

WORLD STEEL DYNAMICS

Truth & Consequences #47

The truth: Pricing volatility and disparities widening in steel boom.

The consequence: Boom not sustainable. Mistakes common.

The facts and forces driving global steel

Key points

- The incredible boom in steel prices so far in 2008 is not sustainable.
- *Spy versus Counterspy*: WSD's Peter more bearish on the steel price outlook than Pat.
- Steel scrap gone wild – price up \$100-150 per gross ton.
- Coking coal gone wild – international price up \$150+ per tonne.
- *World Cost Curve* gone topsy-turvy – some USA integrated mills among the world's lowest cost.
- Global pricing feedback
- Hope for the global economy? Don't give up on the global economy. WSD's "Global Income Shift Paradigm" theory says that price spikes are good.
- Might the USA dollar recover and the USA stock market take off?
- Mistakes the norm when making decisions in volatile pricing environments
- Chinese steel threatening, changing, dangerous, muzzled.

The incredible steel price boom so far in 2008 is not sustainable

Please consider these items:

- **The world export price for hot-rolled band in the past few weeks has risen at least \$40 per tonne to about \$940 per tonne** (ranging from about \$870 to \$1,060 per tonne), FOB the port of export. The Chinese steel mills appear to be on the low side of the price range, with at least one EU producer on the high side.
- Given the recent \$100+ per gross ton surge in steel scrap prices, **a last-gasp push of the world HRB export price seems possible to about \$1,000 per tonne**, FOB the port of export. In comparison, the current average export price may be about \$940 per tonne.
- **The steel price boom is creating the conditions for a price reversal.** First, steel prices are so lofty that some steel buyers can't pass on the higher cost of steel to their customers. Second, some steel buyers will not be able to finance the higher cost of the steel they need to buy. Third, steel scrap prices seem to have risen to unsustainable heights. Once they start to fall, many steel buyers will sit on their hands anticipating a lower price for steel products (about one-half of the steel products produced in the world are impacted by the price of steel scrap).

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WORLDSTEELDYNAMICS

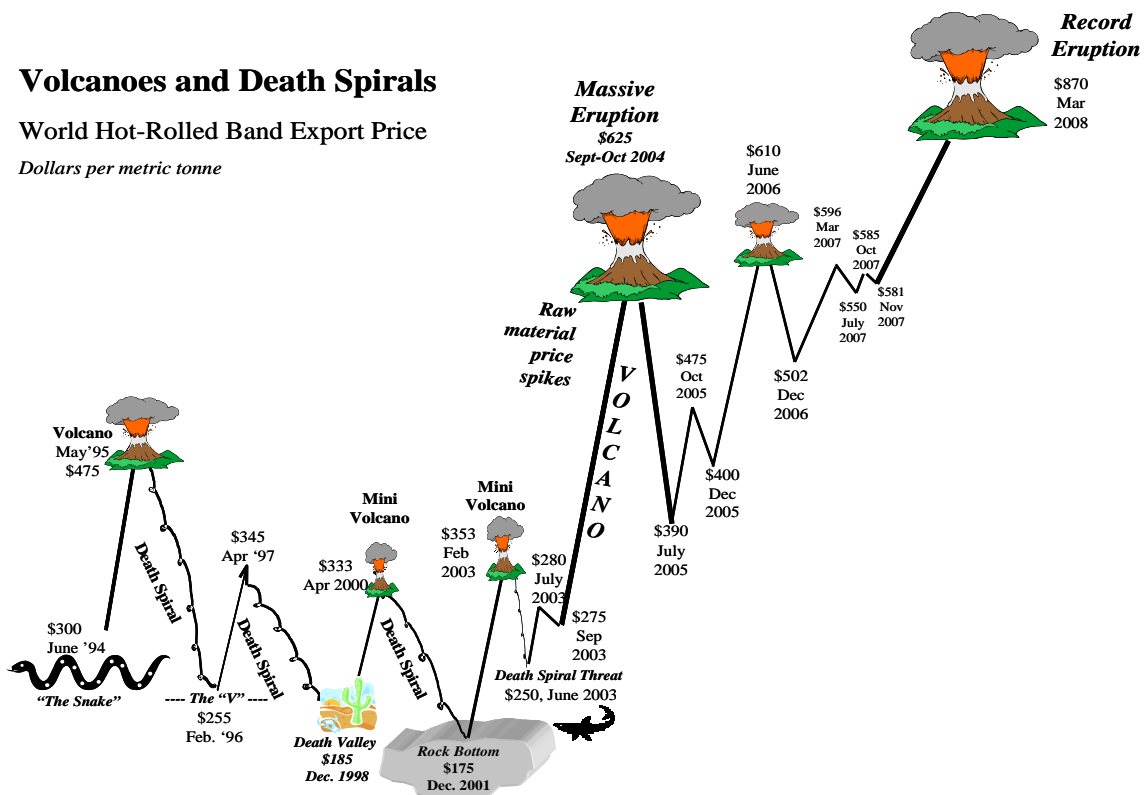
- Indicators to watch in the months ahead, in WSD's opinion, include:
 - Steel scrap prices, which are assured to remain highly volatile;
 - The value of the U.S. dollar versus the Euro, which WSD thinks has a good chance to rally in the next few months;
 - The global steel demand outlook, which for the present is not looking good in the Advanced Countries; and
 - Steel buyer/seller psychology, for which the pendulum has now swung so far in the favor of the mills that it may be at its limit.
- WSD's "most likely" forecast calls for the **world export price for hot-rolled band to peak about June this year and fall back to \$675-725 per tonne** by early in the fourth quarter of 2008. (*Note: Prior to this year, a world export price of \$700 per tonne, FOB the port of export, would have been a world record. Yet, given the surge in many steel mills' costs this year, the \$700 per tonne price today would cause a sizable margin squeeze.*)

What will happen to HRB prices in the European, Chinese and USA home markets when the world export price declines? WSD thinks that **HRB prices in Europe and China would respond almost immediately to a drop in the world export price.** However, in the USA, because foreign deliveries are so low, a sizable fall in the home-market price may not occur for several months.

Volcanoes and Death Spirals

World Hot-Rolled Band Export Price

Dollars per metric tonne



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Spy versus Counterspy Peter versus Pat

Peter and Pat are in disagreement about the steel price outlook.

Peter thinks that a downturn in the world HRB export price is almost imminent (by June, if not earlier). Two of the forces driving up steel prices – surging steel scrap prices and a steel buyers’ panic – are not sustainable. Moreover, when the price declines on the world export market, he sees a sharper decline than Pat. Peter expects the price by the early fourth quarter to fall to \$675-725 per tonne, FOB the port of export. Factors driving down the price will include steel buyers’ fear of price declines, stagnant demand for steel in Advanced Countries and, possibly, a stronger dollar.

Pat is less near-term bearish than Peter on when the export price may peak and, subsequently, how much it will fall. Pat looks for a peak later in the summer and for the HRB export price to bottom out at \$750-800 per tonne, FOB the port of export.

Pat says that he was slow in recognizing how sharply steel export prices could rise because he was looking at the rise in raw material prices as the primary driver. Today, he’s more aware of the impact of steel trade flow shifts. Due to far lower Chinese steel exports, a physical shortage of steel has developed in parts of the Developing World outside of China. As he sees it, the price surge has been both cost-push (reflecting higher raw material costs) and demand-pull (due to regional imbalances). When the export price falls, he sees it being sustained at relatively high price levels because of: a) the huge rise in operating costs for producers of HRB the world over; b) the greater concentration of HRB producers outside of China than several years ago; c) steel buyers in most cases don’t seem to have excess inventories; and d) non-Chinese mills are more likely than in the past to quickly cut back production when the price falls because the cost of the last tonne is now so high.

(Note: Pat McCormick was in charge of steel purchasing at Emerson for 20 years before joining WSD in October 2006. He spends virtually all of his time on what we call the buyer-seller interface.)

WORLDSTEELDYNAMICS

Steel scrap gone wild – price up \$100-150 per gross ton

Our contacts report that steel scrap prices in the USA are in the process of rising by about \$100-150 per gross ton:

- #1 heavy melting steel scrap delivered to the steel plant appears to have risen to about \$470 per gross ton delivered to the steel plant versus \$330 per ton in February 2008 and \$267 per ton in December 2007.
- Shredded scrap, delivered to the steel plant, is up to about \$500 per gross ton versus \$387 in February 2008 and \$305 per tonne in December 2007. Shredded prices have been relatively high due to strong export demand (in part stimulated by the weak U.S. dollar).
- Busheling, given the \$155 per ton increases in the automotive auction on April 1, is now about \$575 per ton delivered to the steel plant versus \$398 in February 2008 and \$313 per ton in December 2007.

Moreover, it appears that the price of steel scrap delivered to Asia has surged to \$625-655 per metric tonne in some cases. Pig iron, FOB Brazil, has risen to about \$580 per tonne.

We hear that the Japanese major steel mills have become big scrap buyers. Because the major steel mills are short of iron ore pellets and coking coal, they are increasing the steel scrap ratio as a proportion of the metallics charge in their BOF steelmaking furnaces.

Steel production in Japan in 2007 via the BOF route was 90 million tonnes, which means that about 100 million tonnes of metallics were needed. If the mills decide to boost the scrap ratio by two points, let's say from 12% to 14% of the charge, an additional two million tonnes of steel scrap would be needed. In comparison, global obsolete steel scrap recovery in 2007 was about 320 million tonnes.

The global BOF and EAF steelmaking breakdown in 2007 was about as follows:

- Chinese BOF steel output was 439 million tonnes, and EAF output was 50 million tonnes.
- Non-Chinese BOF steel output was 461 million tonnes, and EAF output was 363 million tonnes.
- The global figures were BOF output at 900 million tonnes, and EAF output was 413 million tonnes.

WORLDSTEELDYNAMICS

Finished steel product prices have surged so substantially that, almost no matter what price an integrated mill pays for steel scrap, it wins. For example, if steel scrap is 20% of the metallics charge and the price rises by \$250 per ton, this represents a \$50 per ton increase in costs. In comparison, the world HRB export price is up about \$300 per tonne this year – from \$633 per tonne in early January to about \$940 per tonne.

