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AND DEVELOPMENT**

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Oil Markets Transparency

by

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The views expressed are those of the author and do not necessarily reflect the views of
UNCTAD.



Oil Markets Transparency

9 April 2014, UNCTAD Geneva

Global Macro- Commodities

Dr. Abhishek Deshpande

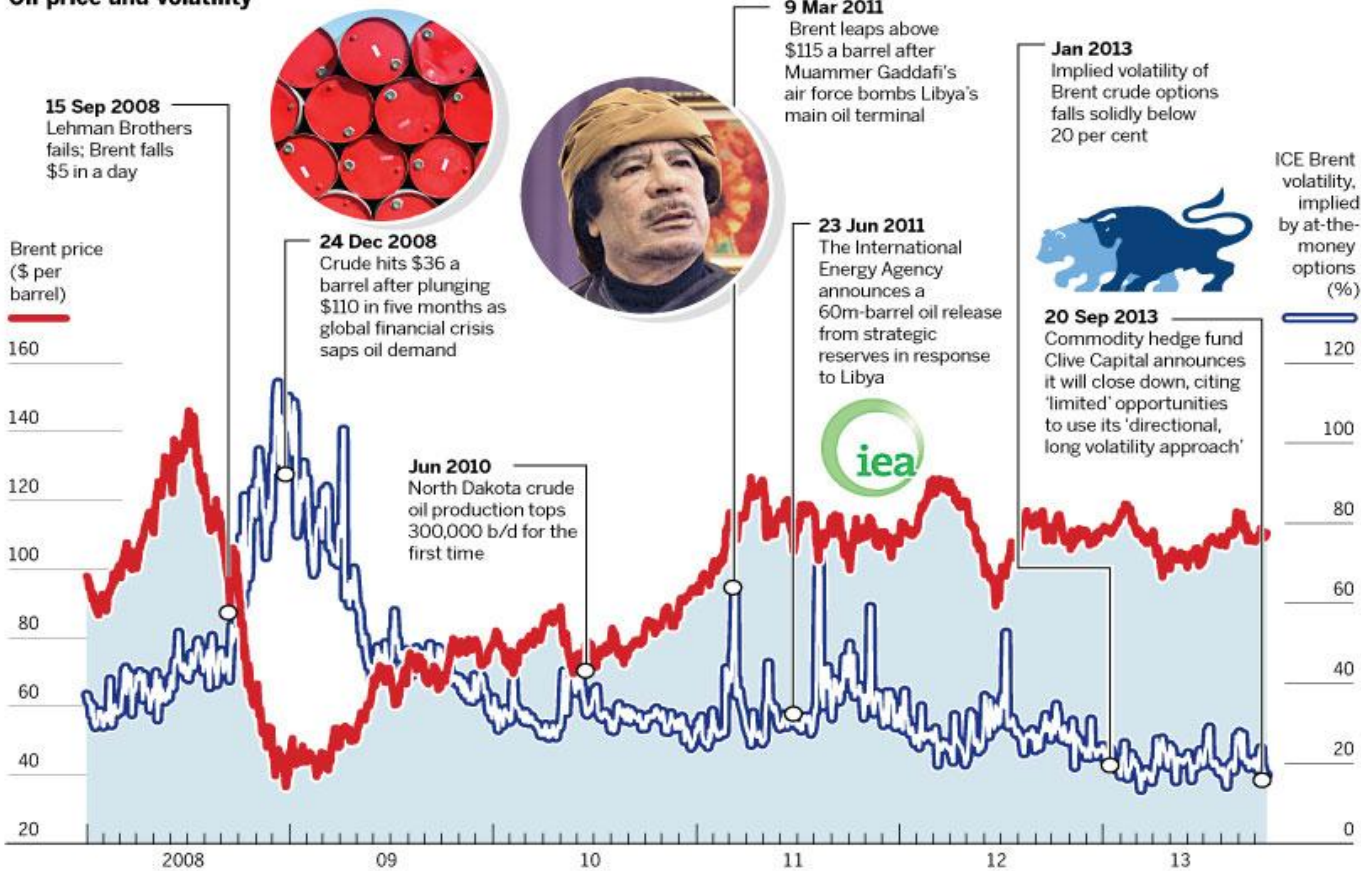
(abhishek.deshpande@uk.natixis.com)

Overview

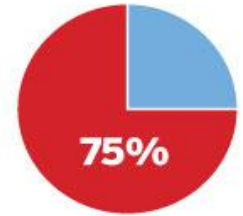
- **Drivers of oil price**
- **Volatility in oil markets: causes and impact**
- **Need for transparency and how to achieve it**
- **Regulations, policies and their impact on oil markets**
- **Summary**
- **Natixis oil price outlook-2014**

What is driving oil prices?

Oil price and volatility

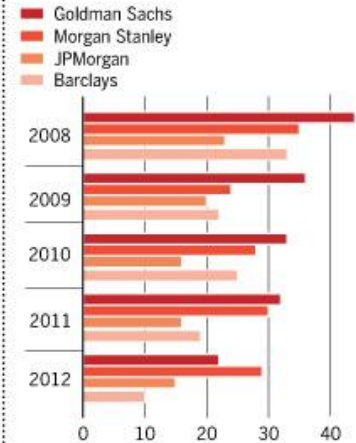


Percentage of months in which Brent has touched \$110 a barrel over the past year



Banks are more cautious

Commodity price average value at risk (\$m)



