• Fertilizers are a **commodity**
• Key drivers are **supply** and **demand variables** in the global agricultural markets
• The fertilizer market is **volatile** and trades in substantial **volumes**
• Clear requirement for **price risk management**
• The **FIS cash settled fertilizer swaps** market is established and growing rapidly
Volatility

<table>
<thead>
<tr>
<th>Year 2013</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yuzhnyy Urea Index</td>
<td>07-Feb-13</td>
<td>29-Aug-13</td>
</tr>
<tr>
<td></td>
<td>437.5</td>
<td>288.75</td>
</tr>
<tr>
<td>DAP Tampa Index</td>
<td>28-Mar-13</td>
<td>21-Nov-13</td>
</tr>
<tr>
<td></td>
<td>513</td>
<td>347.5</td>
</tr>
<tr>
<td>UAN NOLA Index</td>
<td>21-Feb-13</td>
<td>24-Oct-13</td>
</tr>
<tr>
<td></td>
<td>342.5</td>
<td>224.5</td>
</tr>
<tr>
<td>NOLA Urea Index</td>
<td>07-Feb-13</td>
<td>17-Oct-13</td>
</tr>
<tr>
<td></td>
<td>435.75</td>
<td>280</td>
</tr>
<tr>
<td>Egypt Urea Index</td>
<td>07-Feb-13</td>
<td>29-Aug-13</td>
</tr>
<tr>
<td></td>
<td>506.25</td>
<td>312.5</td>
</tr>
<tr>
<td>UAN Rouen Index</td>
<td>21-Feb-13</td>
<td>19-Sep-13</td>
</tr>
<tr>
<td></td>
<td>253.5</td>
<td>176</td>
</tr>
<tr>
<td>Urea China Index</td>
<td>07-Feb-13</td>
<td>03-Oct-13</td>
</tr>
<tr>
<td></td>
<td>416.25</td>
<td>278.25</td>
</tr>
</tbody>
</table>

- **Urea (Prill) fob Yuzhnyy Index (metric tonne)**
- **DAP fob Tampa Index (metric tonne)**
- **UAN (32% N) fob NOLA Index (short tonne)**
- **Urea (gran) fob barge NOLA Index (short ton)***
- **UAN FOT Rouen 30% (**€**/metric tonne)**
- **Urea (gran) fob Egypt (metric tonne)**
- **Urea(Prill) fob China (metric tonne)**
... At the mercy of
Ever changing fundamentals....
In response to increasing demand from traders and end user markets both East and West of Suez, FIS has introduced cash settled swaps with settlement against the Urea (Prill) fob China (metric tonne) price reported on the Fertilizer Index. Trading commenced on 20th February 2014 and liquidity and volume of trades continue to build in this developing market.

**FERTILIZER INDEX prilled fob China price** - Methodology: The price covers prilled urea shipped from a range of ports in China. Reported prices are based on actual fob conclusions, or may be basis best estimates on netbacks when no new export sales are made in a given week. Please note - the prices are reported basis tax paid. Basis announcements for 2014:

- The tax for urea is fixed at a flat RMB 40/mt for urea exported in the July 1 to October 31 “low season”.
- The tax rate for the high season from January 1 through June 30 and from November 1 through December 31 has been fixed 15% calculated on the net export value, plus Rmb 40/t.

**Disclaimer:** Any changes on the tax regime and/or changes to the dates of the low-tax and high tax export windows will impact reported prices. Any FIS swap counterparty enters into a swap trade at their own discretion on what the prevailing China export tax rates will be and agrees to settlement against the China fob price as per the FERTILIZER INDEX. FIS and any / all of the FERTILIZER INDEX price range providers cannot be held accountable for any changes made to the levels and timings of export tax imposed.
China High Tax Period

<table>
<thead>
<tr>
<th>Period</th>
<th>Urea (Prill) fob China (metric tonne)</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/Feb/2010 - 30/Jun/2010</td>
<td></td>
</tr>
<tr>
<td>16/Sep/2010 - 15/Oct/2010</td>
<td></td>
</tr>
<tr>
<td>01/Dec/2010 - 30/Jun/2011</td>
<td></td>
</tr>
<tr>
<td>01/Nov/2011 - 30/Jun/2012</td>
<td></td>
</tr>
<tr>
<td>01/Nov/2012 - 30/Jun/2013</td>
<td></td>
</tr>
</tbody>
</table>