Coking coal gone wild – international price up \$150+ per tonne

Regarding the one-year Australian coking coal settlement prices, FOB the port of export, our contacts now expect the following:

- Hard coking coal. The price may settle at \$270 per tonne, FOB Australia, versus \$98 per tonne last year. Hard coking coal represents 60% of total deliveries.
- Semi-hard coking coal. The price may settle at \$200-220 per tonne, FOB Australia, versus \$88 per tonne last year. Soft coking coal represents about 40% of total deliveries.

Our contacts indicate that the recent spot price on hard coking coal sales to Japan was about \$270 per tonne. This compares to the brief high of \$325 per tonne on a few transactions perhaps a month ago. Sales of spot semi-hard coking coal may be about \$230 per tonne (including Elk Valley of Canada).

The coking coal trade also hears that Xstrata is seeking to obtain \$300 per tonne when selling to Japan. However, there are mixed views on their success.

Several contacts in the coal industry in the United States say that, in mid-2007, U.S. Steel booked ahead its coking coal needs for 2008, and also to a sizable extent for 2009 and 2010, at very low prices – perhaps \$85 per net ton for hard coking coal, FOB the mine. The company does not confirm this point of view.

World Cost Curve gone topsy-turvy – Some USA integrated mills among the world's lowest cost

Steelmakers' costs have surged beyond expectations due to greater-than-imagined international price increases for coking coal, iron ore, steel scrap and metallurgical coke (the Chinese export price).

Hence, North American integrated steel mills that have their own iron ore supplies – including the Gary plant of USS, the Burns Harbor and Dofasco plants of ArcelorMittal – have become low cost by global standards. Besides low raw material costs, labor costs for these plants probably represent no more than 20% of operating costs given the improvements in labor productivity over the years.

WORLDSTEELDYNAMICS

Where's the best place to build a new steel plant? WSD remains with the view that the five best places in the world to build a new steel plant, in order, are India, the Middle East, the USA, Russia and Brazil. The five worst, in order, are Venezuela, Germany (the EU), Japan, Taiwan and China.

Surging Steel Mill Cost Inputs

(\$ per metric tonne unless otherwise indicated)

Cost Input	Price in Fall of 2007	Prior Expected Price in Spring of 2008	New Expected Price in Spring of 2008	Comment
Iron ore 1-year international price for fines, FOB Brazil	\$52	\$68	\$86	Need 1.6 tonnes per tonne shipped for integrated steel mill. Chinese spot iron ore price delivered to steel plant at \$200 per tonne in March 2008 versus \$160 in November 2007.
Coking coal 1-year international price, FOB Australia, for hard coking coal	\$98	\$150	\$260	Need 0.55 tonnes per tonne shipped for integrated steel mill. Chinese spot coking coal price delivered to steel plant at \$165 per tonne in March 2008 versus \$120 in November 2007.
Metallurgical coke export price, FOB China	\$360	\$360	\$520	Need 0.38 tonnes per tonne shipped for integrated steel mill.
Steel scrap #1 USA heavy melting	\$250	\$300	\$470	Need 0.20 tonnes per tonne shipped for integrated mill; 1.03 tonnes for EAF-based steel mill.
Pig iron FOB Brazil	\$275	\$315	\$580	Moves with scrap and hot-briquetted iron prices on world market.
Iron ore ocean freight cost Brazil to China	\$85	\$85	\$70	Only about \$8 per tonne in 2002.
Finished steel ocean freight cost Far East to USA	\$100	\$90	\$85	Only about \$25 per tonne in 2002.
Oil price per barrel	\$90	\$85	\$105	Ranged from \$20-29 per barrel in 2002.
Electricity, ferroalloy and freight costs in home country	100 (index number)	103 (index number)	105 (index number)	Prices stable to lower in freight costs and still rising in the other items.
Value of U.S. dollar per Euro	1.49	1.50	1.57	Dollars per Euro were 0.95 in 2002. The weaker the dollar, the lower the world export price of steel, all other things held the same.

WORLDSTEELDYNAMICS

Repositioning of the Global Steel Industry's HRB World Cost Curve

(\$ per metric tonne unless otherwise indicated)

Hot-rolled band cost with overhead	November 2007 WSD World Cost Curve	Spring 2008 costs (as expected in the fall of 2007)	Spring 2008 costs (now expected)	Comment
Low-cost integrated mill with own iron ore: <ul style="list-style-type: none"> • USA • Brazil • Russia • India • China 	\$425 \$345 \$335 \$350 \$415	\$435 \$380 \$345 \$395 \$445	\$450 \$455 \$400 \$495 \$480	Improved relative cost position for those USA mills with their own iron ore mines, particularly given today's steel scrap prices, is quite extraordinary.
Integrated mill purchasing iron ore and coking coal at the world or USA price: <ul style="list-style-type: none"> • USA • Brazil • Japan • Germany • China 	\$540 \$375 \$500 \$545 \$510	\$625 \$425 \$550 \$595 \$545	\$720 \$520 \$650 \$710 \$650	In China's case, coking coal is purchased at the domestic price. Costs in Europe may be up 100-110 Euros (\$156-170) per tonne. Coking coal has been less expensive in the United States.
USA EAF-based mini-sheet mill	\$465	\$530	\$690	Mini-sheet mills are now investing to find their own upstream sources of metallics.

Global pricing feedback

Our non-Chinese steel trading contacts are not yet seeing signs of "sticker shock" and/or a credit squeeze that would cause steel buyers to pull back orders.

What are the export prices for hot-rolled band, FOB the port of export?

- The USA mills appear to be at about \$920 per metric tonne.
- Chinese mills are at about \$870 per tonne (which gives them a higher price realization than on domestic sales even after paying the 17% VAT and the 5% tax surcharge).

WORLDSTEELDYNAMICS

- One EU mill is at \$1,068 (680 Euro) per tonne.
- The Russian mills appear to be at \$960 per tonne.
- Ukrainian mills, apparently, are in the \$910-980 per tonne, range.

Of course, the export price varies to some extent on the shipping distance. Ocean freight rates remain fairly firm, says a contact.

Steel slab is apparently priced at about \$750 per tonne, FOB Russian ports, and at about \$800 per tonne for the world's leading non-CIS export sources.

Hope for the global economy?

Might the global economy overcome the triple whammy of price spikes in oil, raw materials and food prices? The answer is “yes,” in theory, if enough capital is allocated because of these spikes to create more supply and, at the same time, inflation in labor costs stays restrained. At this moment in time, we are not aware of a global surge in wage rates.

WSD hopes that the incredible power of the information revolution – which promotes global GDP growth, stimulates rising fixed asset investment and dampens inflation – will work to offset the price spikes in oil, raw materials and food. The price spikes in these products are “signals” that more capital is needed to boost capacity. According to the “Global Income Shift Paradigm” way of looking at things, anything that promotes capital spending and a more rapid allocation of resources is good. Since the Developing World has a far higher ratio of savings and investment to GDP than the Advanced Countries, and since the Developing World grows faster than the Advanced Countries and now accounts for about 50% of global GDP on a purchasing power parity (PPP) basis, the global economy seems to be in a period in which fixed asset investment is rising as a share of global GDP.

WORLDSTEELDYNAMICS

Might the USA dollar recover and the USA stock market take off?

WSD thinks that the answer to both is “yes.” We see a combination of events that could be remarkably favorable.

First, the USA trade deficit continues to diminish due to: a) reduced manufacturing costs versus those in many countries, which boosts exports of manufactured goods; b) rising food and grain prices, which boosts the USA export of these goods; and c) some drop in the international oil price because so much capital has been committed to increasing its supply (and, also, reduced consumption due to the high price).

Second, the U.S. dollar starts to recover, especially versus the Euro, because of the far lower costs to produce manufactured products than in Europe. With the USA trade deficit lessening and common stock prices beaten down to attractive levels, the flow of funds away from USA common stocks starts to reverse itself.

Third, the USA stock market takes off as foreign investors anticipate that the U.S. dollar has reached its low point and the profit outlook is improving for 2009.

Interestingly, the Democratic candidates for president in the USA seem to be calling for more trade protection in order to protect U.S. jobs. In fact, the current situation is just the opposite. It's the prospect of rising USA exports and increased fixed asset investment in the USA that holds the greatest hope for providing a rising number of good job opportunities in the country.

Mistakes the norm when making decisions in volatile pricing environments

Steel buyers and sellers find it very hard to successfully anticipate future developments in highly volatile price situations. Competition is fierce, rivalries are strong and the buyer/seller relationship is greatly influenced by traditional behavior patterns. For example, in late 2007, WSD heard that:

- Some steel mills sold forward sizable tonnages for 2008 delivery. We are hearing rumblings that some EU mills did not negotiate sufficient price increases for 2008 with their largest customers such as their automotive accounts. For example, in Europe, perhaps the automotive price boosts were on the order of 50 Euro per tonne, speculates a contact, versus cost increases for 2008 that may be 100-110 Euro per tonne.
- Some large steel buyers did not consummate their one-year contracts for 2008 before 2007 ended. In this case, they are probably facing far more severe steel price boosts in 2008 than some of their competitors.

WORLDSTEELDYNAMICS

CHINESE STEEL: THREATENED, CHANGING, DANGEROUS, MUZZLED

The following commentary on the Chinese steel industry situation includes observations based on Peter Marcus' just-completed research visit to the country.

Reduced Chinese steel exports a major upside price driver for world export prices

A year ago, non-Chinese steelmakers were worried that excessive capacity additions in China would drive down prices on the world steel market. This threat was avoided, it turns out, because of the Chinese government's steel export restrictions (which are not about to be lifted given the inflation worries in that country in WSD's opinion). Hence, despite about 10% per annum growth of steel demand in China, steel production in the past year has been fairly stagnant due to lower exports.

Chinese steel product exports have fallen from an annual rate of 96 million tonnes in April 2007 to about 39 million tonnes in February 2008. This 50+ million tonne annualized decline, it turns out, has created physical steel shortages in a number of Developing World countries. Because Developing World steel production outside of China has expanded far less than the rise in steel demand, its net steel import requirement has risen from 11 million tonnes in 2005 to 70 million tonnes in 2008.

