THE GLOBAL ECONOMIC OUTLOOK

2016 AND BEYOND

December 2015
(Update 18 December, 2015)

Eric Chaney

Chief Economist, AXA Group
Head of Research, AXA IM
Eric.Chaney@axa-im.com

redefining / standards

What's new?

- **The Fed decision marks the end of the catch-up phase of the cycle initiated in 2009** In the new era, growth will remain sluggish and generating financial returns be more difficult**.**
- **Commodity markets continue to stress the weakness of global demand and the strength of US$** with crude oil quotes now under their post great recession low
- The recent fall in crude price is caused by Saudi Arabia's market share strategy. It should prove positive for the global economy but **may imply hard to fathom political risks**
- **News from real economies are mildly positive:** US manufacturing growth was flat in Nov., €-PMIs (Nov.) rose and China's industrial production accelerated (6.2% in Nov.)
- **Capital flows out of emerging markets are tentatively stabilising**, the Fed lift-off being now a fact. EM currencies and asset prices have stabilised, if not begun to recover.
- **Capital flows out of China have shrunk dramatically**. Yet, the US/China split makes a further CNY/USD depreciation likely. PBC will stabilise the RMB effective exchange rate.
- **Fed: After the lift-off,** the FOMC still predicts eight hikes by end-2017. Markets just see four hikes. One side is wrong, most likely the Fed, but the Fed is the principal...
- **ECB: markets were disappointed by the December decisions,** but the ECB is on a long haul journey to beat deflation and will seek to depreciate the € further.
- **One obstacle to a stronger recovery in the euro area is the high level of bad assets in banks books**. This is a political and fiscal matter that monetary policy cannot fix.

Main macro themes for 2016

- In 2016, the average price of crude oil is likely to be down 15% to 20% compared to 2015. This is less than in 2015 (-50%) but not negligible either.
- Global growth set to remain subdued, only slightly above 3% in 2016 and 2017 (vs. bullish IMF forecasts at 3.6%), with global trade on a 2.5% trend (vs. 4% for the OECD).
- Further limited deceleration is likely in US and China, stable growth, slightly above trend in the euro area. Japan is one of the few developed economies set to accelerate in 2016.
- Non oil producing developing economies may accelerate, thanks to better terms of trade
- Sluggish global growth reflects a global demand gap, mostly due to insufficient investment. The supply/demand imbalance will persist in 2016 but may start to shrink in 2017.
- In addition, soft growth reflects slower potential growth in many economies, a consequence of slower growth of the capital stock, itself due to a lack of investment.
- Monetary policy divergences will widen in 2016, with the Fed and BoE incrementally tightening while ECB, BoJ and PBoC will pursue expansionist policies.
- Policy divergences will strengthen the US$ against all currencies in the first half of the year at least, but will also increase uncertainty, and thus volatility, throughout 2016.

Overall, the outlook for global equities is unimpressive. Within equities, euro area and Japan should outperform, a mirror image of the strength of the US$. Emerging markets (x-oil producers) will come back. The outlook for bonds and credit is not brilliant either (mind volatility). High yield (x-oil) may surprise because of cheap valuations.

Main macro risks

Short term (3 to 6M):

- Markets over-reacting an inflation alert ("Fed behind the curve"). US 10Y yields rising to 4%
  A re-pricing of US Treasuries and corporate bonds could be amplified by liquidity issues
- Stronger impact of China's slowdown; global growth falling to 'stall speed' (<<3%)
  Growth significantly below 6% in China would be a major headwind for the global economy
- Political instability in the Middle East; risk of terrorist strikes, refugee crisis splitting EU
  With Russia and the US both implied in Syria, risks of unwanted confrontations are rising
- Political instability in Portugal / Spain
  Portugal: a stable government is not warranted. Spain: risk of political instability, post election

Medium to long term:

- Euro area falling into deflation, if the ECB can't raise inflation
  In contrast with Japan, deflation in the €-area would threaten political stability
- Popular backlash against economic policies in EU taking center stage in national politics
  Fringe parties (FN, 5, AfD, Podemos...) may leverage on weak income recoveries*
- Mismanagement of the rise of China as regional superpower – risk of confrontation with the US
  From India to Japan through Philippines and Vietnam, tensions are rising
- Ill designed 'exit strategies' by big central banks (Fed/BoJ/BoE)
  Inflating monetary bases to prevent deflation was easy. The opposite won't be

Big-3 at a glance: stable (sluggish) growth

United States

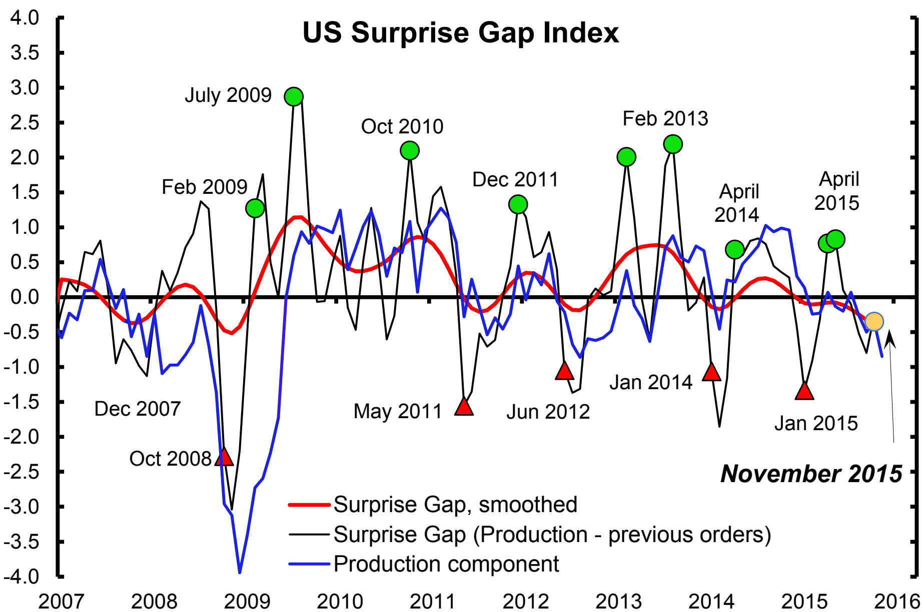
- GDO (domestic output) growth up to 2.6% in Q3, a good omen
- Surprise gap neutral/negative
- Core PCE inflation stable at 1.3%, core CPI trend reaching 2%
- Fed will be cautious after lift-off

€-area

- GDP back to trend in Q3: 1.4%, after 1.8% in Q1-Q2
- Surprise Gap neutral/positive
- Headline inflation at 0.1%
- EBA report shows NPLs still elevated in periphery

China

- GDP growth pattern this year (5.3-7.4-7.4) now more consistent with trade data
- Limited fiscal and monetary stimulus is stabilising growth
- Equity market correction over
- PBC will cut RRR and IR further

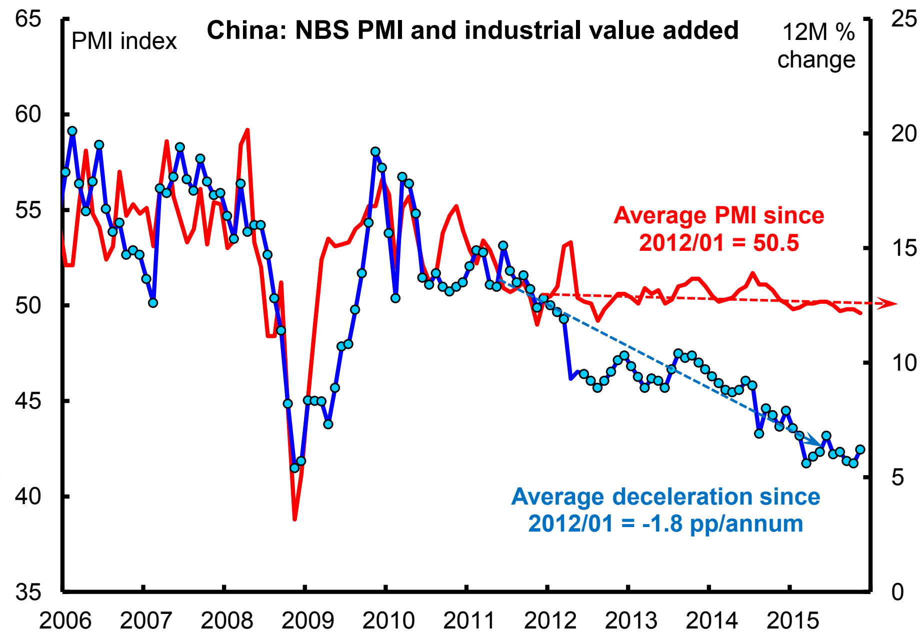


US Surprise Gap: Current production minus new orders 3 months ago

Source: ISM survey, AXA IM Research

Recession warning

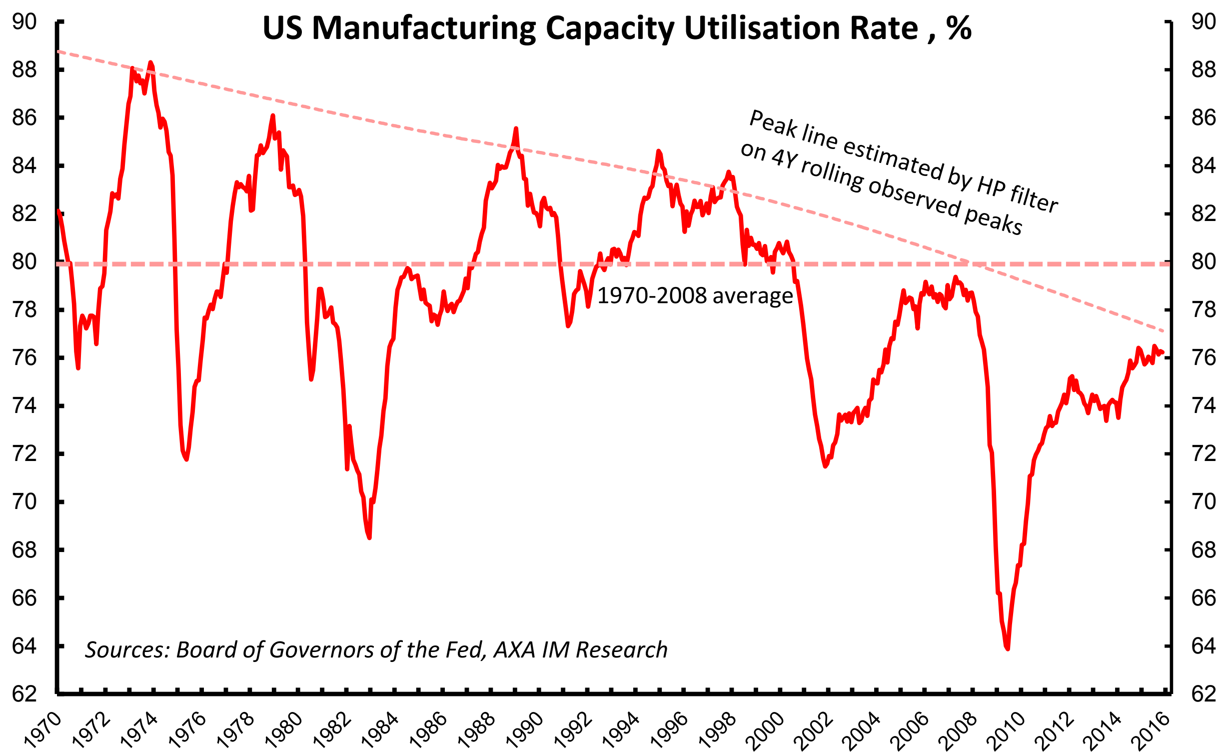
Recovery signal



Source: Datastream, AXA IM Research

The US manufacturing cycle may have already peaked

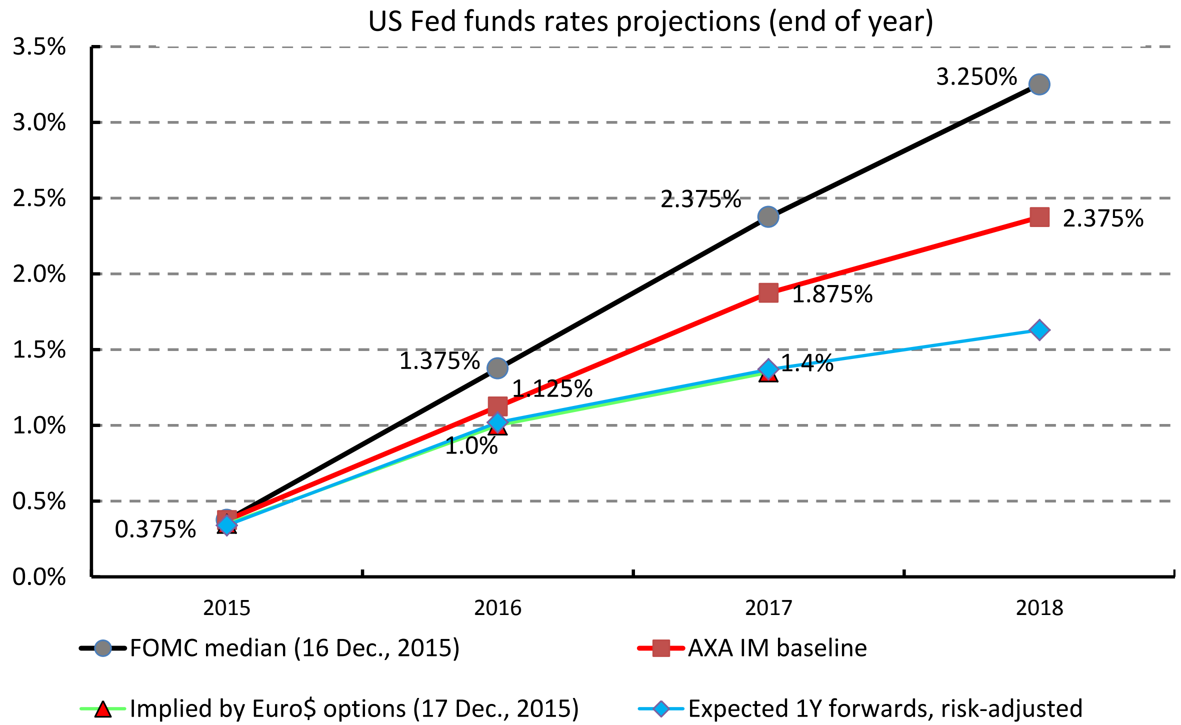
- The manufacturing (ex- oil and drilling) capacity utilisation rate has been broadly stable since end 2014 (at circ. 76%). It is still 3.5pp below the long term average, but this could be a statistical illusion
- An alternative measure of the capacity gap inspired by the 'peak methodology' is suggesting that there isn't much spare capacity left, implying that manufacturing growth is unlikely to accelerate significantly.
- Past cycles show that declines follow peaks, but not always. The long cycle initiated in 1984 and boosted by the oil price fall in 1985 lasted until 1999, only temporarily interrupted by the 1st Iraq war
- **Potential consequence: the Fed normalisation may abort sooner than expected**



Source: Fed, AXA IM Research

The Fed and the markets

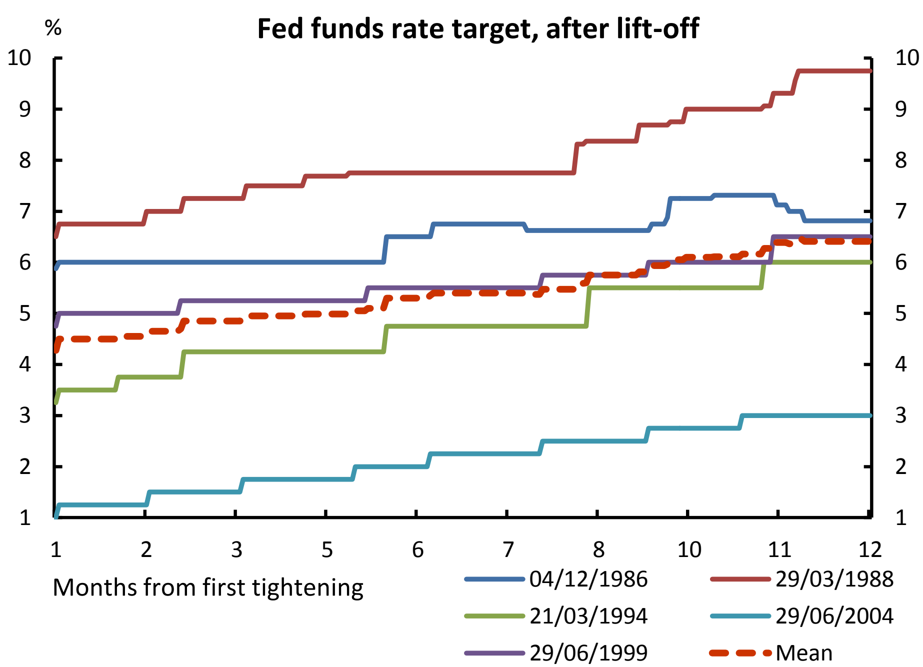
- At the December meeting, the median FOMC member (a statistical invention!) stuck to its guns, still intending to hike 4 times in 2016. She was less aggressive for 2017, with 4 hikes vs. 5 in September.
- Yet, there is still an abyss between what the Fed is announcing and what the markets believe: 8 hikes or 200bps before end 2017 for the FOMC, vs. 4 hikes or 100bps for the markets
- Therefore, the Fed communication (including the 'dot-chart') may move the market**: if the 'dots' do not converge toward market's expectations, a sell-off may result**

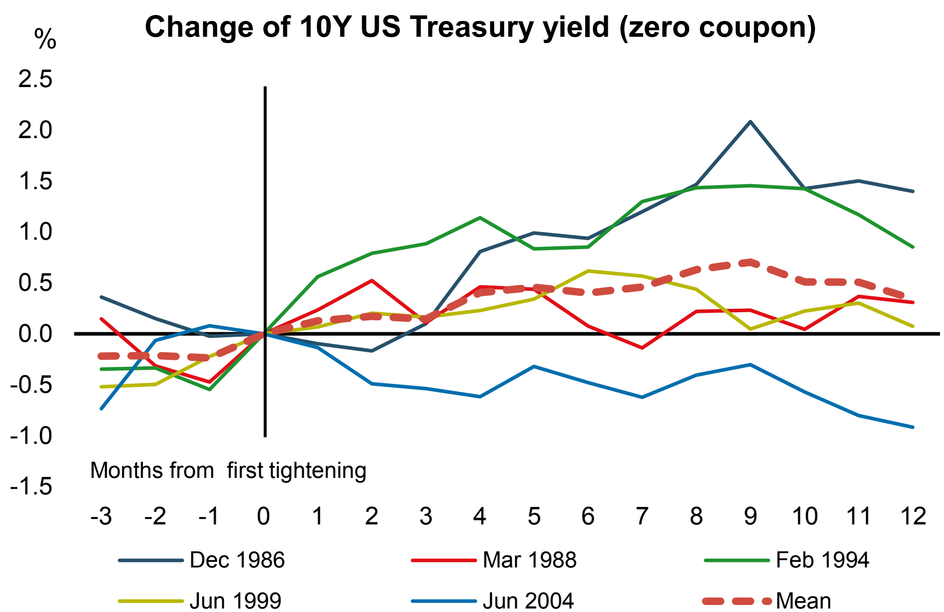


Source: Datastream, AXA IM Research

After the Fed lift-off, what happens? Lessons of the past (1)

- Five tightening cycles took place, since the fed funds rate is the main policy tool, starting in 1986, 1988, 1994, 2004. One year after the lift off, the Fed was still in tightening mode (but in 1987)
  Average increase after 12M: 200bps
- Bond yields rose in each cycle but in 2004
  Average increase: 50bps after 12M
- The yield curve flattened in each cycle but in 2004 ('bond conundrum')
  Average flattening: -150bps after 12M

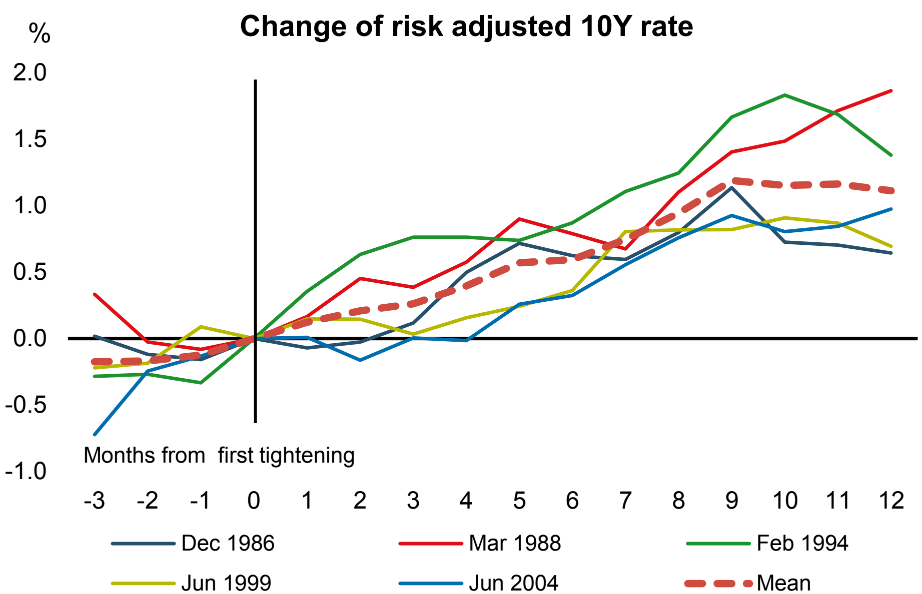


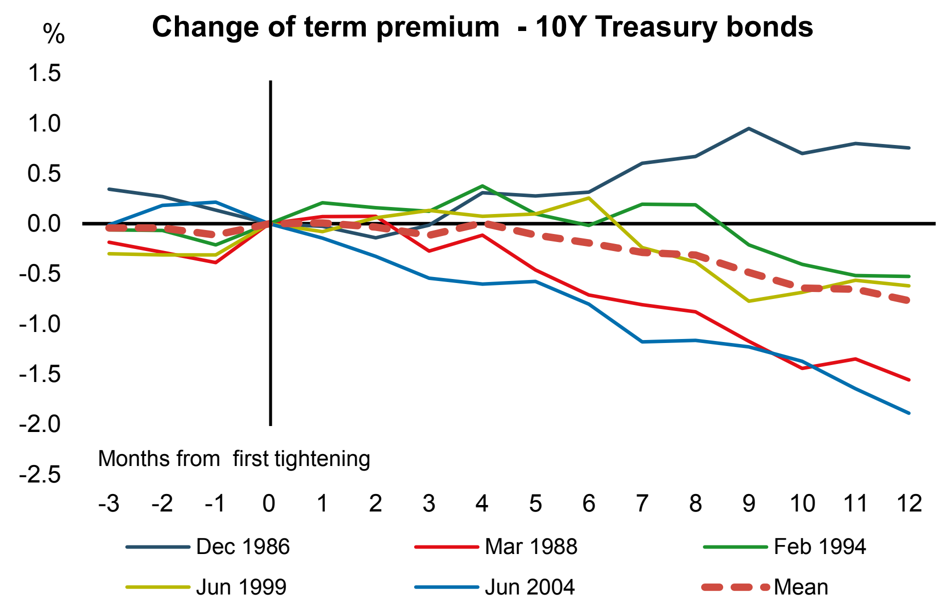


Source: Fed, AXA IM Research

After the Fed lift-off, what happens? Lessons of the past (2)

- Markets progressively adjusted (up) their risk-adjusted expected rates (over next 10Y),
  Average increase after 12M: +120bps
- The term premium declined in each cycle but in 1986-1987
  Average decrease after 12M: -70bps
- This time is different:
  1. Initial term premium at zero, more likely to rise than to decline
  2. Fed guidance insists on gradualism: 100bps expected by end-16 (less than any previous cycle but 86)
- **Conclusion: yields will rise but volatility is likely to rise as well**

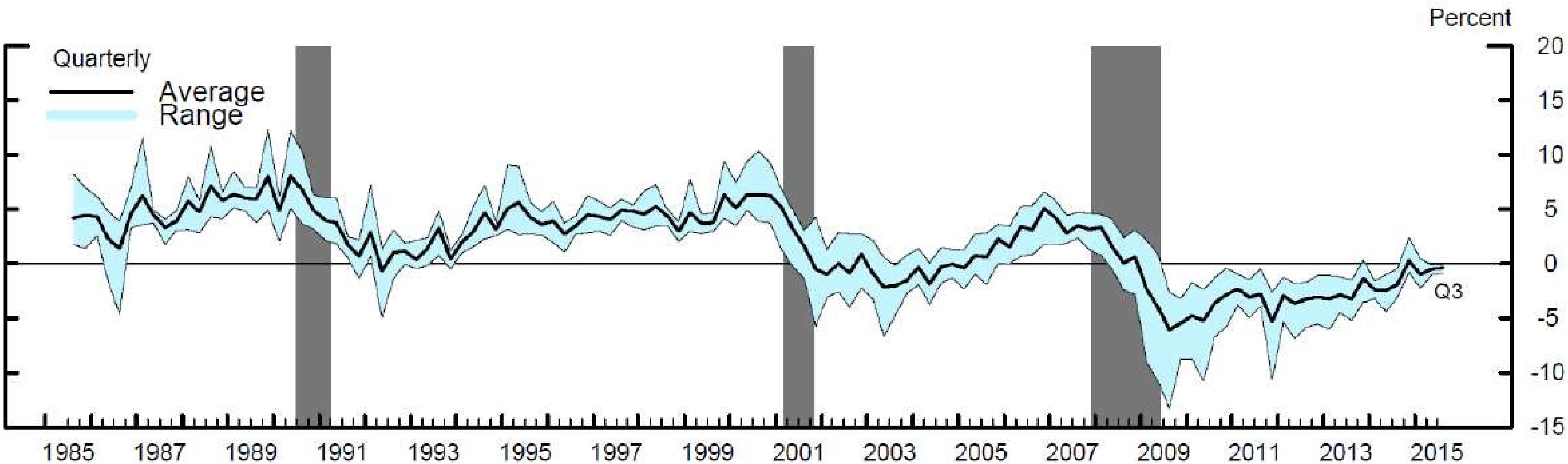




Source: Fed, AXA IM Research

The Fed has a compass: the 'natural rate of interest'

- Whether a central bank interest rate policy is expansionary or restrictive depends on whether the policy rate is above or below the level consistent with full employment. This is the 'natural rate'
- While the real neutral rate is not observable, the Fed is using several models to estimate its level. They are all indicating 'close to zero' in the most recent period. Since core PCE inflation (less volatile than headline) is 1.3%, and the unemployment rate at 5.0%, the neutral nominal rate should be around 1%, significantly above the actual fed funds rate. This makes the FOMC comfortable about raising it.
- If the Fed follows its new found compass, **it should raise the FF rate in sync with inflation**



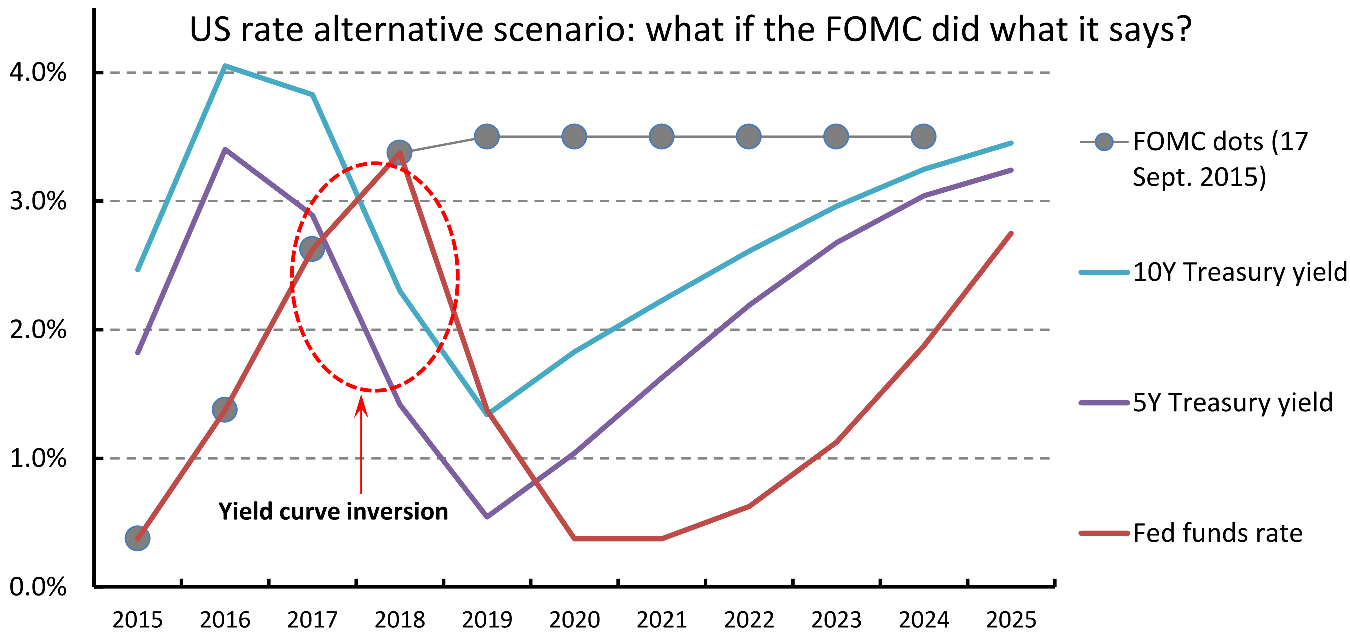
Note: The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research.

Source: The estimates are drawn from four models: (1) a dynamic stochastic general equilibrium (DSGE) model developed by the staff of the Federal Reserve Board and described in Kiley (2013); (2) a DSGE model developed by the staff of the Federal Reserve Bank of New York and described in Del Negro and others (2013); (3) a DSGE model developed by the staff of the Federal Reserve Board based on Christiano, Motto, and Rostagno (2014); and (4) a DSGE model developed by the staff of the Federal Reserve Board based on Guerrieri and Iacoviello (2013 [rev. 2014]).

Source: Janet Yellen, The Economic Outlook and Monetary Policy, Dec. 2, 2015

What if the Fed goes too fast?

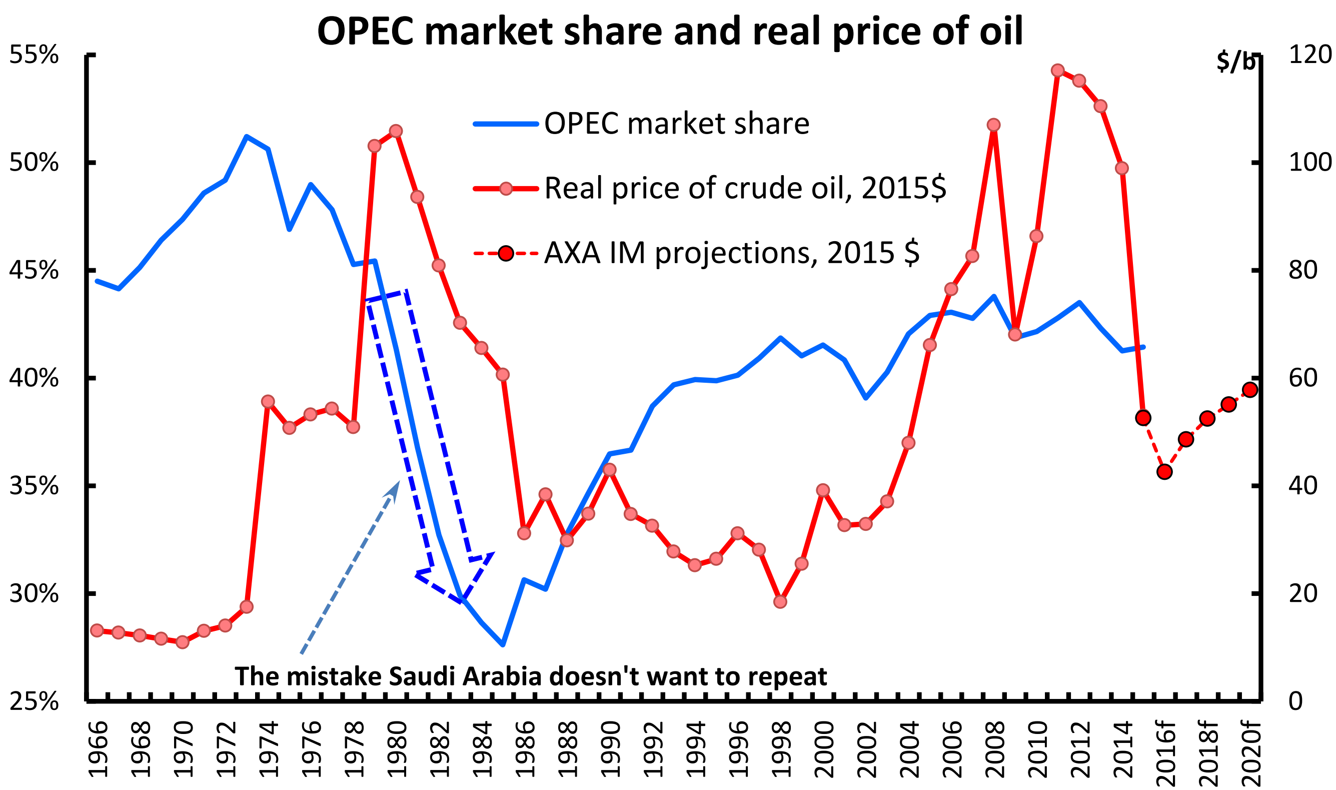
- The FOMC is projecting 8 rate hikes between now and end 2017, markets only 4
- This is pointing at a very asymmetric risk: were the Fed to act in accordance to its projections, markets would be shocked. The 1994 bond sell-off (10Y up by 350bps) would provide a fair template of rout.
- A sharp rise of bond yields (200 bps in our tentative simulation) would hit domestic demand twice: higher mortgage rates would jam the housing recovery and force consumers to save more. It would also push the US$ up, raise debt payments for companies and cause a capex downturn.
- Enough to trigger a recession that would force the Fed to ease and push bond yields again below 2%.
- A logical conclusion should be: this won't happen. But who knows?



