16 June 2015 | **FINANCIAL ENGINEERING**

360 PERSPECTIVE

GLOBAL FLOW STRATEGY & SOLUTIONS

Trader's Viewpoint

Trader's Sound Bites: US buyers of RTY volatility; For Greece, VIX slightly bid but put buying on V2X; Buyers upside in Europe on Greece; One Fed hike in Sept or Dec; 3M oil WTI volatility slightly lower; Greece will make USD stronger. p. 2

Top Trade Ideas Across Asset Classes

Trade #1 (Equity): **Hedging Credit Risk Using the VIX** p. 3

Trade #2 (Equity): **US Airlines Up, Up and Away** p. 6

Trade Review

PnL Review of Closing Trades Since Last 360: No trades closed or expired. p.8

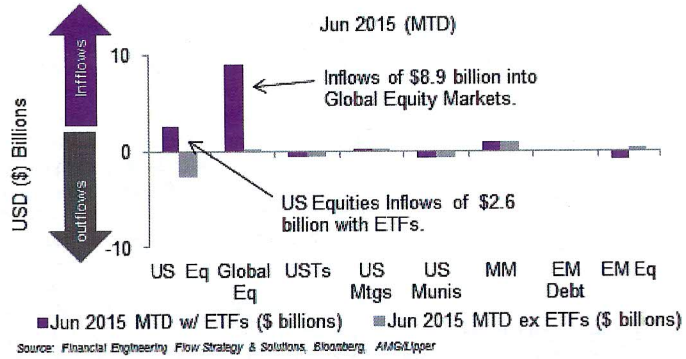
COMMENTARY

Follow the Money Cross Asset Flows

Follow the Money: p. 9

In June 2015 (MTD), we saw:

- Inflows of $8.9 billion into global equities including ETFs.
- Inflows of $2.6 billion into US equity market including ETFs.
- Inflows of $0.9 billion into MM.



The SG Cross-Asset Sentiment Barometer

Bullish Signals: Financials, Metals & Mining, REITs, MSCI EM and US Investment Grade Bonds. p. 11

Bearish Signals: Biotech, S&P 500, HealthCare, Silver and Banks.

Closed Trades

Summary of all closing trades in 2015 (YTD). p.12

BUILDING TEAM SPIRIT TOGETHER

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THE TRADER'S SOUND BITE : Flow Commentary from Across Our Trading/Sales Desks (16-Jun-15)

View from our US and European equity, rates, FX & commodity trading desks.

EQUITIES/VOLATILITY

SPX: Volatility down 20 bps annualized last week post NFP, the SPX flow is better to sell. We started to see buyers of RTY/IWM volatility as hedges with the volatility spread to SPX near recent lows.

VIX: VIX volatility was pretty well bid last week part due to market being a bit more choppy as we are approaching to Jun FOMC and Greece deadline, but more importantly due to another wave of flow to buy July and Aug upside calls in quite massive size.

Brad BELSKY & William BOUSSARD
US Index Volatility Trader & VIX Trader

SX5E: Volatility up 15 bps annualized on the day except Jun closing actually 1.2 lower, due to a lot of interests to buy June-July calendar clients rolling their upside bets into July. ***Clearly still a lot of appetite to buy the upside from July to Sep***, downside convexity being actually still under pressure with more buyers of 1/2 PR on 2M-6M bucket. Back end volatility was better offered.

V2X: ***On V2X we have seen mainly interests to buy put on first maturities in order to play the Greek resolution***. Otherwise, some buying interest and trades on the long term spread vs. VIX.

Dan COHEN & Laurent VAN HOLLEMEERSCH
SX5E Volatility Trader & VSTOXX Trader

RATES/SWAPS

US RATES: Spreads have moved a bit wider over the week as new issuance has slowed with quarter end approaching and the volatility of the markets. US data seems to be firming up. ***This is causing the likelihood of a Sep/Dec rate rise to increase.*** The market is still in oversold territory but regained some of the sell off as the Greek talks continue to stall. The CME/LCH basis has been stable this week but we have seen numerous clients switching from CME to clear LCH in order to improve their liquidity, CME liquidity remains extremely poor.

