



MARK CAMAJ'S BIOGRAPHY

Mark Camaj has been the Market Analyst for the IMnI since 2006. Prior to this he worked as a Compensation Analyst at Arrow Electronics, a large international supply chain distributor to the electronics industry, headquartered in New York. He started his career as an accountant in small business and then joined the Arizona State Pension Fund as a Financial Accountant.

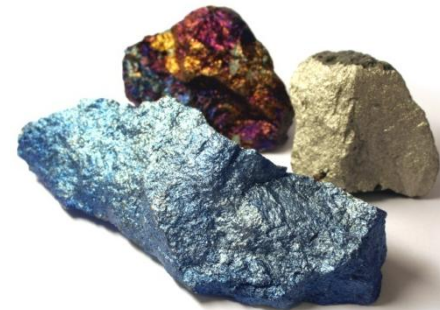
Mark holds a MBA from the New York Institute of Technology and Bachelors in Finance and Economics from a university in Paris, France.



Global Manganese 2011

Mark Camaj
Market Analyst, IMnI

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26th May 2011



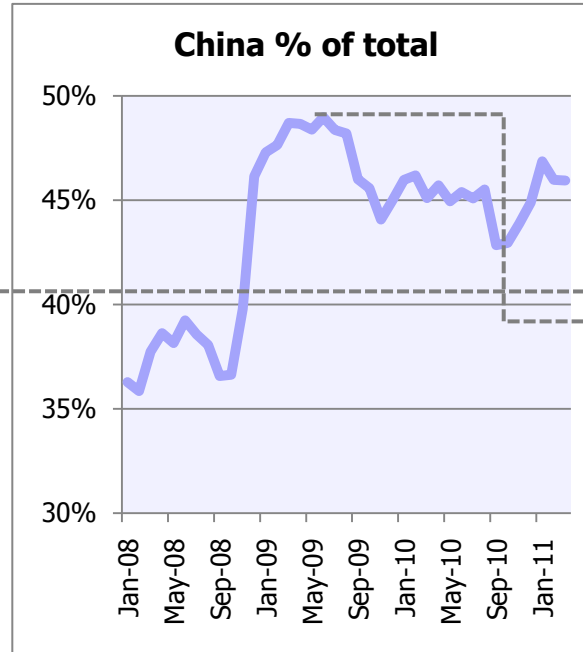
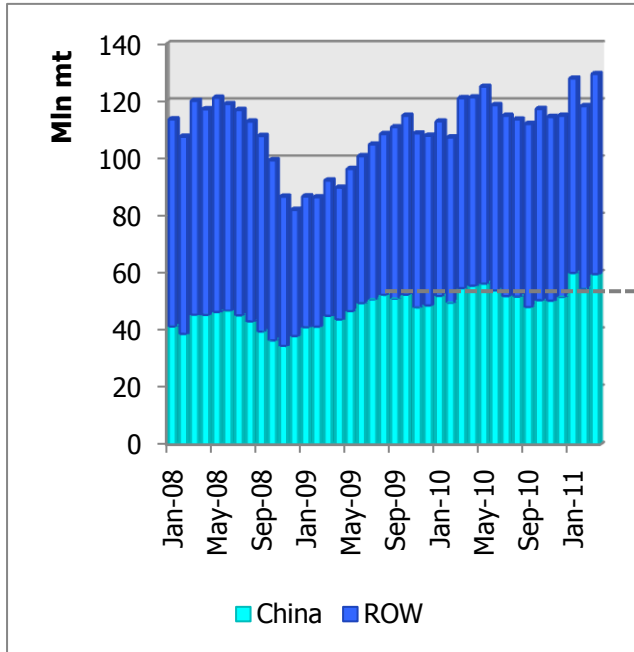
Overview

1. Global Steel –
 1. back to record production with China leading
 2. the Rest of World a longer recovery but almost there
 3. short-term uncertainties but long -term fundamentals sound
2. Mn alloys –
 1. a global recovery in production, prices in a tunnel
 2. trade volumes improved but more domestic consumption
 3. half of world's production & consumption in China (future importer?)
3. Mn ore –
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 4. changing landscape of Mn ore market
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1.1. Global Steel – back to record production with China leading



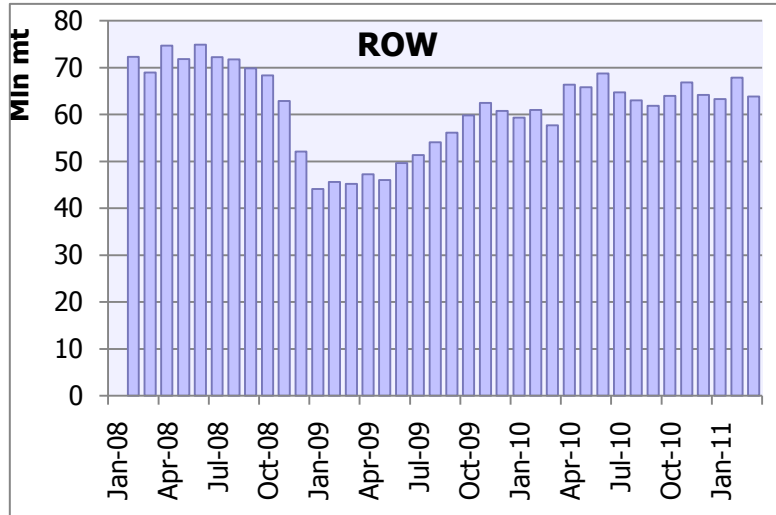
**China record production
JUNE 2009, almost 50%
of global output**



**Production over 50 mln
mt per month in 17 out
of next 21 months as Q3
2009**

- China returned to record production in the middle of 2009
- It's share of world production grew by almost 15% during the crisis, leading global steel output out of recession
- Slowdown at year's end 2010 due to government emission cutting – but new highs in 2011

1.2. Global Steel – the Rest of World a longer recovery but almost there



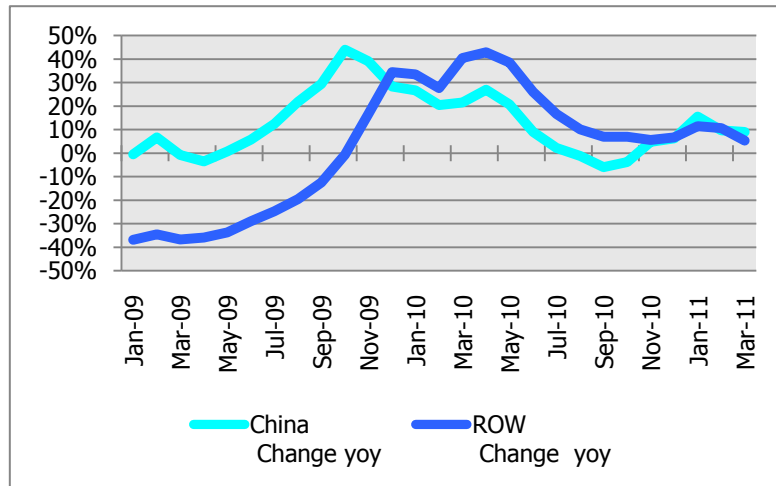
- Production in the Rest of World (ROW) has yet to hit 70 mln mt monthly output

however, output grew at higher rates than China throughout 2010, especially at year's end when China output retreated into negative territory.