Urea Export Volume (Gran + Prill) in kt

<table>
<thead>
<tr>
<th>Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3,559</td>
<td>6,948</td>
<td>8,265</td>
<td>10,000+</td>
</tr>
</tbody>
</table>

*Projected figures
Fertilizer derivative (FIS cash-settled swap):

“An agreement between a buyer and a seller, made today to pay the difference between a price agreed today and the future price of a specific Fertilizer Index at an agreed point in time”

FIS swaps allow you to manage price risk and hedge physical positions in the forward market.
A cash-settled swap is a paper trade only:

- No payment until settlement date (no capital outlay)
- No delivery of physical product
- Cash-settled vanilla swap settled against the Fertilizer Index price

Hedging
To take a position in a futures (swaps) market, opposite to a position held in the physical market, with the intention of minimizing the risk of financial loss from an adverse price change.

Positioning
To buy and sell positions in a futures (swaps) market, levering physical and market knowledge, through taking short term positions where you believe market is mispricing, with the aim of making a profit.
A single reference price calculated from three weekly price ranges provided by FertilizerWEEK/CRIU, FERTECON/Informa and FMB/Argus Media using a simple averaging technique.

The highest and lowest of the six numbers are discarded, and an arithmetic average is calculated from the four remaining numbers:

For example:

<table>
<thead>
<tr>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>$353 (discarded)</td>
<td>$360</td>
</tr>
<tr>
<td>$355.00</td>
<td>$365 (discarded)</td>
</tr>
<tr>
<td>$356.00</td>
<td>$360</td>
</tr>
</tbody>
</table>

Price = (355+356+360+360)/4 = $357.75

Note: In cases where two or more of the panelists submit the same high and/or low price, only one will be discarded.

Each panelist posts its price ranges every Thursday, reflecting physical business concluded (both spot and nearby forward business for shipment up to 30 days in the case of urea and ammonia, and up to 60 days in the case of DAP).
### Tradable products

#### UREA

<table>
<thead>
<tr>
<th></th>
<th>6-Mar</th>
<th>13-Mar</th>
<th>20-Mar</th>
<th>27-Mar</th>
<th>Ave MAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea (Prill) fob Yuzhnyy (metric tonne)</td>
<td>$327.00</td>
<td>$322.00</td>
<td>$312.75</td>
<td>$304.00</td>
<td>$316.4375</td>
</tr>
<tr>
<td>Urea (Prill) fob China (metric tonne)</td>
<td>$311.75</td>
<td>$308.75</td>
<td>$305.50</td>
<td>$302.50</td>
<td>$307.1250</td>
</tr>
<tr>
<td>Urea (Prill) fob Baltic (metric tonne)</td>
<td>$322.50</td>
<td>$318.00</td>
<td>$308.75</td>
<td>$300.75</td>
<td>$312.5000</td>
</tr>
<tr>
<td>Urea (gran) fob barge NOLA (short ton)</td>
<td>$396.25</td>
<td>$395.00</td>
<td>$400.00</td>
<td>$405.00</td>
<td>$399.0625</td>
</tr>
<tr>
<td>Urea (gran) fob Middle East (metric tonne)*</td>
<td>$357.50</td>
<td>$347.50</td>
<td>$327.50</td>
<td>$315.50</td>
<td>$337.0000</td>
</tr>
<tr>
<td>Urea (gran) fob Egypt (metric tonne)</td>
<td>$414.00</td>
<td>$405.00</td>
<td>$403.75</td>
<td>$393.00</td>
<td>$403.9375</td>
</tr>
<tr>
<td>Urea (gran) cfr SE Asia (metric tonne)</td>
<td>$375.00</td>
<td>$368.75</td>
<td>$345.00</td>
<td>$343.75</td>
<td>$358.1250</td>
</tr>
</tbody>
</table>

