World Markets for Recovered and Recycled Commodities* 2011

The End of the "Waste Era"...

* Iron and steel, non-ferrous metals, paper, textiles

BIR

World Markets for Recovered and Recycled Commodities: The End of the "Waste Era"...

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Introduction

by Professor Philippe Chalmin

Since 2006, the world has known what can be called a "commodity shock" with prices sky-rocketing and on average multiplying by a factor of seven between the end of the XXth century and July 2008. Indeed, during the second half of 2008, in the general context of the most severe economic and financial crisis that the world has known since 1929, world commodity markets collapsed till early 2009. But since then, prices have recovered and at the beginning of spring 2011 were back at their 2008 levels: this was especially true for agricultural products and for industrial raw materials, both primary and secondary.

The reason for this recovery of world markets was easy to understand: thanks to emerging countries, the world economy was riding on a 4% growth path. And for commodity markets, the good news came from China with its 10% growth and its thirst for all kinds of commodities. World markets, from iron ore to recovered paper, were more and more quoted "cost and freight Chinese harbours". The 2008/2009 economic crisis was soon almost forgotten.

Things completely changed during spring 2011. In the United States, a dull "jobless" recovery was the only result of the huge amount of public spending and quantitative easing initiated by the Obama administration: the consequence was the loss by the US of its AAA notation. In Europe, problems were exacerbated by a lack of governance and this resulted in the failure to tackle the Greek debt situation. The result was that, during the second and third quarters of 2011, "mature economies" (OECD's members) were almost at a zero-growth level. In an unusual crisis of confidence, equity and bond markets collapsed while rumours of banking failures spread around. Fortunately, this crisis has so far (by September 2011) been limited to the "old world" and emerging countries, especially in Asia, have kept their momentum.

Commodity Shock Still Running

This explains why, contrary to what happened in 2008, commodity markets have not suffered in line with other financial markets: despite the Western economic crisis, markets were, by early September 2011, at their highest levels ever for products like non-ferrous metals and paper pulp, and many other commodities like iron and steel and oil remained at fairly sustained prices. Indeed, the 2006 commodity shock is still running, and this applies of course to secondary commodities like scrap and old paper.

In fact, instead of focusing on the financial side of commodity markets, we should concentrate on what the fundamentals are telling us: they are speaking of a world of almost seven Bn inhabitants (nine Bn in 2050), of which half are in really emerging countries, a world which will have to produce, transport and consume more and more raw materials, and a world which also will produce more waste (4 Bn tonnes approximately today) which will have to be collected and eventually recycled.

Despite high commodity prices and partly due to the many geopolitical problems which affect commodity producing areas (the famous "commodity curse"), investments in those fields are still lagging behind. This is just what markets today are telling us and this explains why we think prices should stay firm on a long-term view. Firm but volatile, as instability is the key to most commodity markets today; and on a short-term basis, the danger might come from that very China which is the key for so many markets.

Watch China and you will understand the commodity world and especially the waste and secondary markets complex!

World Commodity Markets in 2010 and 2011

After a buoyant, rather bullish period for world commodity prices from September 2010 until spring 2011, some markets began to slow again before an unexpected crisis revival in August, the real impacts of which on the markets have not yet been analysed in depth by the main leaders.

Like in 2010, most commodities markets reached new summits until around mid-spring 2011, a few weeks after the Japanese earthquake and tsunami, with serious clouds gathering in Europe over Greece, Portugal, Spain and their sovereign debts. However, record prices were booked for rubber (+89%) and iron ore (+62%), with copper soaring above the $10,000/t bar and nickel close to $30,000/t by the beginning of 2011. Rare earths and oil, too, knocked at the door of speculators as a new challenge. Then new doubts exploded on Wall Street, as well as in Frankfurt and Paris, as a result of the USA's downgrading by Standard & Poors, following Chinese Dagong with its AA+ accreditation instead of a contested triple A. Confidence in good old US Bonds is no longer what it used to be.

Demand: What global analysts' forecasts about economic growth last year termed at first "a technical recovery" during the second half of 2010 turned into a dreadful assets holder's nightmare. As usual, demand remained strong for industrial raw materials in emerging countries like China (+10.3% growth in 2010 and 9% or so in H1 2011) and Brazil (+7.5% last year and between 3 and 4% only in 2011), with economists stressing that a "bubble" could be on the way to bursting in 2012-2013 because of a credit crunch. Demand was more or less slowing throughout Q3 in developed regions, energy issues being reshaped in the post-Fukushima and "Arab spring" period. Seaborne freight indexes suffered this situation in June 2011, after a restocking phase. The question today is: how long will this demand level remain sufficient?

Supply: Floods last January in Australia impacted coking coal and iron ore shipments to the rest of the world, whilst heavy rains in Canada and the Northern United States created springtime tension in wheat markets a few weeks before a new famine crisis emerged in Eastern Africa. Non-ferrous markets remained rather fluid, with LME copper and nickel quotations being boosted by several miner strikes in Chile, Canada and South Africa. However, their prices fell in the summer.

The continuous growth of scrap exports from developed economies to China and even more so to Turkey, new rules limiting CIS scrap export volumes in both 2010 and H1 2011, and Indian steel scrap imports in 2011 were understood as controversial reactions in the context of the growing difference between the old mature nations and the younger industrial complex of emerging Asian and South American countries. And a new risk emerged: a mix of protectionism and anti-dumping reactions, peculiarly in the European and American markets, where most actors and free exchange supporters have been unimpressed by China's and India's restrictive trade legislation.

The real issue in this period is to know whether the new **EU End of Waste Criteria** will create better access to a proper knowledge of existing volumes of each sort of scrap all around the world. A challenge for 2012 should be to help BIR and officials in each region to collect more recent data concerning capacities of the so-called Urban Mine. This is the condition to the success of the new raw materials revolution in the coming 10 to 20 years.

Please, Tell us Where is the Top for Commodity Prices!

A well-known international metals journal* asked its readers recently: "Have we reached the top of the commodities market?" The question was a good one, and the answers too. "The commodities markets have been a major talking point since the financial crash of 2008," adds MB, quoting gold, which had hit an all-time high of $1,610 per oz, copper which had exceeded $10,100 per tonne, and oil which returned to its 2008 level, standing at $118 per barrel.

Do those commodities have any steam left, or are they on the way down? Public answers to MB's big question reveal that people think they still have a way to go: "The commodities market is a large one and accounts for a large number of individual markets, but for metals people believe prices will rise in the long term. However, this will come only after a volatile short term, as Europe and the USA attempt to solve their economic and political problems," says an MB analyst.

– 62% of people responding think that "we have not reached the top" of the commodities market,
– 12% believe that "we have", and the remaining
– 26% said that "it was too early to tell".

That makes 100% and nothing more, however. "The markets have the steam to send [gold] to $2,000 [per oz]," one analyst said. "Add the US debt into the picture and you have the reason why." This was prophetic!

When asked where commodity prices were heading, 50% of respondents said they were still on the way up, 37.5% thought it was too early to tell and 12.5% said they would go down, but only in the short term, adds MB, wiping away another common leitmotiv: "That's Glencore's fault."

*Metal Bulletin, July 2011

With the "End of Waste Criteria", Let's Find our way to the "Urban Mine"

by Christophe Journet

Just facts. Facts and real data. These are what allowed European Council authorities to decide in March 2011 the "End of Waste Criteria" for steel and aluminium scrap.

Waste paper, plastics, glass and textiles sectors still have to see their own criteria introduced before the so-called "Urban Mine's" surface doors might fully open up and yield their resources to our children's children. A clear direction is shown to the rest of the world by the EU.

So let's work again on real data collection rather than on lobbying against regional anti-dumping rules. And let's look for a better overview of global secondary resource levels to complete the global raw material scene. We must not wait, for there will never be a better time to do so.

Last summer, US, EU and Japanese officials were playing with their political destinies over their national debt ceiling, against global economic and human progress.

Next winter will probably be tougher, colder and harsher. 2012 has to bring more stability to the markets.

China, now entering her 12th Five-Year national plan, decreed again in 2011 that "the South-East Pearl River" had to be ruled again by Beijing. More state-owned company consolidation throughout the iron and steel, copper and lead industry complexes is to come.

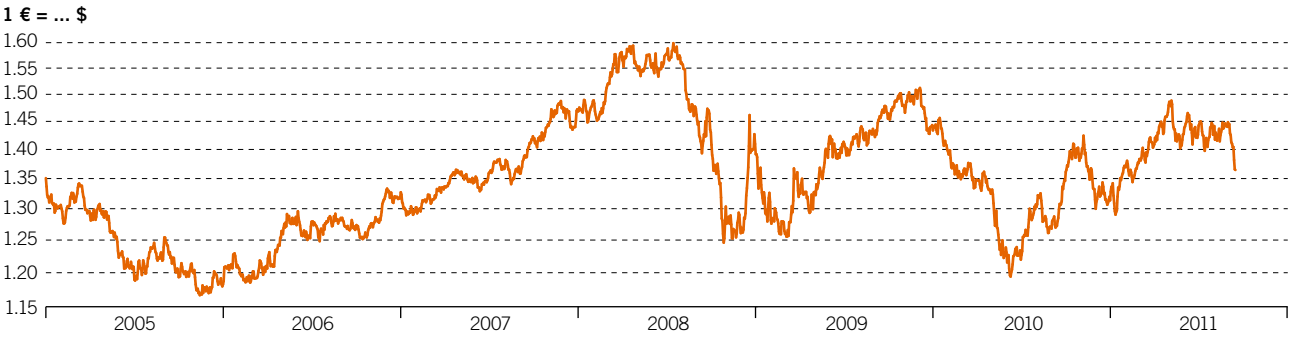
Speaking about copper, for example, many experts in the market say there is no risk of a deficit or shortage, but a wide, unknown black economy. They disagreed with Chinese hedge funds speculating on copper last winter to secure real estate programmes, creating opacity in the domain. Some 35% of the real global secondary copper trade remains unknown. “Things are easier with aluminium,” adds an international non-ferrous trader. 75% of what tomorrow will bring is obscured from us. There remains a chance for the wisest ones and a promised land for all others.