2008 production = 804 mln mt

2009 production = 638 mln mt

2010 production = 767 mln mt: 95% of 2008 output



Fact box:

Q1-Q3 2008 annualized output = 860 mln mt

2010 production = 89% of pre-crisis output

1.3. Global Steel – short-term uncertainties but long-term fundamentals sound

There are many current factors to consider in the short-term:

1. China's government is applying the brakes on growth
2. Japan has suffered an unforeseen natural disaster, with devastating human and economic effects
3. European Southern steels markets are depressed and future uncertain as countries are heavily indebted
4. The US housing market is still suffering and unemployment high
5. India is not expanding as quickly as it could (or should?) be

But the long-term picture looks to be brighter:

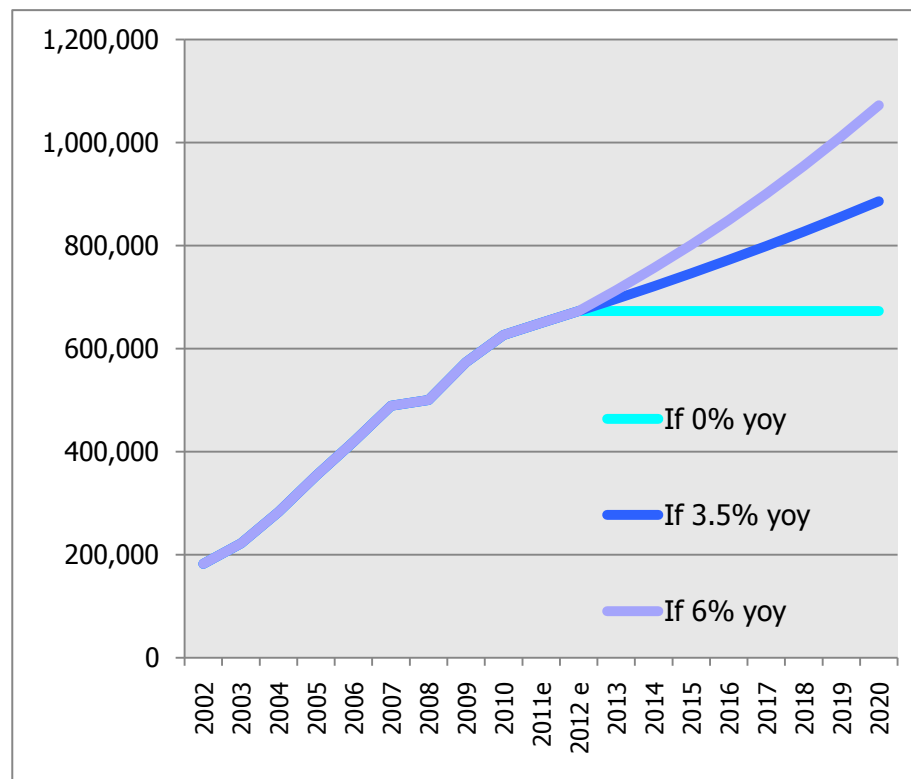
1. Yet, the government is still planning an unprecedented urbanization.
2. Yet, the country has already displayed resilience to recover and will need to rebuild
3. Yet, demand and output in the North are strong and Europe seems committed to supporting each other
4. Yet, GDP expected to grow by 3% and greenback still a safe haven
5. Yet, the dynamics point to similar growth trajectory as China

I will leave the answers to the steel gurus but just consider if...

...China output grows at 3.5% or 6% thru 2020:

China Steel Production Growth Scenarios:

	POST 2012		
	If 0% yoy	If 3.5% yoy	If 6% yoy
2002	182 366	182 366	182 366
2003	222 336	222 336	222 336
2004	282 911	282 911	282 911
2005	353 240	353 240	353 240
2006	419 149	419 149	419 149
2007	489 288	489 288	489 288
2008	500 312	500 312	500 312
2009	573 567	573 567	573 567
2010	626 654	626 654	626 654
2011e	650 000	650 000	650 000
2012 e	673 000	673 000	673 000
2013	673 000	696 555	713 380
2014	673 000	720 934	756 183
2015	673 000	746 167	801 554
2016	673 000	772 283	849 647
2017	673 000	799 313	900 626
2018	673 000	827 289	954 663
2019	673 000	856 244	1 011 943
2020	673 000	886 212	1 072 660



- 3.5% post 2012 = 886 million mt by 2020
- 6% post 2012 = 1.07 billion mt by 2020

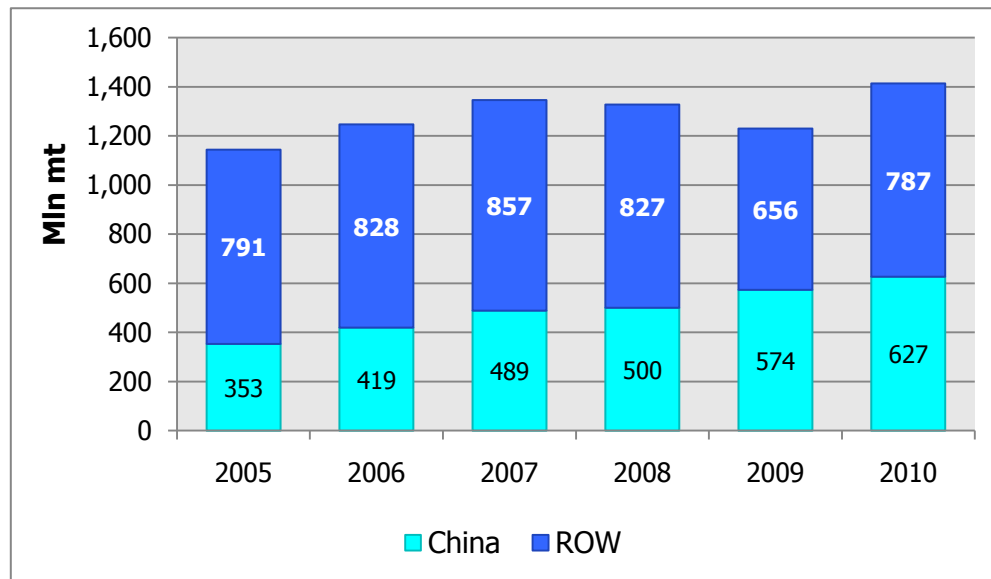


Either case: demand for Mn units to rise but by how much...

