Metals and Mining
Global Steel

HSBC Global Research

Emerging markets now drive global steel demand

World steel consumption and production trends to 2013

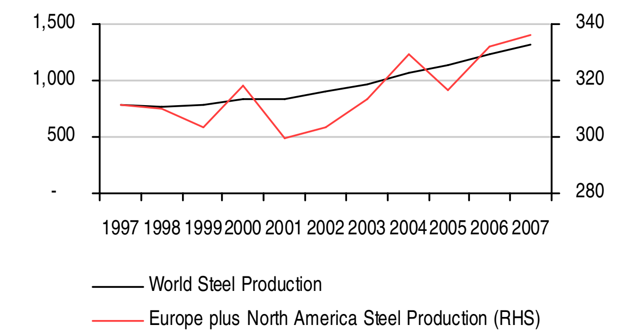
- **The steel market has changed – those steel consuming countries with a mature and cyclical demand pattern account for only 37% of demand (2006)**
- **We now expect the steel market to be tight through to 2013 and have increased our steel price forecasts for 2010 to reflect 'shortages'**
- **We expect ongoing cyclicality in steel prices but reflecting higher average prices, with implications for steel company profits and valuations globally**

Potential shortage of steel

To summarise, we believe that, ex China, we need an increase in steel production of 203m tonnes in 2007-13 (page 14). Even with 35m tonnes of capacity creep (more output from existing facilities) in North America, the EU and Japan, there will still be a need for 168m tonnes of new production.

Our assumption (page 15) is that production will rise by only 175m tonnes (including the capacity creep), and therefore there will be a shortage of steel unless we can rely on increased shipments from China closing the greater demand/ supply gap of 28m tonnes.

Crude steel production 1997-07 (mtpa)



Source: IISI

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Consumption growth goes secular

- Emerging markets are the main markets for steel – we expect them to show secular growth rather than a pronounced cycle
- While we estimate Chinese demand growth will slow, we forecast an expanding rate of growth in the rest of the world
- Overall, we expect an increase in steel demand of 200m tonnes in 2007-13e ex China, with 78% of this growth coming from emerging markets

A new methodology

Cutting the link that failed – the link to GDP and industrial production

The world steel market is changing and, to reflect this, we are updating our modelling methodology. Previously, our steel demand forecasts tended to move in line with changes in industrial production or GNP. However, it is now apparent that demand in countries such as China is expanding far more rapidly than GNP growth.

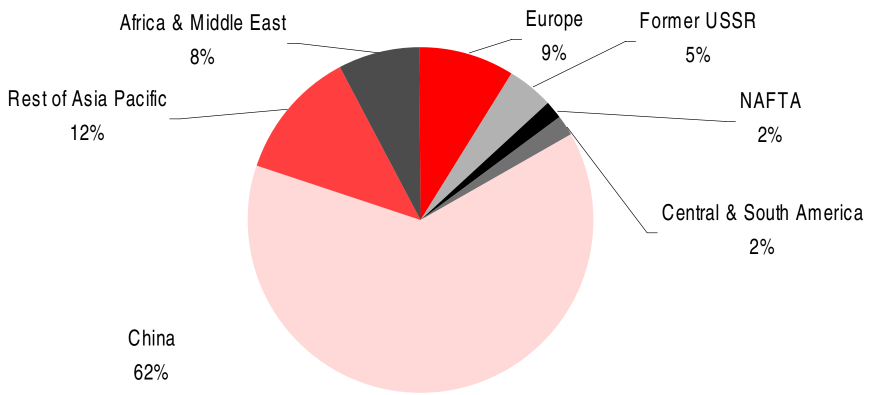
Under our new methodology, we have selected the most recent period of consistent data for steel consumption, 2000-06, and calculated future compound annual growth rates by country and region based on this past trend. We have then estimated consumption per region in 2007 and extrapolated demand growth in line with the compound growth rates of 2000-06. Rather than focus on individual countries, we believe that it is more useful to look at the supply/ demand balance by region as this more easily fits with production patterns (eg a new steel plant is likely to be set up with flexibility to supply a number of countries in the region).

Areas of fast and slow demand growth

Our updated modelling shows there are three clear areas of low demand growth where we believe cyclicality is more important than the longer-term trend: North America, Japan and the EU.

Chinese demand has grown rapidly but has now moderated to a slower rate of growth. In our view, it is useful to divide the world into China and 'world ex China' as China has significant export taxes, divorcing it from the rest of the world. Within Asia, we also separate out Japan to give a category 'Asia ex China and Japan', which we believe helps to identify the growth part of the Asian market. Not all of Asia is a growth market; Japan is an area of low demand growth.

Finished steel demand growth (2000-06)



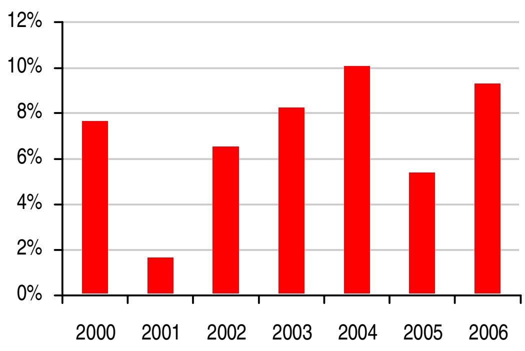
Source: CRU

Growth 2000-06

In the period 2000-06, global demand for finished steel expanded at a compound rate of 6.8%, driven by an increase in demand from China of 19.3%.The North American growth rate was low.

