

Overview of Chromium Industry

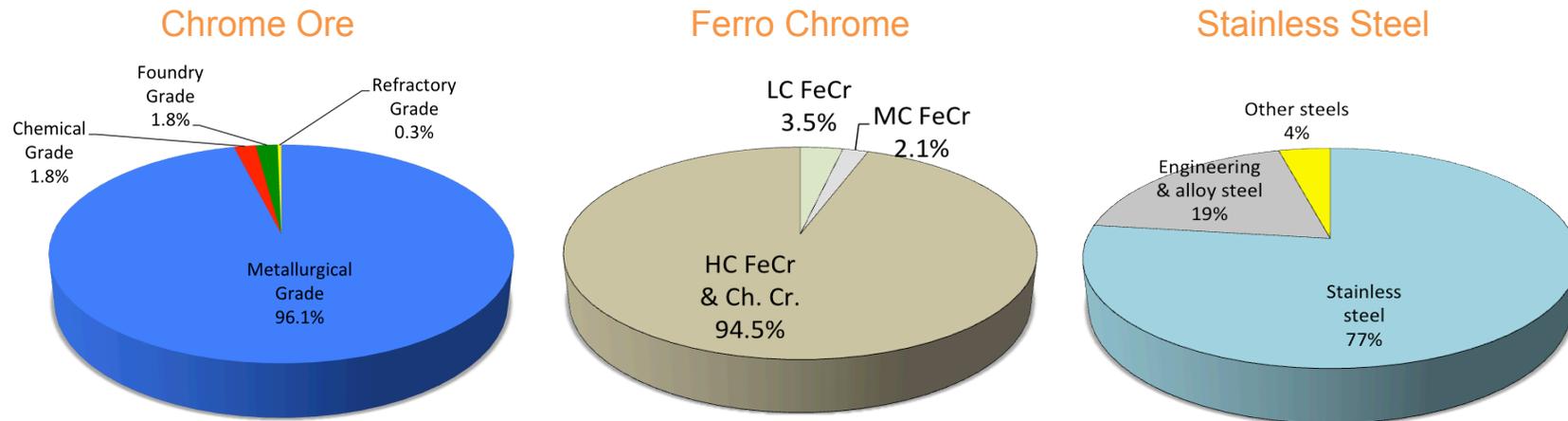
Subhrakant Panda

Managing Director & CEO, IMFA

Vienna | October 7th, 2015



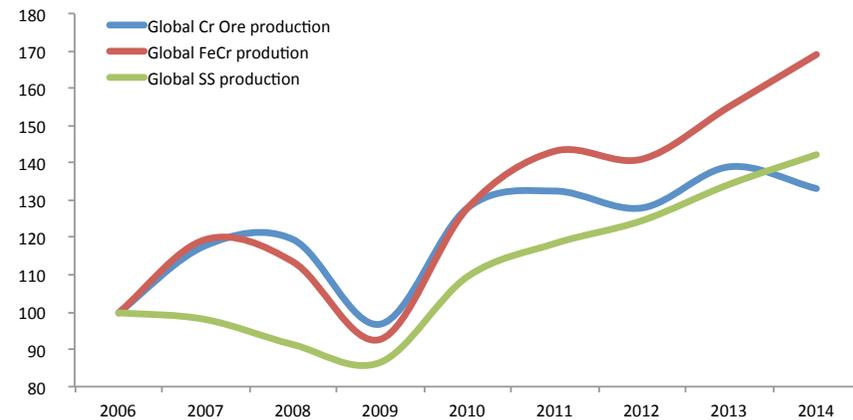
The Triumvirate



Source: ICDA, Industry sources

- 96% of Chrome Ore is used in metallurgical applications
- High Carbon FeCr & Charge Chrome account for 95% of total FeCr output
- 77% of FeCr production goes into Stainless Steel
- All three are highly correlated

