GLOBAL

LME cash price

	US$/tonne	% change day on day
Aluminium	1,899	2.0
Copper	7,372	1.2
Lead	2,245	2.1
Nickel	14,929	1.9
Tin	21,928	1.7
Zinc	1,969	2.5
Cobalt	27,403	-0.9
Molybdenum	20,100	0.0

Other prices

		% change day on day
Gold (US$/oz)	1,369	3.0
Silver (US$/oz)	22.83	3.8
Platinum (US$/oz)	1,524	1.3
Palladium (US$/oz)	762	2.1
Oil WTI	107.05	-0.4
USD:EUR exchange rate	1.332	0.4
AUD:USD exchange rate	0.917	0.7

LME/COMEX stocks

	Tonnes	Change
Aluminium	5,438,675	-5,800
LME copper	584,075	-125
Comex copper	49,209	-2,184
Lead	190,925	-1,050
Nickel	206,118	240
Tin	14,055	0
Zinc	1,037,275	-2,600

Source: LME, Comex, Nymex, SHFE, Metal Bulletin, Reuters, LBMA, Macquarie Research

Articles of the week

- Individuals like gold, institutions don't
- Copper supply staying high
- The iron ore spot market – 10 years old and maintaining rapid progression
- 1H 2013 thermal coal supply review – the cost curve hasn't been "working"

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19 August 2013

Commodities Comment

Where has the ETF gold gone?

Feature article

- We noted Thursday that the gold market in 1H 2013 saw huge ETF outflows and very strong Asian physical demand. An analysis of trade data suggests the gold has literally gone from Europe to Asia.

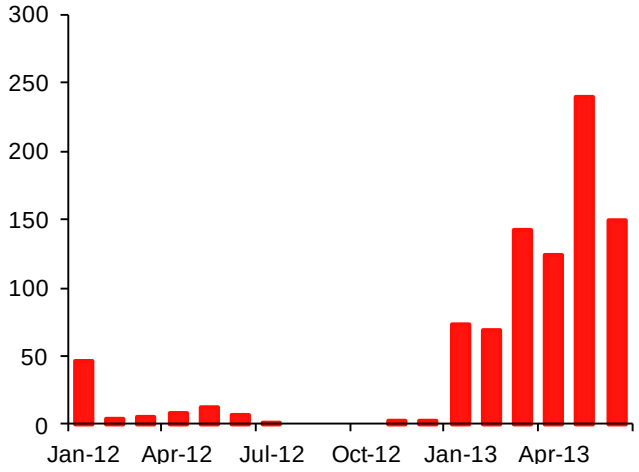
Latest news

- Metal prices had a positive Friday and a positive week. Aluminium and lead outperformed among the base metals, with week on-week gains of 4% and 3.5% respectively. The precious metals did even better, with gold up 4.6% and silver gaining 12.4% over the same period.
- Latest data on iron ore inventory at smaller Chinese steel mills showed an increase over the last two weeks from 23.9 days of cover to 25.3. This is a smaller increase than had been expected but the message is the same: the recent strength in iron ore prices has been driven primarily by a switch from destocking in 2Q to restocking in 3Q. Given the unusual timing of this year's destock, there is no historical precedent for what mills might do next. In previous years, mills have followed destocking with a full replenishment of inventory that has lasted several months. However, we believe this is because in previous years destocking has finished in September/October and mills need to hold high levels of inventory into year end as there are usually disruptions to supply in 1Q. This year however, destocking was completed by the end of 2Q and we expect iron ore availability to increase in the following months as Brazil hits its seasonal peak and capacity expansion from Australia hits the market. As a result, we expect mills to hold inventory at the current level or even reduce inventory over the next few weeks, which is likely to result in some near term price weakness.
- In July, the extended period of contraction in US steel product shipments came to an end, with shipments increasing approximately 6% over last year. US service center steel shipments in July 2013 increased by 6.3% from July 2012. Steel product inventories decreased 1.3% from last month. In aluminium, US service center shipments of semi-finished products increased 6% from the same month in 2012, marking the first YoY increase in 12 months. Inventories of aluminium products increased 0.1 % from last month. Broadly speaking US metal demand has been disappointing in the context of recovering macroeconomic data; however we expect growth in both steel and aluminium shipments to remain stable in 2H due to easier YoY comparisons.
- Taigang Stainless, China's largest stainless steel mill, has reduced its bid price for ferrochrome for September delivery by CNY50/tonne to CNY6,700/tonne (gross weight delivered, including VAT). While every market has its own dynamic, and certainly the ferrochrome market is struggling with a surplus of supply, price action in non-exchange traded commodities such as ferrochrome that are thereby less influenced by the hot money that flows in and out of exchange traded commodities, which has recently been excited by "better than expected macro economic data", serves as a salutary reminder that we should not carried away with the recently improved mood in commodities markets

Where has the ETF sold gold gone?

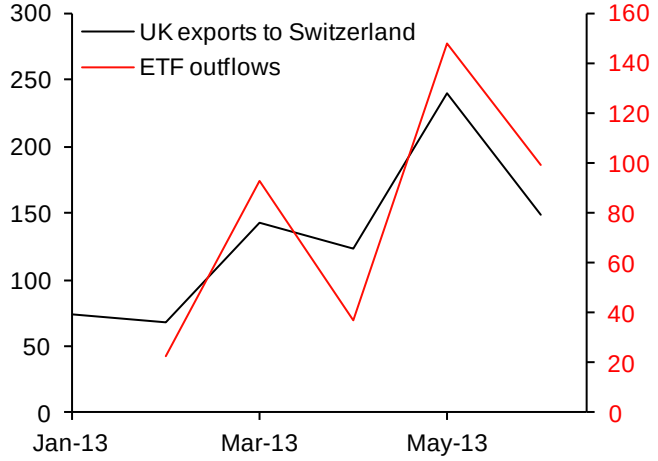
- As gold ETFs saw huge outflows in the first half of the year, we are often asked where that gold has gone. An analysis of the UK's trade data, where the most important gold ETFs vault their metal, shows huge flows of gold to Switzerland. From there we assume it is transformed into different products to be sent onto higher-paying end consumers in Asia.
- In 2012 the UK exported 92t of gold to Switzerland. In just one month of 2013, May, it exported 240t and over 1H 2013 it has exported 797t (fig 1), equivalent to 30% of *annual* gold mine production. The value of these 1H 2013 gold exports was nearly £25bn ($37bn).
- The UK does not have gold mines, so where has it all come from? The obvious source is the gold exchange-traded funds (ETFs), most of which hold their gold holdings in London vaults, and which saw huge outflows in 1H 2013. Fig 2 shows a good correlation between these outflows – which we estimate were nearly 500t over the same period – and the UK's exports, with a one-month lead time[1].
- And why is it going to Switzerland? Two explanations make sense. One would be that investors have decided to switch their gold investments from ETFs to allocated deposit accounts, which are often held in Switzerland. The World Gold Council suggests this happened in 1H 2013. But a bigger factor, we think, is that the gold bars from ETFs have gone to Switzerland, where most of the world's gold refining capacity is, to be remelted into different size bars and coins and then sold on end consumers, predominantly in Asia, specifically China and India.

Fig 1 UK monthly exports of gold to Switzerland, tonnes



Source: Customs data, Macquarie Research, August 2013

Fig 2 UK exports of gold to Switzerland and outflows from ETF London vaults (1 month ahead), tonnes

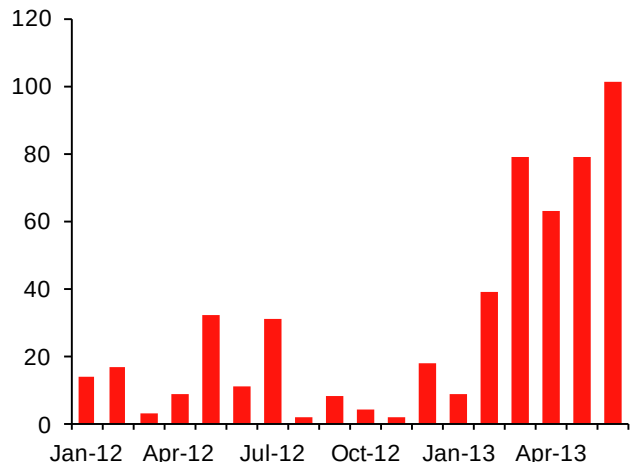


Source: Customs data, company data, Macquarie Research, August 2013

- Press reports and our own discussions with Swiss gold refineries suggest their business was very strong in 1H 2013, and as we reported in Thursday's *Commodities Comment*, in 1H 2013 Asian physical demand soared.
- Trade data also backs up this movement of gold – Hong Kong customs reported imports of gold from Switzerland of 370t in 1H 2013, up 284t on 1H 2103 (fig 3), while Indian imports from Switzerland appear to have risen by more than 100t YoY.
- It is not really very surprising that the gold has found its way from vaults in London (and most likely the US and Switzerland) to Asia via Swiss refineries. We have repeatedly noted that gold ETFs are part of the physical gold market and if investors don't want the gold it has to go somewhere else. And as fig 4 shows, the Chinese are simply willing to pay more for it.

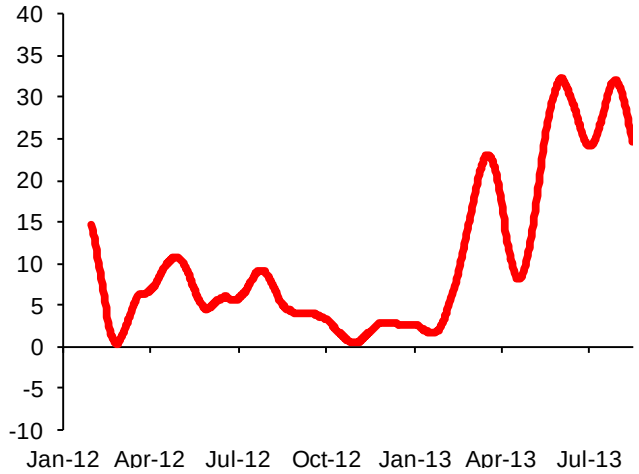
[1] The level of UK exports was higher than the ETF outflows, which can be explained by normal flows, non-ETF investment liquidation and ETF/Comex liquidation in the US being moved to Switzerland via London.

Fig 3 Hong Kong imports gold from Switzerland, tonnes



Source: GTIS, Macquarie Research, August 2013

Fig 4 Premium Shanghai gold price over London gold price, $/oz (rolling 1m average)



Source: SGE, LBMA, Macquarie Research, August 2013

Friday 16 August 2013

Commodities Prices

	Closing price * 16-Aug-13 US$/tonne	Closing price * 16-Aug-13 US¢/lb	Closing price * 15-Aug-13 US$/tonne	Closing price * 15-Aug-13 US¢/lb	% ch. day on day	2013 YTD US$/tonne	Ave 2012 US$/tonne
LME Cash							
Aluminium	1,899	86	1,861	84	2.0	1,901	2,018
Aluminium Alloy	1,786	81	1,770	80	0.9	1,816	1,918
NAASAC	1,860	84	1,850	84	0.6	1,842	2,000
Copper	7,372	334	7,282	330	1.2	7,463	7,950
Lead	2,245	102	2,199	100	2.1	2,162	2,061
Nickel	14,929	677	14,654	665	1.9	15,844	17,527
Tin	21,928	995	21,555	978	1.7	22,169	21,092
Zinc	1,969	89	1,921	87	2.5	1,926	1,946
Cobalt	27,403	1,243	27,652	1,254	-0.9	27,316	29,115
Molybdenum	20,100	912	20,100	912	0.0	24,358	28,249
LME 3 Month							
Aluminium	1,945	88	1,908	87	1.9	1,939	2,050
Aluminium Alloy	1,815	82	1,800	82	0.8	1,837	1,944
NAASAC	1,890	86	1,880	85	0.5	1,866	2,044
Copper	7,400	336	7,309	332	1.2	7,493	7,946
Lead	2,250	102	2,207	100	1.9	2,175	2,073
Nickel	15,000	680	14,725	668	1.9	15,919	17,595
Tin	21,950	996	21,585	979	1.7	22,188	21,104
Zinc	2,006	91	1,960	89	2.4	1,956	1,964
Cobalt	27,500	1,247	27,750	1,259	-0.9	27,548	29,146
Molybdenum	20,100	912	20,100	912	0.0	24,358	28,253
LME closing price - 1700 hrs London time. Year-to-date averages calculated from official fixes.							
Gold - *London PM Fix (US$/oz)*	1,369		1,330		3.0	1,493	1,669
Silver - *London AM Fix (US$/oz)*	22.83		22.00		3.8	25.79	31.16
Platinum - *London PM Fix (US$/oz)*	1,524		1,504		1.3	1,530	1,548
Palladium - *London PM Fix (US$/oz)*	762		746		2.1	724	647
Oil WTI - *NYMEX latest (US$/bbl)*	107.05		107.51		-0.4	95.24	94.13
EUR : USD exchange rate - *latest*	1.332		1.327		0.4	1.312	1.286
AUD : USD exchange rate - *latest*	0.917		0.911		0.7	1.003	1.036