We based our projections for demand growth in 2007-13e on the years 2000 to 2006 and note that both of these years showed cyclical strength – ie the period was 'peak to peak'. European demand was cyclically very strong in 2006, so we think we may see a negative cyclical effect in 2008-09. No region showed stable consumption growth during the period 2000-06, although the global growth trend was more stable than the regional or individual country growth rates.

Global steel demand growth 2000-06



Source: CRU

Growth 2007-13e

Our assumptions

EU: our assumed growth rate in consumption is 1.8% compound for 2007-13e, the same as in the period 2000-06. We are assuming average growth of 1.8%, but in the period 2000-07 steel demand growth came in two phases: total growth of only 2.9% in 2000-04 and then 13% growth in 2004-07. We assume a more steady pace in 2007-13e, but consider the danger to be of a cyclical downturn in 2008-09e, as a result of slowing world growth.

The EU market was unusually strong in the period 2004-07 and expanded much quicker than we expected. Increasing demand from the construction sector was one driving force, but we also take the view that the EU shipped increasing amounts of products made of steel to Eastern Europe. These 'exports' are not recorded as steel exports but rather product exports and, accordingly, appear as increased EU 'consumption'.

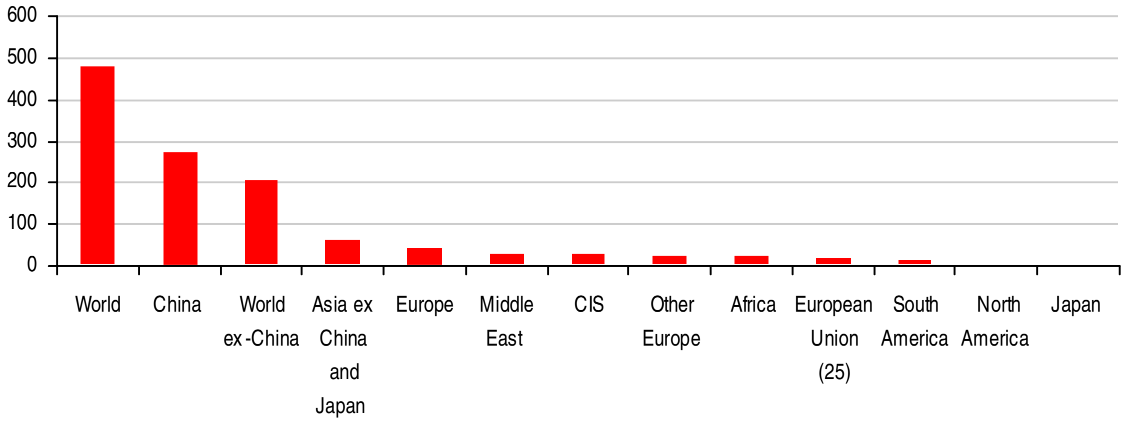
Other Europe, led by demand in Turkey, has been strong, with strongest growth in 2003-07. We have slowed our 2007-13 forecast growth rate from the 8.8% of 2000-06 to 8% based on our expectation that the rebar market (important for Turkey) will slow. We also consider that there may be a risk of cyclical weakness in 2008-09e; demand fell 6% in 2000-01. There was some weakening of demand in Q4 2007, as indicated in US Steel's comments on its Kosice operations (Slovak Republic), reported with its full-year results, announced on 29 January 2008.

CIS: we are assuming a longer-term growth rate of 7% in 2007-13e, compared with the 2000-06 average of 7.2% and the 18% growth of 2006. CIS demand only fell in 2002 and, again, there may be a cyclical reaction in 2008-09e, in our view.

North America: we think our assumptions for North America are conservative as they start from a cyclical low (in contrast, our forecasts for the EU may be on the high side, as Europe is growing from a cyclical peak). We are showing growth of only 0.6% a year from the low point of the cycle in 2007.

South America: we are assuming an acceleration of growth in South America of 6.5%, although this partly depends on the regional benefits of the global 'commodity boom' continuing. Over the past few months, in Brazil we have seen indicated growth rates of demand for steel in excess of 10% and very high pricing (USD1150 for HRC in April).

Global increase in finished steel consumption (2007-13e) (mtpa)



Source: HSBC estimates

Africa: we assume the growth rate of 2000-06 of 9.6% will continue, with a widening of demand from the present base of Egypt and South Africa to include Algeria and Morocco.

Middle East: we are slowing our demand growth forecast from 11% to 9% as we consider that the rapid growth of the past three years may have been unduly affected by the rising oil price. The largest market in the region is Iran and the trade blockage of that country could affect both demand for and supply of steel.

Japan: we see no reason to assume an acceleration of growth; demand is mainly cyclical in this steel-intensive country. We forecast demand growth of only 3.7% in 2007-13e.