Europe shows the way to the rest of the world amid a quite deregulated economic context, which is the first real issue on the way to the “Urban Mine”.

The new European regulation establishing criteria determining when certain types of scrap metal cease to be “waste”, under Directive 2008/98/EC of the European Parliament and of the Council, applied on October 9. It first concerns iron and steel and aluminium scraps. Paper, glass and textiles should follow soon.

The Euro Quoted in Dollar

There is definitely a correlation between the value of the US dollar and commodity prices: the weaker the dollar (here measured against the Euro), the higher will be commodity prices. This was again true in the first half of 2011.



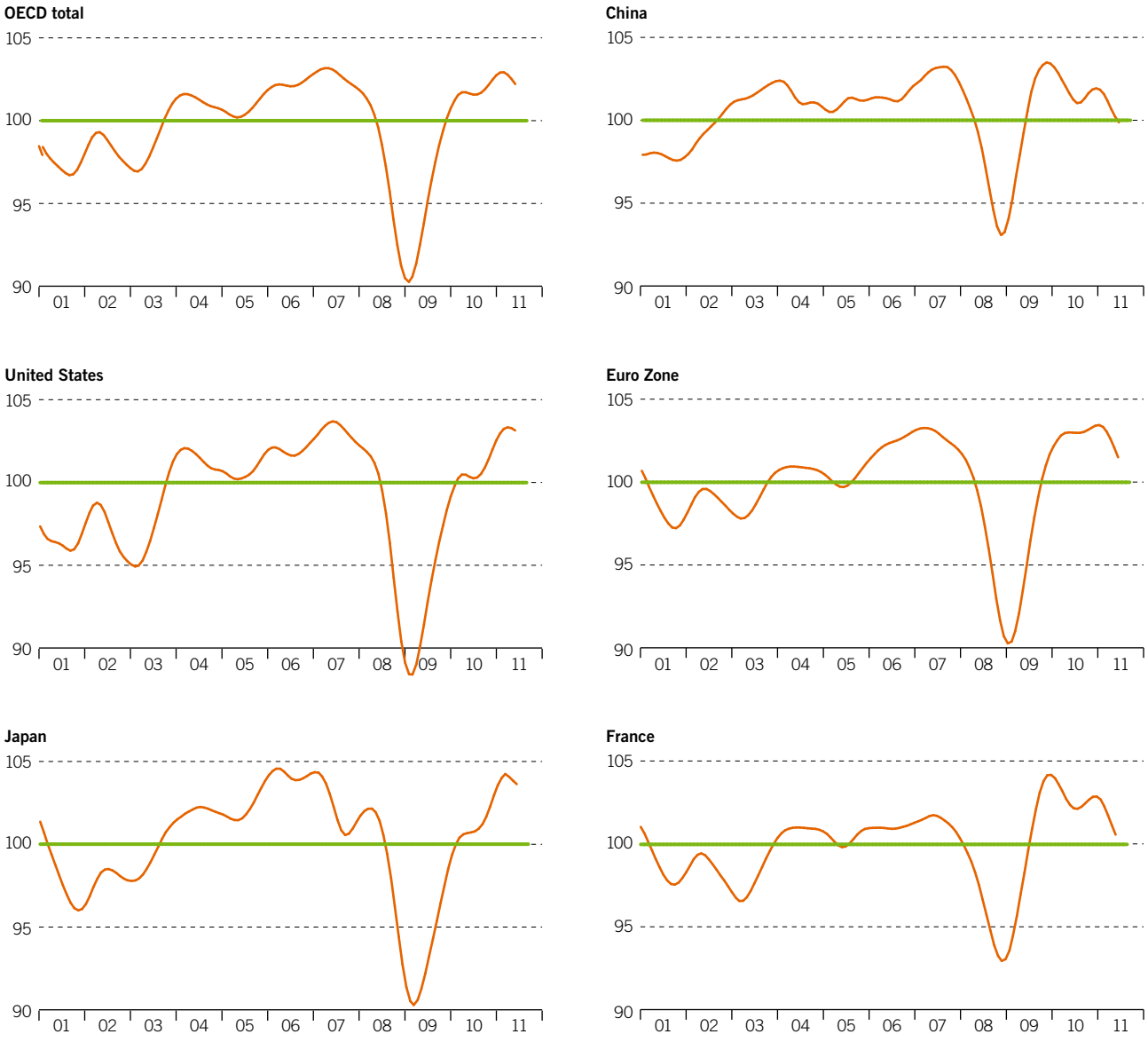
Source: © Coe-Rexecode

Momentum’s Dilemma in Q2 2011: Double Dip or a Mere Technical Adjustment?

The composite indexes of the OECD’s advanced economic data began to turn down around May 2011 in Canada, France, Germany, Italy and the United Kingdom, as well as in Brazil, China and India. A growth cycle turning point seemed then to emerge in the United States, Japan and the Russian Federation. Those dramatic data should take into account a slight moderation for Japan following the 11th of March earthquake and tsunami and the dramatic nuclear events; the country’s ex-prime minister Naoto Kan said in May that Japanese industry would be running again at 100% as soon as summer 2011, which indeed happened. The OECD’s gross domestic product growth went down to 0.2% in Q2 2011 compared to Q1 and to 1.6% year on year – far below all forecasts. And in fact, there was almost zero growth in the “Old World”. But remember that the world as a whole has still a 4% economic growth for 2011 and 2012 (IMF forecasts).

Leading OECD Composite Indicators I

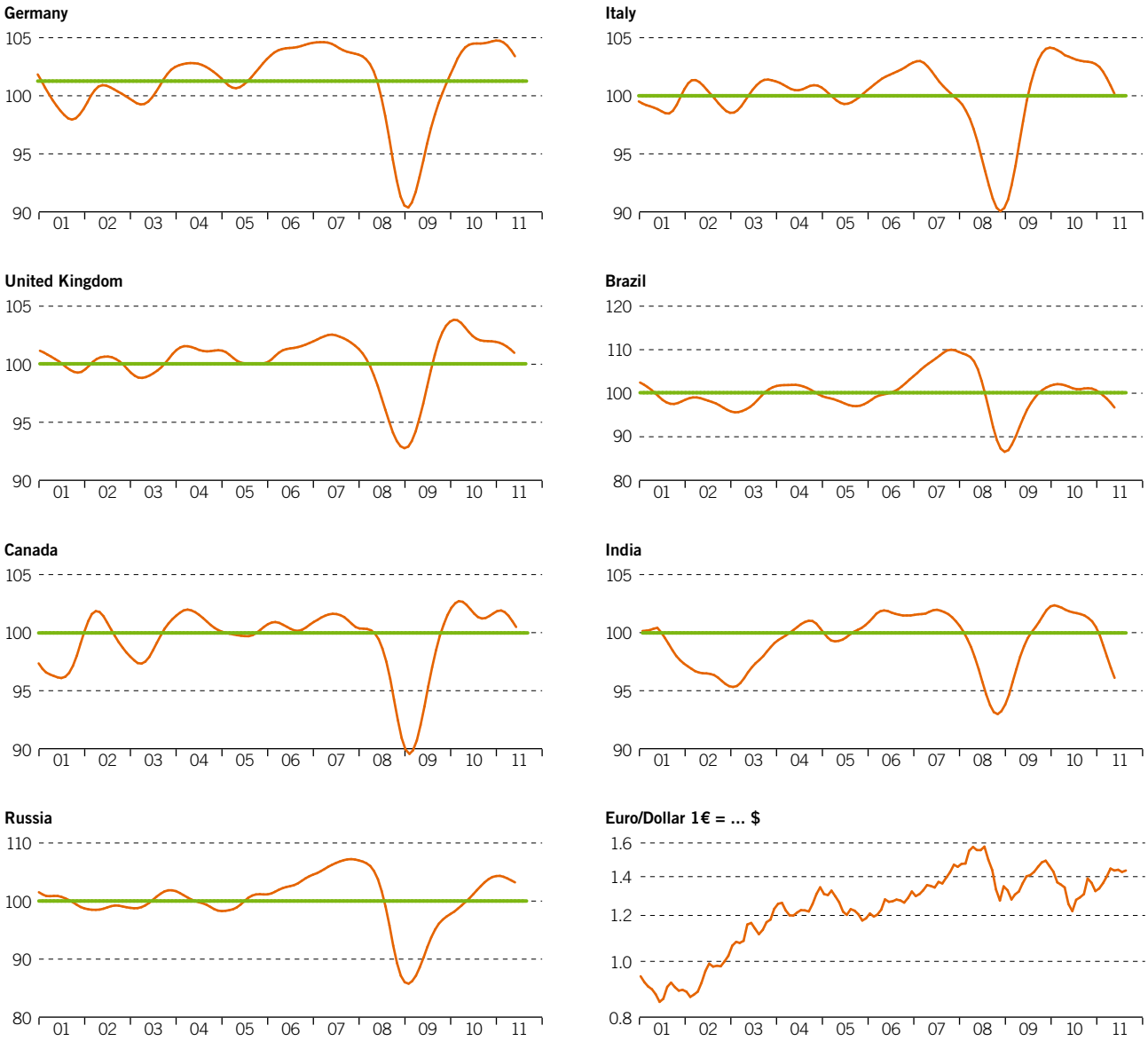
The forward part of the curves are very similar to those of steel production in developed countries which were slightly slowing by the end of Q2 2011, forcing forecasts down from 2 to 3 points below initial growth provisions from the end of 2010. *Country by country*, the composite advanced indexes are showing activity momentum turns up or down six months or so before, compared to the long-term trend symbolized by the dark, flat line.