Exchange Stocks

(tonnes)	16-Aug-13	15-Aug-13	Change since last report Volume	Change since last report Percent	Cancelled warrants	End-12 stocks	Ch. since end-12
LME Aluminium	5,438,675	5,444,475	-5,800	-0.1%	2,060,400	5,210,050	228,625
Shanghai Aluminium	334,033	349,179	-15,146	-4.3%	-	442,295	-108,262
Total Aluminium	**5,772,708**	**5,793,654**	**-20,946**	**-0.4%**	**-**	**5,652,345**	**120,363**
LME Copper	584,075	584,200	-125	0.0%	310,650	320,050	264,025
Comex Copper	49,209	51,393	-2,184	-4.2%	-	64,059	-14,850
Shanghai Copper	161,891	151,148	10,743	7.1%	-	204,773	-42,882
Total Copper	**795,175**	**786,741**	**8,434**	**1.1%**	**-**	**588,882**	**206,293**
LME Zinc	1,037,275	1,039,875	-2,600	-0.3%	605,650	1,220,750	-183,475
Shanghai Zinc	258,147	259,806	-1,659	-0.6%	-	310,731	-52,584
Total Zinc	**1,295,422**	**1,299,681**	**-4,259**	**-0.3%**	**-**	**1,531,481**	**-236,059**
LME Lead	190,925	191,975	-1,050	-0.5%	97,925	320,325	-129,400
Shanghai Lead	103,583	108,993	-5,410	-5.0%	-	74,981	28,602
Total Lead	**294,508**	**300,968**	**-6,460**	**-2.1%**	**-**	**395,306**	**-100,798**
Aluminium Alloy	67,840	68,000	-160	-0.2%	2,540	87,740	-19,900
NASAAC	111,880	111,840	40	0.0%	35,300	147,180	-35,300
Nickel	206,118	205,878	240	0.1%	36,402	139,908	66,210
Tin	14,055	14,055	0	0.0%	4,315	12,825	1,230

Source: Comex, LBMA, LME, Nymex, Reuters, SHFE, Macquarie Research

Summary of changes, week ended 16 August

LME metal prices (%)	Cash	3-Month
Aluminium	4.0%	4.0%
Aluminium Alloy	0.4%	0.3%
NAASAC	1.2%	1.5%
Copper	1.6%	1.7%
Lead	3.5%	3.2%
Nickel	2.2%	2.2%
Tin	-0.6%	-0.6%
Zinc	3.3%	3.2%
Cobalt	4.1%	3.8%
Molybdenum	0.0%	0.0%
Other prices (%)		
Gold	4.6%	
Silver	12.4%	
Platinum	2.1%	
Palladium	3.1%	
Oil WTI	1.3%	
EUR : USD exchange rate	-0.2%	
AUD : USD exchange rate	-0.2%	

Exchange stocks	tonnes	%
LME aluminium	-24,675	-0.5%
Shanghai aluminium	-15,146	-4.3%
Total aluminium	**-39,821**	**-0.7%**
LME copper	-10,425	-1.8%
Comex copper	-7,554	-13.3%
Shanghai copper	10,743	7.1%
Total copper	**-7,236**	**-0.9%**
LME zinc	-10,600	-1.0%
Shanghai zinc	-1,659	-0.6%
Total zinc	**-12,259**	**-0.9%**
LME lead	-8,350	-4.2%
Shanghai lead	-5,410	-5.0%
Total lead	**-13,760**	**-4.5%**
LME aluminium alloy	**1,240**	**1.9%**
LME NAASAC	**-1,380**	**-1.2%**
LME nickel	**2,094**	**1.0%**
LME tin	**305**	**2.2%**

Source: Comex, LBMA, LME, Nymex, Reuters, SHFE, Macquarie Research

Commodity Matrix – 3-6 month view

Bulk Commodities	3-6 month view	Supply Growth	Demand	Prices	Inventory	
Coking Coal	OK	Poor	Stable	Up	Low	Disappointing compared to expectations. Q4 contract set to follow Q3 at <$150/t
Steel	OK	OK	Stable	Stable	Mixed	Chinese real estate offering hope, but still too many exports in global markets. US prices looking exposed
Iron ore	Poor	OK	Stable	Up	Low	Unlike peers, inventories remain low. $120/t a fair price for H2, though current price looks stretched
Thermal Coal	OK	Strong	Good	Stable	Mixed	Supply cuts starting to take hold, but limited upside
Base Metals	**3-6 month view**	**Supply Growth**	**Demand**	**Prices**	**Inventory**	
Tin	Good	Poor	Stable	Up	Low	Chinese imports look set to rise - good time to enter this market
Copper	Poor	Strong	Stable	Up	Mixed	Rapid inventory build has shaken confidence. Demand is stable, but 2014 looks concerning from S-D perspective
Uranium	Good	Poor	Weak	Stable	High	High inventories ex-China continue to overhang the market, though forthcoming WNA conference could offer positive catalyst
Lead	OK	Strong	Stable	Up	Mixed	Moving back towards its seasonally strong period
Aluminium	OK	Strong	Good	Up	High	Big question now is the LME warehouse unwind. Fundamentally an underperformer, but cyclically could benefit as China becomes more rational.
Zinc	Poor	OK	Stable	Up	High	Further downside is needed to solve the concentrate surplus problem
Nickel	OK	Strong	Good	Up	High	Price is now putting big pressure on NPI and other high cost operations. Market is in surplus, but supply adjustment should bring some stability
Precious Metals	**3-6 month view**	**Supply Growth**	**Demand**	**Prices**	**Inventory**	
Platinum	Poor	Poor	Weak	Up	Low	Low inventories at the mine level, but what happens when the new ETF stops buying?
Palladium	OK	Poor	Stable	Up	Low	Supply still poor while auto data remains robust
Gold	OK	Poor	Weak	Up	High	The rebalancing we called for has only partly taken place. Back to trading on macro data

Source: Macquarie Research, August 2013

Commodity Matrix – Longer term view

	12-month view	3-5 year view	
Coking Coal	Neutral	Good	Despite 2012 woes, the lack of supply growth potential sets it apart in the bulks. $180/t a medium-term norm
Steel	Poor	Poor	Global steel market continues to suffer with chronic overcapacity, which will take years to restructure
Iron ore	Neutral	Poor	Supply is set to grow, though will underperform expectations. Has more longevity than thought, but price trajectory should be trending down
Thermal Coal	Poor	Neutral	Demand is not a problem, but on paper plenty of supply to keep up.
Commodity	**12-month view**	**3-5 year view**	
Tin	Good	Good	Differentiated due the the lack of large, scaleable supply which keeps market fundamentals tight into medium term
Copper	Poor	Good	Market looks in surplus H2 2013 and 2014. However, steep gradient at the top end of the cost curve is underestimated offering sustained pricing >$7,500/t
Uranium	Poor	Good	The market will need more primary uranium supply - just not yet. In the interim any sustained pullback in Chinese imports is a big risk
Lead	Neutral	Good	Demand outlook ok if not stellar, but ex-China mine supply struggling to cope
Aluminium	Poor	Poor	Do not underestimate the negative impact of LME Warehousing rule changes
Zinc	Poor	Neutral	Fundamentally, set to run a large surplus for the next 2 years. Mine supply issues offer medium-term hope, but near term more influenced by LME rules
Nickel	Neutral	Good	Plentiful nickel ore and NPI capacity set to see a surplus, however zero Indonesian rick currently priced in
Commodity	**12-month view**	**3-5 year view**	
Platinum	Neutral	Good	South African supply expectations remain too high for 2013, while prices need to trade higher to incentivise new supply
Palladium	Good	Good	Emerging market auto demand offers more demand support than peer platinum, while supply problems are the same
Gold	Neutral	Neutral	Gold continues to trade at a decent premium to both cost support and historical norms, even post sell-off. Medium-term outlook poor until jewellery demand rises sufficiently to offset investor fatigue.

Source: Macquarie Research, August 2013

Macquarie commodity price forecasts

	Unit	2012 CY	2013 Q1	2013 Q2	2013 Q3	2013 Q4	2013 CY	2014 CY	2015 CY	2016 CY	2017 CY	2018 CY	LT $2012
Copper	$/tonne	7,950	7,935	7,144	6,850	6,800	7,182	6,550	6,800	7,525	7,875	7,875	6,504
Aluminium	$/tonne	2,018	2,003	1,833	1,800	1,850	1,872	1,900	2,200	2,400	2,500	2,550	2,200
Zinc	$/tonne	1,946	2,058	1,875	1,850	1,900	1,921	2,088	2,300	2,300	2,250	2,250	1,875
Nickel	$/tonne	17,527	17,318	14,945	14,000	14,500	15,191	15,500	19,500	24,000	27,000	27,000	24,251
Lead	$/tonne	2,061	2,302	2,053	2,050	2,100	2,126	2,175	2,400	2,250	2,200	2,200	1,875
Tin	$/tonne	21,092	24,135	20,887	21,000	22,000	22,005	21,625	21,125	21,125	22,625	26,750	20,000

	Unit	2012 CY	2013 Q1	2013 Q2	2013 Q3	2013 Q4	2013 CY	2014 CY	2015 CY	2016 CY	2017 CY	2018 CY	LT $2012
Manganese ore	$/mtu CIF	4.9	5.4	5.8	5.5	5.5	5.6	5.9	6.5	6.0	6.0	5.5	5.0
FeCr (EU contract)	c/lb	121	113	127	113	115	117	118	130	135	130	130	115
Molybdenum oxide	$/lb	13	11	11	11	11	11	14	16	15	16	16	15
Cobalt (99.8%)	$/lb	14	12	13	14	14	13	13	15	15	15	15	13
Steel - Average HRC	$/tonne	653	640	597	595	598	607	628	630	629	629	629	590
Steel Scrap - average #1HMS	$/tonne	380	369	332	313	343	339	338	333	313	293	293	262

	Unit	2012 CY	2013 Q1	2013 Q2	2013 Q3	2013 Q4	2013 CY	2014 CY	2015 CY	2016 CY	2017 CY	2018 CY	LT $2012 Long term
Iron ore - Australian fines	c/mtu fob	196	227	190	173	188	194	187	171	161	144	144	110
Iron ore - Australian lump	c/mtu fob	206	238	204	187	200	207	202	187	176	159	159	130
Spot 62% Fe iron ore China	$/t cfr	130	148	126	115	125	129	125	115	110	100	100	80

	Unit	2012 CY	2013 Q1	2013 Q2	2013 Q3	2013 Q4	2013 CY	2014 CY	2015 CY	2016 CY	2017 CY	2018 CY	LT $2012 Long term
Thermal coal - Australian Spot	$/t fob	97	93	86	82	82	86	86	90	90	90	95	80
Thermal coal - S.African Spot	$/t fob	92	85	81	79	79	81	84	88	88	88	88	80
Thermal coal - JFY contract	$/t fob	115	115	95	95	95	95	90	96	95	95	100	85
Hard coking coal	$/t fob	210	165	172	145	145	157	179	200	200	200	200	155
Semi-soft coking coal	$/t fob	140	120	122	105	105	113	123	130	130	130	130	105
LV PCI coal	$/t fob	153	124	141	122	122	127	143	150	150	150	150	120
Coke - China export spot	$/t fob	425	287	252	230	230	250	298	310	310	310	310	270