Florent AJAS
US Rate Trading

FX

FX: US data appears to have turned the proverbial corner but the sprinkling has yet to be interpreted as a bona fide trend.

- ***The Greek drama appears to be turning decidedly more vitriolic, hopefully signaling an end to the impasse. The FX market has sputtered along in low gear, dotted with periodic political tensions leading only idiosyncratic charges*** (see Turkey).
- The theme of a stronger dollar has been thwarted as much by the Greek tension as by the realization that the US has little interest in providing a backstop for global competitive devaluations.
- Convergent forces have forced ranges to begin to narrow, putting downward pressure on implied volatilities in many pairs, save the Euro, where Greek default hedges were quite commonly requested by corporate clients and Hedge funds alike.
- The market still holding on to the thought that the dollar will still reign supreme, but it may take some time realize.
- Downside side Euro structures are quite common, particularly those with knock-out structures which cheapen the upfront costs.

Jean-Luc HELSON
FX Sales/Trading

COMMODITIES

OIL VOLATILITY: With the flat price moving slightly higher on crude, short term volatility was rather offered in a low volume environment. ***3M Volatility was down over -1% while 1Y was rather bid gaining nearly +1% driven by some producer trade on Brent.*** Smile wise, puts were bid on the entire term structure with a special focus from funds on the low delta DEC16 WTI.

Cyril CANAS
Oil Volatility Trading

TRADE IDEA #1: HEDGING CREDIT RISK USING THE VIX (1 of 3)

RATIONALE:

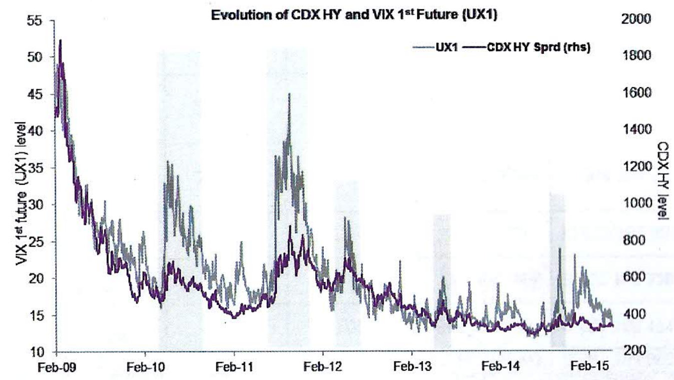
- ***Secondary trading liquidity continues to be relatively poor in the US corporate credit markets***, combined with a generally low degree of short interest in the market, there is some concern about gap risk in single name credit instruments
- In light of the poor secondary market liquidity, ***CDX HY & IG and VIX indices have become increasingly relevant as a way to gain long exposure to the market and hedging portfolios.***
- ***Here, we provide CDX HY & CDX IG payers and VIX options implementations with the aim of hedging credit portfolios...***
- Despite elevated primary issuance over the past few years, ***secondary trading liquidity continues to be relatively poor*** and spotty driven by lower dealer inventories and risk appetite, a reduction in the number of active trading credit accounts (fewer bank prop desks and credit hedge funds), and a buy and hold mentality driven by a six year rally where it has paid to buy every dip (at least in part the result of ultra-supportive monetary policy).
- Given these conditions, combined with a generally ***low degree of short interest in the market, there is some concern about gap risk*** in single name credit instruments, which may have been previewed in the high yield oil and gas sector in Q4 14 and Q1 15.
- In light of poor secondary market liquidity diversified credit instruments, such as credit ETFs among retail investors, and High Yield CDX and VIX structures among institutional investors, have become increasingly relevant as a way to gain long exposure to the market quickly as way to hedge long exposure.