Asia, ex China and Japan: we expect this area to achieve strong growth, driven by India and emerging countries, like Vietnam, but estimate that growth in more mature economies such as South Korea will be more constrained. We assume 5% CAGR 2007-13e demand growth.

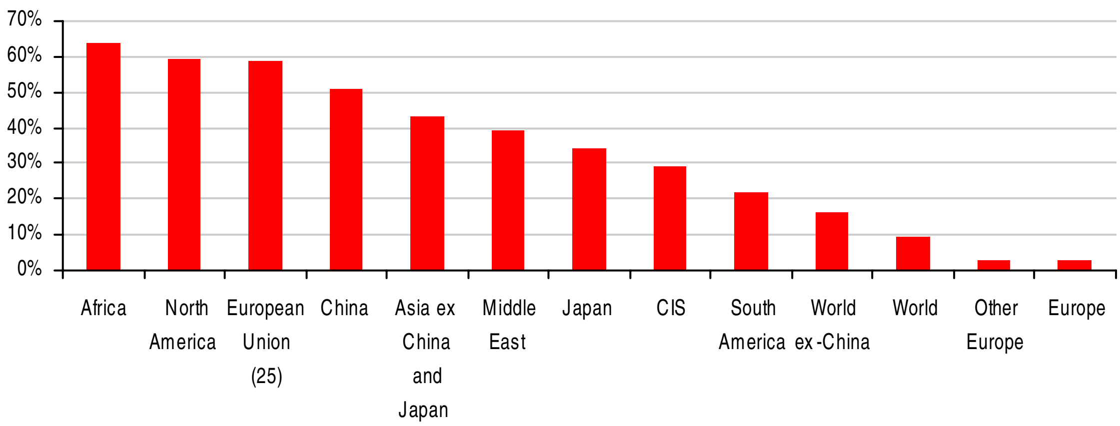
Cyclical 'hit' 2008-09e

3% fall in demand possible

Steel is seen as, and in our opinion is, a cyclical sector. It is hence important to quantify the magnitude of any cyclical weakness. We looked at global trends in 2000-06 and found the following in terms of demand weakness:

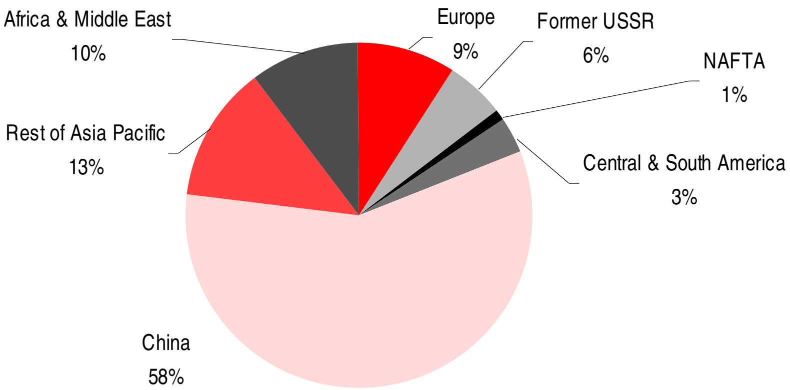
- **EU:** 5.8m tonne demand reduction in 2000-02 could be a pointer to a future cyclical hit
- **Other Europe:** 1.3m tonne demand decline in 2000-01
- **CIS:** 2.1m tonne demand fall in 2001-02
- **North America:**18m tonne demand fall in 2000-01
- **South America:** 2m tonne demand reduction in 2001-02
- **Africa:** 0.5m demand decrease in 2003, against the background of consistent expansion
- **Middle East:** consistent pattern of growth
- **Asia, ex China and Japan:** growth in all years but some years saw a slowdown (growth of only 0.4% in 2000-01)
- **Japan:** 4.4m decline in demand in 2000-03
- **China:** slowing growth but no fall in demand

Global increase in finished steel consumption (2007-13e) (%)



Source: HSBC estimates

Finished steel demand growth (2007-13e)



Source: CRU, HSBC estimates

Our assumed maximum cyclical demand fall would amount to 32m tonnes (ex China), if we consolidated a repeat of the worst experiences found in the recent past – ie a decline in demand of about 3-4%. This compares with our expected longer-term growth rate of 3% and would prove disappointing. The point about a cyclical downturn is that North America has been the leading cyclical force and we think the US seems to have already passed its destocking phase in 2007. We find it difficult to argue for any downturn of great significance, outside a crisis in China.

Consumption 2013

We forecast that finished steel consumption will rise from 800m tonnes to 1000m tonnes in the period 2007-13e in the world ex China, and total steel demand will increase by 478m tonnes to 1677m tonnes. Our estimated increase in the cyclical markets of Japan, North America and EU is 29m tonnes (to 457m tonnes), while we forecast a rise of 174m to 546m tonnes from the rest of the world – much of which is ‘emerging markets’.

IISI forecasts for 2008-9 steel demand

The IISI (International Iron and Steel Institute), issued its new short-range outlook for steel in April and we compare our near-term growth forecasts with those of the IISI.