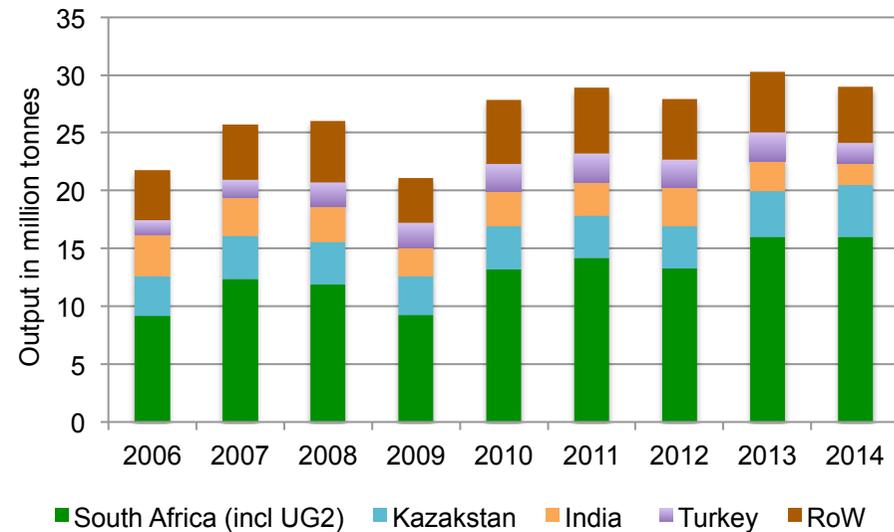
Global chrome ore, ferrochrome & stainless steel production
(index 2006 = 100)



Sources: ICDA, ISSF

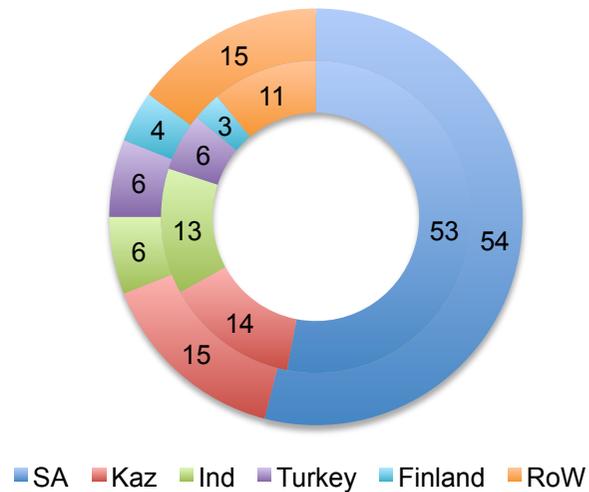
Chrome Ore

- Worldwide output of chrome ore & concentrate was 29m tonnes in 2014, down 4.2% from 2013
 - Sharp fall in output in India (25%) and Turkey (30%)
 - Higher output in Kazakhstan and Oman
 - SA output remained stable and accounted for around 50% of global output