	Unit	2012 CY	2013 Q1	2013 Q2	2013 Q3	2013 Q4	2013 CY	2014 CY	2015 CY	2016 CY	2017 CY	2018 CY	LT $2012 Long term
Gold	$/oz	1,669	1,632	1,412	1,200	1,300	1,386	1,294	1,288	1,390	1,440	1,473	1,250
Silver	$/oz	31	30	23	19	20	23	19	19	21	22	23	18
Platinum	$/oz	1,548	1,634	1,464	1,285	1,400	1,446	1,569	1,819	1,900	1,906	1,975	1,800
Palladium	$/oz	647	740	712	725	710	722	785	838	875	900	950	800
Uranium spot	$/lb	49	53	52	51	49	42	53	63	70	70	70	60

Source: CRU, LME, McCloskey, Metal Bulletin, Platts, TEX Report, Macquarie Research, August 2013

Chinese Macro and Production Data

Growth % change year-on-year	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	2013 YTD
Macro-economic indicators													
GDP (Gross domestic product)			7.4%			7.9%			7.7%			7.5%	
Industrial production	9.2%	8.9%	9.2%	9.6%	10.1%	10.3%	9.9%	9.9%	8.9%	9.3%	9.2%	9.2%	9.4%
PMI	50.1	49.2	49.8	50.2	50.6	50.6	50.4	50.1	50.9	50.6	50.8	50.1	50.5
Money supply growth (M2)	13.9%	13.5%	14.8%	14.1%	13.9%	13.8%	15.9%	15.2%	15.7%	16.1%	15.8%	14.0%	15.4%
Consumer price index (inflation)	1.8%	2.0%	1.9%	1.7%	2.0%	2.5%	2.0%	3.2%	2.1%	2.4%	2.1%	2.7%	2.4%
Ex-factory price index (PPI)	-2.9%	-3.5%	-3.6%	-2.8%	-2.2%	-1.9%	-1.6%	-1.6%	-1.9%	-2.6%	-2.9%	-2.7%	-2.2%
Fixed asset investment - total urban	20.5%	19.3%	23.0%	22.3%	19.8%	18.7%	21.8%	21.8%	22.4%	20.7%	20.7%	20.9%	21.3%
Retail sales	13.1%	13.2%	14.2%	14.5%	14.9%	15.2%	12.3%	12.3%	12.6%	12.8%	12.9%	13.3%	12.7%
Exports	1.0%	2.6%	9.7%	11.4%	2.8%	14.0%	24.9%	21.7%	10.0%	14.6%	0.9%		18.3%
Imports	5.7%	-2.7%	2.3%	2.2%	-0.1%	6.0%	29.0%	-14.9%	14.2%	16.6%	0.0%	-0.9%	6.7%
Sector indicators													
Fixed asset investment in:													
Coal mining/processing	3.0%	18.8%	-5.1%	-8.0%	-10.9%	2.4%	-4.7%	-4.7%	-16.0%	1.8%	6.0%	-2.9%	-2.7%
Iron ore mining	28.9%	29.4%	26.2%	8.6%	6.0%	31.3%	12.2%	12.2%	1.9%	13.3%	-10.6%	23.5%	8.1%
Non-ferrous mining	19.5%	-12.8%	33.1%	-5.3%	-0.2%	-22.6%	25.4%	25.4%	-3.6%	-6.7%	-0.5%	19.7%	8.1%
Steel	21.2%	44.2%	7.9%	37.5%	16.2%	35.6%	1.9%	1.9%	11.9%	6.3%	-2.6%	1.3%	3.1%
Non-ferrous melting/rolling	13.2%	23.9%	20.1%	16.1%	12.0%	1.5%	29.0%	29.0%	32.5%	38.5%	28.3%	11.0%	25.4%
Metal product manufacturing	23.8%	19.6%	23.6%	4.1%	12.6%	14.0%	21.8%	21.8%	27.3%	12.2%	21.3%	5.8%	17.2%
Power and thermal supply	7.9%	18.4%	15.2%	12.8%	-0.3%	-12.0%	14.1%	14.1%	8.2%	6.8%	1.2%	17.0%	10.2%
Real estate	15.8%	20.0%	20.6%	21.6%	31.8%	21.0%	24.8%	24.8%	21.5%	24.9%	21.0%	20.5%	22.6%
Floor space of buildings under construction (3MM/	-13.5%	-7.4%	-9.6%	-3.3%	-7.6%	1.8%	14.0%	14.7%	17.0%	18.8%	20.4%	6.1%	15.5%
Floor space of buildings sold (3MMA)	-0.4%	6.1%	6.0%	9.2%	15.3%	10.9%	11.8%	9.9%	37.1%	35.8%	31.1%	23.5%	28.7%
Power/coal indicators													
Electric power production	2.1%	2.7%	1.5%	6.4%	7.9%	7.6%	0.0%	-13.7%	2.1%	6.2%	4.1%	6.0%	5.6%
of which thermal	-4.5%	-6.3%	-8.2%	-1.8%	4.9%	5.6%	0.0%	-16.9%	-0.5%	4.2%	3.7%	4.9%	6.5%
Production of power generating equipment	-24.1%	-11.5%	-8.3%	22.0%	-18.6%	1.8%							
Cement production	4.4%	7.2%	10.2%	10.2%	6.9%	3.8%	39.9%	-16.8%	4.3%	9.3%	9.3%	9.8%	8.6%
Fertilizer production	18.5%	37.3%	23.8%	17.7%	22.1%	26.9%	9.7%	-0.1%	19.0%	15.6%	4.4%	2.5%	8.5%
Pig iron production	2.3%	-0.4%	1.6%	5.8%	12.0%	6.0%	8.2%	6.8%	7.1%	6.8%	6.6%	4.7%	6.7%
Production of metal-containing products													
Copper semis	1.0%	-1.8%	-0.3%	3.5%	0.6%	8.8%	50.4%	-8.5%	19.8%	17.6%	23.9%	9.4%	17.0%
Aluminium semis	8.7%	11.8%	15.3%	17.0%	16.4%	28.0%	25.1%	3.6%	33.1%	33.8%	30.8%	30.2%	26.7%
Air conditioners	-18.0%	1.9%	13.7%	31.0%	17.9%	25.2%	-33.0%	-33.0%	24.3%	3.8%	-13.6%	15.9%	2.3%
White Goods	1.4%	3.0%	8.2%	-2.0%	7.8%	5.8%	29.4%	-14.9%	13.5%	11.6%	22.6%	9.6%	12.2%
Power cables	15.5%	13.2%	19.3%	10.7%	11.5%	19.0%	26.5%	-17.5%	-21.3%	0.1%	9.0%	1.0%	14.1%
Electric motors	-4.8%	-5.8%	-7.5%	-4.5%	-2.5%	1.9%	-15.2%	-15.2%	4.7%	1.5%	3.7%	5.5%	6.5%
Electric driven tools	8.2%	8.3%	-14.5%	9.7%	30.3%	27.1%	-6.6%	-6.6%	-24.1%	-13.4%	-7.8%	-8.9%	-3.4%
Electrical instruments	19.5%	23.6%	4.8%	2.8%	1.5%	-5.3%	-32.1%	-32.1%	6.0%	12.4%	2.3%	11.1%	3.5%
Computers	-13.1%	-8.5%	-4.6%	21.1%	25.8%	4.8%	-18.0%	-18.0%	3.4%	5.4%	-3.8%	5.0%	-1.4%
Colour TVs	4.0%	3.6%	15.1%	18.9%	6.2%	-2.7%	-19.8%	-19.8%	3.1%	1.4%	5.4%	4.1%	7.3%
Transport production													
Cars (sedans)	12.1%	10.8%	9.6%	8.2%	8.1%	7.9%	0.0%	-11.9%	14.2%	15.5%	12.2%	13.1%	16.7%
Buses	7.2%	-3.7%	0.8%	1.2%	-6.9%	-3.3%	0.0%	-19.4%	0.0%	-15.0%	-3.9%	-16.7%	-1.5%
Motor vehicle	-6.9%	-4.5%	-1.7%	2.2%	-1.9%	-0.6%	0.0%	-19.0%	8.6%	2.9%	6.1%	4.2%	2.3%
Tractors	-1.9%	9.6%	10.9%	12.4%	10.8%	8.4%	23.1%	-16.8%	31.6%	43.5%	76.6%	68.8%	33.5%
Railway engines	-3.3%	-51.1%	-33.9%	-31.9%	-54.3%	-33.6%	-29.3%	-60.5%	-52.4%	-35.8%	-37.7%	-60.9%	-48.3%
Boats	-37.1%	-20.0%	-48.6%	17.0%	-17.5%	-30.8%	-6.1%	-17.9%	-13.5%	-25.1%	-28.4%	-49.0%	-26.6%

Source: NBS, Macquarie Research, August 2013

Articles of the Week

Individuals like gold, institutions don't (in second quarter)

- Gold in 2Q 2013 was popular with retail consumers and investors, especially in Asia, but not institutional investors and central banks, latest World Gold Council/Thomson Reuters GFMS data[2] suggests.
- 2Q 2013 was one of the most momentous quarterly periods for the gold price in history, with the gold price falling 25% during that period, its worst performance on record. We know that exchange-traded fund (ETF) investors sold in huge amounts –WGC/GFMS estimate an outflow of 402t, compared with zero change in 2Q 2012 – but how did the rest of the market react?
- Supply from other sources was 62t lower.
  - ⇒ This was mainly down to a far lower rate of scrap generation, just 308t, down 81t from the 389t seen in 2Q 2012. The chief cause of this was the sharply lower gold price but also, WGC/GFMS say, because there was less 'distress selling' from hard-up individuals in developed economies.
  - ⇒ In contrast mine supply increased to 732t in 2Q 2013, 25t higher YoY. Most of the gain was estimated to have come from Chinese mines. However WGC/GFMS estimate producers continued to buy back hedges – which reduces the amount of gold that hits the market – and by 15t, 7t more than in 2Q 2012.
- Demand excluding ETFs was estimated to be 303t higher.
  - ⇒ Jewellery fabrication was estimated up 170t YoY, a gain of 40%, with jewellery consumption rising a slightly smaller 155t, up 37%. Of this Indian demand rose by 63t and 51% (to 188t) and China gained 53t and 54%, to 153t[3] (Hong Kong, counted separately, bought 12t, up 66%).
  - ⇒ Outpacing even jewellery was bar and coin investment demand, seen as up 222t YoY, and 78% higher. Again India (up 66t YoY) and China (up 75t YoY) were the key regions, but demand is estimated as rising in every country of the world except France.
  - ⇒ But the official sector disappointed, with central bank buying down 90t YoY, a decline of 56%.
- This leaves an increase in "OTC investment and stocks" of 115t, 37t higher YoY. The WGC suggest this reflects the opening of some private accounts in Asia or Japan, and the switching of some gold from ETFs to private accounts, although it is also a balancing item and we suggest it could reflect unwanted stock build elsewhere.

