Global Research

Jan-Feb 2016

Macro Strategy Key Issue

What if… Global Risk Scenarios

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UBS

Global Risk Scenarios

- China Hard Landing will likely present the gravest risks to markets; oil price risk the most complex. Fed risk (policy mistake) is 'self-correcting' while European political risk is likely the slowest moving.
- On average, across risk scenarios, Emerging Markets and High Yield most vulnerable; less action on core FX.

	Current Jan 25	Historical 1-SD Range	**UBS Base Case**	**China** GDP at 4%	**Hawkish Fed** (policy mistake)	**Hawkish Fed** (inflation surprise)	**Oil** Drops to $20	**Europe** Politics	
Equities									
S&P 500, index*	1,903	1,808 – 2,491	2,275	1,750	**1,600**	1,750	1,700	1,900	
Eurostoxx 600, index*	337	321 - 478	435	260	280	310	300	**250**	
MSCI EM, index	708	626 - 973	865	**519**	560	600	600	700	
Currencies									
EUR/$	1.09	1.02 - 1.29	1.16	1.10	1.05	**0.99**	1.11	1.05	
EUR/CHF	1.10	1.04 - 1.19	1.12	1.09	1.06	1.05	1.11	**1.00**	
Rates/credit									
US Treasuries, 10yr (%)*	2.00	1.67 - 3.33	2.50	**1.60**	**1.55**	2.50	1.70	2.00	
German Bunds, 10yr (%)	0.42	0.75 - 2.25	1.70	0.40	0.50	1.00	0.70	**0.35**	
US high yield, spread (bp)	790	489 – 1,210	825	1,100	**1,400**	825	1,150	825	
Commodities									
Brent crude oil, $/bbl*	31	22 - 57	49	30	30	45	**20**	35	
Copper, US¢/lb*	204	151 - 238	195	**160**	185	220	**160**	195	
Gold, $/oz	1,118	1,060 – 1,389	1,225	1,225	**900**	1,200	1,150	1,225	
Iron ore, $/t*	41	33 - 56	45	**35**	38	45	38	40	
				Widespread	Shallow	Widespread	Complex	Narrow	**BREADTH**
				Long	Short-lived	Moderately Long	Moderately Long	Very Long	**LENGTH**
				Deep	Very Deep	Moderately Deep	Deep	Moderately Deep	**DEPTH**
			see pg.13	pg.2	pg.4	pg.6	pg.8	pg.10	

Greatest — Least

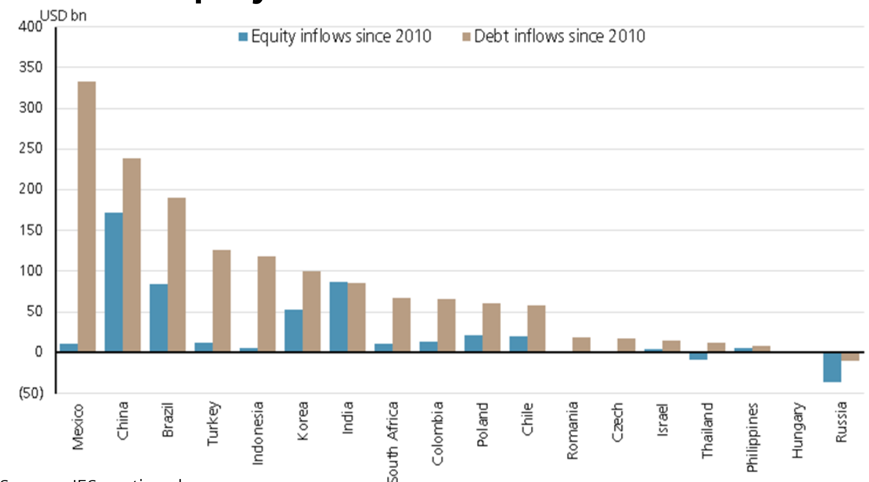
Scenario Impact on the Asset Class

Source: UBS, Bloomberg.