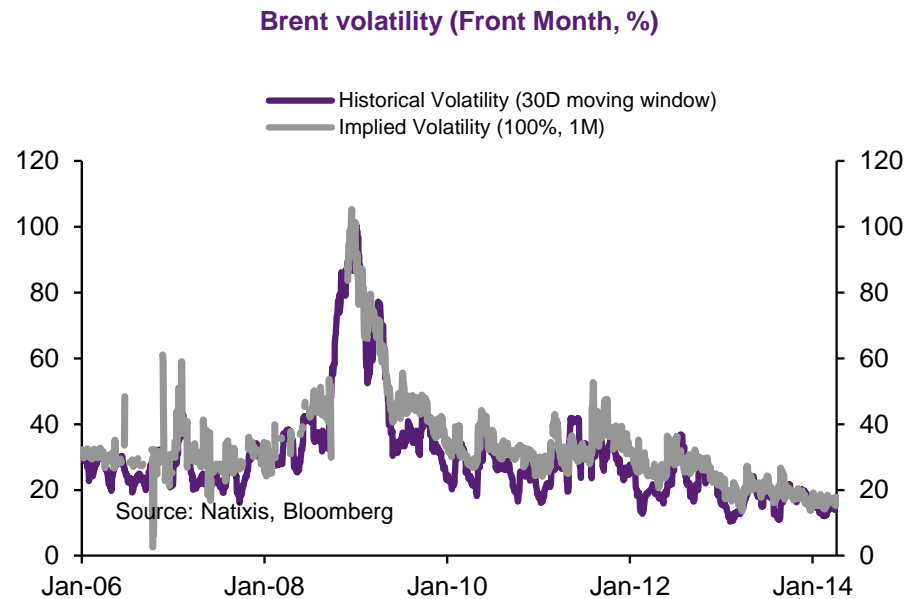
Source: Bloomberg

Sources: FT

Price Volatility: causes and impact

Volatility is the measure of risk or uncertainty in financial markets

- **Historical Volatility (variation in past data)**
- **Implied Volatility (derived from market price of a derivative)**



Price Volatility: causes and impact

Causes:

- Lack of information and market transparency affects perceived demand
- Technical shocks to fundamentals (Supply, Demand, Stocks)-pipeline outages, oil storage theft, OPEC overcapacities
- Weather example: high demand due to polar vortex
- Geopolitical risks
- Financial market players (speculation)
- Macroeconomics such as US government policies on QE impacting dollar

Impact:

- Sub-optimal growth/GDP (prices, inflation, current account deficits for developing countries)
- High vulnerability of developing countries (DC) to commodity price instability comes from combination of: a) a large share of exports earnings is drawn from commodities, b) a significant share of imports bill consists in food and oil products, c) a large share of public revenues relies on external trade (tariffs and VAT on imports).
- In a poor economic environment even developed economies can suffer for instance high oil prices are a curse to Europe's dying refineries

Hence the reason for oil markets transparency..

- **Improved market transparency and data availability can promote an efficient supply response on commodity markets in line with realistic expectations on the future evolution of supply-demand balances**
- **Equally, tighter regulations in financial markets can lead to a more transparent price discovery mechanism and reduced speculation *but can also impact liquidity***

Transparency in oil markets can be achieved

- **Via Fundamental data transparency**
- **Via Financial markets transparency**

Physical Data Transparency

- **Compared to other commodity markets such as natural gas or base metals, oil markets have many official data providers including IEA, OPEC, EIA and JODI**
- **Today we have fairly transparent data available on the supply, demand and stocks which was not available a decade ago**
- **More external organisations like IHS CERA, PIRA, Genscape are able to capture data through on-the-ground analysis, modeling and using technology such as Infra-red and viscosity/flow meters on pipelines and storage (Genscape).**

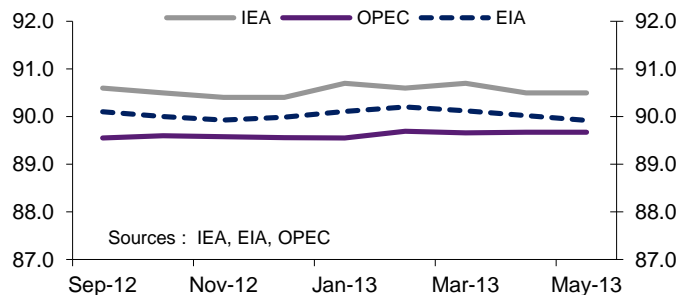
However data transparency and harmonisation is still far from ideal....

- **Comparing IEA data and OPEC data can be challenging because of the different ways in which the two organisations define, calculate, categorise or present data (historical or forecasts)**
- **Different treatment of biofuels complicates any comparison of IEA and OPEC regional non-OPEC supply outlooks. While OPEC includes biofuels in each region's total liquids supply, the IEA instead accounts for biofuels separately.**
- **The IEA and OPEC define bunker fuels differently, which makes it impossible to compare bunker and aviation fuels. While the IEA reports international marine and aviation fuel as a distinct "bunker" group (not attributable to any country or region), OPEC includes bunker and aviation fuel in each region's oil demand, just as it does with biofuels. OPEC does not differentiate between international and domestic aviation fuels.**

However data transparency and harmonisation is still far from ideal....