Source: Datastream, AXA IM Research

The oil price slump - Why it will last

- The fall in crude oil price in 2014 was not expected – Saudi Arabia appeared committed to $100/bbl. The emergence of shale oil but also the comeback of Iran convinced SA to fight for its dominant role
- Since then, Saudi Arabia has been sticking to its new strategy: **Market share prevails over price**
- ***This is the lesson taken from the early 80s, when Saudi Arabia kept cutting output to support market prices, at the expense of its own income. This self-defeating strategy was ditched in1985. This U-turn eventually paid off, when the price of crude started to climb again.***



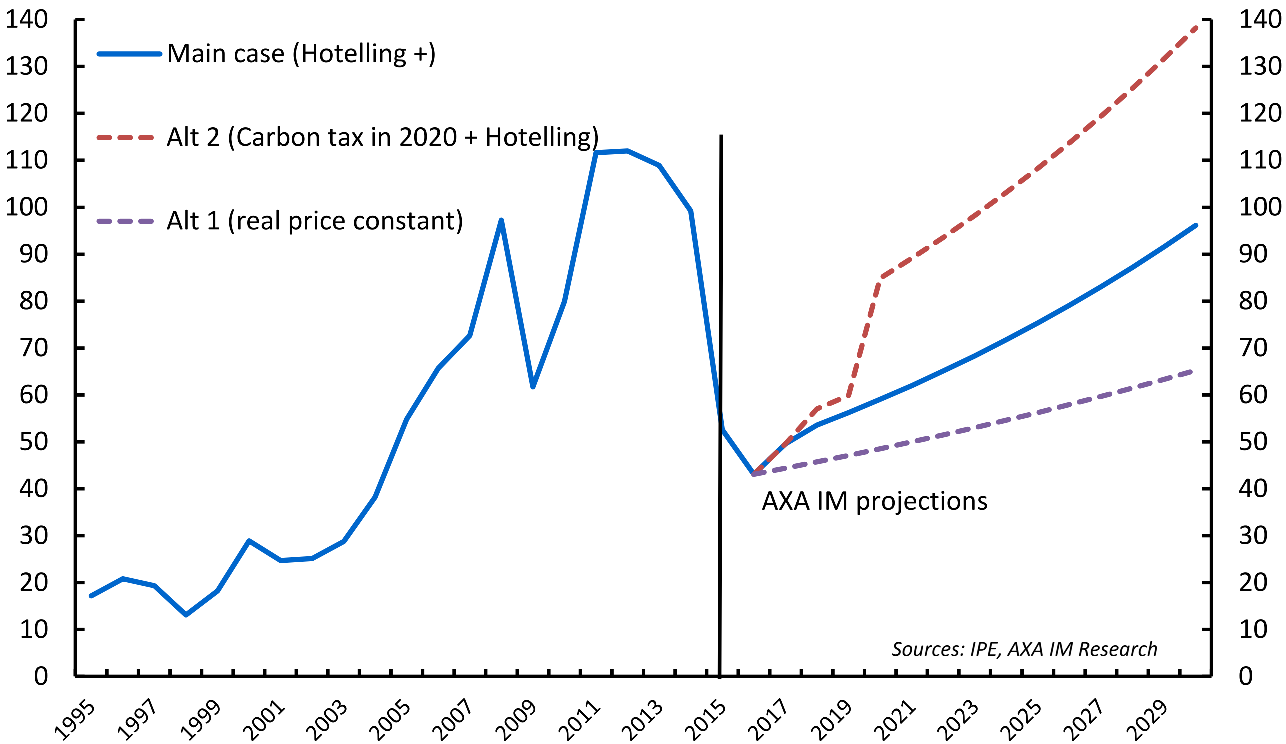
Source: BP Statistical Review - June 2015, AXA IM Research - (f): AXA IM forecasts adjusted for US inflation forecast

Source: BP, AXA IM Research

The future of the oil market – alternative scenarios

- **Main case**: crude price falls by 15% to 20% in 2016, then recovers in 2017-2018 (+25%), then rises at a rate consistent with a modified Hotelling rule (+5% per annum, slightly higher than the risk free interest rate). Path is dependant on starting point. $100 reached again in 2030 (annual average)
- **Alternative 1**: tech oil (shale) remains competitive and spreads in Asia, undermining the market power of SA. Oil price is constant in real terms (i.e. rises in sync with global inflation)
- **Alternative 2**: an agreement on carbon pricing is reached by 2020, adding $25/bbl to the market price (consistent with a carbon social cost of $50 per metric ton of CO_2). $100 reached by 2023

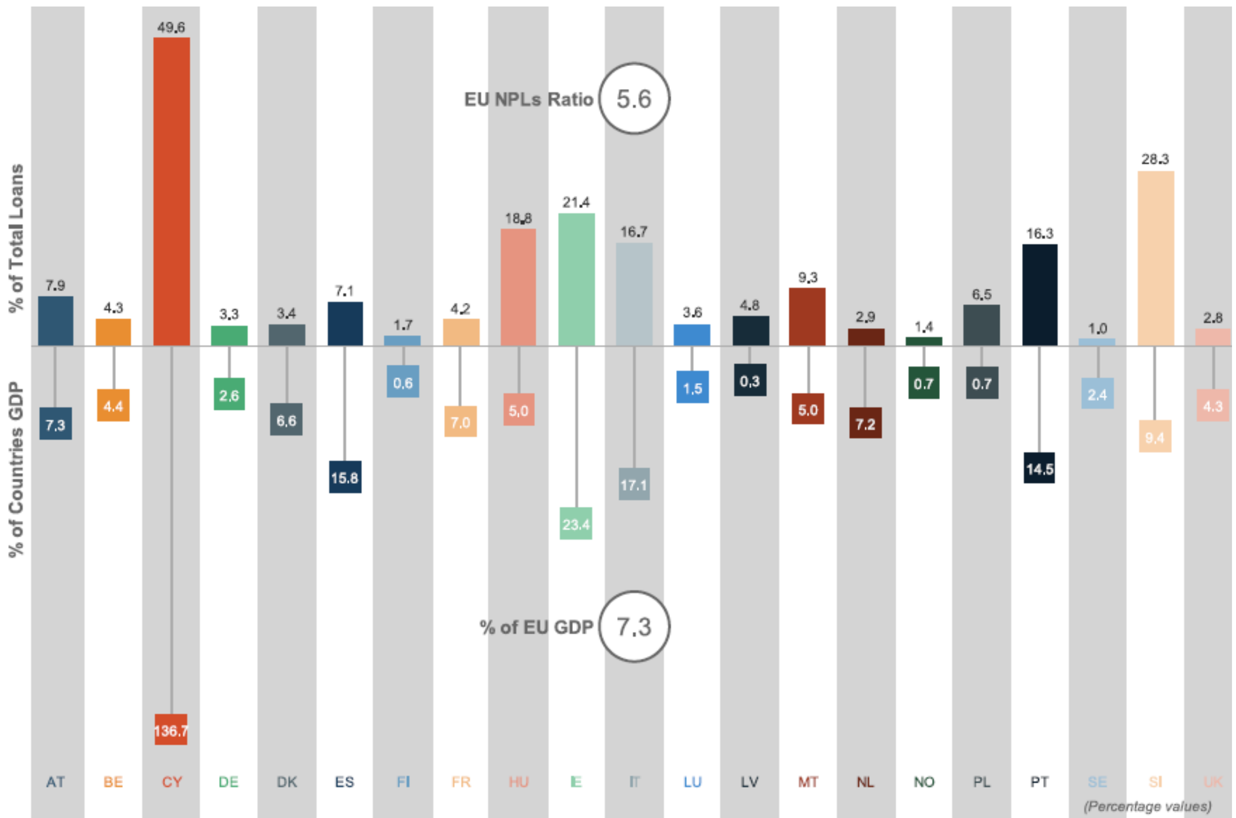
Crude oil, US$/bbl (annual averages) - alternative scenarios



Source: IPE, AXA IM Research

Eurozone banks not out the woods

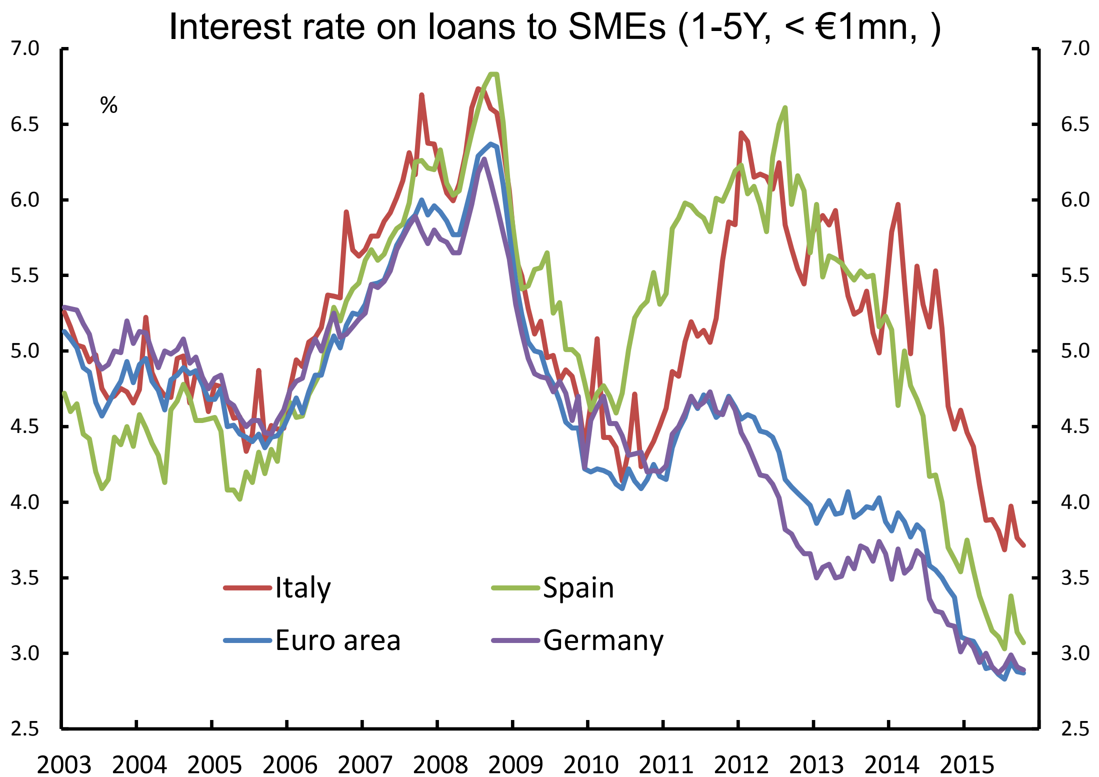
- The EBA ‘transparency report’ shows that non-performing exposure (harmonised concept mimicking NPLs) was still 7.3% of GDP on average as of end-June 2015, with periphery countries still struggling: Ireland (23.4% of GDP), Italy (17.1%), Spain (15.8%), Portugal (14.5%).
- Not surprisingly, NPE is concentrated in smaller banks (NPE ratio at 18% vs. 4% for larger banks). Smaller regional banks are also the most exposed to loans to SMEs in Southern countries.
- This is hampering the recovery and makes the restructuring and resolution of banks all the more important.



Source: EBA, November 2015

Eurozone SMEs: not yet on a level playing field

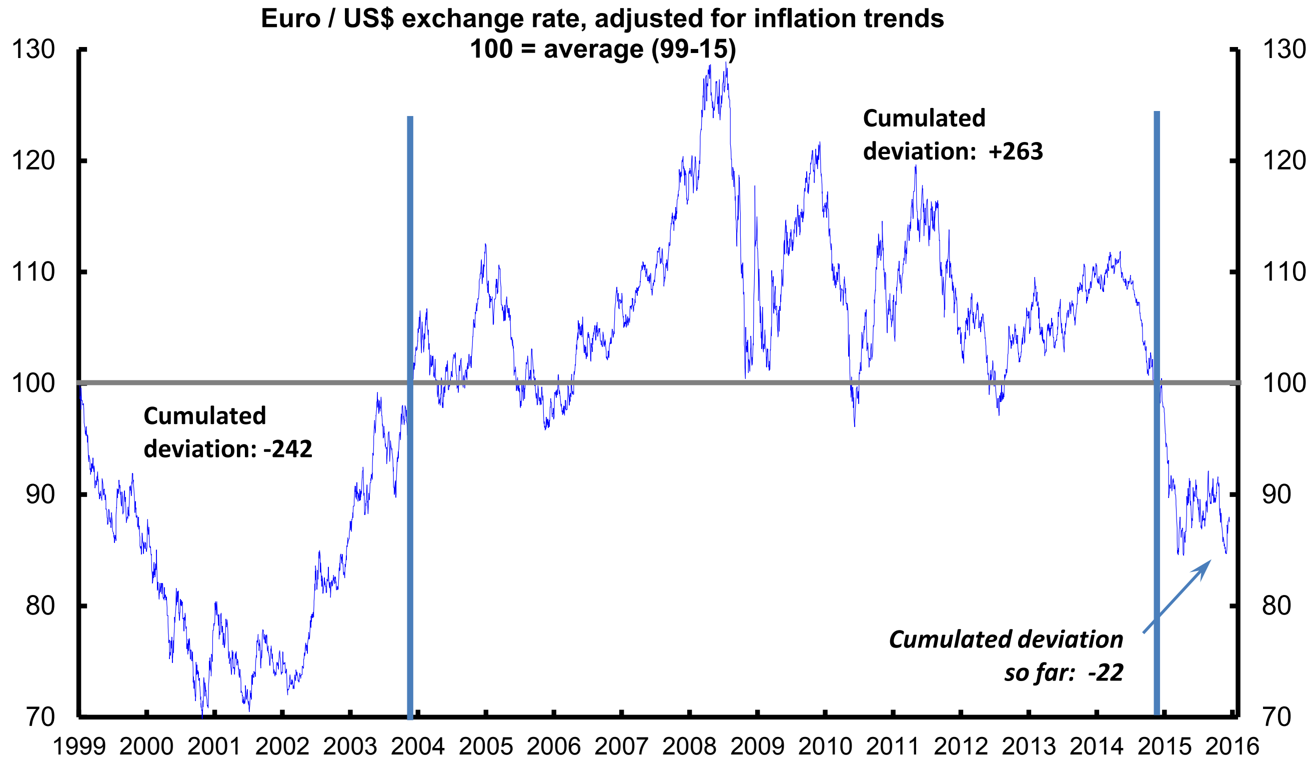
- Monetary easing has reduced the nominal cost of borrowing for euro area SMEs: rate on medium term loans fell to 2.9% in the euro area on average, in October.
- Yet, with inflation at zero, real rates are still significant and may deter some companies to borrow, if they anticipate no increase in their pricing power in the next few years. Ball in ECB's court.
- Also, while Spanish companies now borrow at rates very close to Germany, the Italy/Germany spread is still high, at 0.8pp, harming Italian SMEs. This makes bank restructuring in Italy all the more important.



Source: European Central Bank, AXA IM Research

Entering a long period of weak euro? - Euro

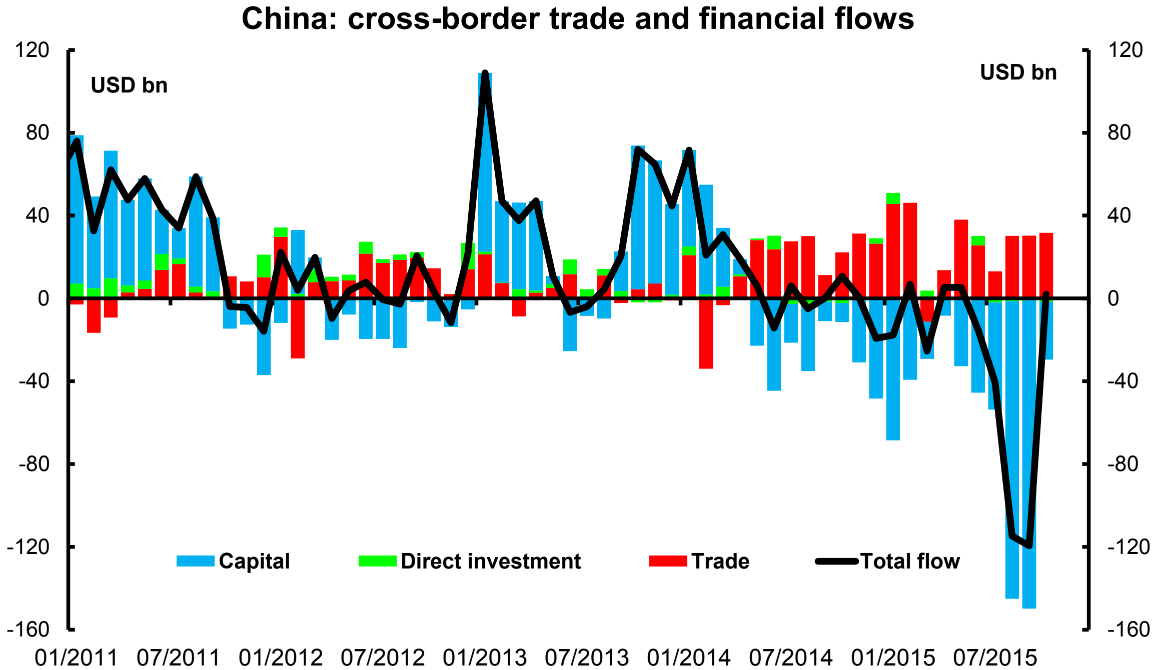
- Looking at the euro (very short) history, three periods appear:
  01/01/1999 to 05/12/2003 : euro undervalued (=below average)
  06/12/2003 to 26/12/2014 : euro overvalued
  Since 27/12/2014 : euro undervalued
- Intuition behind the chart below: what matters for real economies (supposed to have the last word, perhaps via central banks' actions) is the cumulated deviation
- Tentative conclusion: € likely to depreciate more and/or stay undervalued for years



Source: Datastream, AXA IM Research

China: basic balance back to equilibrium – Twist in FX policy

- China's basic balance returned to black ink in October, thanks to a dramatic decrease of capital outflows (US$28bn after 146bn on average in Aug-Sep) confirming our view that outflows were largely driven by Chinese companies paying back US$ debt accumulated during the years of carry trade.
- Yet, the fact is that the Chinese capital account, once closed, is seriously leaking. Thus, China cannot stick to a fixed FX regime (good for financial stability) and an independent monetary policy (good for macro stability). China has opted for a compromise: a semi-managed CNY/US$ regime, moving toward the stabilisation of the effective exchange rate of the yuan (**revealed by new official CNY index by CFETS**).
- Concretely, a 1% appreciation of the EUR and JPY vs. USD would require a similar depreciation of the RMB vs. USD, since the combined weights of the US$ and HKD is almost equal to that of EUR+JPY.

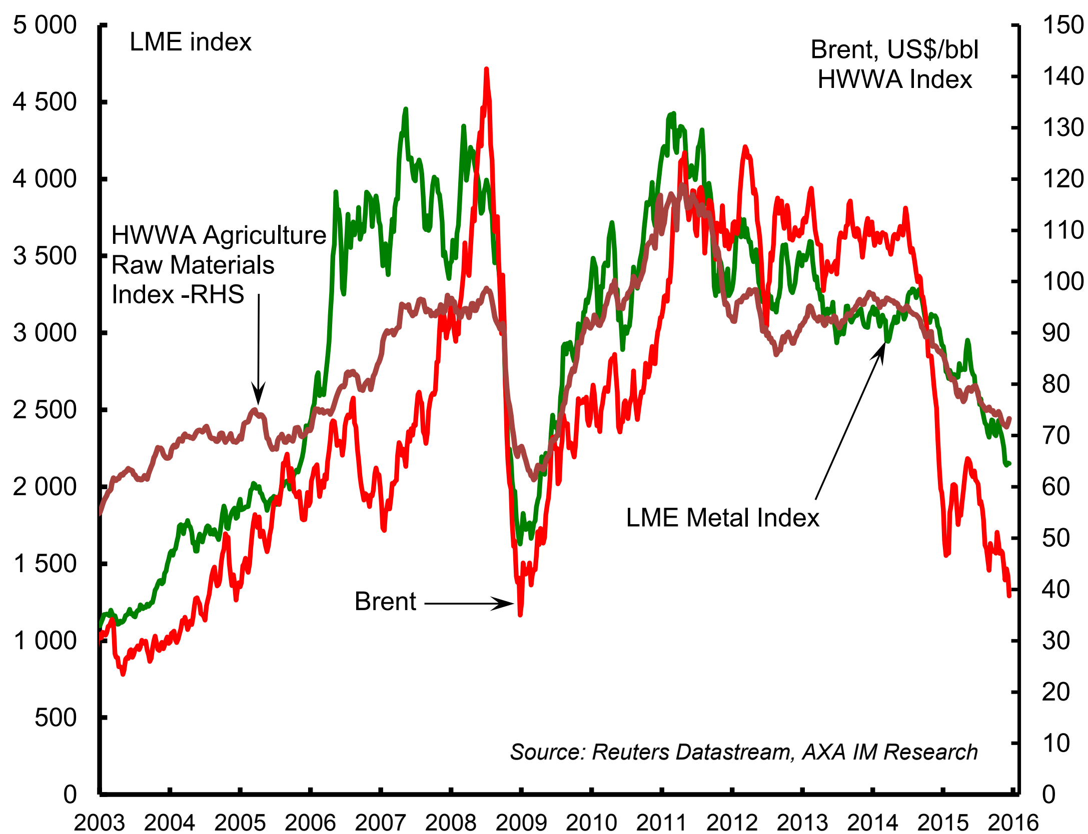


	RMB Index		
	SDR	CFETS	BIS
USD	0.4190	0.2640	0.1780
EUR	0.3740	0.2139	0.1870
JPY	0.0940	0.1468	0.1410
GBP	0.1130	0.0386	0.0290
HKD		0.0655	0.0080
AUD		0.0627	0.0150
NZD		0.0065	0.0020
SGD		0.0382	0.0270
CHF		0.0151	0.0140
CAD		0.0253	0.0210
MYR		0.0467	0.0220
RUB		0.0436	0.0180
THB		0.0333	0.0210
OTHERS			0.3170

Source: PBoC, Datastream, AXA IM Research

Commodity prices warn of a global demand gap

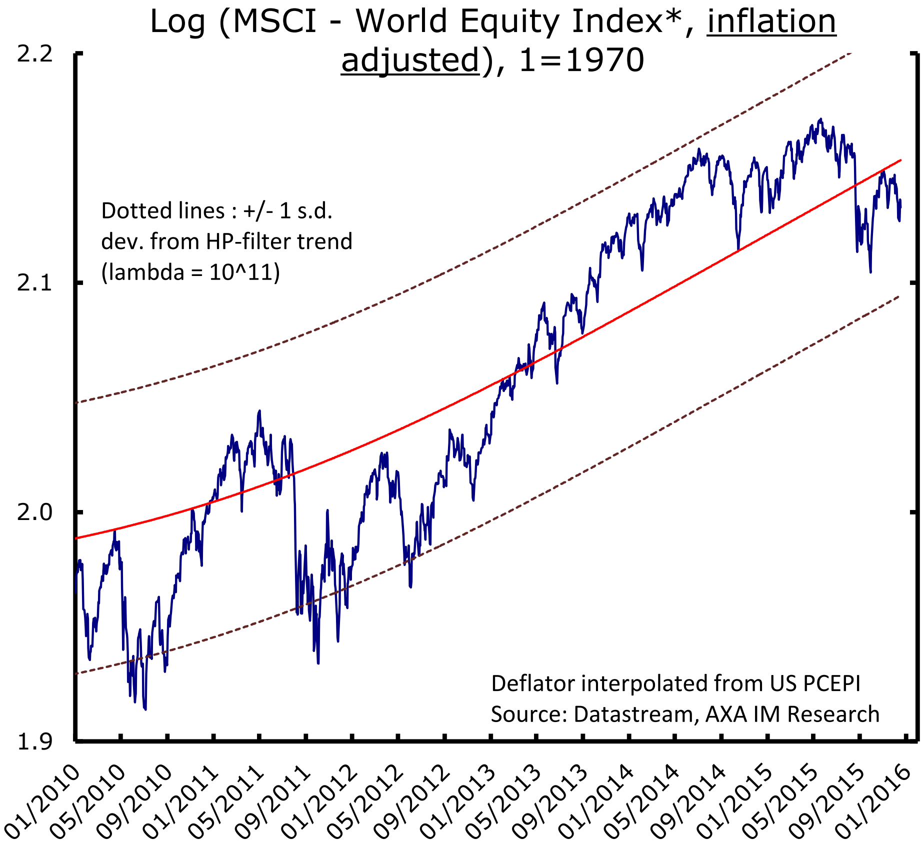
- The prices of the three main families of commodities (energy, industrial, agricultural) are falling since mid-2014, suggesting that supply-side factors are not enough to explain the decline.
- A global demand gap is the likely culprit, resulting in 'lowflation', sluggish growth and low nominal yields
- How could it be bridged? If global demand doesn't accelerate (especially investment), it won't and global potential growth will slow until matching demand. Eventually, inflation might be the endgame.

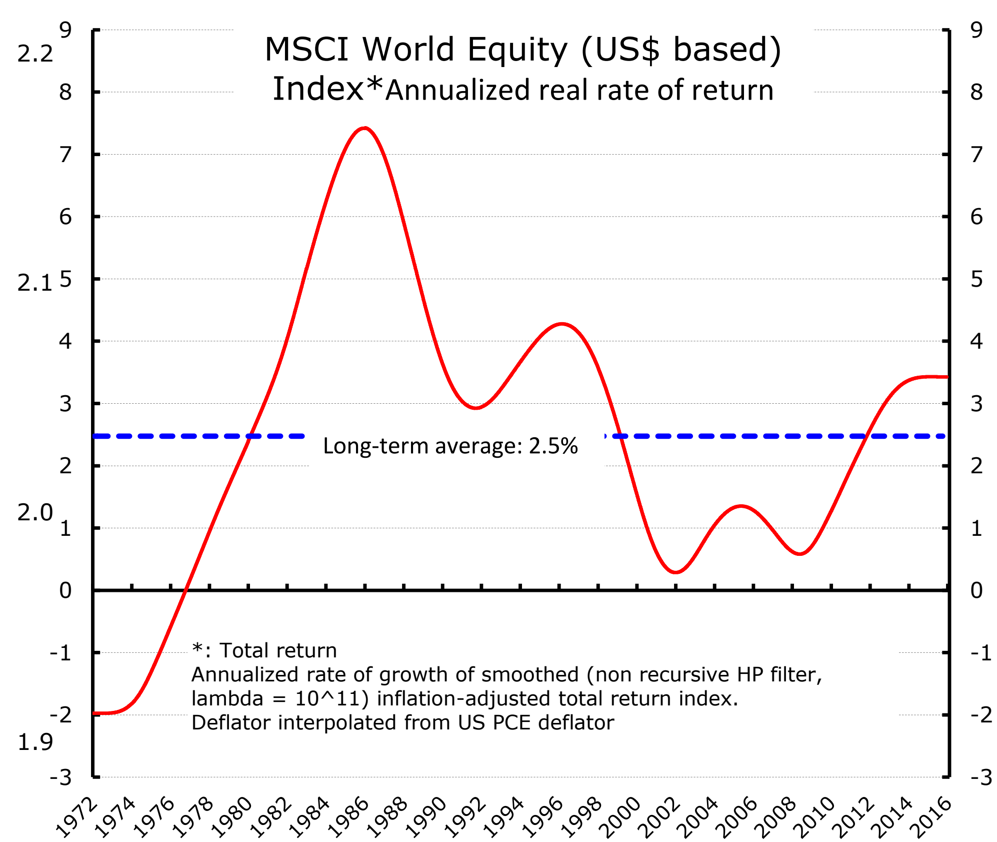


Source: Datastream, AXA IM Research

Global equities: enjoy the year-end rally if any, then take profits

- With the real total return of the global MSCI index cruising at 3.5% p.a., vs. long term average at 2.5% (thus growing too fast), **we have cut our medium-long term equity weighting to neutral**.
- The recent rally makes global equities in US$ no more attractive. **The AXA IM strategy team has turned to neutral in the short term as well.**
- Yet, we are bullish on the US$ against all currencies, especially the €. Hence, eurozone, Japan and emerging Asia equity markets remain attractive

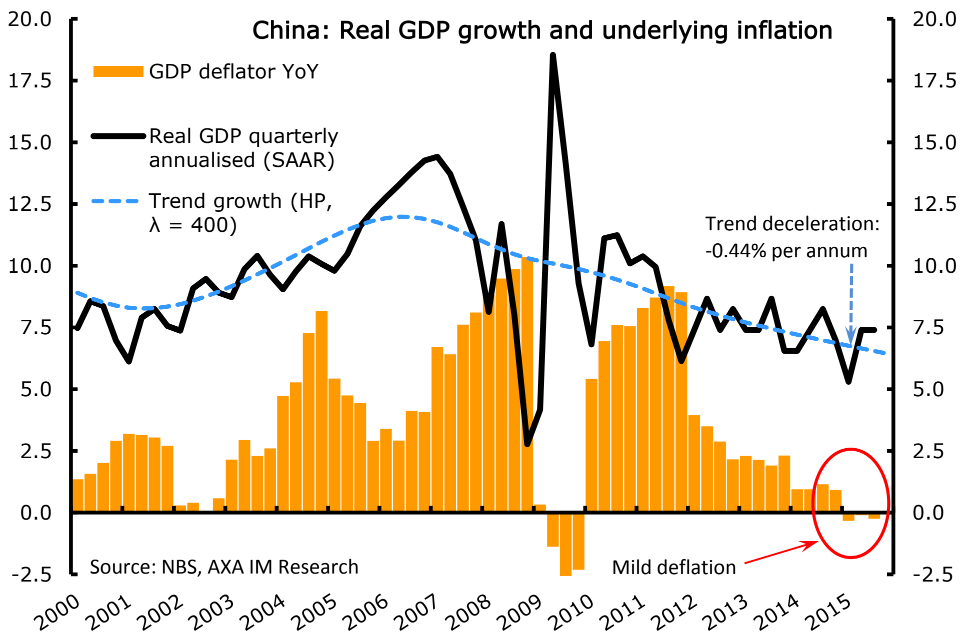


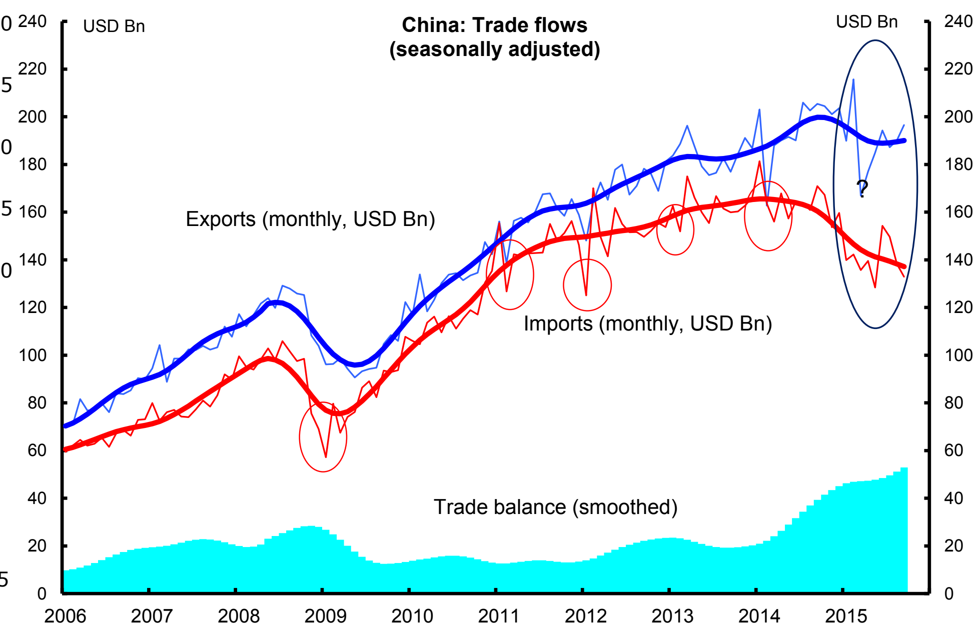


Source: Datastream, AXA IM Research

China: how bad is it, Doctor?