Source : ICDA

Chrome Ore - Q1 2015



Outer circle 2014
Inner circle Q1 2015

- In volume terms Top 5 were unchanged but India's output more than doubled

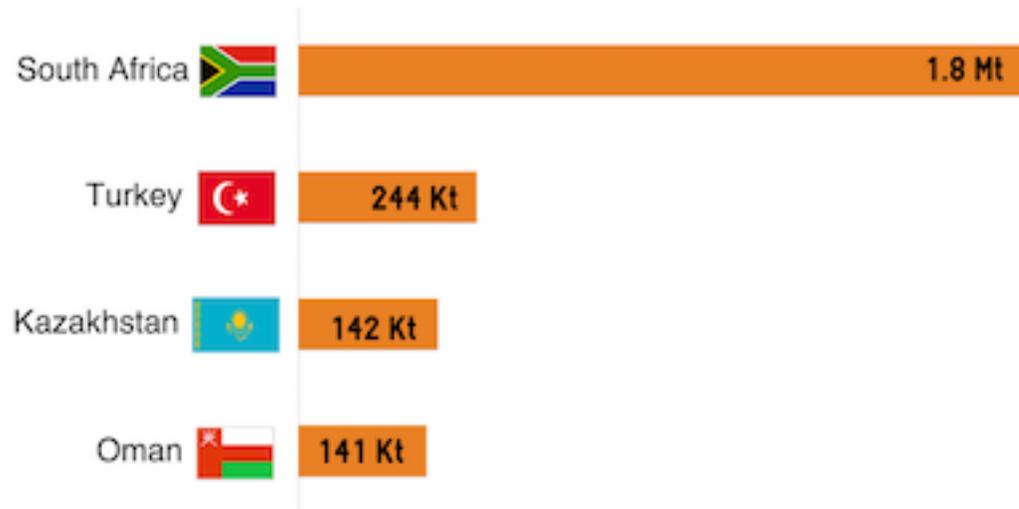


Source : ICDA

Chrome Ore Trade Flow Q1

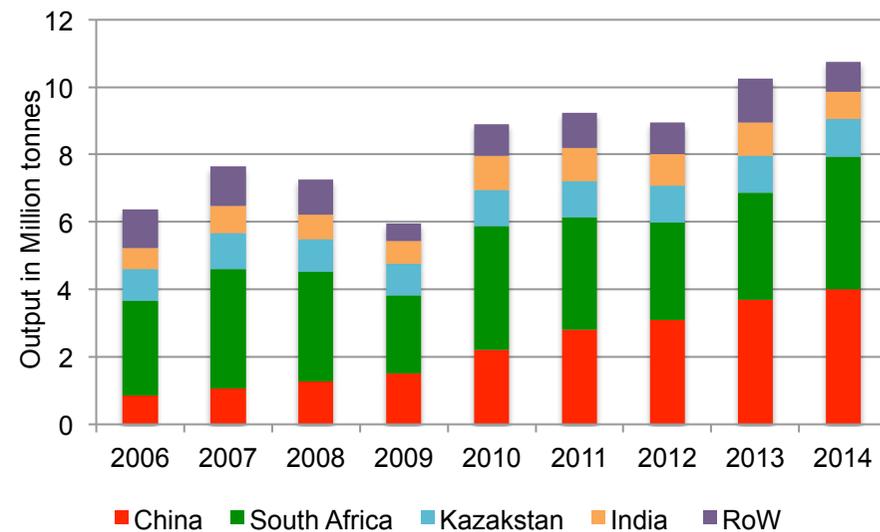


Global Trade
2.68m tonnes



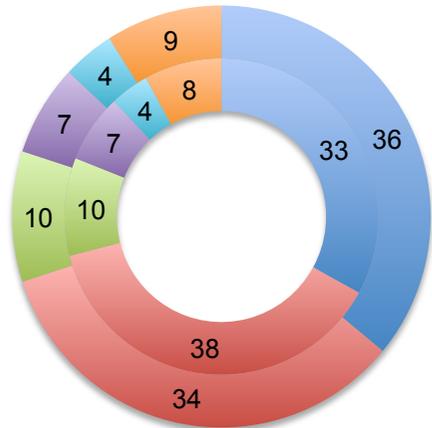
Ferro Chrome

- Worldwide production of HC Ferro Chrome in 2014 was 11.13m tonnes, up 9% from 2013
 - SA registered a sharp increase (24%) while Chinese output was also higher (9%)
 - Production in Kazakhstan was stable while it declined in India and RoW



