THE IMPACT OF THE CENTRAL BANKS STIMULUS PROGRAMMES ON OIL MARKETS

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  - Former senior managers from DuPont, ExxonMobil, ICI, INEOS, NOVA, Shell, TOTAL
  - Provide judgement supported by robust data analysis
- Write the ‘ICIS Chemicals and the Economy’ blog
SUMMARY

- The traditional price discovery mechanism is currently broken in crude oil markets.
- The cause is two-fold:
  - Major purchases of crude oil futures by the financial community, due to fears over (a) the potential inflationary impact of the various quantitative easing programmes underway and (b) the impact of these on the value of the US$.
  - The dramatic rise in the proportion of financial market trading carried out by high-frequency traders (HFT), using the liquidity supplied via the quantitative easing programmes.
- There have been no shortages seen in the market to justify the record annual level of prices seen in 2011-12. Inventories have always been at comfortable levels, and are currently near record levels.
- Supply has been increasing quite dramatically in countries such as the USA, whilst high prices are destroying demand growth around the world.
- The consequence is that no single financial market now knows what it is pricing.
- Repricing could therefore be quite dramatic, if and when the fundamentals of supply and demand re-emerge as being key to price discovery.
OIL PRICES ARE HEADING FOR A SECOND RECORD ANNUAL LEVEL

OIL COST AS % GLOBAL GDP

US RECESSIONS AND THE OIL PRICE
1970 - Q3 2012

- Recession
- Oil %

DATA SOURCE: BP ENERGY STATISTICS, EIA, NBER, IMF, UN

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The US Federal Reserve Bank has a dual mandate to support employment and contain inflation.

Since the Crisis began, it has focused on supporting asset prices through its Quantitative Easing programmes.

This has pushed up commodity prices, contributing to Asian inflation and Middle East political unrest.

US unemployment remains at high levels.

"Policies have contributed to a stronger stock market just as they did in March 2009, when we did the last iteration of this. The S&P 500 is up 20%-plus and the Russell 2000, which is about small cap stocks, is up 30%-plus."

Ben Bernanke, US Federal Reserve chairman, January 2011
FINANCIAL INVESTMENT IN COMMODITIES HAS QUADRUPLED SINCE 2005

- Pension funds worry about the impact of QE programmes on inflation and the $.
- They see oil and commodities as a ‘store of value’.
- Their financial flows overwhelm the market, creating a one-way bet.
- Money-market positions have an 81% price correlation 2009 – 2011*

*SOURCE: UNCTAD JUL 2009 – FEBRUARY 2011 DATA
Super-fast computers now dominate many financial markets. They trade between markets on algorithms, in nanoseconds, not on supply/demand.

These arbitrages are incredibly small, so they juice returns by leverage, trading millions of contracts at a time.

In March, Reuters reported ‘old news’ about the impact of Iran sanctions, which HFT traders used to increase prices $3/bbl.

Marc Faber, EPCA speaker 2011, noted: "It is truly frightening to consider we have already surpassed the previous record of 26 huge downside daily swings in 2008, when the financial system nearly collapsed... never before have we seen a methodology overwhelm the US stock market as HFT has done".

- Reuters reported a 300kbpd drop in Iran's oil exports due to sanctions
- HFT traders hit the market in volume
- Prices surged $3/bbl (2%) in 3 minutes
The ‘CORRELATION TRADE’ HAS DRIVEN CRUDE OIL PRICES SINCE THE CRISIS BEGAN

- The chart shows how crude oil trading has become correlated with the US S&P 500
- The problem, of course, is that the correlation trade creates a situation where no single market knows what it is trading
- Fundamentals of supply/demand become irrelevant, as long as the central banks create vast quantities of liquidity through Quantitative Easing to fund the trading
- But they may well become important again when QE ends
- This could mean considerable re-pricing takes place
TODAY’S RATIO OF US OIL PRICES TO NATURAL GAS IS A LONG WAY FROM HISTORICAL VALUES