#### AMMONIA

<table>
<thead>
<tr>
<th></th>
<th>6-Mar</th>
<th>13-Mar</th>
<th>20-Mar</th>
<th>27-Mar</th>
<th>Ave MAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia fob Yuzhnyy (metric tonne)</td>
<td>$451.25</td>
<td>$451.25</td>
<td>$492.50</td>
<td>$492.50</td>
<td>$471.8750</td>
</tr>
<tr>
<td>Ammonia cfr Tampa (metric tonne)</td>
<td>$460.00</td>
<td>$460.00</td>
<td>$460.00</td>
<td>$580.00</td>
<td>$490.0000</td>
</tr>
</tbody>
</table>

#### UAN

<table>
<thead>
<tr>
<th></th>
<th>6-Mar</th>
<th>13-Mar</th>
<th>20-Mar</th>
<th>27-Mar</th>
<th>Ave MAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>UAN (32% N) fob NOLA (short ton)</td>
<td>$295.75</td>
<td>$288.00</td>
<td>$284.50</td>
<td>$284.75</td>
<td>$288.2500</td>
</tr>
<tr>
<td>UAN (32% N) cfr East Coast US (metric tonne)</td>
<td>$320.75</td>
<td>$320.25</td>
<td>$314.50</td>
<td>$307.50</td>
<td>$315.7500</td>
</tr>
<tr>
<td>UAN FOT Rouen 30% (€metric tonne)</td>
<td>€ 221.00</td>
<td>€ 220.00</td>
<td>€ 219.00</td>
<td>€ 218.75</td>
<td>€ 219.6875</td>
</tr>
</tbody>
</table>

#### DAP

<table>
<thead>
<tr>
<th></th>
<th>6-Mar</th>
<th>13-Mar</th>
<th>20-Mar</th>
<th>27-Mar</th>
<th>Ave MAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAP fob NOLA (short ton)</td>
<td>$483.75</td>
<td>$485.75</td>
<td>$487.50</td>
<td>$496.50</td>
<td>$488.3750</td>
</tr>
<tr>
<td>DAP fob Central Florida (short ton)</td>
<td>$457.00</td>
<td>$453.75</td>
<td>$453.75</td>
<td>$453.75</td>
<td>$454.5625</td>
</tr>
<tr>
<td>DAP fob Tampa (metric tonne)</td>
<td>$498.75</td>
<td>$498.75</td>
<td>$498.75</td>
<td>$498.75</td>
<td>$498.7500</td>
</tr>
</tbody>
</table>

---

**It is a breach of the copyright of FMB Limited, FERTECON Limited, and CRU Limited to use price data for the settlement of any financial product other than through FIS Ltd.**

**“Middle East Urea fob [gran]: Price ranges for the Fertilizer index are derived from reported fob sales basis all Middle East sources of urea production (Saudi Arabia / Qatar / Kuwait / Oman / Abu Dhabi), excluding Iran. Price ranges include fob spot sales reported for all destinations, including spot cargo sales destined for the US but excluding contract / formula priced tonnage for US, and excluding any Nola / US Gulf netback evaluations.”**
Position

- trader requires to cover forward short sold at say 10,000mt x $295 pt fob for JUN
- to secure $10 pt margin requires cover at $285 buy swap or physical?
- assess FIS swap market Bids/ Offers JUN
- Seller OFFER on FIS swaps China = $285 pt for JUN
- BUY the FIS swap China = $285 pt all JUN
- Trader BUYS FIS swap for 10,000 mt China Urea at $285 all JUN
Physical Market rises – Fertilizer Index = $295 pt fob for JUN

Swap + physical position:

- Physical cost / Fert Index: $295 pt
  - 10,000t x $295 pt
- FIS Swap:
  - 10,000t x $285 pt
- Settlement:
  - 10,000t x $10 pt = $100,000

Seller is due to pay buyer/trader $100,000

Overall position = (Physical cost : 10,000t x $295) – FIS swap
= $2,950,000 – $100,000 swap
= $2,850,000 / 10,000t
= $285 pt (average value)