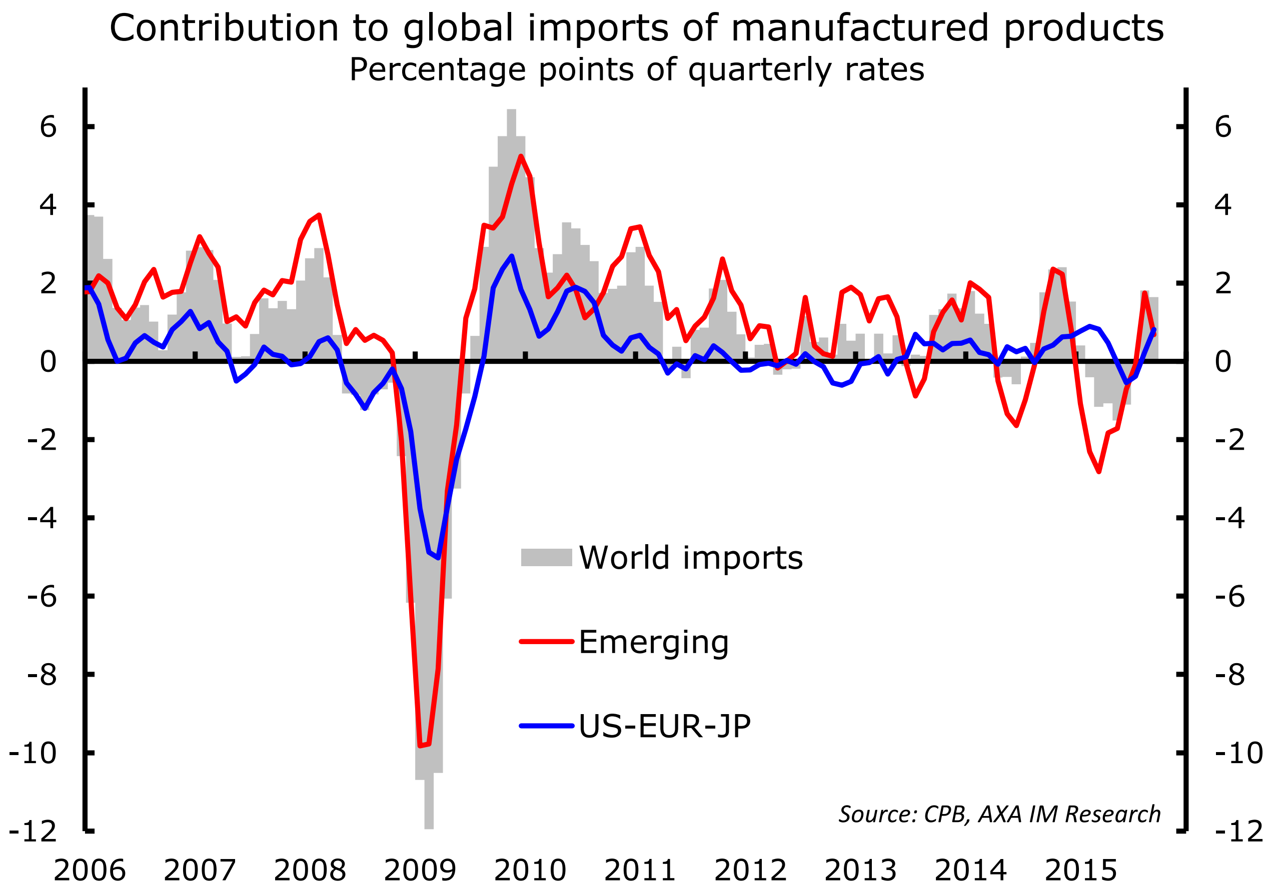
- The Chinese slowdown is caused by well-identified cyclical and structural factors. Yet, the interplay between these factors and their political management leaves room for surprises.
- **Cyclical factor**: debt hangover, after the massive stimulus that followed the 2008-09 crisis. The uncertainty stems from the debt accumulated by local governments and SOEs
- **Structural factors**: labor force flat but urbanization far from over. Shift from industry towards services, from exports to consumption. Financial liberalization, including to some extent, capital account opening
- Trend growth has been slowing by 0.5pp per year since 2010. Unabated, this drift would soon politically dangerous. **Expect Chinese policy makers to do 'whatever it takes' to smooth the slowdown**
- We expect GDP growth to land slightly above 6% in 2016. **Yet, the more the economy is market-driven, the more unwanted economic gyrations are likely.**





Global trade: China's impact fading away

- Global trade recovered partly in Q3 (+1.2%Q) after the H1slump (-0.8%Q in Q1 followed by -1.0%Q in Q2)
- Yet, the slump of Chinese imports and sluggish demand trends in developed economies do not bode well for the future.
- We now expect a stabilization of trade flows in the last part of 2015 and warn of a possible correction in Q1 2016, if the seasonal pattern of the last few years is of any guidance



Source: CPB, AXA IM Research

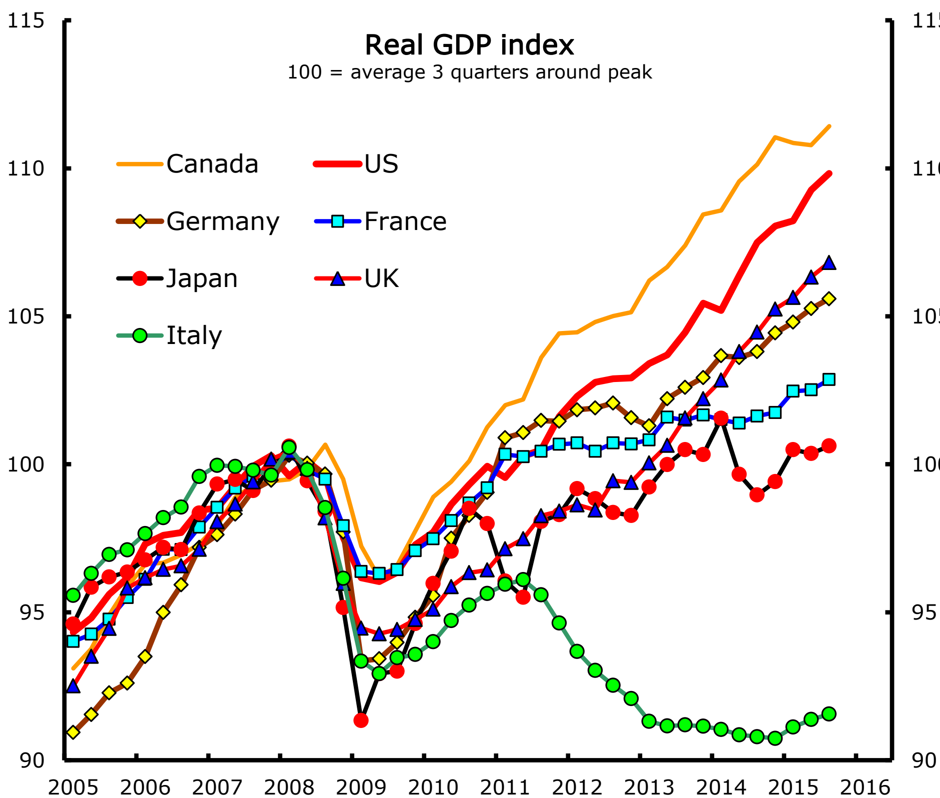
Global trade: globalization has turned sober (or sour?)

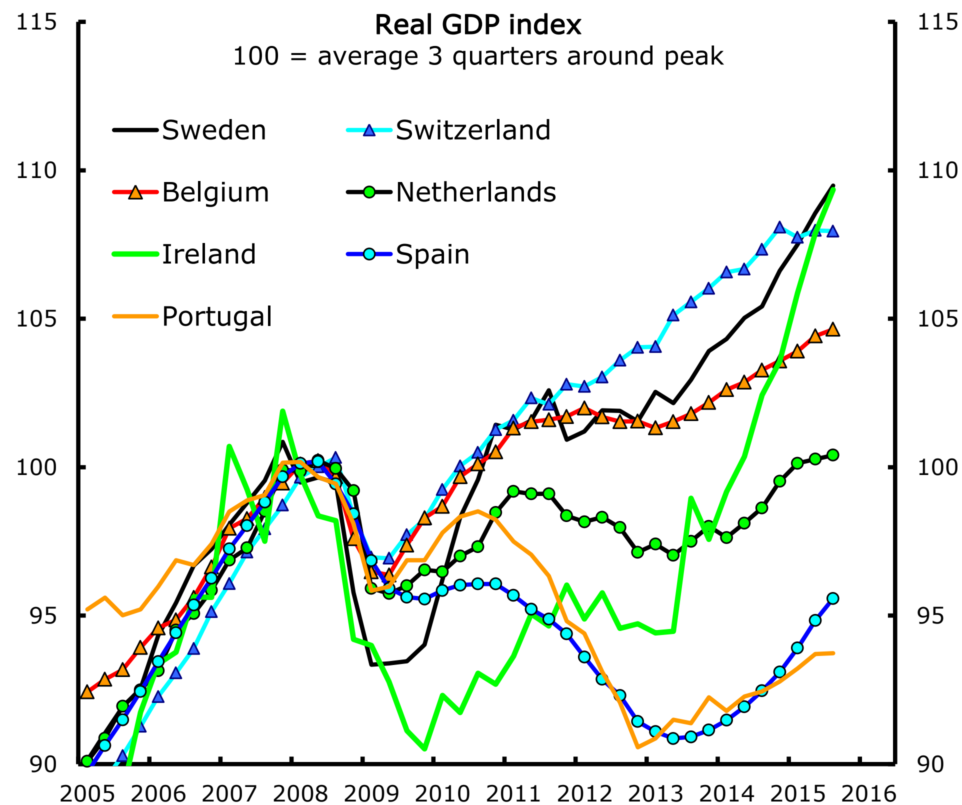
- The bigger picture: global trade is growing at a snail pace compared to pre-crisis standards, and even compared with global GDP growth.
- The elasticity of trade relatively to global growth has fallen from 1.5 before the global financial crisis to less than 1. Is this a structural shift? If it is, growth models based on exports will have to adapt. China has got the message.

Source: CPB, AXA IM Research

Divergences within developed economies stabilizing

- Ireland has caught up with the best-in-European-class (Sweden and Switzerland). Switzerland is hampered by the CHF and Canada badly hit by the commodity price slump
- Among larger developed economies, the US is leading, followed by the UK, which has overtaken Germany (post GDP revisions). Grey clouds are gathering on Germany (slow trade, VW scandal). France is on a slow recovery path while Japan's real GDP is flat (yet, nominal GDP up 3%y)
- Italy has bottomed up but remains the most worrying case, with GDP 8% below 2008 peak

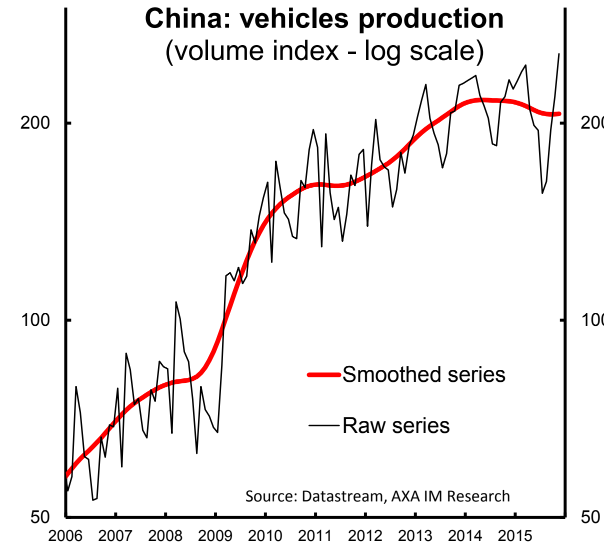


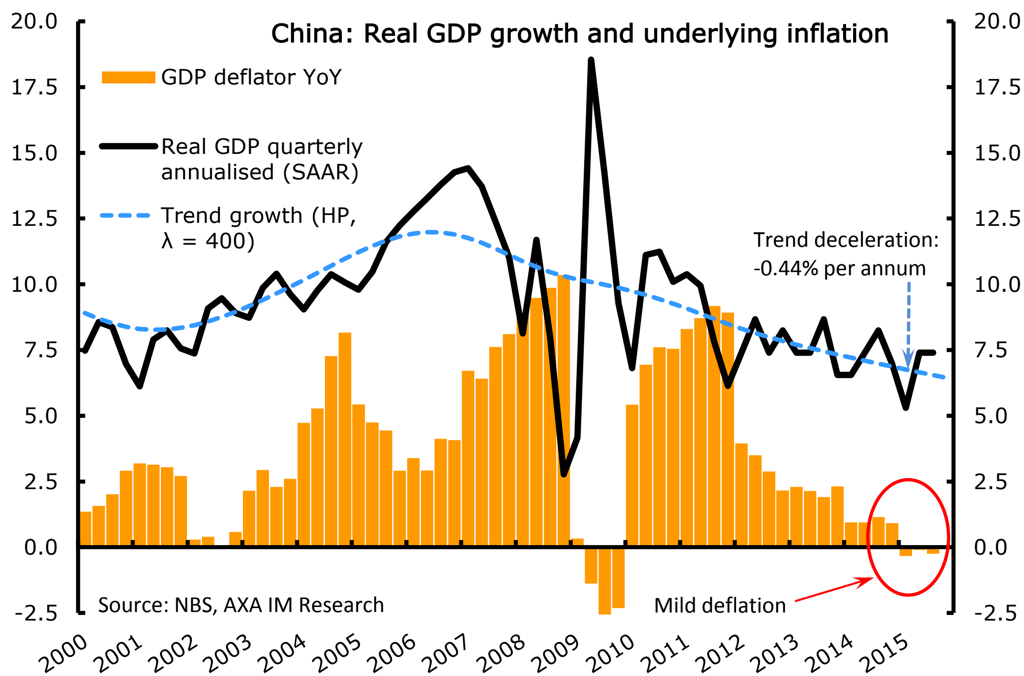


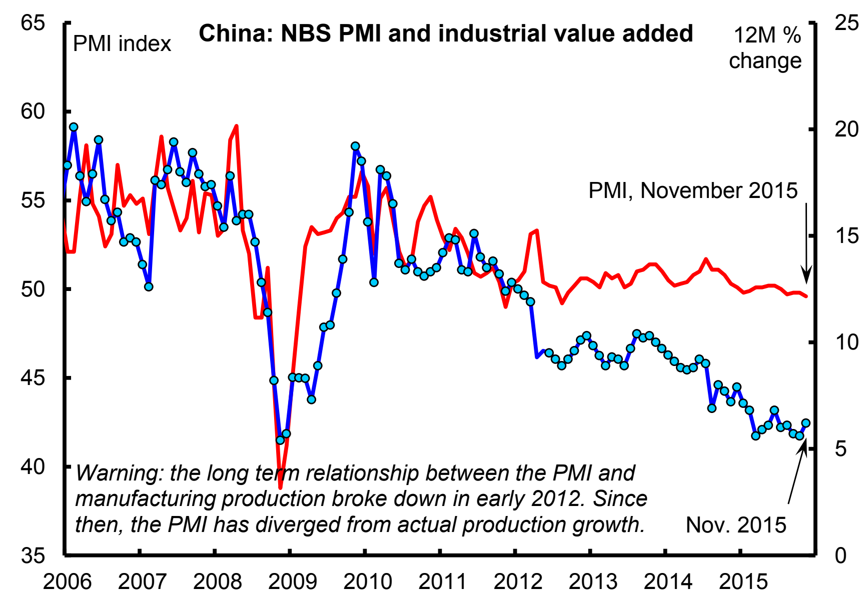
Source: National Accounts, AXA IM Research

China: growth stabilized at year end, further deceleration due

- China's GDP growth was steady in Q3 (1.8%Q , as in Q2, after 1.3% in Q1). Industrial production re-accelerated in November (6.2%Y, after 5.6% in October)
- Further RRR and rate cuts by PBoC illustrate that deflation remains a concern. The GDP deflator has declined three quarters in a row.
- Real disposable income per capita was up 7.6% in H1, according to NBSC. After a dramatic fall, car sales jumped in November. Good news but outlook uncertain
- **We forecast a further slowdown in 2016, at 6.1%. The risk coming from a stronger US$ will be addressed by a FX policy aiming at stabilizing the effective rate of the yuan.**
- Longer term, growth should continue to slow, to 4%-ish by 2025. **The labour force is not growing anymore in China**



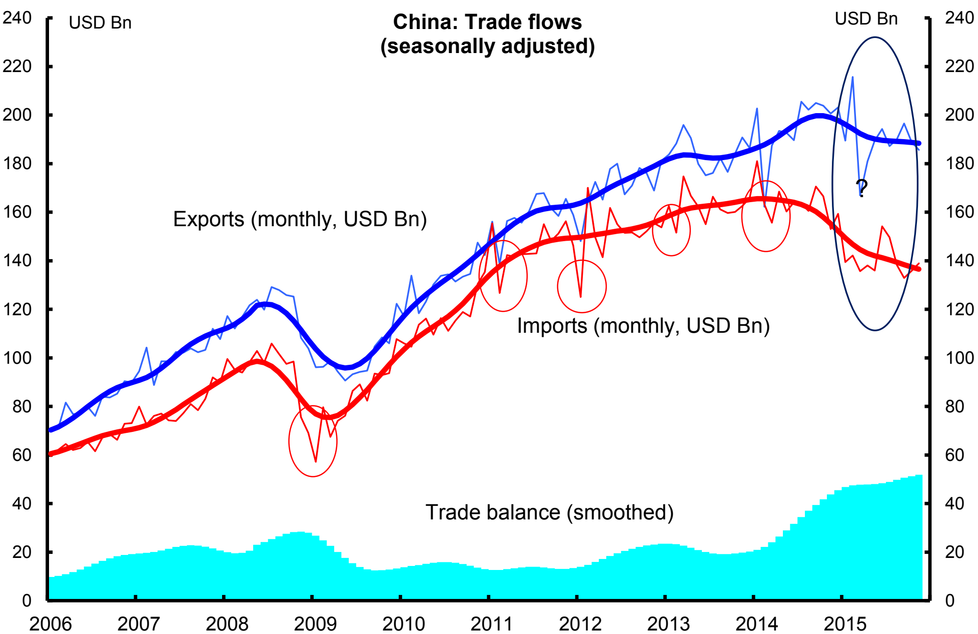


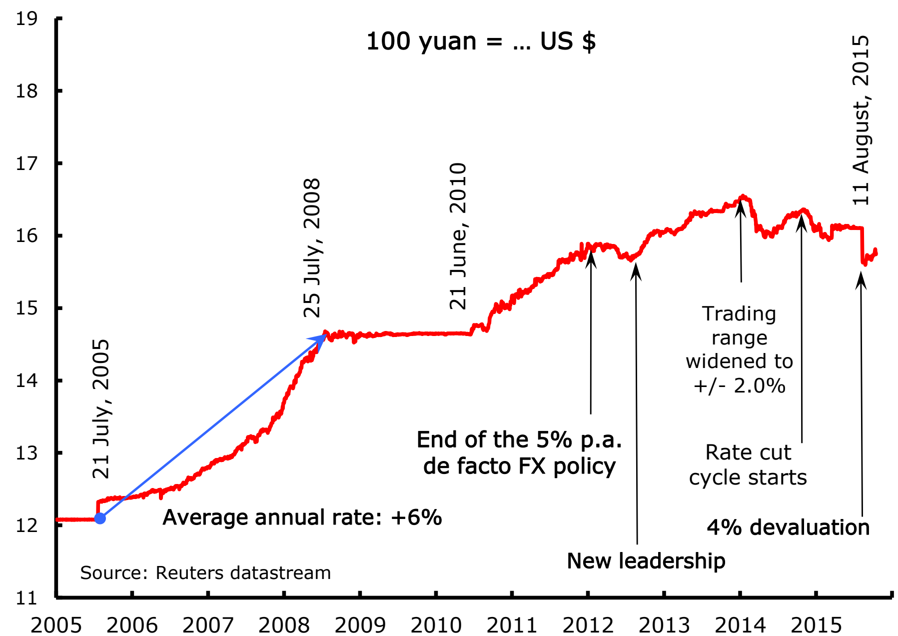


Source: NBS, Datastream, AXA IM Research

China: highly volatile trade should not hide slowing trends

- Chinese trade flows tumbled in February-March, with no clear explanations but statistical distortions due to New year celebrations and the longshoremen strike in the US. Flows have started to rebound in April, but the underlying trend remains soft, especially on the import side
- With foreign demand unlikely to accelerate briskly, China will have to boost further domestic demand to achieve its growth targets. Both monetary and fiscal policy will be needed
- Now that the RMB is a constituent of the IMF SDR basket and that the FX policy has been made more flexible, China is moving toward an effective exchange rate policy, implying the likely end of the managed peg to the US$.



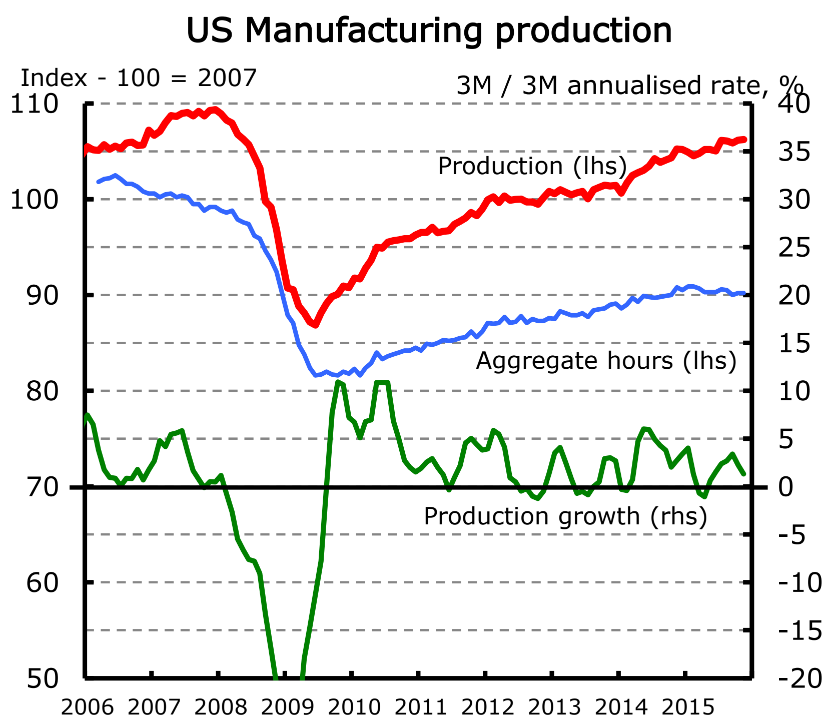


Latest data: 11/2015

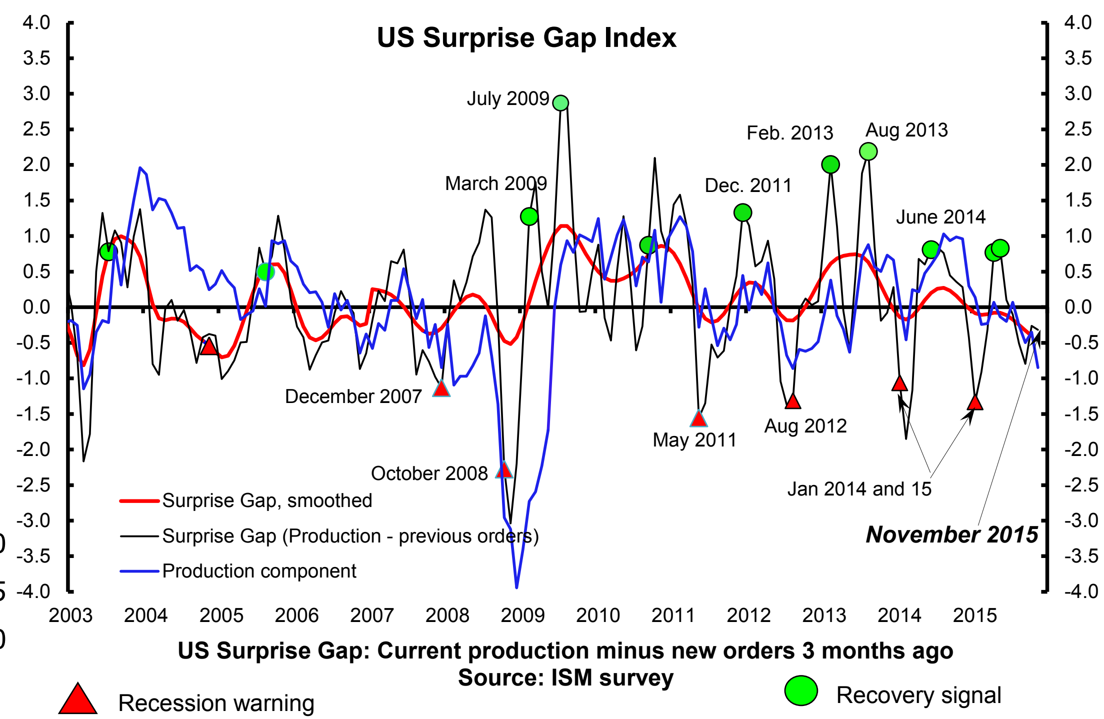
Source: NBS, Datastream, AXA IM Research

US: Manufacturing outlook not exciting but stable

- Manufacturing production (excluding mining and oil) accelerated in Q3 (+3.3% saar after 1.5% in Q2). A neutral/negative Surprise Gap points at a risk of a slight deceleration in Q4, not of recession
- Consumer spending is fuelling growth on the demand side, with 3.3% average growth in Q2/Q3.
- Going forward, the retrenchment of capex in the oil/drilling industry and the strength of the US$ (via the profit channel) will continue to weigh on the manufacturing sector in general



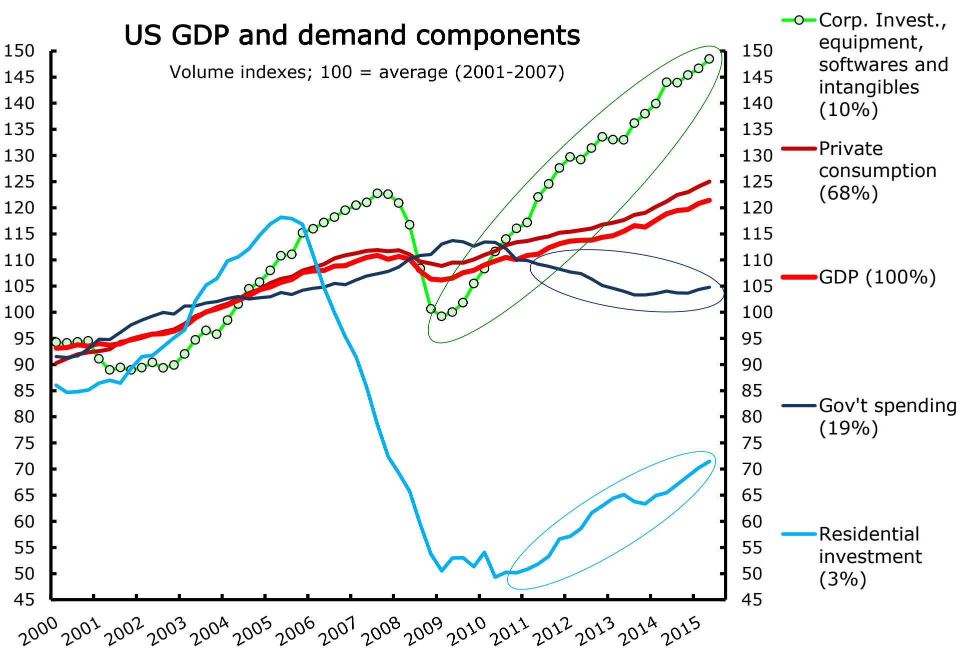
Source: US Federal Reserve Board, AXA IM Research

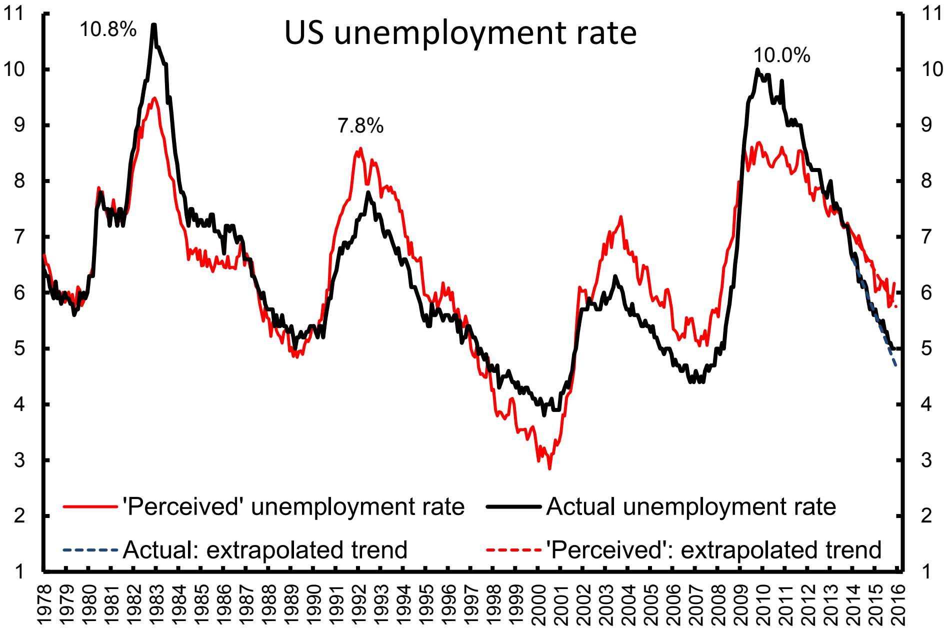


Source: ISM, AXA IM Research

US: capex peaking, unemployment close to bottom

- Since the beginning of its recovery (Q3 2009) capex (ex-structures) has increased at an impressive 7% average annual rate. Yet, as the profit cycle matures and headwinds such as low oil and gas prices or the strong dollar hurt profitability, the capex cycle is peaking out.
- Consumer spending and housing investment are supported by incomes, stronger balance sheets and low mortgage rates. Warning: according to a Fed study, a 100bps rate increase could cause a 12% decline of light vehicles production – one more reason for the Fed to be cautious on the hiking path
- As growth slows, the almost linear decline of the unemployment rate is likely to soften. The unemployment rate may bottom out next year at around 4.5%.