Changes in steel demand (2001-07e)

Millions of tonnes	2001	2002	2003	2004	2005	2006	2007e
EU 25	-4.2	-1.6	1.4	8.1	-7.2	22.3	3.3
Other Europe	-1.3	1.6	2.8	3.5	2.1	5.2	2.8
CIS	3.0	-2.1	2.0	1.1	5.4	7.7	3.5
North America	-18.1	3.6	-1.7	18.2	-11.6	15.2	1.0
South America	1.4	-2.1	0.5	4.6	-0.4	3.7	2.2
Africa	2.1	2.2	-0.5	1.3	2.9	3.3	2.6
Middle East	3.4	2.3	4.9	0.6	3.6	2.2	3.3
Asia ex China and Japan	0.5	14.2	5.3	12.2	3.0	6.0	8.1
World ex China	**-16.6**	**17.6**	**16.9**	**53.5**	**-1.2**	**66.5**	**27.3**
Japan	-2.9	-1.5	1.7	3.4	1.2	1.0	0.5
China	29.3	32.8	54.1	35.3	52.5	29.1	40.6
World	**12.7**	**50.3**	**71.0**	**88.8**	**51.3**	**95.6**	**67.9**

Source: CRU, HSBC estimates

Apparent steel use growth forecasts by IISI and HSBC (2008e-09e)

Region	IISI growth 2008e (%)	HSBC growth 2008e (%)	IISI growth 2009e (%)	HSBC growth 2009e (%)
EU 27	1.6	1.8	2.3	1.8
Other Europe	6.0	8.2	6.7	7.8
CIS	8.9	6.9	9.6	7.0
NAFTA	1.9	0.6	1.0	0.6
South America	8.9	6.5	7.0	6.4
Africa	5.9	9.8	5.9	9.6
Middle East	11.1	9.0	9.0	9.2
World	**6.7**	**5.7**	**6.3**	**5.5**
World ex China	4.3	3.6	4.3	3.7
Increase in steel use m tonnes				
World	80.5		79.8	
World ex China	33.7	28.2	35.7	30.7
China	46.8		45.5	

Source: IISI, HSBC estimates

In our opinion, the IISI is optimistic in its forecasts for 2008-9. Our growth expectations are lower for the CIS, North America and South America in particular.

More capacity needed

- In our opinion, it will be difficult to add enough capacity in key growth areas – increasing imports will be needed for the Middle East, Africa and Asia ex Japan and China
- Expansion of capacity in India is beset with planning delays; steel companies are now cautious of adding capacity
- We look at supply/demand balance by region

Growth areas lack a single market leader

Middle East and Africa

The new markets for steel, particularly the Middle East, Africa and some of the emerging markets in Asia, are not dominated by one single producer. In the Middle East, Iran and Saudi Arabia are different in that both markets need imports. Some of the newer markets of Asia also require imports.

We see the strong global companies looking to these new markets. Tata Steel is becoming involved in Vietnam, Posco is looking to set up steel plants in India and other emerging countries and Arcelor-Mittal is targeting India as a major point of growth. Magnitorgorsk is looking to be a partner and part-owner of the Iranian steel industry and is looking to expand in the US. The larger players in Africa include Arcelor-Mittal (South Africa and Algeria) and Ezz (Egypt and Algeria).

Large companies target new growth markets

The steel market has become international and players have developed beyond regional steel companies to become global players. Below we identify a number of players looking to take a more global role.

Arcelor-Mittal (Neutral (V), MT.N, USD83.41): expansion plans in India and the CIS, in particular, with the company expecting much more limited growth in North America and Europe. The company is also targeting South America, especially Brazil.

Posco: from its base in Korea, the company has expanded in the US and is looking to develop further in Asia – particularly India and Vietnam.

Tata Steel: from its position as the no.3 player in India, the company has been propelled to top 10 status globally with its acquisition of European-based Corus in 2007. Other areas of interest include Vietnam and it plans to expand in India.

Severstal of Russia has expanded into Italian long products with the Lucchini acquisition in 2005 and into the US by buying the former Rouge Steel plant in 2003 and setting up a new state of the art flat steel plant (Severcorr) in late-2007. Severstal was also the winning bidder of the Sparrows Point steel facility, due to be sold by Arcelor-Mittal as part of its agreement with the US Department of Justice.

Novolipetsk of Russia has expanded in the speciality area of electrical steel and is joint owner of the Duferco steel business (since 2006), which has operations in Europe and North America.

SSAB of Sweden acquired IPSCO in 2007 in order to expand its speciality plate business into the US. IPSCO had significant tube interests and these have recently been sold to Evraz.

ThyssenKrupp of Germany has invested heavily in a steel slab plant in Brazil; this is due to deliver steel in 2009 to ThyssenKrupp plants in Germany and the US.

Voestalpine of Austria has said that it plans a new steel plant on the Black Sea, with a timescale of about 2013.

US Steel has expanded into Eastern Europe, buying companies in Kosice, in the Slovak Republic and Serbia, in November 2000.

Evraz of Russia recently agreed to buy the steel tube interests of SSAB IPSCO in the US and has expanded in South Africa by acquiring Highveld and Stratcor.

Essar Steel of India recently acquired the US steel company, Algoma.

Jindal of India is planning to develop half of the giant EL Mutun iron ore reserve in Bolivia. (USD2.1bn development) and is in discussions with Chinese mining companies to share the development.