Fig 1 Gold supply & demand, 2Q 2013 and 2012, tonnes, and YoY change, tonnes and %

Supply	2Q 2013	2Q 2012	YoY Tonnes	YoY %
Mine production	732	707	25	4%
Net producer Hedging	- 15	- 8	- 7	88%
Total mine supply	**717**	**699**	**18**	**3%**
Scrap	308	389	- 81	-21%
Total supply	**1,026**	**1,088**	**- 62**	**-6%**
Demand				
Jewellery	593	423	170	40%
Technology	104	103	1	1%
Bar and coin investment	508	286	222	78%
Central bank net purchases	71	161	- 90	-56%
Total demand (excluding ETFs)	**1,276**	**973**	**303**	**31%**
ETF flows (negative means outflow)	**- 402**	**-**	**- 402**	**n/a**
OTC investment and stock flows	**152**	**115**	**37**	**32%**
Average gold price	**$1,415**	**$1,610**	**-$195**	**-12**

Source: World Gold Council/Thompson Reuters GFMS , Macquarie Research, August 2013

[2] For the report: http://www.gold.org/investment/research/regular_reports/gold_demand_trends/

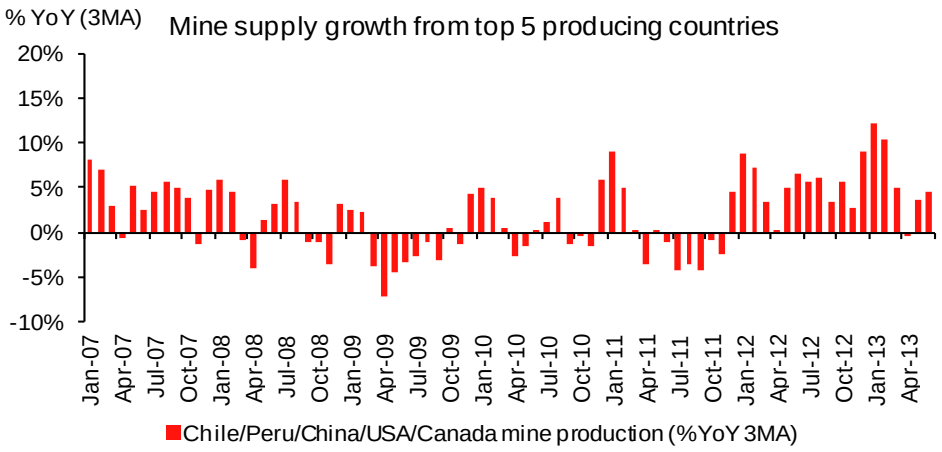
[3] We think this might even understate Chinese jewellery demand in 2Q 2013. The China Gold Association reported jewellery demand of 205t, up 80% YoY, and our analysis of jewellery retail sales suggests an even higher amount.

- So what have we learnt about 2Q and what does this data tell us about the outlook for gold? After all that large institutional selling was met by strong jewellery demand or retail investment demand is not that newsworthy – the sold gold has to go somewhere and the gold price falls to make it happen. But we would highlight:
  - ⇒ Mine supply continues to increase despite the low price. It was always unlikely that miners would react to the price collapse with cuts in production straight away; indeed some have increased production. However the WGC suggests that mine supply might start to fall from the end of 2013.
  - ⇒ Jewellery demand seems very price elastic – a 12% fall in the YoY price saw a 40% increase in fabrication, 37% in consumption. This means the dollar spend on jewellery rose quite substantially. This might overstate the true price elasticity, however, given all gold jewellery has some investment component, and hence the quarterly change in price (a larger 25%) and future price expectations might have been more relevant.
  - ⇒ Similarly retail investors in bars and coins appear to have a very different outlook for gold (or a different time horizon) than institutional investors in ETFs. Bar and coin demand rose 78%, ETFs saw outflows of over 400t. One explanation might be different local conditions (such as inflation or interest rates) means gold investment looks a better bet in some countries and currencies than it does for dollar-based investors (although US bar and coin investment doubled).
  - ⇒ Central banks appear to have reacted negatively to the price fall, reducing purchase substantially. These transactions are lumpy and it is hard to draw conclusions from one quarter's data – but the WGC did reduce its forecast for full year purchases to 300-350t, down from an earlier forecast of 400t and an estimate of well over 500t in 2012.
  - ⇒ The gold market is increasingly reliant on India and China. Together those countries accounted for 68% of the increase in jewellery and bar and coin demand YoY, and their share of demand rose from 46% of the world in 2Q 2012 to 54% in 2Q 2013. With the Indian government's efforts to reduce consumption only beginning to take effect in 2Q this must be a concern going forward.
  - ⇒ Price outlook is still very much dependent on ETF flows. Given this it is a positive sign that the GLD ETF, responsible for 63% of the 671t of outflows seen in the first seven months of 2013, has seen consecutive inflows of metal in the last week (on 9 August and 14 August), the first time this has happened since December 2012.

Copper supply staying high

- The latest copper company production reports show mine supply growth remains on track to achieve 4% growth this year, double the ten-year average growth rate of 2%. The pace of supply growth looks set to increase further over the next twelve months as new mines come online and we expect this will keep the copper market firmly in surplus, with total global inventory expected to reach 3.3Mt in 2014 (8 weeks of demand) vs. the current level of 2.4Mt (6 weeks of demand).

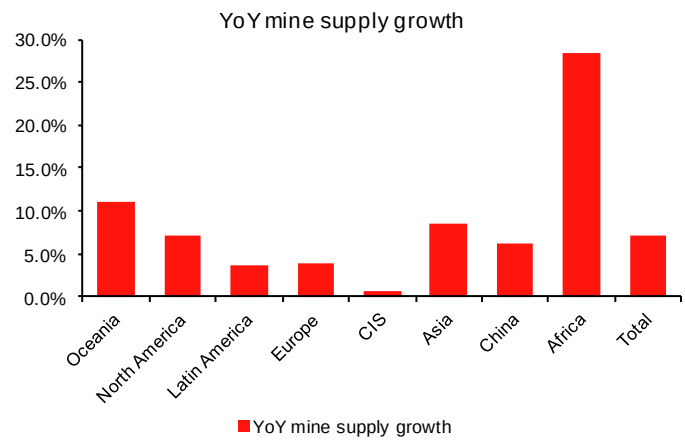
Fig 1 Major copper producing regions have provided an uninterrupted period of supply growth in the past eighteen months



Source: Cochilco, ICSG, Peruvian central bank, USGS, NBS, Macquarie Research, August 2013

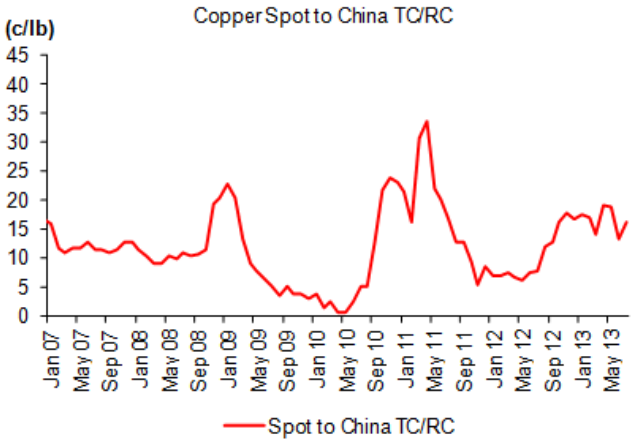
- **Copper raw material market still well supplied...**A combination of sequentially lower mine supply in 1H vs 2H, and a rebound in global copper consumption typically sees concentrate availability fall in the first half, forcing spot treatment & refining charges (TC/RC) lower. In 2013 thus far, although mine supply has fallen sequentially, spot TC/RCs are still reportedly trading close to a twelve month high.
- While the spot concentrate market has been quiet in July we have noted mine-to-trader sales close to the benchmark of $70/t & 7c/lb, and recently as high as $80/t & 8c/lb for clean concentrates. Furthermore our own industry surveys have pointed to an increase in both concentrate and refined metal stocks at Chinese smelters since April. In our view this restock, driven in part by the fall in prices, has overstated China's apparent demand figures in 1H 2013.

Fig 2 New capacity from the African copper belt has provided the largest contribution to growth YTD



Source: Company data, ICSG, Macquarie Research, August 2013

Fig 3 Treatment charges paid by miners to smelters have remained elevated despite Q2 disruptions



Source: Wood Mackenzie, Macquarie Research, August 2013

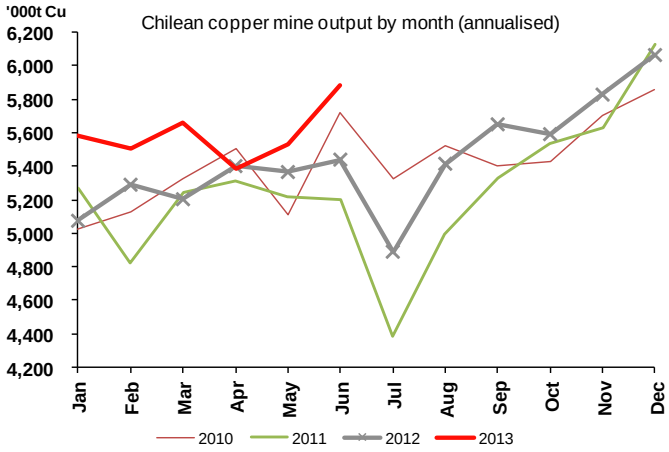
- **Copper supply disruptions gather pace in Q2 but still below expectations…** After better-than-expected copper mine supply earlier in the year, Q2 disruptions picked up quickly, driven by the Bingham Canyon slide and the tragedy and subsequent closure of Grasberg. While disruptions and stronger comparisons has led to a slowdown in mine supply growth rates in Q2, the losses experienced so far in 2013 are still comfortably within our modelled disruption allowance of 750kt for 2013. The past month has brought clarity on the expected losses from both Bingham and Grasberg, and guidance of full capacity utilisation being reached by the end of August at Grasberg we expect 200kt combined disruption for the full year from the two assets.

Fig 4 Disruption in Chilean copper shipments led to a large increase in cathode inventory in 1H 2013

Production	2013 Jan-Jul	2012 Jan-Jul	% Change	Change ('000t)
Mine	2,774	2,625	5.6%	148.1
Concentrate (D)	1,783	1,594	11.9%	189.2
Smelter (E)	634	667	-5%	-34
SX-EW	990	1,031	-4%	-41
Refinery	388	444	-13%	-56
Total Refined (A)	**1,378**	**1,475**	**-7%**	**-97**
Exports				
Bulk (E)	1,252	956	31%	296
Blister	198	209	-5%	-11
Refined (B)	**1,234**	**1,442**	**-14%**	**-208**
Domestic Sales (C)	**44**	**49**	**-9%**	**-4**
Apparent Refined Stock Change				
(A-B-C)	**100**	**-15**		**116**

Source: Company data, Macquarie Research, August 2013

Fig 5 Escondida has driven the 6% YTD (150kt) growth in Chilean mine supply



Source: Company data, Macquarie Research, August 2013

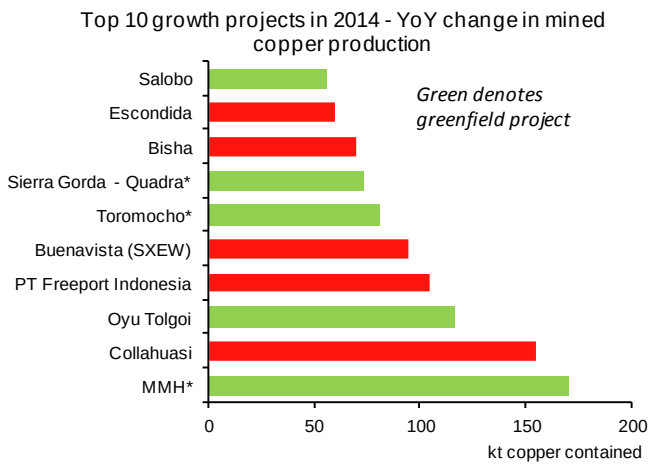
- **2014 looks likely to see the copper market surplus widen…** As shown in Figure 7 the top 10 growth projects **alone** are expected to deliver close to 1Mt of copper (for comparison purposes the top 10 projects in 2013 will likely only deliver 600kt). Out of these top 10 projects half are Greenfield capacity. The most significant of which, Codelco's Mina Ministro Hales, is expected to deliver an additional 170kt of copper contained in concentrate. **We expect that global copper mine supply growth in 2014 is expected to approach 7% YoY in 2014, the highest rate of supply growth for the last decade.**

Fig 6 Supply growth remains positive from the largest companies despite Codelco and Freeport disruption

Company	Operation	Q2 2013	Q2 2012	% YoY	000 t
Codelco*	Norte (Chiqui & RT)	161	192	-16%	-32
		397	**394**	**1%**	**3**
Freeport	PT Freeport Indonesia	57	71	-20%	-14
	Tenke-Fungurume	31	20	54%	11
		317	**314**	**1%**	**4**
BHP	Escondida	174	165	6%	9
	Antamina	35	35	-1%	0
	Olympic Dam	48	50	-4%	-2
		387	**375**	**3%**	**12**
Anglo	Los Bronces	101	89	13%	12
		182	**161**	**14%**	**22**
Southern Copper		**147**	**161**	**-8%**	**-13**
Rio	Bingham Canyon	39	30	31%	9
		146	**136**	**8%**	**10**
KGHM		Yet to report			
Antofagasta	Esperanza	30	26	12%	3
	Los Pelambres	62	61	1%	1
		116	**112**	**4%**	**5**
Teck		**80**	**83**	**-4%**	**-3**
Kazakhmys		**78**	**77**	**2%**	**2**
Barrick		**61**	**49**	**23%**	**11**
First Quantum**		62	59	**5%**	**3**
Glencore/Xstrata		337	281	**20%**	**56**
Total		**1913**	**1861**	**3%**	**53**