Chinese steel demand still surging

Most observers we spoke to in China still expect another 10% gain in demand for 2008 due to surging fixed asset investment. (*Note: The WSD mid-high forecast calls for a 9.5% gain in steel demand in 2008, while our mid-low forecast calls for a 4.5% gain.*)

Steel mills' costs out of control

Granted that the international iron ore price rises on average by 65% for the Chinese steel buyer (if not more) and that the current domestic coking coal price does not rise further (despite the expected 150% rise in the international coking coal price), WSD estimates that the **average operating cost to produce hot-rolled band in China by this spring will range from 4,000 RMB to 5,000 RMB per tonne**. The mid-point figure of 4,500 RMB per tonne comes to a lofty \$642 per tonne assuming the RMB is valued at 7.00 per U.S. dollar this spring (versus 7.01 per dollar on March 31, 2008).

The 65% increase in the international iron ore price amounts to a cost increase of about 370 RMB (\$53) per tonne of steel. For example, if the FOB price of iron ore was \$52 per tonne for 2007 and it rises by \$33 per tonne, and 1.6 tonnes of iron ore is needed per tonne of pig iron, the rise in the cost to produce pig iron is \$53 per tonne X 7.01 RMB per U.S. dollar = 373 RMB per tonne of pig iron.

A contact said the average price of HRB in 2007 was 4,300 RMB per tonne and that the average steel company had a 10% operating margin; hence, the operating cost was about 3,870 RMB (\$549) per tonne.

WORLDSTEELDYNAMICS

For coking coal in Shanxi Province, the average price in 2007 was 650 RMB per tonne, with the price in March 2008 at 950 RMB per tonne. Hence, given the increase of 300 RMB per tonne and a usage rate of about 0.6 tonnes per tonne of pig iron produced (and steel product shipped), the rise in operating costs would be about 180 RMB (\$25) per tonne shipped. *(Note: The current price at 900 RMB, or \$127, per tonne in Shanxi Province compares to the forecasted 2008 price for Australian semi-hard coking coal, FOB Australia, of perhaps \$220 per tonne and the hard Australian coking coal at \$270 per tonne. Hence, the Chinese price may rise when the new Australian price is announced.)*

Given a base cost of 3,870 RMB per tonne in 2007, cost changes in 2008 may be as follows:

- For the higher iron ore price, add 370 RMB per tonne.
- For higher coking coal costs, add 180 RMB per tonne (or more if the coking coal price in China rises from March 2008 levels).
- For other cost items, add 200 RMB per tonne.
- If so, the cost in 2008 would be 4,520 per tonne – or \$644 with the RMB at 7.01 per U.S. dollar.

WSD is now estimating that the operating costs to produce hot-rolled band in China in 2008 will range from 4,000 to 5,000 RMB per tonne for the mills that lack their own iron ore after the expected price increases in iron ore and coking coal on the world market.

Chinese steel industry concentration continuing

By about 2012, WSD forecasts there may be seven Chinese steel companies with capacities of 31 million tonnes or more. This list includes BaoSteel at maybe 90 million tonnes, Wuhan at 66 million tonnes, Anben at 52 million tonnes, Tangshen at 34 million tonnes, Capital Steel (Shougang) at 36 million tonnes; Jiangsu Shagang at 36 million tonnes and Shandong at 42 million tonnes. Concentration has increased in part because, in 2005, the Chinese government announced a policy to encourage consolidation because of its desire to reduce pollution and energy usage in the steel industry.

Hot-rolled band spot price in China is depressed

At \$650 per tonne, the Chinese ex-works spot price compares to \$940 per tonne for the world export price, FOB the port of export, about \$930 per tonne for the USA (expected for delivery in May 2008), and about \$1,000 per tonne in Europe.

We think that the Chinese home market prices may rally as long as the world export price remains so lofty. In fact, at these export price levels, the Chinese steel mills have an

WORLDSTEELDYNAMICS

export incentive. Hot-rolled band, for example, could rise by \$100 per tonne to about \$750 per tonne, ex-works. *(Note: If we assume \$650 per tonne for the mills' ex-works X 1.17 for the VAT expense when exporting = \$761 per tonne + \$25 per tonne for transport costs to the port and loading on a ship X 1.05 for the export tax = \$825 per tonne. This price compares to the Chinese mills' current export offering price, say our contacts, of about \$870 per tonne, FOB the port of export.)*

Chinese steel mills may temporarily seek to boost HRB exports in the months ahead

This writer is less convinced than before that jawboning actions by the government will cause the steel companies to voluntarily hold down their attempted foreign deliveries. However, if the Chinese mills turn to the world market as an outlet for their excess hot-rolled band capacity, we think a likely development is a further rise in the government's export surcharge (currently at 5%). The steel industry in China is a significant contributor to inflationary pressures in China at present; hence, export restraints would be a positive for the economy.

Once the world HRB export price heads down, WSD expects a sizable fall in the Chinese price – quite possibly to marginal cost “death spiral” levels

The steel industry has a highly “competitive” pricing structure because of the many producers (35 wide hot strip mills in the country that are owned by 30 corporate entities). The mills have high fixed costs and remain production growth oriented in almost all cases.

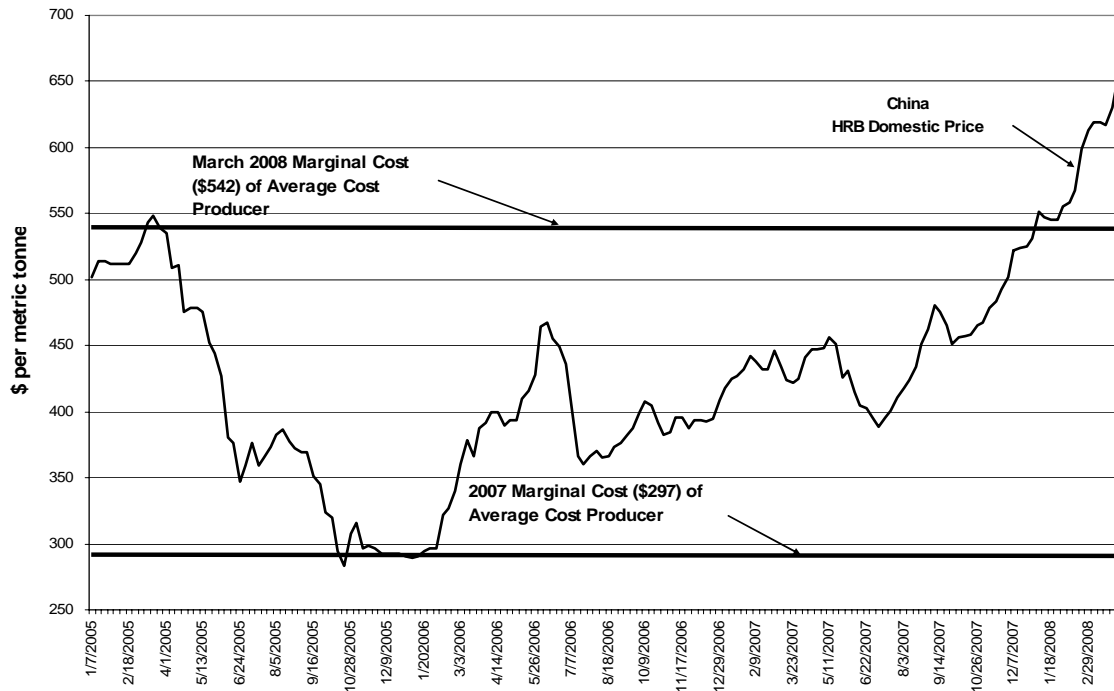
An important announcement was BaoSteel's new monthly price for May. In the past, it had only announced price increases to be effective on a quarterly basis.

If there is a pricing “death spiral” in the second half of 2008, it would be the second one since 2005. Given that the average marginal cost for the steel mills to produce hot-rolled band may be about 3,800 RMB (\$542) per tonne, the mills' ex-world spot price for hot rolled band might fall to this level versus the current figure of \$653 per tonne (and the possible rise to \$750 per tonne in the next few months).

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Chinese "Death Spiral" Track

(Hot-rolled band 4.75 mm thick home-market price, dollars per tonne)



Chinese capacity additions in hot-rolled band still prodigious

China's wide hot-rolled band capacity is forecast by WSD to rise to 164 million tonnes in 2008 versus 140 million tonnes in 2007, with a further boost to 221 million tonnes by 2010. A number of new coastal greenfield plants have recently received approval; hence, our capacity forecast for 2015 is 276 million tonnes.

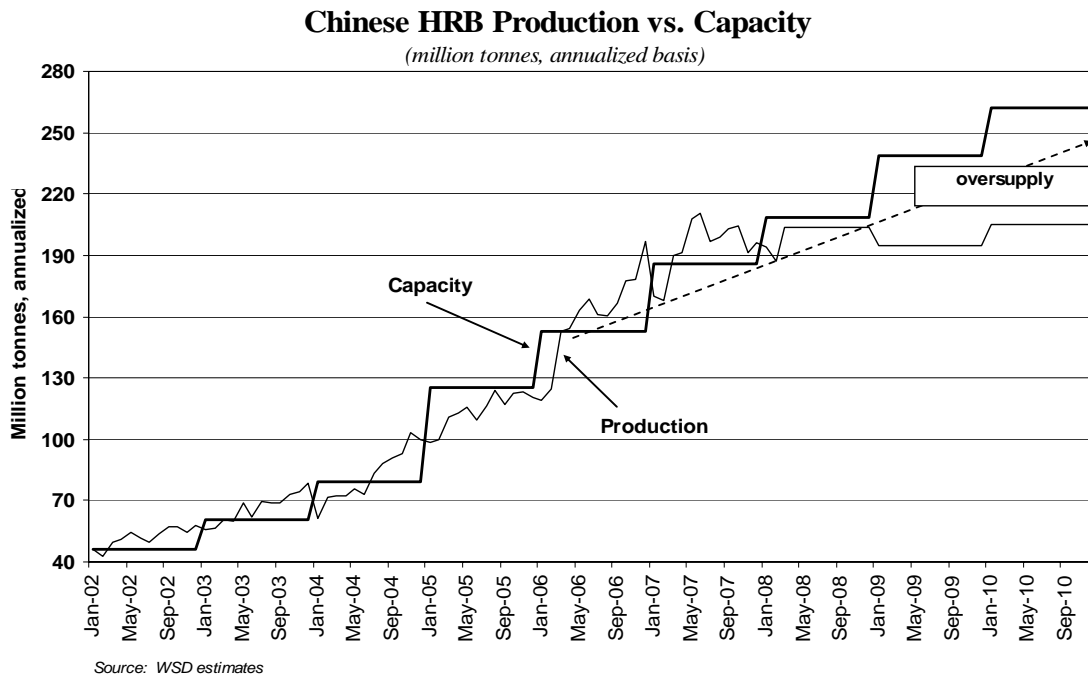
Interestingly, in BaoSteel's case, it has received permission to build a major new greenfield steel plant on the coast in Guangzhou (just north of Hong Kong); however, it first must take over and close down several marginal long products steel plants in the region.