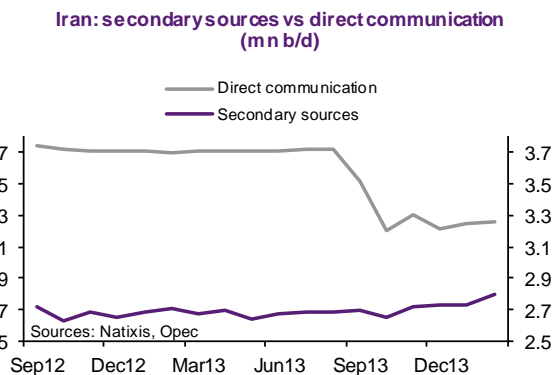
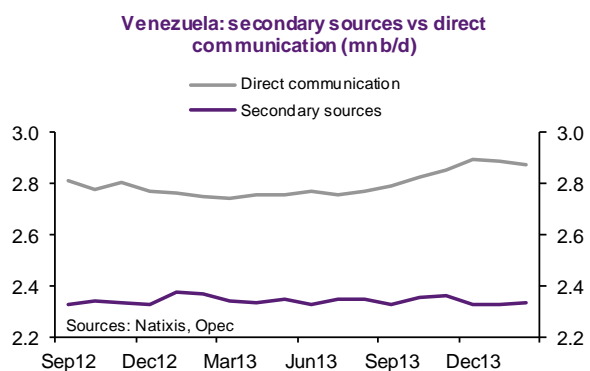
- Divergence between past figures can contribute towards divergence in future outlooks
- For example, comparing November 2013 monthly reports from both the IEA and OPEC, the IEA's calculation of 2012 global liquids demand was 1.1mn b/d higher than that of OPEC (particularly stemming from differences over perceived 2012 demand from Africa and non-OECD Asia excluding China), and the IEA's 2012 figures for global liquids supply were 1.3mn b/d higher than OPEC's (linked to unconventional and OPEC NGLs).

Monthly estimates of 2013 average daily oil demand (mn b/d)



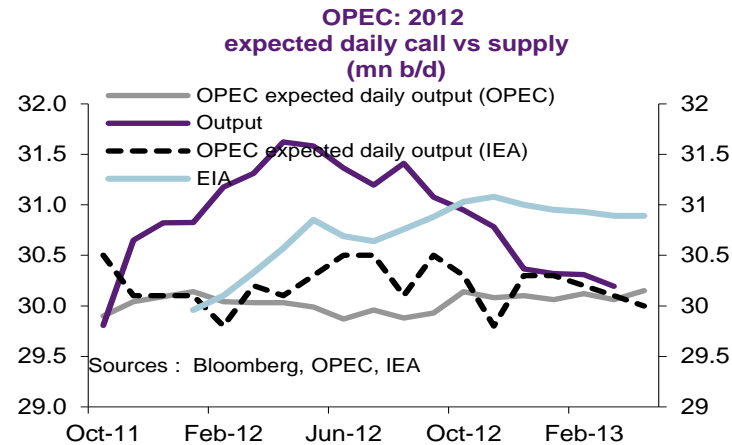
However data transparency and harmonisation is still far from ideal....

- Equally distortions between the two sources (primary or official and secondary or unofficial) for OPEC output further exacerbates potential uncertainty over the demand supply balance



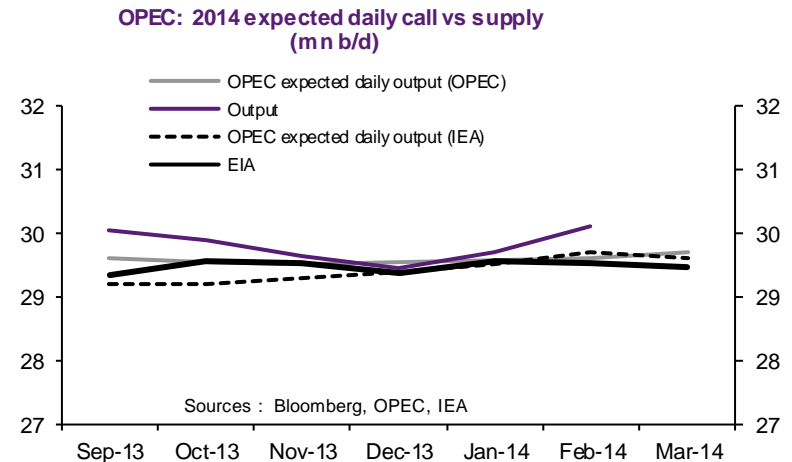
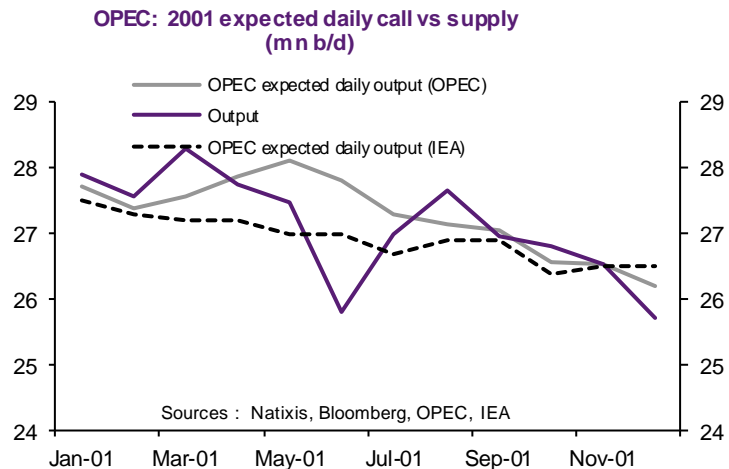
Impact on Call-on-OPEC

- **OPEC output is based on call-on-OPEC expectations that can vary significantly between different organisations, increased difference observed during political instability/crisis**



JODI Initiative

- With the efforts of JODI, there are more sources of oil data available today than ever before
- However it still lacks harmonisation and clarity. IEF along with OPEC and IEA have been trying to converge these differences, but for now we do see some difference in the data that is available and differences will persist given the differing political inclinations of the IEA (consumers) and OPEC (producers)