Source: SG HY & bank loan Strategy, Flow Strategy & Solutions

MARKET PARAMETERS

- **Figure 1** shows the Credit HY and VIX indices during market stress and how they generally are correlated during these events.
- **Table 1** shows the correction in the equity and credit markets and how other asset classes reacted.

Figure 1: Credit HY and VIX Indices During Market Stress (Feb 2009 to Jun 2015)



Source: SG Flow Strategy & Solutions, Bloomberg, LP

Table 1: Many Corrections in Equity/Credit Markets (Mar 2005 to May 2015)

Max Drawdown during the periods when credit spreads widened

Period		CDX IG Sprd chg (bps)	CDX HY Sprd chg (bps)	VIX chg (pts)	VIX 1st Fut chg (pts)	Typical Risk-Off Asset: Gold	JPY	CHF	TLT (20y+ Tr)	Equity Indexes: S&P 500	Rus 2000	MSCI EAFE	MSCI EM
Mar-05	May-05	31		6.4	2.1	-4%	4%	-5%	8%	-5%	-7%	-5%	-5%
Jun-07	Jul-07	22		6.0	3.8	7%	3%	4%	5%	-3%	-5%	6%	-3%
Sep-07	Nov-07	33		15.0	10.6	15%	7%	6%	6%	-8%	-9%	-6%	0%
Dec-07	Mar-08	116		10.4	6.2	20%	13%	14%	3%	-14%	-17%	-15%	-17%
May-08	Dec-08	179		63.0	46.9	-27%	27%	-18%	41%	-46%	-50%	-52%	-63%
Apr-10	May-10	46	205	30.2	18.9	11%	5%	-9%	13%	-12%	-14%	-17%	-16%
Jul-11	Aug-11	36	281	32.1	19.8	24%	6%	17%	19%	-17%	-24%	-16%	-17%
May-12	Jun-12	27	107	7.8	8.4	-6%	3%	-5%	10%	-7%	-7%	-11%	-12%
Sep-12	Nov-12	28	127	5.2	2.8	-6%	-5%	4%	7%	-8%	-11%	-6%	-4%
Apr-13	Jul-13	29	140	8.0	6.5	-19%	10%	6%	-13%	-6%	-2%	-10%	-17%
Sep-14	Oct-14	18	76	14.2	9.9	-6%	-6%	-4%	9%	-7%	-10%	-10%	-9%
Mar-15	May-15	5	32	2.7	0.7	-2%	0%	-4%	-4%	-1%	-1%	1%	4%
Average		69%	36%	18.0	12.3	1%	6%	1%	10%	-12%	-14%	-13%	-15%
Median		56%	35%	10.4	8.4	-4%	5%	4%	8%	-8%	-10%	-10%	-12%
% of times up		100%	100%	100%	100%	45%	82%	55%	91%	0%	0%	9%	0%
% of times Down		0%	0%	0%	0%	55%	18%	45%	9%	100%	100%	91%	91%

Source: SG Flow Strategy & Solutions

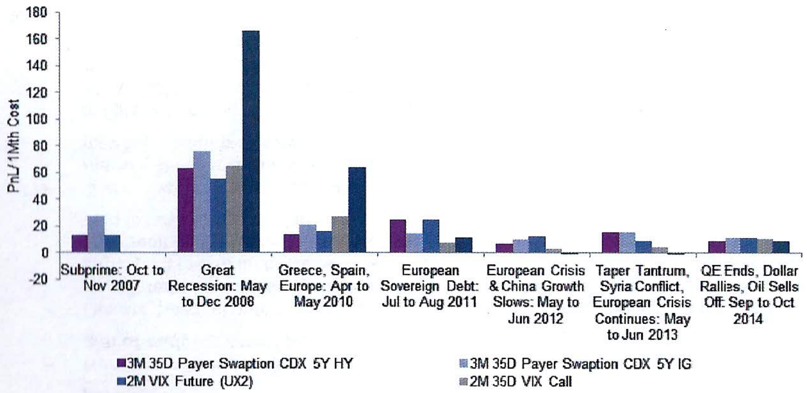
Taper Tantrum & US Rates Hikes

TRADE IDEA #1: HEDGING CREDIT RISK USING THE VIX (2 of 3)