Overcapacity to produce HRB in China is looming

By this summer, WSD forecasts that oversupply of hot-rolled band will be a problem for the Chinese steel mills. In the past year, Chinese production of wide hot-rolled band has risen from about a 120 million tonne annual rate to a 132 million tonnes annual rate; yet, hot-rolled band capacity in 2007 rose by 33 million tonnes, with another 23 million tonnes planned in 2008.

WORLDSTEELDYNAMICS

If this scenario is correct, the timing of the drop of the world steel export price – i.e., this coming June – may coincide with rising overcapacity in China to produce hot-rolled band.



Massive Chinese new greenfield seaside capacity is planned

Listed below are 11 announced and/or possible additions with a capacity of 71 million tonnes on a first phase basis and 126 million tonnes on a second phase basis:

1. WISCO in Guangxi Province a seaside Greenfield approved. Phase I = 10 mmtpy. Phase II = 20 mmtpy. Odds = 100%.
2. BaoSteel in Guangdong Province a seaside Greenfield approved. Phase I = 10 mmtpy. Phase II = 20 mmtpy. Odds = 100%.
3. Shougang and Tangshan Steel combined for a seaside Greenfield plant at 10 mmtpy for Phase I. Planned for start up in late 2008. Phase II start up in 2011 at 20 mmtpy. Odds = 100%.
4. Ningbo Steel 4 mmtpy is already in operation. Phase II = 8 mmtpy. Odds = 80%.

WORLDSTEELDYNAMICS

5. Jinan Steel and Laiwu Steel combined in Shandong Province, and planned a seaside Greenfield in Rizhao Port, for Phase I at 10 mmtpy. Phase II at 20 mmtpy. Odds = 70%.
6. Shougang to build a plate mill at 3 mmtpy just started up; then add another 2 mmtpy in 2010 at Qinghuangdao – a seaside location. Odds = 100%.
7. Angang planed a new plant – plate plus HRB. Phase I starts production in H1 2009 at seaside of Bayuquan. Phase I in H1 09 at 5 mmtpy; Phase II at 10 mmtpy. Odds = 100%.
8. Magang now is building a third BOF, CC and new HSM for production in 2010. Adding 5 mmtpy. Odds = 100%.
9. In Jiangsu, Tieben Steel is not yet approved. Phase I capacity at 4 mmtpy. Odds = 50%. Phase II capacity at 8 mmtpy.
10. Shagang is expanding another 6 mmtpy at a new site further to the West on the Yangtze River. 2 mmtpy plate and 4 mmtpy HRB. Odds = 100%. (*Note: Shagang may be purchasing iron ore and coking coal mines in Shanxi Province.*)
11. A private group wants to build a greenfield plant at Lianyungang City, seaport for export of coal, at 10 mmtpy. Phase I = 4 mmtpy. Of which 2 mmtpy plate and 2 mmtpy HRB. Then, same size all over again. Owner is friendly with top leaders. Odds = 80% chance for approval.

Bank credit is not tight in China

Money seems to be readily available because the country's savings rate may be close to 50% of GDP and, as a consequence, the banks still have more money to lend than groups to lend it to. Rising corporate profits in recent years have held back the need for borrowed funds. In our discussion with steel traders, we did not hear stories that buyers were having trouble financing inventories.

Chinese economic growth seems likely to slow down in the second half of the year

Reasons for the probable slowdown include: a) the Central Government has taken recurring steps to retard the growth of the economy – i.e., raising interest rates, increasing the banks' reserve requirements and approving fewer major construction projects; b) the USA and European economies, which are key export outlets, are not strong at the present time; and c) the RMB has been appreciating more rapidly (no doubt because the government is worried about inflation).

China is now in its 11th 5-year plan that ends in 2010. In this plan, the goal was to use energy 20% more efficiently, which may not be accomplished.

WORLDSTEELDYNAMICS

The country has 1.3 billion people, of which about 900 million have an average income of about 30,000 RMB per year. Yet, in a rural environment, we were told this is enough income to live on.

China is a heavy consumer of oil and gas; yet, consumption per capita is quite low.

Keys to growth for a Developing World country include: a) a good educational system; b) no religious strife; and c) a high investment to GDP ratio.

In the 2002-2007 time frame, Chinese investment rose 16% per year based on IMF data versus GDP growth of 10-11% per year. In the years ahead, the fixed asset investment growth rate will eventually fall to 14%, and then to 12%, and then to 10%. However, the timing of these changes is not yet clear, says a contact.

The government began measures in Q3 07 to slow down the economy. However, the impact was not immediate. Exports were lower in Q1 08 because the RMB has been strong. Fixed asset investment has remained strong due to high profits in raw materials (such as steel and coal).

Infrastructure spending growth may slow down in the years ahead because there will be enough roads and related items. Motorways are built on a PPP basis = public and private partnership; these roads collect tolls.

The snowstorms did not have much impact on the Chinese economy, in part because so much of it is located on the coast (where there were only limited snowstorms). Production of iron ore and coal were not impacted because these raw materials are produced in the North, where cold weather and snow is normal in the winter. The bad weather had little impact on construction and on agriculture.

Actions to restrict the Chinese rate of expansion included, starting in Q3 07:

- Higher interest rates.
- Tighter credit. The reserve ratio was boosted to about 15%. Also, there will be tighter licensing for the approval of new projects.
- Adjustment of interest rate spreads. The savings rate is now 4.5%, with the interest rate charged on loans at 7-11%.

Fixed asset investment at an 18% annual rate in H2 07. The growth may be 17% in H1 08, but only 14-15% in the second half of 2008. If so, this means that the rate of expansion of steel demand will be less.

Chinese economists are worried about the impact of a weaker U.S. economy.

WORLDSTEELDYNAMICS

The targeted long-term growth rate for Chinese GDP is 8%; hence, a reduction in the growth rate from 11% to 9% would not be a problem.

A near-term pricing agreement with the Australian iron ore producers may not occur

The problem for the Australian miners is that so many Chinese executives and groups are now involved in the decision-making process – including the steel mills, the Ministry of Commerce, possibly officials at other Chinese government agencies and the Chinese Iron and Steel Association (CISA). Hence, it may be hard to make a deal. If there is no settlement by the end of June, the leading Australian iron ore suppliers may have the right to hold back their deliveries. The leading Australian iron ore suppliers argue, in some respects quite persuasively, that their FOB export price should be higher than Brazil's since the spot ocean freight cost to ship iron ore to China from Brazil is \$50 per tonne more than that from Australia.

Offshore iron ore deliveries to China on the verge of falling sharply

Granted the following: a) Chinese apparent steel demand rises 9.5% this year (a mid-high estimate); b) Chinese steel exports rise from the current rate; and c) Chinese iron ore production continues rising because of the high price and the \$5+ billion being spent per annum to improve and expand the iron ore mines and concentrating plants. WSD has estimated that offshore iron ore deliveries to China in 2008 may be about 365 million tonnes versus 385 million tonnes in 2007 (and the recent annual delivery rate of 450 million tonnes as Chinese iron ore buyers were ordering in advance to beat the price increases).

Our discussions in China did not dissuade WSD from this point of view. If we are correct that offshore deliveries to China will be headed down sharply, we think that the world spot export price will be falling by this summer.

Here's an interesting question: If an oversupply of iron ore develops in China, will the domestic spot price or the imported spot price fall more? If the domestic spot price falls more, will domestic production drop so much that imports are sustained? WSD does not think so.

The Chinese coke supply remains limited for offshore mills

There's plenty of cokemaking capacity in China; however, the government seems likely once again to issue only about 15 million tonnes of export licenses this year. The current Chinese coke export price is about \$520 per tonne, FOB the port of export, versus the Chinese price at about \$320 per tonne delivered to the steel plant. We were told that, on domestic deliveries, coke buyers are more willing to buy coke that is "wet" – i.e., high moisture content – and with an ash content greater than the 12.5% figure that is common when exporting. In 1998, the ash content on coke for export was 11.5%. It is now 12.5%.

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Some Indian blast furnace producers cannot afford to pay the price for coke at present.

The cost to purchase coke in China, at the coke ovens, including the 17% VAT, is about 2,000-2,210 RMB per tonne says a contact.

There is not great profit nowadays in the production of coke for export due to the high taxes, says a contact. The profit is only about 50 RMB per tonne if there are no by-product sales from the coke oven, and about 150 RMB per tonne with by-product sales.

The cost to buy an export license is now about \$50 per tonne. Last year it was only \$8-10 per tonne.

When selling coke for domestic application, the moisture content is 7%. Yet, the price is the same as for export. The interest expense when exporting is 5%,

Coke exports in February were only 300,000 tonnes because of the bad weather.

Chinese raw material prices up sharply

Our contacts indicated the following:

- Coking coal sells for 1,400 RMB per tonne delivered to the steel plant. This price includes the VAT and a railroad freight expense of about 110 RMB per tonne.
- PCI delivered prices are 900 RMB per tonne. Large BFs may use 140-150 kg of PCI per tonne of pig iron; small ones about 50 kg of PCI. Even smaller BFs commonly use PCI because it saves money.
- Metallurgical coke prices are 2,250 RMB per tonne delivered to the steel plant.
- Domestic iron ore prices are 1,800 RMB per tonne on a dry basis with an iron content of 66% minimum.

