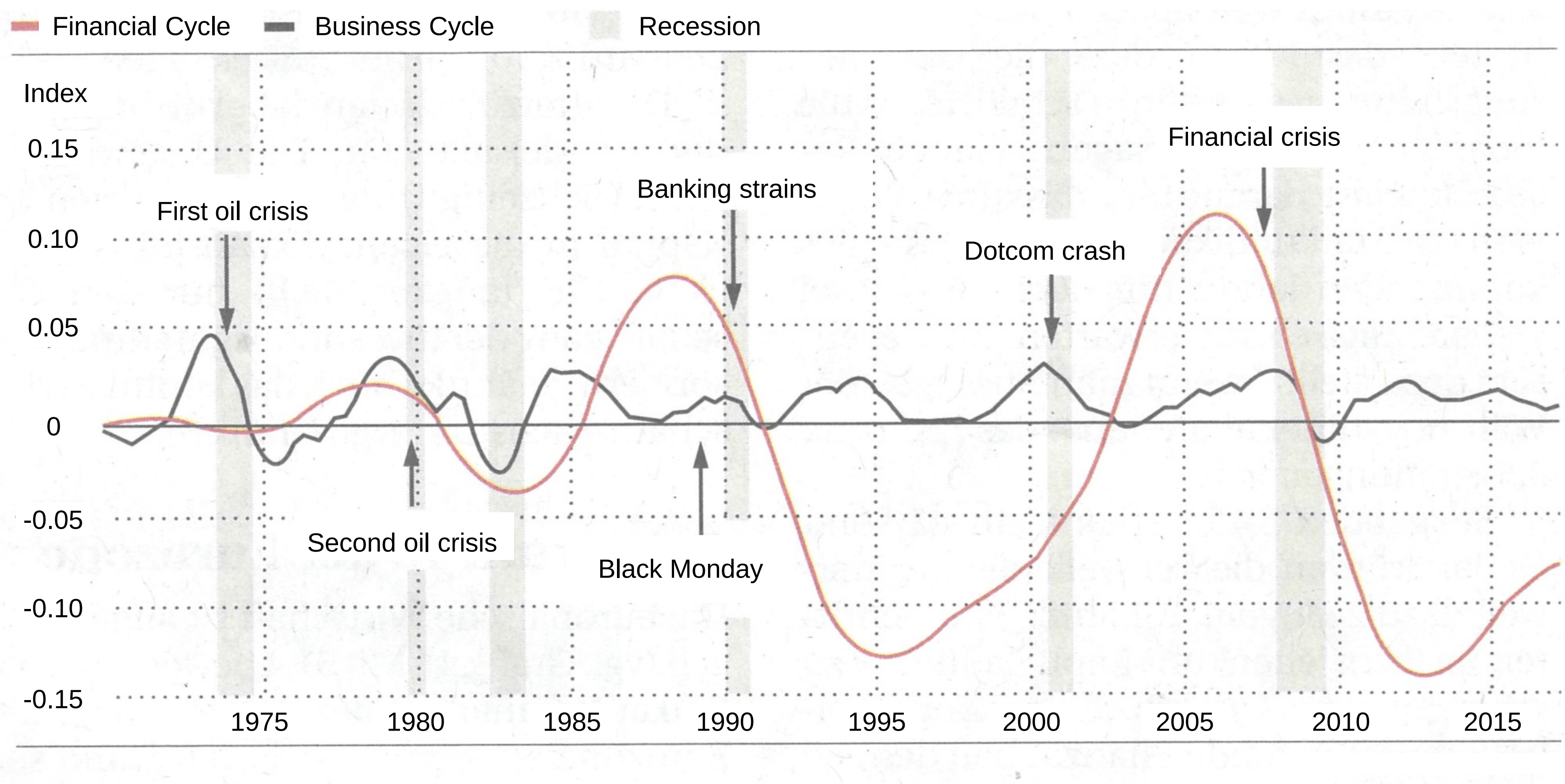
Recession	# of months from curve inversion to recession	# of months from curve inversion to S&P 500 peak	# of months from S&P 500 peak to recession
1957	16	3	13
1960	10	1	9
1969	28	15	13
1973	8	-2	10
1980	17	18	-1
1981	10	1	9
1990	19	19	0
2001	13	1	12
2007	22	20	2
Average	**16**	**8**	**7**

While an inverted yield curve used to be a harbinger of US recessions, it has been more of a symptom rather than a cause, reflecting overall tighter monetary and financial conditions.

Source: Allianz Global Investors, Federal Reserve, Bloomberg, as of 31 December 2018.

Macro: If there is a landing at all, it will be soft (?)