MAKRET PARAMETERS:

- **Figure 3** shows that the liquidity in VIX futures and options has historically increased in periods of stress.
- **Figure 4** shows the hedges performance (PnL) during the last 7 credit events normalized by their initial cost. We take from the beginning of the credit events to the peak of the credit widening (more than 20%) to determine the PnL over that period. We can see the VIX 1 by 2 in 2008 as well as VIX Futures and 2M 35 delta VIX call did as well as the 3M 35 delta payer swaption on the 5Y CDX HY.
- **Table 2** shows how to size the trade for $100 in PnL. The figure shows the number of contracts, futures or notional to generate $100 Million in PnL for each credit event except for those highlighted where PnL is dropped to $50 Million due to liquidity constraints mostly in the high yield index (5Y CDX HY).

Figure 4: PnL of Each Strategy Normalized by Initial Cost Across Seven Credit Events (Mar 2007 to May 2015)



Source: SG Flow Strategy & Solutions, Bloomberg LP. Note the VIX 1 by 2 uses a 2M 45D option + 5 pts.

Figure 3: VIX Future & Option Avg. Daily Volume vs. Spot (Mar 2006 to May 2015)

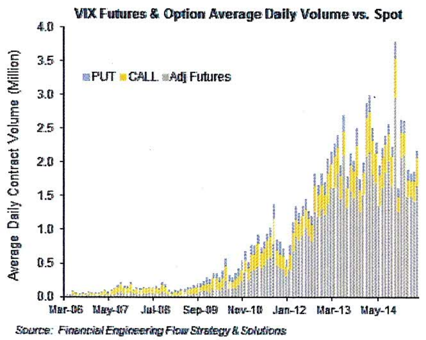


Table 2: Calculation of Number of Contracts, Futures or Notional to Generate $100 Million in PnL for Each Strategy except for those Highlighted below where PnL is dropped to $50 Million (2008 to 2010)

Credit Events	2M 35D VIX Call	2M VIX Future (UX2)	3M 35D Payer Swaption CDX 5Y HY	3M 35D Payer Swaption CDX 5Y IG	2M VIX 1 x 2
	Number of VIX Contracts	Number of VIX Futures	Notional	Notional	Number of Contracts
Subprime: Oct to Nov 2007	-	14,045	3,340,013,360	6,341,154,090	-
Great Recession: May to Dec 2008	15,572	3,070	558,846,541	2,123,165,171	46,512
Greece, Spain, Europe: Apr to May 2010	37,823	10,870	1,605,651,895	8,768,109,329	158,983
European Sovereign Debt: Jul to Aug 2011	140,735	7,042	783,208,020	13,633,782,882	917,431
European Crisis & China Growth Slows: May to Jun 2012	375,783	14,286	4,051,863,857	22,208,754,327	-5,882,353
Taper Tantrum, Syria Conflict, European Crisis Continues: May to Jun 2013	225,282	20,833	1,324,854,266	12,704,504,443	-4,761,905
QE Ends, Dollar Rallies, Oil Sells Off: Sep to Oct 2014	93,799	15,267	2,834,467,120	18,329,589,552	1,250,000

Source: SG Flow Strategy & Solutions, Bloomberg LP. Note: VIX Futures Contracts have a 1000 multiplier, and VIX Opiton Contracts have a 100 multiplier. Also the VIX 1 by 2 uses a 2M 45D option + 5 pts.