CSN of Brazil acquired the Portuguese company Lusosider in 2006 and has ambitions to expand its position in the European long products market. The company was a bidder for Wheeling Pittsburgh in the US and Corus in Europe but lost both deals. In our view, this iron ore rich company retains extensive global ambitions.

Magnitogorsk of Russia is discussing taking a major stake in one of the leading Iranian companies. Iran is the largest and most important steel market in the Middle East and entry could be very important. However, we believe it may be difficult for Magnitogorsk to combine these plans with expansion in Ohio, USA, as the US has a trade embargo against Iran and is unlikely, in our opinion, to look favourably on a company expanding in that region.

The world steel market has clearly become a global market. If we examine the strategy of the leading companies, the focus appears to be looking for new growth markets or to supply a niche market in a new country. Much is made of the consolidation of the global steel market but many of the leading companies are adding to competition by expanding into new markets. The restructuring of the US market has, in our view, attracted the most new entrants in the period 2005-08.

We need Chinese imports: ROW production shortfall likely

On our calculations, production outside China will not be enough to satisfy consumption needs and so the ROW will need to import Chinese steel; in 2013 we estimate the import level will be greater than in 2007.

Consumption versus production, 2013e

million tonnes	Production	Consumption	Imports
European Union (25)	205	207	2
Other Europe	46	60	14
Europe	251	267	17
CIS	137	80	- 57
North America	132	167	35
South America	65	52	- 14
Asia, ex China	273	309	36
(Japan	115	83	- 32)
Africa	27	51	24
Middle East	39	67	28
World ex-China	**934**	**1,003**	**69**
of which, China	743	674	- 69
World	**1,677**	**1,677**	

Source: HSBC estimates

The basis of the shortfall in capacity

Steel consumption

In our view, there will be an enormous increase in steel demand in selected areas; we estimate growth of c40% in the 2007-13e period in the CIS and South America and more than 50% in 'Other Europe', Middle East and Africa. We forecast Asian growth ex Japan and China to be more moderate as Taiwan and South Korea have already reached a high level of steel consumption.

Steel production

We expect the fastest growth in steel production to take place in the Middle East but even this will not be enough to offset the increase in demand, in our view, and so imports will increase.

Africa

African output is likely to be more constrained unless Arcelor-Mittal makes a decision to invest significantly in Liberia or South Africa (it already has plans to expand in Algeria, adding over 2m tonnes and has the necessary permits to add 1.4m tonnes of steel capacity in Egypt. Ezz may add as much as 1.2m tonnes in Suez and is due to add 1.5m tonnes in Algeria).

The South African government is trying to attract new capacity to compete with the entrenched Arcelor-Mittal position and this may involve expansion of the plant owned by Evraz. We do not currently expect an increase in output in Africa of more than 10m tonnes by 2013e.

South America

A number of companies have plans to invest in South America (including ThyssenKrupp, with a large steel slab plant that should open in March 2009 and will add 6.8mtpa). We assume a total increase in production of about 20m in the region in 2007-13e, although we appreciate that if all the projects under consideration in Brazil go ahead, the country could be producing 78m tonnes of steel by 2012 (our forecast is 65m tonnes for the whole region in 2013e).

CSN is building two 4.5m tonne slab plants in Brazil and considering a third, while Bao Steel and Usiminas are also considering projects, often trying to create consortia.

North America

In North America, the new ThyssenKrupp plant will generally not count towards steel production as it is taking steel from the slab plant in Brazil. However, Severstal is expanding Severcorr in 2007-09 and this may add 2m tonnes. In our opinion, the US steel makers will be able to increase production from their existing plant structure by de-bottlenecking facilities, while new entrants are also adding modern capacity. Of the greenfield projects, MMK (Magnitogorsk of Russia) is considering a 1mtpa USD1bn plant in Haverhill, Ohio. Essar Global has closed on its deal to purchase Minnesota Steel of the US and will now begin planning for construction of the USD1.6bn project near Nashwauk, Minnesota. Eventually a 1.25m tonne steel plant will be on the site and this could supply the Essar subsidiary, Algoma. We have identified new greenfield schemes of over 5mtpa and consider production increases of 11-12m attainable by 2013.

European Union

In the EU, we take the view that most of our 20.5m tonne forecast increase in production (11.1%) will come from a relatively small amount of new capacity and rather more de-bottlenecking and optimising existing plants. Of the few recent expansions, Arcelor-Mittal is extending its Liege blast furnace and Voestalpine continues to expand its Linz facility. Arcelor-Mittal has recently announced a decision to close its steel meltshop in mid-2008, which could reduce European output by 1.3m tonnes, in our view.

Other Europe

Here the focus is on Turkey, which has major expansion plans to increase flat steel output in particular. Turkey is targeting production of 42m tonnes by 2012, but we consider that this may be ambitious as part of the steel industry relies on importing steel scrap and exporting billet and rebar; a strategy made more difficult by reduced scrap availability. Mechel is planning to double capacity at its Targoviste long product operation to 1mtpa by 2009.

Japan

We expect the Japanese industry to continue to focus on increasing quality rather than volume and hence we forecast a marginal increase in production of only 5%, or 5.6m mtpa by 2013. This is likely to be achieved from existing facilities, in our view.