- Oil has ~6x the energy content of natural gas, and normally trades at ~9x the WTI price
- The past few years may be a ‘new paradigm’
- ‘Reversion to the mean’ is normally one of the most profitable investment concepts
TODAY’S HIGH GASOLINE PRICES ARE REDUCING US VEHICLE MILES TRAVELLED FOR THE FIRST TIME IN HISTORY

![Graph showing US Vehicle Miles Travelled versus $/Gallon Price](chart)

- **1970s**
  - Rising Prices Slow VMT Increase from 1.1 - 1.5bn Miles
  - $/gal: $2.00 - $2.70

- **1980s**
  - Falling Prices Drive VMT Increase from 1.5 - 2.1bn Miles
  - $/gal: $1.80 - $3.50

- **1990s**
  - Low Prices Drive VMT Increase from 2.1 - 2.7bn Miles
  - $/gal: $1.50 - $2.00

- **2000s**
  - High Prices Slow VMT Increase from 2.7 - 3.0bn Miles
  - $/gal: $1.70 - $3.45

**TRAVEL SLOWS AS PRICES RISE**

**TRAVEL REDUCES AS PRICES RISE**

*Source: IEA, US Dept of Transport, Energy Information Administration*
US INVENTORY LEVELS ARE CONTINUOUSLY NEAR RECORD LEVELS

US CRUDE OIL AND PRODUCTS INVENTORY EX-SPR AS DAYS DEMAND

SOURCE: IECE; US ENERGY INFORMATION ADMINISTRATION
GLOBAL INVENTORY LEVELS AND DAYS FORWARD COVER ARE CONTINUOUSLY NEAR RECORD LEVELS
“IN SEARCH OF THE NEW NORMAL”
(IEA Medium-term oil report, October 2012, Executive Summary)

PRODUCTION
- “Growth in North American light, tight oil and non-conventional supply has reached game-changing levels
- “Iraqi production has scaled new heights
- “Libyan production recovery in 2012 defied expectations
- “Saudi output surged to 30-year highs”

DEMAND
- “On the demand front, economic recovery has lost momentum
- “Market share continues to shift from mature to newly industrialised economies, amid persistent concerns about the health of the former
- “China, the leading engine of oil demand growth of the last 15 years, is giving signs of slowdown”
LOWER REFINING RATES HAVE KEPT PETCHEM AND POLYMER MARKETS TIGHT

- China’s slowing economy, and lack of new refinery projects in 2011, is slowing its oil demand growth
- USA runs are lower due to increasing ethanol usage and lower gasoline demand
- Germany/Japan are slow
- Korea’s rise probably compensates for Japan post-tsunami

SOURCE: INTERNATIONAL ENERGY AGENCY
EUROPEAN ETHYLENE PRODUCTION WAS BACK AT 1998 LEVELS IN Q2

'000 TONNES

EUROPEAN ETHYLENE PRODUCTION 2000 TO DATE, BY QUARTER

SOURCE: ASSOCIATION OF PETROCHEMICAL PRODUCERS IN EUROPE
BENZENE & PTA SPREADS HIGHLIGHT TODAY’S GREATLY INCREASED VOLATILITY

BENZENE PREMIUM/DISCOUNT VERSUS NAPHTHA ($/T)

TEREPHTHALIC ACID (PTA) PREMIUM VERSUS NAPHTHA ($/T)

SOURCE: ICIS PRICING
PETCHEM/GDP RATIO Declines as market penetration increases, and suffers demand destruction from high oil costs.

1975-80 shows clear evidence of demand destruction from high oil prices.

GDP Source: World Bank
High oil prices have reduced demand and OR% for refineries and naphtha-based crackers.

Benzene buyers have had to chase supply and pay higher prices through 2012, even though their own downstream markets were weakening.

Following new record high US benzene prices, ICIS news reported 2 weeks ago: "Some styrene producers may look to sell benzene to capitalise on recent record high benzene prices, in the midst of poor demand".
FURTHER DETAILS

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CHEMICALS & THE ECONOMY BLOG
www.icis.com/blogs/chemicals-and-the-economy

‘BOOM, GLOOM AND THE NEW NORMAL: How Western Baby Boomers are Changing Chemical Demand Patterns, again’
www.new-normal.com
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