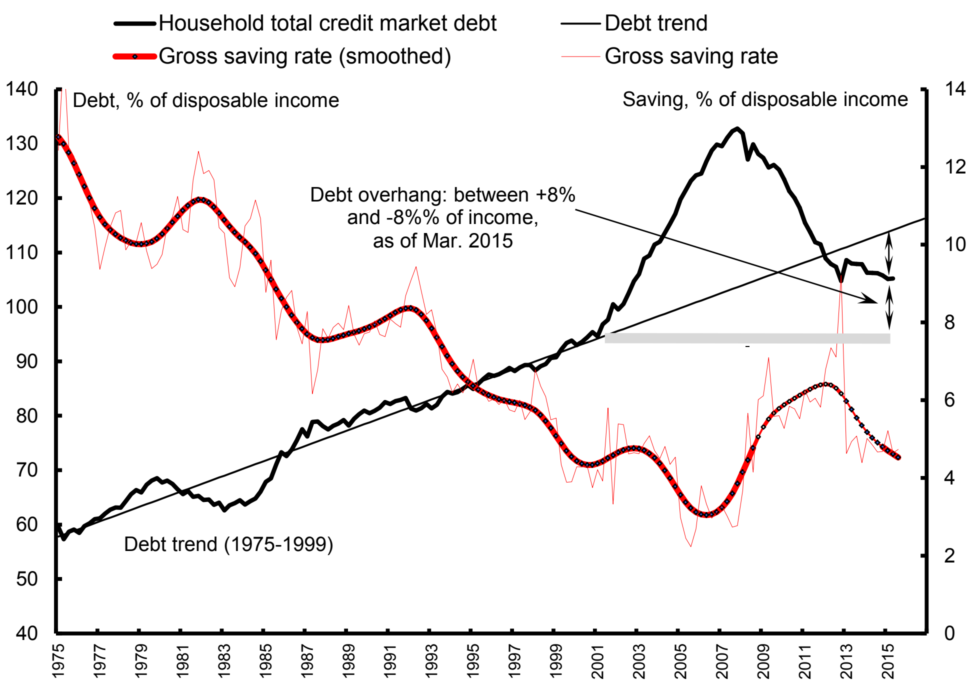


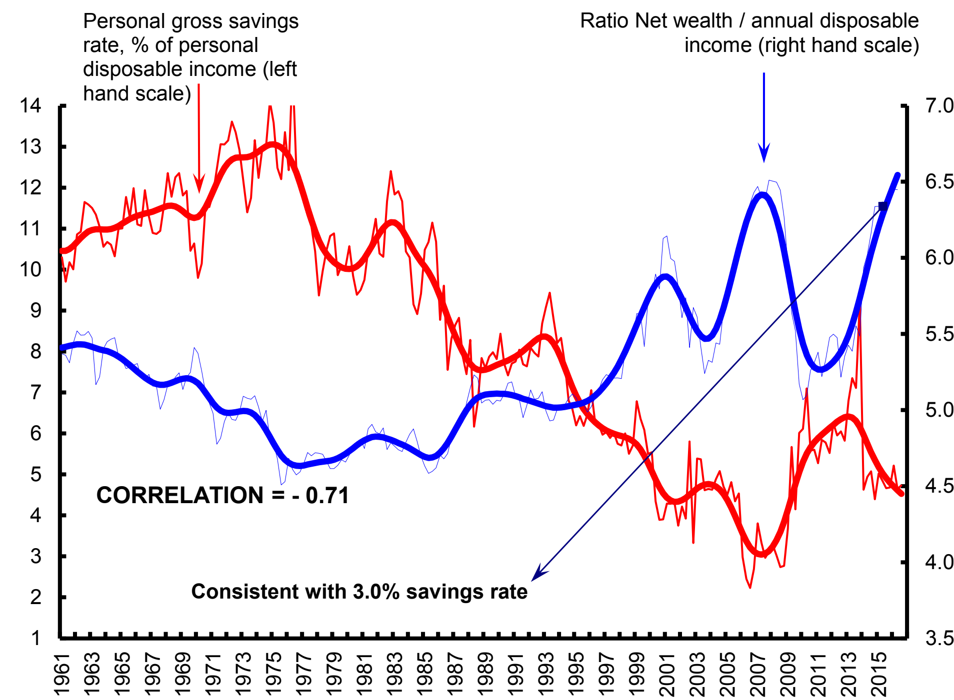
Subjective unemployment = 5.8+ 0.06 * (balance of opinion on current jobs - Conference Board) OLS, 1978-2013, R2=0.83

Source: BEA, Department of Commerce, Conference Board, AXA IM Research

US Consumers: don't expect more from the return of wealth

- In the aftermath of the debt crisis, the personal saving rate rose as households were forced to cut their leverage and tried to rebuild their savings. Consumer spending could but disappoint -until Q3 2010.
- As wealth rises, driven by property and stock prices, and debt declines, the savings rate declines
- The stabilization of the debt/income ratio (at end-2002 level) is consistent with the wealth-based analysis: deleveraging is behind us. Confirmed by Fed of NY analysis (25 November, 2014 – Liberty Street)
- Based on 3Q net wealth data, the personal savings rate, which has recently stabilised, could fall by another 1.5 points. Yet, the margin is too small to warrant an acceleration of consumer spending.



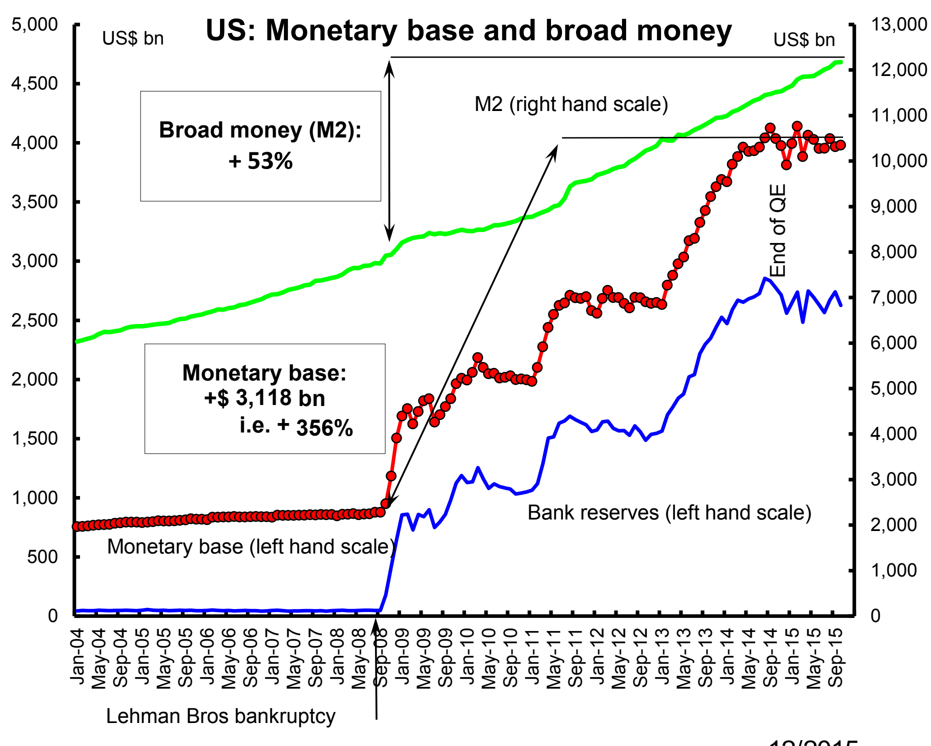


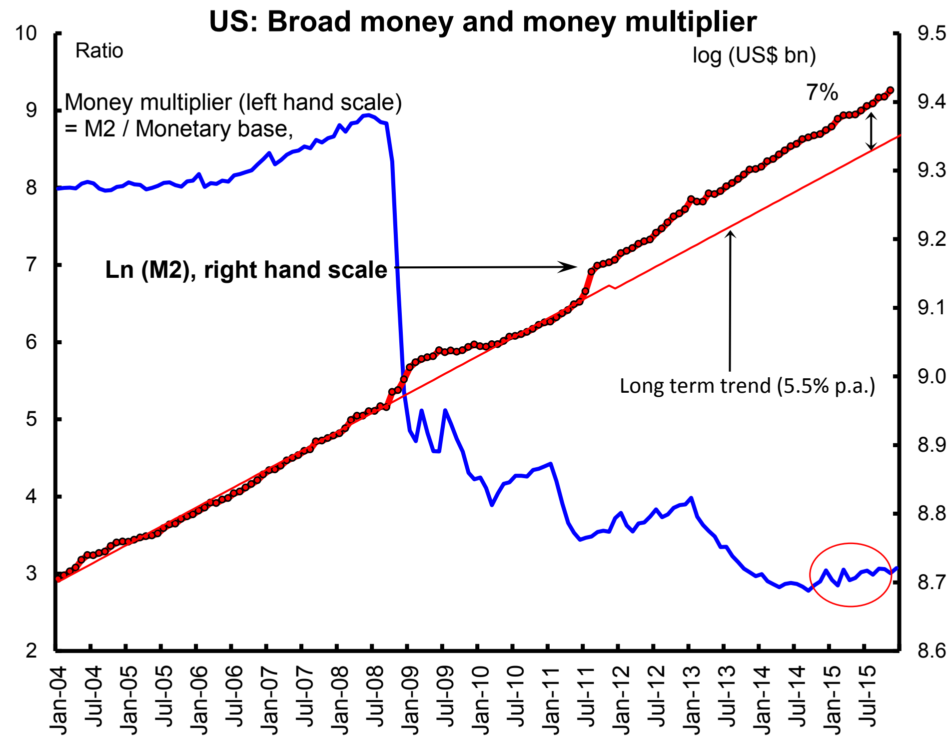
Latest data: 2Q 2015 (NIPAs revised from 1929)

Source: BEA, AXA IM Research

US Fed: money gap positive, money multiplier low

- The Fed's obsession: do not repeat the mistakes of 1930
- Former chairman Bernanke was the first scholar to demonstrate that Milton Friedman, not JM Keynes, was right about the cause of the 1930 depression: it was the contraction of money supply, not fiscal austerity.
- The Fed has been successful at keeping money growing, so far, despite a large fall of the money multiplier
- From now on, the Fed will use its impressive balance sheet to manage short term interest rates. Reverse repo operations (borrowing from the markets instead of lending) will be a pivotal tool. Selling or even not reinvesting assets is, in theory at least, an option. The 16 December FOMC has made clear that this option is off, until the fed funds rate are high enough (our guess: at least 1.5%)

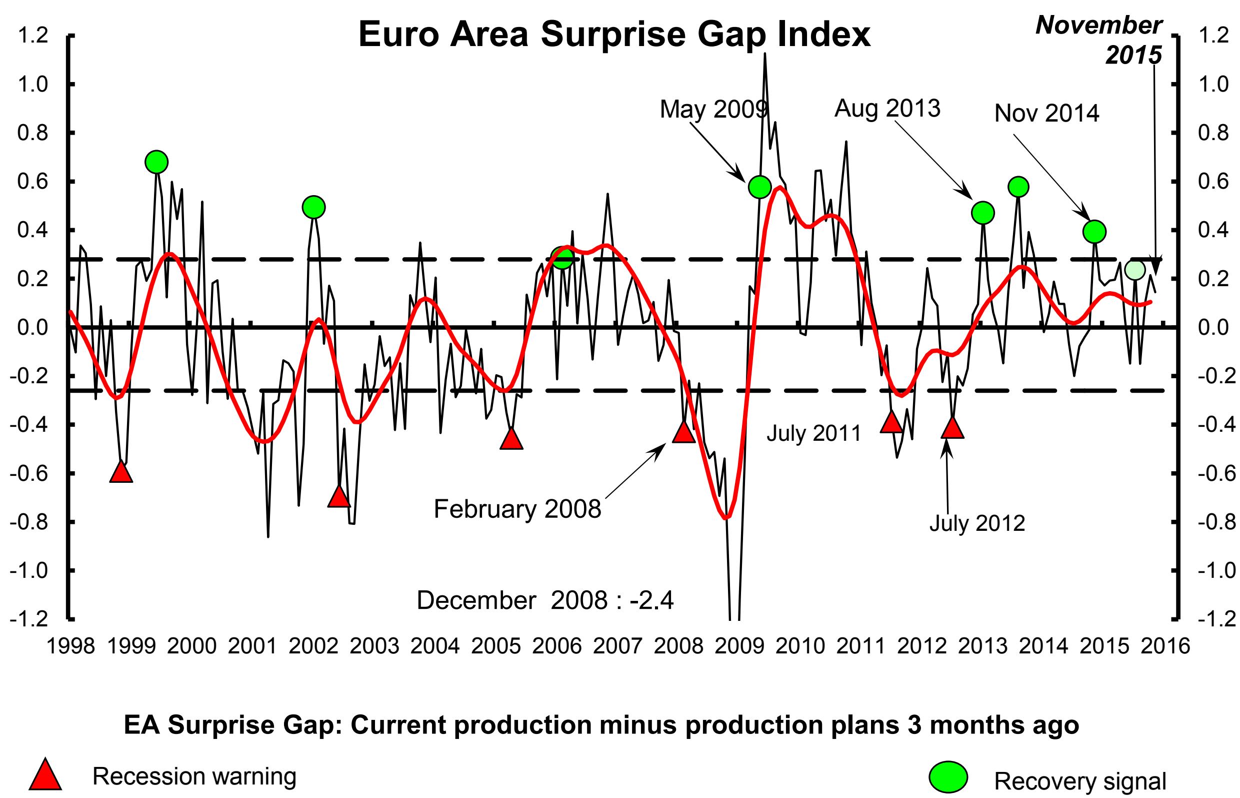




Source: Federal Reserve Board, AXA IM Research

€-area manufacturing: subdued growth so far as we can see

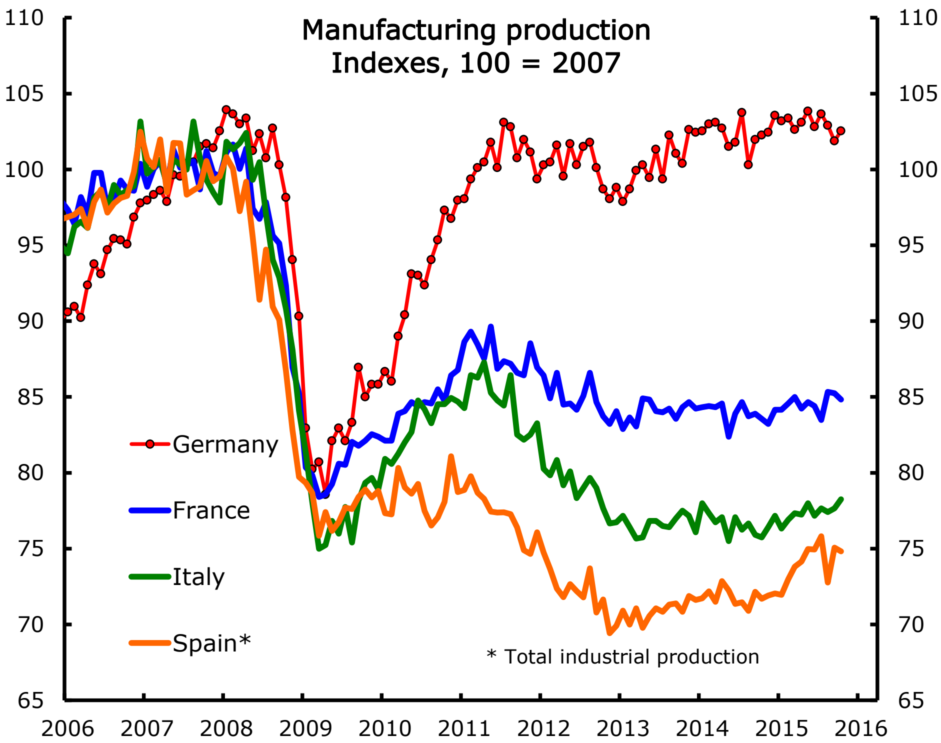
- The €-area Surprise Gap had correctly signaled the acceleration of industrial production earlier this year (+0.9%Q in Q1 2015) and warned of a slowdown (IP was broadly flat in Q2/Q3). Since then it has been hovering in the neutral / positive zone. Yet, the ripple effects of the VW scandal and of the terror attacks in Paris may dampen growth in Q4, possibly in Q1 2016.
- Demand trends reported by companies have recently softened in France and Belgium, not enough to move the average euro zone. Yet, December reports are likely to be significantly weaker.

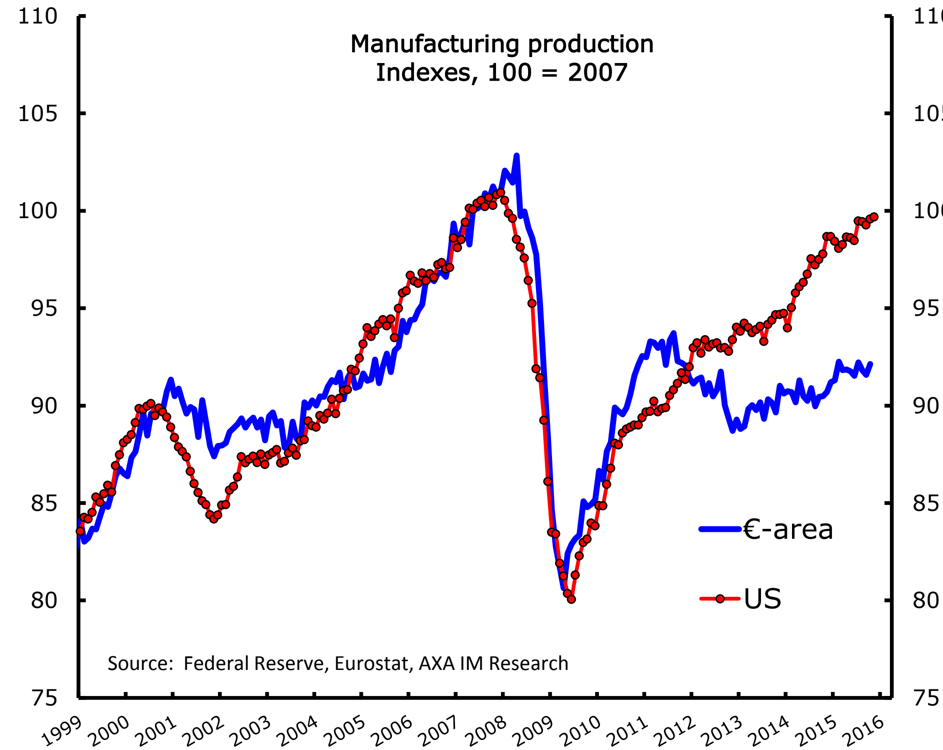


Source: Ifo, Insee, Istat, INE, CBS, BNB, AXA IM Research

Euro area: manufacturing recovery not yet on safe path

- The triple-deleveraging (banks/consumers/governments) that caused the 2013 dip and the 2014 stagnation has ended, replaced by a soft recovery. The demand gap dug by the double dip is far from being closed, and the legacy of NPLs in small banks books is hampering the supply side as well, especially SMEs.
- Since 2010, the production gap between the US and the €-area has widened considerably. From now on, it should shrink but is unlikely to be bridged any time soon.

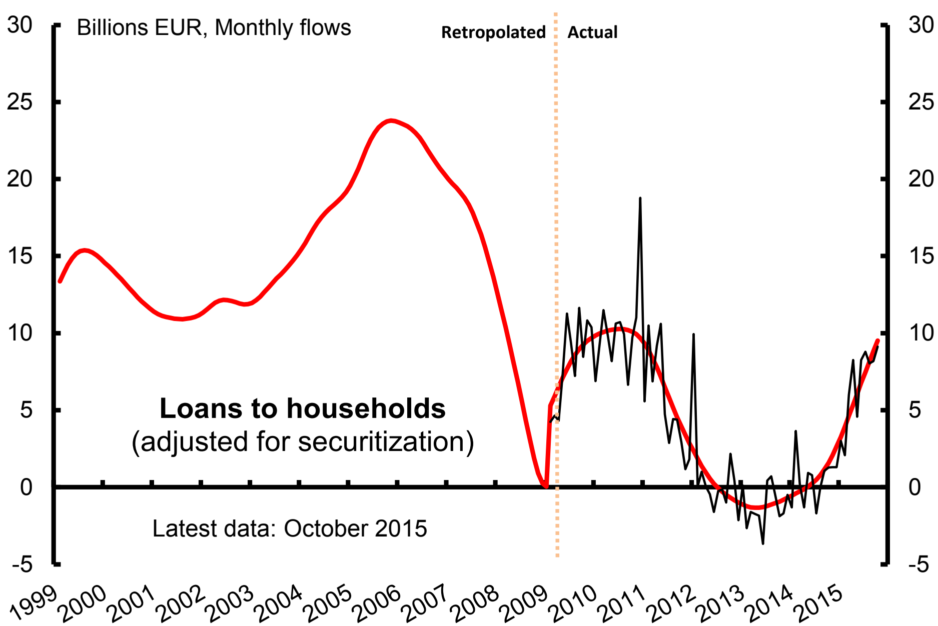


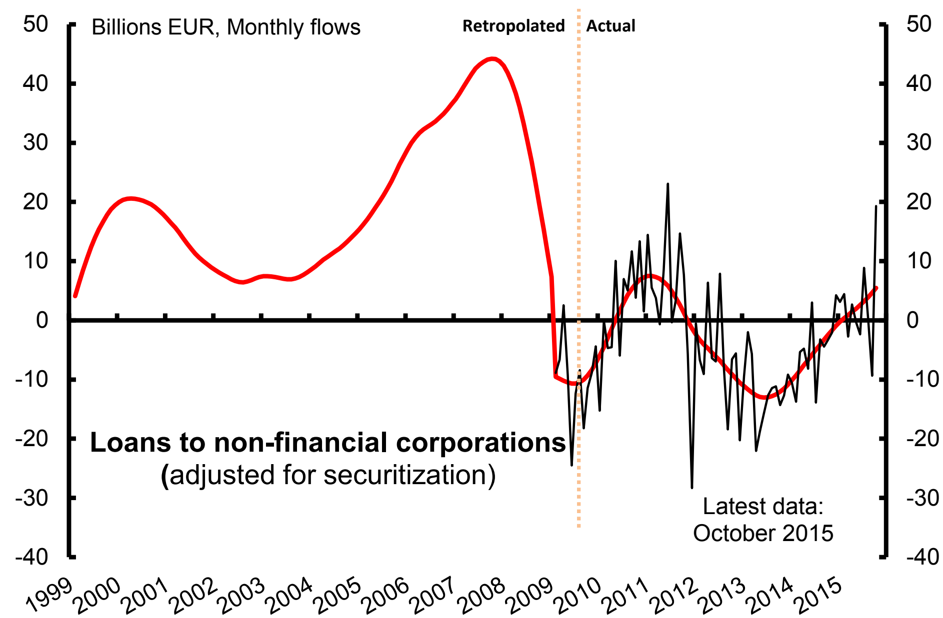


Source: Datastream, AXA IM Research

€-area: tentative credit recovery – more to come

- The combination of conditional TLTROs, the restructuring of the banking sector that followed the stress tests, in Italy in particular, and now the APP (ACB's asset purchase program) have started to rekindle loans to non financial companies.
- Going forward, the normalisation of financial conditions in periphery countries and the demand booster stemming from lower energy prices is likely to stimulate credit demand.
- Yet, loans to non financial companies have (on trend) only reached the trough of the previous cycle (2003). Cleaning the balance sheets of banks but also stimulating demand will be needed to fully restore credit flows.

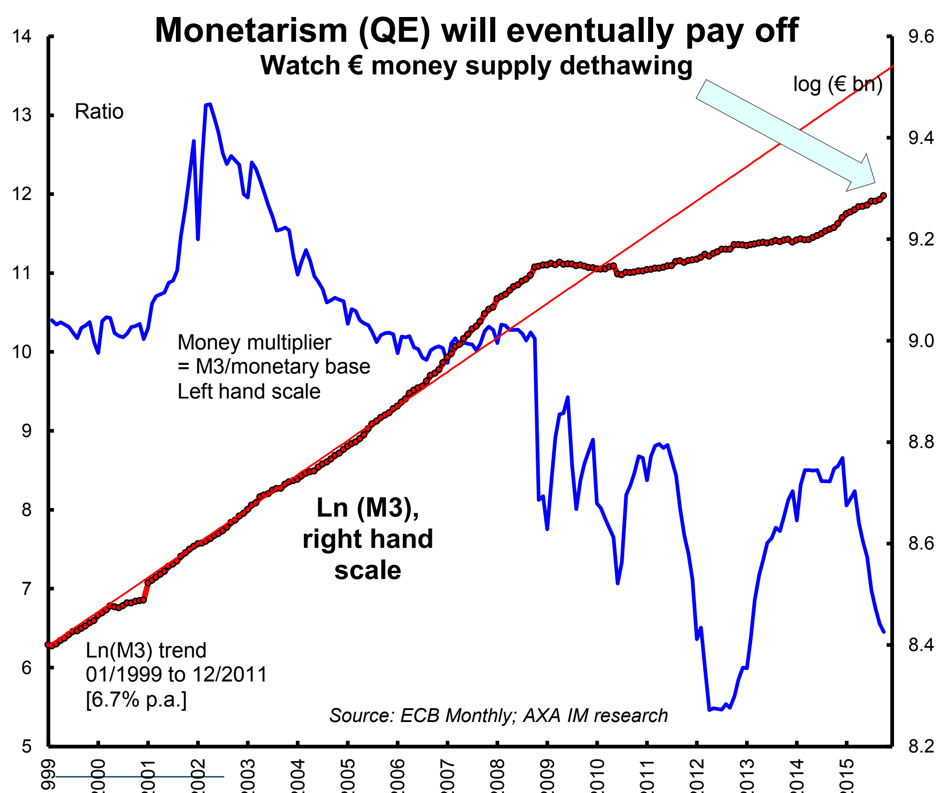


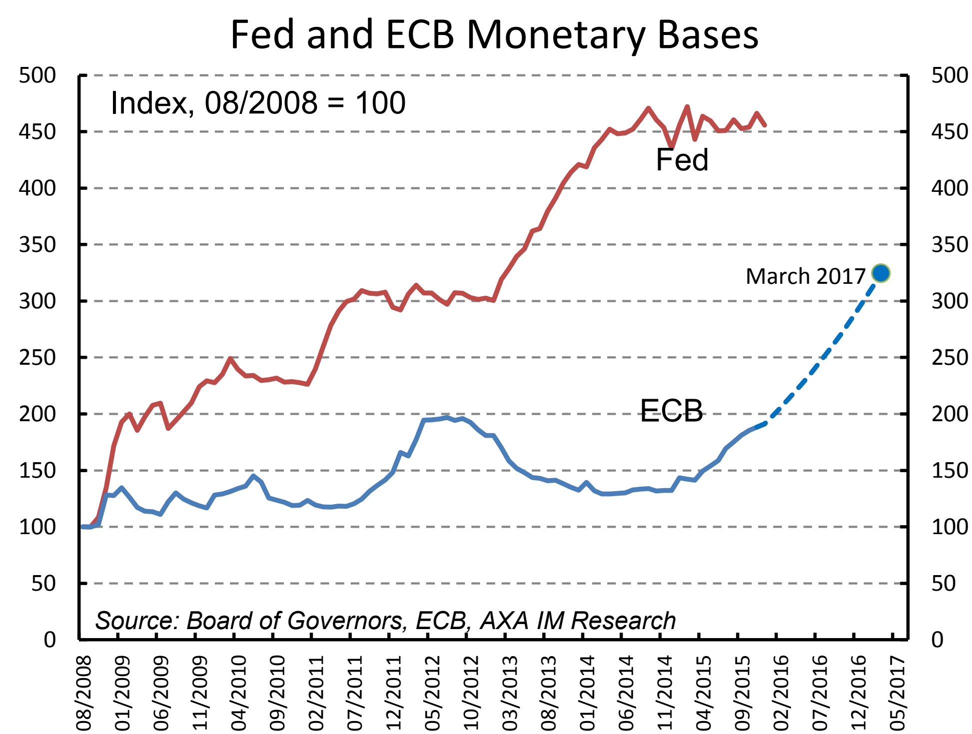


Source: ECB, AXA IM Research

€-area: money supply is picking up

- Consequence of the asset purchase program launched in Sept. 2014 and extended to government bonds in Jan. 2015, money supply has started to recover, as loans to companies and households are no more declining in periphery countries, and new loans are accelerating.
- The QE program is intended to boost money supply. Watch M3, now on a 4.2% trend (M1 has decelerated but still on a 9% trend)
- Yet, the ECB is still lagging considerably, compared to the Fed and its past action. Preventing deflation will require that the ECB fully implements its purchase program

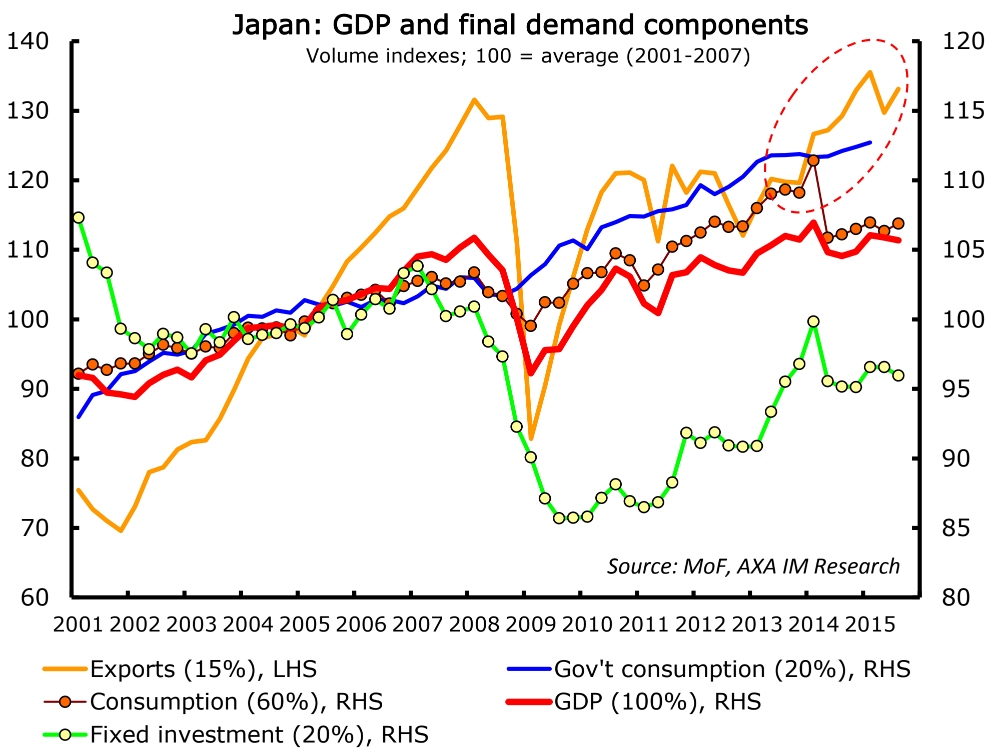


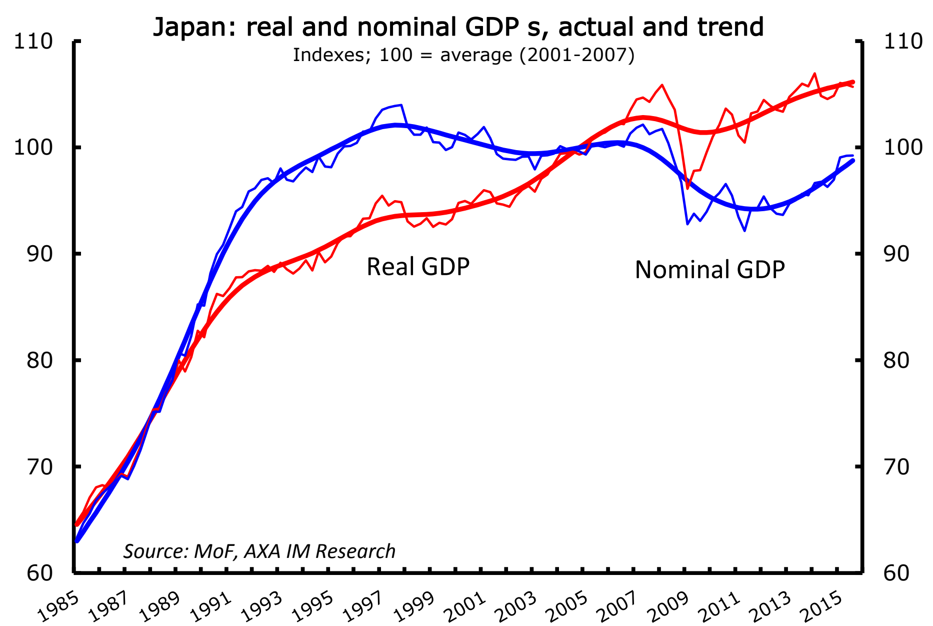


Source: Datastream, AXA IM Research

Japan: Abenomics are delivering some results

- Master piece of Abenomics, the BoJ decision to double its monetary base and reach 2.0% inflation has weakened the yen, boosted equity prices and raised companies as well as consumers' expectations.
- GDP nose-dived in 2014, following the consumer tax increase: Nominal wages have not caught up with imported inflation and companies are sceptical about future demand.
- One of the key goals of Japanese authorities is to boost nominal GDP growth in order to escape the public debt trap; the monetization undertaken by the BoJ being highly risky in the long run. On this metric, Abenomics are recording some success: nominal GDP growth is cruising at 2% p.a., not seen since 1990.