Source: Company data, Macquarie Research, August 2013

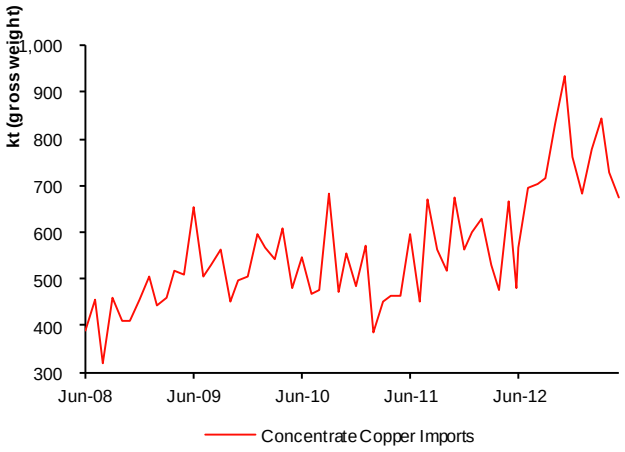
Fig 7 Green for growth...the top 10 projects will contribute ~1Mt of incremental copper supply in 2014



Source: Wood Mackenzie, Macquarie Research, August 2013

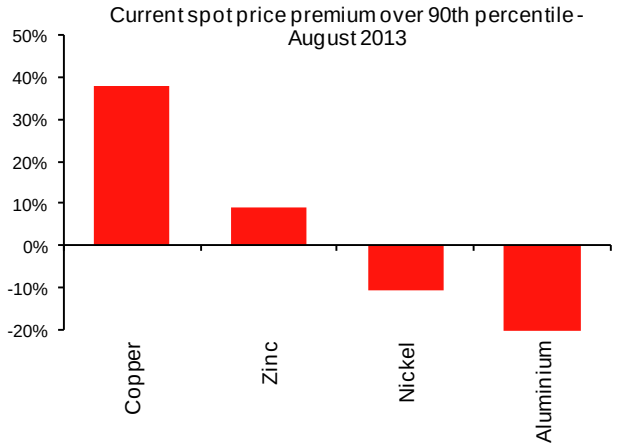
- **Mine supply growth and the impact on the Chinese market…**For the most part the increase in copper mine supply will be exported to China as concentrates, in order to be converted into metal by Chinese smelters. As shown in Figure 8, Chinese copper concentrate imports have increased by 30% YoY in 2013, allowing Chinese copper smelters to increase domestic refined supply by 12% YoY. Domestic smelter production above 6Mt on an annualised basis has cushioned the impact improving Chinese demand has had on inventory levels, and will reduce the need for higher refined copper imports.

Fig 8 A lack of new smelting capacity ex-China has seen miners export large volumes of concentrates



Source: NBS, Macquarie Research, August 2013

Fig 9 Copper stands out as the only base metal trading at a large premium to the cost of production



Source: LME, Wood Mackenzie, Macquarie Research, August 2013

Fig 10 Macquarie's global refined copper balance

Global Copper Supply/Demand Summary

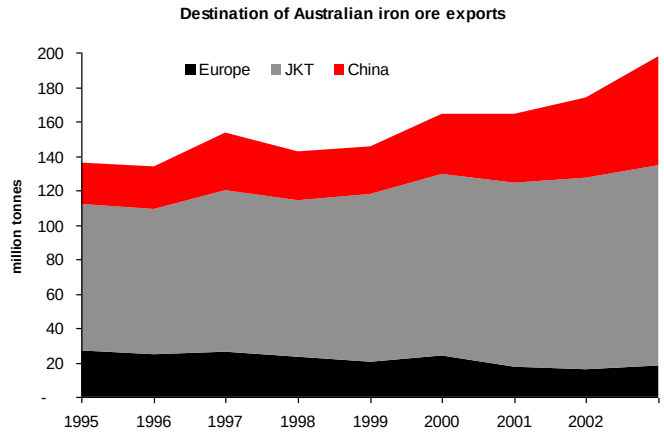
'000t	2012	2013f	2014f	2015f	2016f	2017f	2018f
Mine Production	**16810**	**17466**	**18700**	**19504**	**20116**	**20763**	**20654**
% Change	4.4%	3.9%	7.1%	4.3%	3.1%	3.2%	-0.5%
Refined Production	**20030**	**20727**	**21937**	**22900**	**23559**	**24374**	**24414**
% Change	2.1%	3.5%	5.8%	4.4%	2.9%	3.5%	0.2%
Refined Consumption	**19782**	**20465**	**21264**	**22206**	**23107**	**24032**	**24884**
% Change	-1.9%	3.5%	3.9%	4.4%	4.1%	4.0%	3.5%
Balance	**248**	**262**	**674**	**694**	**452**	**342**	**-470**
Reported stocks	**1078**	**1340**	**2013**	**2707**	**3159**	**3501**	**3031**
LME Cash Price (c/lb)	**7950**	**7459**	**6550**	**6800**	**7525**	**7875**	**7875**
LME Cash Price ($/t)	361	338	297	308	341	357	357

Source: Wood Mackenzie, Macquarie Research, August 2013

The iron ore spot market – 10 years old and maintaining rapid progression

- It has now been 10 years since a widely recognised iron ore spot market emerged, as Chinese steel output surged and Indian supply suddenly entered the market outside annual benchmarks. Like many youngsters, its first steps were hesitant and needed a lot of support. However, it proved to be a rapid developer, much more so that its peers, and coming into its own post the financial crisis and becoming predominant in the market. We believe the development of iron ore offers decent precedents for what may lay ahead for the potash market in the coming years. Meanwhile, iron ore's huge potential means, should a suitable futures contract become the market benchmark, within five years its journey could lead to a place in the global commodity indices.
- In our view, a large part of iron ore's success in market transition has been down to the fact that it behaves as an extremely efficient commodity market. The feedback between demand moving, price moving and supply reacting is extremely short compared with peers. In this way, iron ore remains the purest play on actual (rather than anticipated) Chinese growth – something which is attracting more and more financial players as market liquidity increases.
- The most recent development in iron ore has been rapid growth in financial contracts, with liquidity in SGX swaps roughly tripling in the past year. This has been in distinct contrast to ferrous peers such as met coal, where the physical spot market itself remains limited. Meanwhile, steel and scrap both have reasonably liquid physical spot markets, but development on the financial side has been slow going.
- In its relatively short existence, there have been certain key stages of iron ore spot market development, each of which has played a part in where it sits today:
- **Traditional supply couldn't keep up** – The iron ore spot market started to emerge in 2003 as Chinese buyers desperately sought new sources of iron units following strong steel production growth, which had averaged 23% over 2000-2003. Traditional buyers such as Japan and Korea dominated the contracted market, and Chinese players were left chasing marginal tonnes at the sidelines of traditional supply.
- **New suppliers with a different business model emerged** – The other major factor in the inception of the iron ore spat market was the emergence of Indian swing supply, with the ability to react quickly to market needs without significant lead times on new supply. These Indian tonnes from Goa and Karnataka formed the backbone of the early spot market, with supply growing from 42m tonnes in 2003 to a peak of 119mt in 2009. Without this growth, the iron ore spot market might still be more akin to metallurgical coal.

Fig 1 Before the spot market China was increasing market share, but core buyers still dominated



Source: ABS, Macquarie Research, August 2013

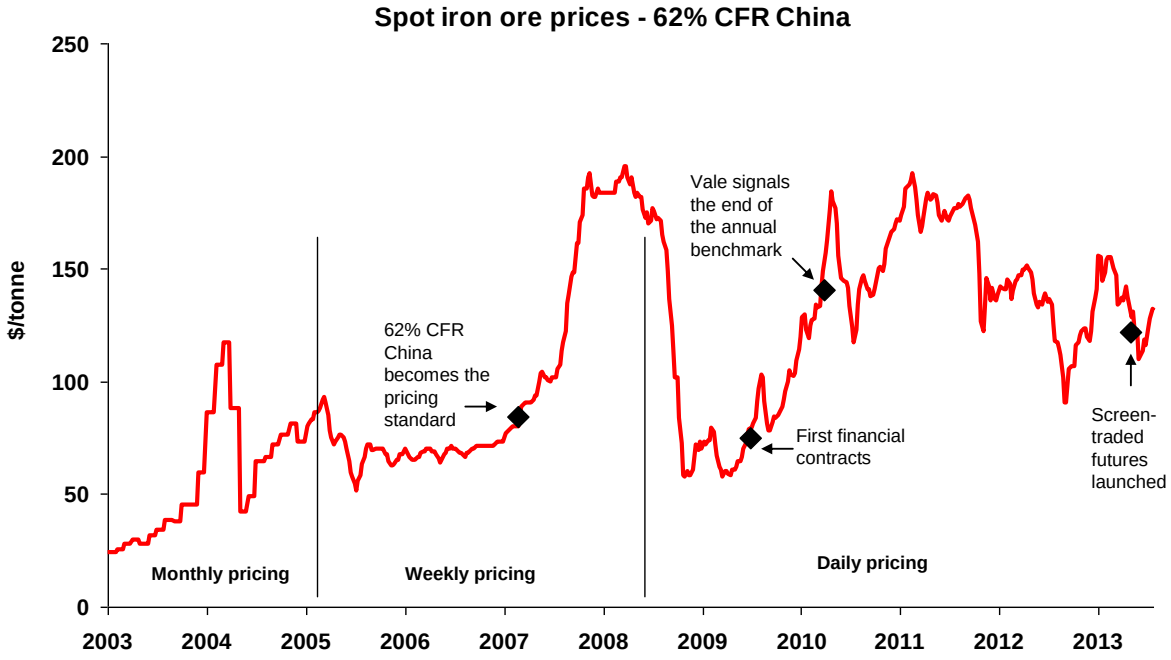
Fig 2 Indian exporters were happy to step into the gap, tripling between 2003-2009, often on spot terms

Source: Port Data, Macquarie Research, August 2013

- **Price discovery started making its way into market monitors** – With iron ore spot becoming an increasingly referenced price, market analysis firms increasingly started reporting it on a semi-regular basis. CRU reported 63.5% Fe monthly spot prices from 2003 (the time period reflecting the relative illiquidity of the market still) and increasingly when annual benchmark negotiations came round these were used as a reference point for negotiations, making the iron ore spot market more widely followed among all interested market sectors.

- **Prices based on port of delivery rather than port of origin** – One interesting development in price discovery related to how the price benchmarks were constructed and reported. Given that true 'spot' material is generally sold as close to the end customer as possible to minimise lead time (and risk), it was thus natural that prices started being reported on a CFR China basis rather than the FOB export port assessment used for annual contracts. The greatest significance of this was on how freight played into the price – this then effectively became a cost to the miners rather than a cost to the buyers.
- **Price discovery became more frequent…** - With market liquidity growing, market assessments naturally became more frequent. 2005 saw weekly prices published, then in June 2008 Platts started to publish daily assessments, with Metal Bulletin and The Steel Index following suit. Also, the standard assessment for iron ore had become 62%Fe, reflecting the prevalent grade in the spot market.
- **…supporting the first financial contracts** – With price assessments on a daily basis, credit departments started to feel a little more comfortable regarding iron ore market risk, and financial markets started to emerge. SGX listed their 62% Fe swaps in April 2009, which swiftly became the dominant cleared contract in the market.