UBS

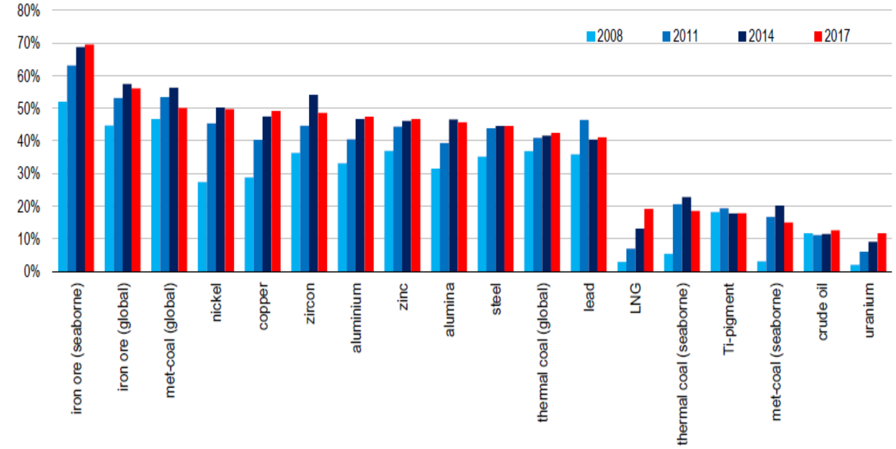
Scenario A: China Hard Landing

Debt and equity inflows in EM, since 2010



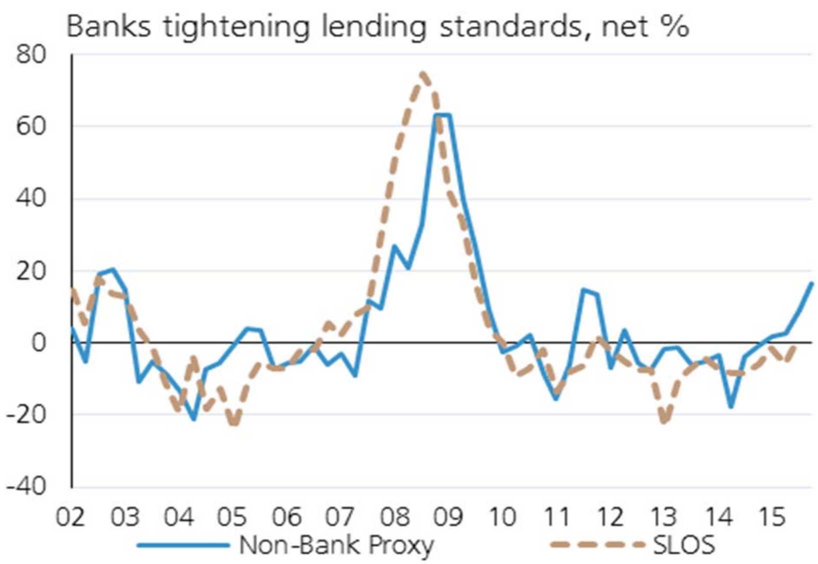
Source: IFS, national sources

China share of global commodity demand



Source: WoodMac, CRU, AME, TEX Report, WBMS, IHS, Platts, Bloomberg, UBS Research.

Non-bank credit points to tighter conditions



Source: UBS, Bloomberg. SLOS: Federal Reserve's Senior Loan Officer Survey

Figure 5: Deviation from UBS baseline forecast in the event of a China worst case scenario (Percentage point deviation from baseline 2016e growth forecast)

	Europe	EMEA	Australia	Asia ex J	Japan	US	Latam
Real GDP	-0.8ppt	-1.8ppt	-2.1ppt	-3.1ppt	-1.8ppt	-0.5ppt	-1.4ppt
CPI (average)	-0.7ppt	+1.7ppt	-0.7ppt	-2.1ppt	-0.6ppt	-0.8ppt	+0.2ppt*

Source: UBS. * excludes Argentina and Venezuela.

Scenario A: China Hard Landing

4% real GDP growth; nominal shock amplified & via sector rotation & labor demand; step FX move → Weaker commodities hits global credit markets in DM & EM with rotation contagion → Tighter global financial conditions de-rate stock markets with capitulation moves in EM

SCENARIO NARRATIVE

- Two related China disequilibria: rising leverage & property destocking. Tighter financial conditions & deeper destocking / slower housing demand => hard landing.
- Channel of contagion: weaker commodities. Credit markets will be hit most directly: defaults in energy and metals borrowers => higher risk premia in financial and other industrials => significant de-rating in both MSCI EM and MSCI World (4% real growth ≈ -5 to -10% FAI growth => -30-40% MSCI EM, -20% MSCI world.)
- Once realised, may still avoid global recession but 'global' financial conditions tighten significantly. USD is main funding currency for global liabilities and US institutions are much more connected globally than Chinese financials. Real assets point all the way to 40% prob. of this scenario already (upper limit).
- EM: Continued weak growth compromised stock variables / credit-worthiness. Much bigger fixed income trade than equity trade. Makes capitulation move very likely in EM FI / Credit.

SIGNPOSTS

Property sales, starts and inventories; FX reserves and USD/CNY; iron ore (or other metals prices)

TRADES

- Short US small cap / long US large cap
- Short EMFX / long DMFX
- Long US 5-year rates
- Short AUD, or, Short Brazil credit, or, short ZAR
- Long 5y CDS protection in Korea

	Current	UBS Base Case	**Scenario Outcome**
Equities			
S&P 500, index*	1,903	2,275	1,750
Eurostoxx 600, index*	337	435	260
MSCI EM, index	708	865	**519**
Currencies			
EUR/$	1.09	1.16	1.10
EUR/CHF	1.10	1.12	1.09
Rates/credit			
US Treasuries, 10yr (%)*	2.00	2.50	1.60
German Bunds, 10yr (%)	0.42	1.70	0.40
US high yield, spread (bp)	790	825	1,100
Commodities			
Brent crude oil, $/bbl*	31	49	30
Copper, US¢/lb*	204	195	**160**
Gold, $/oz	1,118	1,225	1225
Iron ore, $/t*	41	45	**35**

Source: UBS, Bloomberg.