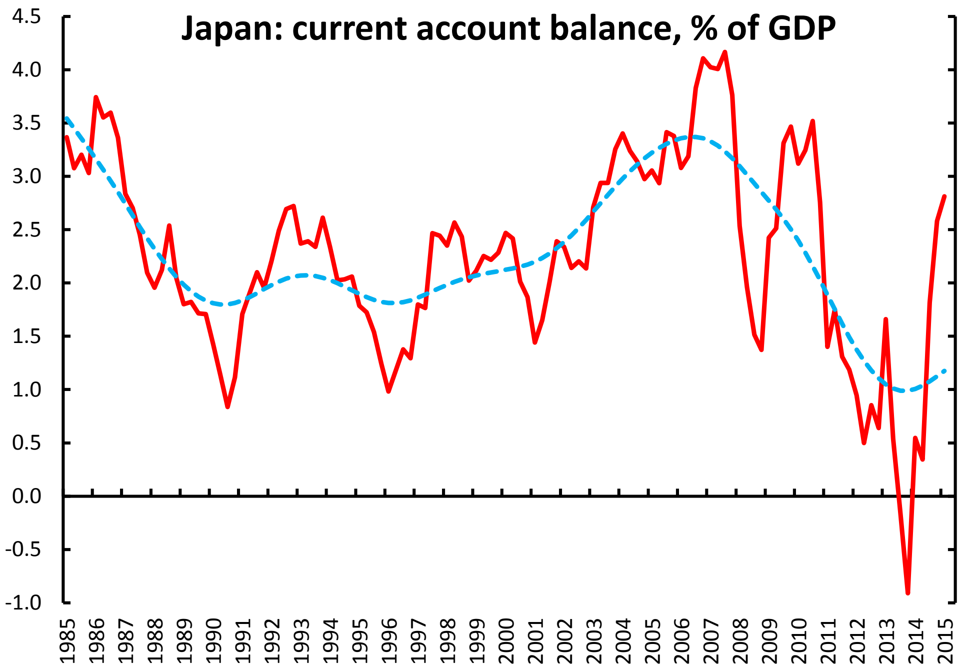


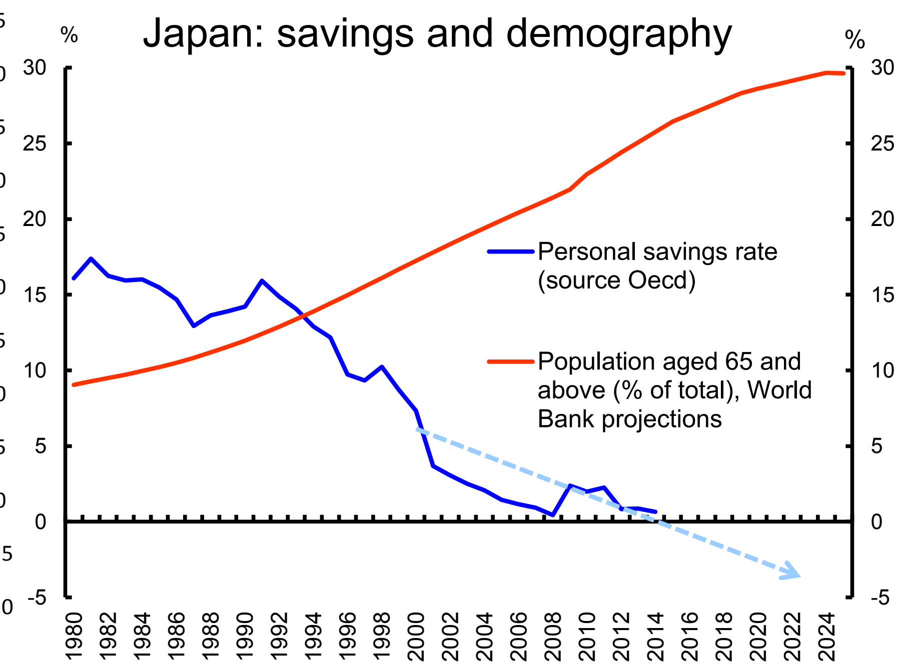


Source: MOF, AXA IM Research

Japan: long term challenges are looming large

- Although the current account balance has sharply improved, as energy production recovered post-Fukushima disaster, the trend is clearly negative
- The main driver of the C/A balance is the personal savings rate, which is inexorably declining, as a growing share of the population retires and spends its life savings to preserve living standards
- The day Japan will have a structural C/A deficit is not far away. That day, Japan will have to attract foreign capital in order to fund its current account. Unless fiscal stabilisation is well underway that day, the risk is a sharp fall of the price of debt, that is, a sharp rise in bond yields.





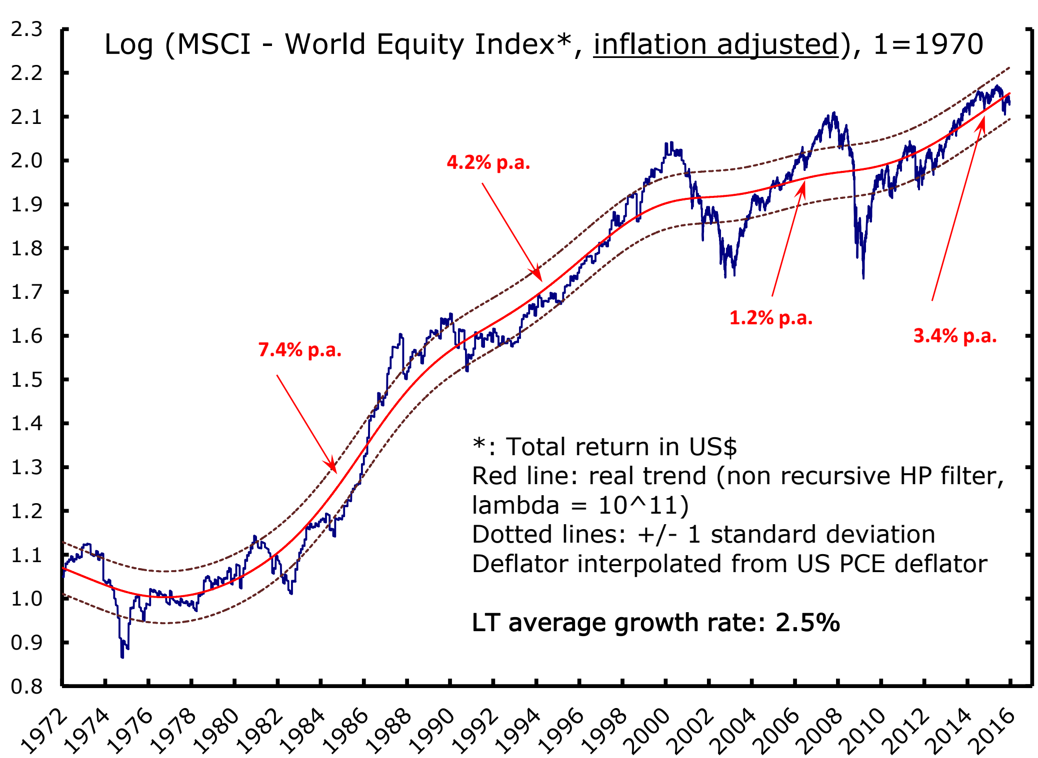
Source: MOF, World Bank, AXA IM Research

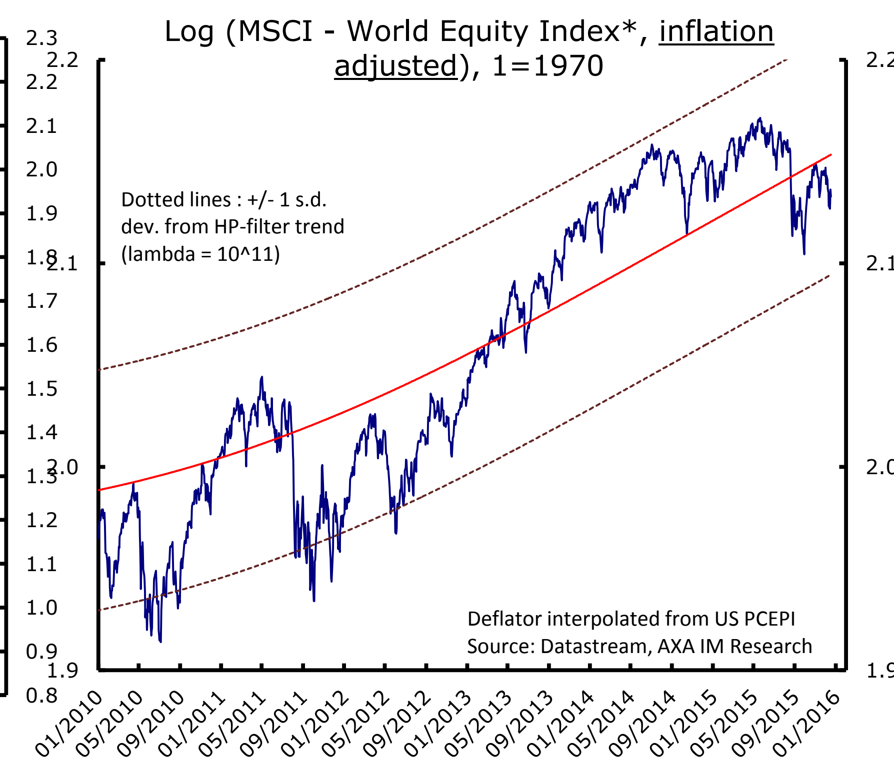
Equities: Struggling to find new growth engines

As of: 17/12/2015 — MSCI total return indexes

World ($)	US ($)	EMU (€)	EU ($)	EM ($)	
-40.3%	-37.1%	-44.3%	-46.1%	-53.2%	Through 2008
30.8%	27.1%	28.7%	36.8%	78.7%	Through 2009
12.3%	15.4%	3.3%	4.5%	19.2%	Through 2010
-5.0%	2.0%	-14.1%	-10.5%	-18.2%	Through 2011
16.2%	16.1%	18.0%	18.7%	18.5%	Through 2012
27.4%	32.6%	24.4%	26.0%	-2.3%	Through 2013
5.5%	13.4%	5.1%	-5.7%	-1.8%	Through 2014
-0.8%	**1.1%**	**11.3%**	**-2.9%**	**-14.3%**	**Since 01 Jan 2015**
-2.5%	**-1.8%**	**-3.6%**	**-3.6%**	**-4.5%**	**Last four weeks**

- As the 2016 books close, the key role of currencies appear neatly. The rise of the US$ against all currencies is negative for global equities on a dollar basis
- Conversely, euro area and Japanese equities have benefited from the € devaluation
- Currencies are likely to continue to drive equity markets in the first half of 2016.

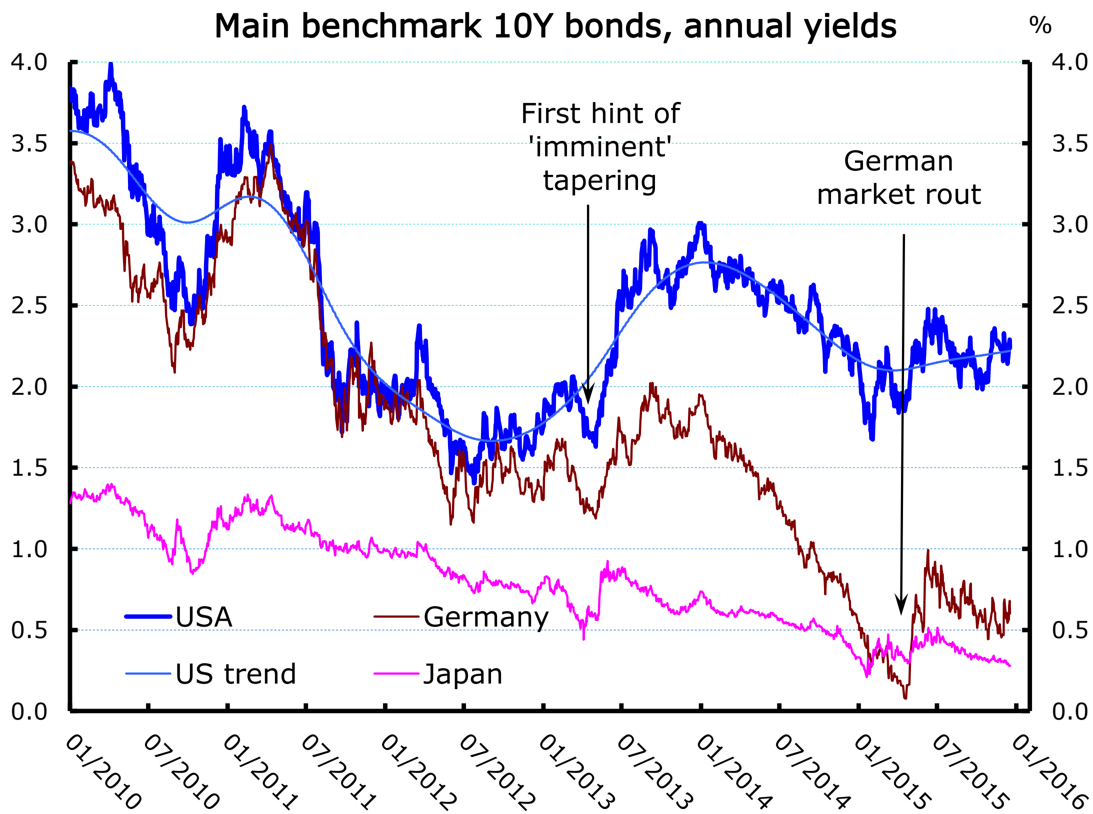




Source: MSCI, AXA IM Research

Bonds: no clear direction – waiting for more Fedspeak

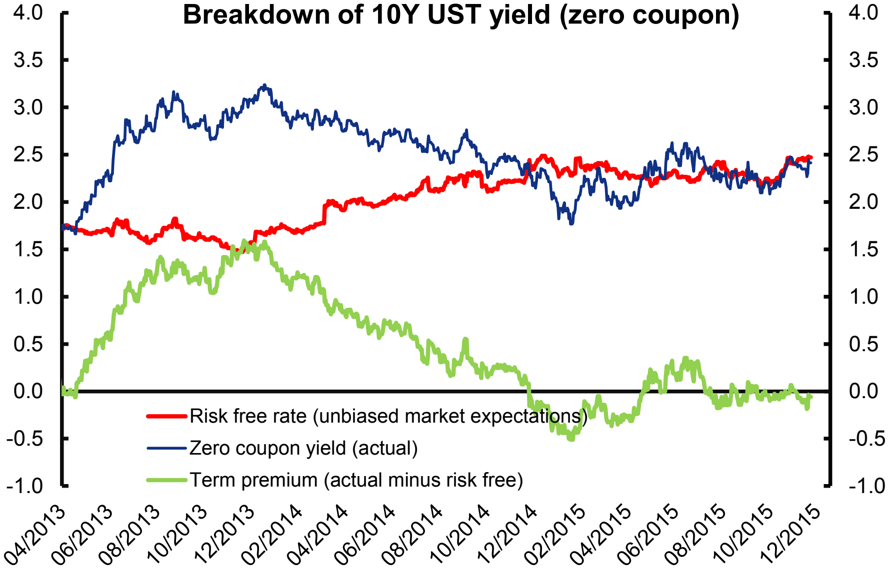
- The first Fed hike was fully priced and did not move the market. Going forward, the debate on a possible rate hike in March (unlikely), may shake the market. On trend, US yields should rise,
- Bunds have reacted in sympathy with US Treasuries, but with a low beta (0.5): ECB matters more than Fed for €-area markets.
- JGB yields are declining again, in anticipation of further monetary stimulus. If a fiscal stimulus is announced instead, they may rise again.

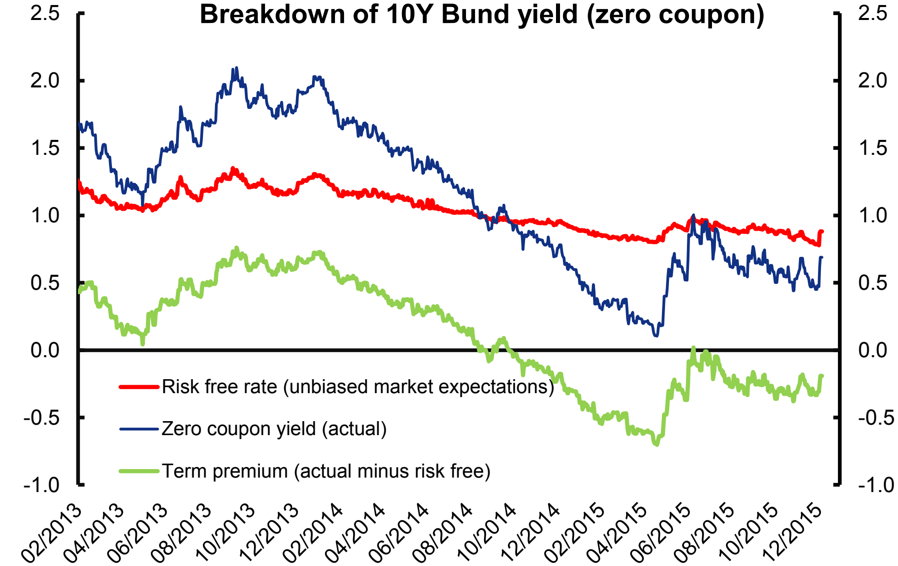


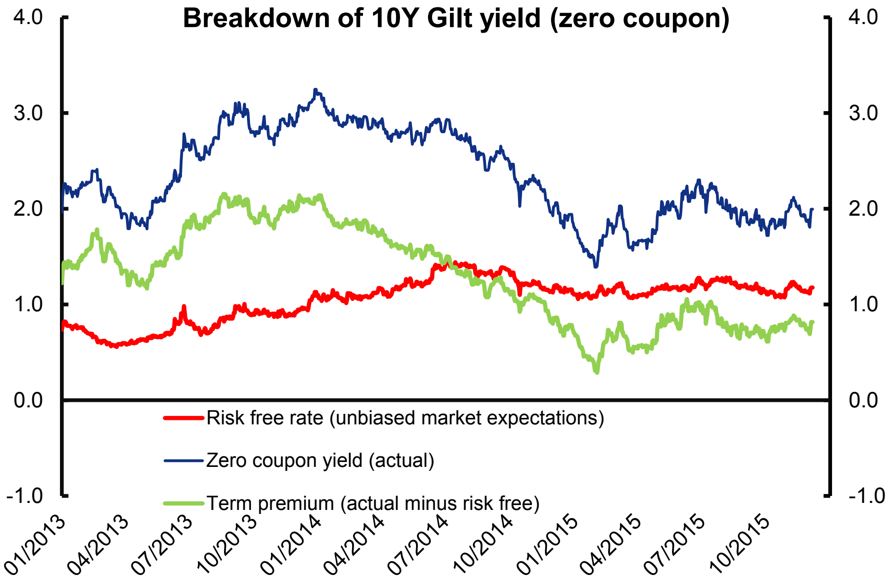
Source: Datastream, AXA IM Research

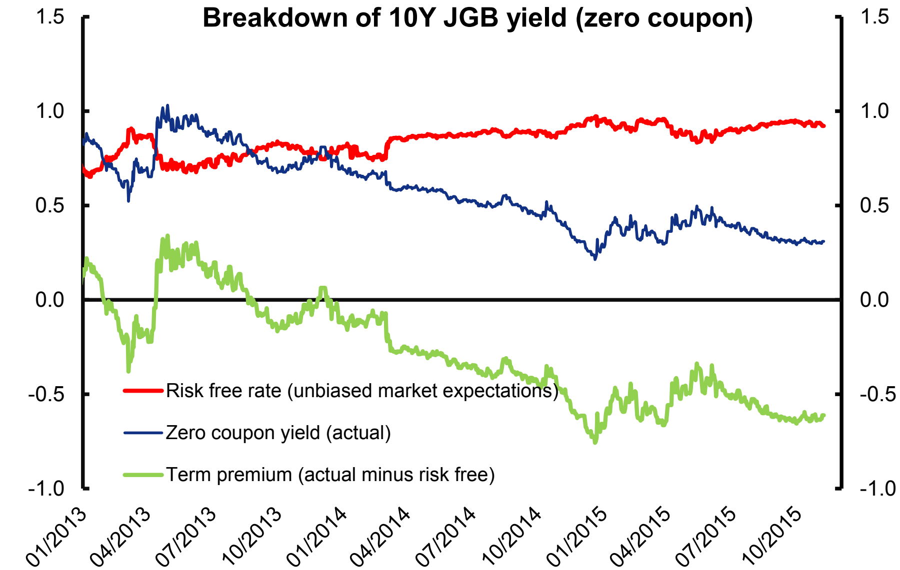
Latest data:
17 December 2015

Bonds term structure: term premia stabilised





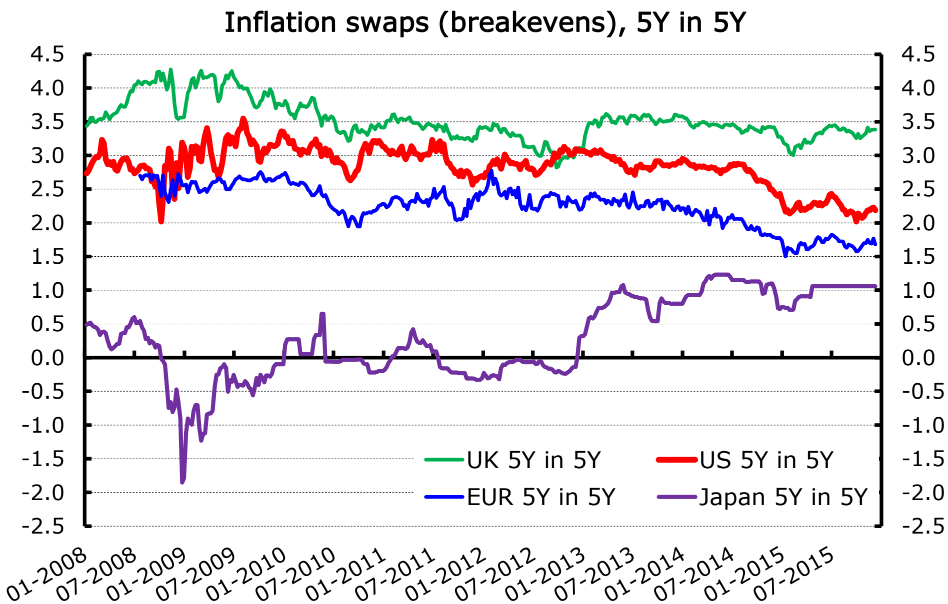


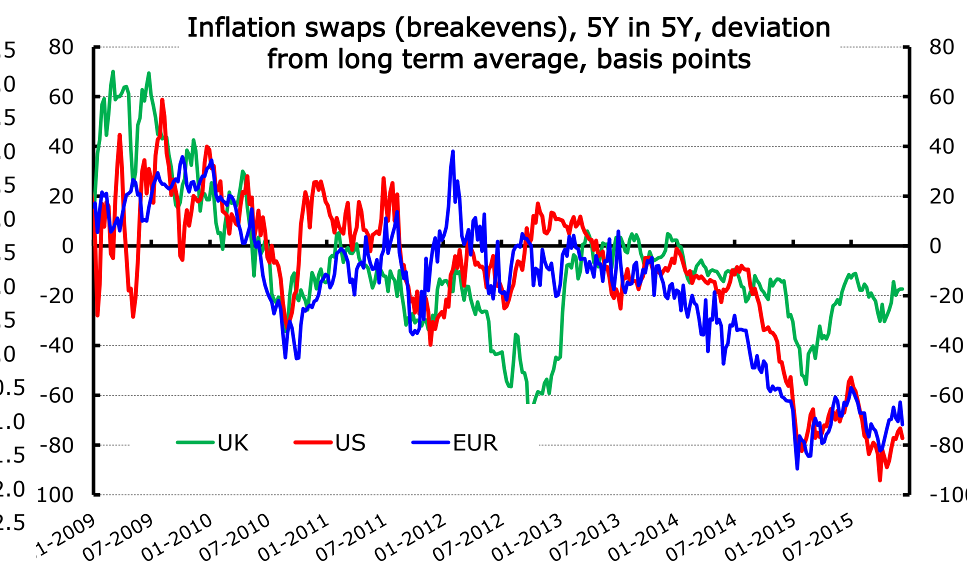


Source: Bloomberg, AXA IM Research. The breakdown of zero coupon yields is done using the method developed by Adrian, Crump and Moench of the Fed of NY. Because this decomposition is model dependent, levels are less significant than variations.

Inflation futures: markets not convinced by central banks

- Medium term (5Y) expectations have recovered in the US and €-area –despite lower oil prices
- Longer term (5Y in 5Y) expectations have recovered somewhat, helped by ECB's QE. Yet, neither the ECB nor the Fed have convinced the financial markets that, in the long run, inflation will come back to the target.
- With Fed, BoE, BoJ and now ECB sailing in unchartered waters, investors may ask for a higher long term inflation premium, at least a higher uncertainty premium, at some point in time. The longer exit strategies are postponed, the higher the premium. We are clearly not yet there.





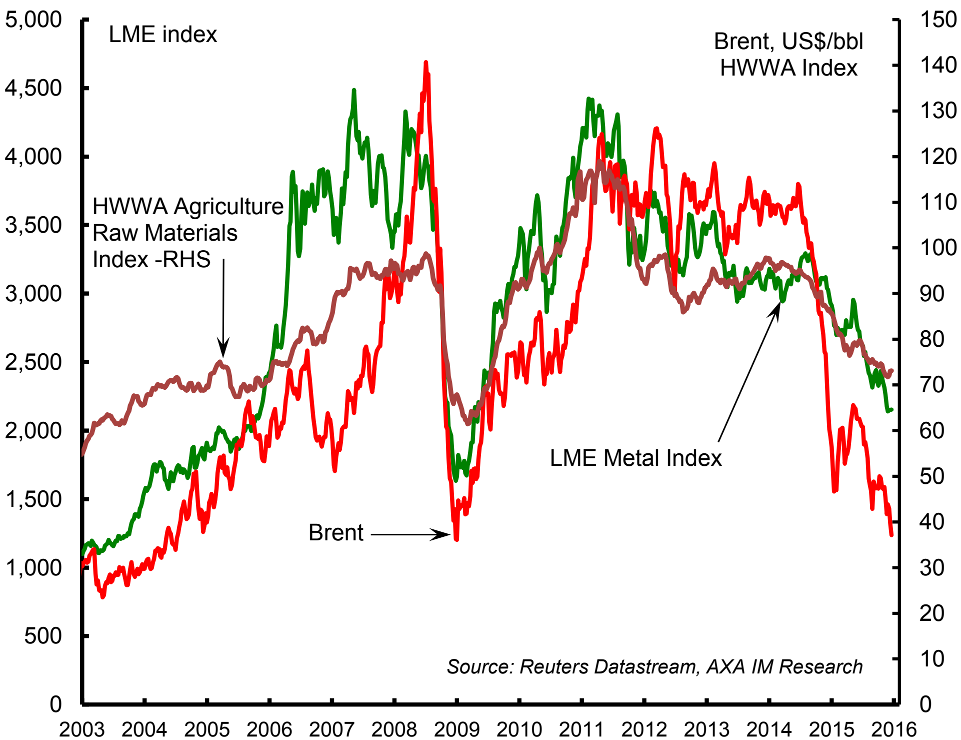
Source: Thomson-Reuters, AXA IM Research

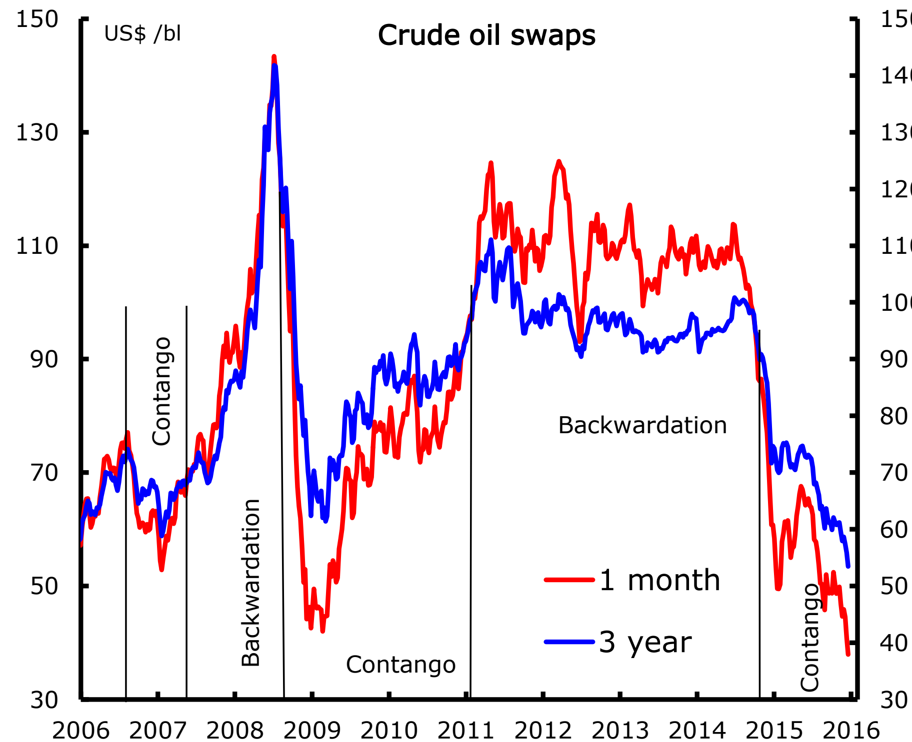
Latest data: 15/12/2015

Source: Datastream, AXA IM Research

Declining commodity prices = good deflation, to some extent

- Base metal prices are falling again, depressed by slowdown of Chinese industrial production.
- Crude oil (Brent): The lack of agreement on quota at the Opec meeting (blocked by Saudi Arabia) has sent again crude quotes down.
- We cut our baseline assumptions for 2016, 2017 and 2018 to $43/bbl, $50 and $54
- Falling commodity prices is 'good deflation' (positive for growth) so far as it is caused by supply side developments, such as new technologies or the end of the Iran embargo. Yet their negative impact on corporate investment has proved to be a more serious drag than we had thought.





Latest data point: 17/12/2015

Source: Datastream, AXA IM Research

Currencies: Don't fight the dollar rise

- The rise of the US$ against all currencies has started again, driven by cyclical and structural divergences and, eventually, by the Fed move
- An excessive rise may halt monetary normalisation in the US. This is well understood in Frakfurt.
- ECB's QE is causing international portfolio rebalancing and carry trades. This is € negative.