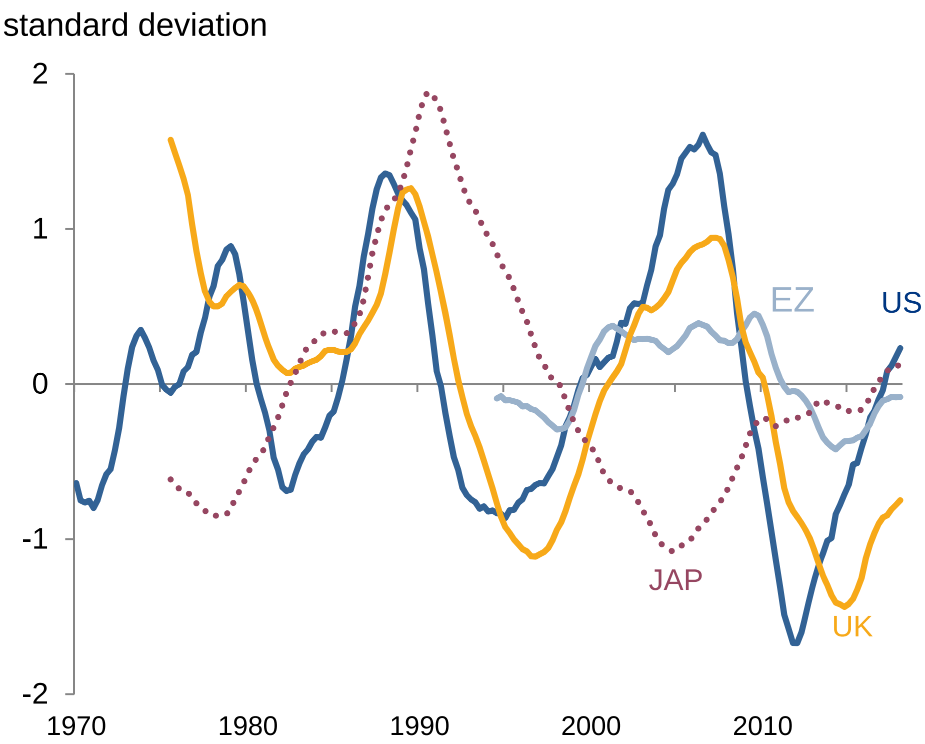
Financial and Business Cycle USA



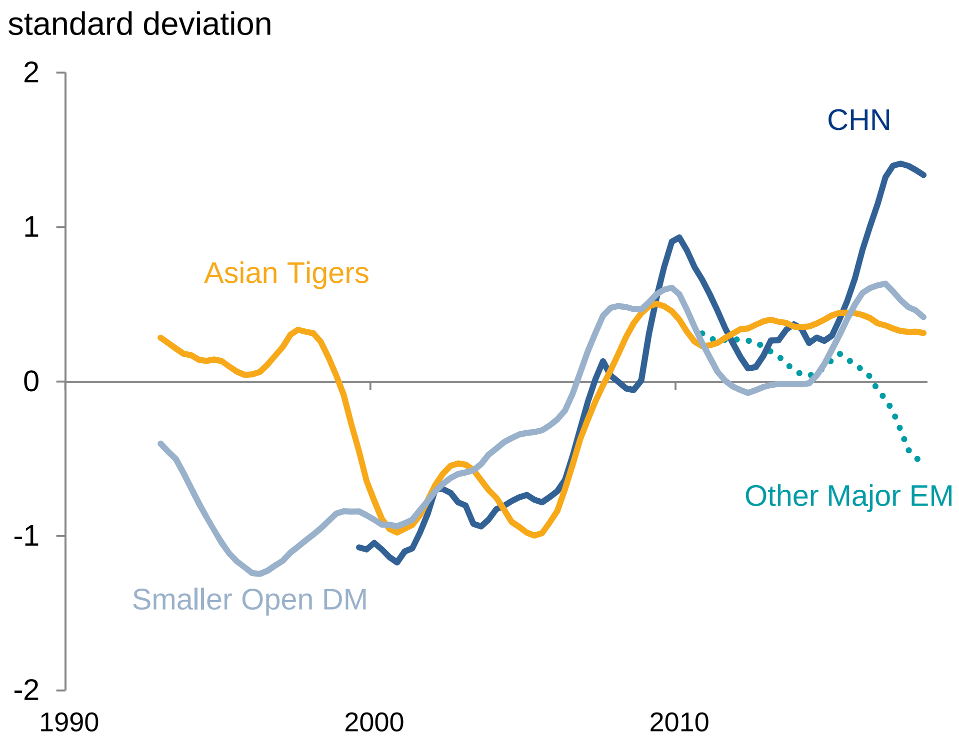
Source: Finanz und Wirtschaft of 19 December 2018, p. 18, Alexander Trentin: „BIZ: Finanzbooms sagen Rezessionen voraus", Graph: BIZ / FuW, Is (own translation by Allianz Global Investors)

Macro: Expanding financial cycle in the US, EZ, UK and Japan. Mind the peak in the financial cycle in EM

Financial cycle: expanding in major DM



Financial cycle: deteriorating in many EM and some DM

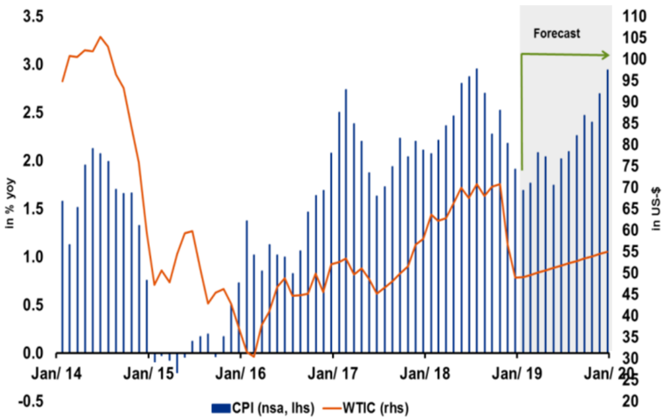


US, EZ, UK and Japan supported by expanding FC. High risk of financial stress in many EM and smaller DM.