Source: © Coe-Rexecode

Leading OECD Composite Indicators II

The fact is that most commodities, except rare earths and some grains and food products like corn, had reached their highest prices just before this momentum, somewhere between last winter and mid-spring. Those high prices began to slip until the first fortnight of August and the financial market turmoil provoked by the downgrading of the US debt note by Standard & Poors on the 5th and the release of a very low German growth rate for Q2, contrasting with more buoyant Chinese data and forecasts for the end of the year. With weak macroeconomic data coming from the US and Europe, the Euro/Dollar quotation kept almost stable around € = $1.40 while China was letting the Yuan appreciate slowly.

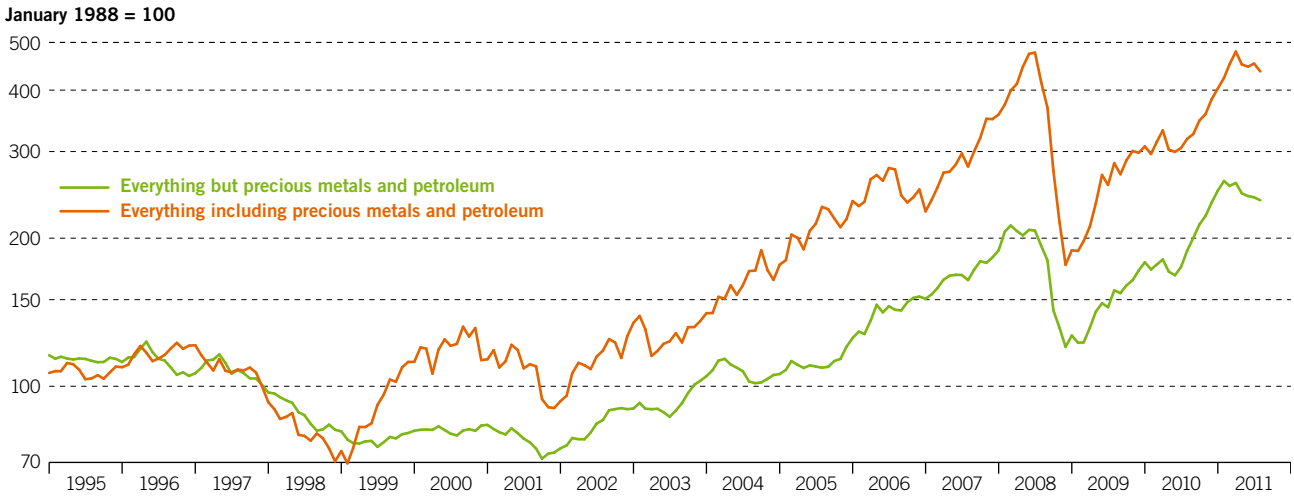


Source: © Coe-Rexecode

Main Raw Material Price Developments

World Commodities Prices as Measured by the CyclOpe Rexecode Index

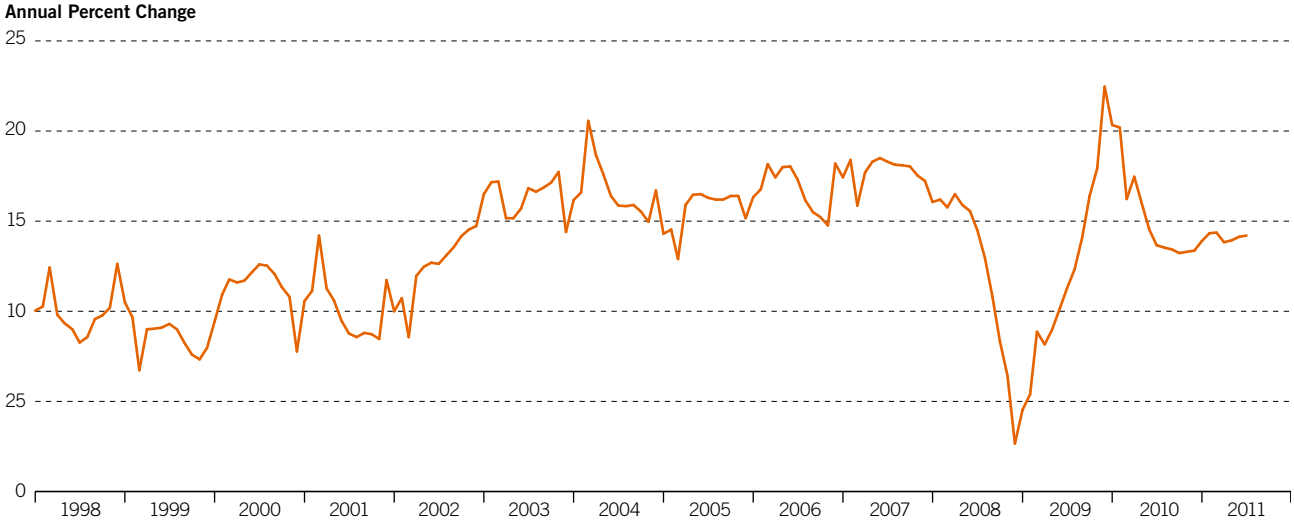
Based on the weight of each product in international trade.



Source: © Coe-Rexecode

Chinese Industrial Production Growth Keeps Driving Global Economy

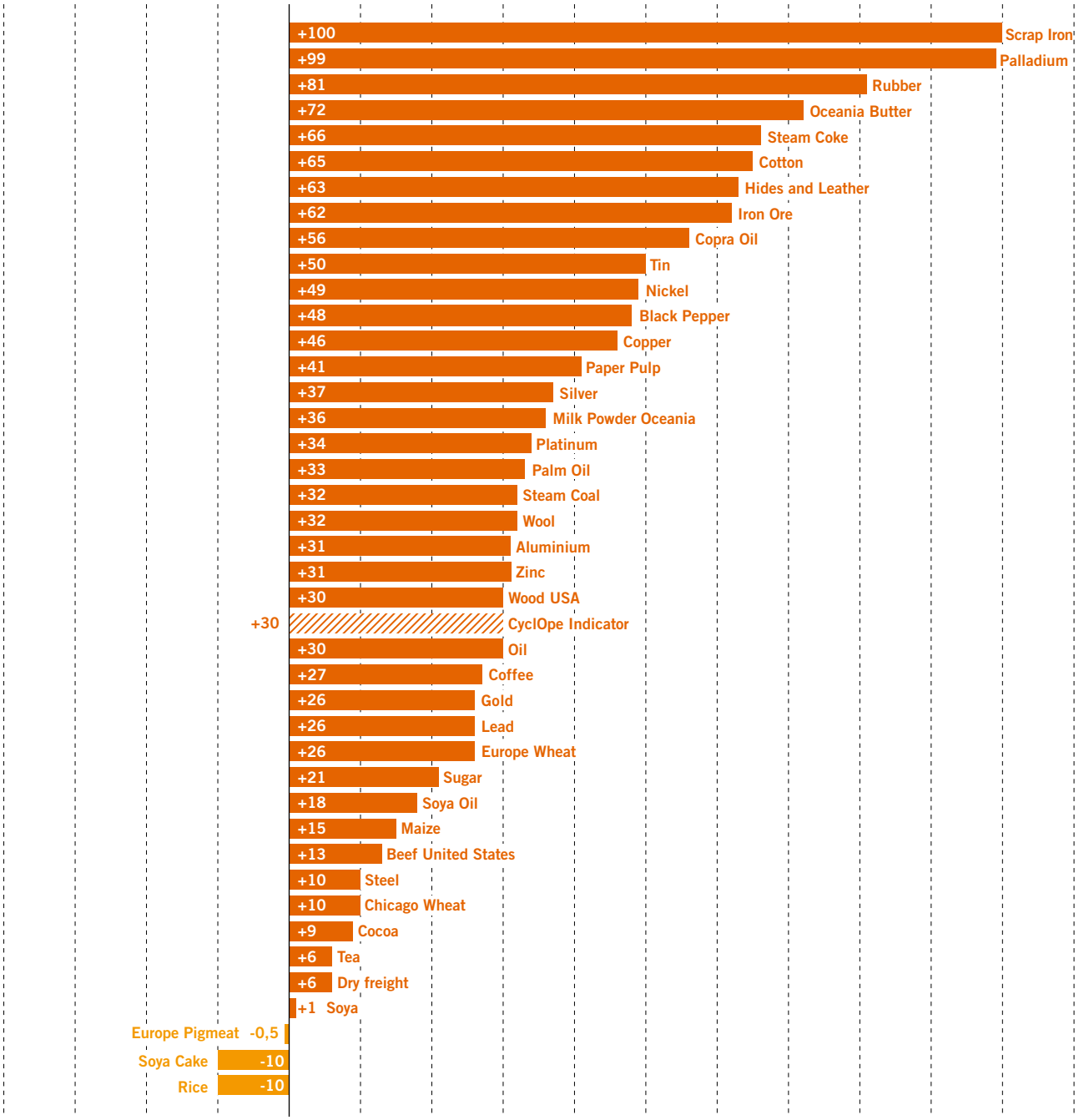
The economy appears set to remain on a strong growth trajectory in 2011 and 2012. The government vows in the 12th Five-Year Plan adopted in March 2011 to continue reforming the economy.