CIS

Arcelor-Mittal has expansion plans in Krivoy Roj in Ukraine and for its operations in Kazakhstan. We estimate that output from these two sites could be up by 7mtpa by 2013e.

In total, we believe Russian producers have planned expansions that should add at least 15m to output in the period to 2013e. We assume a volume increase of about 6.5m tonnes from Novolipetsk (including plant openings at its recently acquired Maxi Group long products operation). Severstal has plans to spend USD6bn by 2011 in its Russian operations; much of the spending is to improve quality but we expect a 3mtpa capacity increase (including two mini mills of 1mt each).

Middle East

In the Middle East, Iran is the leading producer and has ambitions to expand production from 10mtpa to 28mtpa by 2010, although we expect this to be delayed. In Iran, steel producer Mobarakeh is planning to partially float on the stock exchange and is to increase capacity of flat products in its Esfaham site from 4.6m mtpa to 10m tonnes by 2011. Qasco has recently commissioned a 1.5m tonnes directly reduced iron (DRI) plant in UAE to be used in its electric arc facilities. (DRI is a method of producing an energy-intensive scrap substitute, used in electric arc furnaces.) GHC's integrated 1.4m tonne mini mill for long products started operating in October 2007.

We expect further plant orders to meet our forecast increase in steel production of 21-22mtpa by 2013e. The main problem is the long lead time in the commissioning of new DRI plants

Asia ex China and Japan

Despite increasing dependence on Chinese imports, we need a significant expansion in production from India to meet our 2013 forecast of global demand. We estimate that 40m of our projected 52mtpa increase in production in Asia, ex Japan and China is to come from Indian expansion. On our most optimistic forecasts, Indian output could expand by 75m tonnes by 2013.

Vietnam has ambitious plans for capacity expansion and has the iron ore reserves to feed the steel mills. Tata's Thach Khe steel mill project is planned near its iron ore mines – cited by Metal Bulletin as 4.5m tonnes capacity. Phu My 2 is a new 3mtpa steel facility(Southern Steel Corporation). Posco and Vietnam Shipbuilding are discussing a 5mtpa joint venture. At best, we estimate Vietnam may achieve production expansion of 16m tonnes but this could make this important importer self-sufficient in its steel needs. Posco is proposing a hot and cold rolled and galvanized steel complex to be located in southern Ba Ria-Vung Tau province and this may add as much as a further 5m tonnes by 2013e.

India

In India, the market leader, SAIL, has said that it will have capacity of 26m tonnes by 2010 (up

13m tonnes, with 18m tonnes planned for 2008). Tata, Posco and Arcelor-Mittal all expect to add capacity by 2013. In effect, government-owned SAIL is planning a 13m tonne increase and to remain competitive the other players will have to add 26-28m. However, long lead times in planning are creating uncertainty.

South Korea and Taiwan

South Korea and Taiwan are relatively mature markets but have advanced steel industries. Posco is the leading player in Korea and China Steel in Taiwan. Posco, in particular, has a very ambitious international expansion programme, but could conceivably expand domestically if it cannot add capacity in areas that have low iron ore costs but where it is difficult to gain the necessary planning permissions.

A view from Arcelor-Mittal

CFO of Arcelor-Mittal, Aditya Mittal, gave a presentation in New York on 2 April, *Facing global steel supply constraint*. He argued that the steel industry was moving from overcapacity to a period of potential shortage. We summarise his arguments below:

- Few new integrated steel mills have been built outside China and the planning delays for new mills can be extraordinarily long, in India, in particular.
- Capacity utilisation is currently about as high as it can be (upside of only 3%)
- The automotive industry is argued to have underpaid for steel and hence may face supply constraints
- China is reducing its exports and is not likely to be a major supplier of incremental tonnage as it is a high-cost producer with significant internal demands

Summary

To summarise, we believe that, ex China, we need an increase in steel production of 203m tonnes 2007-13 (page 14). Even with 35m tonnes of capacity creep (more output from existing facilities) in North America, the EU and Japan, there will still be a need for 168m tonnes of new production.

Our assumption (page 15) is that production will rise by only 175m tonnes (including the capacity creep), and therefore there will be a shortage of steel unless we can rely on increased shipments from China closing the increased demand/ supply gap of 28m tonnes.

Capacity utilisation

Capacity utilisation is a difficult issue because, theoretically, the global steel industry never seems to run at full capacity even when, anecdotally, companies are trying to maximise output at times of total boom. For instance, in 2004, pricing was attractive enough to get most steel plants working at full capacity but this still was not achieved.

Steel companies tend to be affected by seasonal factors and by a need to have periods of 'closedown' to refurbish steel plant and add new facilities. Some steel companies, especially electric arc furnaces, face seasonal demand for their long products and complex pricing structures for electricity supply that make it very expensive to use electricity at certain times. All these factors take out an estimated 5-7% of capacity and so, arguably, the steel industry is never able to operate at more than 95% of capacity.