TRADE IDEA #1: HEDGING CREDIT RISK USING THE VIX (3 of 3)

TRADE IMPLEMENTATIONS:

- **Table 2** shows the output of the VIX monitor to identify the right trading opportunity.
- **VIX Upside Strategies** – a trade-off between high upside payoff and low carry cost
  - Outright near term VIX Call could be expensive
  - To minimize the carry cost, we usually consider the following 4 strategies as effective cheap tail hedge. Depending on the spot level, Futures terms structure, VIX volatility skew, the optimal strategy could vary.
- **Long 16-Sep15 VIX 27 call for $0.80** (Sep-15 VIX futures at 16.9). 1Mth carry cost of $0.25.
- **Long VIX Jul-15 17/24 call spread for $0.73** (Jul-15 VIX futures at 15.4). 1 Mth carry is $0.60. Historical min premium has been $0.57.
- **Long VIX Calendar Call Spread: Sell Jul-15 17 VIX call and buy VIX Sep-15 24 call for $0.15** (Jul-15 VIX futures at 15.4 and Sep-15 VIX futures at 16.9).

Table 2: Optimal Tail Risk Hedge Depends on Market Conditions Using our VIX Monitor (Jun 2015)

VIX HEDGING STRATEGY COMPARISON

VIX Ref 6/10/15 Spot	13.2	Jun15	13.9	Jul15	15.4	Aug15	16.2	Sep15	16.9
	Mat1	Mat2	Strikes	Initial Premium	Holding # of Mths	1M est. Carry Cost *	Initial Delta	Hist Premium** Median	Min
Long Call Spread	Jul-15		17/24	$ 0.73	0.9	$ 0.60	26%	$ 1.07	$ 0.57
Long VIX Call Fly	Jul-15		17/24/29	$ 0.60	1.4	$ 0.50	20%	$ 0.75	$ 0.40
Long Call Calendar	Jul-15	Sep-15	17/24	$ 0.15	0.4	$ 0.75	15%	$ 0.41	$ (0.14)
Long Calendar Strangle	Jul-15	Sep-15	P15/C20	$ 2.75	0.9	$ 0.20	0%	$ 3.99	$ 0.40
Short 1x2 Call Spread	Sep-15		20/25	$ 0.43	2.3	$ 0.30	11%	$ 0.60	$ (0.09)
Short Straddle(strangle) & long 2x Call	Sep-15		15/16/2xC20	$ (0.45)	2.3	$ 0.20	46%	$ (1.65)	$ (9.32)
Long Medium Call	Sep-15		27	$ 0.80	2.3	$ 0.25	21%	$ 1.00	$ 0.40

** Est. 1M cost/(credit) is estimated with current term structure and vol surface*

** Hold until 1M prior to expiry except for Call Fly (hold to expiry) and Calendar strangle (unwind 1-2 wks before expiry)*

*** History premium is based on the cost of similar structure since June 2008*

Source: SG Flow Strategy & Solutions, Bloomberg, LP

TRADE IDEA #2: US AIRLINES UP, UP AND AWAY (1 of 2)

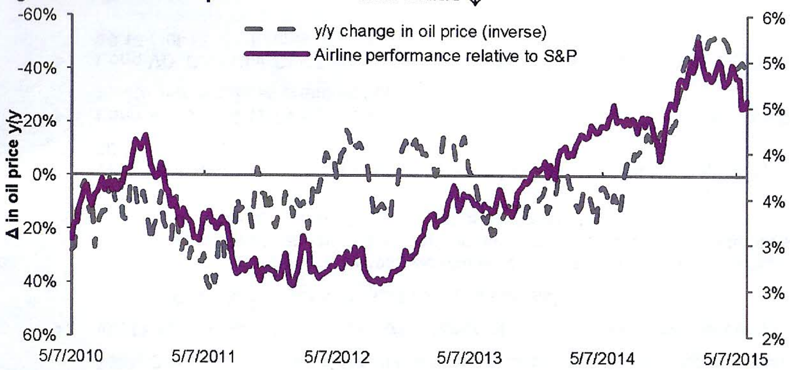
RATIONALE & MARKET PARAMETERS:

Airlines are amongst the biggest beneficiaries of lower oil prices. To illustrate the benefit of lower oil; the major airlines in the US savings on lower jet fuel costs amounted to $3bl in Q1, equal to 22% of profit. Airlines have underperformed recently on fears of overcapacity.