Source : ICDA

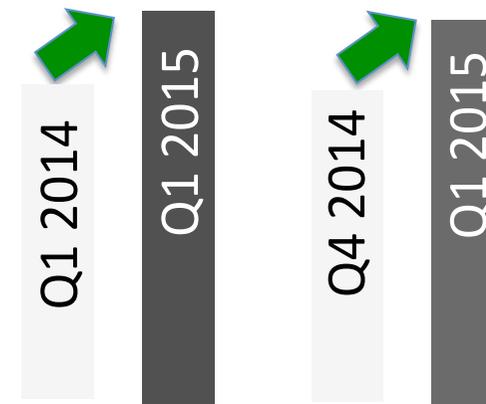
Ferro Chrome - Q1 2015



■ China ■ SA ■ Kaz ■ Ind ■ Finland ■ RoW

Outer circle 2014
Inner circle Q1 2015

- SA regained pole position as the largest producer of FeCr

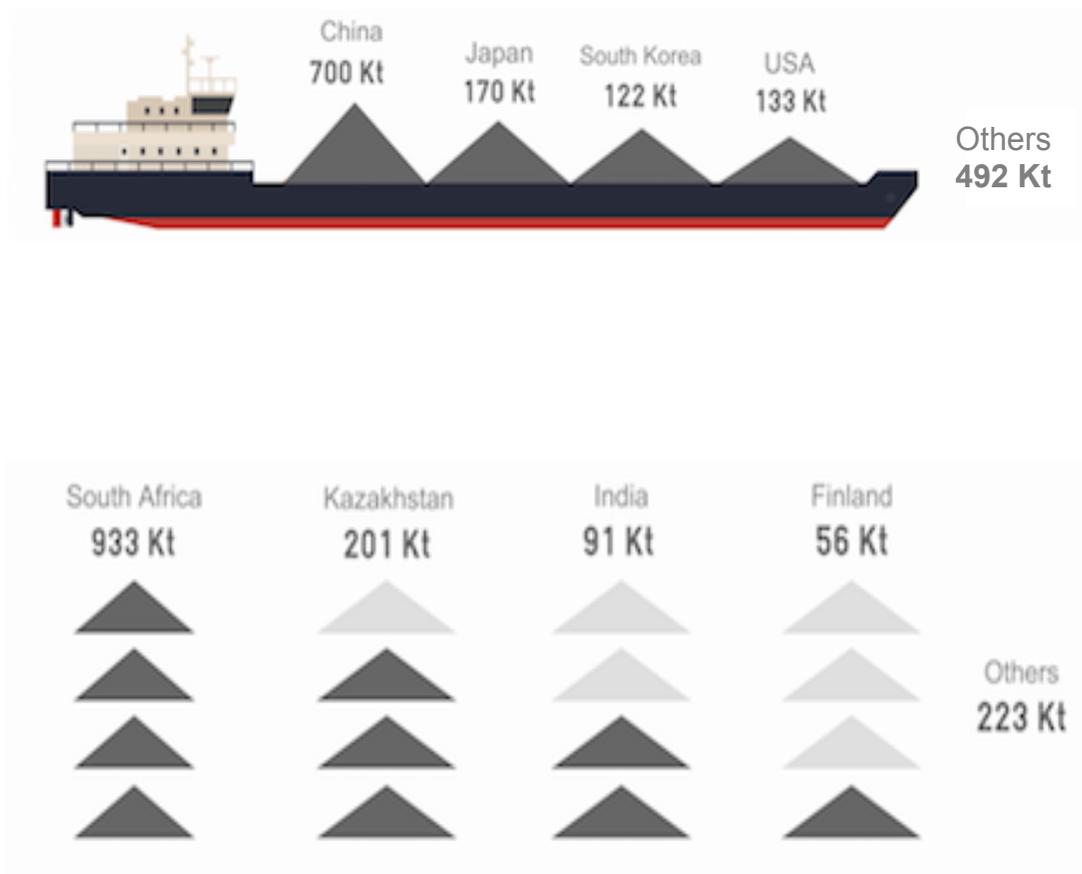


Source : ICDA

HC FeCr Trade Flow – Q1 2015

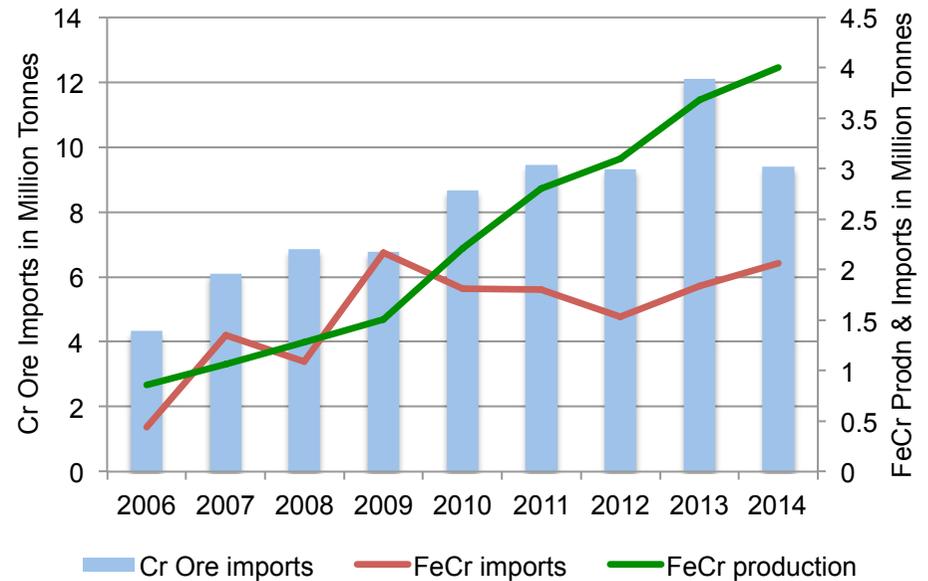


Global Trade
1.62m tonnes



China

- HC FeCr production was a record 4m tonnes in 2014