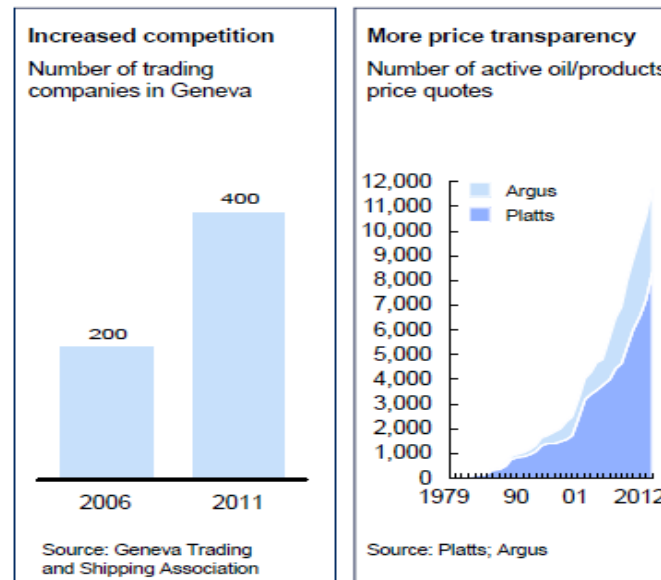


Financial Markets Transparency

- **Transparency in oil price discovery**
- **New regulations in physical and financial commodity markets**

Transparency in Financial Markets

- Most physical oil trade is in OTC market, non-Public, deals between oil producers, traders and refiners. Oil prices are hence not directly visible, but are assessed by PRAs shortly at the end of trading day.
- In the recent past, liquidity has increased in the Platts pricing window with more players giving quotes for Brent prices



Source: McKinsey & Co.

Case Study: Platts Manipulation in 2013

Pricing Games

The European Union is investigating whether energy traders manipulate prices of oil and other fuels for their own financial benefit. This is how one trader says he could try to push down a leading oil-price benchmark in advance of making a big purchase.



The trader needs to buy 80,000 metric tons of fuel oil.



The Platts benchmark price of fuel oil at the time is \$500 per metric ton.

But is it really that simple?!?

Prior to the purchase, he offers to sell a smaller quantity at \$495 per ton, or \$5 below market rate.



The trader reports his \$495 offer to Platts, which determines benchmarks using pricing information collected from traders via phone or instant message.

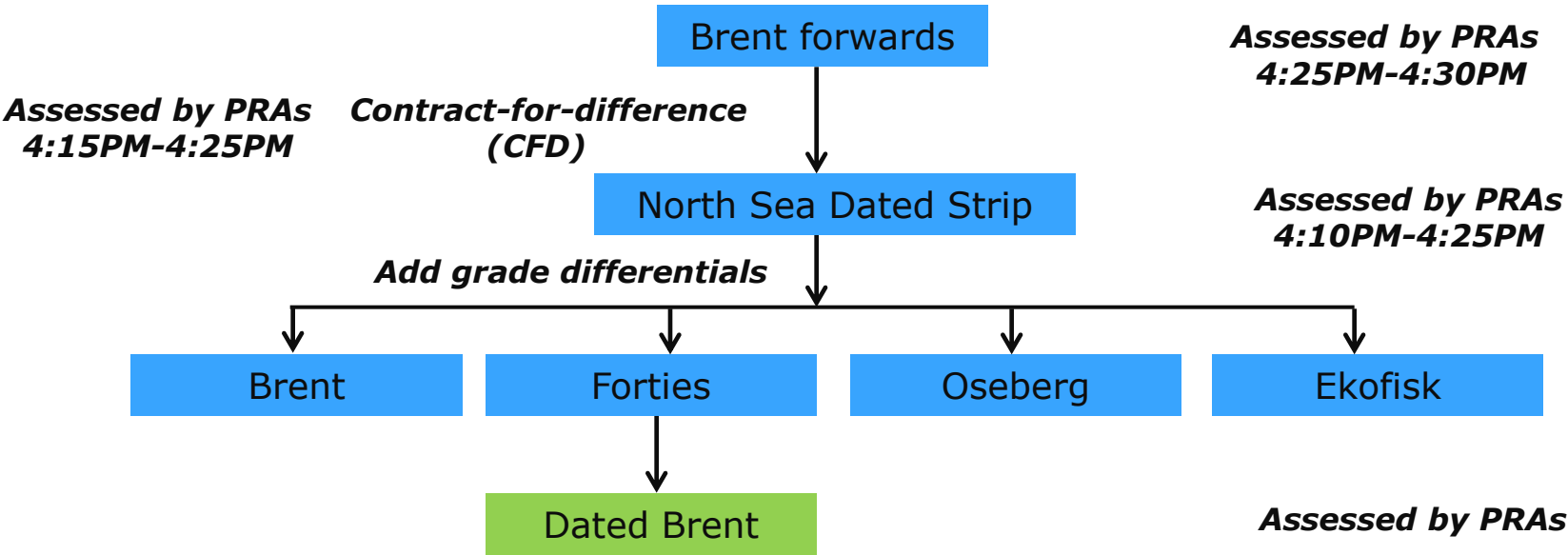


If the \$495 offer helps drive down the benchmark by \$3 a ton, the trader would save \$240,000 on his 80,000 ton purchase.

The Wall Street Journal

Source: Wall Street Journal

Brent Pricing Methodology: Platts



Brent Pricing Methodology: Platts

Platts comes up with its benchmarks after collecting information from traders via phone or instant message or E-window depending on products, focusing mostly on trades during the last 30 to 45 minutes of the trading day. Most of the swaps are collected on e-window except cargoes of oil and some oil products.

According to Platts, “any data submitted for consideration must be firm and verifiable, identified by company name, must be executable and in line with the market, must move incrementally, must be repeatable and must be open to the market for testing”. Platts disregards reported prices if it appears they are being used to manipulate a benchmark.

Platts says it carefully monitors thinly traded markets and comes up with prices using various data points.

Although it's not the most perfect platform, it is still evolving and has definitely offered more transparency than we previously had.