Regarding freight costs for iron ore, from Liaoning Province in the Northeast (the home of Angang) to steel plants in the Shanghai region, it costs about 100 RMB to ship to the ports of Dalian, Yingkou and Donggang, and then 50 RMB per tonne to ship by barge to the Shanghai region. For iron ore in Hebei province (which produces the most steel of any province in China), the cost is the same to ship iron ore to ports such as Tangshan and Tianjin and then to barge the iron ore down the coast.

Barges hold 3,000 to 10,000 (not often) tonnes of iron ore. Cost to ship down the coast is about 80 RMB per tonne.

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Good demand for Chinese steel rail

Our contacts indicated that a high-speed rail line is being built from Beijing to Shanghai. The train will travel at 300 km/hour and take only 4.5 hours from city to city. The railroad line may require 5 million tonnes of steel during its construction. Similarly, a rail line from Harbin to Dailin may require 2 million tonnes of steel.

The Chinese steel marketplace incredibly complex

In addition to the 150,000 or so steel trading firms, there are about 200 steel depots/marketplaces in China that distribute about 150-200 million tonnes of steel each year says a contact. The marketplaces vary in size from 0.1 to 1.0 million tonnes per year.

Prices in China at the present time seem to be headed up because inventory is low and the mills' costs are rising.

Steel futures not yet gaining major traction in China.

During discussions with officials at SSEC (Shanghai Steel Exchange Center), we learned that daily trading of steel, in the form of common stocks with fixed expiration dates that represent tonnes of hot-rolled band, rebar and wire rod, has plummeted during the past year. Trading in hot-rolled band, rebar and wire rod apparently fell from 1.4 million tonnes per day in September 2007 to only 120,000 tonnes per day at present. Reasons for the decline include:

- The deposit – i.e., the guarantee – to trade share (a contract) rose from 10% to 20%. This increase was mandated by the Ministry of Commerce.
- Higher price of steel hurt because the guarantee posted for a transaction had to go up so much.
- Higher cost of money.
- Banks not lending as easily.
- After learning how to have transactions in steel, some of those trading steel shifted their activity to other products such as industrial metals, gold and agricultural products.
- The Shanghai Futures Exchange has grown in importance in non-steel products. The “guarantee” on the Shanghai Futures Exchange is only 10% of the value of the contract.

WORLDSTEELDYNAMICS

- A sizable increase in the number of competitors. There are now about a dozen competitors to SSEC.
- China's Ministry of Commerce did not see the relative merits of their type of business. Hence, trading on the exchange was viewed by some as a quasi-legal activity. SSEC was viewed by some to be operating somewhere between a legal and illegal status.
- In the second half of 2007, we were told that "everybody liked to play with common stocks. Everyone was so sure that they would make money."

The management of SSEC is planning to transform their business into on-line physical trading in steel – i.e., e-commerce in steel.

Regarding the Shanghai Futures Exchange, we were told that it accounted for 57% of all Chinese futures transactions. It had a breakthrough in March 2007 with zinc, which was actively traded after listing. In January 2008, it started to trade gold futures. Trading on the Shanghai Futures Exchange has been approved by CSRC and CBRC.

The Shanghai Futures Exchange is studying a steel index.

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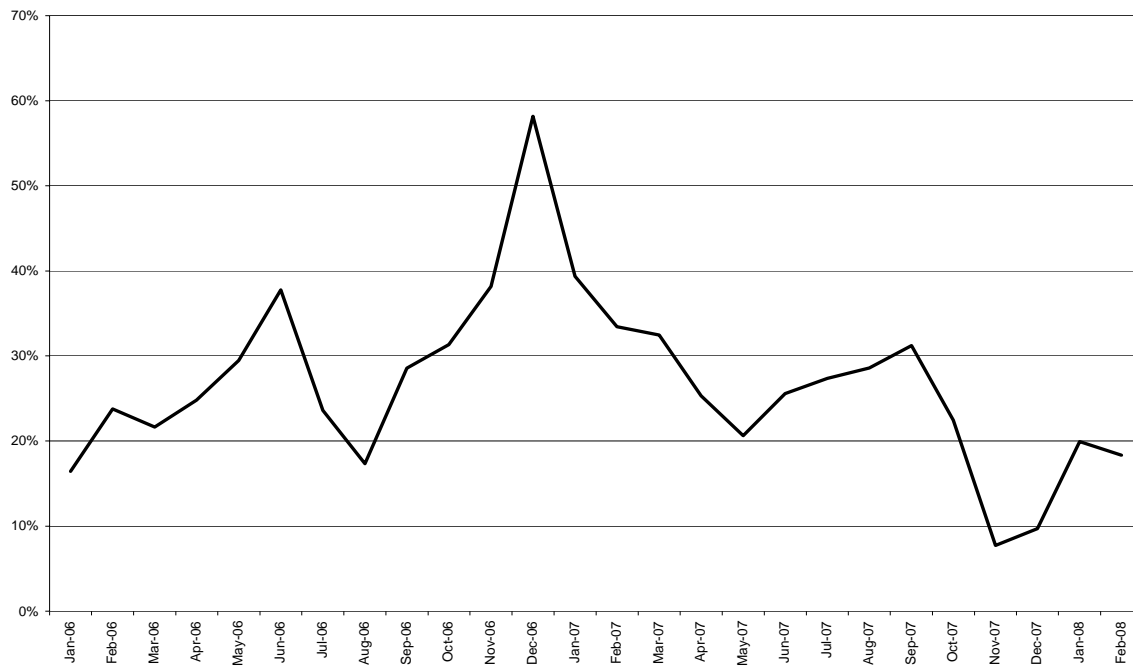
China Large Steel Group With Production Capacity Over 15 Million Tonnes

(mmtpy)

	Main Group		Merging mills		New projects	Group Total	
	2007 Capacity	2012 Capacity	2007 Capacity	2012 Capacity	2012 Capacity	2007 Capacity	2012 Capacity
Baosteel Group	25	30	5	33-46	20	30	83-96
Wuhan Steel Group	12	15	9	29-32	20	21	64-67
Anben Steel Group	24	26	2	16-24	10	26	52-60
Tangshan Steel Group	14	18	10	13-20	0	24	31-38
Capital Steel Group	12	9	0	6--10	20	12	35-39
Jiangsu Shagang Group	15	15	8	13-20	6	23	34-41
Shandong Steel Group	24	26	0	4--9	20	24	50-55
Total	126	139	34	114-161	96	160	349-391

Source: WSD estimates

Chinese HRB Production Y on Y Change, 2006-2008



Source: WSD Estimates

WORLDSTEELDYNAMICS

China Flat Products Market Analysis (HRB_{EQ})

(thousand tonnes)

	2000	2001	2002	2003	2004	2005	2006	2007	2008e
Hot-rolled band									
Capacity	41,400	43,500	45,150	59,040	79,300	125,070	152,790	185,790	208,490
Production	16,463	17,299	20,996	32,000	59,740	83,140	107,900	130,060	150,000
Consumption	17,638	19,916	25,389	36,800	61,750	85,700	102,930	122,090	138,000
Implied Exports	-1,175	-2,617	-4,393	-4,800	-2,010	-2,560	4,970	7,970	12,000
Production y on y %		5.1%	21.4%	52.4%	86.7%	39.2%	29.8%	20.5%	15.3%
Cold rolled coil									
Capacity	12,100	12,400	13,300	15,300	23,400	37,900	48,600	56,000	71,300
Production	9,800	10,300	11,240	12,800	13,200	21,060	30,660	39,320	49,000
Consumption	13,600	14,800	15,300	15,760	16,930	28,300	32,800	40,970	48,000
Implied Exports	-3,800	-4,500	-4,060	-2,960	-3,730	-7,240	-2,140	-1,650	1,000
Production y on y %		5.1%	9.1%	13.9%	3.1%	59.5%	45.6%	28.2%	24.6%
Galvanized/coated									
Capacity	3,900	4,200	5,400	6,900	9,060	14,000	20,100	23,400	28,000
Production	3,237	3,748	6,105	5,980	7,289	10,200	16,250	20,720	25,000
Consumption	6,033	6,302	10,064	12,348	11,320	14,790	17,460	19,990	23,000
Implied Exports	-2,796	-2,554	-3,959	-6,368	-4,031	-4,590	-1,210	730	2,000
Production y on y %		15.8%	62.9%	-2.0%	21.9%	39.9%	59.3%	27.5%	20.7%
Other including plate									
Capacity	16,400	16,760	17,060	19,960	28,600	38,000	50,900	58,700	62,800
Production	12,900	13,600	14,760	17,480	27,920	32,470	40,230	52,400	58,000
Consumption	13,200	14,100	15,200	20,300	29,490	32,060	37,360	47,390	54,000
Implied Exports	-300	-500	-440	-2,820	-1,570	410	2,870	5,010	4,000
Production y on y %		5.4%	8.5%	18.4%	59.7%	16.3%	23.9%	30.3%	10.7%
Total HRB_{EQ} products									
Capacity	73,800	76,860	80,910	101,200	140,360	214,970	272,390	323,890	370,590
Production	42,400	44,947	53,101	68,260	108,149	146,870	195,040	242,500	282,000
Consumption	50,471	55,118	65,953	85,208	119,490	160,850	190,550	230,440	263,000
Implied Exports	-8,071	-10,171	-12,852	-16,948	-11,341	-13,980	4,490	12,060	19,000

Source: WSD ProductionTrack

WORLDSTEELDYNAMICS

WORLD HRB Equivalent Demand (000 Tonnes)

	HRB					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	521,549	140,267	140,267		521,549	8.1%
Q2 05	530,858	139,086	139,086		530,858	7.7%
Q3 05	523,069	127,012	127,012		523,069	4.9%
Q4 05	542,044	131,348	131,348		542,044	4.4%
Q1 06	557,297	143,107	143,107		557,297	6.9%
Q2 06	604,331	151,569	151,569		604,331	13.8%
Q3 06	594,096	151,780	151,780		594,096	13.6%
Q4 06	616,277	155,942	155,942		616,277	13.7%
Q1 07	614,594	154,639	154,639		614,594	10.3%
Q2 07	649,132	160,668	160,668		649,132	7.4%
Q3 07	636,648	163,730	163,730		636,648	7.2%
Q4 07	645,492	163,411	163,411		645,492	4.7%

Europe HRB Equivalent Demand (000 Tonnes)