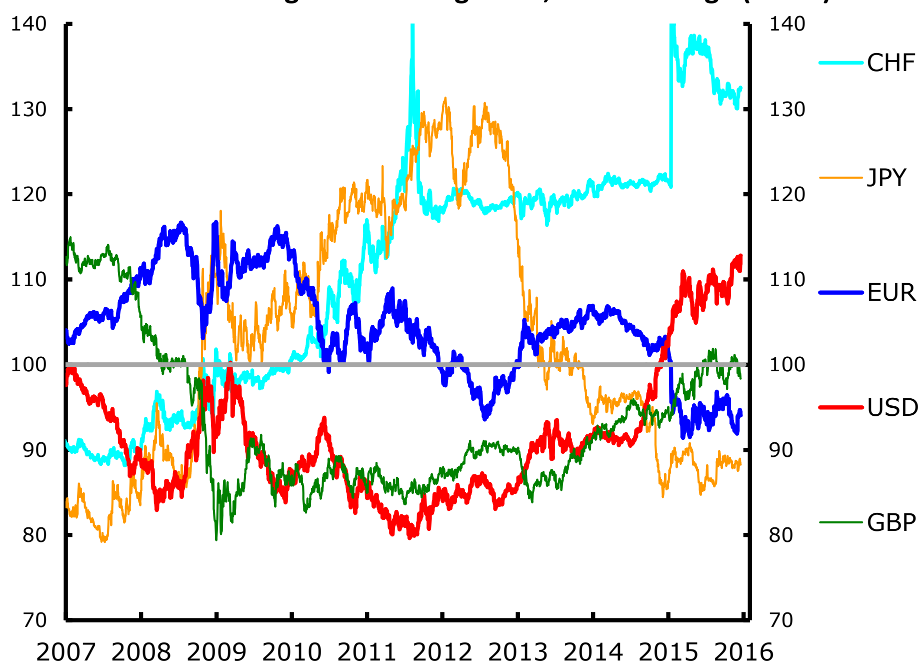
Euro real bilateral rate: Deviation from(1999-2015)				
As of:	€ / Yen	€ / US$	€ / UK £	€ / CHF
17/12/2015	***22%***	***-13%***	***-9%***	***-12%***

US$ real bilateral rate: Deviation from(1999-2014)				
As of:	US$ /Yen	US$ / CHF	US$ / UK£	US$ / €
17/12/2015	***40%***	***-3%***	***6%***	***15%***

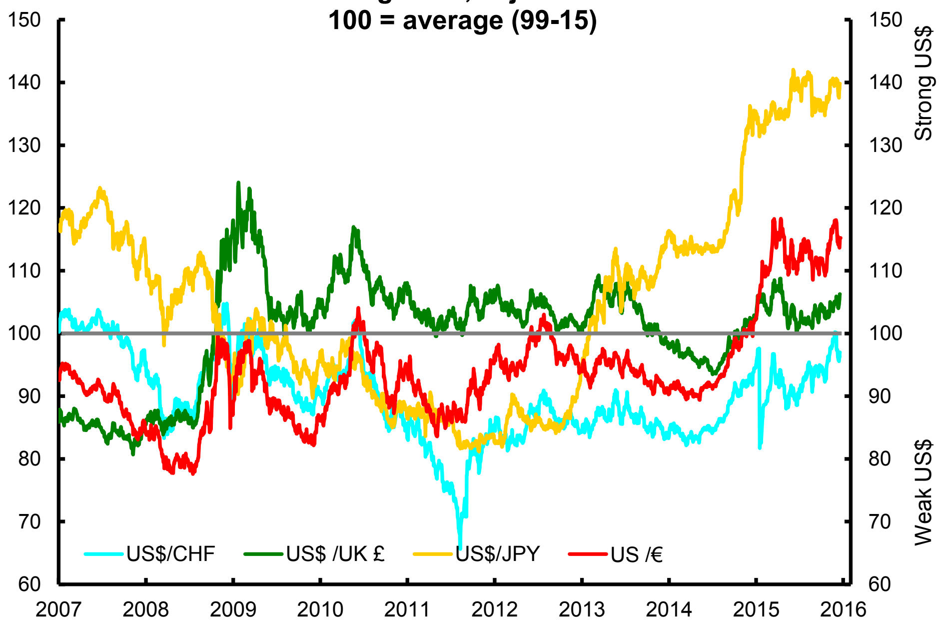
JPY real bilateral rate: Deviation from(1999-2014)				
As of:	JPY/€	JPY/US$	JPY/UK£	JPY/ CHF
17/12/2015	***-20%***	***-30%***	***-26%***	***-30%***

Nominal TW rate: Deviation from average(1999-2014)					
As of:	UK £	Euro	JP Yen	Swiss franc	US $
17/12/2015	**-1.6%**	**-5.9%**	**-11.7%**	**32.5%**	**12.8%**

Nominal trade-weighted exchange rate, 100 = average (99-14)



Dollar bilateral exchange rate, adjusted for inflation trends 100 = average (99-15)



Source: Fed, ECB, BoE, Datastream, AXA IM Research

Central banks: our tentative exit calendar, and what's next

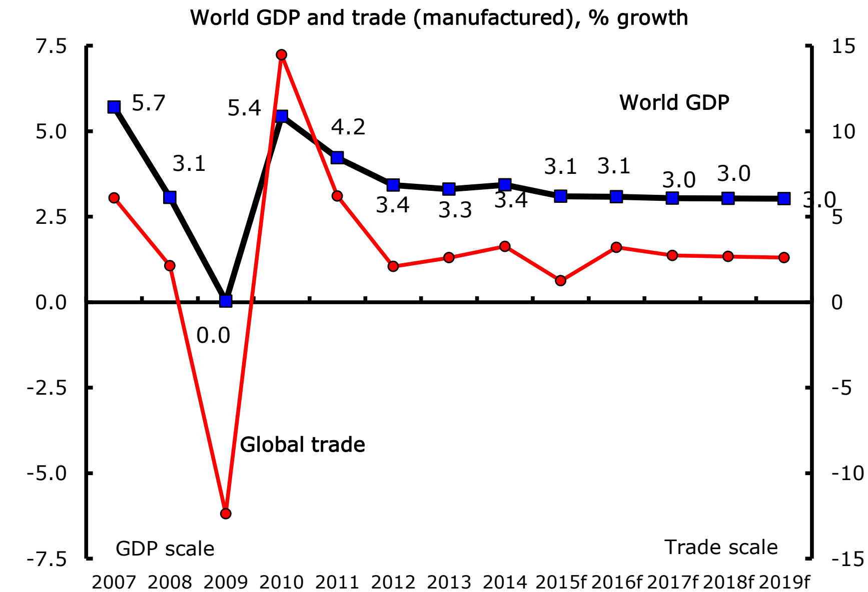
- **Federal Reserve**: next move in June 2016
- **Bank of England**: first half of 2016 (70%), second half (30%)
- **European Central Bank**: 2018 (QE until 2017)
- **Bank of Japan**: uncertain, most likely after 2018

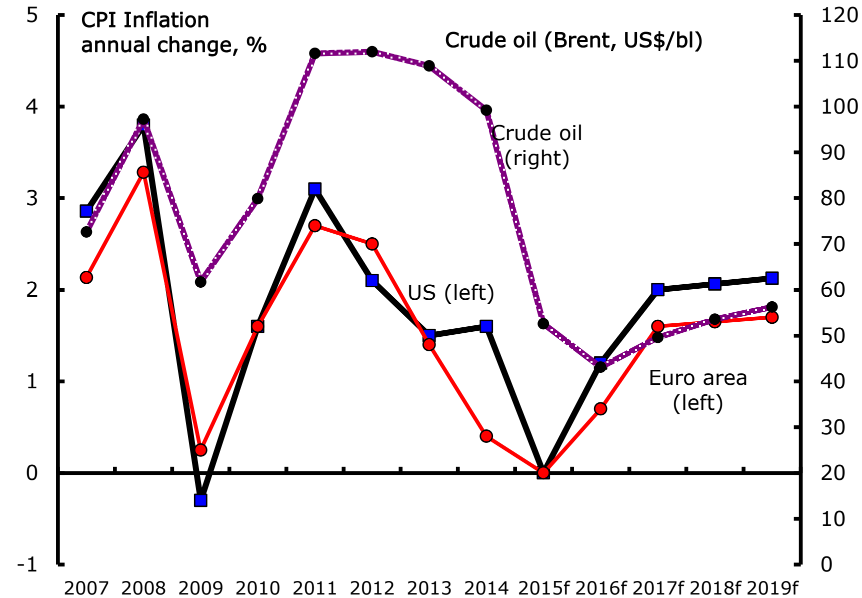
Baseline 2015-19: quantitative scenario (1)

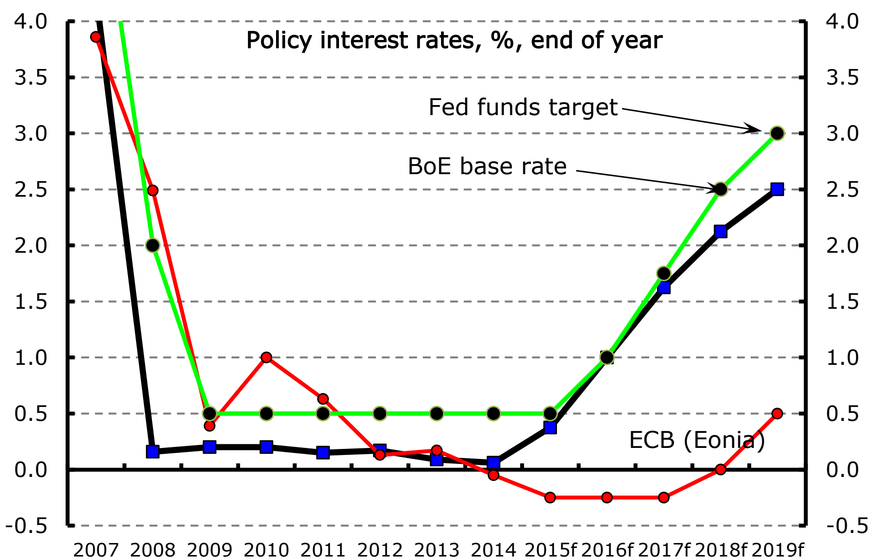
As of: 18-Dec-2015	2007	2008	2009	2010	2011	2012	2013	2014	2015f	2016f	2017f	2018f	2019f	2020f	2021f	Y+10	Y+30
World GDP (PPP)	**5.7**	**3.1**	**0.0**	**5.4**	**4.2**	**3.4**	**3.3**	**3.4**	**3.1**	**3.1**	**3.0**	**3.0**	**3.0**	**3.0**	**3.0**	**2.9**	**2.5**
World GDP (market FX rate)	3.9	1.5	-2.0	4.1	3.0	2.4	2.4	3.0	2.7	2.8	2.6	2.6	2.7	2.7	2.7	2.7	2.4
USA	1.8	-0.3	-2.8	2.5	1.6	2.2	1.5	2.4	2.5	2.2	1.7	1.7	1.8	1.8	1.9	2.0	2.0
Euro area	3.0	0.4	-4.5	2.0	1.6	-0.8	-0.3	0.9	1.5	1.6	1.4	1.4	1.4	1.3	1.3	1.25	1.25
UK	2.6	-0.5	-4.2	1.5	2.0	1.2	2.2	2.9	2.4	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Japan	2.2	-1.1	-5.5	4.7	-0.4	1.7	1.4	-0.1	0.6	1.1	0.5	0.6	0.6	0.7	0.8	1.0	1.0
China	14.2	9.6	9.2	10.6	9.5	7.7	7.7	7.3	6.8	6.3	6.2	6.1	5.9	5.8	5.6	5.0	3.5
Rest of Asia	6.8	3.8	5.0	8.2	5.4	5.4	6.0	6.1	5.5	5.2	5.1	4.9	4.8	4.7	4.5	4.0	3.0
RoW	5.5	3.5	-1.1	5.4	4.8	3.6	3.3	3.1	2.2	2.5	2.8	2.8	2.9	3.0	3.1	3.2	3.0
Global trade (manuf. goods)	6.1	2.1	-12.4	14.5	6.2	2.1	2.6	3.3	1.3	3.2	2.7	2.6	2.6	2.5	2.4	2.6	2.3
Inflation (average), CPI measure																	
US	2.9	3.8	-0.3	1.6	3.1	2.1	1.5	1.6	0.0	1.2	2.0	2.1	2.1	2.2	2.3	2.5	2.5
Euro area	2.1	3.3	0.3	1.6	2.7	2.5	1.4	0.4	0.0	0.7	1.6	1.7	1.7	1.8	1.8	2.0	2.0
UK	2.3	3.6	2.2	3.3	4.5	2.8	2.6	1.5	0.1	1.0	1.6	1.7	1.8	1.9	2.0	2.0	2.0
Japan	0.0	1.4	-1.1	-0.7	-0.4	-0.5	0.0	2.7	0.8	1.3	1.3	1.3	1.4	1.4	1.4	1.5	2.0
Crude oil (Brent), US$/bbl	72.6	97.3	61.7	79.9	111.6	112.0	108.9	99.2	53	43	50	54	56	59	62	65	106
% change	11	34	-37	30	40	0	-3	-9	-47	-18	15	8	5	5	5		
Interest rates, FX (end of period)																	
US																	
Fed funds (actual / target)- O/N	4.24	0.16	0.20	0.20	0.15	0.17	0.09	0.06	**0.38**	**1.00**	**1.63**	2.13	2.50	2.75	2.88	3.38	3.38
10Y Treasuries yield	4.03	2.25	3.84	3.31	1.88	1.80	3.01	2.17	**2.2**	**2.6**	**2.8**	3.0	3.3	3.6	3.8	4.63	4.63
Euro area																	
EONIA	3.86	2.49	0.39	1.0	0.63	0.13	0.17	-0.05	**-0.25**	**-0.25**	**-0.25**	0.00	0.50	1.00	1.38	2.50	2.50
10Y Bund yield	4.33	2.94	3.38	2.89	1.83	1.43	1.94	0.54	**0.6**	**0.8**	**1.0**	1.4	1.8	2.1	2.4	3.24	3.24
€1 = …US$	1.46	1.35	1.46	1.34	1.33	1.33	1.38	1.21	**1.05**	**1.00**	**1.04**	1.07	1.09	1.12	1.15	1.25	1.25
Japan																	
Overnight call rate	0.47	0.46	0.11	0.0	0.10	0.09	0.10	0.05	**0.05**	**0.05**	**0.05**	0.05	0.05	0.50	1.00	2.25	2.25
10Y JGB	1.50	1.17	1.28	1.12	0.99	0.79	0.74	0.33	**0.3**	**0.6**	**0.8**	1.0	1.4	1.7	1.9	2.6	2.6
US$1 = … JPY	110	95	87	85	78	76	105	120	**126**	**130**	**130**	125	120	115	110	90	90
€1= … JPY	161	128	127	114	104	115	145	145	**132**	**130**	**135**	133	131	129	126	113	113
UK																	
BoE base rate	5.5	2.0	0.50	0.50	0.50	0.50	0.50	0.50	**0.50**	**1.00**	**1.75**	2.50	3.00	3.25	3.38	3.50	3.50
10Y Gilt	4.50	3.09	4.11	3.51	1.98	1.96	3.03	1.76	**1.8**	**2.4**	**2.7**	3.1	3.4	3.6	3.9	4.75	4.75
€1= … GBP	0.73	0.95	0.89	0.85	0.86	0.81	0.83	0.78	**0.72**	**0.70**	**0.72**	0.73	0.75	0.76	0.78	0.83	0.83
Switzerland																	
O/N	1.75	0.05	0.02	0.10	0.10	-0.17	-0.08	-0.20	**-0.85**	**-0.85**	**-0.85**	-0.60	-0.10	0.40	0.90	2.50	2.50
10Y	3.07	2.23	2.03	1.76	0.74	0.45	1.09	0.37	**-0.3**	**0.1**	**0.6**	1.0	1.5	1.9	2.2	3.00	3.00
€1= … CHF	1.65	1.49	1.48	1.25	1.21	1.21	1.23	1.20	**1.08**	**1.05**	**1.04**	1.04	1.03	1.03	1.02	1.00	1.00

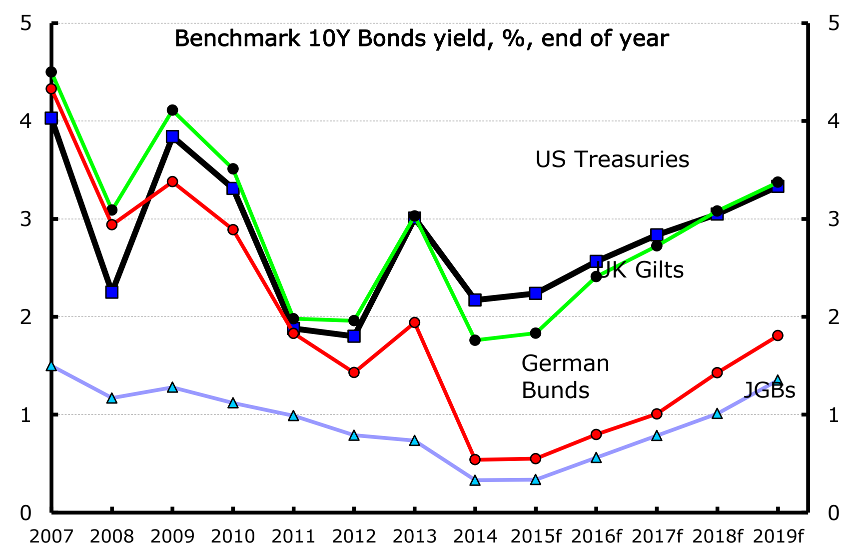
Source: Datastream, AXA IM Research

Baseline 2015-19: quantitative scenario (2)





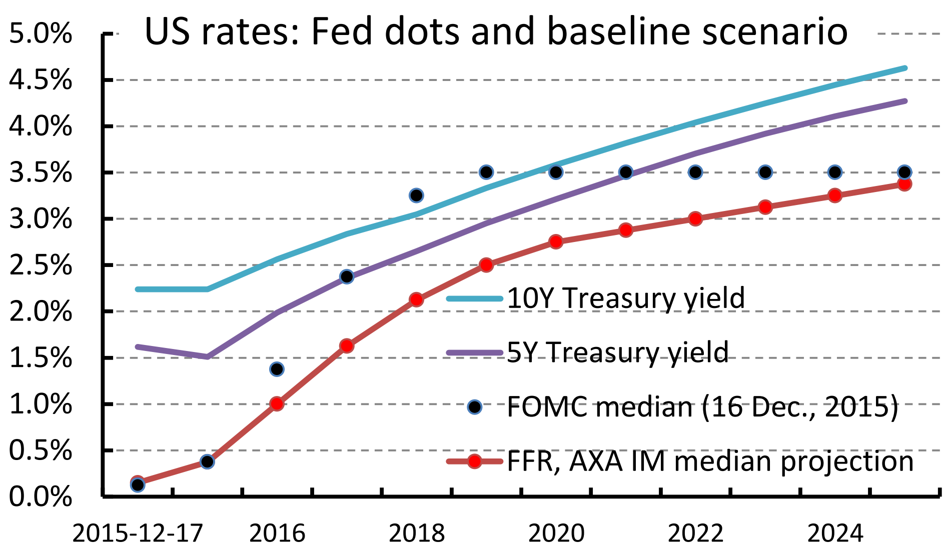


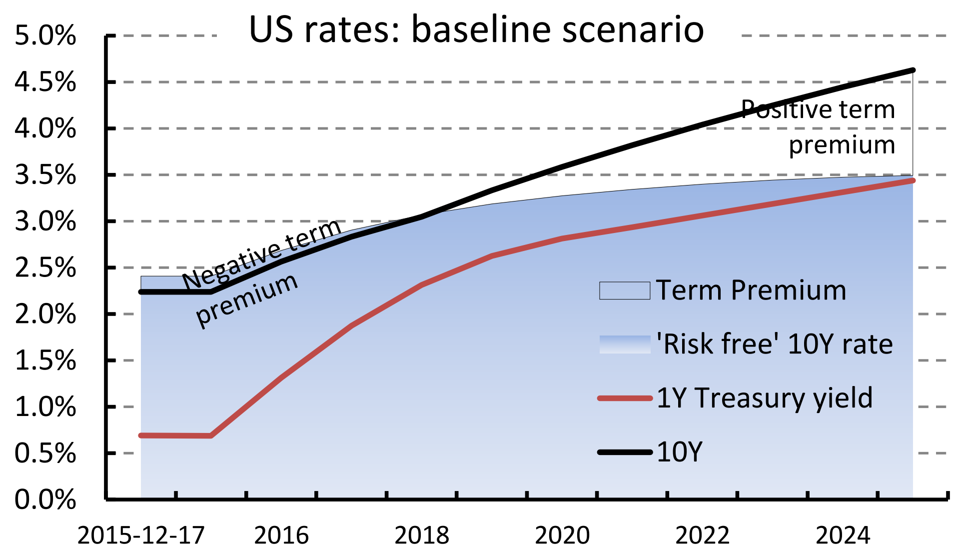


Source: Datastream, AXA IM Research

Baseline 2015-25: US interest rates

- US Fed rate policy: five hikes by end-2017; long-term neutral short term rate: 3.5% (fully consistent with FOMC assumption).
- US Treasury curve: steady normalization of the term premium, converging towards 130bps, lower than before the crisis because of Fed's holdings of Treasuries.



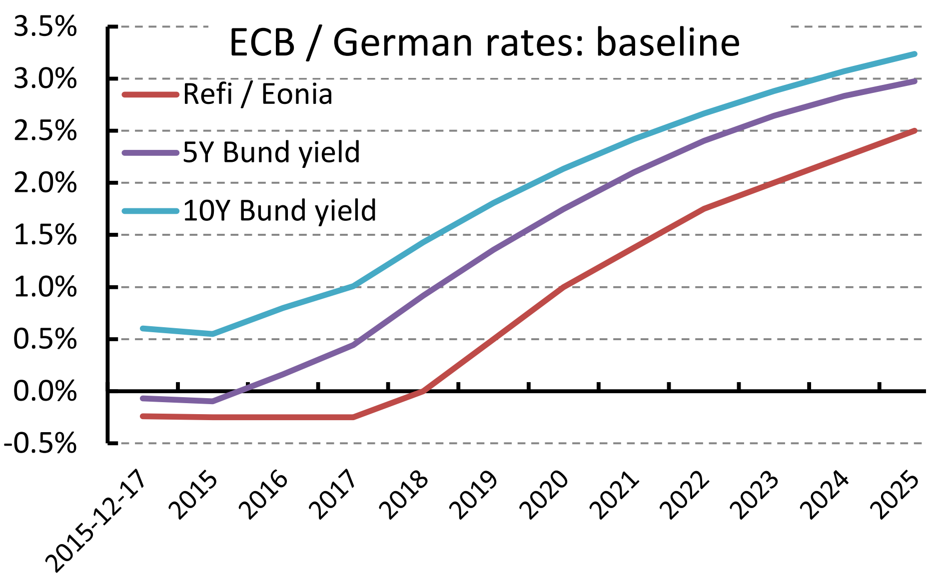


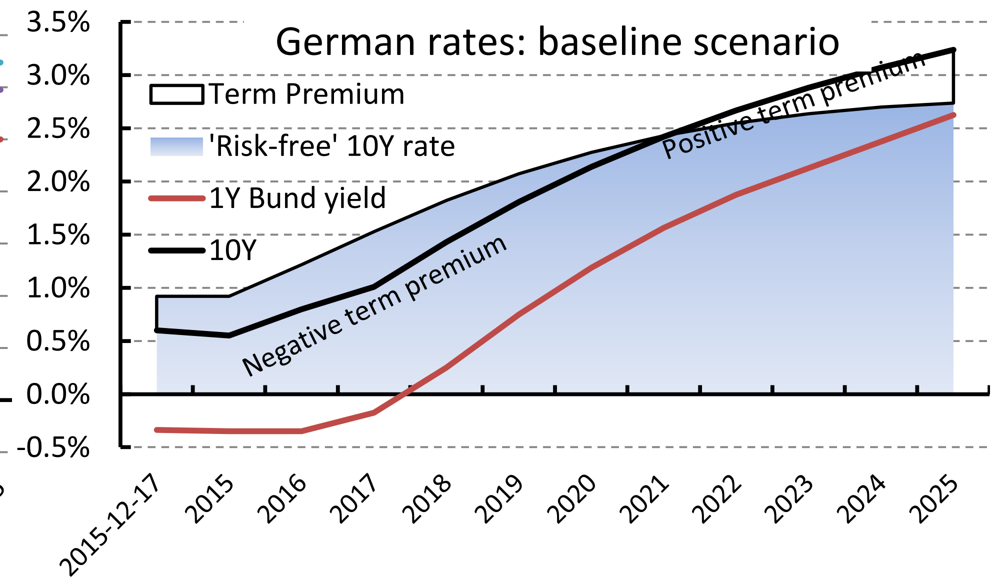
US, end of...	2015-12-17	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
O/N	0.15%	0.38%	1.00%	1.63%	2.13%	2.50%	2.75%	2.88%	3.00%	3.13%	3.25%	3.38%
1Y	0.69%	0.69%	1.31%	1.88%	2.31%	2.63%	2.81%	2.94%	3.06%	3.19%	3.31%	3.44%
5Y	1.62%	1.51%	1.99%	2.36%	2.65%	2.95%	3.21%	3.47%	3.70%	3.92%	4.11%	4.27%
10Y	**2.24%**	**2.24%**	**2.57%**	**2.84%**	**3.05%**	**3.33%**	**3.58%**	**3.82%**	**4.04%**	**4.25%**	**4.44%**	**4.63%**
'risk free' 10Y		*2.41%*	*2.69%*	*2.91%*	*3.07%*	*3.19%*	*3.27%*	*3.34%*	*3.40%*	*3.44%*	*3.47%*	*3.49%*
30Y	2.94%	2.85%	3.09%	3.32%	3.52%	3.73%	3.93%	4.12%	4.31%	4.49%	4.67%	4.85%

Source: Datastream, AXA IM Research

Baseline 2015-25: €-area / German interest rates

- ECB policy: QE extended into 2017, negative o/n (-0.25%) until 2018, one rate hike by end 2018, converging toward neutral rate (2.75%) consistent with 1.25% trend growth and 2% inflation target.
- German Bund curve: term premium becoming more negative than today until 2017 (QE), then increasing steadily toward long term value (50bps), lower than before euro crisis because of: 1/ ECB balance sheet; 2/ permanent safe haven status of Bunds



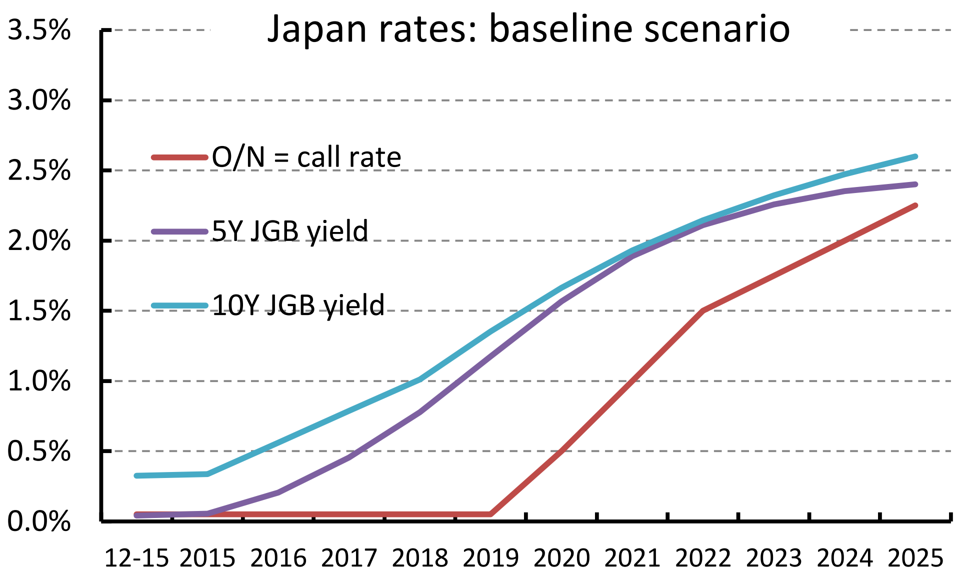


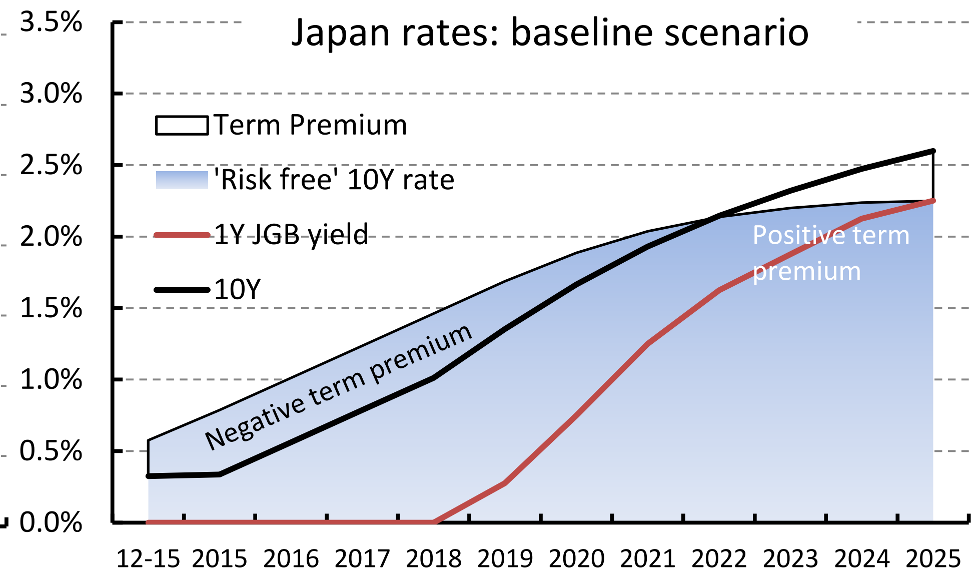
EUR, end of...	12-15	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
O/N = Eonia	-0.10%	-0.15%	-0.15%	-0.15%	0.35%	0.85%	1.35%	1.73%	2.10%	2.35%	2.60%	2.75%
1Y	-0.23%	-0.25%	-0.25%	0.05%	0.60%	1.10%	1.54%	1.91%	2.23%	2.48%	2.68%	2.75%
5Y	-0.10%	-0.05%	0.31%	0.84%	1.37%	1.80%	2.16%	2.46%	2.67%	2.83%	2.93%	3.00%
10Y	**0.55%**	**0.60%**	**0.90%**	**1.20%**	**1.57%**	**1.93%**	**2.24%**	**2.51%**	**2.73%**	**2.93%**	**3.10%**	**3.25%**
'risk free' 10Y	1.2%	1.2%	1.5%	1.8%	2.1%	2.3%	2.5%	2.6%	2.7%	2.7%	2.7%	2.75%
30Y	1.3%	1.3%	1.7%	2.0%	2.4%	2.6%	2.8%	3.0%	3.1%	3.3%	3.5%	3.60%

Source: Datastream, AXA IM Research

Baseline 2015-25: Japan interest rates

- Japan BoJ rate policy: QE extended into 2016, then tapering; first hike in 2020, then gradual rise toward neutral rate (2.25%, consistent with 1.0% LT potential growth and 1.5% inflation)
- JGB curve: yields capped below 1.0% by BoJ until 2018, then gradual rise toward 2.6%, which assumes a low (35bp) term premium, courtesy of the very large size of the BoJ's holdings of JGBs



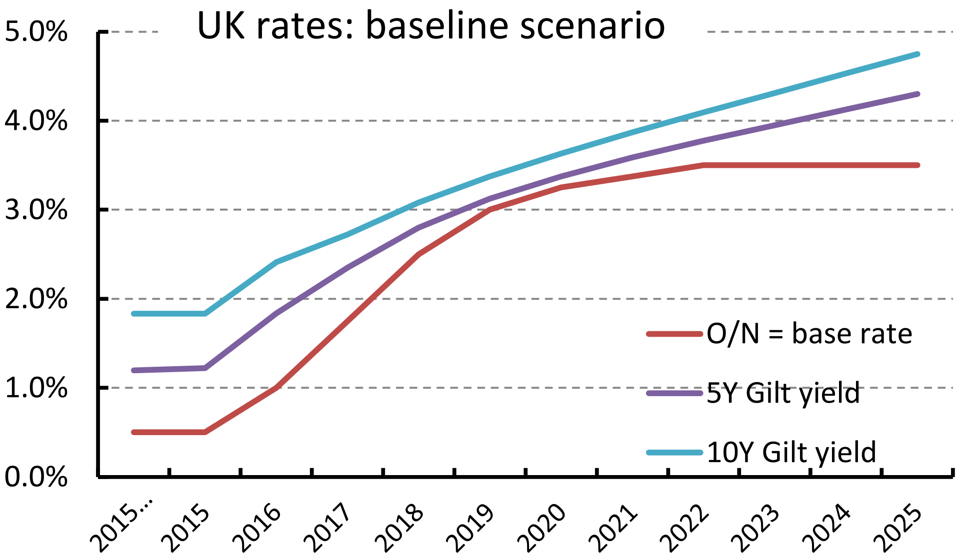


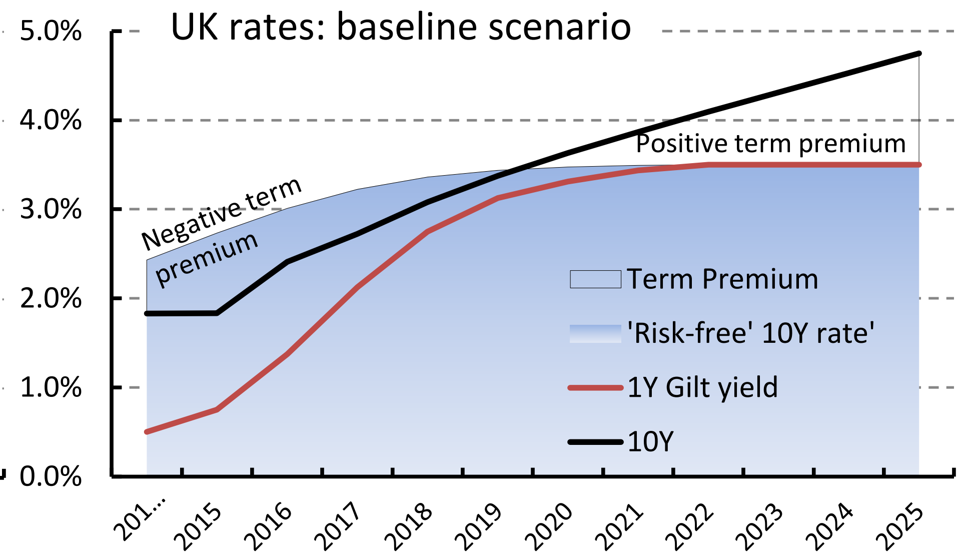
JP, end of...	2015-12-17	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
O/N = call rate	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.50%	1.00%	1.50%	1.75%	2.00%	2.25%
1Y	0.00%	0.00%	0.00%	0.00%	0.00%	0.28%	0.75%	1.25%	1.63%	1.88%	2.13%	2.25%
5Y	0.04%	0.05%	0.20%	0.45%	0.78%	1.17%	1.57%	1.89%	2.11%	2.26%	2.35%	2.40%
10Y	**0.33%**	**0.34%**	**0.56%**	**0.79%**	**1.01%**	**1.35%**	**1.66%**	**1.93%**	**2.14%**	**2.32%**	**2.47%**	**2.60%**
'risk free' 10Y	0.58%	0.79%	1.01%	1.24%	1.46%	1.69%	1.89%	2.04%	2.14%	2.20%	2.24%	2.25%
30Y	1.35%	1.41%	1.49%	1.56%	1.64%	1.87%	2.09%	2.30%	2.49%	2.69%	2.84%	3.00%

Source: Datastream, AXA IM Research

Baseline 2015-25: UK interest rates

- UK BoE rate policy: 50bp hike in 2016, then gradual rise toward neutral rate (3.5%, consistent with 2.0% LT potential growth and 2.0% inflation target).
- A EU referendum by end-2016 might convince the BoE to refrain from hiking too aggressively
- Gilts curve: steady normalization of the term premium, converging toward 125bps, lower than before the crisis because of BoE's holdings of Gilts.