 - Production cuts due to regulatory reasons & declining profitability
- HC FeCr imports were up 12% to 2.06m tonnes
 - Weakening currencies of suppliers and abolishment of import duty
- Cr Ore stock is at a multi-year low of 1.8m tonnes
- Q1 2015
 - HC FeCr production declined by 3.9% y-o-y to 0.92m tonnes
 - HC FeCr imports surged 17.4% y-o-y to 0.7m tonnes



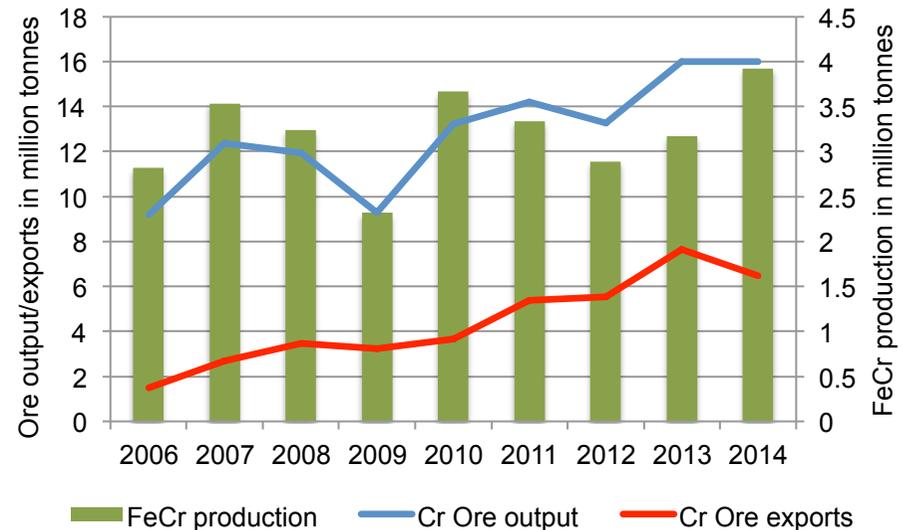
Source : ICDA

Key questions :

1) Is there a shift in strategy underway ?