New Policies and Regulations

Regulation	Main Regulatory Changes	Impact on Commodity traders
Basel III (world wide) -Scope: Bank companies -Full effect: 2018 -Transition: from 2013	Deleveraging of banks balance sheets given new requirements -Maximum leverage ratio -Minimum target capital -Minimum liquidity ratio -Credit-valuation adjustments	Tightening access to financing as banks lower trade-finance exposures -Less availability of letters of credits, especially for higher-risk counterparties -Difficulty to raise syndicated loans -Higher costs across all trade-finance products
Dodd-Frank Act (US) -Scope: swap dealers -In effect from: July 2010 -In effect from : July 2010 EMIR (EU) -Scope: all derivative trading -In effect from: 2013 MiFID II (EU) -Scope: banks, financial institutions -In effect from: 2014/2015 earliest	Stronger regulation of OTC derivatives -Central clearing and reporting -Capital and margin requirement - Reporting to central trade repository -Daily mark-to-market/collateral needs -Trading on organised trading venues -Position limits-More regulatory oversight/intervention	Increasing complexity and cost intensity of trading operating model -Systems and processes upgrades given new reporting requirements -Increased working-capital needs (clearing fees, margin, collateral) -Compliance upgrades (tracking trading thresholds, position limits etc.)
Volcker Rule (US) Scope: banks, financial institutions In effect from: July 2010 Implementation from: 2014	Limits to banks' trading activities -Ban of proprietary (financial, physical) Potential limits to banks' ownerships/control of physical trading assets (e.g.storage)	Changes to competitive set as banks exit/spin off commodity trading -Less market making, less hedging tools -Proprietary trader leaving banks to join hedge funds

New Policies and Regulations

Regulation	Main Regulatory Changes	Impact on Commodity traders
Fed (US) -Reviewing landmark 2003 rule	Three possibilities floated by Fed: -Enhanced capital requirements; -Increased insurance requirements; -Caps on the amount of assets and revenue attributable to physical commodities trading activities, which could be expressed as either absolute dollar limits or percentages of banks' regulatory capital or revenue	Banks exiting commodities physical business
IOSCO (Global) Scope: PRA and other financial benchmarks (e.g. Oil, LIBOR) -In effect from: 2014?	The IOSCO principles include -Transparency in methodology -Priority to concluded transaction for the assessment price -Documentation and retention for 5 years of any information used to make an assessment price -Increase in internal controls with an annual external audit	PRAs have suspended work on IPRO code as having two codes will be confusing to the market place -Since provision of data is voluntary, companies might be disincentivised to report prices
European Commission Scope: Benchmarks In effect from: 2015	Full transparency in the benchmark methodology -With access to both the data and the methodology, investors and regulators would be able to replicate or back test the benchmark in order to assess its accuracy -Mandatory requirement to contribute data to "critical" benchmarks	Trading centres could shift elsewhere globally (Platts) Buyers and sellers would refuse to give data

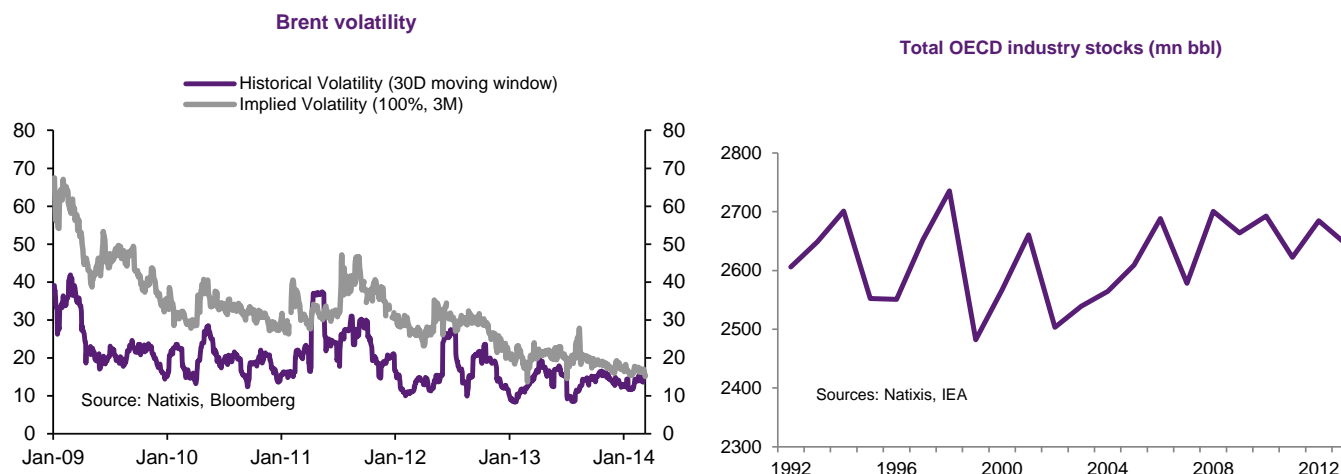
Impact of Regulations on Institutions

- **Increased transparency as a push to using clearing houses instead of OTC to settle derivatives contracts such as swaps**
- **New policies could increase market transparency but also be detrimental to market players**
- **Increased costs as minimum capital and margin requirements are imposed upon anybody trading commodity derivatives**
- **Higher capital requirements have also led several banks to retreat from commodities trading**
- **Banks exodus can impact liquidity and bid-offer spreads**
- **Firm may not take part in pricing mechanism and trading firms would perhaps exit EU to avenues where there are better tax regulations and opaqueness than they seek?**
- **Commodity trading firms acting in place of banks to lend money to oil clients to finance expansion projects (Vitol, Glencore Trafigura lent \$11.5bn to Rosneft)**

So what's happened to Volatility in recent years??