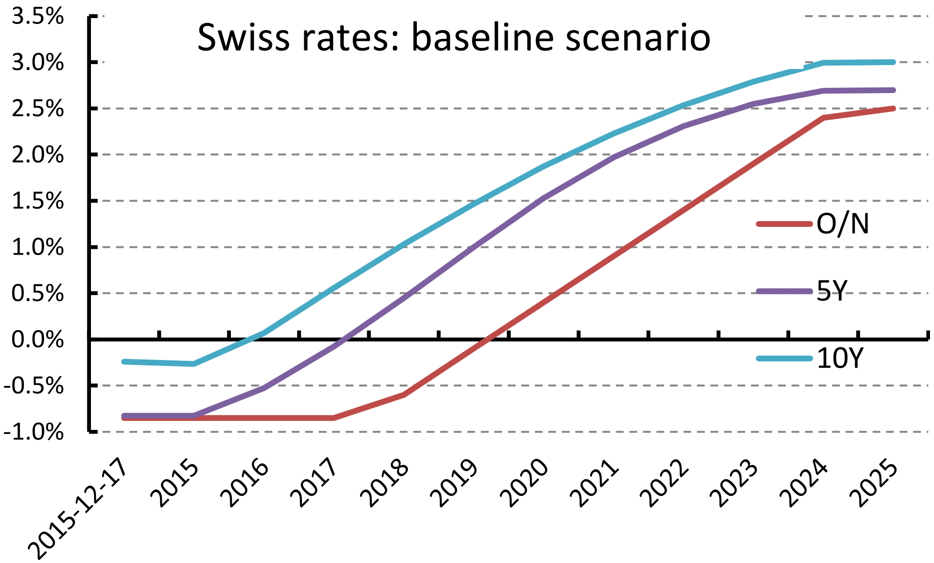


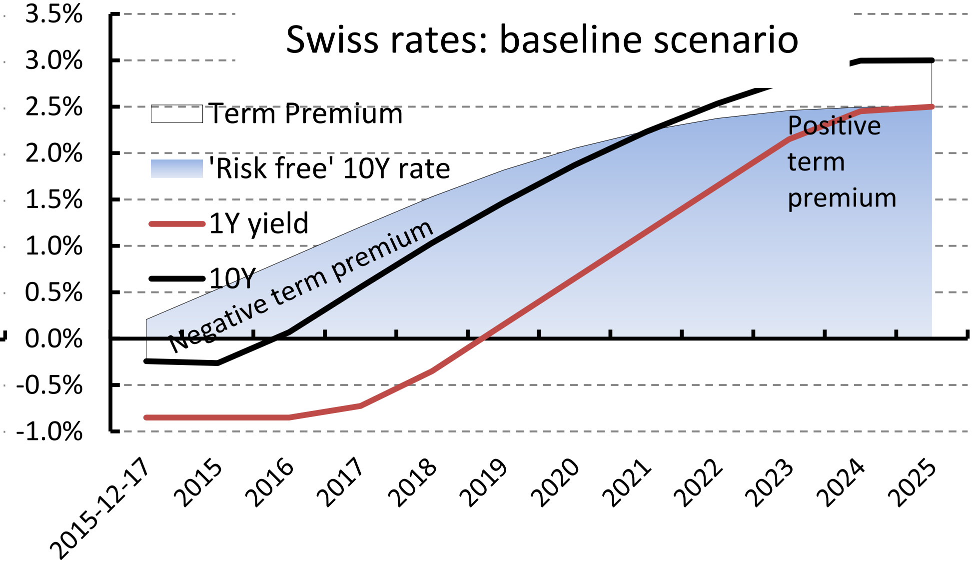
UK, end of...	2015-12-17	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
O/N = base rate	0.50%	0.50%	1.00%	1.75%	2.50%	3.00%	3.25%	3.38%	3.50%	3.50%	3.50%	3.50%
1Y	0.50%	0.75%	1.38%	2.13%	2.75%	3.13%	3.31%	3.44%	3.50%	3.50%	3.50%	3.50%
5Y	1.20%	1.22%	1.84%	2.35%	2.80%	3.12%	3.37%	3.59%	3.77%	3.95%	4.12%	4.30%
10Y	**1.83%**	**1.83%**	**2.41%**	**2.72%**	**3.08%**	**3.37%**	**3.63%**	**3.87%**	**4.09%**	**4.31%**	**4.53%**	**4.75%**
'risk free' 10Y	2.43%	2.73%	3.01%	3.22%	3.36%	3.44%	3.47%	3.49%	3.50%	3.50%	3.50%	3.50%
30Y	2.54%	2.59%	2.94%	3.26%	3.45%	3.62%	3.77%	3.92%	4.07%	4.21%	4.36%	4.50%

Source: Datastream, AXA IM Research

Baseline 2015-25: Swiss interest rates

- SNB rate / exchange rate policy: negative o/n until 2018, positive from 2019, converging toward neutral rate (2.5%) consistent with 1% trend growth and 2% inflation target
- Federal bonds yield curve: negative term premium (safe haven status) until 2020, then increasing steadily toward long term value (50bps).
- Risk: deeply negative rate policy not enough to prevent CHF from appreciating, return to peg





CHF, end of...	2015-12-17	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
O/N	-0.85%	-0.85%	-0.85%	-0.85%	-0.60%	-0.10%	0.40%	0.90%	1.40%	1.90%	2.40%	2.50%
1Y	-0.85%	-0.85%	-0.85%	-0.73%	-0.35%	0.15%	0.65%	1.15%	1.65%	2.15%	2.45%	2.50%
5Y	-0.83%	-0.83%	-0.53%	-0.08%	0.45%	1.00%	1.53%	1.97%	2.31%	2.55%	2.69%	2.70%
10Y	**-0.24%**	**-0.26%**	**0.07%**	**0.56%**	**1.03%**	**1.47%**	**1.87%**	**2.23%**	**2.53%**	**2.79%**	**2.99%**	**3.00%**
'risk free' 10Y	0.21%	0.54%	0.87%	1.21%	1.53%	1.82%	2.05%	2.24%	2.37%	2.46%	2.49%	2.50%
30Y	0.48%	0.34%	0.45%	0.82%	1.18%	1.52%	1.95%	2.36%	2.76%	3.14%	3.50%	3.50%

Source: Datastream, AXA IM Research

Asset allocation – overall, as of December 2015

Equities: Neutral

- Timid growth will continue to weigh on top line and hence on global earnings momentum
- Unit labour cost growth remains contained and below trend and thus supportive for earnings
- The Fed confirmed: the balance sheet will be kept unchanged in the foreseeable future. Yet the monetary impulse will be less supportive
- We deem a trailing P/E of 19x pricy
- Corporate cash piles will spur M&A activity

Global allocation	Short term (3-6M)	Medium term (12-24M)
Cash	=	=
Equities	=	=
Government bonds	=	●
Credit	●	=

▲/▼ Changes of the month

Government bonds: Neutral/Underweight*

- The monetary policy normalization in the US has started, even though very gradual it implies gently higher yields via 1) risk free rate rising forward expectations and 2) increasing term premium
- €-area bonds (mainly periphery) remain appealing; scarcity for Bunds has declined following the ECB's decision to lift the upper limit from 25% to 33%; risk premium still very depressed; beware of the correlation with the US in the longer run

Credit: Overweight/Neutral*

- 2016 might be more difficult for IG in general as the duration headwinds will weigh on overall performance, which we expect to be positive but with a very thin margin. Start reducing into a rally.
- Favour short HY: Barring a recession current spreads offer a decent yield and hence a welcome buffer; € HY should benefit from the ECB's Public Sector Purchase Programme and low default expectations.

* (*/*) indicates short-term/long-term recommendations

Asset allocation: December 2015 – fixed income

Government bonds: Neutral/Underweight

- Fed has begun gradual normalisation; we expect 3 hikes in 2016, possibly less if inflation does not materialise
- US curve: expect bear flattening in the longer run

- Duration pressures should remain contained in the euro area, given ECB liquidity and supportive technicals.
- Even though spreads are getting tighter we suggest to keep an overweight position in peripheral spreads because of ECB action and improving growth
- Negative term premium will prevail
- ECB rates at or below zero for 2 to 3 years

- High volatility is here to stay amid thin market liquidity

Government bonds	Short term (3-6M)	Medium term (12-24M)
United States	🔴	🔴
€ area	🟢	=
€ core	=	=
€ periphery	🟢	=
UK	🟢	🔴
Japan	=	=
Emerging Markets	=	=
Swap spreads	=	🔴
Break-even	=	🟢
United States	🟢	🟢
Europe	=	🟢

▲/▼ Changes of the month

ECB's PSPP will keep the term premium negative

Breakeven: Overweight

- Commodity gyrations will determine inflation expectations in the short term;
- Signs of gently rising CPI are materilising, particularly in the US, hence our preference for US break-evens

Credit	Short term (3-6M)	Medium term (12-24M)
Corporate credit - US	🔴	=
Corporate credit - €	▼ =	=
High Yield - US	🟢	=
High Yield - €	🟢	=

▲/▼ Changes of the month

Asset allocation: December 2015 – equities

United States: underweight
- Anticipate earnings to weaken further throughout 2016, central bank tightening, elevated margins
- Valuations have normalised: 18x reported earnings

Euro area: overweight
- ECB action to depreciate the euro,
- Good earnings growth of 10% (despite VW scandal)
- Normal valuations: 16 to 17x reported earnings

United Kingdom: neutral/underweight*
- Beginning of monetary policy normalisation and strong currency outweigh appealing valuations of 15x
- Commodity exposure

Japan: overweight/neutral*
- Ample liquidity; depreciation of the yen;
- Accelerating wages trump slow structural and economic reforms

Equities	Short term (3-6M)	Medium term (12-24M)
United States	🔴	🔴
€ area	🟢	🟢
UK	=	🔴
Switzerland	🔴	🟢
Japan	🟢	=
Latin America	🔴	🔴
Emerging Europe	▲ =	= ▲
Emerging Asia	🟢	🟢

▲/▼ Changes of the month

Emerging markets: underweight – but raise EM Europe back to Neutral
- Ongoing recession is weighing on earnings (Brazil, Russia); valuation of 12x a mix between 8x for EM Europe and 16x for LatAM); Fed tightening will be the real market test
- EM Asia: cheap valuation (11x), more policy easing to come, Chinese authorities back ahead of the curve
- China still expensive short–term (15x p/e) but should benefit from policy action
- Close the underweight in Emerging Europe due to the improving economic backdrop and ECB proximity.

Switzerland: underweight/overweight long-term*
- Underweight following a decent recovery fuelled by Pharmaceuticals and M&A
- Valuation: similar to the US market but defensive character should pay-off longer-term

* (*/*) indicates short-term/long-term recommendations

Odd seasonality caused by climate change?

- Since the Great Recession, global trade systematically accelerates by the end of calendar years and decelerate in the first few months of the following year
- This seems largely due to a weird seasonality of Chinese imports
- Yet, the US GDP has also had a similar (although less contrasted) pattern and ... Snow, back in February, snow was spreading from NYC to Albuquerque!
- **Warning**:

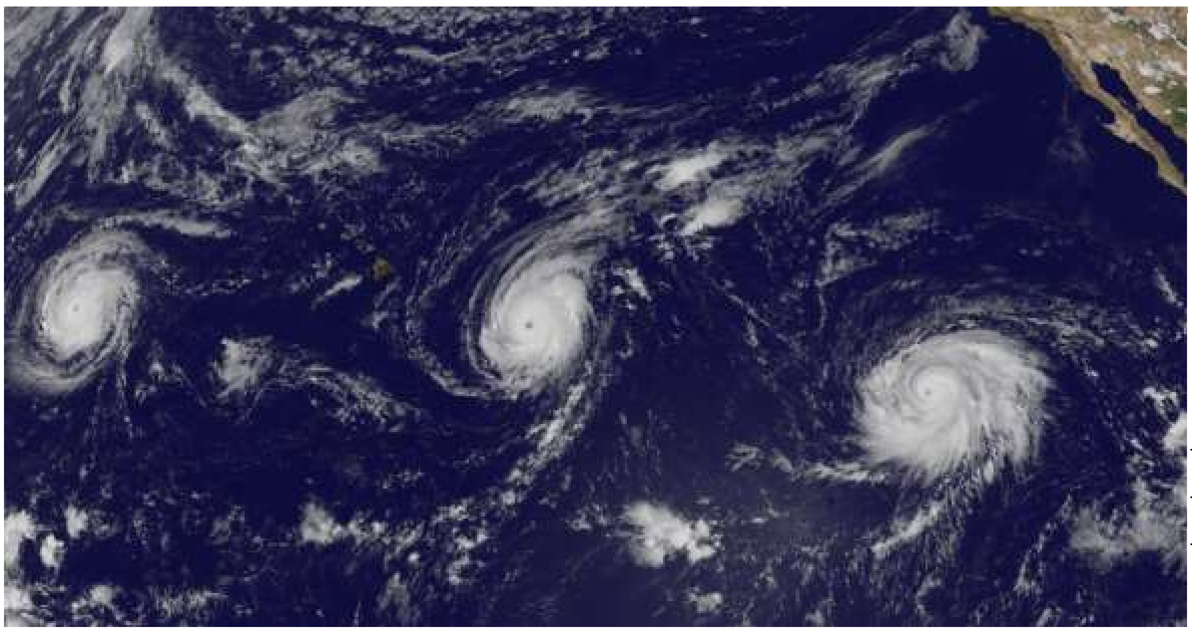
  The seasonality change could be structural, if, as hypothesized by some scientists, jet streams in the Northern hemisphere have been destabilized by global warming (see *'A Wacky Jet Stream Is Making Our Weather Severe - Extreme summers and winters of the past four years could become the norm'* – Jeff Masters, in Scientific American – Dec. 2014)

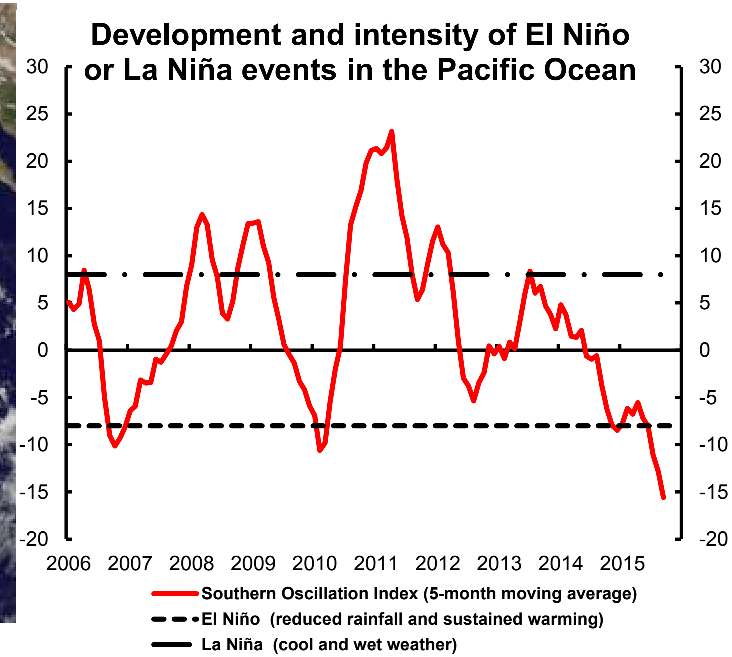
Source: Weather Channel 10 February, 2015

Bracing for a ‘monster El Niño’ this winter

- Three extra pulses of warm water in the Pacific have turned the ongoing El Niño ‘into a beast’ (Science, Oct. 2)
- They were triggered by a Madden-Julian Oscillation, causing weather disruptions typical of what El Niño does, according to Columbia University Prof. Adam Sobel (supported by AXA Research Fund)
- Climate modellers believe that the rise in global temperature increases the MJO in both frequency and intensity.
- Concretely, a ‘monster El Niño’ may reduce crops and cause sharp increases in food prices (bad inflation)

Hurricane alley, Eastern Pacific – 29 August, 2015





Source: NASA-NOAA Goes Project Science – Image taken on 29 August, 2015 -- Category-4 storms Kilo, Ignacio, and Jimena occupy hurricane alley in the eastern Pacific.

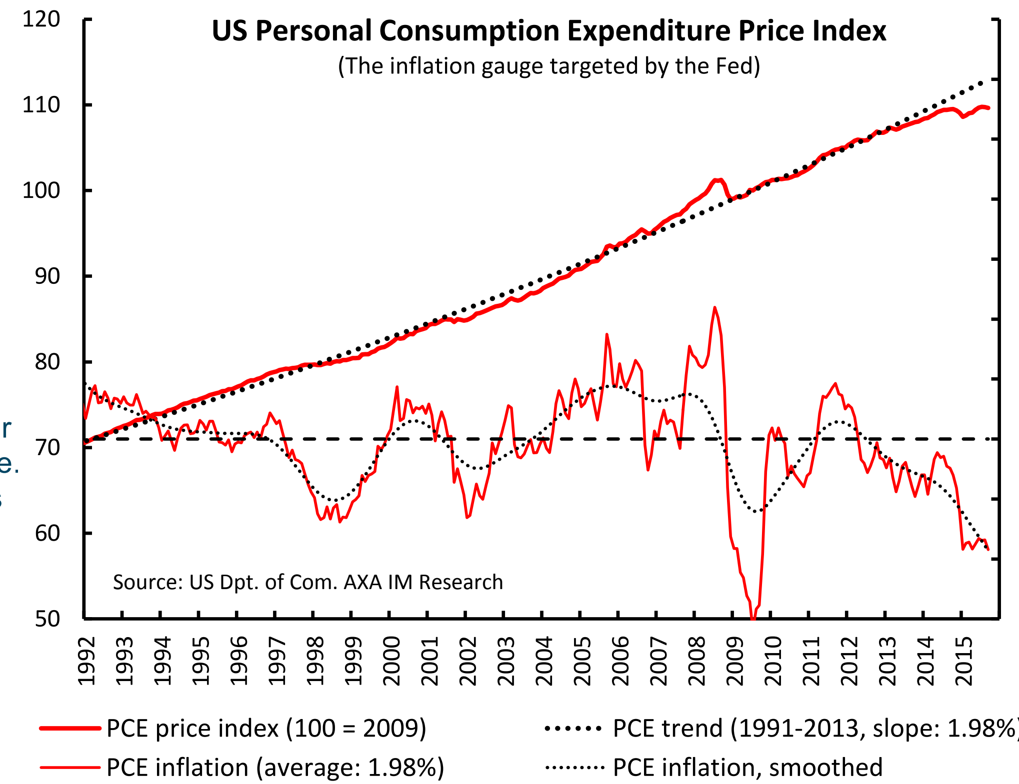
Source: Australian Bureau of Meteorology – AXA IM Research: Manolis Davradakis.

US Fed: targeting 2.0% inflation, or a price level path?

- In January 2012, the FOMC translated its mandatory price stability objective into a more concrete target, namely, a "longer-run goal for inflation" of 2 percent*.
- A possible interpretation of the commitment to achieve a 2% inflation rate in the "longer-run" is that the Fed is actually targeting a 2%-sloped price path, instead of a mere 2% rate at any point in time
- The average inflation rate observed from 1991until today has been 2.0%, supporting this interpretation
- FOMC member Narayana Kocherlakota has recently expressed its interest for this option (May 2014)
- Why this matters: if inflation stays below 2% for a significant period of time, the Fed might want to deliver inflation above 2% over a significant period of time, and vice-versa.

(*) "The inflation rate over the longer run is primarily determined by monetary policy, and hence the Committee has the ability to specify a longer-run goal for inflation. The Committee judges that inflation at the rate of 2 percent, as measured by the annual change in the price index for personal consumption expenditures, is most consistent over the longer run with the Federal Reserve's statutory mandate. Communicating this inflation goal clearly to the public helps keep longer-term inflation expectations firmly anchored, thereby fostering price stability and moderate long-term interest rates and enhancing the Committee's ability to promote maximum employment in the face of significant economic disturbances."

Board of Governors – Press release
January 25, 2012



Source: US Dpt of Commerce, AXA IM Research

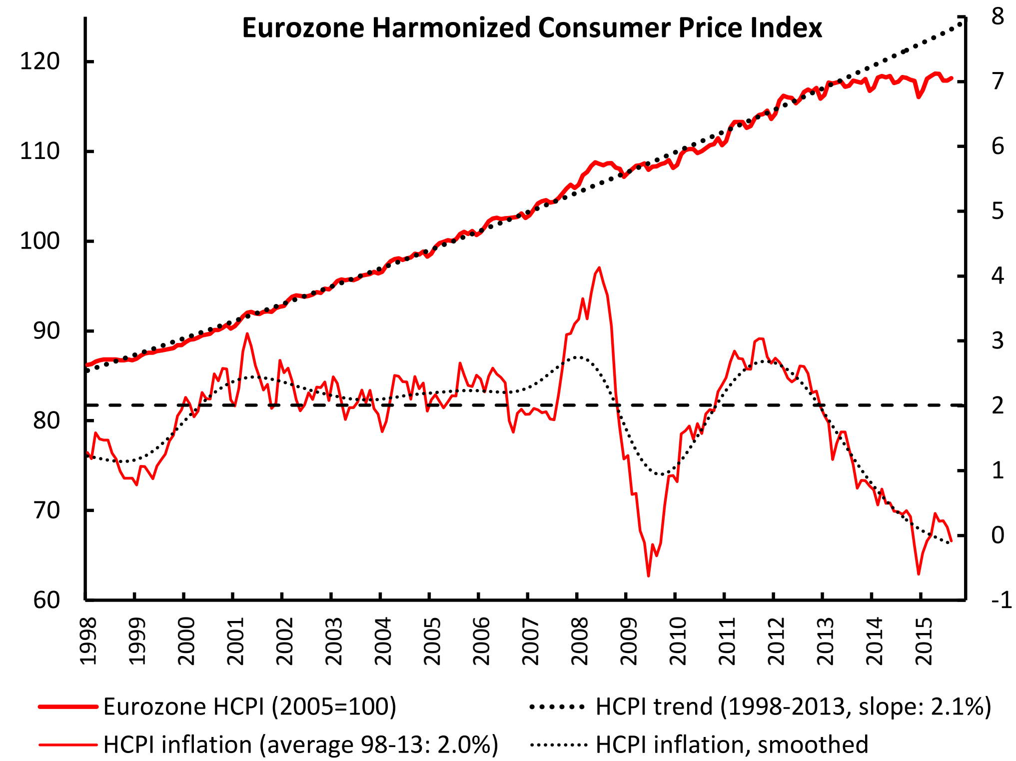
ECB: targeting 1.99% inflation, or a price level path?

- The primary mission of the ECB is to 'maintain price stability: safeguarding the value of the euro'*
- At the outset of the €, the interpretation of the Governing Council (GC) was 'positive inflation below 2%'
- Later on, it became 'to maintain inflation below, but close to, 2% over the medium term'**
- More recently, some members of the GC said that, practically, the target is 2.0%
- Since this target is 'over the medium term', it is legitimate to ask whether the ECB is actually targeting a 2%-sloped price path, instead of a mere 2% rate at any point in time

- The facts:
  1/ average inflation since 1998 (creation of the European Monetary Institute) is 2.00%
  2/ the trend over the same period (2008-2013) has a 2.08% slope

- **Yet, markets believe that the ECB will not even deliver on its inflation target: as or 15 December, the inflation swap market was pricing 1.2% average inflation over the next 10 years.**
- **At this stage, a price level target is not a credible option for the ECB.**

- (*) Mission of the European Central Bank
  ECB website
  (**) Jean-Claude Trichet – Foreword to the 2011 edition of 'The Monetary Policy of the ECB'



Source: Eurostat, AXA IM Research

Unconventional policies raise long term risks

- Risk #1: Fiscal dominance (Japan – US – UK)
  Blowing up balance sheets was politically easy; deflating them won't be. The risk is monetary policy becoming an instrument of debt management
  Among QE champions, only the BoE has alluded to sales of assets

- Risk #2: Asset price detached from fundamentals (everywhere, including EMs)
  If 'low-flation' has structural causes other than a lack of aggregate demand, liquidity injections may inflate asset prices instead of real demand
  Bubbling markets? US High Yield, €-periphery bonds, UK housing

- Risk #3: Japan-isation (€-area)
  In highly intermediated regions (€-area) flooding banks with liquidity may delay restructuring and therefore keep the economy in a slow growth, very low inflation and bond yields trap*

  (*) "Zombie lending and depressed restructuring in Japan", Ricardo Caballero, Takeo Hoshi and Anil Kashyap, American Economic Review 2008, 98:5, 1943-1977

Fed: the case for keeping a large balance sheet

- Ben Bernanke's blog – 15 April, 2015
  (...) I wonder if the case for keeping the balance sheet somewhat larger than before the crisis has been adequately explored. (...) a larger balance sheet should not affect the ability of the FOMC to change the stance of monetary policy as needed. (...) Moreover, the fed funds market is small and idiosyncratic. Monetary control might be more, rather than less, effective if the Fed changed its operating instrument to the repo rate or another money market rate and managed that rate by its settings of the interest rate paid on excess reserves and the overnight reverse repo rate, analogous to the procedures used by other central banks.

- John Cochrane – NBER WP, September 2014
  When interest rates rise, it is pretty clear that the Fed will not return to the previous monetary configuration, a small quantity of non-interest-paying reserves, but will instead maintain a large balance sheet and pay market interest rates on reserves. Indeed, the Fed will attempt to control short term rates primarily by changing the rate it pays on abundant reserves, rather than by controlling the quantity of reserves via open market operations. This plan is articulated in Chairman Bernanke's (2010) testimony and most recently reinforced in the July 2014 FOMC minutes (Federal Reserve (2014)). My analysis below endorses this choice. A large balance sheet, with reserves that pay market interest, is a desirable configuration of monetary affairs, most of all for its beneficial impact on financial stability.

Fed: and the warnings from John Cochrane

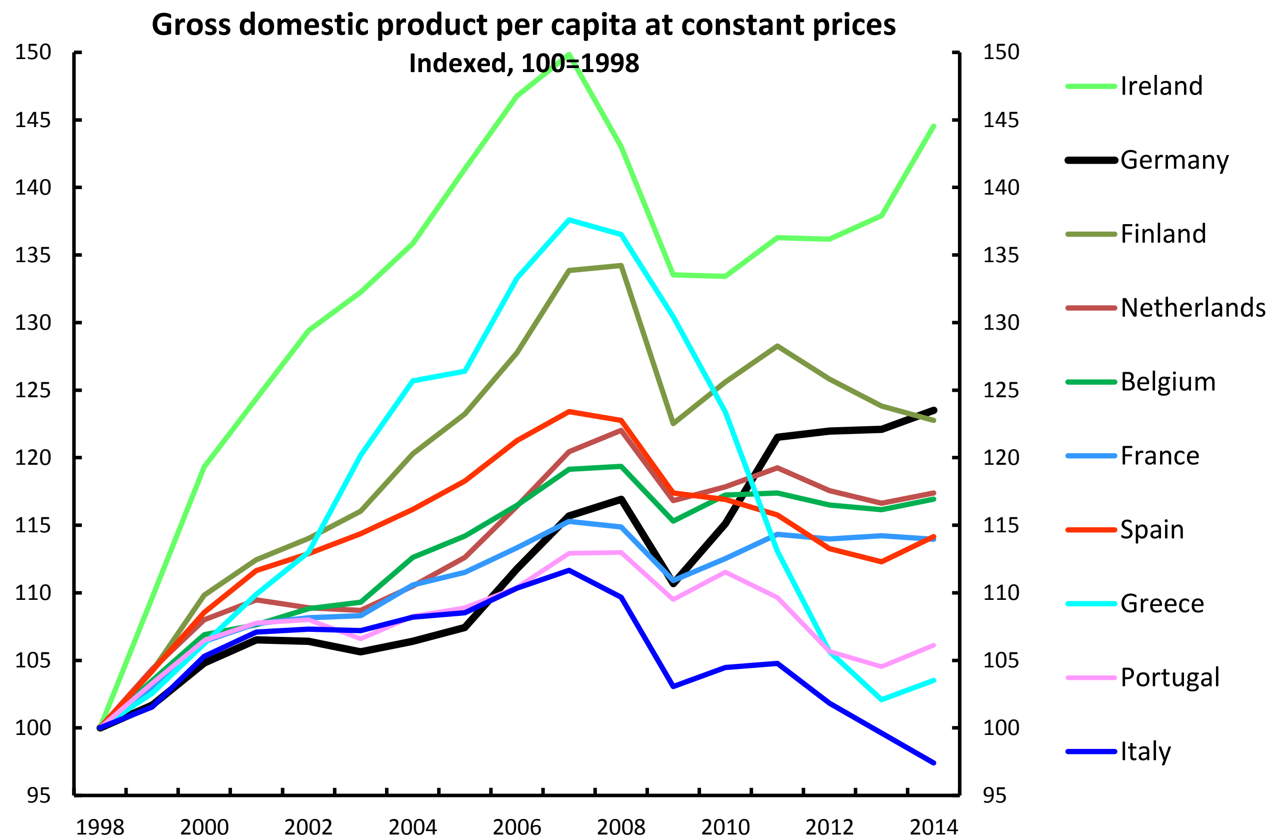
- John Cochrane – NBER WP, September 2014
  (...) market interest on reserves and a large balance sheet, together with the spread of interest-paying electronic money, deeply challenges standard monetary policy analysis. We will be satiated in liquidity. (...) Reserve demand and money demand become indeterminate. The money multiplier neither controls nor limits bank lending or deposit creation. Standard answers to fundamental questions, such as how inflation is determined, how the Fed controls real and nominal interest rates, what are the channels by which monetary policy affects the economy and the banking system, all fall apart in this regime. (...)
- *(...) the presence of a large stock of outstanding Treasury debt, of relatively short maturity, means that interest rate changes will have large impacts on the Federal budget. (...) Fiscal considerations will limit monetary policy in ways that the Federal Reserve is barely thinking about at all.*

In ‘*Monetary Policy with Interest on Reserves*’

Recessions are political bombs

- Whatever the reasons for the recessions endured by several euro area countries (GDP previously artificially inflated by a credit bubble or by unsustainable public spending, or fiscal restriction), their amplitude is, in several countries, dramatic enough to fuel anti-euro or nationalistic political reactions.

