KEY ISSUES IN OIL INVENTORIES

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WORLD SUPPLY/DEMAND BALANCE

2012 Demand:
Seasonal trends: weaker 1H vs. 2H
In 1H, demand is compressed by weak economic growth as well as high & rising oil prices (impacts OECD demand mainly)
Recovery in 2H12 (seasonal trend) - demand averages 90 Mbd in 2H12

2012 Supply:
Strong overall OPEC crude production growth (+1.6 Mbd): sustained Saudi production (pledge to supply market), Libya recovery, new W.Af. fields, Iraq. In 2H, Non-OPEC supply +0.6 Mbd, but Iran supply falls -0.9 Mbd, 3Q12 - heavy N.Sea outages, 4Q12 - WAF outages, Kurdish losses, Russian exports lower

2012 Stocks:
Overall stockbuild during the year due to massive 1H OPEC surge.
1H12 heavy stockbuild (in part floating storage / gvt) due to weak demand
4Q12 stockdraw due to seasonal increase of demand and lack of Iranian / North Sea / WAF & other barrels

2013 Seasonal pattern of demand (weak 1H vs. 2H, plus economic trend)
Steadily increasing supply (strong North American supply growth), offset by flat or falling OPEC supply trend (Iranian sanctions, gas penetration for power generation, export cuts) and by continued non-OPEC production issues (Sudan, Brazil, UK, etc.)
Analyzing Oil Prices vs. Stocks – historic stock data only help determine historic price relationships, but can help with forecasting.

Estimated [Supply – Demand] (Kbd)

Start with S/D balance and alternative scenario for supply

Extrapolate historical stock levels from known data using S/D

Estimated World Cover (Days)

Calculate stock cover (Stocks measured in days of demand)

Impact on Brent Prices ($/b)

Extrapolate historical price correlation to stock cover, S/D, & call on OPEC supply.

This is an example of use stock and S&D data.

Timeliness, accuracy, and completeness of data improve forecasting.

Today’s prices reflect today’s stocks and anticipations of those tomorrow

Up-to-date and high frequency data help refine this process.

WORLD SUPPLY/DEMAND BALANCE VS. STOCK CHANGES

- Since 4Q11, compiled stock data has confirmed world oil supply/demand balance
- Non-OECD stocks have been a significant part of large global stock changes
- China alone has been the largest swing factor overall
Good performance since 4Q11 is an exception, and not a typical situation
Previous years show much larger deviations with no clear pattern
Correct and complete data at all levels of the balance is still a long-term goal
Improving JODI coverage of non-OECD countries is vital to this process

As the OECD’s share of world oil demand declines, so does its share of oil stocks
Moreover, the shares appear to decline proportionally
While coherent at an aggregate level, the experience on the ground is more ambiguous … EU cutting stocks, US, China & Saudi Arabia building
• Crude stocks are tightening in the key international price setting market
• Largely linked to refinery closures …but is this also reducing market flexibility?
• Crude stocks loosening in the N.American market, but linked to new infrastructure
• OECD share of world oil product stocks is declining while that for crude is stable
• At the same time, product stocks have shown greater volatility than crude
• This has contributed to surprising tensions on refinery margins

REFINERY ENVIRONMENT HAS CHANGED
… IN TERMS OF PRODUCT STOCK MANAGEMENT

Change of economic environment
• With low margins seen in past years, high cost environment and financing difficulties, refiners have tightened their product stocks

Impact
• Lower product stocks => no cushion to absorb supply issues
• Upside spikes increase with events (Hurricane Sandy, Venezuela refinery outages, etc.)

Consequences
• Backwardation on product prices becomes steeper than that on crude as refiners can’t keep up with market requirements
• Strong, but temporary, improvement in refinery margins, particularly due to tension on gasoil supply

Supply issues in September
- Hurricane Isaac
- Amuay incident in Venezuela
- Other unplanned outages
CONCLUSIONS

• Worldwide structural changes in stocks reflect changes in the underlying markets

• Non-OECD stocks are increasingly important to the market because they represent a rising share of the overall stock volumes

• Stock trends in the key price setting markets continue to dominate oil market concerns

• However, with more Atlantic Basin crude moving east, Asian stock data will become increasingly pertinent to the Brent market

• Current prices reflect immediate stock levels and future expectations of stocks – historical stock data explains past prices but not today’s prices – timely (high frequency), accurate, and complete stock plus S&D data allow us to better test price scenarios for the future