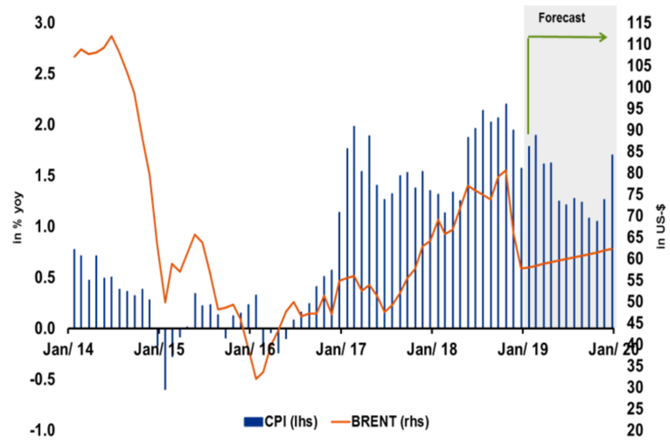
Legend: We calculate the financial cycle (FC) as the average z-score of private non-financial debt to GDP relative to trend (credit gap) and real house prices relative to trend. Financial cycle of country groups are GDP (in USD) weighted averages of country specific FCs; EUR proxied by DEU, FRA, ITA, SPA, NET, POR, IRE; Smaller Open DM = CAN, SWE, CHE, NOR, AUS, NZL; Asian Tigers proxied by HKG, SGP, KOR; Other Major EM = BRA, MEX, RUS, TUR, ISR, ZAF, IND. The charts show 5 quarters centered averages. Source: Allianz Global Investors, BIS, Datastream, as of Q1 2018.

Macro: Temporary slump in headline inflation due to energy price related base effect

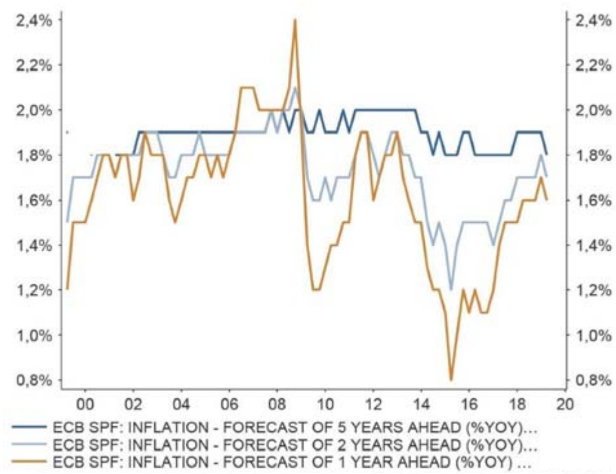
US: CPI-Simulation[1]



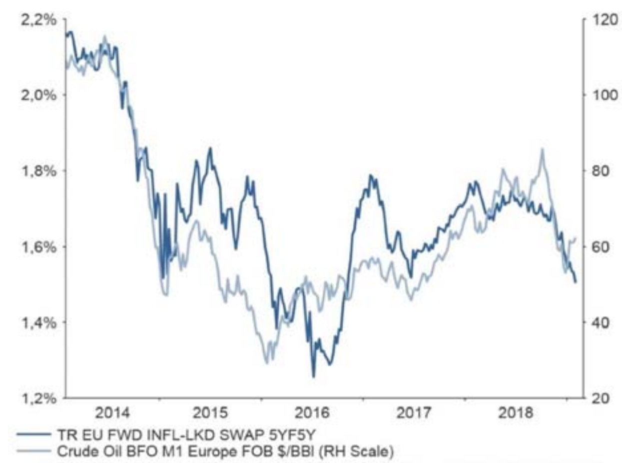
Euro area: HVPI-Simulation[1]



Inflation expectations of professional forecasters (SPF[2])



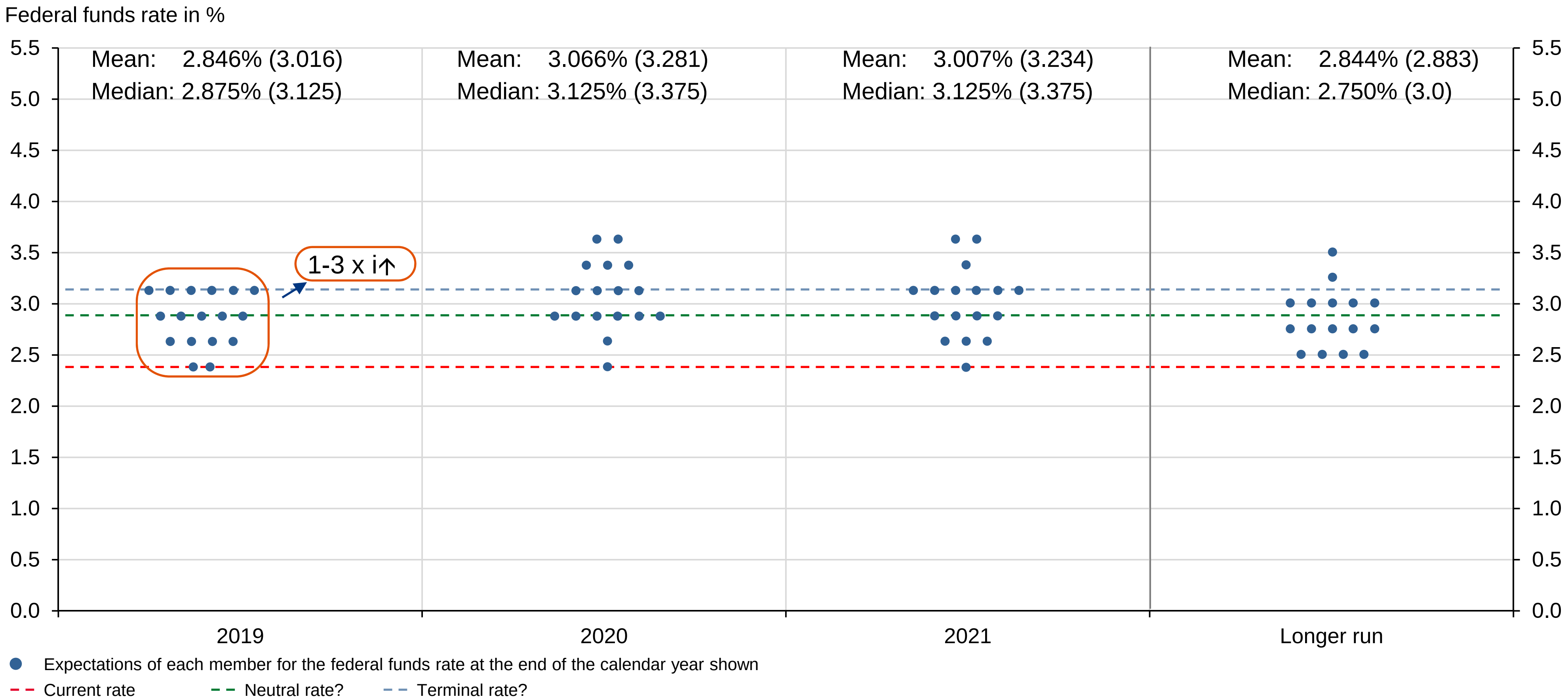
Market-based long-term inflation expectations[3] contingent on oil price developments