... and ROW demand meets expectations.

Crude steel Production (million mt)

	World	China	ROW
2005	1 144	353	791
2006	1 247	419	828
2007	1 346	489	857
2008	1 327	500	827
2009	1 229	574	656
2010	1 414	627	787



- Rest of World (ROW) Production in 2010 = 787 million mt
- WSD forecasted demand in 2020 = 937 million mt

EQUALS,

19% more steel compared with 2010 production will be needed to meet demand (excluding trade flows)

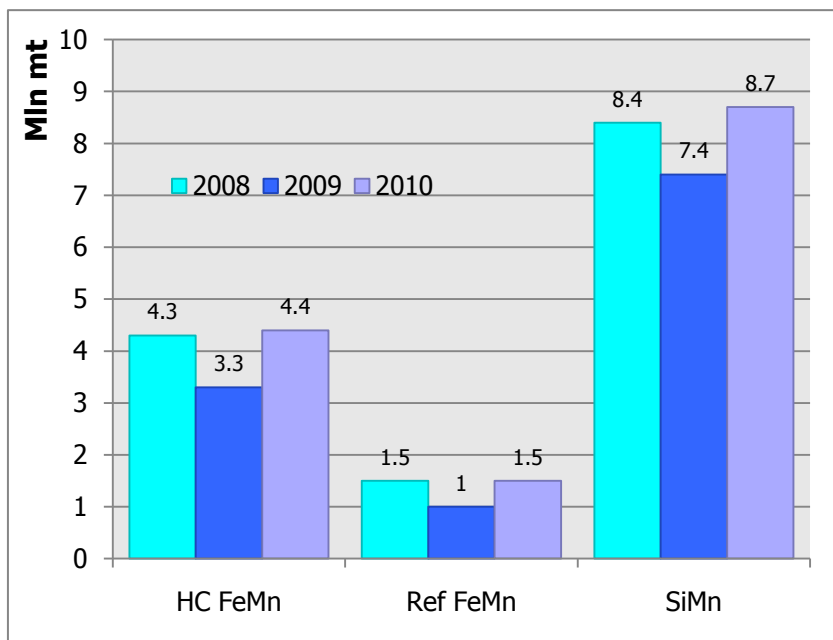
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2.1. Mn alloys – there has been a recovery in production,

Mn alloy Production (million, gross mt)

	HC FeMn	Ref FeMn	SiMn
2008	4,3	1,5	8,4
2009	3,3	1	7,4
2010	4,4	1,5	8,7

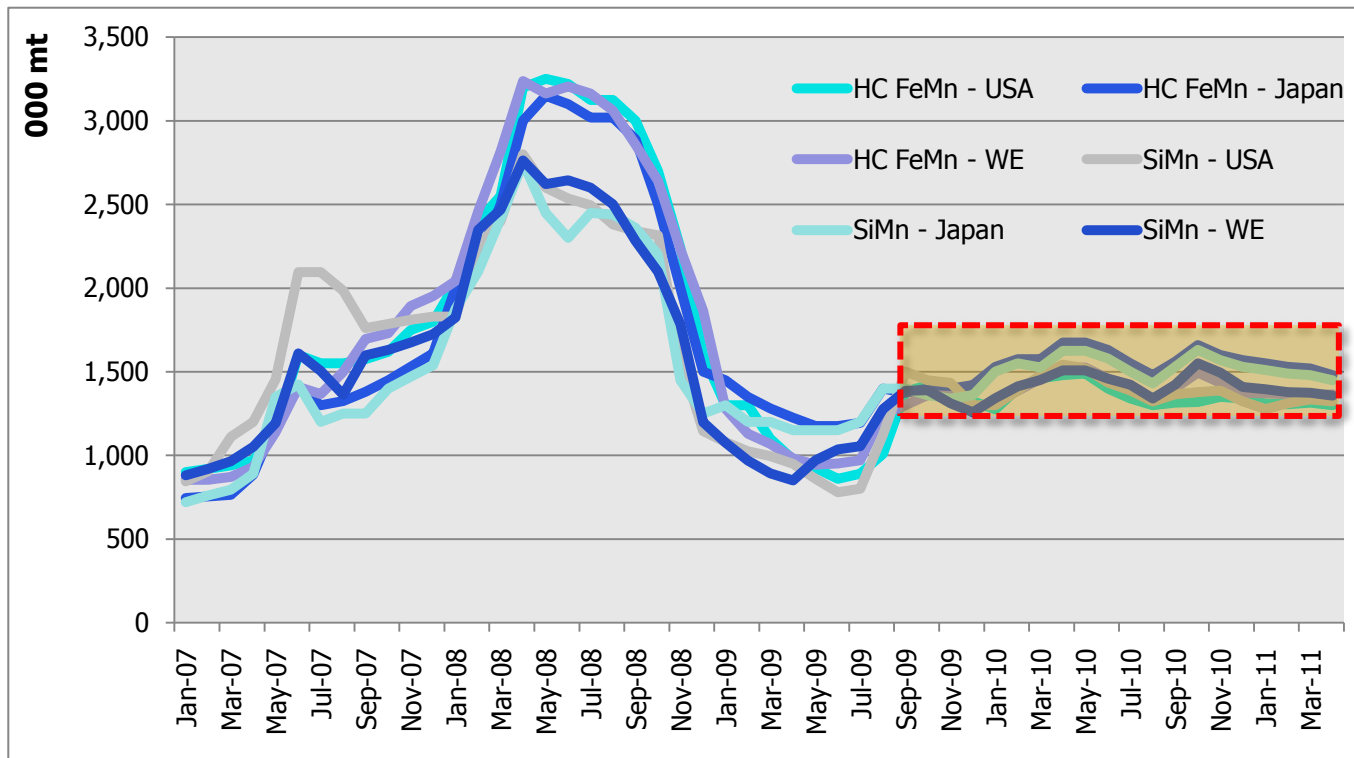


Production of all three Mn alloys grew strongly in 2010:

- **HC FeMn** grew some 33% to 4.4 mln mt after dropping to 3.3 mln mt the year before.
- **Ref FeMn** increased the most, rising 50% yoy to 1.5 mln mt. reflecting the improvement in the industrialized world's steel sector >> more value-added steel products.
- **SiMn** rose by 18% to 8.7 mln mt in 2010. Performed best in 2009 due to significant stimulus spending on infrastructure, as well as its heavy use in China >> therefore it grew less in 2010 than others.

2.1. but prices are in a tunnel.