Source: © Coe-Rexecode

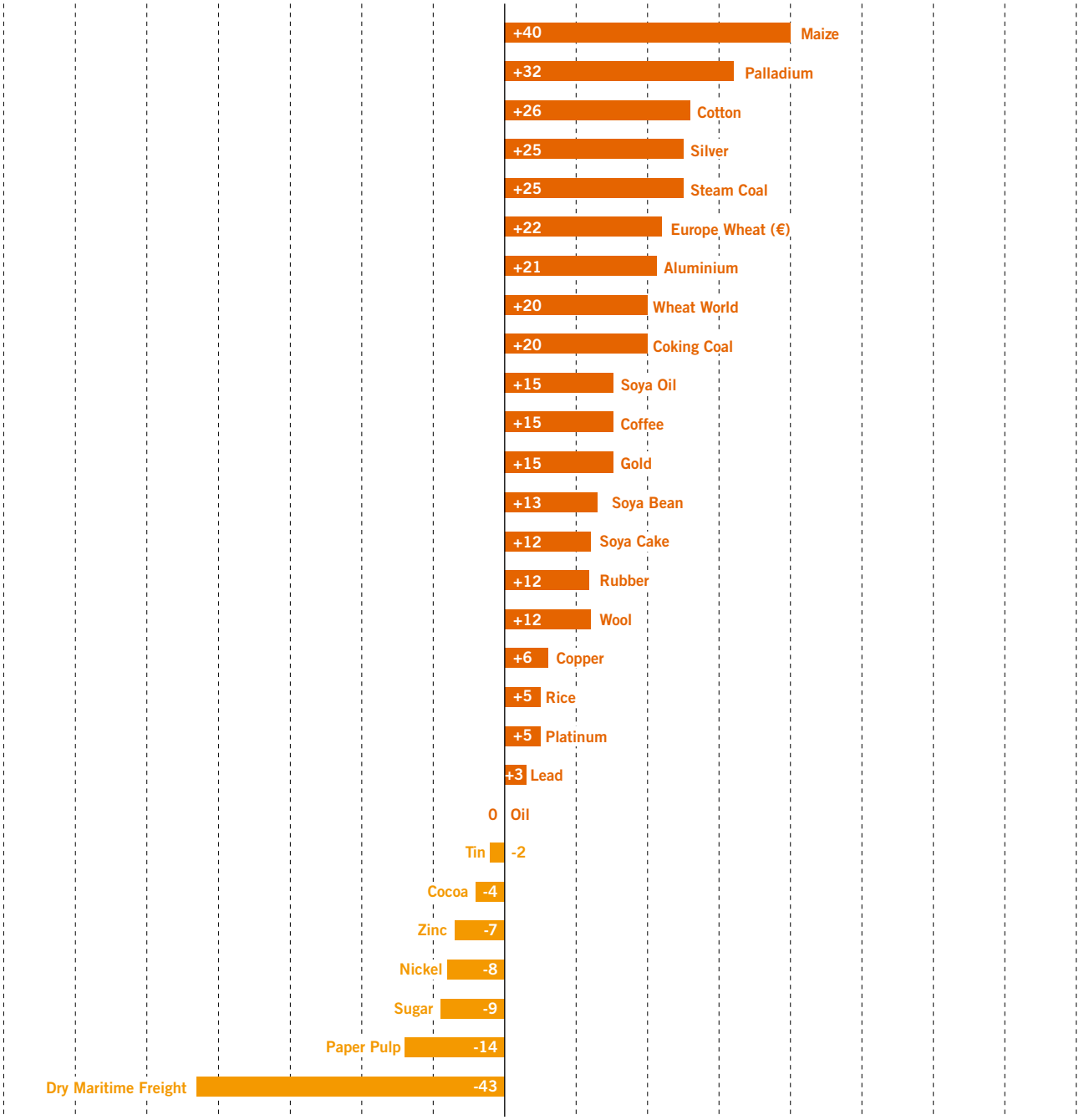
World Commodities Prices in 2010

In annual averages, prices in Dollars except for Europe, which are in Euros. For a number of products, the levels attained at the beginning of 2011 are such that we must anticipate a greater elasticity of consumption either through substitution or less intensive industrial processes.



CyclOpe's Forecasts for World Commodities Prices in 2011-2012

Forecasts made in January 2011, in percentage of variation from the average price in 2011 compared with the average in 2010; in dollars except for European wheat (in Euros).



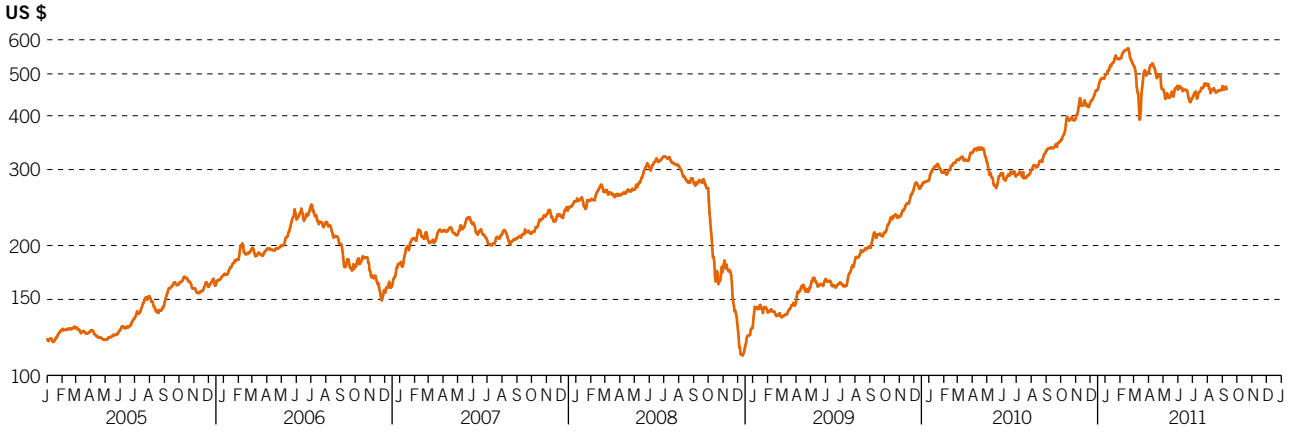
The Price of Brent Oil Declining after IEA Decision to Release 60 Million Barrels

The decision taken in June by the International Energy Agency (IEA) to release 60 million barrels of crude oil from national stocks of OECD countries to counteract the effects of the Libyan uprising was followed by sceptical reactions on the markets. Brent prices kept above the $100 bb bar, whilst West Texas Intermediate's (WTI) prices split from those of Brent and went down to $80 bb. The average $25 price differential between Brent and WTI makes it even more difficult to understand oil markets.

Source: © Coe-Rexecode

The Price of Rubber at an Historic High in February

From its lowest of $1.26 / kilo in December 2008 to its highest level last February of $6.55 / kilo, the natural rubber (NR) price has experienced a 370% increase to an average of $3.33 / kilo in 2010 and should be over $5.20 / kilo in 2011. Global consumption reached 24.52 Mt last year (10.67 Mt for natural and 13.85 Mt for synthetic rubber). The International Rubber Study Group forecasts global rubber consumption (both natural and synthetic) will reach 25.7 Mt in 2011, with NR consumption at 11.2 Mt. In the longer term, global rubber consumption is forecast to reach 35.9 Mt by 2020, with NR consumption at 16.5 Mt. This is of course linked to the development of the car industry in emerging countries and especially in China, whilst production is lagging behind due to high labour costs.



Source: © Coe-Rexecode

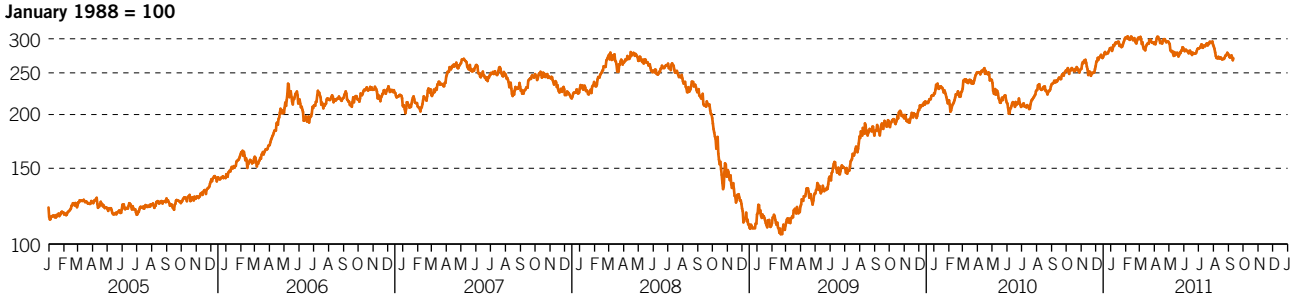
Non-Ferrous Metal Prices: the Ghost of Speculation

An index of the six LME quoted NF metals, showing we are back to pre-crisis levels.