[1]Consumer price simulation with current oil price expectations (using futures), as of 4 January 2019; [2]Survey of Professional Forecasters, as of 25 January 2019; [3]Long-term inflation expectations measured by the break-even values of 5Y5Y-forwards, i. e. expectations of inflation rates for a five-year period beginning five years in the future, as of 31 January 2019. Forecasts are not a reliable indicator of future results. Source: Datastream, Eurostat, EZB, Allianz Global Investors.

Monetary policy: What does patience (FFR) and flexibility (QT) mean for financial markets?

FOMC participants‘ assessments of appropriate monetary policy („Fed dots“)
Downward revision of Fed dots imminent?



Source: Board of Governors of the Federal Reserve System (December 2018, September 2018 in brackets), Allianz Global Investors, as of 19 December 2018. Forecasts are not a reliable indicator of future results.

Monetary policy: QE[1] in numbers, the now and the future

Status quo ex post: A large-scale buyer on bond markets (still)

2595 billion

From October 2014 until December 2018 the Eurosystem[2] purchased assets worth around EUR 2.6 trillion. Purchases of **public-sector assets** accounted for the lion's share of QE (82%).

0 billion

The pace of monthly net purchases was **halved** to EUR 30bn in January 2018.[3] From October 2018, the amount was reduced further to EUR 15bn per month. **Net purchases ended in December 2018**.

Gross > net

In parallel, the central banks started in March 2017 to **reinvest** the principal payments from maturing securities purchased under QE.

One fifth

The Eurosystem's holdings of **public sector debt** have increased to more than 20 % of Eurozone gross government debt, in effect making the Eurosystem the **euro area countries' largest single creditor.**

Status quo ex ante: Exit in slow motion

=

The Governing Council aims to **maintain the size of its cumulative net purchases** under each constituent programme of QE at their respective levels. Driven by the asset side, the ECB's balance sheet is set to remain very large for many years to come.

0 billion

The ECB has ended the net acquisition of assets in December 2018.

+ 203 billion

The **reinvestment policy** and considerable **stock of acquired assets** have become more import for the forward guidance and the degree of monetary accommodation. In 2019 alone, reinvestments of around EUR 203bn are expected.

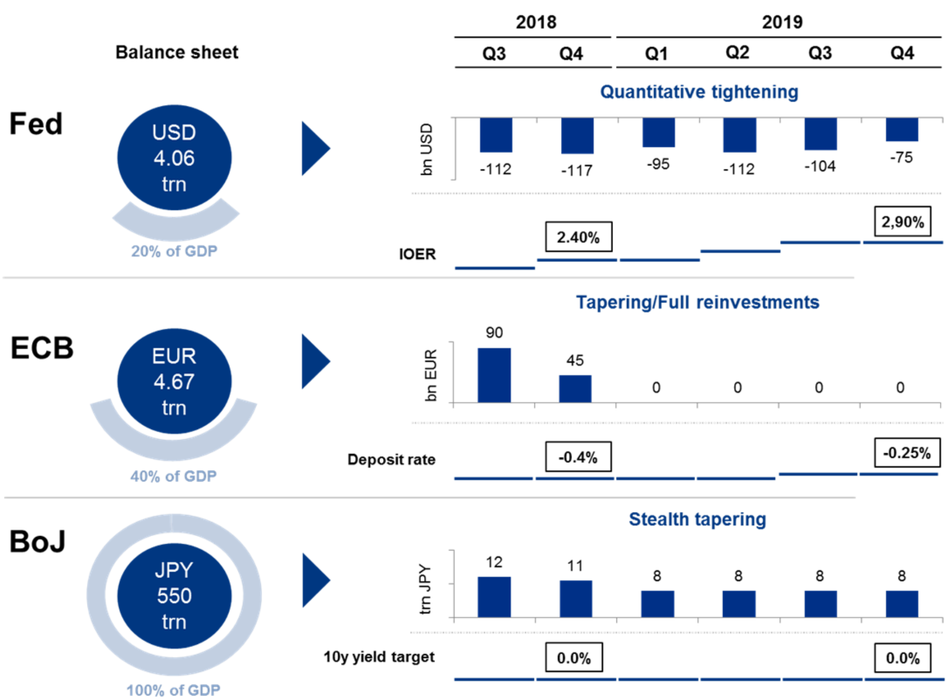
%

The ECB endeavors to use its enhanced forward guidance to reduce interest rate uncertainty while "maintaining adequate flexibility"[4]. A **first rate hike** is not expected before the **end of the summer of 2019**.