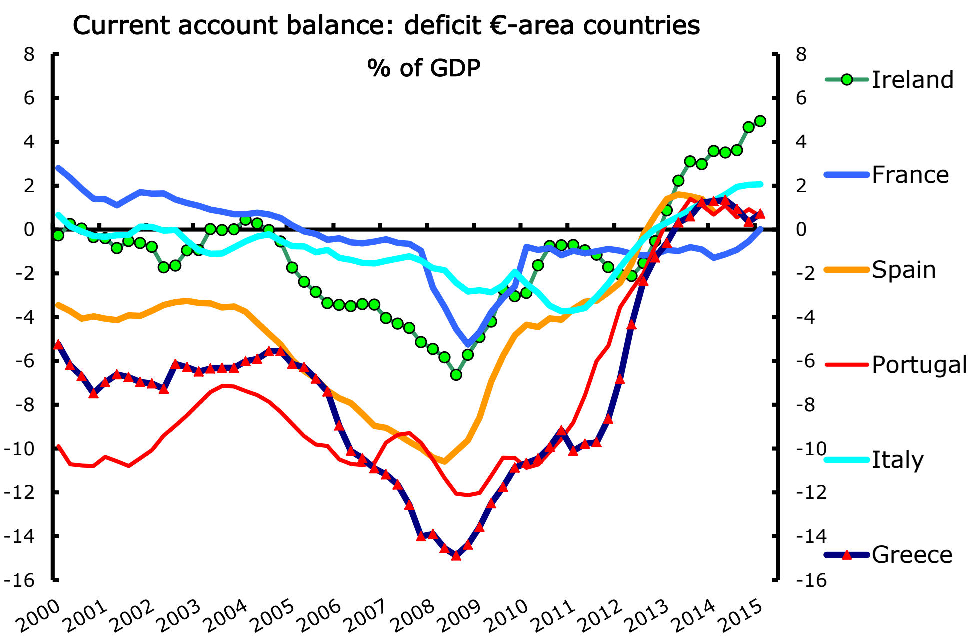
- Which countries are better off, compared to where they stood before EMU? We look at real GDP per capita.
- Average growth at or above 1.0% p.a. from 1998 to 2014:
  * Ireland (2.48%)
  * Finland (1.38%)
  * Austria (1.31%)
  * Germany (1.42%)
- * Netherlands (1.08%)
  * Belgium (1.05%)
- Average growth below 1.0%:
  * Spain (0.89%)
  * France (0.88%)
  * Portugal (0.40%)
  * Greece (0.23%)
  * Italy (-0.18%)

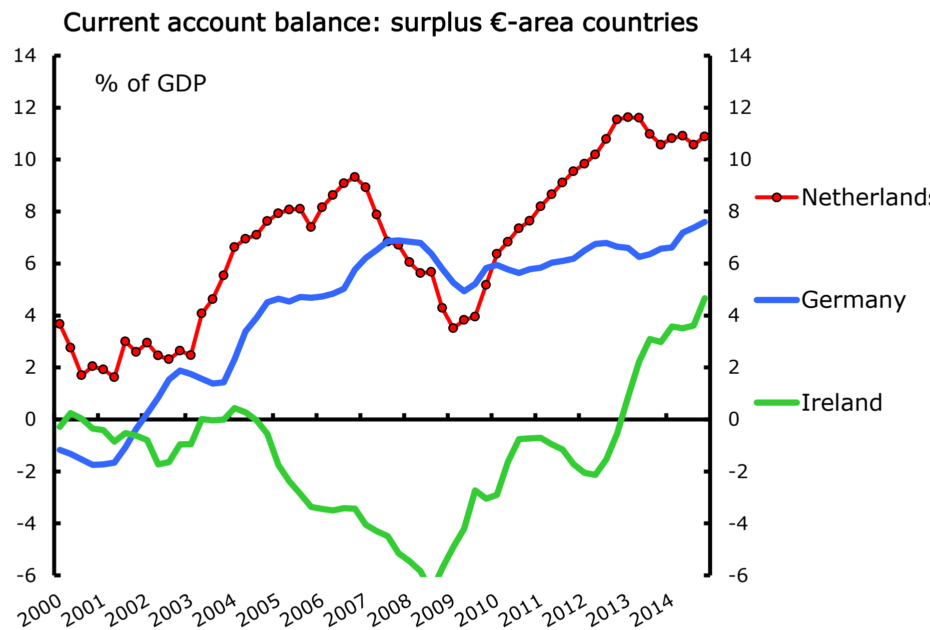


Source: Eurostat, IMF, AXA IM Research

Asymmetric correction in imbalances

- Pre-2008 current account imbalances within the euro area (German surplus vs. Spanish deficit) could not be corrected through the nominal exchange rate (so long as countries remain in the euro)
- The correction had to come from asset prices (stocks, properties and bonds), wages and domestic prices. This is a relative story: higher wage inflation in Germany would have made the adjustment easier
- In Ireland and Spain, where excesses came from the private sector, the macro adjustment is largely done via deleveraging and fiscal retrenchment. In Portugal and Greece, where excesses came from government spending 'austerity' has been doing the job. All countries have C/A in surplus or at equilibrium
- The German and Dutch C/A surpluses are not receding, evidence that macro adjustments are not coordinated. Worth noting: in 3Q, external trade contributed negatively to German GDP growth.





Latest data: 2Q 2015

Source: National accounts, AXA IM Research

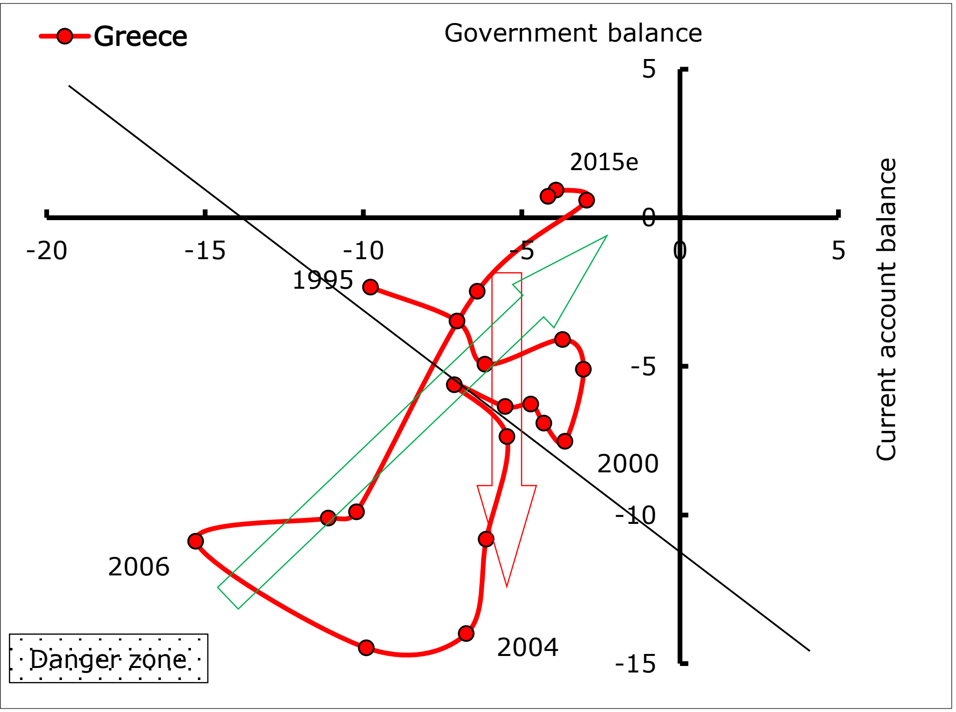
€-area imbalances: twin deficits watch (1)

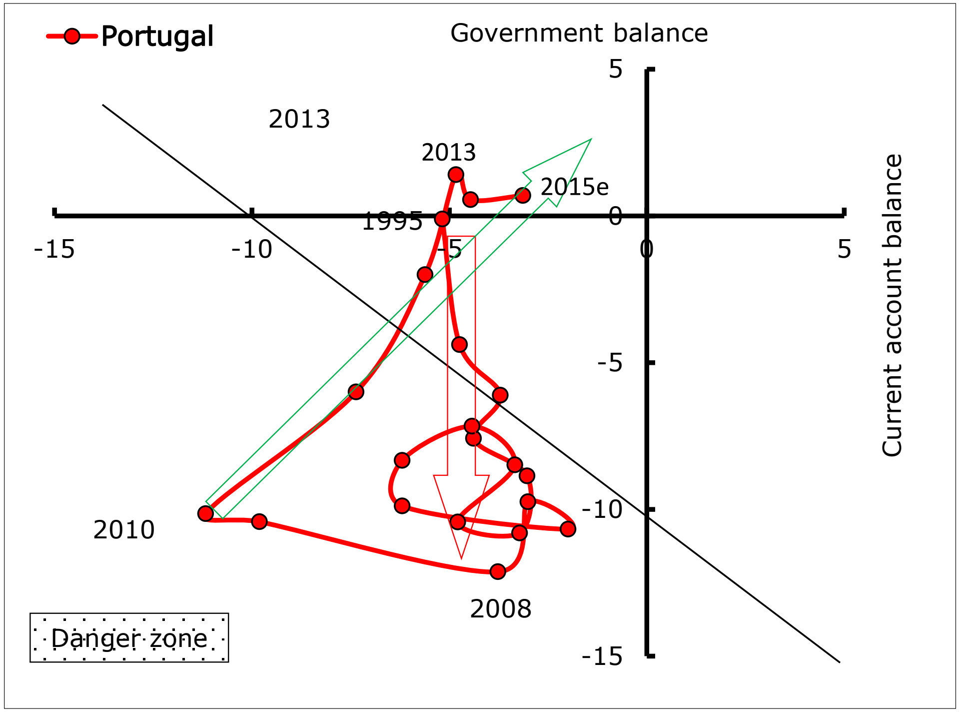
Greece & Portugal initial imbalances: excess of government spending

- Greece has dramatically reduced its C/A and public deficit by compressing domestic demand. The nominal deficit remains high because of excessively low demand
- Portugal followed the same way but continues to improve its C/A and budget positions

C/A deficit caused by excessive public spending financed by gov't debt

C/A deficit caused by excessive private spending financed by credit bubble





Source: EU Commission, AXA IM Research

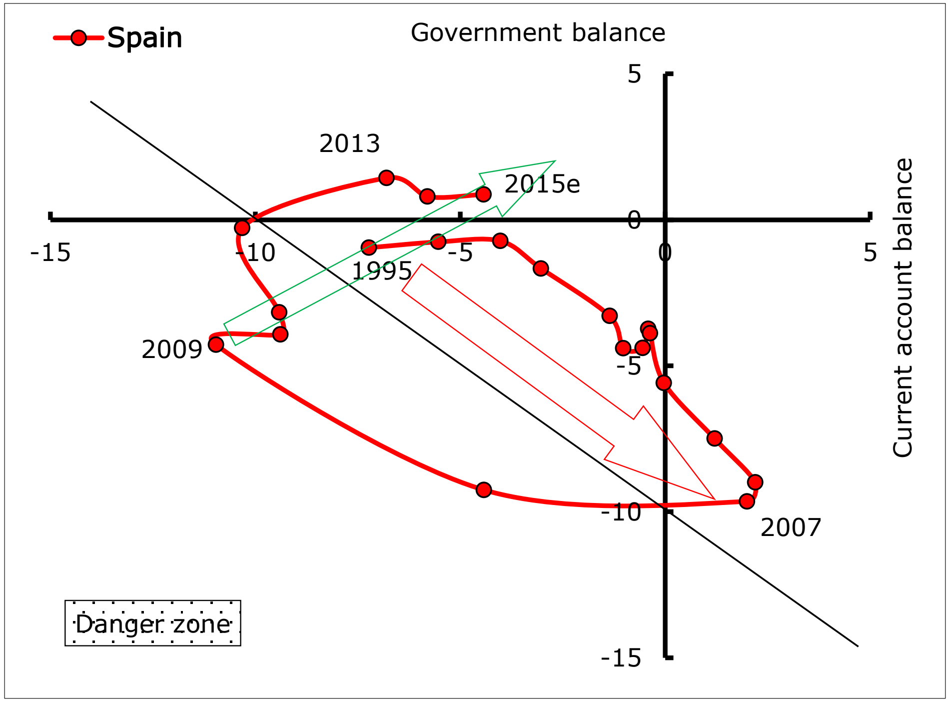
€-area imbalances: twin deficits watch (2)

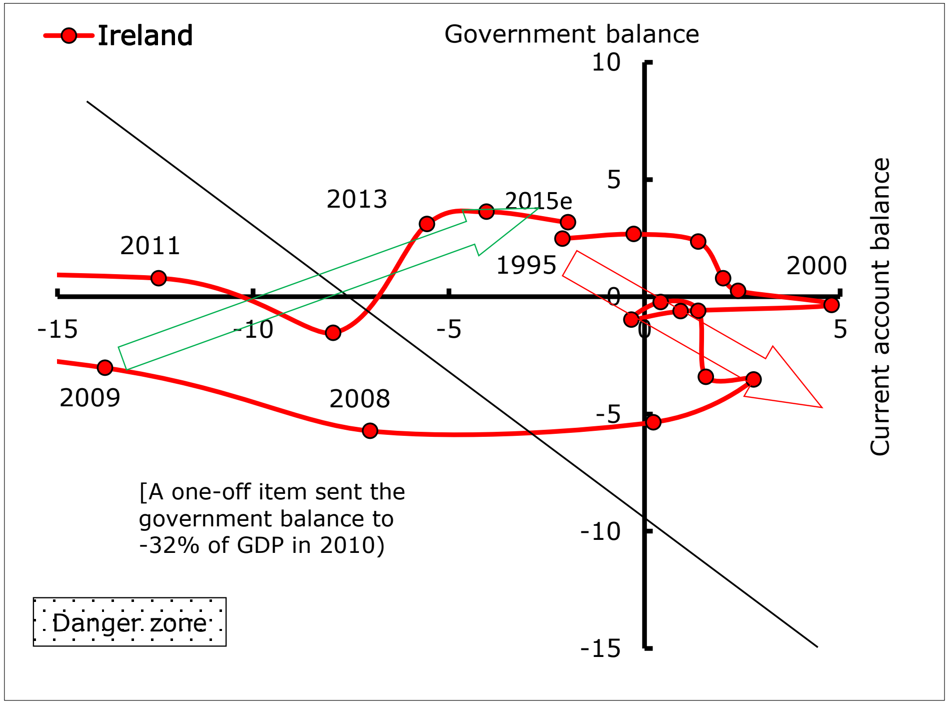
Spain & Ireland initial imbalances: excess of private spending

- Spain is now running a C/A surplus (needed to service its external debt) and has cut its budget deficit up to what seems to be a political limit
- Ireland is running a large C/A surplus (also needed). Growth helps cutting the budget deficit

C/A deficit caused by excessive public spending financed by gov't debt

C/A deficit caused by excessive private spending financed by credit bubble





Source: IMF, AXA IM Research

€-area imbalances: twin deficits watch (3)

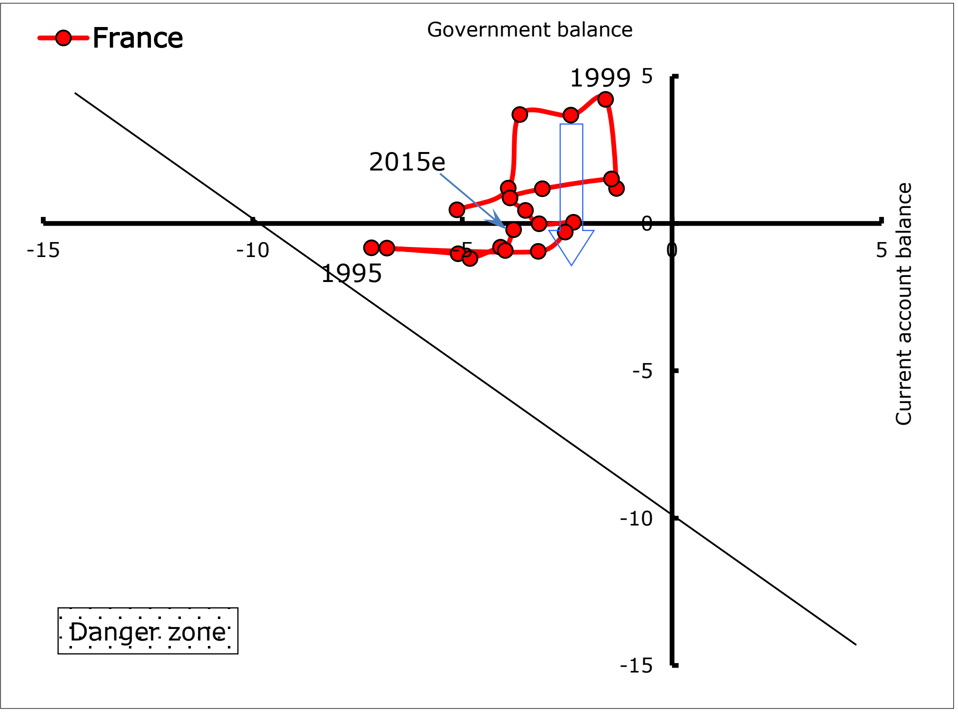
France and Italy: imbalances manageable, so far

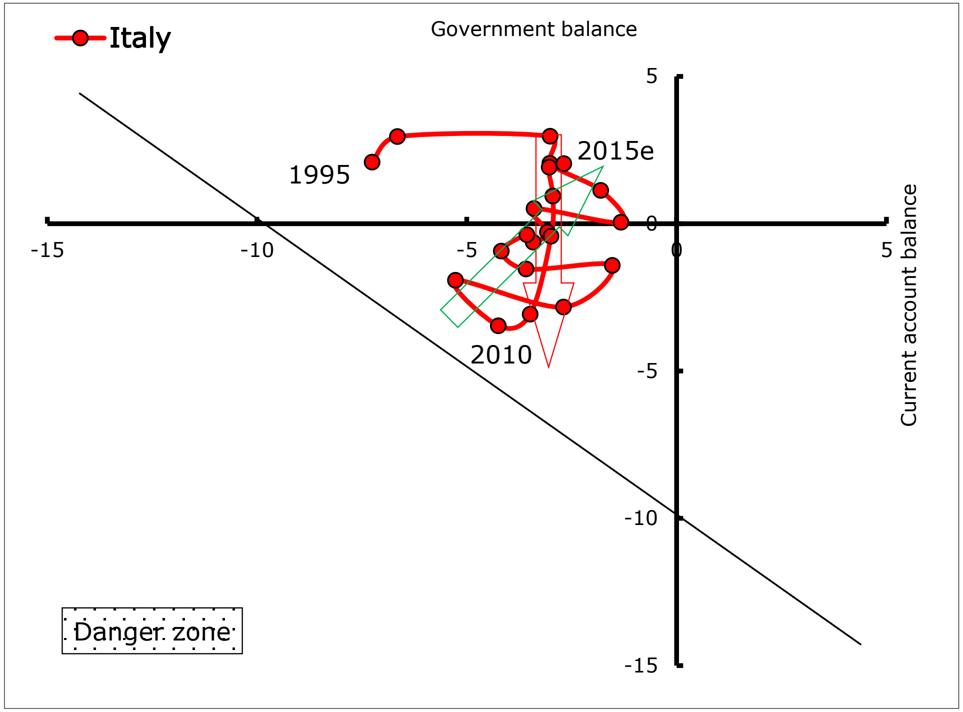
- France: budget deficit mostly structural since 1995
- Italy: Spending cuts helped reduce the deficit and raise the C/A balance

C/A deficit caused by excessive public spending

- France has reduced its fiscal, not its external, imbalance

C/A deficit caused by excessive private spending

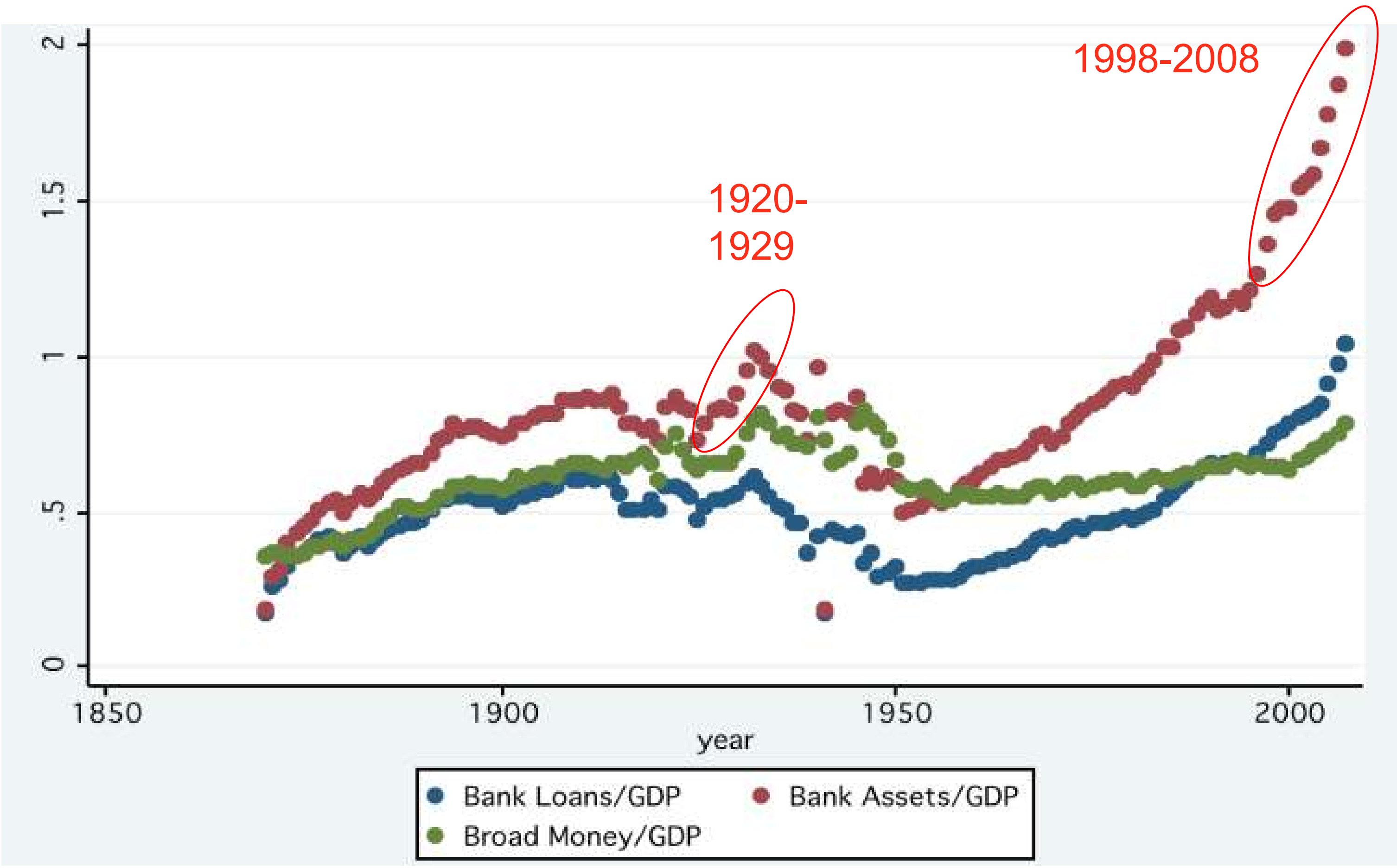




Source: IMF, AXA IM Research

Unbridled credit supply = Recipe for financial crisis

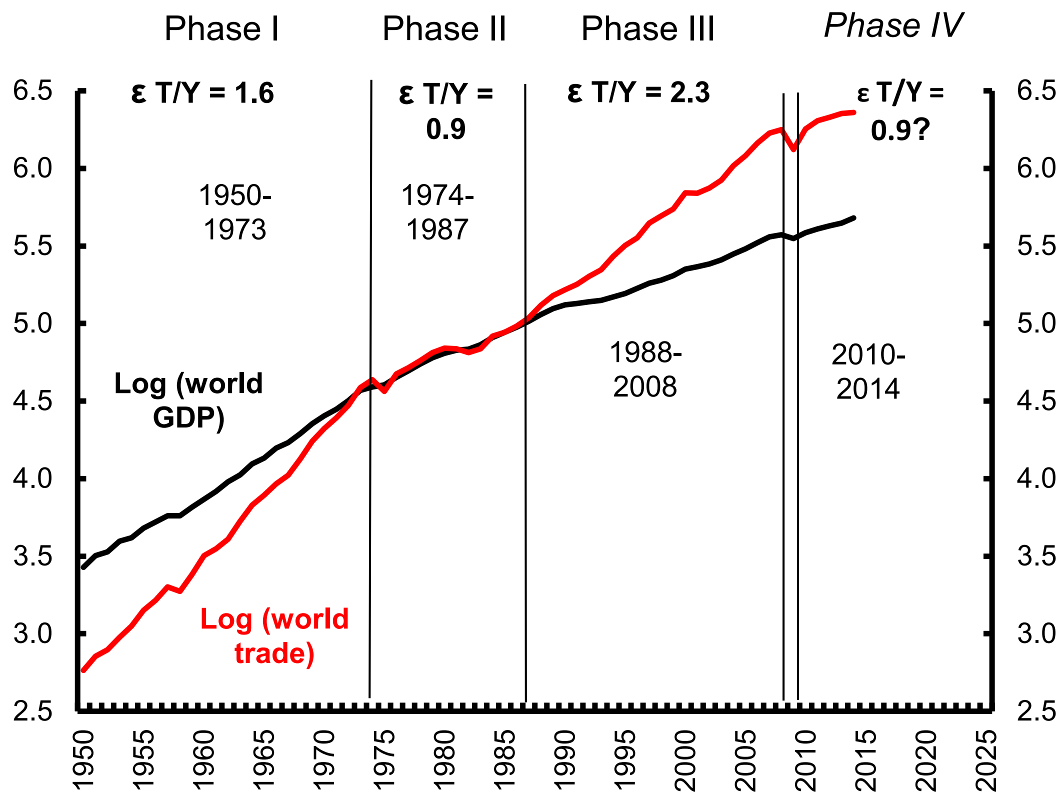
- 12 countries, data reconstructed over 140 years, one conclusion: watch bank assets



Source: Schularick-Taylor NBER WP 15512- http://www.nber.org/papers/w15512. Aggregate data for 12 countries: Canada, Australia, Denmark, Germany, Italy, the Netherlands, Norway, Spain, Sweden, US and UK.

The 4 stages of post-WWII globalisation

- 1950-1973: Allegro (ε = 1.6)
  US FDI in Europe and Japan
  Productivity catch-up
  Stable monetary system (until 1971)
- 1974-1987: Andante (ε = 0.9)
  Stagflation, oil price volatility
  Beggar-thy-neighbour FX policies
- 1988-2008: Vivace (ε = 2.2)
  Globalisation turns global
  Trade barriers fall
  China enters the game
- 2008-?: lower trade elasticity
  Temporary (consumer deleveraging)?
  Or more structural (rising income in emerging economies shifting demand from manufactures toward services...)



Source: WTO 2013 report, AXA IM Research

Eric Chaney's biography

Eric Chaney
Chief Economist AXA Group
Head of Research, AXA Investment Managers
Member of the Executive Committee, AXA IM

Eric Chaney is chief economist for the AXA Group since 2008. His mission is to provide a vision on the most likely global macroeconomic scenarios in the medium to long term, as well as an assessment of the main macroeconomic risks, for the group at large and its main entities.

Eric has his office at AXA Investment Managers, where he is Head of Research. Eric launched the AXA IM Annual Economic Symposium in 2010 which has since then featured prominent speakers such as Stephen Roach, Francesco Giavazzi, Jacques de Larosière, Charles Goodhart, Avinash Persaud, Sushil Wadhwani, P.O. Gourinchas, Stephen Li Jen, Thomas Huertas, Richard Koo, Tim Tacchi, Thomas Kirkwood, Vincent Reinhart, Sir John Scarlett, Huw Pill and Philipp Hildebrand..

From 2000 to 2008, Eric Chaney was Chief economist for Europe at Morgan Stanley, which he had joined in 1995. Previously, he headed the economic forecasting unit of the French statistical office (INSEE). Before that, he was responsible for global forecasts and analysis at the French Treasury.

Eric has been a member of the French Economic Council of the Nation, which advises the Minister of finances from 1997 to 2014. A former associate professor at the French School of Administration (ENA), former member of the French Tax Council, Eric sits at the Scientific Board of AMF (French market watchdog) and is Vice-Chairman of the Board of IHÉS.

A former professor of Mathematics and editor of a mathematical journal at the University of Strasbourg, Eric also holds a Master's Degree in economics and econometrics from the Paris Graduate School of Economics, Statistics and Finance (ENSAE ParisTech).

Glossary

- Backwardation: situation whereby future commodity prices are lower than spot prices
- Breakeven: expected inflation extracted from inflation-proof bonds (also called linkers)
- Contango: situation whereby future commodity prices are higher than spot prices
- Convertibility risk: refers to the possibility that a country member of the euro club would leave the club
- Credit risk: for a bond, risk of default by the issuer (coupon or principal)
- Fair value: econometric estimate of the price of an asset, given economic fundamentals. Despite its name, the 'fair value' is not intrinsic, since it is model-dependent
- Forward rate: expected future short term interest rate (1Y for instance) derived from the yield curve
- Log (MSCI): looking at the logarithm of an economic indicator allows to see whether its growth rate is constant (straight line), accelerating (upward curved or concave) or decelerating (downward curved or convex)
- OMT: Outright Monetary Transaction, a name invented by the ECB to qualify potential purchases of government bonds of a country having required financial help from the European Stabilisation Mechanism (ESM). Has never been used.
- Risk premium: premium on top of the price of a financial asset asked by investors to compensate for uncertainties about the future (default, liquidity condition, counterparty risk, stock market crash...)
- Term (risk) premium: risk premium investors are asking to compensate for the uncertainty on future monetary policy, given the path of short term interest rates that they anticipate. Comes on top of the geometric average of expected rates
- Surprise gap: A reversal indicator extracted from business surveys (Ifo, Insee, ISM, Tankan...). As for European surveys, computes the difference between the assessment made by companies on current production growth with the expectations they were expressing three months earlier, on harmonised data (z-score)
- Yield curve: curve showing the yields of same nature bonds of various maturities, traditionally from 3M to 10Y.
- Zero coupon (yield) curve: for any bond paying annual or semi-annual coupons, it is possible to calculate the price of an equivalent zero-coupon bond. Doing so all along the yield curve gives a fairer idea of market expectations, especially in terms of forward rates.
- Z-score: normalised time series: (x-m)/s, where x is the original variable, m its mean and s its standard deviation. The unit is thus 1 standard deviation.
- 5Y in 5Y: five-year yield in five-year extracted from 10Y and 5Y yields of similar bonds (for instance zero-coupon bonds), considering that the 10Y yield is the geometric average of 5Y and 5Y in 5Y yields. Using both nominal bonds and inflation proof bonds, it is possible to extract 5Y in 5Y inflation expectations.

Recent research from AXA IM

AXA IM research documents are available on: http://www.axa-im.com/en/research

- Emerging markets: back to fundamentals 24/11/2015

  The normalisation of US monetary policy will cause a limited depreciation in EM FX and asset prices.
- All eyes on central banks 19/11/2015

  Economic activity is stabilising; Global equities are losing their lustre.
- RMB: assessing the chance and impact of SDR inclusion 04/11/2015

  The RMB stands a very high chance (80%) of being included in the IMF's Special Drawing Right (SDR) basket this year.
- Alternate perspectives: the UK's EU renegotiation 02/11/2015

  What the UK might want / what the EU might offer.
- Softer growth, yes; recession, no 09/10/2015

  After a sharp slowdown in the first half of the year, the global economy is stabilising. Add risky assets in the short term but beware of 2016.
- "Value at risk" might underestimate risk when risk bites. Just bootstrap it! 23/09/2015

  In this paper, we evaluate the conventional value at risk (VaR) methods, explain why the reality of financial markets limits its usefulness, and put forward an alternative VaR calculation method.
- Softer growth ahead, but equities sill attractive 10/09/2015

  Global trade weakness will hurt but stock market overvaluation has been corrected.
- China capital account: only partly opened 26/08/2015

  Stabilising the yuan and lowering Chinese rates are not incompatible
- Emerging markets' equities: not yet the end of the tunnel 20/08/2015

  Further EM currency weakness will lead to further stock market weakness, at least in relative terms.
- Adjusting our Fed rate outlook 14/08/2015

  We are changing our long-standing call for the first Federal Reserve Fed funds rate hike to come in September, to December.
- China: implications of the A-share crash 16/07/2015

  The recent crash of China's A-share market has led to concerns about negative contagion to the real economy. First-round effects are estimated around 0.2-0.4% which is manageable by proactive policies from the authorities. However, the longer-term impact of the market crash could be of concern, if the current episode is not properly handled.
- UK's National Living Wage adds to inflation outlook 30/07/2015

  UK wage growth has accelerated and looks set to pick up further with the announcement of the National Living Wage, something that should impact the Bank of England's inflation projections next week.

Disclaimer

- *This document is used for informational purposes only and does not constitute, on AXA Investment Managers Paris part, an offer to buy or sell, solicitation or investment advice. It has been established on the basis of data, projections, forecasts, anticipations and hypothesis which are subjective. Its analysis and conclusions are the expression of an opinion, based on available data at a specific date.*
- *Due to the subjective and indicative aspect of these analyses, we draw your attention to the fact that the effective evolution of the economic variables and values of the financial markets could be significantly different from the indications (projections, forecast, anticipations and hypothesis) which are communicated in this document.*
- *Furthermore, due to simplification, the information given in this document can only be viewed as subjective. This document may be modified without notice and AXA Investment Managers Paris may, but shall not be obligated, update or otherwise revise this document.*
- *All information in this document is established on data given made public by official providers of economic and market statistics. AXA Investment Managers Paris disclaims any and all liability relating to a decision based on or for reliance on this document.*
- *Furthermore, due to the subjective nature of these analysis and opinions, these data, projections, forecasts, anticipations, hypothesis and/or opinions are not necessary used or followed by AXA IM Paris' management teams or its affiliates who may act based on their own opinions and as independent departments within the Company.*
- *By accepting this information, the recipients of this document agrees that it will use the information only to evaluate its potential interest in the strategies described herein and for no other purpose and will not divulge any such information to any other party. Any reproduction of this information, in whole or in part, is unless otherwise authorised by AXA IM prohibited.*
- *Editor : AXA INVESTMENT MANAGERS PARIS, a company incorporated under the laws of France, having its registered office located at Cœur Défense Tour B La Défense 4, 100, Esplanade du Général de Gaulle 92400 Courbevoie, registered with the Nanterre Trade and Companies Register under number 353 534 506, a Portfolio Management Company, holder of AMF approval no. GP 92-08, issued on 7 April 1992.*