South Africa

- In 2014 total chrome ore output reduced marginally to 16m tonnes although conventional ore output increased 12.3% y-o-y to 12.9m tonnes
 - UG2 output lower due to disruptions
- Ore export declined by 15% while internal consumption increased by 23.4%
- Q1 2015
 - Ore exports increased 5% as UG2 came back on line
 - FeCr output up 20% signalling a renaissance in SA



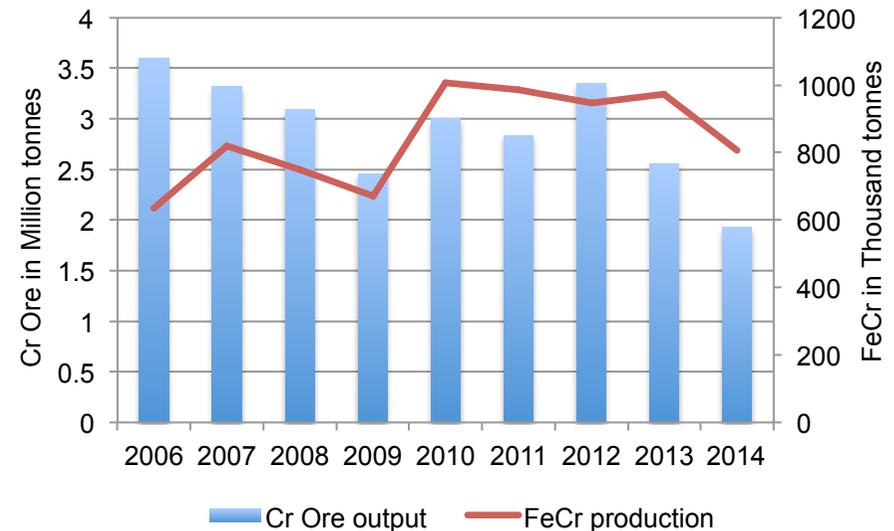
Source : ICDA

Key questions :

- 1) What happens to UG2 going ahead ?
- 2) Power price stable since 2012 in \$ terms but will supply again become a constraint ?
- 3) Is the renaissance broad-based ?

India

- Ore output decreased by 25% in 2014 due to regulatory issues but has since rebounded
- FeCr production has stagnated around the 1m tonnes mark but this could increase noticeably
 - Tata's Sukinda Mines extended till 2020 with merchant status
- Significant cost pressures as royalty on ore has effectively increased by 95% since Aug 2014
- Existing captive leases valid for 50 years and allocation of new leases through auctions



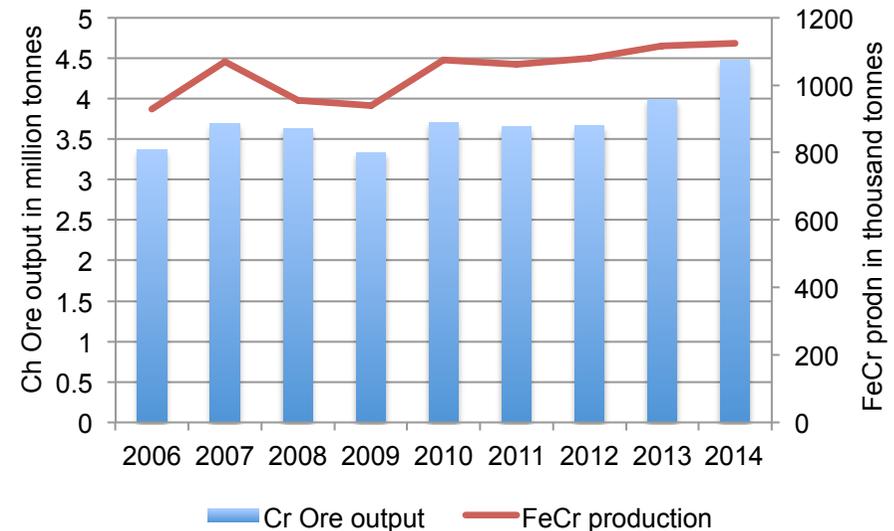
Source : ICDA

Key questions :

- 1) Will there finally be consolidation ?
- 2) Will mineral auctions be a game changer ?