Source: © Coe-Rexecode

Non-Ferrous Metal Prices (2005-2011): A new High in January 2011

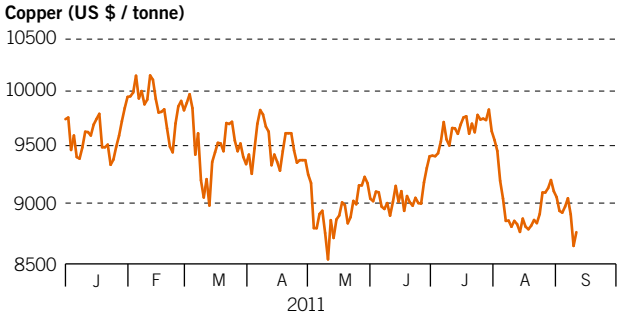
The average NF metal price went three times over its 1988 level, 40 points up on the 2008 high.



Source: © Coe-Rexecode

LME Base Metals Prices Evolution: Copper & Lead (Jan. to August 2011)

New shutdown orders targeting lead and zinc smelters mainly in China's Hunan and Yunnan provinces, with some in Liaoning, Henan, Sichuan and Gansu provinces, could help both environmental purposes and introduce some air into an oversupplied market: no fewer than 38 lead smelters should shut down 661,000 tonnes of capacity in China by the end of 2011.



Source: © Coe-Rexecode

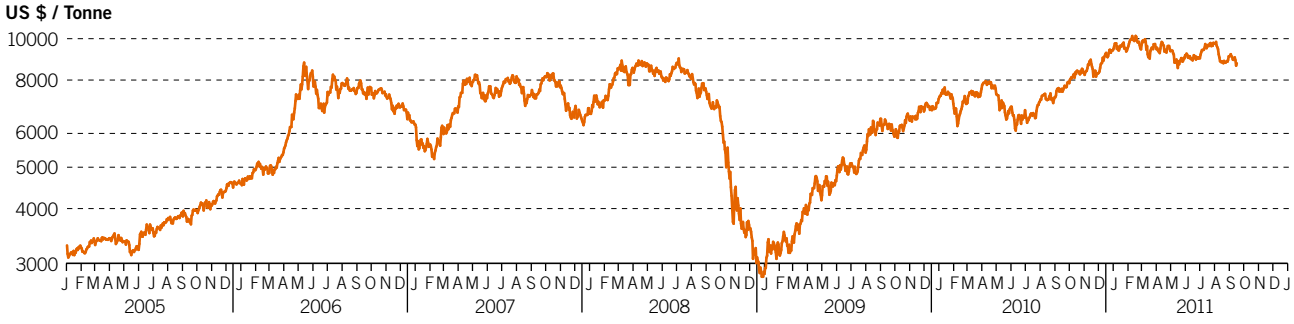
World Copper Prices 1995-2011: The Highest in February 2011

Copper prices have twice tackled the $10,000/t barrier on the London Metal Exchange (LME) in 2011. Even during August's financial turmoil, copper lost only a few hundred dollars per tonne.

Source: © Coe-Rexecode

Copper Prices Drawn by Chinese Demand over $10,000 / tonne (2005-2011)

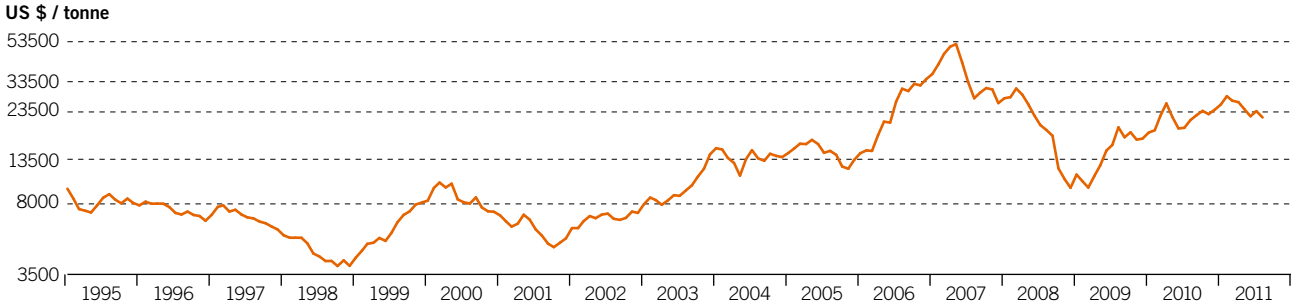
Copper prices have remained very volatile since January amid rumours of market manipulation, especially in China.



Source: © Coe-Rexecode

Nickel Prices 1995-2011: More and More Volatility

Nickel has been the most volatile of all non-ferrous metals in recent years.



Source: © Coe-Rexecode

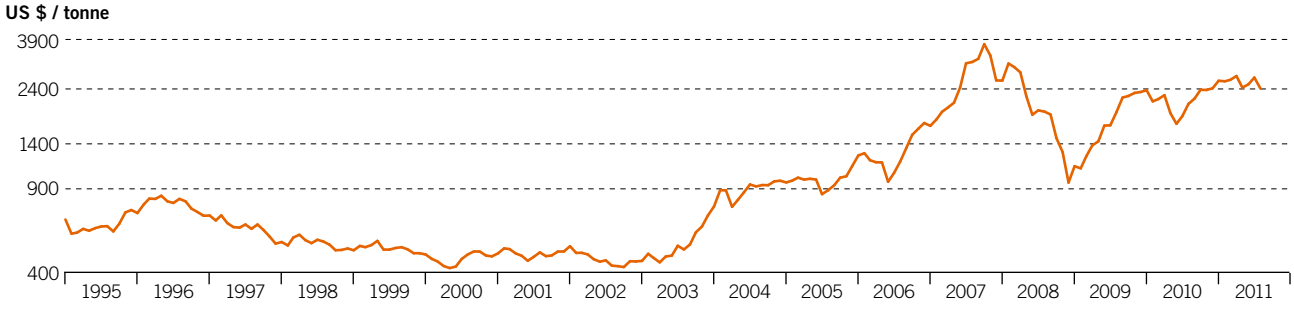
Nickel Prices (2005-2011): Drawn by Stainless Steel Market Recovery

The end of Vale miners' longest strike ever last February (at Voisey Bay) did not stop nickel's move upwards, the black metal being pulled along by global stainless steel demand. Chinese users bought again more Nickel Pig Iron (NPI) in Q2 to reduce costs, but improved scrap availability and new projects should balance the market until 2012.

Source: © Coe-Rexecode

Lead Prices (1995-2011) Under Pressure, Better Demand and Chinese Destocking

Lead stood up well at $2.300 / t in recent months, with up to $2.400-$2.500 / t expected for Q4 2011.



Source: © Coe-Rexecode

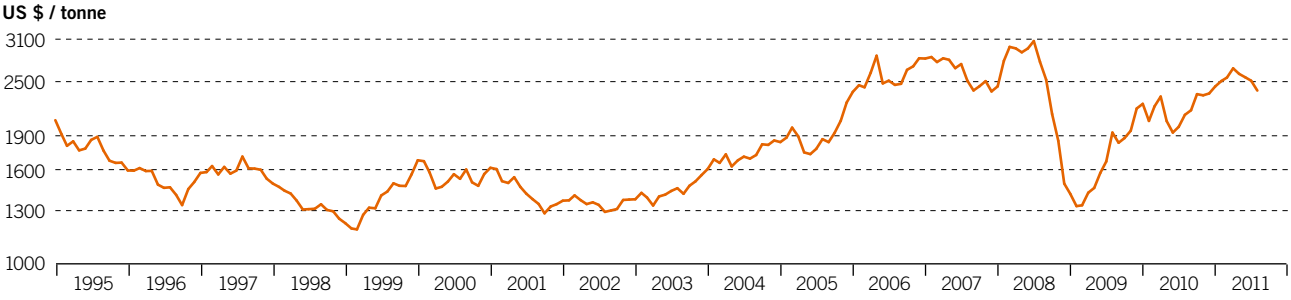
Lead Prices (2005-2011): Some Hesitation in Demand Level

Prices have kept fairly stable: the development of electric cars could limit the demand for lead car batteries.

Source: © Coe-Rexecode

Aluminium Prices (1995-2011): A new Record in H1 2011

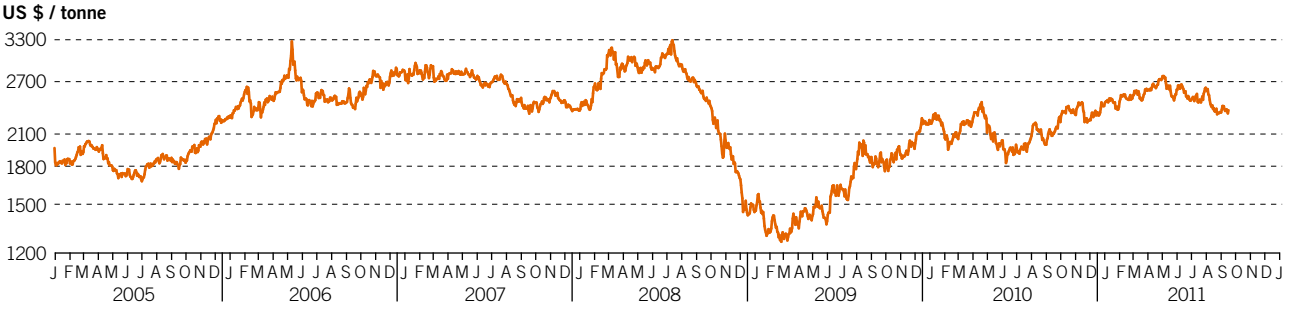
Global production of aluminium hit a new record in H1 2011 at 12.621 Mt compared to 11.885 Mt during the same period of 2010, notes the International Aluminium Institute (IAI).