There are other factors. A steel plant will be able to produce its largest output by concentrating on standard grades, so a move to extra thin gauge steels or to alter the feed to the blast furnace (using fewer pellets for instance) will reduce output. Outside China we do not expect capacity utilisation increases over the 2007 level to add more than 25m tonnes to steel production (mostly in North America on 2007 base) by 2013.

China

We assume that China will supply an increasing amount of steel to the ROW. The lowest-cost suppliers and closest producers relative to the expanding markets of the Middle East and SE Asia would be India and the CIS, but we have doubts about the ability or willingness of these regions to expand production and so expect to rely increasingly on Chinese output.

There is pressure from some countries to limit Chinese exports and China has responded with 'temporary' export taxes. It is unclear whether China will leave its export taxes in place. Currently, strong Chinese demand for imported iron ore, part driven by the need for iron ore to produce steel for export, is driving up the costs of iron ore. Chinese producers may not be willing to increase exports unless partnerships with suppliers allow them to gain more competitive supplies of iron ore.

Steel trade: countries in shortage

Africa, the Middle East and Asia (ex China and Japan) are the main importing regions and are likely to increase their imports over time. We take the view that planning delays will continue to impact new steel plant developments and so existing facilities will have to be expanded or greater reliance will have to be placed on China.

Steel Price trends

In our view, raw material prices will fall in 2009 and steel companies will need that drop to help retain margins. Investors may ask why steel prices should fall sharply even when demand is expected to grow in 2009. We expect a combination of seasonal factors, future raw material cost declines, buyer resistance and moves to find cheaper sourcing. We also have the view, based on a price history going back to 1980, that steel prices are extremely cyclical Once a price peak is realised, and we expect that to be in July 2008, prices are likely to be under pressure (see our report, *Steel Price Trends to 2013*, 7 April 2008).

A summary of our steel price expectations is given in the Appendix.

Appendix

Finished steel consumption (kt)

	2000	2001	2002	2003	2004	2005	2006	2007e	2008e	2009e	2010e	2011e	2012e	2013e
European Union	164	160	158	160	168	161	183	186	190	193	197	200	204	207
		-2.6%	-1.0%	0.9%	5.1%	-4.3%	13.9%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
Other Europe	21	20	21	24	28	30	35	38	41	44	48	52	56	60
		-6.2%	8.1%	13.1%	14.5%	7.6%	17.4%	8.0%	8.2%	7.8%	8.2%	8.0%	8.0%	8.1%
Europe	185	180	180	184	196	191	218	224	231	237	244	252	259	267
		-3.0%	0.0%	2.3%	6.3%	-2.6%	14.4%	2.8%	2.9%	2.9%	3.0%	3.0%	3.1%	3.2%
CIS	33	36	34	36	37	42	50	54	57	61	66	70	75	80
		9.4%	-5.8%	5.9%	3.1%	14.6%	17.9%	7.2%	6.9%	7.0%	7.0%	7.0%	7.0%	7.1%
North America	155	137	140	139	157	145	160	161	162	163	164	165	166	167
		-11.7%	2.7%	-1.2%	13.1%	-7.5%	10.5%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
South America	26	27	25	25	30	29	33	35	38	40	43	45	48	52
		5.1%	-7.5%	2.0%	18.2%	-1.7%	12.6%	6.6%	6.5%	6.4%	6.5%	6.6%	6.4%	6.6%
Asia	320	347	393	454	505	561	598	655	695	744	797	854	916	983
		8.4%	13.1%	15.6%	11.2%	11.2%	6.4%	9.6%	6.2%	7.0%	7.1%	7.2%	7.2%	7.3%
of which, China	124	154	186	241	276	328	357	398	438	477	520	567	618	674
		23.6%	21.3%	29.1%	14.7%	19.0%	8.9%	11.4%	10.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Africa	16	18	20	19	21	24	27	30	32	36	39	43	47	51
		12.8%	13.1%	-2.5%	6.7%	14.5%	13.5%	9.7%	9.8%	9.6%	9.6%	9.5%	9.6%	9.6%
Middle East	20	23	25	30	31	35	37	40	44	48	52	57	62	67
		17.3%	10.0%	19.7%	2.0%	11.3%	6.4%	9.0%	9.0%	9.2%	8.8%	9.1%	9.0%	8.9%
World	**761**	**773**	**824**	**895**	**984**	**1035**	**1130**	**1198**	**1267**	**1337**	**1413**	**1494**	**1582**	**1677**
	7.6%	1.6%	6.6%	8.6%	9.9%	5.2%	9.2%	6.1%	5.7%	5.5%	5.7%	5.8%	5.9%	6.0%
World ex-China	636	620	637	654	708	707	773	800	829	860	893	927	964	1003
	8.9%	-2.6%	2.8%	2.7%	8.2%	-0.2%	9.4%	3.5%	3.6%	3.7%	3.8%	3.9%	4.0%	4.1%

Source: CRU, HSBC estimates

Finished steel production (mt)