Kazakhstan

- Stable, low cost producer
- Cr Ore output increased by 12% to 4.475m tonnes in 2014
- FeCr production was more or less the same at 1.124m tonnes
- Cr Ore exports to China has fallen 70% from 2010 peak and 50% as compared to 2013



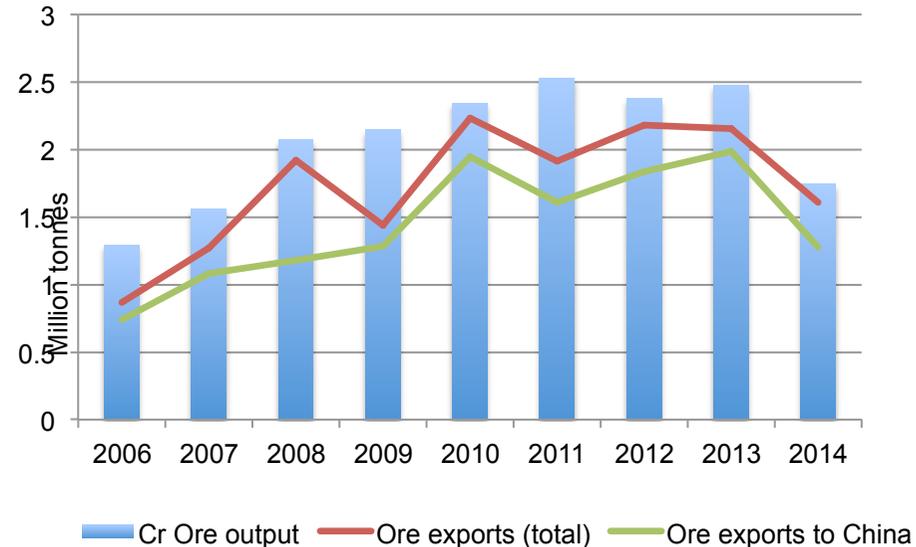
Source : ICDA

Key questions :

- 1) What will be the long term impact of ENRC's delisting / restructuring ?

Turkey

- Cr Ore output decreased sharply in 2014 to 1.75m tonnes
- Exports also reduced by 25% to 1.61m tonnes in 2014 as off-take by China reduced
- HC FeCr production reduced by 30% to 93k tonnes
- Q1 2015
 - Ore output decreased 27% y-o-y to 0.42m tonnes
 - Ore exports reduced 36% y-o-y
 - FeCr production was also lower by 37% y-o-y