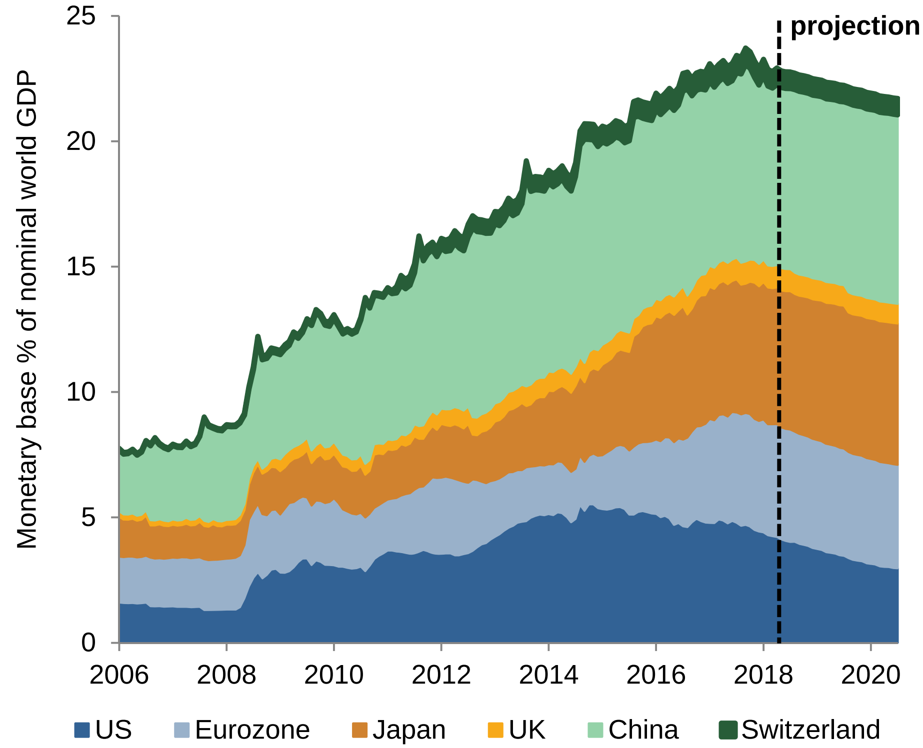
[1]Quantitative easing by the European Central Bank (ECB); [2]The Eurosystem comprises the ECB and the national central banks of all 19 euro member states;[3]From an operational standpoint alone, the 33 % issuer limit (which was a means to mitigate the risk of the ECB becoming a dominant creditor of governments) restrains the scope for a further extension of QE; [4]Account of the 25-26 July policy meeting. Source: Bloomberg, Eurostat, ECB, Allianz Global Investors, as of 4 February 2019.

Monetary policy: Major central banks heading towards normalization

Unconventional policy normalization have led...



...to a climax in central bank liquidity in 2018



Peak liquidity constituted a major turning point for global monetary policy in 2018.

Source: Allianz Global Investors, Bloomberg, Datastream, as of 30 November 2018. Future expectations involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in such expectations. We assume no obligation to update any future expectations.

What are markets telling us?[1]

Real annual return of major asset classes[2]: Unprecented breadth of negative returns in 2018

Rank	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	US SOV	CHI EQU	GOLD	UK SOV	REITS	JAP EQU	CHI EQU	JAP EQU	UK EQU	EM EQU	GER SOV
2	GER SOV	EM EQU	REITS	US I/L	EMU HY	US EQU	REITS	EMU EQU	US HY	CHI EQU	JAP SOV
3	UK SOV	EMU HY	EM HY	GER SOV	JAP EQU	EMU EQU	EMU SOV	CHI EQU	EM HY	US EQU	US CASH
4	EMU SOV	EM HY	EM EQU	US SOV	EM HY	UK EQU	UK SOV	EMU SOV	EM EQU	JAP EQU	EMU SOV
5	GOLD	US HY	EM LOC	GOLD	EMU EQU	EMU HY	US EQU	JAP SOV	COMM	EM LOC	US SOV
6	JAP SOV	REITS	US HY	EM HC	EM HC	US HY	GER SOV	UK SOV	UK SOV	EMU EQU	UK SOV
7	US CASH	EMU EQU	US EQU	US IG	EM EQU	REITS	EMU IG	EM IG	US EQU	GOLD	EMU CASH
8	EMU CASH	EM HC	EMU HY	JAP SOV	EM LOC	EMU IG	JAP EQU	EMU HY	EM HC	REITS	EM IG
9	US I/L	UK EQU	EM HC	EM IG	US HY	EMU SOV	US IG	EM HC	EMU HY	UK EQU	EMU IG
10	EMU IG	EM IG	EM IG	US HY	US EQU	JAP SOV	EM IG	EM HY	EM LOC	EM HY	US I/L
11	EM LOC	US EQU	UK EQU	EMU IG	EM IG	EM HY	EMU HY	GER SOV	GOLD	EM HC	US IG
12	US IG	GOLD	US IG	EMU SOV	EMU IG	EMU CASH	US SOV	US SOV	US IG	US HY	US HY
13	EM HC	EM LOC	COMM	US EQU	EMU SOV	US CASH	EM HC	US EQU	EM IG	EMU HY	GOLD
14	EM IG	US IG	US I/L	EMU CASH	US IG	COMM	EMU EQU	EMU CASH	EMU IG	US IG	EM HY
15	US HY	EMU IG	US SOV	US CASH	UK EQU	EM IG	US I/L	US CASH	JAP SOV	EM IG	EMU HY
16	EM HY	JAP EQU	GER SOV	COMM	US I/L	US IG	JAP SOV	EMU IG	EMU EQU	COMM	EM HC
17	UK EQU	COMM	UK SOV	EM LOC	CHI EQU	GER SOV	US HY	REITS	GER SOV	US I/L	REITS
18	EMU HY	US I/L	EMU IG	EMU HY	GOLD	EM EQU	EMU CASH	US IG	REITS	EMU IG	US EQU
19	US EQU	EMU SOV	JAP SOV	UK EQU	GER SOV	US SOV	UK EQU	UK EQU	US I/L	US SOV	EM LOC
20	JAP EQU	JAP SOV	JAP EQU	EM HY	JAP SOV	UK SOV	EM HY	US I/L	EMU SOV	JAP SOV	UK EQU
21	EMU EQU	GER SOV	EMU EQU	REITS	US SOV	EM HC	US CASH	US HY	US SOV	EMU SOV	EMU EQU
22	COMM	EMU CASH	EMU SOV	EMU EQU	UK SOV	CHI EQU	EM EQU	GOLD	JAP EQU	UK SOV	JAP EQU
23	REITS	US CASH	US CASH	JAP EQU	US CASH	EM LOC	GOLD	EM EQU	EMU CASH	US CASH	COMM
24	EM EQU	UK SOV	EMU CASH	EM EQU	COMM	US I/L	EM LOC	EM LOC	US CASH	EMU CASH	EM EQU
25	CHI EQU	US SOV	CHI EQU	CHI EQU	EMU CASH	GOLD	COMM	COMM	CHI EQU	GER SOV	CHI EQU