Trader achieves target value of $285 pt fob, despite price rise in physical market
Physical Market softens – **Fertilizer Index = $275 pt fob for JUN**

Swap + physical position:

- **Physical cost / Fert Index**: $275 pt
- **FIS Swap**: $285 pt
- **Settlement**: $10 pt

10,000t x $275 pt = $2,750,000

10,000t x $285 pt = $2,850,000

10,000t x $10 pt = $100,000

Buyer /Trader is due to pay seller $100,000

Total cost = (Physical cost : 10,000t x $275) + FIS swap
= $2,750,000 + $100,000 swap
= $2,850,000 / 10,000t
= $285 pt (average value)

Trader achieves target value **$285 pt fob**, despite “out of the money swap”
Fertilizer price and FIS Swaps volume

Fertilizer price and FIS Swaps volume

Fertilizer Swap Volume

Urea (Prill) fob Yuzhnyy (metric tonne)

Urea (gran) fob NOLA (short tonne)

Urea (Prill) fob China (metric tonne)
The commission charged by FIS Ltd on any swap contract is 50 US cents payable by each counterparty per unit (metric tonne or short ton) traded.

- The value of the commodity has no influence on FIS commissions – it is a fixed rate.
Some of the companies participating:

- TRAMMO
- CHS Crop Nutrients
- KOCH
- MOSAIC
- GAVILON
- AMEROPA
- HELM
- GROWMARK
- ADM
- SCOTTS
- INTERCHEM
- YARA
- ORASCOM / EGYPTIAN FERTILIZER CO.

*Not ranked*
➢ The **Fertilizer Index** derives an **average price** from spot price ranges for each product.

➢ Therefore, physical cover may be booked within a price range, not necessarily at the spot average as represented by the Fertilizer Index.

➢ For this reason, your spot physical price and the Fertilizer Index price may not converge – there is some “basis risk” and imperfect hedging.

➢ However, it should be noted that substantial physical volumes are contracted based on the Fertilizer Index formula price which allows perfect hedging.
• Open Credit; Standby Letter of Credit; LCH or CME Cleared

• **Open Credit**
  • Pros: No extra cost
  • Cons: 100% counterparty exposure, credit limits can be quickly reached

• **Standby Letter of Credit**
  • Pros: provides proportionate performance guarantee
  • Cons: can be substantial fixed amounts, ties up capital, as market moves exposure will change, but the terms of the LC do not.

• **LCH or CME Cleared**
  • Eliminates counterparty risk
  • Guarantees settlement
LCH or CME Cleared trades

- Eliminates counter party risk
- Guarantees settlement
- Counterpartys’ identity in any cleared swap trade is NOT disclosed at any stage
- Provides mark-to-market evaluations on open positions
Correlation between fertilizer prices and agricultural index prices

<table>
<thead>
<tr>
<th>Correlation</th>
<th>GS S&amp;P Soybean Index</th>
<th>GS S&amp;P Corn Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea (Prill) fob China (metric tonne)</td>
<td>57%</td>
<td>75%</td>
</tr>
</tbody>
</table>
PROVEN MARKET - FIS Ltd has successfully established cash settled fertilizer swaps activity in worldwide markets. The liquidity and volumes traded on FIS swaps continues to grow steadily.

PRICE DISCOVERY - the swaps market provides a platform for forward price discovery and the facility to secure a forward price without commitment of physical product.

SWAP POSITIONS - may be “closed out” which determines exactly the profit or loss on the swap contract position, or may be left open to settle at maturity – but a swap contract is settled at the end of the defined period.

MINIMAL COMMITMENT of CAPITAL – to secure a forward price in the swaps market minimises commitment of capital and preserves your cash flow.

LOCK IN MARGIN – build a swaps book allied to your physical commitments and minimise exposure to price swings with FIS fertilizer swaps.
Freight Investor Services
Ron Foxon (UK office) : + 44 207 090 1122
Yan Redwood (UK office) : + 44 207 090 1122
Alexey Paliy (US office) : +1 212 634 6424
Rob Duncan (US office) : +1 502 357 0094
E-mail: ferts@freightinvestor.com
http://www.freightinvestor.com