	HRB					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	103,126	57,031	36,007	21,024	124,149	1.6%
Q2 05	101,438	55,484	34,481	21,003	122,441	-2.7%
Q3 05	90,697	46,890	30,740	16,151	106,848	-9.3%
Q4 05	100,295	51,641	35,293	16,348	116,642	-6.6%
Q1 06	102,445	58,449	39,199	19,250	121,694	-2.0%
Q2 06	109,221	62,784	38,627	24,157	133,378	8.9%
Q3 06	100,231	59,793	37,410	22,383	122,614	14.8%
Q4 06	105,078	61,589	39,501	22,088	127,166	9.0%
Q1 07	108,872	65,138	39,796	25,341	134,214	10.3%
Q2 07	109,811	65,911	40,414	25,497	135,308	1.4%
Q3 07	100,091	66,380	40,726	25,655	125,745	2.6%
Q4 07	105,832	66,628	40,888	25,740	131,572	3.5%

WORLD LP Equivalent Demand (000 Tonnes)

	LP					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	510,529	81,258	81,258		510,529	14.4%
Q2 05	533,423	83,661	83,661		533,423	17.0%
Q3 05	529,364	76,582	76,582		529,364	13.6%
Q4 05	553,935	82,263	82,263		553,935	13.7%
Q1 06	528,173	85,993	85,993		528,173	3.5%
Q2 06	573,729	97,909	97,909		574,580	7.7%
Q3 06	576,384	97,959	97,959		578,458	9.3%
Q4 06	593,671	104,816	104,816		593,671	7.2%
Q1 07	590,485	111,402	111,402		590,485	11.8%
Q2 07	615,407	127,695	127,695		615,407	7.1%
Q3 07	618,727	116,268	116,268		618,727	7.0%
Q4 07	622,689	114,458	114,458		622,689	4.9%

Europe LP Equivalent Demand (000 Tonnes)

	LP					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	89,886	25,101	27,703	-2,602	87,284	6.8%
Q2 05	88,409	24,684	29,018	-4,335	84,074	1.8%
Q3 05	80,412	19,623	26,518	-6,894	73,518	-8.6%
Q4 05	88,344	23,368	28,866	-5,498	82,846	-1.5%
Q1 06	89,185	24,806	30,208	-5,402	83,783	-4.0%
Q2 06	96,677	27,345	30,859	-3,514	93,163	10.8%
Q3 06	95,682	26,877	28,455	-1,578	94,104	28.0%
Q4 06	97,989	28,979	30,359	-1,380	96,609	16.6%
Q1 07	94,977	31,902	34,577	-2,676	92,301	10.2%
Q2 07	95,879	32,637	33,901	-1,264	94,615	1.6%
Q3 07	93,442	34,508	33,902	605	94,048	-0.1%
Q4 07	95,787	34,508	33,902	605	96,392	-0.2%

WORLD Total Equivalent Demand (000 Tonnes)

	Total					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	1,032,078	221,524	221,524	0	1,032,078	11.1%
Q2 05	1,064,281	222,747	222,747	0	1,064,281	12.2%
Q3 05	1,052,433	203,594	203,594	0	1,052,433	9.1%
Q4 05	1,095,979	213,612	213,612	0	1,095,979	8.9%
Q1 06	1,085,470	229,100	229,100	0	1,085,470	5.2%
Q2 06	1,178,059	249,479	249,479	0	1,178,911	10.8%
Q3 06	1,170,480	249,739	249,739	0	1,172,554	11.4%
Q4 06	1,209,948	260,758	260,758	0	1,209,948	10.4%
Q1 07	1,205,080	266,041	266,041	0	1,205,080	11.0%
Q2 07	1,264,539	288,363	288,363	0	1,264,539	7.3%
Q3 07	1,255,376	279,998	279,998	0	1,255,376	7.1%
Q4 07	1,268,181	277,869	277,869	0	1,268,181	4.8%

Europe Total Equivalent Demand (000 Tonnes)

	Total					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	193,011	82,132	63,710	18,422	211,433	3.7%
Q2 05	189,846	80,168	63,499	16,669	206,515	-0.9%
Q3 05	171,110	66,514	57,257	9,256	180,366	-9.0%
Q4 05	188,639	75,009	64,159	10,849	199,488	-4.6%
Q1 06	191,630	83,255	69,407	13,848	205,478	-2.8%
Q2 06	205,899	90,129	69,487	20,643	226,541	9.7%
Q3 06	195,914	86,670	65,866	20,805	216,718	20.2%
Q4 06	203,067	90,568	69,860	20,708	223,775	12.2%
Q1 07	203,849	97,039	74,374	22,666	226,515	10.2%
Q2 07	205,690	98,548	74,315	24,233	229,923	1.5%
Q3 07	193,533	100,888	74,628	26,260	219,793	1.4%
Q4 07	201,619	101,136	74,791	26,346	227,964	1.9%

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China HRB Equivalent Demand (000 Tonnes)

	HRB					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	103,094	18,224	8,623	9,601	112,695	17.2%
Q2 05	112,641	22,384	9,701	12,682	125,323	35.1%
Q3 05	119,379	20,967	5,497	15,470	134,849	37.9%
Q4 05	121,750	18,038	5,720	12,317	134,067	28.3%
Q1 06	132,202	13,262	10,653	2,609	134,812	19.6%
Q2 06	161,861	13,426	16,384	-2,958	158,903	26.8%
Q3 06	162,683	13,190	19,148	-5,957	156,726	16.2%
Q4 06	184,135	12,071	22,335	-10,264	173,870	29.7%
Q1 07	175,785	11,721	18,911	-7,190	168,594	25.1%
Q2 07	202,984	12,034	24,626	-12,592	190,393	19.8%
Q3 07	199,664	11,296	25,076	-13,781	185,883	18.6%
Q4 07	197,101	11,322	24,541	-13,218	183,883	5.8%

All but China HRB Equivalent Demand (000 Tonnes)

	HRB					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	418,455	122,043	131,644	-9,601	408,854	5.9%
Q2 05	418,217	116,702	129,385	-12,682	405,535	1.4%
Q3 05	403,690	106,045	121,515	-15,470	388,220	-3.2%
Q4 05	420,294	113,311	125,628	-12,317	407,976	-1.6%
Q1 06	425,095	129,845	132,454	-2,609	422,486	3.3%
Q2 06	442,470	138,144	135,186	2,958	445,428	9.8%
Q3 06	431,413	138,589	132,632	5,957	437,370	12.7%
Q4 06	432,142	143,872	133,607	10,264	442,407	8.4%
Q1 07	438,810	142,918	135,728	7,190	446,000	5.6%
Q2 07	446,148	148,634	136,042	12,592	458,739	3.0%
Q3 07	436,985	152,434	138,653	13,781	450,765	3.1%
Q4 07	448,391	152,089	138,871	13,218	461,609	4.3%

China LP Equivalent Demand (000 Tonnes)

	LP					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	176,391	3,364	9,796	-6,432	169,959	35.6%
Q2 05	196,113	4,040	12,171	-8,131	187,982	50.4%
Q3 05	204,549	4,182	9,176	-4,995	199,554	49.6%
Q4 05	213,941	3,581	11,293	-7,711	206,229	42.1%
Q1 06	201,446	3,246	12,986	-9,740	191,706	12.8%
Q2 06	230,420	3,459	22,417	-18,958	211,462	12.5%
Q3 06	234,292	3,586	22,951	-19,366	214,927	7.7%
Q4 06	244,542	3,375	30,721	-27,346	217,196	5.3%
Q1 07	247,684	3,369	32,694	-29,324	218,359	13.9%
Q2 07	267,812	3,553	48,623	-45,070	222,742	5.3%
Q3 07	271,710	3,473	37,092	-33,620	238,090	10.8%
Q4 07	267,538	3,500	35,281	-31,782	235,756	8.5%

All but China LP Equivalent Demand (000 Tonnes)

	LP					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	334,138	77,894	71,462	6,432	340,571	6.1%
Q2 05	337,310	79,621	71,490	8,131	345,441	4.4%
Q3 05	324,816	72,401	67,406	4,995	329,810	-0.8%
Q4 05	339,995	78,682	70,971	7,711	347,706	1.6%
Q1 06	326,726	82,747	73,007	9,740	336,467	-1.2%
Q2 06	343,308	94,451	75,493	18,958	363,118	5.1%
Q3 06	342,091	94,373	75,008	19,366	363,531	10.2%
Q4 06	349,129	101,441	74,095	27,346	376,475	8.3%
Q1 07	342,802	108,032	78,708	29,324	372,126	10.6%
Q2 07	347,595	124,142	79,072	45,070	392,665	8.1%
Q3 07	347,017	112,796	79,176	33,620	380,637	4.7%
Q4 07	355,151	110,958	79,176	31,782	386,932	2.8%

China Total Equivalent Demand (000 Tonnes)

	Total					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	279,485	21,587	18,419	3,169	282,653	27.6%
Q2 05	308,754	26,424	21,872	4,552	313,306	43.9%
Q3 05	323,927	25,149	14,674	10,475	334,403	44.6%
Q4 05	335,691	21,619	17,013	4,606	340,297	36.3%
Q1 06	333,648	16,508	23,639	-7,131	326,517	15.5%
Q2 06	392,281	16,884	38,801	-21,916	370,365	18.2%
Q3 06	396,975	16,776	42,099	-25,323	371,653	11.1%
Q4 06	428,677	15,446	53,056	-37,611	391,066	14.9%
Q1 07	423,468	15,090	51,605	-36,515	386,954	18.5%
Q2 07	470,796	15,587	73,249	-57,662	413,135	11.5%
Q3 07	471,374	14,768	62,169	-47,400	423,973	14.1%
Q4 07	464,639	14,822	59,822	-45,000	419,639	7.3%

All but China Total Equivalent Demand (000 Tonnes)

