Oil Markets Transparency

by

Dr. Abhishek Deshpande

Global Macro-Commodities
Lead Oil Markets Analyst
Natixis

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Oil Markets Transparency

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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?

Sources: FT

- 15 Sep 2008: Lehman Brothers fails; Brent falls $5 in a day
- 24 Dec 2008: Crude hits $36 a barrel after plunging $110 in five months as global financial crisis saps oil demand
- 9 Mar 2011: Brent leaps above $115 a barrel after Muammar Gaddafi's air force bombs Libya's main oil terminal
- 23 Jun 2011: The International Energy Agency announces a 60m-barrel oil release from strategic reserves in response to Libya
- 20 Sep 2013: Commodity hedge fund Geneva Capital announces it will close down, citing 'limited' opportunities to use its directional, long volatility approach
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)

![Brent volatility (Front Month, %)](image)

Source: Natixis, Bloomberg
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 unconventionalals and OPEC NGLs).
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

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.

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.

Source: Wall Street Journal

But is it really that simple?!?
Brent Pricing Methodology: Platts

Assessed by PRAs 4:15PM-4:25PM

Contract-for-difference (CFD)

Assessed by PRAs 4:10PM-4:25PM

Add grade differentials

Brent forwards

Brent forwards

North Sea Dated Strip

Assessed by PRAs 4:25PM-4:30PM

Brent

Forties

Oseberg

Ekofisk

Dated Brent

Assessed by PRAs
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 that we previously had.*
## New Policies and Regulations

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

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</table>
| **Fed (US)**        | **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                                                   |
| -Reviewing landmark 2003 rule |                                                                                                                                                                                                                                           |                                                                                               |
| **IOSCO (Global)**  | **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 confusing to the market place  
Since provision of data is voluntary, companies might be disincentivised to report prices |
| Scope: PRA and other financial benchmarks (e.g. Oil, LIBOR)  
-In effect from: 2014? |                                                                                                                                                                                                                                           |                                                                                               |
| **European Commision** | **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                                                     |
| Scope: Benchmarks  
In effect from: 2015 |                                                                                                                                                                                                                                           |                                                                                               |
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.

Brent volatility

Total OECD industry stocks (mn bbl)

Source: Natixis, IEA

Source: Natixis, Bloomberg
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)

Sources: Natixis, BP, Bloomberg

Weighted average oil breakeven ($/bbl)

Sources: Natixis
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 absorbs 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

<table>
<thead>
<tr>
<th>FORECASTS</th>
<th>Last Price</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>Spot</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brent</td>
<td>USD/bbl</td>
<td>105.91</td>
<td>111.1</td>
<td>107.5</td>
<td>106.6</td>
</tr>
<tr>
<td>WTI</td>
<td>USD/bbl</td>
<td>100.23</td>
<td>94.6</td>
<td>98.8</td>
<td>99.3</td>
</tr>
</tbody>
</table>

• 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

Benchmark crude prices ($/bbl)

Weighted average oil breakeven ($/bbl)

Note: weighted average of Saudi Arabia, UAE, Iran, Iraq and Kuwait
Oil price forecasts: Natixis vs. other sources

Sources: Natixis, Bloomberg, Reuters
Note: Reuters data is based on data obtained from approximately 25 analysts
Supply will outpace demand in 2014

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

<table>
<thead>
<tr>
<th>Region</th>
<th>OPEC</th>
<th>IEA</th>
<th>Natixis</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD</td>
<td>45.68</td>
<td>46.01</td>
<td>(unch)</td>
</tr>
<tr>
<td>China</td>
<td>10.4</td>
<td>10.45</td>
<td>(+0.4)</td>
</tr>
<tr>
<td>LATAM</td>
<td>6.74</td>
<td>6.78</td>
<td>(+0.2)</td>
</tr>
<tr>
<td>Other Asia (Incl. India)</td>
<td>11.29</td>
<td>11.9</td>
<td>(+0.27)</td>
</tr>
<tr>
<td>Middle East</td>
<td>8.18</td>
<td>8.07</td>
<td>(+0.22)</td>
</tr>
<tr>
<td>Total (Net Increase)</td>
<td>90.97</td>
<td>92.6</td>
<td>(+1.09)</td>
</tr>
</tbody>
</table>

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

-Non-OPEC supply growth

<table>
<thead>
<tr>
<th>Region</th>
<th>OPEC</th>
<th>IEA</th>
<th>Natixis</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>18.96</td>
<td>18.44</td>
<td>(+1.0)</td>
</tr>
<tr>
<td>Europe</td>
<td>3.4</td>
<td>3.17</td>
<td>(-0.13)</td>
</tr>
<tr>
<td>LATAM</td>
<td>4.95</td>
<td>4.37</td>
<td>(+0.2)</td>
</tr>
<tr>
<td>Africa</td>
<td>2.5</td>
<td>2.52</td>
<td>(+0.08)</td>
</tr>
<tr>
<td>FSU</td>
<td>13.62</td>
<td>13.93</td>
<td>(+0.1)</td>
</tr>
<tr>
<td>Total (Net Increase)</td>
<td>55.43</td>
<td>56.44</td>
<td>(+1.3)</td>
</tr>
</tbody>
</table>

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

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

The US energy industry is undergoing a rapid transformation. The shift 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 oil demand. This is particularly evident in the transport sector, which comprises more than 50% 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 mandates and increased energy efficiency.

But as fleet owners, manufacturers, industries and consumers all move towards natural gas, it is now necessary to address the current lack of supply to take place. And, moreover, in view of the current changes in diesel, gasoline and natural gas, evaluate the potential scenarios for the near future.

UK distillate supply and...
Our research products (Oil)

OIL REVIEW
Second Half 2013
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