Greatest — Least

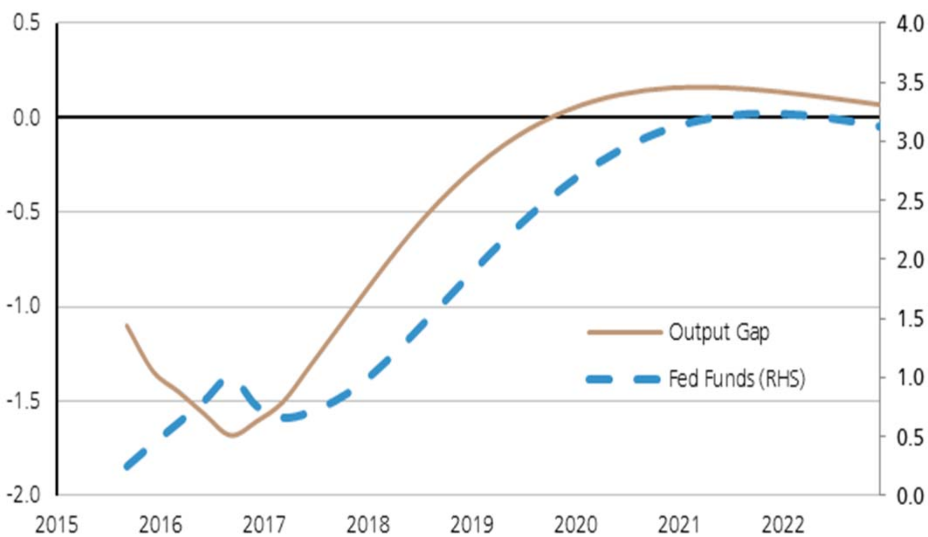
Scenario Impact on the Asset Class

(compared to impact on the asset class in other scenarios)

UBS

Scenario B: Hawkish Fed (due to policy mistakes)

Policy risks to tightening too early



Source: UBS calculations, Bloomberg.

Long-term yields reflecting suppressed growth and inflation expectations

Source: UBS calculations, Bloomberg.

Scenario B: Hawkish Fed (due to policy mistakes)

Fed keeps hiking against weak nominal growth; exacerbates it. → Weaker global growth & higher short-term rates hit EMs & possibly real estate sector finances in the US → Yield curve could even appear to invert, US equities face implosion threat; policy makers blink but late

SCENARIO NARRATIVE

- A hawkish Fed with weak growth and inflation is the definition of a policy mistake. Difficult to describe as transmission mechanism should be self-correcting; i.e., not much reason for this scenario to happen over an extended period of time (nonetheless it is probabilistically operational now – halfway through it / inflation expectations de-anchoring).
- Coming off a quarter of 4% growth, and core PCE at initial rising stage => this is a plausible mistake. However, current backdrop: labour market strong but enough conflicting signals on the activity side to keep the Fed from being overconfident. Short duration and arguably shallow market implications; but pain should be deep.
- Lower US back-end yields is the clearest asset market implication. Market sell-off already getting attention at the Fed; its reaction function relatively quick but not immediate (Aug/Sep similar). Room to provide more clarity, and could help stabilize things faster than many think.
- Persistent mistake should be particularly painful in US equities (strongest impact on US nominal GDP) and transmit quickly to EMs via higher short term rates and lower global growth => EM credit and USD-EMFX likely channels of adjustment.

SIGNPOSTS

Fed official speeches; Dot plot; US 5yr 5yr forwards

TRADES

- Long US 10yr Treasuries / short bunds
- Long US 3-5yr rates; Long US 10-year
- Short EM FX
- Short US small cap/long US large cap

	Current	UBS Base Case	**Scenario Outcome**
Equities			
S&P 500, index*	1,903	2,275	**1,600**
Eurostoxx 600, index*	337	435	280
MSCI EM, index	708	865	560
Currencies			
EUR/$	1.09	1.16	1.05
EUR/CHF	1.10	1.12	1.06
Rates/credit			
US Treasuries, 10yr (%)*	2.00	2.50	**1.55**
German Bunds, 10yr (%)	0.42	1.70	0.50
US high yield, spread (bp)	790	825	**1,400**
Commodities			
Brent crude oil, $/bbl*	31	49	30
Copper, US¢/lb*	204	195	185
Gold, $/oz	1,118	1,225	**900**
Iron ore, $/t*	41	45	38

Source: UBS, Bloomberg.

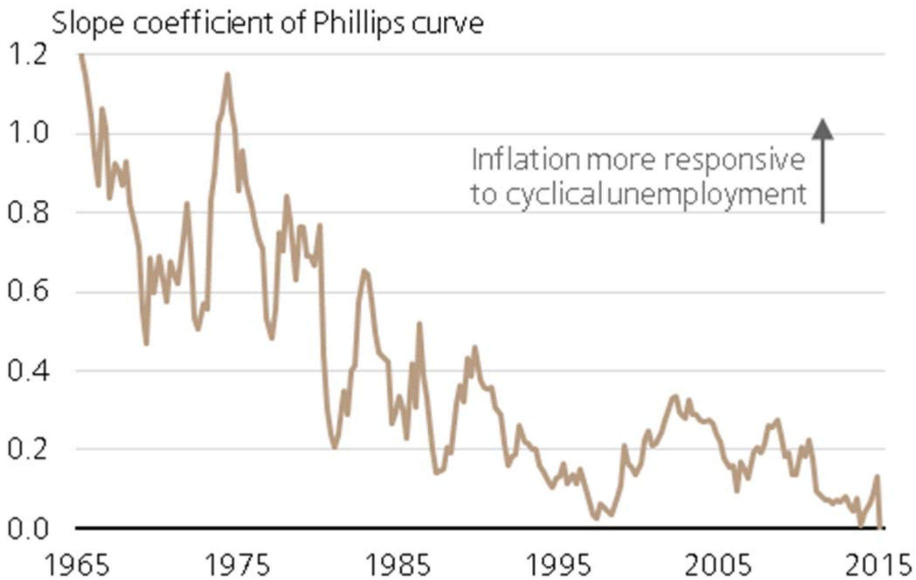
Greatest — Least

Scenario Impact on the Asset Class
(compared to impact on the asset class in other scenarios)