Implied volatilities in the oil market have dropped significantly from highs of 111% in 2009 to 15% in 2014 due to various factors. Some key factors are:

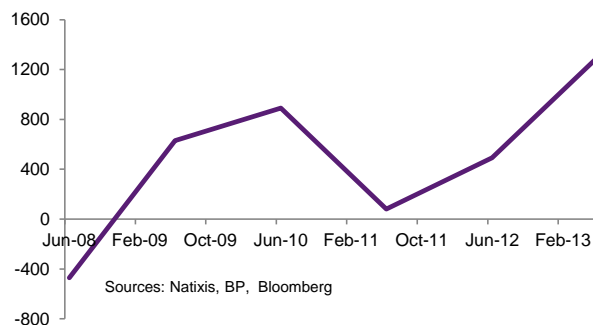
1. Improved data transparency due to JODI and similar organisations led efforts- leads to perfect balance between supply and demand as OPEC know how much to produce to balance the markets
2. Limited variability in OECD Crude oil since 2008
3. Reduced speculative activity in financial markets due to increased regulations.



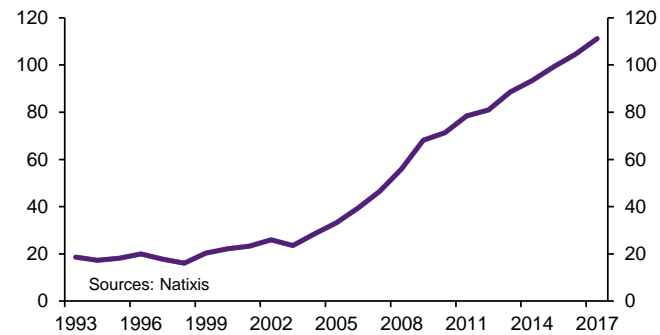
So what's happened to volatility in recent years??(conti..)

4. Relatively high transparency on physical markets compared to previous years due to high activity on Platts window
5. Growth in supply has outpaced demand in last 2 years. Due to slower growth in global demand for oil and oil products and increased supply of oil from non OPEC and some of the OPEC producers, the impact on oil prices due to supply shortage because of geopolitical risks is limited.
6. Conscious efforts by key OPEC to maintain oil prices in the \$100-110/bbl range as it helps them in three ways:
 - Maintain some control over oil prices to balance it budgets
 - Avoid any unnecessary release of oil from IEA.

Annual growth in non-OPEC supply (1000 b/d)



Weighted average oil breakeven (\$/bbl)



What still needs to be done?

- **More market data would avoid large fluctuations due to lack of information as in the case of markets such as Rhodium where there isn't much market data available (although will see more smaller day-to-day fluctuations as seen in oil, gold prices) .**
- **Improved regulations to avoid manipulation and increase transparency in oil markets. However tighter regulations can have a negative impact on market liquidity.**
 - More financial players (speculators or investors) help absorb some of the changes in the market as they anticipate moves in opposite directions and thereby help reduce substantial price shocks but end up creating small shocks.

Hence a combination of

- *increased oil market data transparency*
- *limited commercially sensitive regulations that are not counterproductive*
- *better transparency in oil price discovery process*
- *and robustness of the benchmark by allowing more oil grades*

is key to achieving stable oil prices.

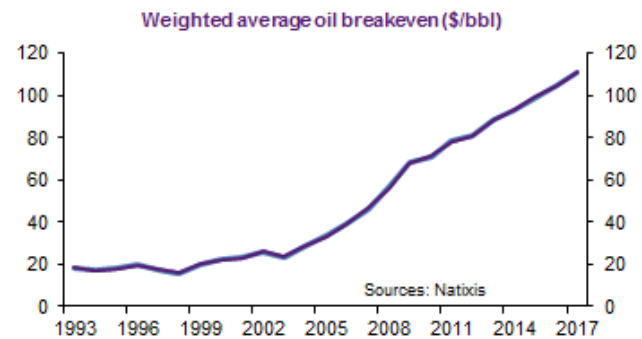
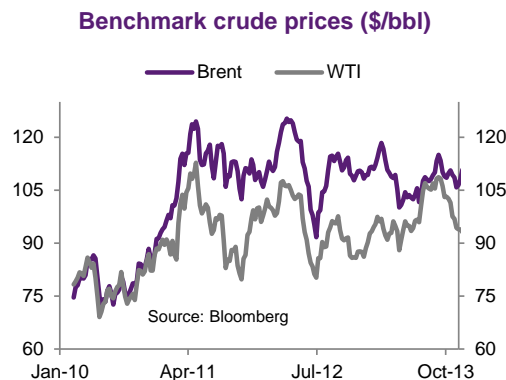
Natixis Oil Price Outlook-2014