	Total					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	752,593	199,937	203,106	-3,169	749,425	6.0%
Q2 05	755,528	196,323	200,875	-4,552	750,976	2.8%
Q3 05	728,506	178,446	188,921	-10,475	718,031	-2.1%
Q4 05	760,288	191,993	196,599	-4,606	755,682	-0.1%
Q1 06	751,822	212,592	205,461	7,131	758,952	1.3%
Q2 06	785,778	232,594	210,678	21,916	808,546	7.7%
Q3 06	773,504	232,963	207,640	25,323	800,902	11.5%
Q4 06	781,271	245,312	207,702	37,611	818,882	8.4%
Q1 07	781,612	250,950	214,436	36,515	818,126	7.8%
Q2 07	793,742	272,775	215,114	57,662	851,404	5.3%
Q3 07	784,002	265,230	217,830	47,400	831,402	3.8%
Q4 07	803,542	263,047	218,047	45,000	848,542	3.6%

WORLDSTEELDYNAMICS

Japan HRB Equivalent Demand (000 Tonnes)

	HRB					ASC	
	Annualized Equivalent						
	Shipment	Import	Export	Net Import	ASC		
Q1 05	63,965	5,324	32,291	-26,967	36,998	7.5%	
Q2 05	66,736	5,641	30,734	-25,093	41,643	13.3%	
Q3 05	64,127	4,775	28,651	-23,875	40,252	10.5%	
Q4 05	64,311	4,756	26,102	-21,347	42,964	9.7%	
Q1 06	64,532	4,672	28,992	-24,320	40,212	8.7%	
Q2 06	66,753	4,525	32,050	-27,525	39,228	-5.8%	
Q3 06	67,002	4,799	32,368	-27,569	39,433	-2.0%	
Q4 06	69,504	5,283	32,378	-27,095	42,409	-1.3%	
Q1 07	68,029	5,262	31,897	-26,635	41,394	2.9%	
Q2 07	68,873	5,211	32,113	-26,903	41,970	7.0%	
Q3 07	68,909	5,103	32,828	-27,724	41,185	4.4%	
Q4 07	71,133	5,156	33,137	-27,981	43,152	1.8%	

South America HRB Equivalent Demand (000 Tonnes)

	HRB					ASC	
	Annualized Equivalent						
	Shipment	Import	Export	Net Import	ASC		
Q1 05	25,744	4,123	5,209	-1,086	24,658	-0.4%	
Q2 05	26,508	4,542	5,813	-1,270	25,238	4.6%	
Q3 05	25,805	4,055	6,716	-2,661	23,144	-6.8%	
Q4 05	26,209	4,111	7,265	-3,155	23,055	-11.9%	
Q1 06	25,128	4,267	7,638	-3,371	21,757	-11.8%	
Q2 06	25,100	4,084	4,623	-539	24,561	-2.7%	
Q3 06	26,922	4,566	5,331	-765	26,157	13.0%	
Q4 06	26,700	4,563	6,472	-1,909	24,791	7.5%	
Q1 07	26,629	4,622	6,710	-2,088	24,541	12.8%	
Q2 07	27,279	4,506	5,858	-1,352	25,927	5.6%	
Q3 07	27,480	4,552	5,710	-1,158	26,322	0.6%	
Q4 07	28,409	4,647	5,846	-1,199	27,210	9.8%	

Japan LP Equivalent Demand (000 Tonnes)

	LP					ASC	
	Annualized Equivalent						
	Shipment	Import	Export	Net Import	ASC		
Q1 05	59,481	993	9,034	-8,040	51,441	-6.1%	
Q2 05	62,058	998	9,081	-8,083	53,975	-5.0%	
Q3 05	59,632	808	8,256	-7,448	52,184	-9.0%	
Q4 05	59,803	1,113	8,271	-7,158	52,645	-9.7%	
Q1 06	61,440	957	8,801	-7,843	53,597	4.2%	
Q2 06	63,555	916	8,936	-8,020	55,535	2.9%	
Q3 06	63,792	640	9,432	-8,792	55,000	5.4%	
Q4 06	66,174	762	9,063	-8,301	57,873	9.9%	
Q1 07	64,062	779	9,184	-8,405	55,657	3.8%	
Q2 07	64,856	832	9,507	-8,675	56,182	1.2%	
Q3 07	64,891	546	9,289	-8,743	56,148	2.1%	
Q4 07	66,985	546	9,289	-8,743	58,242	0.6%	

South America LP Equivalent Demand (000 Tonnes)

	LP					ASC	
	Annualized Equivalent						
	Shipment	Import	Export	Net Import	ASC		
Q1 05	26,288	471	4,548	-4,077	22,211	-0.4%	
Q2 05	27,449	650	4,000	-3,350	24,100	6.2%	
Q3 05	25,920	684	3,833	-3,149	22,771	-3.5%	
Q4 05	26,711	723	3,985	-3,262	23,450	-0.6%	
Q1 06	25,437	747	4,457	-3,710	21,727	-2.2%	
Q2 06	25,718	921	3,521	-2,599	23,119	-4.1%	
Q3 06	27,773	799	4,531	-3,733	24,041	5.6%	
Q4 06	27,355	735	4,205	-3,470	23,885	1.9%	
Q1 07	26,647	934	3,754	-2,820	23,827	9.7%	
Q2 07	27,233	1,134	3,394	-2,260	24,973	8.0%	
Q3 07	27,673	1,327	3,643	-2,315	25,358	5.5%	
Q4 07	28,595	1,327	3,643	-2,315	26,280	10.0%	

Japan Total Equivalent Demand (000 Tonnes)

	Total					ASC	
	Annualized Equivalent						
	Shipment	Import	Export	Net Import	ASC		
Q1 05	123,446	6,318	41,325	-35,007	88,439	-0.9%	
Q2 05	128,793	6,639	39,815	-33,176	95,617	2.2%	
Q3 05	123,759	5,583	36,907	-31,324	92,436	-1.4%	
Q4 05	124,114	5,868	34,373	-28,505	95,609	-1.9%	
Q1 06	125,972	5,629	37,793	-32,164	93,808	6.1%	
Q2 06	130,308	5,442	40,987	-35,545	94,763	-0.9%	
Q3 06	130,794	5,440	41,800	-36,360	94,433	2.2%	
Q4 06	135,678	6,044	41,441	-35,396	100,282	4.9%	
Q1 07	132,092	6,041	41,082	-35,040	97,051	3.5%	
Q2 07	133,729	6,042	41,620	-35,578	98,151	3.6%	
Q3 07	133,801	5,650	42,117	-36,467	97,333	3.1%	
Q4 07	138,118	5,702	42,426	-36,724	101,394	1.1%	

South America Total Equivalent Demand (000 Tonnes)

	Total					ASC	
	Annualized Equivalent						
	Shipment	Import	Export	Net Import	ASC		
Q1 05	52,033	4,594	9,757	-5,163	46,869	-0.4%	
Q2 05	53,957	5,192	9,812	-4,620	49,337	5.4%	
Q3 05	51,726	4,739	10,548	-5,810	45,916	-5.2%	
Q4 05	52,921	4,834	11,250	-6,416	46,505	-6.5%	
Q1 06	50,565	5,014	12,095	-7,081	43,484	-7.2%	
Q2 06	50,818	5,006	8,144	-3,138	47,680	-3.4%	
Q3 06	54,696	5,365	9,863	-4,498	50,198	9.3%	
Q4 06	54,055	5,298	10,677	-5,379	48,675	4.7%	
Q1 07	53,276	5,556	10,464	-4,908	48,368	11.2%	
Q2 07	54,511	5,641	9,252	-3,611	50,900	6.8%	
Q3 07	55,153	5,879	9,352	-3,473	51,680	3.0%	
Q4 07	57,003	5,974	9,489	-3,514	53,489	9.9%	

WORLDSTEELDYNAMICS

CIS HRB Equivalent Demand (000 Tonnes)

	HRB					ASC
	Annualized Equivalent					
	Shipment	Import	Export	Net Import		
Q1 05	41,732	1,804	18,625	-16,821	24,911	-5.8%
Q2 05	42,483	3,428	20,919	-17,491	24,992	7.7%
Q3 05	42,222	3,208	19,382	-16,173	26,049	-1.4%
Q4 05	44,497	3,203	18,525	-15,322	29,175	6.9%
Q1 06	42,917	2,603	17,483	-14,880	28,037	12.5%
Q2 06	46,441	3,079	20,544	-17,466	28,976	15.9%
Q3 06	45,536	3,759	18,865	-15,106	30,430	16.8%
Q4 06	46,406	4,087	16,279	-12,192	34,215	17.3%
Q1 07	46,983	3,202	17,950	-14,748	32,235	15.0%
Q2 07	47,366	4,483	15,800	-11,317	36,049	24.4%
Q3 07	45,966	3,991	16,662	-12,671	33,295	9.4%
Q4 07	47,275	4,251	16,142	-11,891	35,384	3.4%

OMA HRB Equivalent Demand (000 Tonnes)

	HRB					ASC
	Annualized Equivalent					
	Shipment	Import	Export	Net Import		
Q1 05	79,144	13,517	23,621	-10,104	69,040	12.4%
Q2 05	80,605	14,546	23,252	-8,707	71,898	14.1%
Q3 05	82,055	11,232	23,300	-12,068	69,987	14.7%
Q4 05	82,741	10,494	25,260	-14,766	67,975	5.0%
Q1 06	83,095	11,199	27,038	-15,839	67,256	-2.6%
Q2 06	84,856	13,584	26,649	-13,065	71,792	-0.1%
Q3 06	84,540	13,840	27,141	-13,301	71,239	1.8%
Q4 06	87,620	14,382	27,051	-12,669	74,951	10.3%
Q1 07	86,869	15,282	26,589	-11,307	75,562	12.3%
Q2 07	86,635	14,151	27,552	-13,400	73,234	2.0%
Q3 07	90,827	14,325	28,593	-14,267	76,559	7.5%
Q4 07	92,646	14,256	28,406	-14,150	78,495	4.7%

CIS LP Equivalent Demand (000 Tonnes)