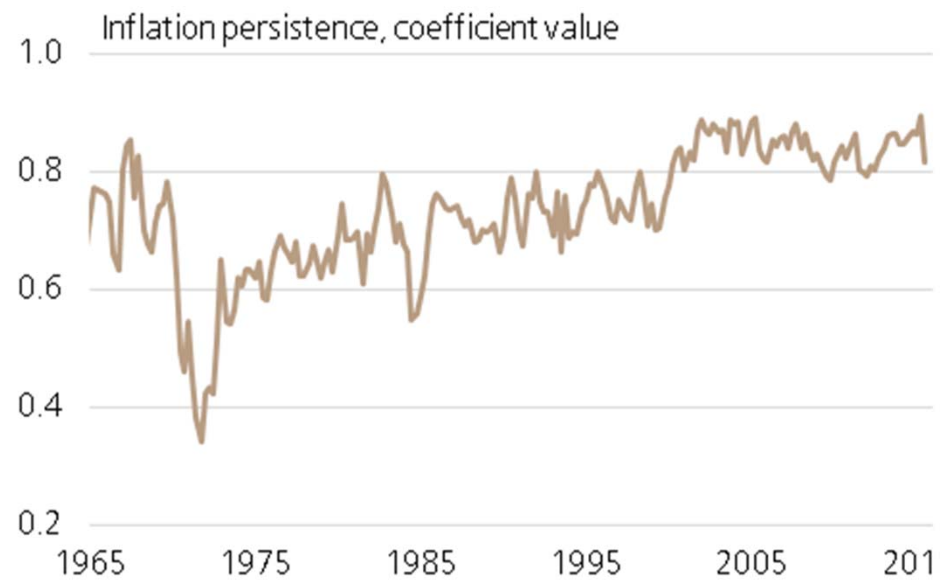
UBS

Scenario C: Hawkish Fed (due to inflation surprise)

Phillips curve steepening could surprise markets…



…and inflation could be persistent



Source: IMF, OECD, Haver, UBS. Median coefficient on unemployment gap from Phillips curve models for 20 advanced economies, rolling 5-year estimations.

UBS

Scenario C: Hawkish Fed (due to inflation surprise)

Trade-off b/t employment & inflation abruptly changes w/ globalization and/or inflation expectation shock → Behind the curve Fed adversely affects risk premia, global financing costs and more expensive $ → EM assets, US equities and high yield - in that order - absorb pressure of policy shift; European safe-haven?

SCENARIO NARRATIVE

- Little evidence that this is likely to become a risk. But that is definition of a risk scenario. However, unlike scenario B, the policy maker knows what to do.
- Steepening in the Phillips curve (trade-off b/t employment & inflation gains) was very modest during each of the past two cycles, and nominal GDP was much better in both cycles. Even when unemployment went below NAIRU, pick up in wages was very modest. In both cases, inflation expectations were well anchored, and that helped keep the pick-up in wages modest. Right now, risk to inflation expectations is down, not up. So, a plausible alternative for this risk to realize is a shock to globalization (breakdown in global trade, second order effect from generalized capital controls, etc.). There is some evidence of such (slow moving) dynamics in EM trade volumes.
- In terms of asset market implications, EM would suffer as US rates rise, and US equities and high yield should also perform poorly. Europe could be seen as a safe-haven and do relatively well, especially if the US inflation surprise is driven by better growth. US high yield credit may initially see a relief. Indeed, if stronger growth accompanies inflation, eventually negative equity impact is less.

SIGNPOSTS

Core PCE, wage indicators: employment cost index, average hourly earnings; services inflation and import prices (trade wars evidence)

TRADES

- Long gold strangle or EURCHF strangle
- Short EM FX
- Long inflation breakevens in near tenors

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Eurostoxx 600, index*	337	435	310
MSCI EM, index	708	865	600
Currencies			
EUR/$	1.09	1.16	**0.99**
EUR/CHF	1.10	1.12	1.05
Rates/credit			
US Treasuries, 10yr (%)*	2.00	2.50	2.50
German Bunds, 10yr (%)	0.42	1.70	1.00
US high yield, spread (bp)	790	825	825
Commodities			
Brent crude oil, $/bbl*	31	49	45
Copper, US¢/lb*	204	195	220
Gold, $/oz	1,118	1,225	1,200
Iron ore, $/t*	41	45	45

Source: UBS, Bloomberg.