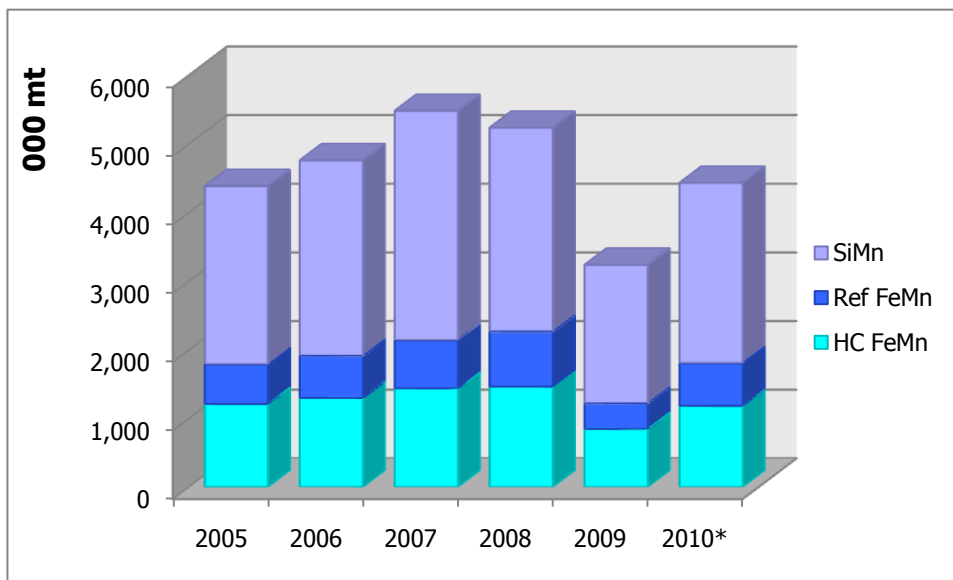
THE CEILING: Domestic alloy production fulfilling more domestic demand. Prices rises attract imports >> capping the upside potential of alloy prices.



THE FLOOR: Higher production costs and limited excess inventory on the spot market have created a relative price floor globally.

2.2. Mn alloy trade volume improved...

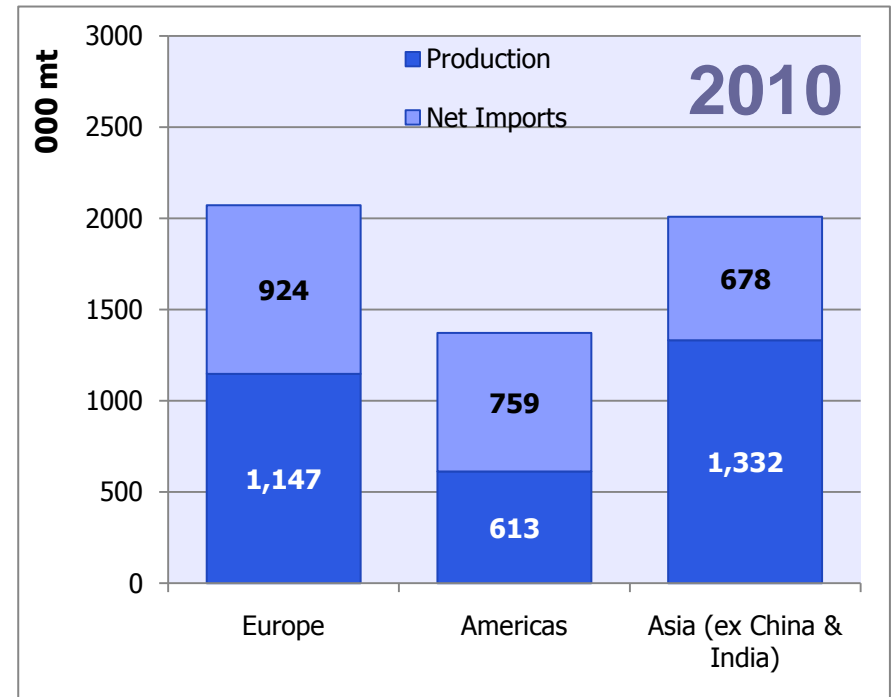
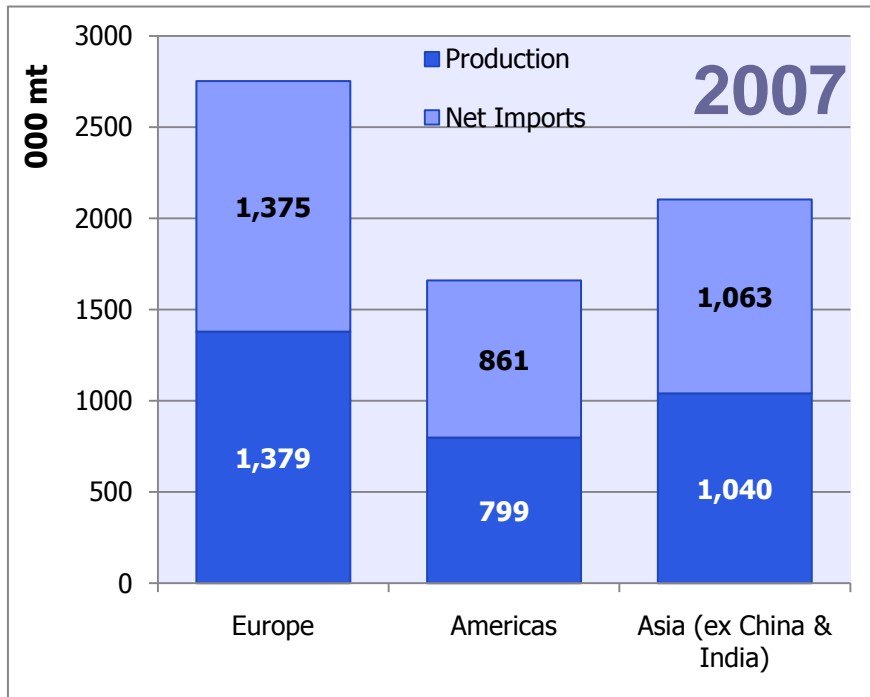
Mn alloy Declared Imports (000 mt)			
YR	HC FeMn	Ref FeMn	SiMn
2005	1 210	579	2 594
2006	1 298	613	2 847
2007	1 438	701	3 341
2008	1 461	802	2 971
2009	846	370	2 020
2010*	1 183	622	2 626