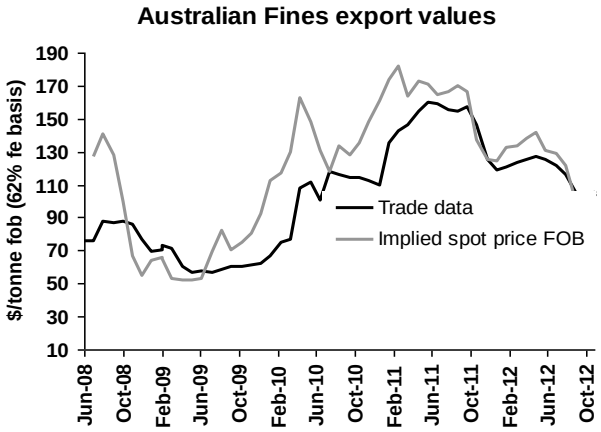
Fig 3 Iron ore spot price timeline



Source: CRU, Platts, Macquarie Research, August 2013

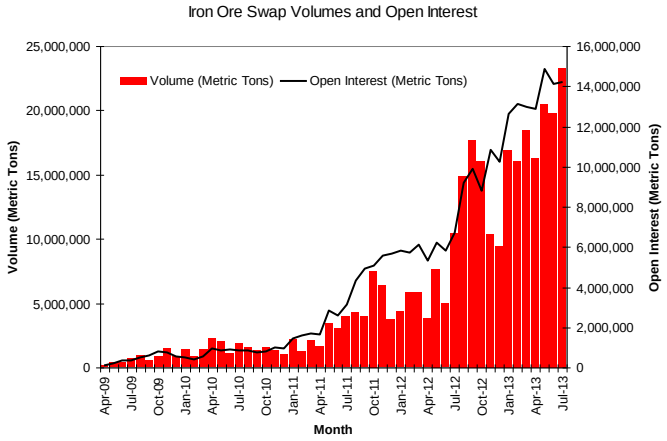
- **Benchmarks lose relevance in the physical market…** - The global financial crisis proved a defining moment for iron ore development. With credit tight and the spot price well below benchmark, some (though certainly not all) steelmakers defaulted on benchmark tonnages and chose to purchase on the spot market. As such, the benchmark system for iron ore did not withstand the physical market stress test, becoming effectively a one-way option call for buyers.
- **…and are no longer supported by producers** – With BHP already showing support for market clearing prices in lieu of the benchmark, the final nail in the coffin of the annual benchmark came in February 2010, when Vale altered their stance. This was iron ore's 'potash moment', with the potential impacts noted in the Commodities Comment of that day.
- **Physical contracts become increasingly spot-market linked…** - Over the course on 2010-11, the vast majority of physical contracts became spot linked with a variety of quotational periods used; quarterly lagged pricing, monthly lagged or marked to market based on the daily index price. As a result, customs values have move ever closer to spot price values as the price lag has reduced.
- **…while the price discovery players battle for supremacy** – With this development, the competing indices fought to convince producers theirs was to most robust. In many commodities, a single index or combination of indices has become predominant. This is not yet the case in iron ore, though with the correlation between index values so high this problem is not critical.

Fig 4 The lag between spot prices and trade values has shrunk, as contracts are increasingly spot-linked



Source: ABS, Macquarie Research, August 2013

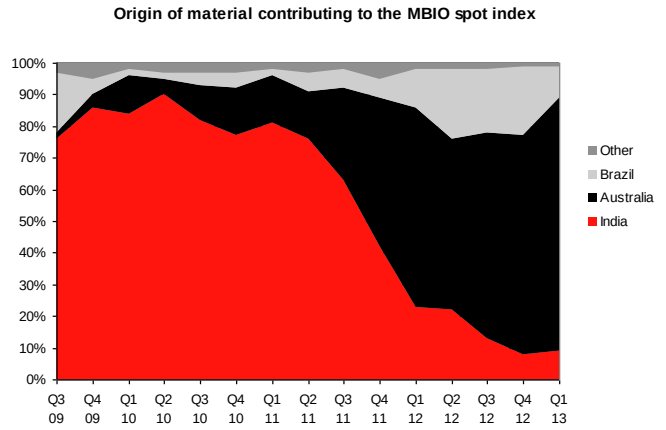
Fig 5 Swaps market liquidity has taken off over the past year



Source: SGX, Macquarie Research, August 2013

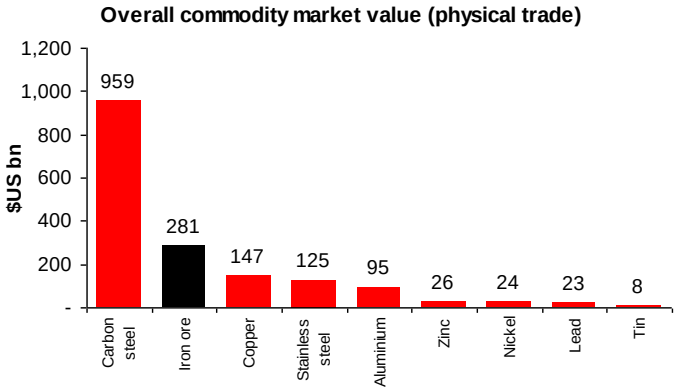
- **Meanwhile, financial contracts have grown...** – In April 2011, we noted that ferrous market contracts, led by iron ore, were slowly gaining traction in terms of interest. Participation continued to grow, with over 5m tonnes of cleared and OTC trading in March 2011 and open interest up 207% YoY.
- **…and grown** – However, the last 12 months has really seen iron ore volumes have taken off. This has been most notable on the SGX, where volumes and open interest have consistently hit new monthly highs over the past year, but also on the CME contract. Liquidity tends to bring liquidity, and we have certainly noticed a pick-up in the number and depth of iron ore financial market participants, with critical mass now having been achieved.
- **The physical market has coped with removal of a key support function** – It is also worth noting that the physical iron ore spot market today looks very different from that 4-5 years ago. Indian exports have dwindled due to rising costs and prohibitive restrictions, but despite the removal of this 'backbone' iron ore trade has continued to increase. With the vast majority of new supply tonnes coming out of Australia and indeed Brazil sold on a tender basis, Indian supply has not been missed in terms of market depth.
- Certainly, the market transition is unlikely to stop here, and we see a number of developments continuing to shape iron ore in future years.
- The CME recently launched the first **screen-traded futures contract for iron ore**, with SGX also launching a futures contract. While physical screen trading has become more commonplace, an active futures contract is the next natural step for iron ore. The lack of interested buyers (particularly ex-China steel mills) is a headwind to this; however, we would expect to see further traction in the coming 2-3 years.
- As futures markets grow, we would expect to see increased levels of **producer hedging**. This will still be small scale at first, and less likely to involve the larger players, but junior operations are increasingly likely to take advantage of the upward swings that iron ore offers to manage the risk for marginal operations. There may also be some consumer hedging as well, but as mentioned above, despite the glaring need to manage raw material price risk in what is increasingly a conversion margin business, most steelmakers remain disinterested in utilising financial tools to do so.
- Taking a longer term view, with an active futures contract in place iron ore could well find its way into the global commodity indices. Compared to other industrial metals, iron ore's market value is significantly larger, while its end use is well understood. It could also serve to make these indices less US-centric than is currently the case, and thus open up a wider investor base. Certainly, there are significant market changes to take place before this becomes the norm; however, given the current pace of development there remains potential for this shift in the next 5-10 years, bringing increased liquidity into the iron ore market.

Fig 6 Australia has replaced India as the dominant contributor to the spot market



Source: Metal Bulletin, Macquarie Research, August 2013

Fig 7 The 'market cap' of physical iron ore is larger than that of any base metal



Source: worldsteel, LME, Macquarie Research, August 2013

- We believe some of these developments which have taken place in iron ore offer interesting precedents for potash, which is itself at a 'benchmark breakdown' moment. The difference in the case of potash is that spot prices are lower than contract, and expected to go lower still as the new US corn crop hits close to trend yield, confirming a $4-4.50/bu price and making farmers less likely to over-apply fertiliser in 2013. For iron ore, spot prices were ~100% higher, and expected to go higher still. However, the alteration in stance from one of the major market players in potash is similar in terms of its potential catalyst for change.
- The Uralkali announcement, whatever the undercurrent driving it, has opened the door for market evolution. Similar to what happened in iron ore, we'd expect to see competing daily spot prices being published in the near term, some on a delivered Asia basis, and a shift towards spot-linked contracts. Also, given producers are now competing for market share rather than colluding, we'd expect to see branding becoming increasingly important, with producers seeking any incremental $1-2/t over the index they can find for premium material. Meanwhile, freight will become more important for producers as market pricing moves to a delivered basis. Finally, while a widespread 'financialisation' of potash remains a long way off, the development of OTC contracts is likely to continue as buyers, already used to hedging their sales risk on agricultural commodities, also look to price risk management on the potash side.

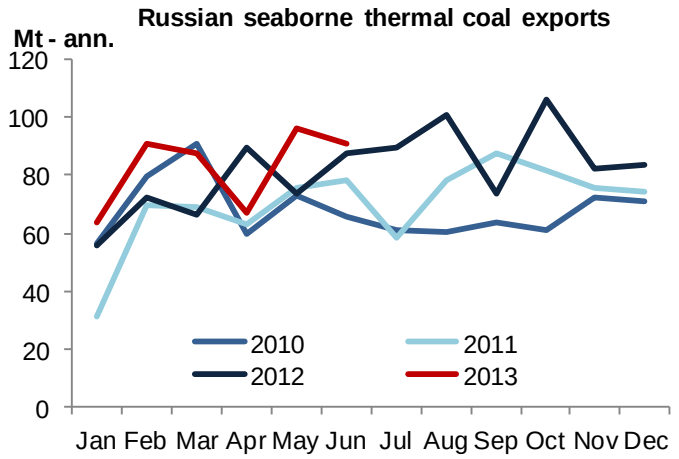
Where are the supply cuts?

- Combined Australian, Russian and US seaborne thermal coal exports were up almost 13mt YoY in the first half, despite cost curves suggesting that all three of these high-cost suppliers should have been looking to make cuts in this climate of low prices. We examine why the cost curve hasn't been "working" in this regard and why we don't see an imminent change to this situation either.

Opening the Russian black box

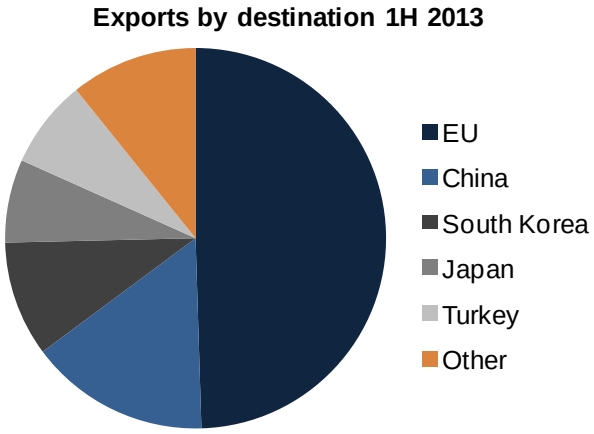
- Russia is the world's third largest thermal coal exporter; it is also one of the highest cost suppliers globally. For illustration, spot thermal coal prices averaged just $78.5/t in the first half of the year basis 6000kcal NAR FOB Murmansk – the benchmark specification for coal from Russia's largest Atlantic coal port. Yet it is estimated that in 2012 around 80% of Russia's exported thermal coal was supplied at a cash cost in excess of $80/t FOB. Basic economics dictates that production and hence exports should come down in this environment.
- Yet the latest trade data reveals that Russia's thermal coal exports (excluding anthracite[4]) totalled 51mt in 1H 2013, up 9.8% YoY, out of which we estimate 41mt constituted seaborne supply, up 11% YoY (Fig 1).