Source: © Coe-Rexecode

Aluminium Prices (2005-2011): Any Deficit to Come?

But a small deficit for the white metal has been anticipated by a few analysts owing to growing demand from the automobile and aeronautic sectors and the substitution of steel by aluminium for technical reasons in the car building industry. Still, when compared to costs of production, aluminium is the "cheapest" of all non-ferrous metals.



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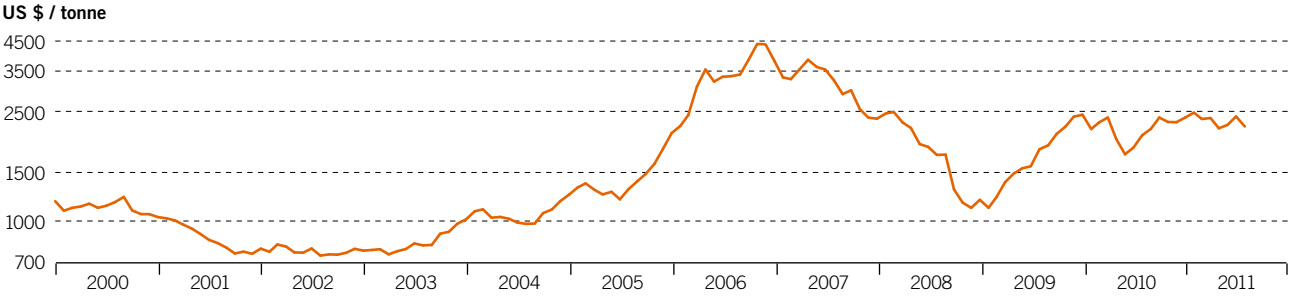
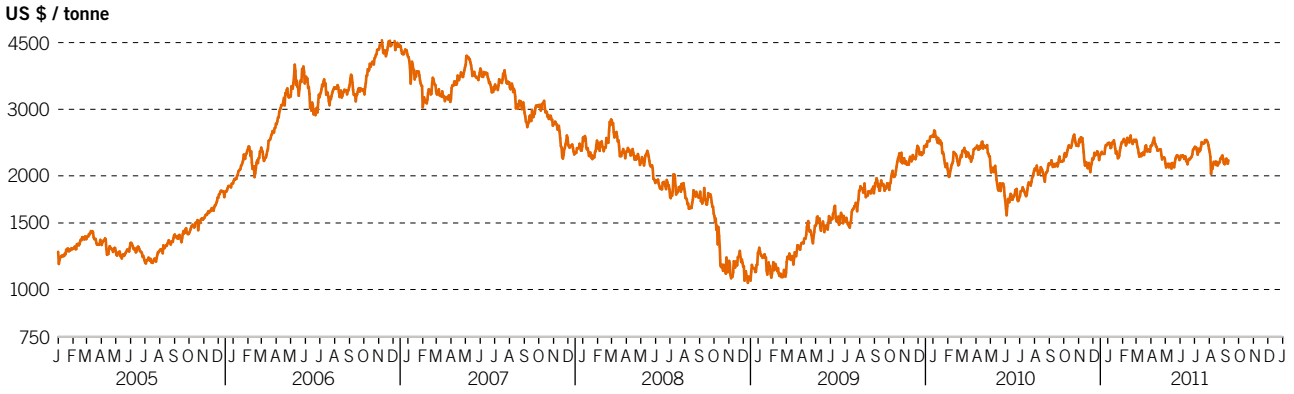
Zinc Prices (2000-2011): Pulled up by hot dip Galvanized Coils

The growing hot dip galvanized steel coils market has again been pulling up zinc prices in China over recent months.



Source: © Coe-Rexecode

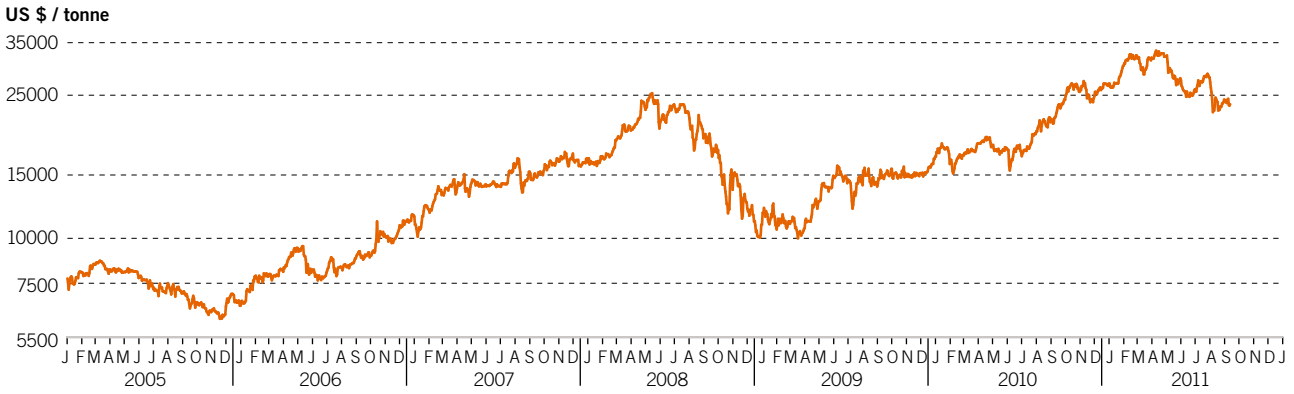
Zinc Prices (2005-2011) Suppported by Chinese Demand, too



Source: © Coe-Rexecode

Tin Prices (2005-2011) on a Monthly Evolution Basis

Tin prices have never been so high amid rumours of market manipulation on the LME.



Source: © Coe-Rexecode

Ferrous Scrap and Steel Making: The Turning Point

After a bullish 2010 recovery period for the global steel sector, 2011 went in the same direction until the spring for most actors in the world ferrous scrap business. But the real turning point should come later on, after a quite good 1st half, says Jeroen Vermeij, Study and Research Manager at Eurofer. World crude steel output has never been so high, though it dipped slightly in June, up 8.3% in 7 months this year. Global scrap purchases by steel mills ramped up +17% year on year.

Mr VERMEIJ agreed to answer BIR's questions about the steel and scrap market. He is both collecting and analysing data coming from the global and European steel market, raw materials for steelmaking plants and steel-using sectors.

How was world crude steel production in 2010?
It reached 1.412 Bn tonnes in 2010, +14.8% yoy, which is a strong progression. The major issue is in China, too. MEPS says its annual production is underestimated by about 40 Mt. For Q1 2011 it was up to 371.5 Mt, +8.8% yoy.

How do you see the steel market by H2 2011?
The first half was quite good, specially for the global automobile sector, with a bit of slowing down since April, May and June, when things became more calm in terms of production levels in downstream industries. Stock management practices are changing, with contract length going from annual to quarterly, and then to monthly contracts too. There has been an increase of imports during H1: China is back again on the market – Turkey also, as a new player for flat products. More than 50% of European scraps are going to Turkey.

Any forecast for the full 2011 year?
It is not Eurofer's job to predict. We could go up to 1.52 Bn tonnes, says WorldSteel.

Will demand still be firm for the rest of 2011?
There might be some corrections in stock levels. A seasonal effect, but September has seen the first straightening effect; it might be some sort of a fragile balance. Still a modest recovery, however.

What was the percentage of use of steelmaking capacities in Q2?
Eurofer does not look at these data, but I think it was around 85 to 90%, except in Southern Europe where it was probably closer to 60%. Germany is running at full capacity. For H2, it will depend on the steel market balance. The general feeling is that it could drop a little during Q3 and come back up during Q4. European mills will try to avoid overcapacities.

What is the average steel scrap volume used for Steelmaking in the EU?
Eurofer does not collect these data country by country for steel scrap. It depends mostly on the prices of steelmaking raw materials. I reckon there has been a hike in the practice during recent years, to help the recovery.

Apparent purchased scrap consumption in May 2011 was up +115% compared to 2008, to 48 Mt on the year. Global scrap consumption in 2010 was around 530 Mt, up +15.2% yoy. What about H1? And H2?
During Q1 2011, the EU was up +9% to 25.8 Mt, the USA +11.1% to 14 Mt, Japan +6.4% to 9.6 Mt, Turkey +43% to 7 Mt. It's too soon to tell for the rest of the year, and to get the good data from China in time, too.

What has been the rate of utilisation of Electric Arc Furnaces in 2010 and 2011?
It was 41% in 2010 and a bit less than 42% for Q1 + April-May. Global scrap use in steelmaking is said to be between 460 and 540 Mt per year and EU scrap use in steelmaking is on average 96 Mt. Global use in iron & steel foundries stands between 56 and 76 Mt per year.

How many kilos of scrap are used to make one tonne of crude cast?
In 2001, it was 170 to 255 kg for a tonne of crude liquid steel, then 100 to 304 kg in most countries in 2006. The average quantity was 200 kg in four European countries. In China, it was 146 kg/t in 2009 and a bit less in 2010 (China plans to use 227 kg/t from 2011

to 2015). Global scrap purchases by steel mills are up to 340 Mt/y, equal to +17.2%.

And what about the volatility of steel scrap prices in 2010 and H1 2011?
They have remained volatile but keep around a growing trend. The scrap market is still quite tight, like other raw materials. Scrap tightness is going to be a global phenomenon, except with any short-term correction, indeed.