	2000	2001	2002	2003	2004	2005	2006	2007e	2008e	2009e	2010e	2011e	2012e	2013e
European Union	167	164	164	170	178	169	182	184	188	192	195	197	198	205
		-2.0%	0.4%	3.3%	5.0%	-5.4%	8.1%	0.9%	1.9%	2.1%	1.6%	1.0%	0.5%	3.5%
Other Europe	21	22	24	27	29	30	33	33	36	37	38	41	42	46
		5.2%	8.4%	11.4%	9.5%	1.3%	11.8%	-0.1%	9.1%	1.4%	2.7%	7.9%	3.7%	7.3%
Europe	189	187	189	197	208	199	216	218	224	229	233	238	240	251
		-1.2%	1.3%	4.3%	5.6%	-4.5%	8.7%	0.8%	3.0%	2.0%	1.7%	2.1%	1.1%	4.2%
CIS	88	91	92	98	104	102	110	116	120	123	128	132	136	137
		2.5%	1.7%	6.4%	6.2%	-2.1%	7.9%	5.6%	3.5%	2.3%	4.1%	3.1%	3.0%	1.1%
North America	121	109	112	116	123	115	121	121	123	128	129	131	131	132
		-10.2%	2.8%	3.9%	6.0%	-6.6%	5.2%	-0.5%	2.0%	4.1%	0.8%	1.6%	0.0%	0.8%
South America	35	34	37	40	42	41	42	45	47	52	53	56	60	65
		-3.1%	9.5%	6.7%	6.3%	-3.1%	1.9%	7.1%	5.3%	10.6%	1.9%	5.7%	7.1%	8.3%
Asia	305	329	368	416	477	548	611	670	705	750	809	871	943	1,016
		7.9%	11.7%	13.2%	14.7%	14.8%	11.5%	9.7%	5.2%	6.4%	7.8%	7.7%	8.2%	7.8%
of which, China	114	137	166	205	258	321	390	445	483	526	574	625	662	743
		20.2%	21.0%	23.6%	25.8%	24.4%	21.3%	14.3%	8.5%	9.0%	9.0%	9.0%	5.8%	12.3%
Africa	12	14	14	15	15	16	17	17	18	19	20	22	25	27
		9.3%	6.2%	4.3%	2.3%	5.7%	4.3%	1.6%	4.5%	8.3%	5.1%	9.8%	11.1%	8.0%
Middle East	10	11	11	12	13	14	14	17	21	26	31	35	37	39
		9.9%	7.1%	9.0%	5.8%	5.0%	-1.3%	28.0%	23.6%	23.3%	18.9%	11.1%	5.7%	5.4%
World	**761**	**773**	**824**	**895**	**984**	**1,035**	**1,130**	**1,204**	**1,267**	**1,337**	**1,412**	**1,495**	**1,582**	**1,677**
		1.7%	6.5%	8.6%	9.9%	5.2%	9.2%	6.5%	5.2%	5.5%	5.6%	5.9%	5.8%	6.0%
World ex-China	647	636	658	690	725	714	741	759	784	810	838	869	900	934
		-1.6%	3.4%	4.8%	5.2%	-1.6%	3.8%	2.4%	3.3%	3.4%	3.5%	3.7%	3.5%	3.7%

Source: IISI, HSBC estimates

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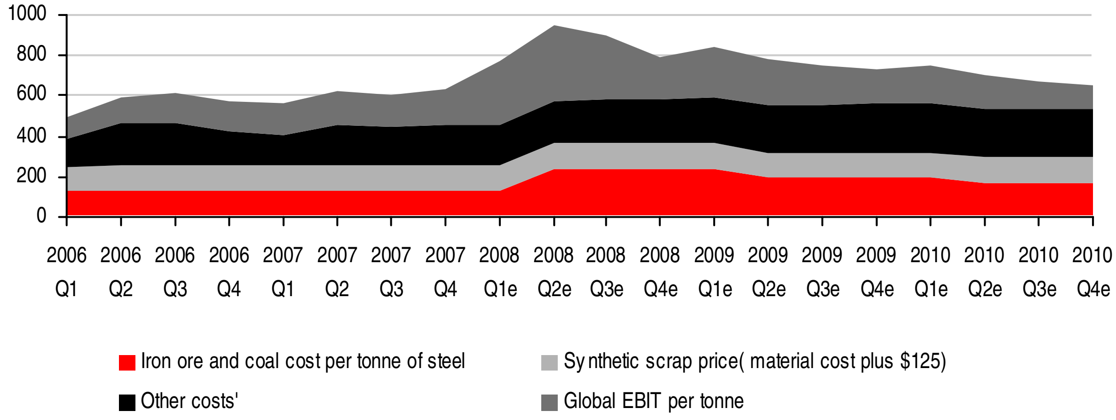
Consumption versus production, 2013

000s of metric tonnes	Production	Consumption	Imports
European Union (25)	205,000	207,300	2,300
Other Europe	45,600	60,100	14,500
Europe	250,600	267,400	16,800
CIS	137,500	80,400	-57,100
North America	132,000	167,100	35,100
South America	65,000	51,500	-13,500
Asia	1,016,155	982,700	-33,455
of which, China	743,155	673,600	-69,555
Africa	27,000	51,200	24,200
Middle East	39,000	67,100	28,100
World	**1,676,855**	**1,676,800**	**-55**
World ex-China	933,700	1,003,200	

Source: HSBC estimates

Composition of HRC price



Source: CRU, HSBC estimates

Disclosure appendix

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