While capacity in some routes is set increase in coming months, we expect that US airlines will continue to benefit from:

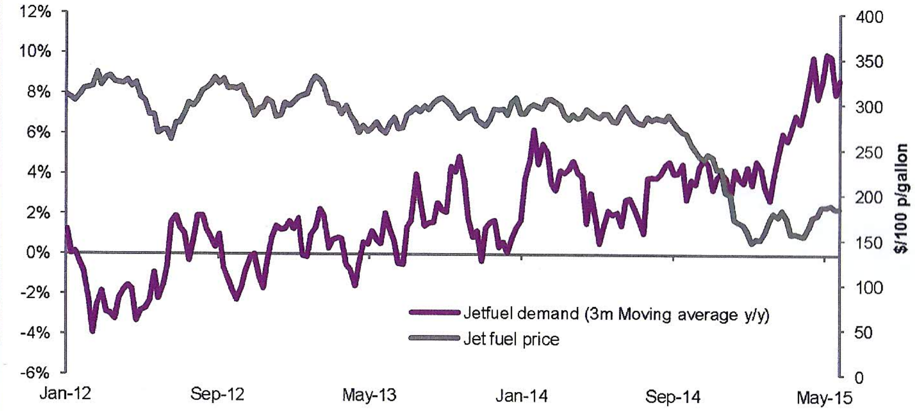
- Lower jet fuel prices
- Robust growth (**Figure 1**)
- Modest capacity growth domestically (legacy carriers +0.7% ytd)
- 40% lower jet fuel prices y/y (**Figure 2**)
- Q3 is peak travel season for airlines
- Exceptionally low valuations (EV/EBITDA ~4x vs. 10x for S&P)
- $3bl of buybacks per quarter

Figure 1: Airlines Outperform S&P when Crude ↓



Source: SG Flow Strategy & Solutions, Bloomberg LP

Figure 2: Domestic Airlines Growth Robust | Jet fuel prices -40% y/y



Source: SG Flow Strategy & Solutions, Bloomberg LP

TRADE IMPLEMENTATIONS

We prefer legacy carriers (DAL, AAL, UAL) as they have minimal hedging of jet fuel prices, which maximizes their leverage to lower oil prices

- Buy SGAIRLNS 1mL: 1month LIBOR + 45bps (find on Bloomberg under **SGOD -> Thematic Baskets ->Americas)**

Options: Taking advantage of elevated volatility, skew to the downside, and flat skew to the upside. Sell puts to buy call spreads:

- AAL Aug 35/45/50 call spread collar for a .05 credit, ref $40.33 35^, potential payout of $5.05 (above 50) with an 11% buffer to the downside
- UAL Sep 46/55/60 call spread collar for a .15 credit, ref $52.58 40^, payout of $5.15 with a 12.5 % buffer to the downside DAL Sep 36/44/48 call spread collar for a .15 credit, ref $40.72 40^, payout of $4.15 with a 12% buffer to the downside **Table 1 and Figure 4: Companies with Highest Buyback Yield as end Q1 in 2015.**

TRADE IDEA #2: US AIRLINES UP, UP AND AWAY (2 of 2)

Table 1: Domestic Airliners And Their Sensitivity To Oil Price | Valuation and Implied Vol.