Crude Steel Production is Still Ramping up Strongly

Regions	2010	%	H1+ july 2011	%
China	626.7 Mt	+9.3 yoy	410.3 Mt	+10.3
Europe	172.6 Mt	+23.9 yoy	108 Mt	+4.3
Japan	109.6 Mt	+25.2 yoy	63.1 Mt	-1
USA	80.5 Mt	+38.3 yoy	50.1 Mt	+5.2
Russia	66.9 Mt	+11.5 yoy	40.6 Mt	+6.1
Turkey	29.1 Mt	+15.2 yoy	19.2 Mt	+21
Global	**1.4 Bt**	**–**	**886.8 Mt**	**+8.3**

World Scrap Metal Trade & Consumption

World Scrap Metal Trade & Consumption			Global Trade (EU Inc.)	
Year	Scrap Consumption (Mt)	Market Purchase of Scrap (Mt)	Exports (Mt)	Imports (Mt)
2001	367	240	39.0	47.0
2005	462	293	63.7	63.7
2008	530	335	74.2	67.4
2009	460	290	74.4	66.7
2010	530	340	76.7	83.0

The Main Flows of Scrap Metal Trade: January-December 2010

Exporters	Volumes (Mt)	+/- %	Buyers	Volumes (Mt)	+/-%
European Union	18.9	+20.2	**Turkey**	10.69	+44.4
			India	2.13	+5.7
			Egypt	1.64	+191.0
			China	0.59	-63.5
			USA	0.51	+59.7
			Switzerland	0.46	+41.1
USA	20.56	-8.4	**Turkey**	4.35	+18.3
			China	3.21	-48.3
			South Korea	2.83	-9.1
			Taiwan	2.83	+26.4
			Canada	1.37	+40.0
			India	0.98	-38.2
Japan	6.47	-31.1	**South Korea**	3.34	-11.6
			China	2.71	-45.5
			Taiwan	0.30	-12.7
			Vietnam	0.06	-67.7
Canada	5.15	+7.6	**USA**	2.70	+12.4
			South Korea	1.26	+943.2
			Egypt	0.43	+44.1
			Taiwan	0.19	+197.0
			China	0.15	-45.7
			Vietnam	0.13	+307.8

Source: BIR

"Summer 2011: The Times They are A'Changing on the Scrap Balance"

The new record for global crude steel production of over 1.4 Bn tonnes in 2010 had a clear impact on the ferrous scrap metal market, confirms BIR's Ferrous Division statistics advisor Rolf Willeke of Germany. New Chinese data also stress a lower use of scrap in crude steel production last year, before a new increase during the five coming years. On the whole, global scrap use by the steel industry is estimated between 460 and 540 Mt in recent years.

Mr Willeke confirmed to us that, between January and September last year, Chinese steel mills consumed an average of 140 kg of scrap in making a tonne of steel compared to 146 kg for the whole of 2009. As the world's biggest steel producer, developments in China have contributed substantially to a reduction in the world rate of steel scrap use to crude steel production from 43.9% in 2000 to 37.5% in 2010. But China's steel industry as a whole should be attempting to increase scrap consumption per tonne of steel produced to 227 kg during the country's Five-Year Plan running from 2011 to 2015.

Also worthy of note for 2010, said Rolf Willeke, was the increase in steel scrap use for steelmaking in Japan (+28.9% to 38.4 Mt), Russia (+50.4% to 20. Mt) and Turkey (+17.7% to 25.3 Mt). Scrap contributed up to 86.4% of raw material used in Turkish steel production last year compared to a world average for 2010 of 37.5%.

The steel scrap scene has seen Turkish scrap use growing faster in 2011 than its steel production, which constitutes a new record up 21% in the first 7 months. Turkey, and also the United States, Europe and Japan, saw their scrap consumption grow at a quicker rate than their output in the first quarter of this year, according to reliable sources. In the first three months of the year, Turkey's steel scrap usage soared 43% on Q1 2010 to 7 Mt, whereas crude output grew at a slower 31% to 7.9 Mt over the same period. Turkey imported 19.1 Mt of steel scrap in 2010 as against 15.6 Mt in 2009.

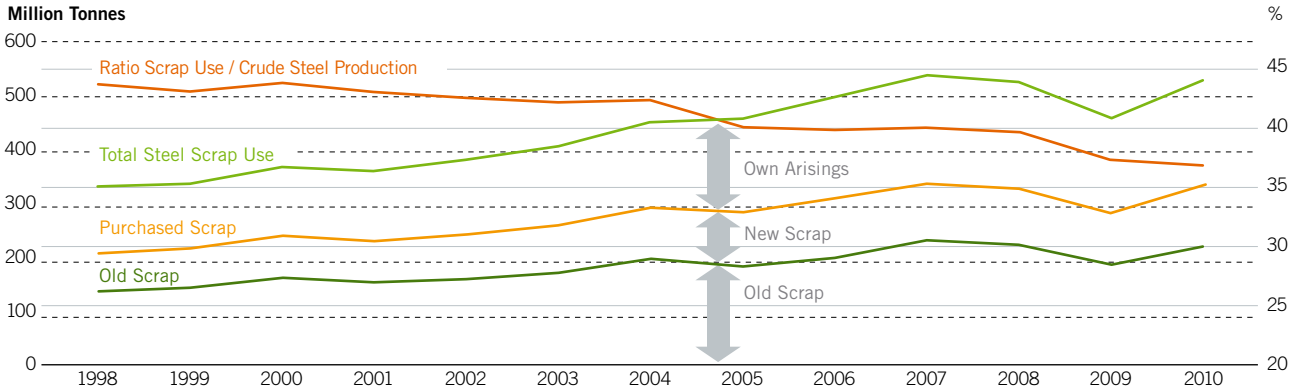
The June-July period did not impact that much on scrap prices the way it did the previous years, demand keeping strong enough as well as there being global echoes of a shortage risk with major Chinese demand for its domestic real estate Five-Year Plan projects. Prices were even firming again in southern Europe and China in September. China's decision to open a new steel scrap processing plant in Q4 2011 with a 700,000 tonnes yearly capacity will sustain the growth of its imports, which went down to 5.8 Mt last year compared to 13.6 Mt in 2009.

World Scrap Trade

Global scrap imports moved up to 83 Mt in 2010 compared to 66.7 Mt in 2009. European scrap imports grew last year to 3.6 Mt compared to 3.3 Mt in 2009. North American imports grew more in proportion with 15.5 Mt against 5.3 Mt one year before, notes WorldSteel and WV Stahl.

On the export side, volumes of steel scrap purchased grew again with 76.7 Mt last year compared to 71.4 Mt in 2009. North American scrap exports began to slow down last year, from 28.4 Mt in 2009 to 27.6 Mt in 2010. European scrap exports kept growing from 15.8 Mt in 2009 to 19 Mt last year, with Eastern Europe volumes nearly doubling yoy. Germany is still the biggest European exporter with 9.1 Mt in 2010 compared to 7.2 Mt in 2009, before the end of scrap premiums.

Scrap Global Trade: A Sharp Drop in Chinese Imports



Source: BIR World Steel Recycling in Figures 2006-2010

Main Steel Scrap Importers and Exporters (2006 – 2010)

BIR's Ferrous Division statistics advisor Rolf Willeke noted "remarkable changes" in world trade of steel scrap when comparing 2010 and 2009, with developments influenced mainly by a sharp drop in Chinese scrap imports and a strong increase in deliveries to Turkey. Chinese imports fell by 57.3% or 7.8 Mt to just 5.9 Mt in 2010, with the result that China lost its position as the world's second largest importer of steel scrap. India's scrap imports also fell in 2010: statistics for the January-September period show that its overseas purchases of steel scrap declined 24.6% to 3.2 Mt. Thailand's steel scrap imports also dropped, by 3.1% to 1.3 Mt.

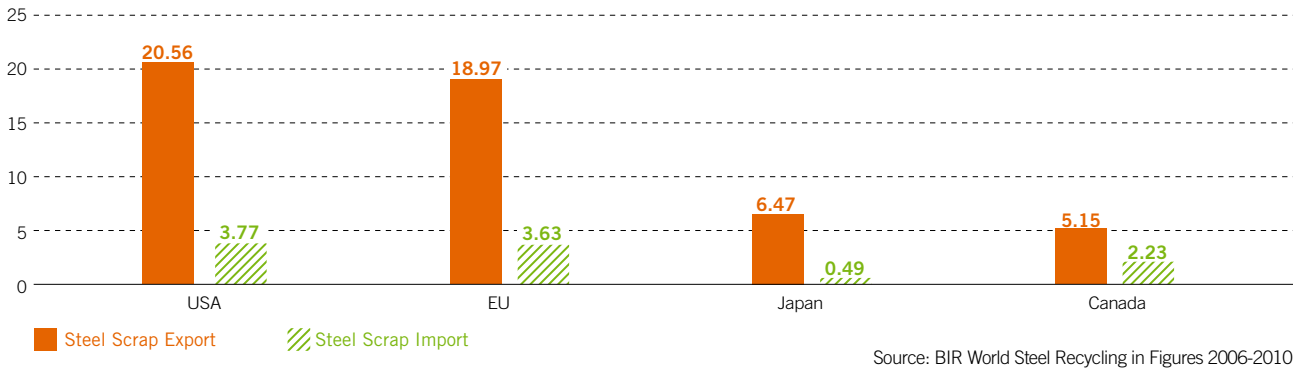
Main Steel Scrap Importers (Mt)