<-20% | -20 to -5% | -5 to 0% | 0 to +5% | +5 to +20% | >+20%

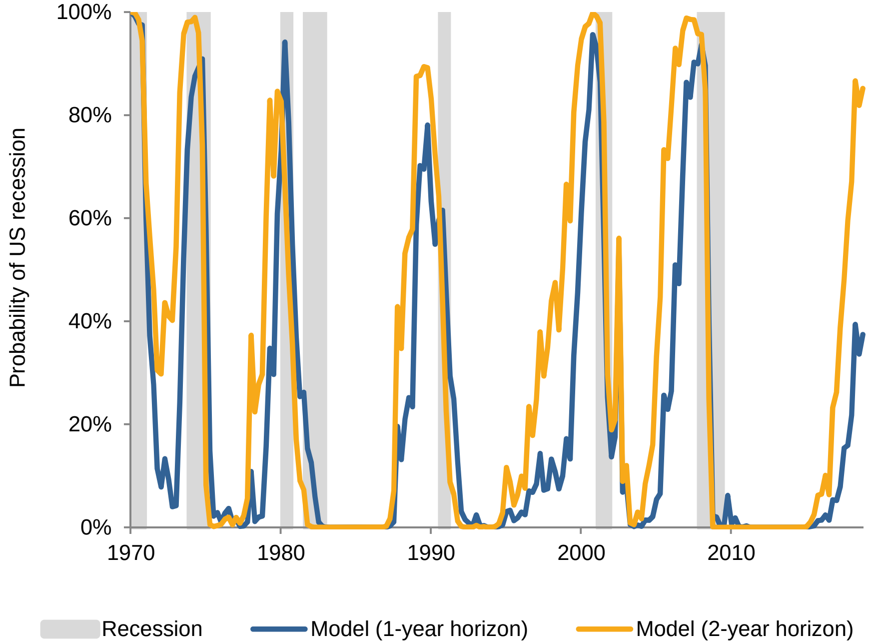
Spreading late-cycle dynamics and (geo-)political headwinds weighed on global financial markets in 2018.

[1] Paul Samuelson, Newsweek, „Science and Stocks" (September 19, 1966): „Wall Street indexes predicted nine out of the last five recessions!" [2]US: United States, CHI: China, GER: Germany, UK: United Kingdom, EMU: Eurozone, EM: Emerging Markets, JAP: Japan, EQU: equities, SOV: government bonds, I/L: index-linked bonds, IG: investment-grade, HY: high yield, COMM: commodities, HC: hard currency bonds, LOC: local markets.
Source: Allianz Global Investors, Bloomberg, Datastream, as of 31 December 2018.

Navigating financial markets in a late-cycle environment

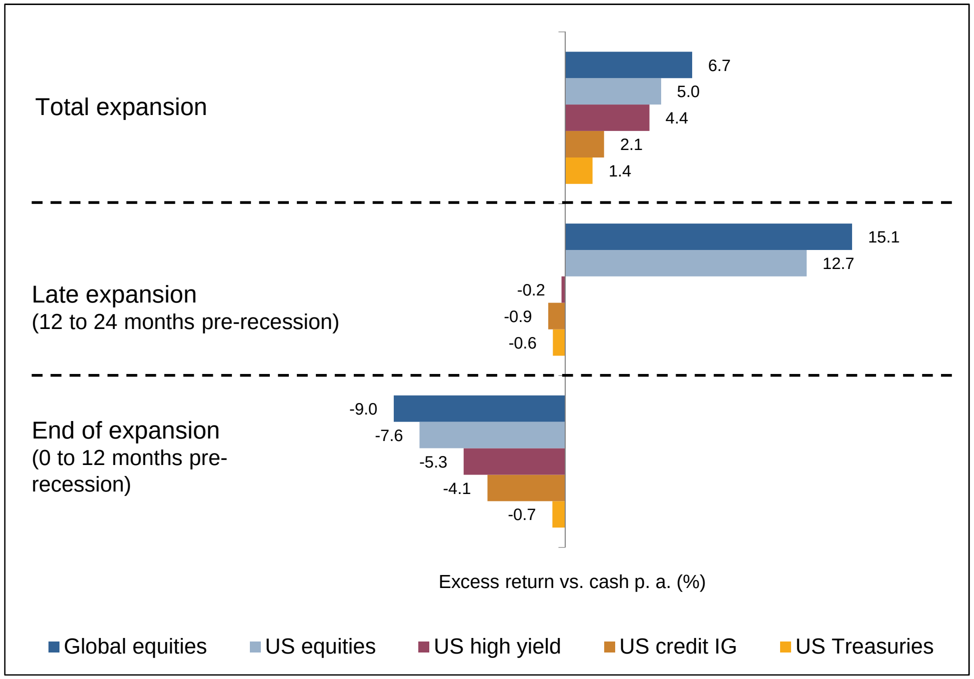
Rising medium-term recession risks in the United States[1]