	LP					ASC
	Annualized Equivalent					
	Shipment	Import	Export	Net Import		
Q1 05	55,193	3,104	18,726	-15,623	39,570	-3.3%
Q2 05	55,534	4,308	18,293	-13,985	41,548	0.5%
Q3 05	55,069	4,358	17,397	-13,040	42,029	-4.2%
Q4 05	58,537	4,166	17,863	-13,696	44,840	7.3%
Q1 06	51,607	3,986	16,648	-12,662	38,945	-1.6%
Q2 06	55,943	4,502	18,926	-14,424	41,519	-0.1%
Q3 06	55,367	5,871	19,717	-13,846	41,521	-1.2%
Q4 06	56,702	6,621	18,101	-11,480	45,222	0.9%
Q1 07	52,971	6,159	18,340	-12,181	40,790	4.7%
Q2 07	53,474	7,151	18,594	-11,443	42,031	1.2%
Q3 07	52,115	7,151	18,594	-11,443	40,672	-2.0%
Q4 07	53,423	7,151	18,594	-11,443	41,980	-7.2%

OMA LP Equivalent Demand (000 Tonnes)

	LP					ASC
	Annualized Equivalent					
	Shipment	Import	Export	Net Import		
Q1 05	51,217	9,383	4,883	4,499	55,716	3.9%
Q2 05	52,445	10,821	4,365	6,455	58,900	5.7%
Q3 05	53,085	8,549	4,821	3,728	56,813	8.6%
Q4 05	54,580	8,655	5,054	3,601	58,181	3.8%
Q1 06	55,974	10,532	5,374	5,159	61,132	9.7%
Q2 06	57,209	12,971	5,708	7,263	64,472	9.5%
Q3 06	57,060	12,073	5,710	6,363	63,423	11.6%
Q4 06	59,181	10,720	5,747	4,973	64,154	10.3%
Q1 07	58,340	13,350	5,949	7,401	65,742	7.5%
Q2 07	58,251	15,153	6,603	8,550	66,801	3.6%
Q3 07	61,170	12,978	6,921	6,057	67,227	6.0%
Q4 07	62,978	12,978	6,921	6,057	69,034	7.6%

CIS Total Equivalent Demand (000 Tonnes)

	Total					ASC
	Annualized Equivalent					
	Shipment	Import	Export	Net Import		
Q1 05	96,925	4,908	37,351	-32,444	64,481	-4.3%
Q2 05	98,016	7,736	39,212	-31,476	66,540	3.1%
Q3 05	97,292	7,566	36,779	-29,213	68,078	-3.1%
Q4 05	103,033	7,369	36,387	-29,018	74,015	7.1%
Q1 06	94,525	6,589	34,131	-27,542	66,982	3.9%
Q2 06	102,384	7,581	39,470	-31,889	70,495	5.9%
Q3 06	100,903	9,630	38,582	-28,952	71,951	5.7%
Q4 06	103,108	10,708	34,380	-23,672	79,436	7.3%
Q1 07	99,954	9,361	36,290	-26,929	73,025	9.0%
Q2 07	100,840	11,634	34,393	-22,760	78,080	10.8%
Q3 07	98,081	11,141	35,255	-24,114	73,967	2.8%
Q4 07	100,698	11,401	34,736	-23,334	77,364	-2.6%

OMA Total Equivalent Demand (000 Tonnes)

	Total					ASC
	Annualized Equivalent					
	Shipment	Import	Export	Net Import		
Q1 05	130,360	22,900	28,504	-5,604	124,756	8.4%
Q2 05	133,050	25,367	27,618	-2,251	130,798	10.2%
Q3 05	135,140	19,780	28,121	-8,340	126,799	11.9%
Q4 05	137,322	19,149	30,314	-11,165	126,157	4.5%
Q1 06	139,069	21,731	32,411	-10,681	128,388	2.9%
Q2 06	142,065	26,555	32,357	-5,801	136,264	4.2%
Q3 06	141,600	25,913	32,851	-6,938	134,662	6.2%
Q4 06	146,801	25,102	32,798	-7,697	139,105	10.3%
Q1 07	145,209	28,632	32,538	-3,906	141,303	10.1%
Q2 07	144,886	29,304	34,155	-4,851	140,035	2.8%
Q3 07	151,997	27,303	35,514	-8,211	143,786	6.8%
Q4 07	155,623	27,234	35,327	-8,094	147,529	6.1%

WORLDSTEELDYNAMICS

North America HRB Equivalent Demand (000 Tonnes)

	HRB					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	76,079	17,697	12,220	5,477	81,556	-3.5%
Q2 05	70,723	16,795	8,856	7,939	78,662	-12.9%
Q3 05	69,229	14,018	7,612	6,406	75,635	-19.0%
Q4 05	72,619	17,528	8,690	8,838	81,456	-12.4%
Q1 06	76,778	21,513	8,307	13,206	89,984	10.3%
Q2 06	79,074	25,457	8,281	17,176	96,250	22.4%
Q3 06	76,078	25,292	7,782	17,510	93,588	23.7%
Q4 06	65,921	22,036	7,413	14,623	80,544	-1.1%
Q1 07	69,439	16,039	8,224	7,815	77,254	-14.1%
Q2 07	73,971	17,356	10,053	7,303	81,273	-15.6%
Q3 07	70,857	16,182	9,872	6,310	77,167	-17.5%
Q4 07	69,807	15,916	10,192	5,724	75,530	-6.2%

USA HRB Equivalent Demand (000 Tonnes)

	HRB					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	61,597	13,788	9,023	4,765	66,362	-7.5%
Q2 05	59,617	11,442	4,765	6,676	66,294	-14.8%
Q3 05	59,483	11,231	5,008	6,224	65,707	-17.6%
Q4 05	60,744	14,160	3,857	10,303	71,047	-11.5%
Q1 06	64,974	17,004	4,830	12,174	77,148	16.3%
Q2 06	66,519	20,168	4,499	15,669	82,189	24.0%
Q3 06	63,626	20,815	4,182	16,632	80,258	22.1%
Q4 06	54,459	17,902	4,151	13,751	68,210	-4.0%
Q1 07	57,260	13,139	4,233	8,905	66,165	-14.2%
Q2 07	60,975	14,276	5,611	8,665	69,640	-15.3%
Q3 07	57,880	13,168	5,918	7,249	65,129	-18.8%
Q4 07	56,908	12,902	6,239	6,663	63,571	-6.8%

North America LP Equivalent Demand (000 Tonnes)

	LP					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	29,232	13,938	5,087	8,851	38,083	22.6%
Q2 05	27,904	16,125	5,263	10,862	38,766	9.2%
Q3 05	27,199	13,886	5,432	8,454	35,652	2.1%
Q4 05	28,832	14,953	5,379	9,574	38,406	13.8%
Q1 06	24,066	18,487	5,898	12,590	36,656	-3.7%
Q2 06	25,383	19,269	6,155	13,115	38,498	-0.7%
Q3 06	24,801	19,089	5,931	13,157	37,959	6.5%
Q4 06	22,182	16,513	5,715	10,798	32,980	-14.1%
Q1 07	32,616	13,685	6,085	7,600	40,216	9.7%
Q2 07	34,678	14,426	6,048	8,378	43,056	11.8%
Q3 07	34,189	14,637	5,908	8,729	42,918	13.1%
Q4 07	33,671	14,637	5,908	8,729	42,401	28.6%

USA LP Equivalent Demand (000 Tonnes)

	LP					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	20,395	11,032	3,742	7,289	27,684	18.9%
Q2 05	18,544	10,459	3,752	6,707	25,251	4.7%
Q3 05	20,155	9,792	3,797	5,995	26,150	6.9%
Q4 05	18,737	11,191	3,835	7,356	26,093	11.2%
Q1 06	16,847	12,941	4,129	8,813	25,659	-7.3%
Q2 06	17,768	13,489	4,308	9,180	26,948	6.7%
Q3 06	17,361	13,362	4,152	9,210	26,571	1.6%
Q4 06	15,528	11,559	4,001	7,558	23,086	-11.5%
Q1 07	22,831	9,579	4,259	5,320	28,151	9.7%
Q2 07	24,275	10,098	4,233	5,865	30,139	11.8%
Q3 07	23,932	10,246	4,135	6,110	30,043	13.1%
Q4 07	23,570	10,246	4,135	6,110	29,680	28.6%

North America Total Equivalent Demand (000 Tonnes)

	Total					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	105,312	31,635	17,307	14,328	119,640	3.5%
Q2 05	98,627	32,920	14,119	18,801	117,428	-6.6%
Q3 05	96,428	27,904	13,044	14,860	111,287	-13.3%
Q4 05	101,451	32,481	14,069	18,412	119,863	-5.4%
Q1 06	100,844	40,000	14,204	25,796	126,640	5.9%
Q2 06	104,457	44,726	14,436	30,290	134,748	14.7%
Q3 06	100,880	44,381	13,713	30,668	131,547	18.2%
Q4 06	88,103	38,549	13,128	25,420	113,524	-5.3%
Q1 07	102,055	29,724	14,309	15,415	117,469	-7.2%
Q2 07	108,649	31,782	16,101	15,681	124,330	-7.7%
Q3 07	105,046	30,819	15,780	15,039	120,085	-8.7%
Q4 07	103,478	30,553	16,100	14,453	117,931	3.9%

USA Total Equivalent Demand (000 Tonnes)

	Total					
	----- Annualized Equivalent-----					
	Shipment	Import	Export	Net Import	ASC	
Q1 05	81,992	24,819	12,765	12,054	94,046	-1.1%
Q2 05	78,162	21,900	8,517	13,383	91,545	-10.2%
Q3 05	79,638	21,024	8,805	12,218	91,856	-11.9%
Q4 05	79,481	25,351	7,692	17,659	97,140	-6.4%
Q1 06	81,821	29,945	8,959	20,986	102,807	9.3%
Q2 06	84,288	33,657	8,807	24,850	109,137	19.2%
Q3 06	80,987	34,177	8,334	25,843	106,829	16.3%
Q4 06	69,986	29,461	8,151	21,310	91,296	-6.0%
Q1 07	80,091	22,718	8,493	14,225	94,316	-8.3%
Q2 07	85,250	24,374	9,845	14,529	99,779	-8.6%
Q3 07	81,813	23,413	10,054	13,360	95,172	-10.9%
Q4 07	80,478	23,148	10,374	12,773	93,251	2.1%

WORLDSTEELDYNAMICS

Mark your calendar!

STEEL SUCCESS STRATEGIES XXIII

A joint effort of AMM and World Steel Dynamics

June 23-25, 2008

Sheraton New York
New York City

Our preliminary theme next year is:

Steel's New World

New Priorities New Strategies New Winners



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