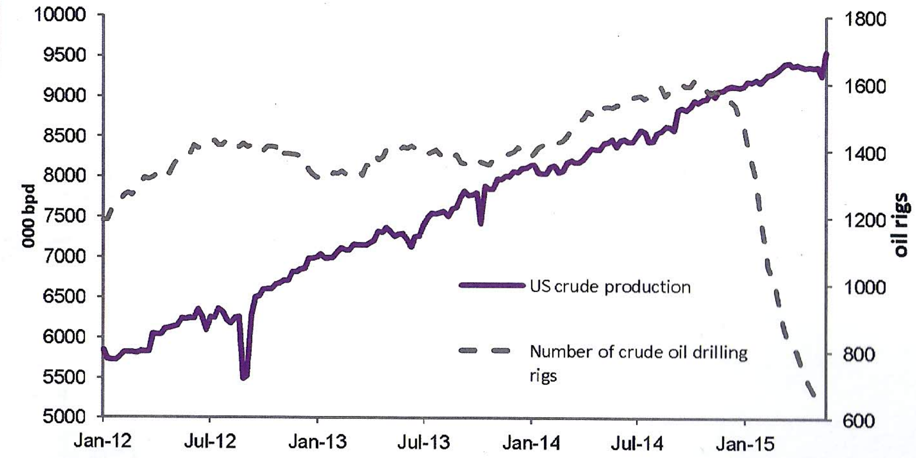
Low fuel hedging maximizes leverage to declining crude price

Airline	Symbol	EV/EBITDA 2015	2015 % fuel hedged	2016 % of fuel hedged	Fuel exp % total exp	Δ y/y operating expenses Q1	Implied vol	Skew 1Y %ile
Delta	DAL	4.6	14%	29%	23%	-4%	40%	57%
American	AAL	4	0%	0%	22%	-7%	31%	60%
United	UAL	3.8	15%	1%	24%	-13%	12%	31%
Southwest	LUV	4.8	25%	35%	12%	-8%	59%	81%
Jetblue	JBLU	4.6	15%	0%	13%	10%	47%	76%
Alaska	ALK	4.7	47%	15%	23%	-5%	45%	69%
Spirit	SAVE	5.5	38%	20%	29%	2%	51%	44%
Hawaii	HA	3.7	50%	0%	24%	-12%	71%	26%

Decline in op. expenses vs. Q1 '14 due to oil price!

Source: Companies 10Ks, Bloomberg LP

Figure 3: US Crude Production Undeterred Despite Rig Count Cuts



Source: SG Flow Strategy & Solutions, Baker Hughes Inc. EIA

APPENDIX

Why oil could resume its sell-off, based on demand/supply dynamics and dollar rebound

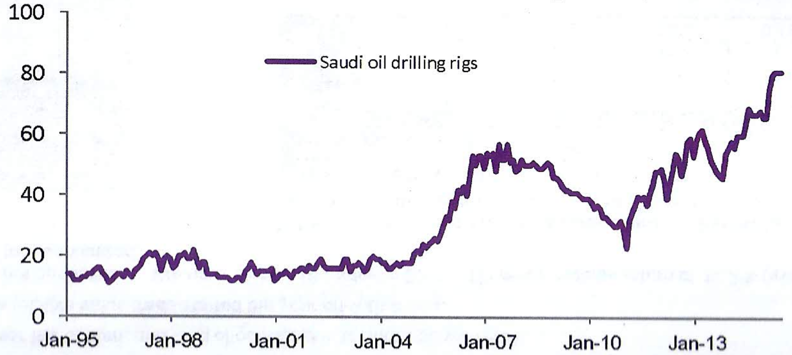
- A pickup in economic data on inflation and growth could pull rate hike expectations forward (from current Dec) and fuel a further backup in US rates. The dollar would resume its rally, and in response crude sells off. As we move closer towards the end of Q2, in which growth is still expected to be meagre (+1.1% q/q).

Oil market fundamentals remain feeble

- Fundamentals in the oil market have improved little from the massive supply/demand imbalance late last year. OPEC has kept production at current levels in Friday's meeting. A potential nuclear agreement between Iran and the P5+1, possibly this summer, could add additional oil supply to an already well supplied market. Lastly, Production growth of the two largest oil suppliers; Saudi Arabia and the US, is undeterred despite lower prices (**Figure 3**).

SG oil analyst Michael Wittner outlook for oil: https://goo.gl/KQZL4k

Figure 4: Buybacks per sector in Q1 -> S&P companies bought back $143bl of stock in Q1.



Source: Bloomberg, SG Flow Strategy & Solutions, Baker Hughes Inc.