Natixis near-term oil price forecasts

- We forecast average Brent at \$106.6/bbl in 2014

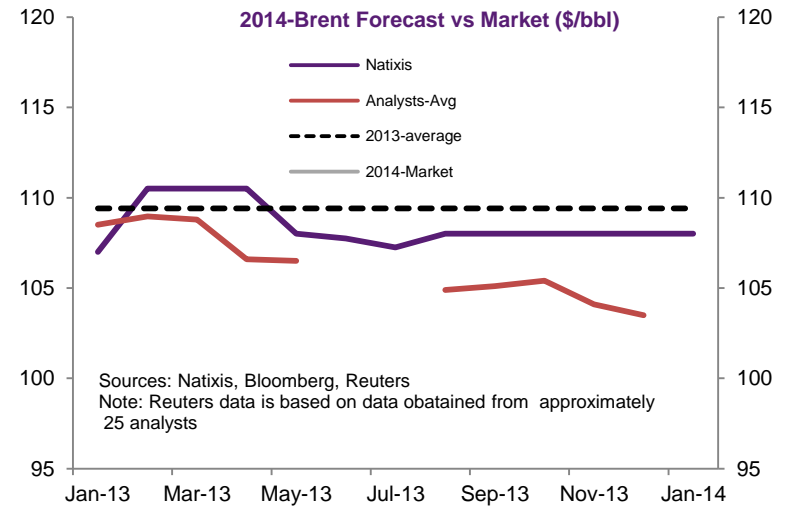
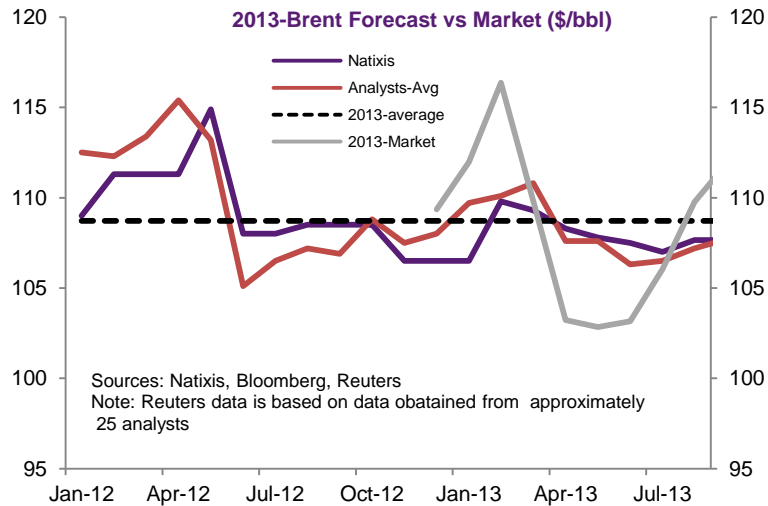
FORECASTS			Forecast (avg price)			
		Last Price	2012	2013	2014	2015
Energy		Spot				
Brent	USD/bbl	105.91	111.1	107.5	106.6	106.8
WTI	USD/bbl	100.23	94.6	98.8	99.3	100.5

- WTI-Brent spread should average around \$5-8/bbl (+/- \$2/bbl) for 2014. However, narrowing of the spread may be delayed if the rate of output continues to outpace growth in infrastructure or if exports to USGC remain high. Could US start exporting crude, looking increasing likely?
- Arbs will remain volatile due to higher variability in WTI than Brent



Note: weighted average of Saudi Arabia, UAE, Iran, Iraq and Kuwait

Oil price forecasts: Natixis vs. other sources



Supply will outpace demand in 2014

-Crude oil demand is expected to recover in 2014 along with global economy.

Region	OPEC	IEA	Natixis
OECD	45.68 (-0.04)	46.01 (-0.05)	(unch)
China	10.4 (+0.33)	10.45 (+0.35)	(+0.4)
LATAM	6.74 (+0.24)	6.78 (+0.16)	(+0.2)
Other Asia (Incl. India)	11.29 (+0.23)	11.9 (+0.3)	(+0.27)
Middle East	8.18 (+0.31)	8.07 (+0.22)	(+0.22)
Total (Net Increase)	90.97 (+1.07)	92.6 (+1.3)	(+1.09)

Units: mn b/d, 2013 data for IEA, OPEC

-Non-OPEC supply growth

Region	OPEC	IEA	Natixis
North America	18.96 (+0.95)	18.44 (+1.26)	(+1.0)
Europe	3.4 (-0.16)	3.17 (-0.11)	(-0.13)
LATAM	4.95 (+0.17)	4.37 (+0.19)	(+0.2)
Africa	2.5 (+0.08)	2.52 (+0.19)	(+0.08)
FSU	13.62 (+0.2)	13.93 (+0.08)	(+0.1)
Total (Net Increase)	55.43 (+1.29)	56.44 (+1.76)	(+1.3)

Units: mn b/d

Key risks to oil prices in 2014

Downside:

- Resolution in Iraq and Libya
- Full resolution of Iranian nuclear dispute after 6-month probation period (July 2014)
- Integration of surplus North-American crude into global oil market, eg if Canadian crude can get to Europe, this could fundamentally change the dynamics of the European market (longer-term risk) or if US amends its laws to export crude
- US releasing more crude from its SPR
- Strong dollar, although we believe markets have largely priced in the effects of QE tapering

Upside:

- Strong US demand will continue to provide support for oil prices
- China starts filling its SPR storage at Tianjin (60mn bbl) if it is ready by year-end
- Crisis in middle east escalates; Russian-Ukraine crisis leads to restricted Russian supply
- OPEC agrees on a reduced overall quota in June 2014 meeting
- Syria does not comply with the agreement - first two deadlines missed already

Introduction – Natixis Oil Research



Dr Abhishek Deshpande leads the **oil and oil products** research at Natixis, providing price forecasts and analysis of developments across the global oil and oil product markets. Prior to joining Natixis, Abhishek worked for business consulting firm Oakland Innovation in Cambridge. Abhishek has a doctorate in Chemical Engineering from Cambridge University and holds Chartered Engineer status with the Institute of Engineers, UK. While pursuing his degree, he spent time working for Indian Oil Corporation Limited. Abhishek has appeared on CNBC, Bloomberg TV, presented at Oil & Gas conferences and is quoted regularly by financial media globally. He has also published articles in financial journals such as Petroleum Economics and O&G Journal.



Nic Brown is **head of commodities research** at Natixis. Nic began his career at the Bank of England, contributing to the Bank's Quarterly Bulletin before managing the Deutschmark portfolio in the Bank's reserves management team. After three years on the proprietary trading desk at BNP Paribas, Nic joined Natixis in 2001 as a global-macro hedge fund manager. Following a further stint as a fixed-income proprietary trader, Nic joined Patrick Artus' Economic Research team in 2009 as Head of Commodities Research.