Greatest — Least

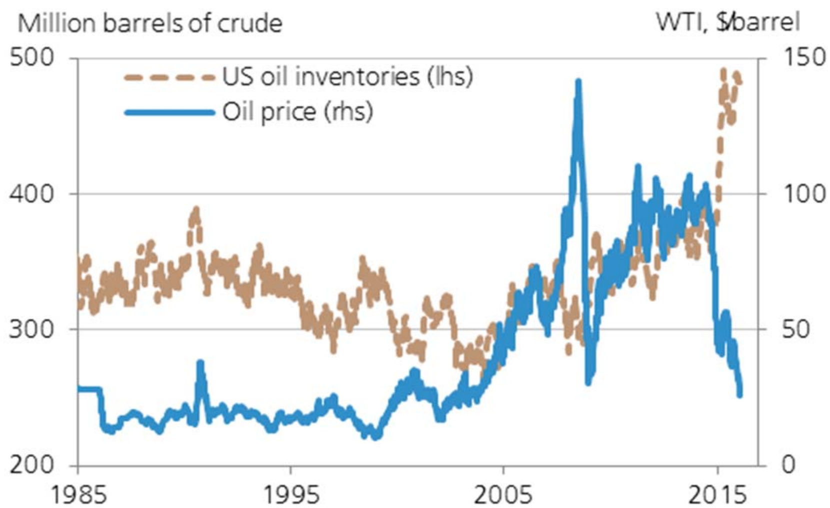
Scenario Impact on the Asset Class

(compared to impact on the asset class in other scenarios)

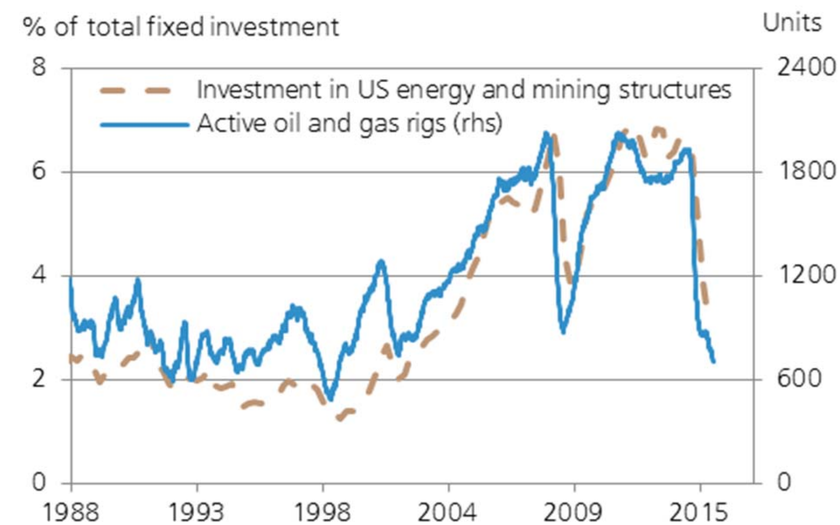
UBS

Scenario D: Oil Drops to $20

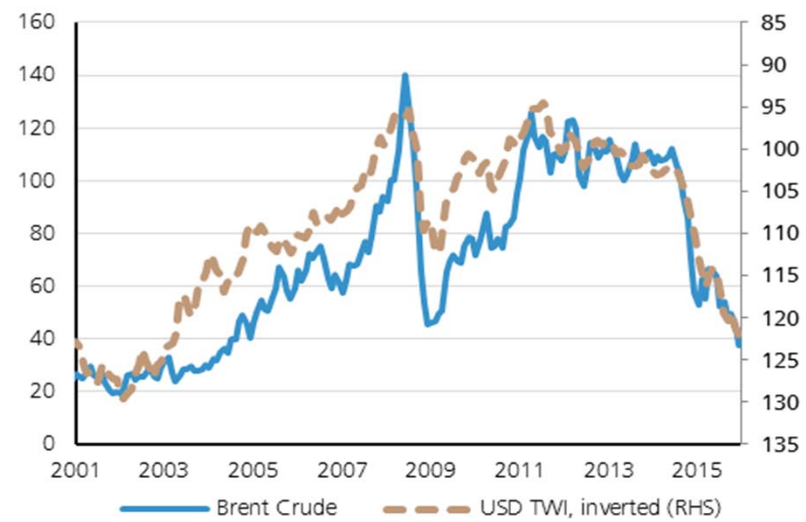
Oil glut not clearing at current prices



Drop in active rigs means falling energy capex



Oil price shifts have correlated with USD…



…and weighed on long-term inflation expectations

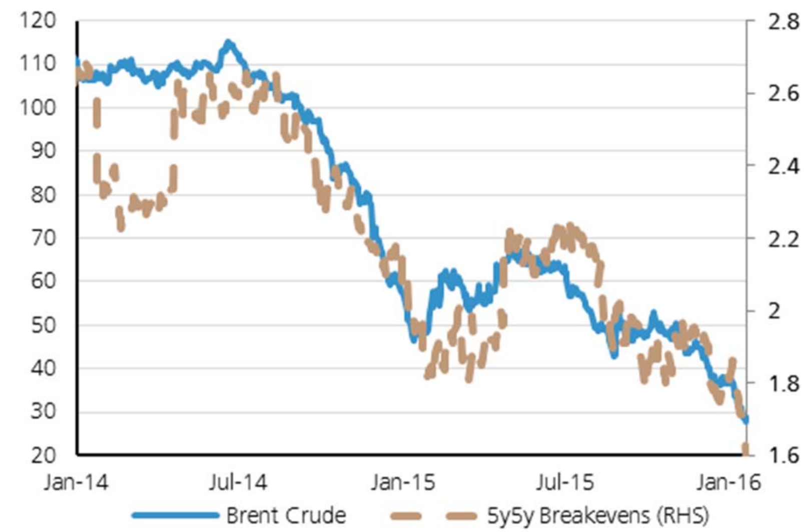


Chart sources: Haver Analytics, Bloomberg

UBS

Scenario D: Oil Drops to $20

Oil price hits US capex & growth asymmetrically; HY sectors impact generalizes to tight credit conditions → USD+ & China/EM weaker backdrop contaminates US growth more, general risk appetite & inflation → Non-linearities kick in amplifying effect on EM & US equities, HY credit, but less so on EURUSD