Fig 1 Seaborne Russian thermal coal exports up 11% YoY



Source: Customs Data, GTIS, Macquarie Research, August 2013

Fig 2 EU still dominates, but China growing

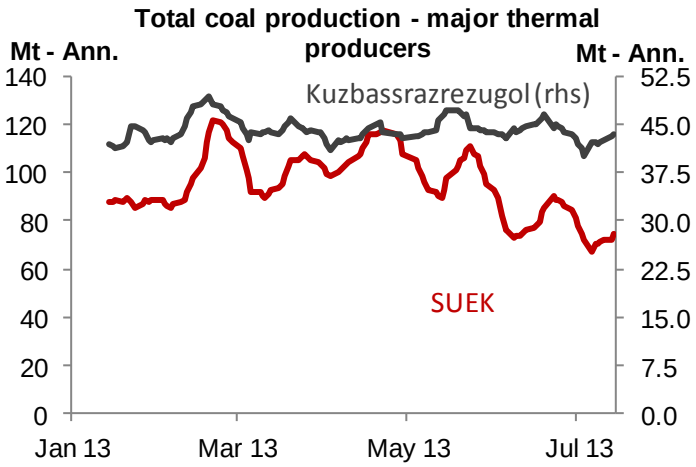


Source: Customs Data, GTIS, Macquarie Research, August 2013

- So why hasn't Russian supply (exports) been cut? It is hard to be definitive, with the Russian coal industry somewhat of a black box. Below we attempt to break it open.
- First, it is important to note that the export drive has not been down to growth in output, since total coal production in the country (thermal & met) is up just 1% YoY in the first seven months according to the Russian Energy Ministry. In addition, since the start of this year, output from the country's two major thermal coal producers – SUEK & Kuzbassrazrezugol – has been flat at best, if not slightly down (Fig 3).
- However, the appetite from domestic consumers has been even worse. Total power generation in 1H 2013 was down 0.4% YoY, with thermal power seeing a decline of 1.6% YoY and hydro outperforming (Fig 4). This lack of domestic bite has freed up extra tonnes. In these circumstances producers have had three options – continue to push these surplus tonnes to export, stockpile and wait, or shut down capacity. It appears they have chosen the first.

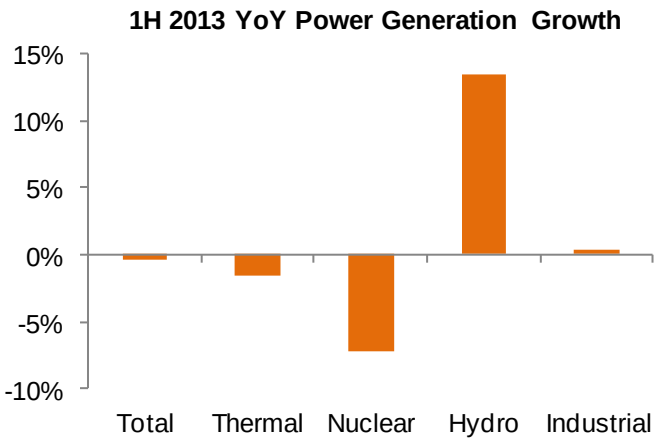
[4] Total exports of anthracite also showed strong growth, up 14% YoY in 1H 2013 to 5.5mt. China remains the largest buyer, most of which is used as PCI, with a smaller portion going towards the thermal generation and household heating sectors.

Fig 3 However thermal coal production has not been the driver of this growth



Source: CDU-Tek, Macquarie Research, August 2013

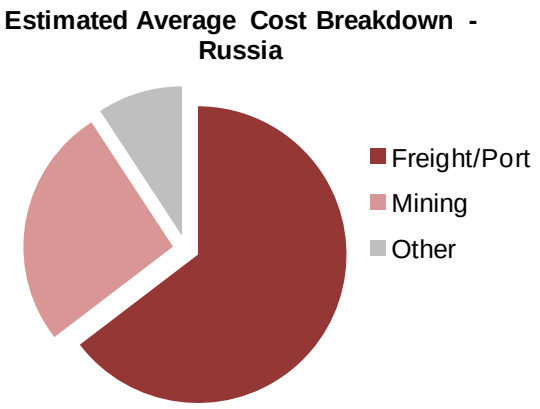
Fig 4 Domestic demand for thermal coal has been weak



Source: JSC, Macquarie Research, August 2013

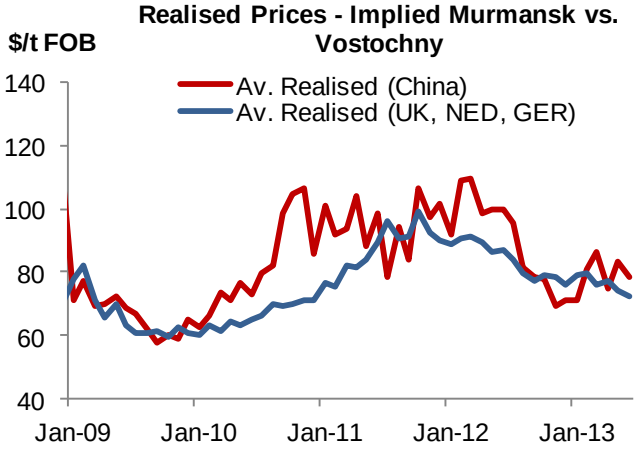
- If that is the case, then there are two further questions to answer: 1) Why have they done this if the marginal tonnes are cash negative? and 2) How long can this continue?
- With regards to the first point, one suggestion is that the domestic rail freight charge paid by miners is in fact more flexible than benchmark cost data suggests. Around four-fifths of all Russian export production comes from the Kuznetsk Basin in South-western Siberia. Moving this output to port involves railway distances of a few-thousand kilometres and consequently freight charges (in combination with port costs) are estimated at over 60% of the total coal FOB cost (Fig 5), or around $50-60/t. Although we have no evidence that there is any flexibility to these railway charges, it may be the case that in such a depressed market, some concessions have been made towards the miners to keep them operating.
- Another argument is that a significant proportion of Russia coal output is sold to (Western) European utilities on long-term contracts. European utilities fundamentally like Russian coal – on average it is high quality (and tends to be of more consistent quality than say Colombian material), while it is also low in sulphur. Providing support to this argument of contractual sales is the realised price of coal exports to the three largest Western European importers (UK, NED, GER), which we can see is significantly steadier than equivalent sales to the Far East (the spot market) (Fig 6). Although the actual realised price doesn't look any stronger than spot – and is likely to have been "diluted" by some spot sales – the relative smoothness does suggest that long-term deals may have a role in mitigating current market conditions.
- With regards to the second point – how long can this strong supply continue – we doubt that it will tighten markedly any time soon. The one relief is that the output from SUEK and Kuzbassrazrezugol is at least not growing – we will continue to monitor this closely going forward.
- We would also argue that in a broader sense, the (growth) rate of exports is likely to be slowed by a combination of other factors going forward – limited number of expansion projects, tighter cost control by miners, stronger domestic coal demand and limited port capacity. However the market is looking for substantive cuts, not just slowing growth.

Fig 5 Estimated breakdown of Russian marginal coal costs



Source: Company data, Macquarie Research, August 2013

Fig 6 Realised prices to Europe less volatile than other destinations; long-term contracts?

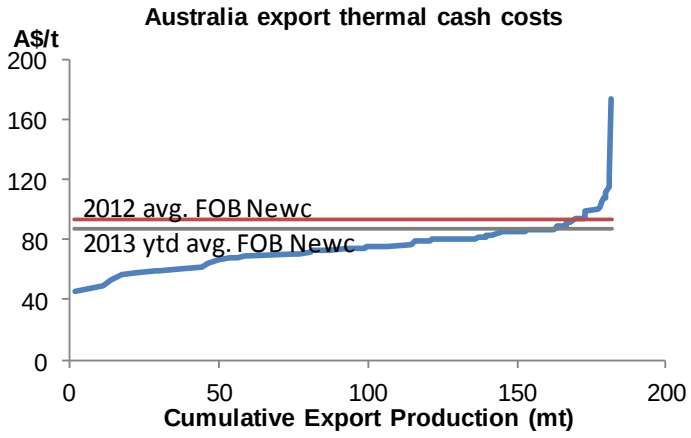


Source: Customs Data, GTIS, Macquarie Research, August 2013

Australia's take-or-pay deals (take-or-take deals)

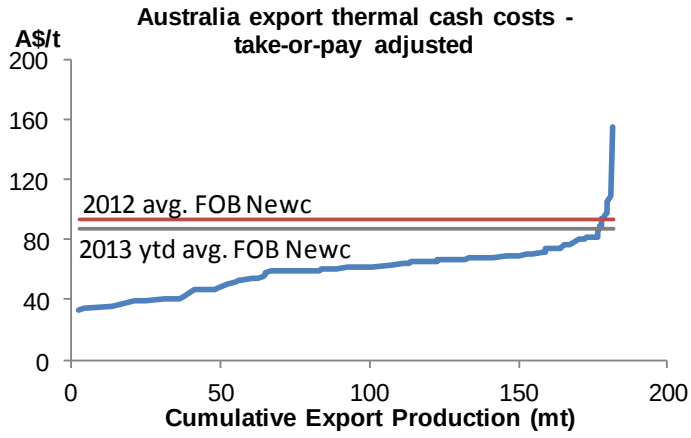
- Australia is the world's second largest thermal coal supplier, with 171mt of exports in 2012. However it too is towards the top-end of the cost curve, with sub-$85/t prices rendering a decent portion of Australian supply theoretically cash-negative (Fig 7).
- However, again this is not reflective of the situation on the ground, with miners locked into long-term rail freight and port deals – deals that were necessary to finance the rail and port infrastructure in the first place. These "take-or pay" arrangements have meant that the "real" marginal cost curve can be assumed to be a whole step down from the actual cost profile (Fig 8). By removing rail and port charges on the assumption that these charges have to be paid regardless of whether tonnes are moved or not, we can see that a more realistic marginal cost level for higher cost Australian suppliers is in the mid-$70's per tonne. While these assumptions may not be entirely accurate, since some take-or-pay deals have fixed penalties for not shipping the agreed volumes, it is illustrative of the tricky situation miners find themselves in.

Fig 7 Australia cash costs



Source: Wood Mackenzie, Macquarie Research, August 2013

Fig 8 Australia marginal costs – take-or-pay adjusted

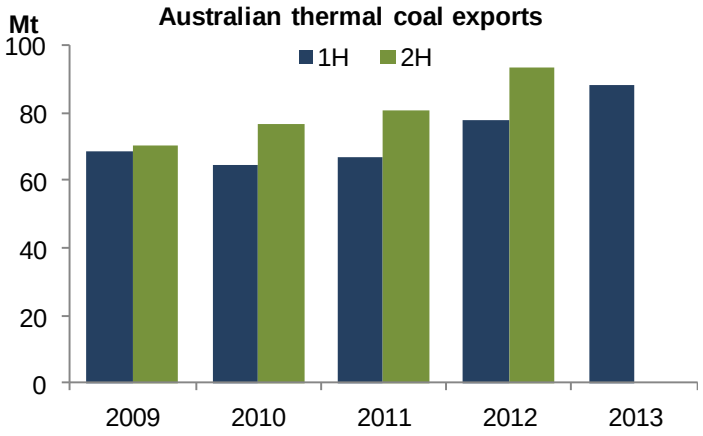


Source: Wood Mackenzie, Macquarie Research, August 2013

- As a result, Australia's first half thermal coal exports were in fact up 13.5% YoY to 88.2mt (Fig 9). June shipments of 17.6mt were a monthly record and in the first half as a whole, all of the major export terminals saw a YoY rise in shipments. Early indications from our monitoring of weekly shipments from Newcastle suggest that exports since June have maintained a strong pace as well.

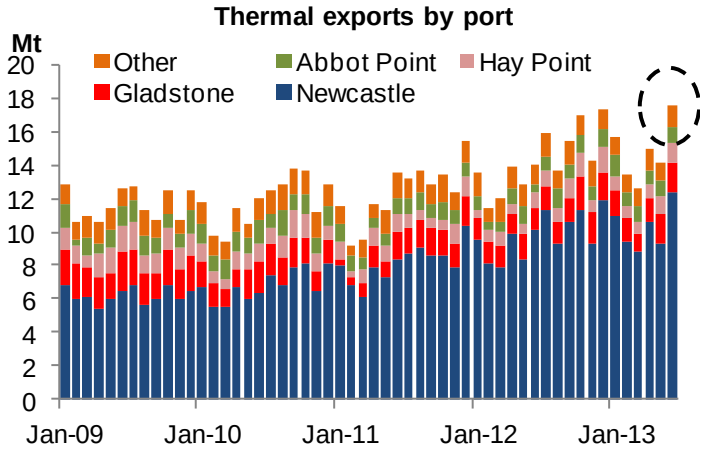
- One other factor that has alleviated some pressure on the miners (and helped boost exports) is the 13.6% depreciation of the Australian Dollar against the US Dollar since Jan 1st.