Structural factors (unemployment gap, share of long-term investment to GDP, non-financial corporate profit margin, real money supply, house-price-to rent ratio) point to economic downturn in 2020



Asset returns through economic expansions in the United States[2]

Negative excess returns in the final year of business cycles, on average



Investors have not been compensated for just taking beta risk toward the end of business cycles. Active management is key in such an environment.

[1]Probit model based on unemployment gap (unemployment rate vs. NAIRU), share of long-term investment (durables, structures, residential) to GDP, non-financial corporate profit margin, real money supply (M1), house-price-to rent ratio;[2]Average return of US asset classes for US expansions since 1975 (high yield since 1982). Source: Allianz Global Investors, Bloomberg, Datastream, NBER, as of 31 December 2018.

Fixed Income: Performance overview segments Euroland

Segment	Performance 2019 in % (2018 / 2017 / 2016 / 2015 / 2014 / 2013)	
Euro Sovereigns	1.08	(1.01 / 0.12 / 3.31 / 1.64 / 13.69 / 2.27)
Euro Corporates All (IG)	1.05	(-1.13 / 2.41 / 4.75 / -0.43 / 8.38 / 2.35)
Euro Collaterized/Securitized	0.37	(0.32 / 0.66 / 2.13 / 0.48 / 7.88 / 3.66)
Euro Quasi-Government	0.68	(0.49 / 0.50 / 2.61 / 0.72 / 8.81 / 1.09)
Euro High Yield	2.24	(-3.61 / 6.74 / 9.06 / 0.76 / 5.55 / 10.05)
(Emerging Markets (EMBI+; USD)	5.08	(-5.33 / 8.29 / 9.62 / 1.82 / 6.05 / -8.31))

Source: Allianz Global Investors, as of 31 January 2019.
Past performance is not a reliable indicator of future results.

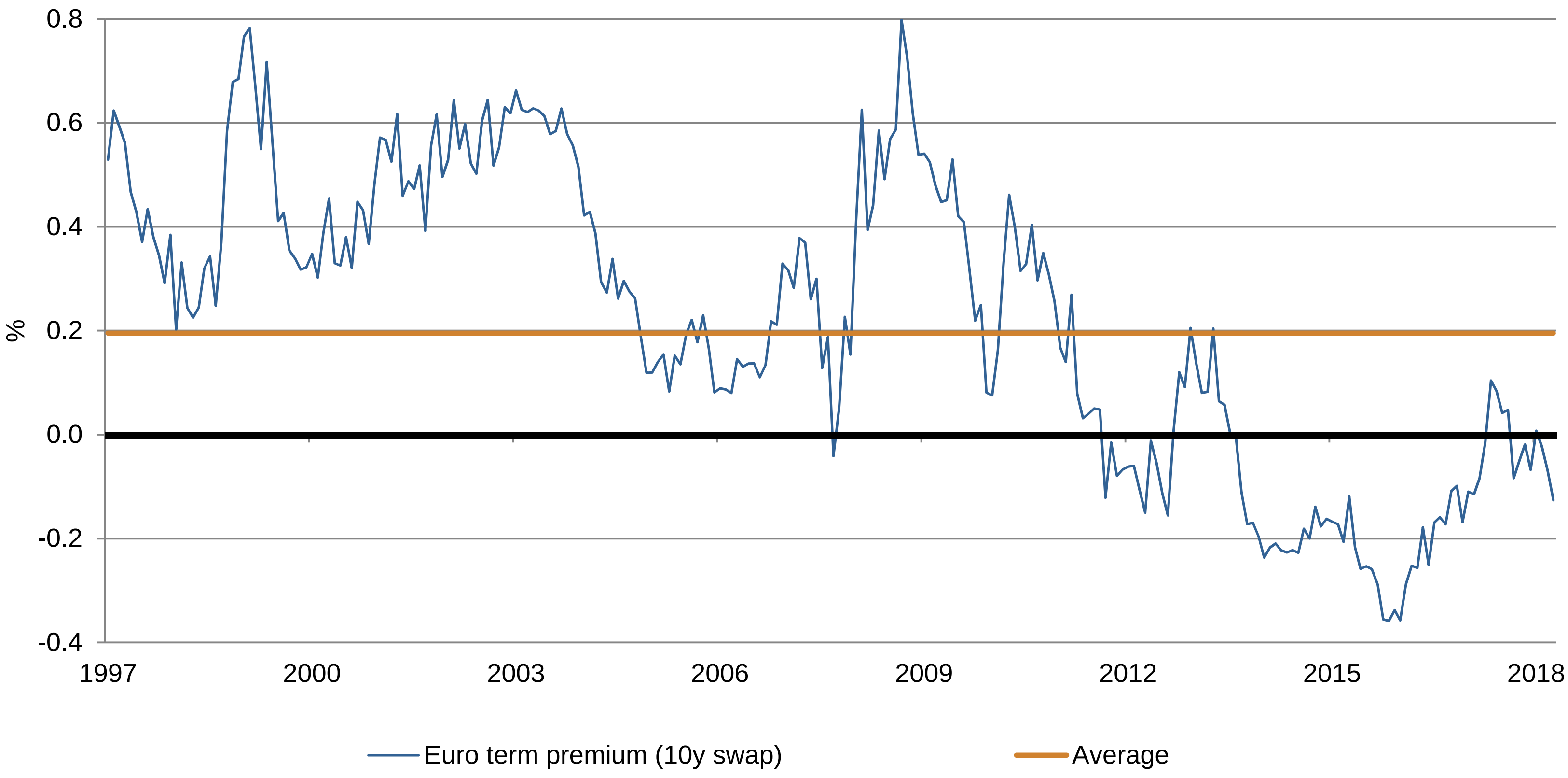
Fixed Income: Performance overview government bonds Euroland