SCENARIO NARRATIVE

- Most complicated and non-linear risk scenario. Over medium term this is a positive scenario to global growth, however, the path (speed and extent) of lower prices through financial conditions is unsettling to growth dynamics at the initial instance.
- US capex & drag on investment spending => a) asymmetric growth impact & b) persistently higher energy credit spreads => contaminate HY credits => tighter broader credit conditions (non-bank & then bank channels). Meanwhile c) oil price & USD (-) correlated => backdrop of softer EM/China growth & via expenditure switching => stronger USD slows down healthy US growth potential. Finally, d) while low oil prices and USD shifts are relative price shifts from a global perspective, if they affect inflation expectations (thank you China) => breakeven collapse, ex ante real rates increase => import deflation.
- Consider above with non-linearities (mostly credit markets and capex), where declines below certain price level => even larger impact than seen so far. So, a particularly negative scenario for both EM and US equities, as well as high yield credit. Less impact on EUR/$ as already breakdown in past correlation (asymmetric consumption benefit.

SIGNPOSTS

DOE and IEA inventory reports; Rig count; OPEC announcements; China growth data

TRADES

- Short RUB or CAD
- Short US small cap/long US large cap; put on oil stocks
- Long US 10yr treasuries/short bunds; Long US 3-5yr rates

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Copper, US¢/lb*	204	195	160
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Iron ore, $/t*	41	45	38

Source: UBS, Bloomberg.

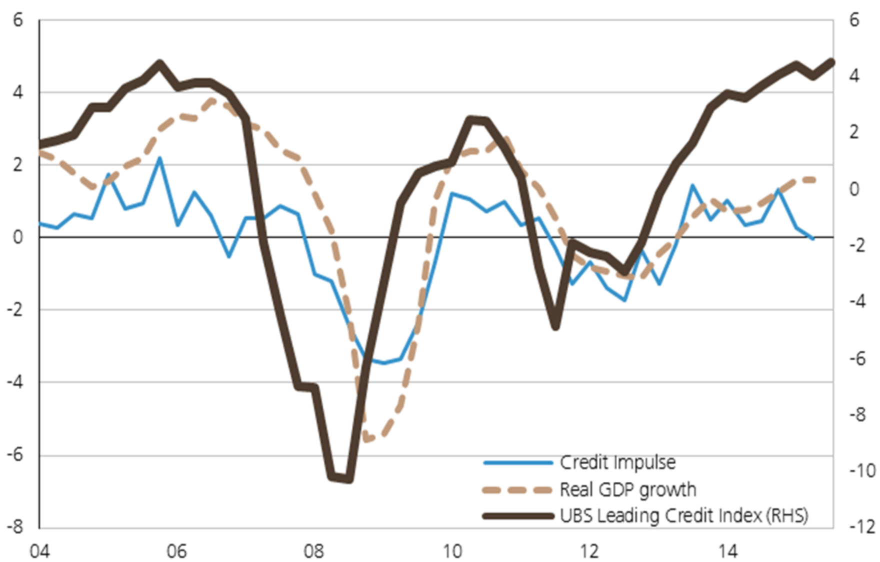
Greatest — Least

Scenario Impact on the Asset Class
(compared to impact on the asset class in other scenarios)