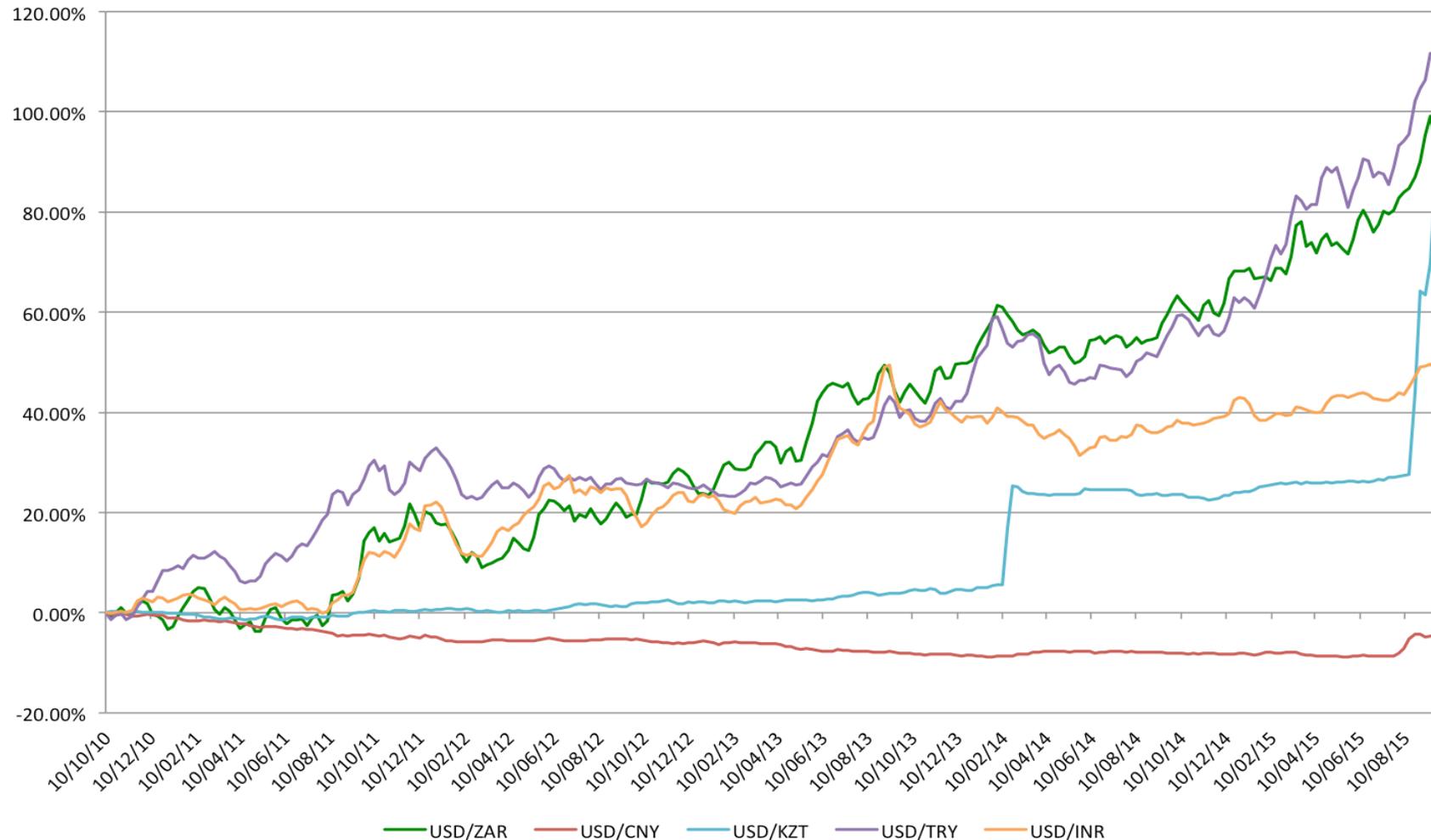


Source : ICDA

Key questions :

- 1) Is Turkish ore being replaced by cheaper material from other sources ?
- 2) What will happen if China is indeed shifting to importing FeCr ?

Exchange Rate Movement



Source : oanda.com

Competitive Devaluation ?

- *For years, China looked like the principled non-combatant. As other countries, seeking to secure an economic advantage, let the value of their currencies slide on international markets, China held firm on the value of its money.* *The New York Times*
- *The move signals that China no longer is willing to withstand a relatively strong yuan - which has been on an upward trajectory against the dollar for a decade - amid slowing economic growth, weak consumer prices and anaemic exports.* *The Wall Street Journal*
- *“All China is doing today is managing the pace of trade-weighted renminbi appreciation,” (Jonathan) Anderson (of Emerging Advisors Group) continued. “Any attempt to gain truly meaningful competitiveness vis-à-vis trading partners would require, say, a 20% to 40% devaluation against the dollar.”* *Fortune*

Conclusion

- Chromium Industry is passing through a tough phase
 - Pricing pressure as producers fight for a share of the pie
 - Cost pressure (in different geographies for different reasons)
 - Painful contraction as surplus capacity (across commodities) gets whittled down
- Short term pain as the industry reorients to a new reality
 - Leverage is a dirty word !
 - Currency devaluation helps but it is not a long term solution
- Economic growth is the key to sustainable revival

Thank you