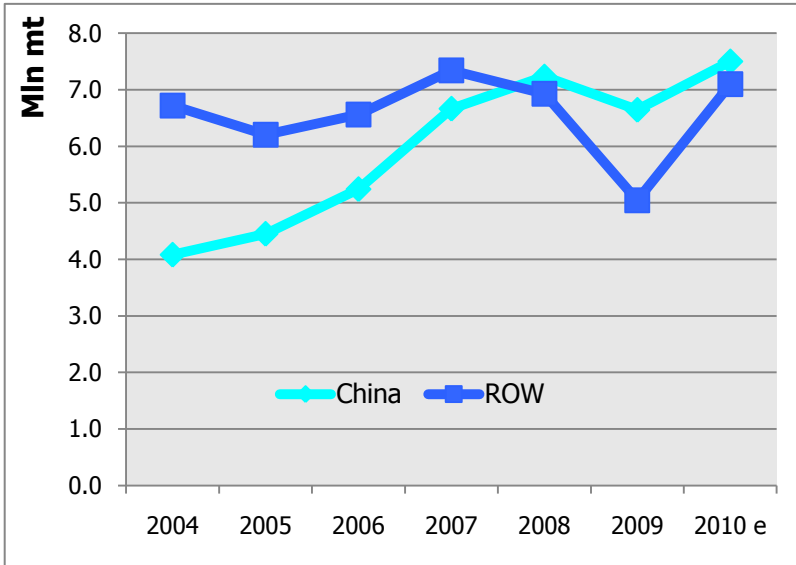
- Imports of Mn alloys have rebounded from lows of 2009, as producers and traders looked to restock, but demand not fully recovered outside of China.
(Nov & Dec 2010 trade data not available for India)
- Buying has been leaner, no large scale stockpiling, plus spot availability of material has been ample with high domestic production rates and lower demand.

2.2. but more domestic consumption...

- Europe: Production in 2010 exceeded net imports, while in 2007 they were roughly 50%, volumes down by over 500K mt.
- Americas: Net imports still surpass domestic production, volumes down around 300K mt.
- Asia (ex China & India): Production now makes up 2/3 of apparent consumption, volumes have almost returned to 2007 levels.



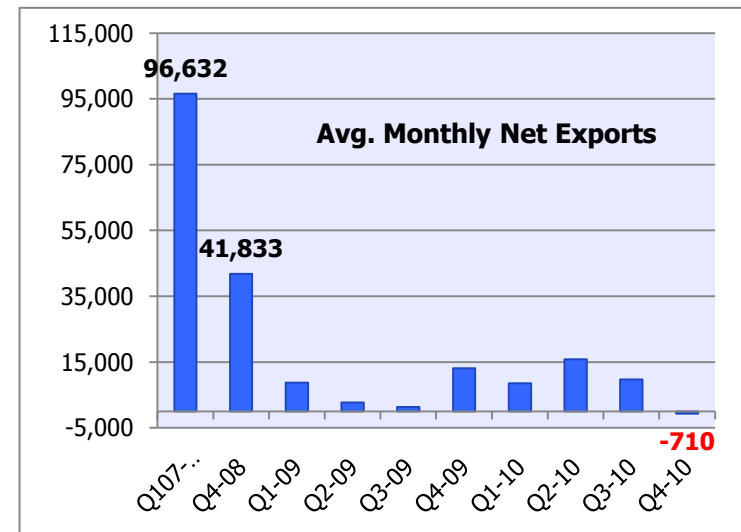
2.3. China = 1/2 of world's production & consumption of alloys



Mn Alloy Production

	China	ROW	World
2004	4,1	6,7	10,8
2005	4,4	6,2	10,7
2006	5,2	6,6	11,8
2007	6,7	7,3	14,0
2008	7,2	6,9	14,2
2009	6,6	5,0	11,7
2010 e	7,5	7,1	14,6

- Over half of world's alloys are produced and consumed in China.
- Formerly the biggest supplier of Mn alloys to world.
- Exports have disappeared for a lack of competitiveness >> higher costs (power, labour, environment, imported ore) and government imposed 20% export duty.
- Many question if it will become a net importer in future. If so, where will supply come from? New local sources?



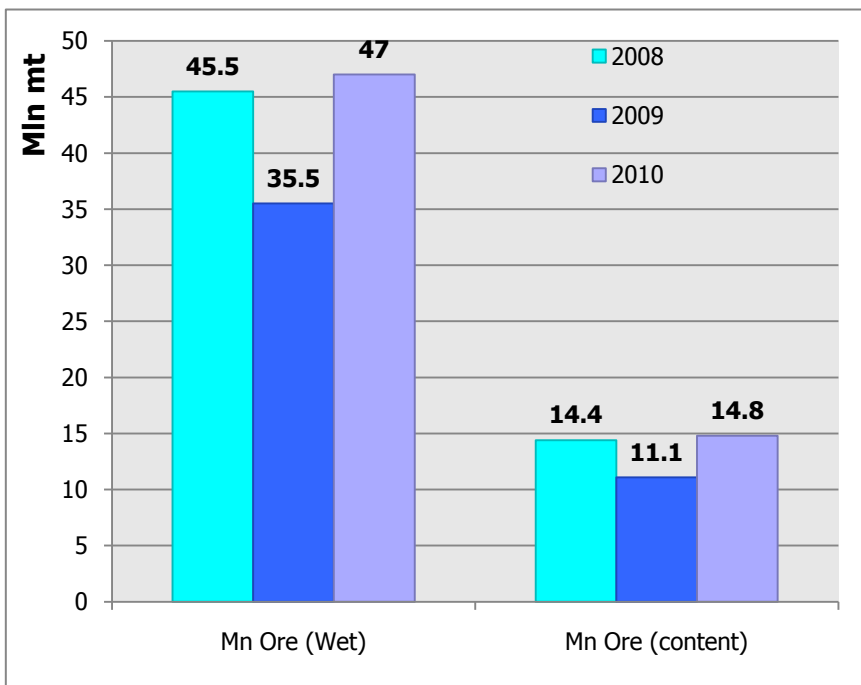
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3.1. Mn ore supply 2010 – strong growth in output but oversupply by H2

Mn Ore Production (million mt)

	Mn Ore (Wet)	Mn Ore (content)
2008	45,5	14,4
2009	35,5	11,1
2010	47	14,8



Steps taken by producers after economic crisis:

1. CUT OUTPUT >> 2009 output falls to just 11 million mt of Mn units

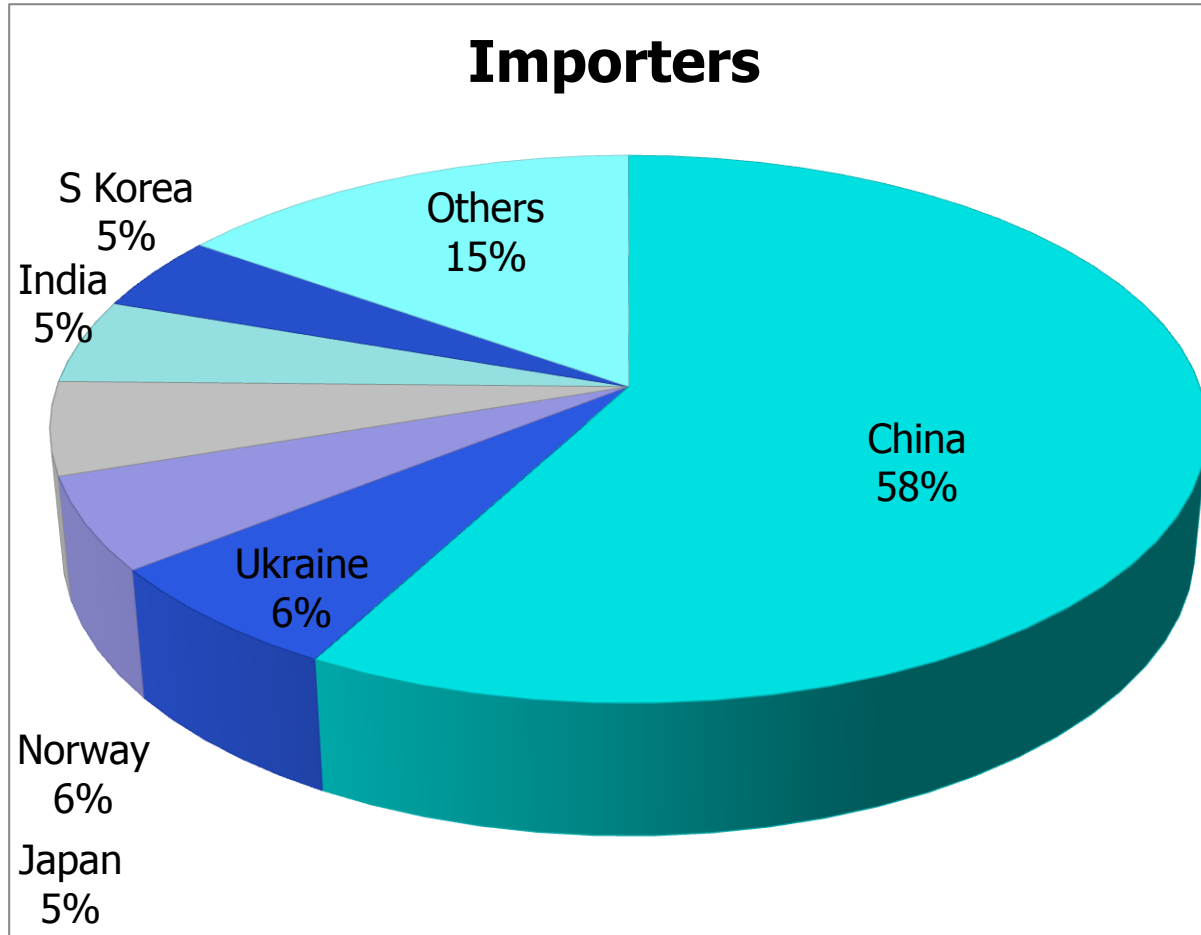
2. INCREASE PRODUCTION RATES >> during Q1 – Q3 2010 as steel rebounded and ore stocks were low

3. CUT OUTPUT AGAIN in Q4 >> as producer and China port stocks grew substantially major suppliers adjusted production rates down to control stock levels

TOTAL PRODUCTION 2010 = record 14.8 mln mt

3.2. Mn ore trade – greater volumes, China still king

(declared imports by February 23, 2011 – million mt)



**Total Declared imports
2010 = 20 million mt**

6 Countries:

- Account for 85% of global imports

East Asia:

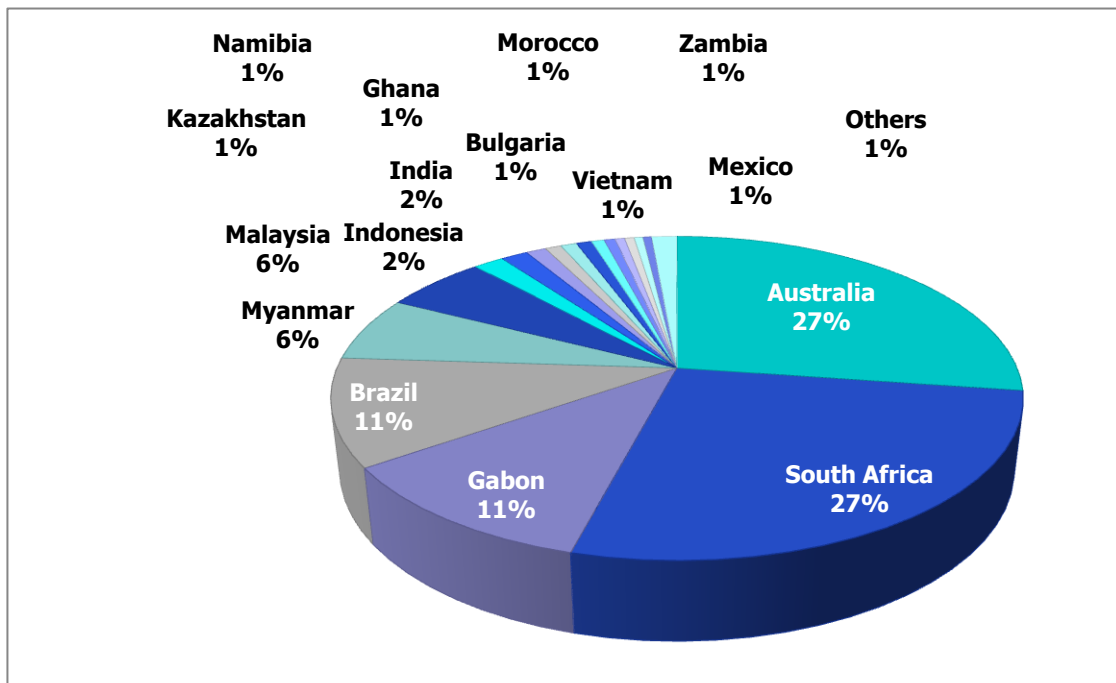
- Accounts for 73% of global imports

China:

- Accounts for 58% of global imports
- imported 10 times more than any other country

3.2. Mn ore trade – China trade partners

Rank	Partner Country	YEAR 2010
1	Australia	3 160 436
2	South Africa	3 115 683
3	Gabon	1 296 774
4	Brazil	1 245 629
5	Myanmar	749 632
6	Malaysia	661 695
7	Indonesia	198 186
8	India	174 133
9	Ghana	130 728
10	Kazakhstan	105 328
11	Namibia	104 296
12	Bulgaria	100 121
13	Vietnam	81 986
14	Morocco	71 379
15	Mexico	62 067
16	Zambia	62 031
17	Thailand	56 859
18	Cote d Ivoire	56 134
	<i>Others</i>	<i>164 437</i>
Total		11 597 534