UBS

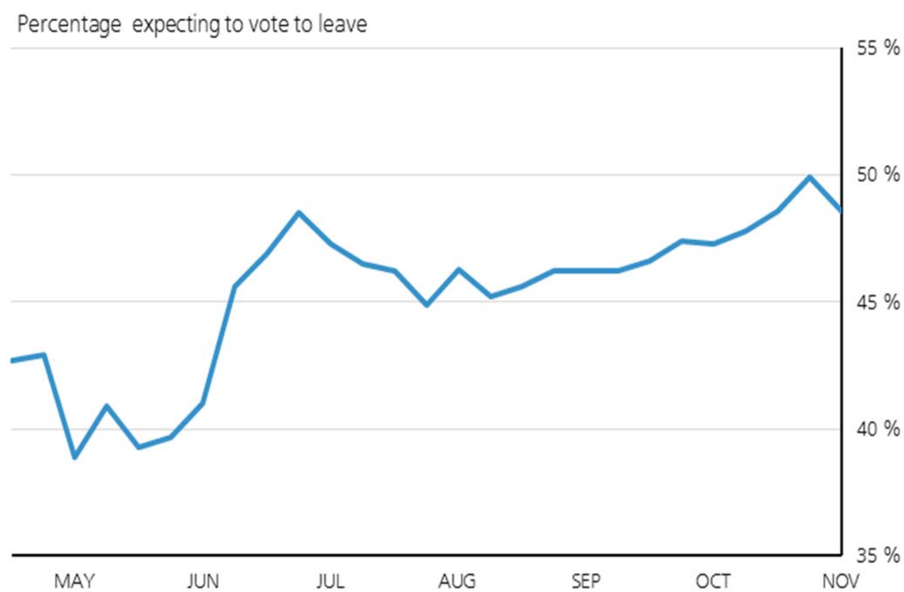
Scenario E: European Politics

ECB BLS implies easing of credit conditions



Source: UBS calculations, Bloomberg

Brexit opinion polls point to uncertainty



Source: ICM, YouGov, Survation, Ipsos MORI, ComRes, BMG. 5 poll average

Scenario E: European Politics

'Bad' political outcome leads to uncoordinated fiscal policy or nationalization-type initiatives → European fragmentation rises, promising credit & growth potential fizzles → Safe-haven assets in Europe / other core rally; hit on European equities & periphery /major trading partners

SCENARIO NARRATIVE

- This is the "vaguest" scenario. The range of possible political shocks is very wide & slow moving (more key elections only in 2017, migrant crisis in chapters); risk that can be viewed in both directions is that currently markets are hesitant to price much from bad political developments until such developments actually lead to a tangibly bad outcome (i.e., "bad" election outcome not enough; markets need to see "bad" policy from winning party/coalition for meaningful move).
- European assets should perform the worst in this scenario on a relative basis, but not necessarily on an absolute basis. It should be a generalized risk off, but not necessarily that extreme. Exact political shock matters a lot in assessing magnitudes; at the limit, European growth upside is at the limit the key marginal global activity positive for 2016, which would reverse leading to lower global equities but also lower safe haven yields. Historically, deeper European institutional reaction/advance is correlated with deep pressure points.
- Brexit vote is a significant tail risk for the UK; if "bad" outcome is realized, while UK ramifications will impact 2016, the likely EU effect will likely take longer to play out.

SIGNPOSTS

Political news & (Brexit) polls; periphery fiscal budget plan announcements; ECB announcements on bank capital adequacy in Italy

TRADES

- Long bunds combined with long 5yr UK CDS protection
- Long Bunds versus short bonds in France, Italy, Spain.
- Long GBP put vs $ (very OTM puts)

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Commodities			
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Copper, US¢/lb*	204	195	195
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Iron ore, $/t*	41	45	40

Source: UBS, Bloomberg.

Greatest Least

Scenario Impact on the Asset Class
(compared to impact on the asset class in other scenarios)

UBS

Scenario X: 'Black Sky'

All scenarios (or a combination of them) could play out, either cross-triggered or in succession.

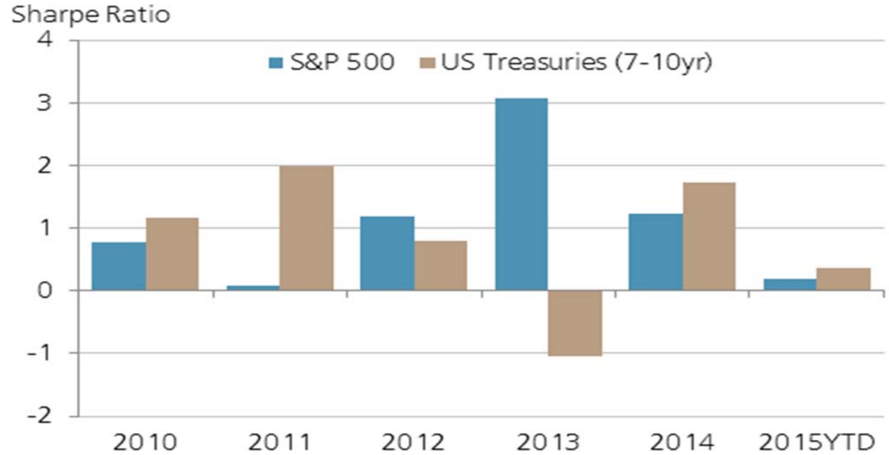
TRADES

- Long gold vs short base metals
- Long Treasuries vs short BTPs. Good risk/reward even in a non-risk scenario. In a major risk-off event, the US still has the most priced in, so anything bad likely is reflected in US rates more than Europe.
- Short EM FX. This covers pretty much all of the risk scenarios.
- Short US small cap/long US large cap
- Long 3-5y US Treasuries
- Short EM Financials outright

Appendix I: Our Base Case Market Outlook

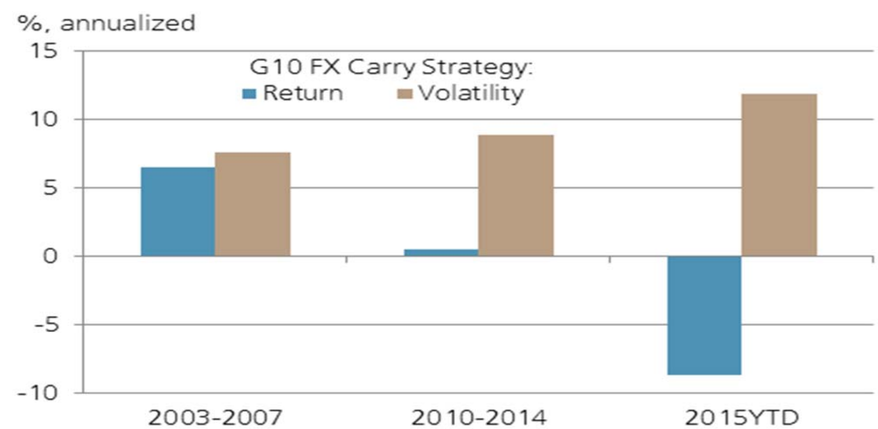
- Another year of elevated volatility seems likely amid heightened uncertainty around Fed policy and EM
- We prefer to avoid strong directional bias, and focus on a portfolio of trades that produce expected returns across a number of macro outcomes:
  - Long risk through DM equities
  - Short risk through long DM duration and short EM FX
  - Relative value macro trades, focusing on skew and valuation
- Three big ideas:
  1. Low inflation should keep yields low and monetary policy easy
  2. European growth will accelerate in 2016 as credit growth recovers
  3. Growth in China will continue to slow