Fig 9 Australian exports were up 13.5% YoY in 1H



Source: ABS, GTIS, Macquarie Research, August 2013

Fig 10 The main ports have all seen YTD volume increases – June was a monthly record

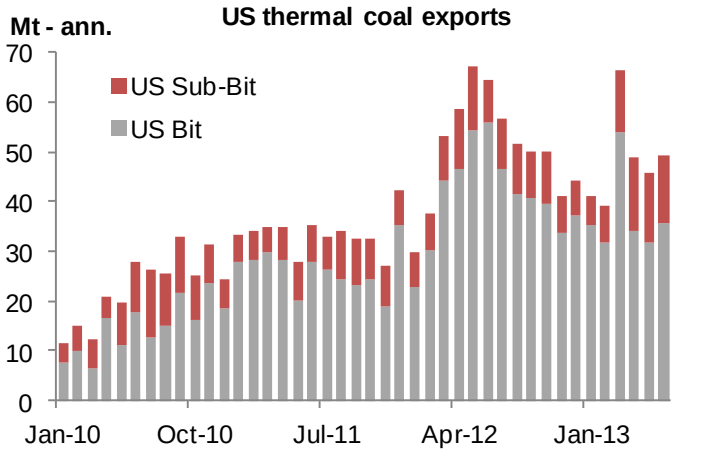


Source: ABS, GTIS, Macquarie Research, August 2013

The US is cutting – but it's just not enough

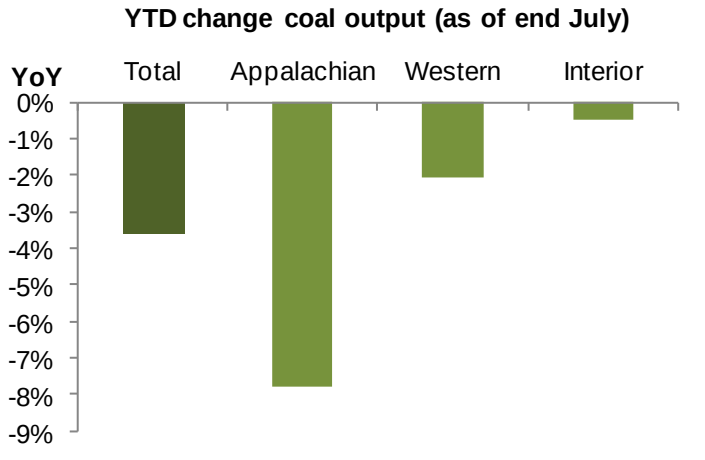
- Following record thermal coal exports of over 50mt in 2012, market economics has been prevailing in the US this year. To recap, in 2012 cheap gas (through expansion in shale gas output) and the subsequent coal-to-gas switching by domestic utilities led to producers pushing their excess tonnes into the international market, with international prices coming down accordingly. In turn, US producers – some of whom are the highest cost globally – have continued to cut unprofitable production, with Appalachian output seeing the largest declines (Fig12 – although this is combined thermal/met production). As a result, with the exception of an unexpectedly strong March, exports have continued to trend down since their mid-2012 peak (Fig 11). Total 1H 2013 exports were 6.7% lower than the equivalent period of last year.
- This impetus to cut is additionally owed to the fact that US coal cannot compete into Asia due to the freight differential and is thus essentially just a swing supplier into Europe, where demand has been down YoY.

Fig 11 Thermal coal exports are down 6.7% YoY in 1H



Source: Customs Data, GTIS, Macquarie Research, August 2013

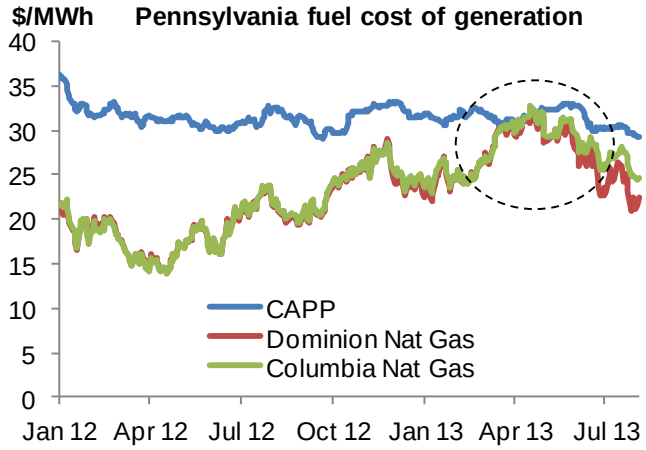
Fig 12 Appalachian output saw the largest declines



Source: EIA, DOE, Macquarie Research, August 2013

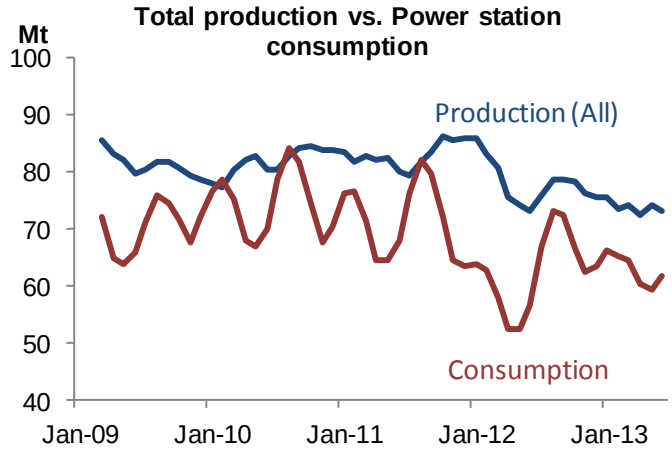
- Of course, coal-to-gas switching is not a new phenomenon, and certainly not a one-way street. That is to say that the coal/gas spread has seen some (expected) reversion and coal consumption by domestic power utilities has risen, boosted also by rising electricity demand. In Fig 13 we run a sample scenario for a Pennsylvanian power producer with the option to switch fuels between Central Appalachian Coal (CAPP) and natural gas. The narrowing of the spread in fuel costs between the two continued all the way into May, when they temporarily converged.
- The result was a rise in domestic coal consumption by power plants which, though still quite weak compared to 2009/10/11, is up around 10% YoY (Fig 14). The impact this had on scooping up domestic mine output would have been even stronger if it were not for such high coal stocks at domestic power plants.

Fig 13 The spread in fuel cost of generation between gas and coal has narrowed



Source: EIA, Bloomberg, Macquarie Research, August 2013

Fig 14 Production is falling, while power plant coal consumption is up 10% YoY

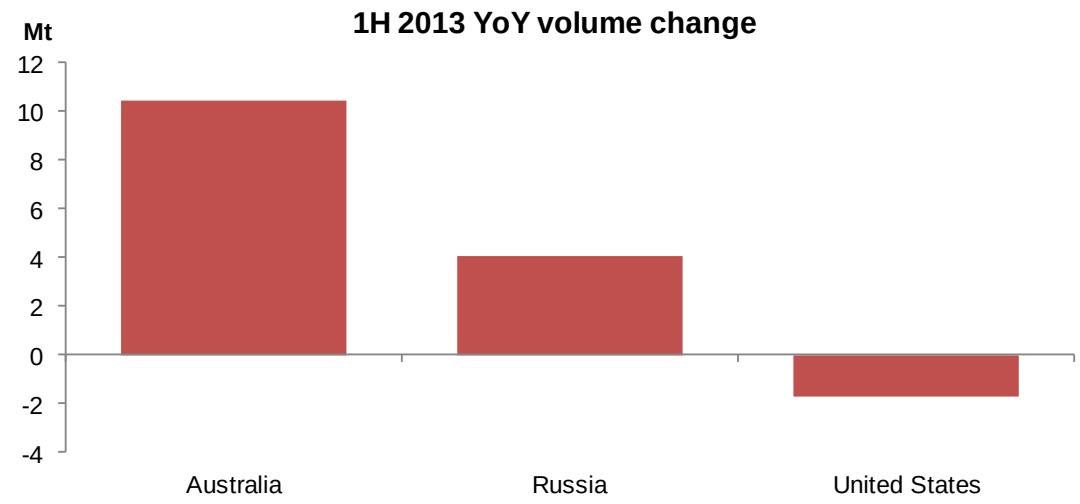


Source: EIA, DOE, Macquarie Research, August 2013

Putting it all together

- Total export volumes from the three highest-cost major producers were up 13mt YoY, with cuts from the US alone not anywhere near enough to provide greater balance to the market (Fig 15). While spot Newcastle prices remain above $75/t, we are unlikely to see much Australian supply cut. Furthermore, while Russia remains somewhat of a black box, a combination of structural factors appears to be mitigating lower prices.
- We see the following elements as being more significant for the market balance:
  - ⇒ Of the major suppliers, it currently appears that Indonesia is most likely to cut supply (or at least significantly slow supply growth). Although its output is generally considered low-cost, on an energy-adjusted basis some of the sub-bituminous tonnes are in fact marginal and government proposals to hike royalties on IUP holders – which we believe is likely to be implemented - would push many of the smaller producers out of the market in the medium term.
  - ⇒ In China, lower domestic prices have helped to price out some domestic production. China's YTD output is down around 4% YoY, led by cuts from Inner Mongolia where trucked tonnes are currently cash negative. Continued falls in domestic production would further open the Chinese contestable market to imports.
- Overall, while the market balance is unlikely to get significantly worse and demand-side indicators from India and China have been looking positive and improving respectively, it will certainly take a decent period of time to work through the current level of market oversupply.

Fig 15 YoY increase in volumes of thermal coal shipped from Australia, Russia & US



Source: Customs Data, ABS, GTIS, Macquarie Research, August 2013

Important disclosures:

Recommendation definitions

Macquarie - Australia/New Zealand
Outperform – return >3% in excess of benchmark return
Neutral – return within 3% of benchmark return
Underperform – return >3% below benchmark return

Benchmark return is determined by long term nominal GDP growth plus 12 month forward market dividend yield

Macquarie – Asia/Europe
Outperform – expected return >+10%
Neutral – expected return from -10% to +10%
Underperform – expected return <-10%

Macquarie First South - South Africa
Outperform – expected return >+10%
Neutral – expected return from -10% to +10%
Underperform – expected return <-10%

Macquarie - Canada
Outperform – return >5% in excess of benchmark return
Neutral – return within 5% of benchmark return
Underperform – return >5% below benchmark return

Macquarie - USA
Outperform (Buy) – return >5% in excess of Russell 3000 index return
Neutral (Hold) – return within 5% of Russell 3000 index return
Underperform (Sell)– return >5% below Russell 3000 index return

Volatility index definition*

This is calculated from the volatility of historical price movements.

Very high–highest risk – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.

High – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.

Medium – stock should be expected to move up or down at least 30–40% in a year.

Low–medium – stock should be expected to move up or down at least 25–30% in a year.

Low – stock should be expected to move up or down at least 15–25% in a year.
* Applicable to Asia/Australian/NZ/Canada stocks only

Recommendations – 12 months
Note: Quant recommendations may differ from Fundamental Analyst recommendations

Financial definitions

All "Adjusted" data items have had the following adjustments made:
Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense
Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

EPS = adjusted net profit / efpowa*
ROA = adjusted ebit / average total assets
ROA Banks/Insurance = adjusted net profit /average total assets
ROE = adjusted net profit / average shareholders funds
Gross cashflow = adjusted net profit + depreciation
*equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions – For quarter ending 30 June 2013

	AU/NZ	Asia	RSA	USA	CA	EUR	
Outperform	49.80%	57.68%	48.05%	41.13%	61.75%	47.10%	(for US coverage by MCUSA, 8.12% of stocks followed are investment banking clients)
Neutral	39.85%	24.45%	42.86%	54.70%	34.42%	30.89%	(for US coverage by MCUSA, 6.60% of stocks followed are investment banking clients)
Underperform	10.35%	17.87%	9.09%	4.17%	3.83%	22.01%	(for US coverage by MCUSA, 0.00% of stocks followed are investment banking clients)

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