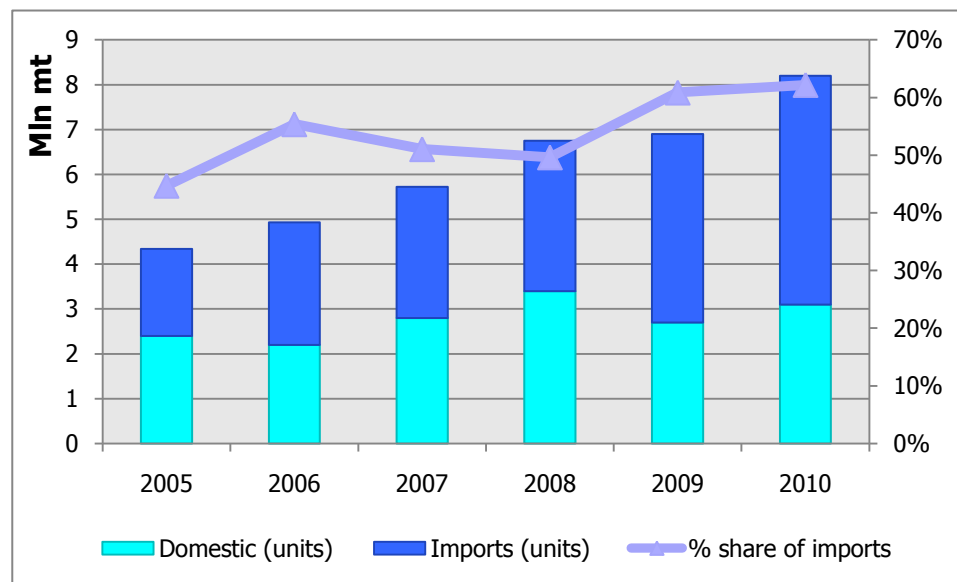
Origin of China imports in 2010:

- Imports from over 20 countries: various grades and qualities of Mn ore
- The big 4 majors >75% of total imports: mostly high grade ores (8.8 mln mt)
- Therefore, other imports > 2.7 mln mt (varying quality)

3.2. Chinese ore demand (Mn units) – in 2010 imports made up over 60%

China Ore Picture (Mn units)
million tonnes

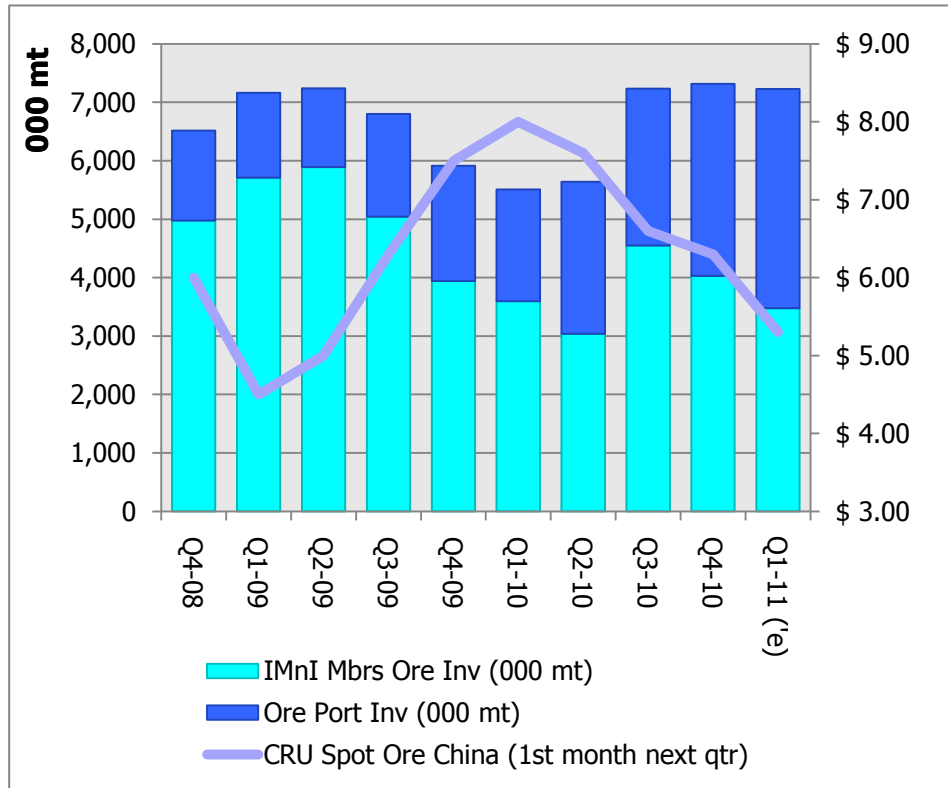
	Domestic (units)	Imports (units)	Total Demand	% share of imports
2005	2,4	1,9	4,3	45%
2006	2,2	2,7	4,9	55%
2007	2,8	2,9	5,7	51%
2008	3,4	3,4	6,8	50%
2009	2,7	4,2	6,9	61%
2010	3,1	5,1	8,2	62%



Reasons:

- Domestic ore is lower grade and depleting
- The government is getting stricter on local miners -- conducting inspections, enforcing shutdowns and pushing for consolidation >> domestic ore prices have risen and availability has tightened.
- About ½ of domestic ore is consumed during the production of Mn Metal, imports are far more suited for its growing Mn alloy industry.