Nic has a prominent media profile, appearing regularly on Bloomberg TV and at numerous conferences around the world, and is regularly quoted by the financial media.

Natixis Oil Research - in the public eye

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THE AUTHORITY ON ENERGY

Welcome: Abhishek Deshpande

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Driving demand

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12 August 2013

As the US witnesses a shift in the use of alternative fuels, Dr Abhishek Deshpande, oil markets analyst at Natixis, explores the trends that may affect demand for and supply of diesel products over the coming decade

The US energy industry is undergoing a rapid transformation. This applies not just to the rising supply of oil and gas, but also to changing patterns of demand for energy products.

Increased substitution between diesel, gasoline and natural gas dominates the outlook for US fuel demand. This is particularly evident in the transport sector, which comprises more than 68% of current demand for US oil products. Such a trend is in addition to rising costs for vehicle users, higher corporate average fuel economy (cafe) requirements, increased bio-ethanol consumption and stringent emission laws.

But as fleet carriers, manufacturers, industries and consumers slowly make the transition towards natural gas, it is now necessary to consider how fast this transition can really take place. And moreover, in view of the current changes in diesel, gasoline and natural gas, evaluate the potential scenarios for the near future.



US distillate supply and...

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MUMBAI | MONDAY, 25 MARCH 2013 **Business Standard**

CRUDE OIL OUTLOOK

High supplies to keep oil prices benign

ABHISHEK DESHPANDE However, overall demand growth in the second quarter might be dampened by the Cyprus crisis and the indications that Asian economies are not growing that fast.

There are two main factors behind oil prices – fundamentals and geopolitical risks. Looking primarily at the fundamentals, oil markets are likely to be over-supplied in the near term. Much of this is due to the increase in North American oil production, which is expected to rise by around 800,000 bpd per day (bpd) this year. Despite their recent problems, African supply is expected to rise by at least 100,000 bpd by May, a significant part of that

increase coming from Angola and South Sudan. In the North Sea, where output has dropped significantly in recent years, loadings are expected to recover somewhat in the coming weeks, thanks to an increase in oil production from previous months. On top of this, physical liquidity in Brent contracts is being boosted by recent changes introduced by Platts, under which additional cargo of October/November are likely to be delivered into what was essentially a Forties contract.

On the demand side, the situation is less positive than the market was expecting in January. Yes, seasonal demand for crude should rise as refineries in Asia, the US and Europe increase their utilization rates on top of a shoulder to the summer, and demand for oil will also rise in West Asia, as temperatures begin to rise. However, overall demand growth in the second quarter might be dampened by the Cyprus crisis and by indications that Asian economies are not growing as fast as had been expected. Chinese apparent demand fell 3.2 per cent in February versus December's high, while Indian demand for fuel is being over-promoted by high diesel and gasoline prices as those products are deregulated. With Japan choosing to continue running the Ohi reactor over the summer months, this reduces potential response demand for crude over the coming months.

In contrast to most other global markets, the supply and demand in the oil market is equilibrated by changes in output by a small cartel of OPEC. The question is, therefore, whether the deterioration in supply and demand fundamentals will cause the Organization of the Petroleum Exporting Countries (OPEC) to loosen its grip on prices. Saudi Arabia had indicated last year that it favoured a price range of \$100-110/bbl, and after scaling back to output in December, the market took this to infer a preference for the top end of this range. In response to weaker current conditions, the latest pronouncement from Saudi Arabia suggested this week that OPEC did was a reasonable price for crude.

Ahead of the Iranian elections in June, the tightening of sanctions will further expose Iranian exports, potentially pushing those down to 800,000 bpd or less. In the near term, this lack of Iranian crude means Saudi Arabia and the other Gulf Cooperation Council (GCC) countries can easily maintain output at a level that keeps balance in the global market, suggesting that prices will remain within the target range of \$100-110/bbl. If anything, Saudi Arabia is expected to increase, if not increase, its market share of crude oil exports to Asia, which is being challenged by more aggressive pricing from Iraq and is still not subject to OPEC quotas.

All these factors suggest one thing: oil prices will remain relatively weak in the near term. For 2013 as a whole, we forecast Brent to average \$105-110/bbl. We also anticipate the Brent-WTI spread will narrow to less than \$15/bbl, as US infrastructure expands to take more oil away from Cushing. If there was an early return of Iranian and Syrian oil, we could see Brent prices drop further.



Our research products (Oil)



NATIXIS

OIL REVIEW

Second Half 2013

NATIXIS

WHOLESALE BANKING / INVESTMENT SOLUTIONS / SPECIALISED FINANCIAL SERVICES

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WEEKLY COMMODITIES

ECONOMIC RESEARCH

10 May 2013 / N 16

US crude supply and logistics

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After last week's analysis of Canadian crude supply, we complete the North American picture by assessing the expansion of US crude output and the associated transportation logistics that are helping to frame the impact of higher North American crude output upon US and global oil prices. As with Canada, the focus in the US has shifted from raising crude production to expanding transportation capacity, and this is already being reflected in global crude prices.

US natural gas prices have slipped back below \$4/MMBtu as the market contemplates an acceleration in injection volumes given the likely shift in usage from natural gas to coal by electricity producers this summer.

NATIXIS

US OIL DATASNAP

ECONOMIC RESEARCH

18 September 2013



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Nic Brown, Commodities Research ☎ +44 20 31216 9239 ✉ nic.brown@uk.natixis.com

US Oil and Oil Product Inventories

US crude output and imports (mnb b/d)

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