Portfolios challenged by low returns, high vol



Source: Bloomberg, UBS.

With higher vol, "easy" strategies suffer



Source: Bloomberg, UBS. 2008-09 crisis period excluded.

Appendix II: A Balanced Portfolio of Top Trade Ideas

Correlation of daily changes (Jan 2014-Dec 2015)	S&P 500	2y UST yields	10y UST yields	Dollar index	Oil prices
Total Portfolio	*0.23*	*-0.21*	*-0.22*	*0.05*	*-0.04*
1. Long Eurostoxx 50, currency unhedged	0.49	0.09	0.25	-0.20	0.20
2. Sell EUR/USD put, long USD/JPY	0.46	0.42	0.46	0.18	0.12
3. Long DM FX vs. short EM FX	-0.47	-0.08	-0.09	0.23	-0.20
4. Short Bunds vs long 10-yr Treasuries	-0.28	-0.62	-0.63	-0.18	-0.11
5. Receive 5y5y AUD pay 1y1y GBP	-0.24	-0.55	-0.73	0.02	-0.14
6. Long US large cap vs. short US small cap	0.02	-0.08	-0.11	0.08	-0.04
7. Long CAD/MXN, long GBP/AUD	0.26	-0.01	-0.03	-0.19	0.01
8. Long DM financials, short EM financials	0.29	0.11	0.14	0.16	0.02

Source: UBS, Bloomberg.

- Little directional market risk:
  - Slightly positive correlation to the S&P500
  - Small negative correlation with both 2-year and 10-year US yields (long duration)
  - Little correlation with the US dollar index
  - Slightly negative correlation to WTI

- Where we could be wrong:
  - A sharp rise in core inflation
  - Slower Eurozone growth
  - Acceleration in China's growth

Valuation Method and Risk Statement

Valuation Method and Risk Statement

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12-Month Rating	**Definition**	**Coverage[1]**	**IB Services[2]**
Buy	FSR is > 6% above the MRA.	48%	36%
Neutral	FSR is between -6% and 6% of the MRA.	39%	28%
Sell	FSR is > 6% below the MRA.	12%	22%
Short-Term Rating	**Definition**	**Coverage[3]**	**IB Services[4]**
Buy	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%
Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%

Source: UBS. Rating allocations are as of 31 December 2015.
1:Percentage of companies under coverage globally within the 12-month rating category.
2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.
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KEY DEFINITIONS: Forecast Stock Return (FSR) is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months. **Market Return Assumption (MRA)** is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium). **Under Review (UR)** Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation. **Short-Term Ratings** reflect the expected near-term (up to three months) performance of the stock and do not reflect any change in the fundamental view or investment case. **Equity Price Targets** have an investment horizon of 12 months.

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UBS ranks potential investment opportunities within non-government fixed income markets and sectors.

Issuer Ratings						
	UBS Terminology	**Rating Category**[1]	**Time Horizon**	**Definition**	**Coverage**[2]	**IB Services**[3]
Credit Outlook	Positive	Buy	Up to 6 months	UBS' expected trend in a company's creditworthiness	3%	56%
	Stable	Hold			73%	46%
	Negative	Sell			24%	37%
	UBS Terminology	**Time Horizon**		**Definition**		
Credit Rating	AAA, AA, A (+/-)	Up to 12 months		UBS' assessment of a company's creditworthiness. Credit Ratings are only used in the evaluation of Swiss corporates.		
	BBB, BB, B (+/-)					
	CCC, CC, C (+/-)					
Security Recommendations						
	UBS Terminology	**Time Horizon**		**Definition**		
Bond Recommendation	Outperform	Up to 3 months		A corporate bond's expected relative performance versus a defined reference		
	Marketperform					
	Underperform					
	UBS Terminology	**Time Horizon**		**Definition**		
CDS Recommendation	Buy Protection	Up to 3 months		Recommendation to hedge a company's creditworthiness		
	Sell Protection					

Note: Bond recommendations may be defined as 'Tactical', as in Tactical Outperform or Tactical Underperform, where there is a near term catalyst(s) taken into account.
The UBS credit rating may be modified by the addition of a plus (+) or minus (-) sign where applicable to show relative standing within the major categories.
Source: UBS. Rating allocations are as of 31 December 2015.
1.To satisfy regulatory requirements, we assign Buy, Hold and Sell in our Credit Outlook ratings distribution table for our Issuer Rating system.
2.Percentage of companies under coverage globally within this rating category.
3.Percentage of companies within this rating category for which investment banking (IB) services were provided within the past 12 months.

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