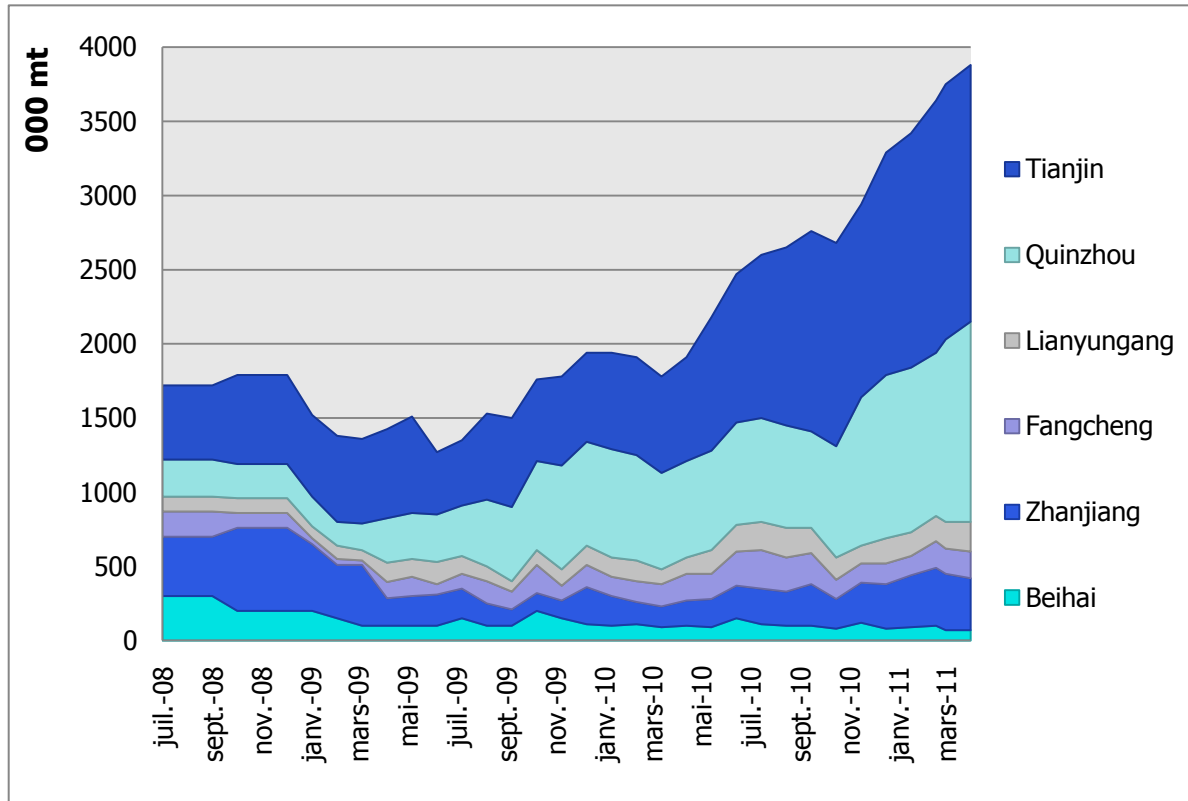
3.3. Record China port stocks are suppressing market...



- **China port stocks** started rising significantly in Q2 2010 and continued to climb throughout 2010 and by April 2011 were in the range of 4 mln mt.
- **Producer inventories** rose sharply in Q3 2010 and prices fell. As of Q4 major producers adjusted output and stocks at majors are now under control.

*IMnI Mbrs Ore Inventories for Q1-11 are early estimates but were most likely lower.

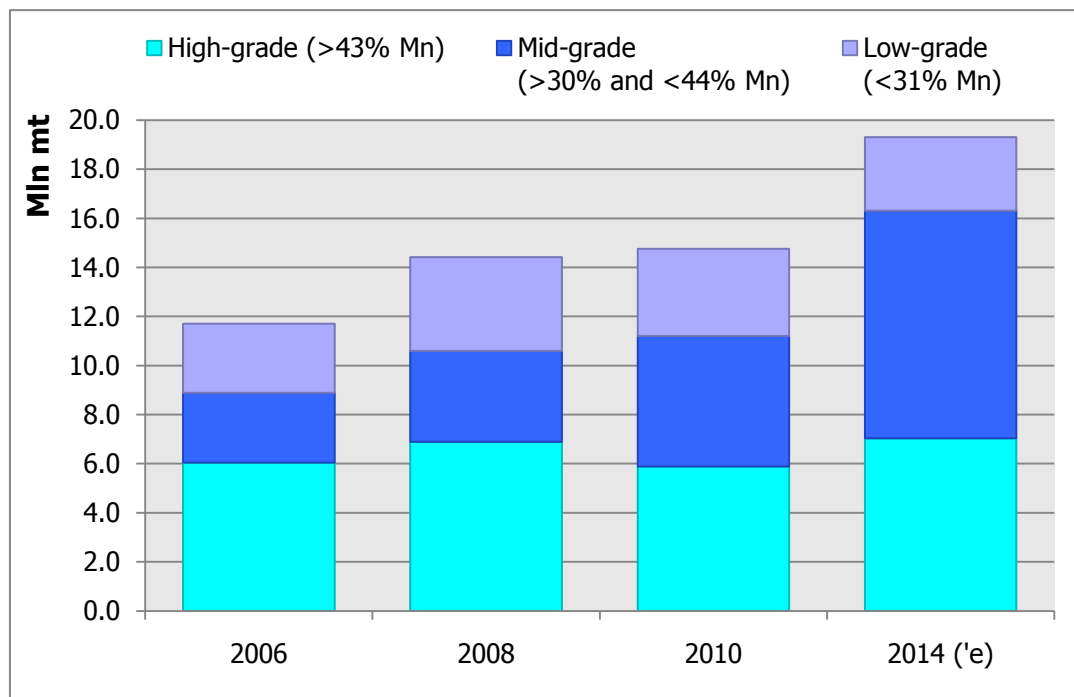
3.3. Yet, China port stocks must be a difficult sell:



- Ore was purchased at higher prices, majority upwards of \$7/dmtu
- The RMB has strengthened against the US\$ making the ore more expensive in dollar terms.
- Much of the ore is lower quality and at current contract prices, new high grade ore makes this stock even less competitive.

3.4. Changing landscape of the Mn Ore Market

The Effects of Capacity Expansions and New Projects:



Assumptions 2014:

- The 3 new projects in RSA to be successful in bringing planned output to market
- China to lose 3 mln mt of 18% Mn ore output through depletion and substitution
- Major producers will produce according to their announced capacity expansions
- Exclusion of projects which have no definitive start date or annual capacity projections

Mn Ore Supply Changes since 2006:

1. Moved from a handful of major suppliers to many players
2. More price volatility: annual to quarterly to monthly contracts
3. More mid-grade and low-grade ores on market

Future State:

1. Most new ore to come from RSA (mid-grades 36-39% Mn)
2. Reduction in China low-grade ores is probable

Possible Constraints/Threats:

1. **Undersupply in short-term:** RSA logistics do not accommodate new ore
2. **Oversupply in long-term:** too much new ore if demand forecasts do not materialize

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Key Points

1. Steel annual output returned to record levels, mostly driven by China. The rest of world is not back to peak levels yet. Short-term uncertainties do exist but the long-term fundamentals are still sound.
2. Mn alloys have returned to record levels as well but markets are tight. There is a greater dependence on domestic production as a rule and prices are very reactive to supply demand changes and have moved in a relatively narrow range.
3. Ore producers pushed production to record levels in 2010 after destocking throughout 2009, which led to oversupply and price falls. Major suppliers started to reduce their stocks again by Q4 2010.
4. China produces half of world's alloys, imports nearly 60% of seaborne ore and is no longer a major alloy exporter. Suppliers intending to bring new ore on to the market need to closely consider (1) China's future growth (Mn unit demand); (2) availability and usability of lower grade ore sources; (3) and the viability of major new projects in the mid and long-term.



Thank you. Any questions?

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