	Performance 2019 in % (2018/2017/2016/2015)					
	Total	**1 - 3 years**	**3 - 5 years**	**5 – 7 years**	**7 - 10 years**	**10+ years**
Euroland	**1.08 (1.01/0.12/3.31/1.64)**	0.06 (-0.07/-0.34/0.37/0.70)	0.41 (0.14/0.01/1.51/1.43)	0.90 (0.14/0.49/2.32/1.90)	1.32 (1.41/1.15/3.82/1.87)	2.14 (2.46/-0.40/6.94/2.27)
Germany	**0.77 (2.42/-1.45/4.06/0.33)**	-0.16 (-0.36/-0.91/0.25/0.27)	0.05 (0.65/-1.05/1.66/0.61)	0.42 (1.52/-1.16/2.63/0.60)	0.98 (2.74/-0.81/4.35/0.74)	2.12 (6.49/-2.61/9.64/-0.10)
France	**0.97 (1.25/0.41/3.74/0.45)**	-0.10 (-0.25/-0.74/0.40/0.35)	0.21 (0.40/-0.40/1.54/0.83)	0.81 (0.65/0.25/2.26/1.02)	1.27 (1.17/1.43/3.99/0.70)	1.90 (2.90/0.87/8.45/-0.01)
Italy	**1.19 (-1.40/0.79/0.86/4.82)**	0.51 (0.17/0.41/0.37/1.42)	1.13 (-0.90/1.23/0.95/2.84)	1.51 (-1.76/1.94/1.28/3.79)	1.53 (-2.03/1.87/1.07/4.56)	1.49 (-2.19/-0.47/0.62/8.77)
Spain	**1.49 (2.64/0.98/4.41/1.70)**	-0.06 (0.14/0.10/0.72/1.07)	0.35 (1.09/0.84/2.12/2.04)	0.96 (1.67/2.10/3.57/2.22)	1.70 (2.85/2.33/5.33/1.44)	3.25 (5.66/-0.11/8.81/2.37)
Netherlands	**0.78 (2.44/-1.05/4.35/0.29)**	-0.14 (-0.33/-0.74/0.24/0.41)	0.03 (0.62/-0.71/1.48/0.81)	0.48 (1.45/-0.72/2.70/1.19)	1.00 (2.38/0.13/3.99/1.16)	1.85 (5.92/-2.11/10.55/-0.58)
Belgium	**1.51 (-0.19/0.16/4.96/0.29)**	-0.07 (-0.18/-0.73/0.09/0.44)	0.17 (0.28/-0.70/1.39/1.03)	0.69 (0.40/-0.23/2.93/1.01)	1.38 (0.13/0.92/4.65/1.08)	2.85 (-1.04/0.29/9.66/0.06)
Austria	**0.87 (1.72/-0.57/4.34/-0.18)**	-0.17 (-0.16/-0.72/0.23/0.34)	0.03 (0.62/-0.55/0.94/0.78)	0.46 (1.27/-0.55/2.55/0.94)	0.84 (1.62/-0.12/5.32/0.39)	2.32 (0.93/-0.36/2.12/0.68)
Finland	**0.67 (1.42/-0.78/3.89/0.12)**	-0.15 (-0.21/-0.68/0.05/0.45)	0.10 (0.80/-0.75/1.62/0.81)	0.48 (1.32/-0.68/3.03/1.21)	1.08 (1.94/-0.46/5.60/0.57)	1.99
Ireland	**1.06 (0.61/0.62/3.54/1.69)**	-0.09 (-0.49/-0.53/0.68/0.66)	0.18 (0.47/-0.42/1.92/1.85)	0.64 (0.77/0.54/3.41/2.16)	1.48 (1.10/1.52/4.66/2.59)	2.35 (1.43/1.57/9.44/-3.78)
Portugal	**1.44 (3.05/13.82/-2.68/3.86)**	-0.07 (0.61/1.43/0.92/2.55)	0.56 (1.60/7.08/0.08/4.27)	1.27 (2.98/14.66/-1.50/5.26)	1.91 (4.21/20.01/-4.21/4.95)	3.50 (6.19/27.33/-8.84/7.46)

Source: Allianz Global Investors, as of 31 January 2019.
Past performance is not a reliable indicator of future results.

Are markets pricing in too much of the „three Ps“[1] of policy normalization?

Negative term premia as additional valuation headwind for Euro sovereign bond markets



[1]Patience, prudence and persistence. Past performance is not a reliable indicator of future results. Source: Datastream, ECB, Allianz Global Investors, as of 1 December 2018.

Discussion: A few issues for discussion

Bond Market Outlook Ingo Mainert – 12 February 2019

- Exhausted monetary policy toolkit versus rising medium term recession risks?
- How will capital markets respond to the peak in central bank liquidity?
- Will the Fed‘s newly found patience and flexibility come at a price?
- How will the rise in global leverage affect the economy and financial markets going forward?
- Which long-term implications will global protectionism and the trade war between China and US have?
- More years of financial repression will come – what does that mean for the financial system?

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