	2006	2007	2008	2009	2010	% 2010/2009
Turkey	15.100	17.141	17.415	15.665	19.194	+22.5
South Korea	5.621	6.887	7.319	7.800	8.091	+3.7
China	5.386	3.395	3.590	13.692	5.848	-57.3
India	3.359	3.014	4.579	5.336	3.211*	-24.6
Taiwan	4.459	5.418	5.539	3.912	5.364	+37.1
EU	7.294	5.142	4.809	3.270	3.629	+9.7
USA	4.814	3.692	3.571	2.986	3.773	+26.4
Canada	1.476	1.435	1.674	1.408	2.227	+58.1
Malaysia	2.941	3.688	2.293	1.683	2.292	+36.2
Indonesia	1.063	1.260	1.899	1.484	1.642	+10.6
Thailand	1.373	1.805	3.142	1.323	1.282	-3.1

Main Steel Scrap Exporters (Mt)

	2006	2007	2008	2009	2010	% 2010/2009
USA	13.978	16.642	21.712	22.439	20.557	-8.4
EU	10.083	10.566	12.799	15.779	18.970	+20.2
Japan	7.654	6.449	5.344	9.398	6.472	-31.1
Canada	4.000	4.100	4.084	4.792	5.154	+7.6
Russia	9.797	7.855	5.128	1.202	2.390	+98.9
Australia	1.335	1.501	1.708	1.925	1.636	-15.0
South Africa	0.555	0.752	1.271	1.144	1.225	+7.0

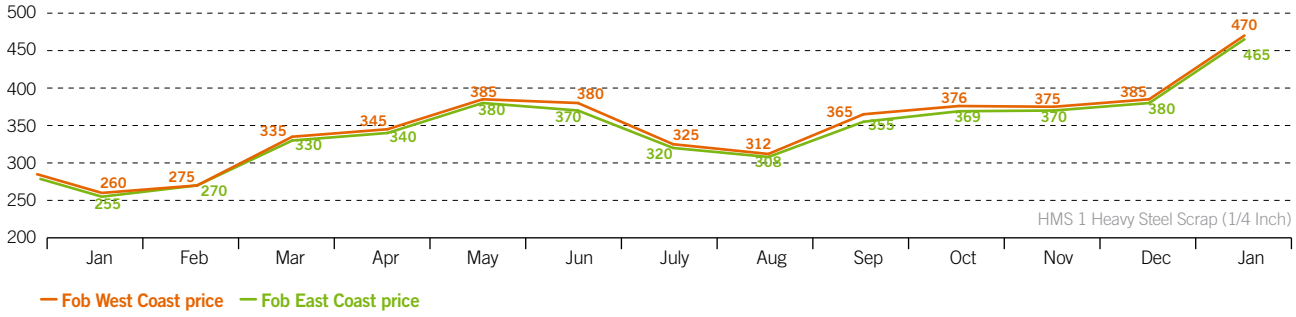
Major net Steel Scrap Exporters 2010 (Mt)



Source: BIR World Steel Recycling in Figures 2006-2010

Price Curve for HMS 1 Heavy Steel Scrap USA Export 2010

USA Export Prices (US $ / GRT)

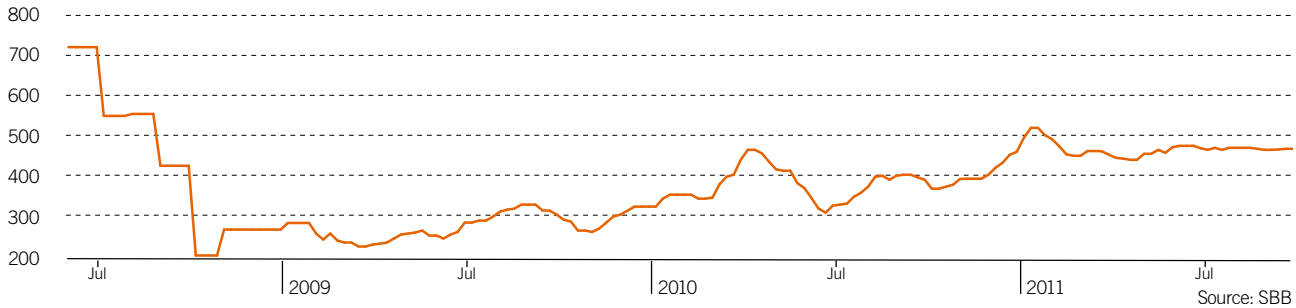


Source: BIR World Steel Recycling in Figures 2006-2010

The Import Price of Scrap in Turkey: The World's Best Reference Price

Turkish buyers of scrap are the ones who are making the market, HMS 1&2 (80:20) shipments price progression being impressive in 2011 at well above $400/t (up to $477/t in June 2011, compared to $260/t one year before).

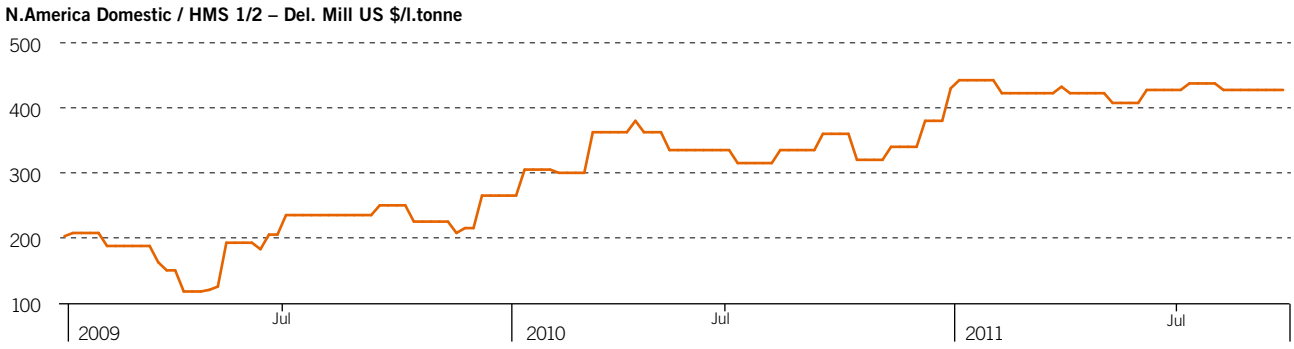
Turkey import / HMS 1/2 80:20 - CFR Turkish port US $/t



Source: SBB

The Stabilisation of US Scrap Prices Between 2009 & 2011

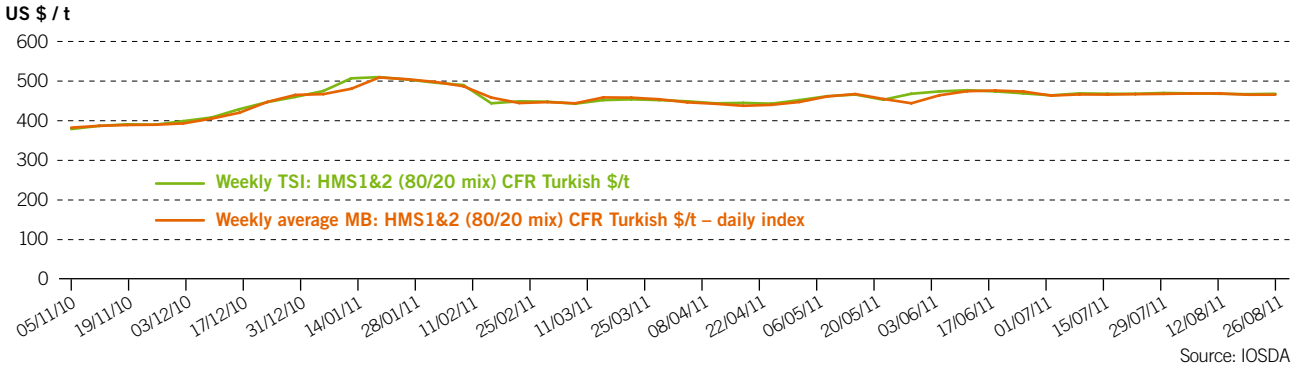
HMS 1 & 2 domestic prices in the US remained fairly high for recent months.



Source: SBB

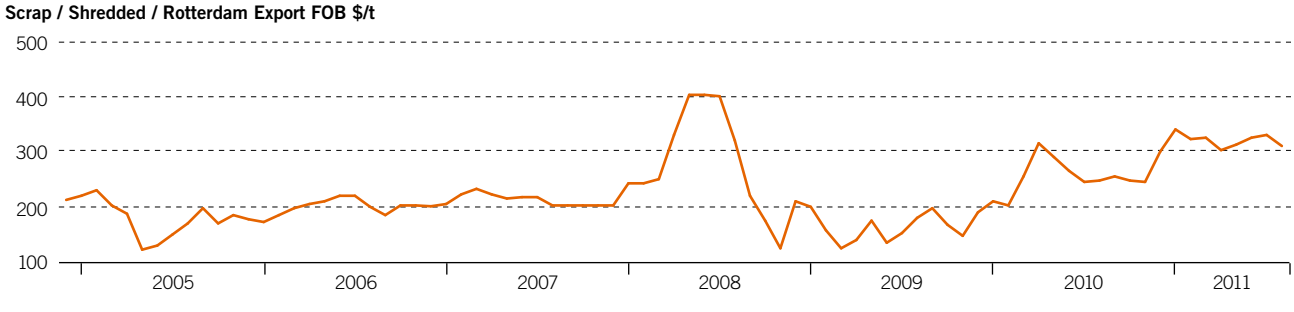
Turkish Scrap Indices 2010-2011

The difference between the Steel Index (TSI) and Metal Bulletin Turkish scrap indices was barely perceptible.



Source: IOSDA

Europe Domestic Scrap Prices between 1995 and 2011

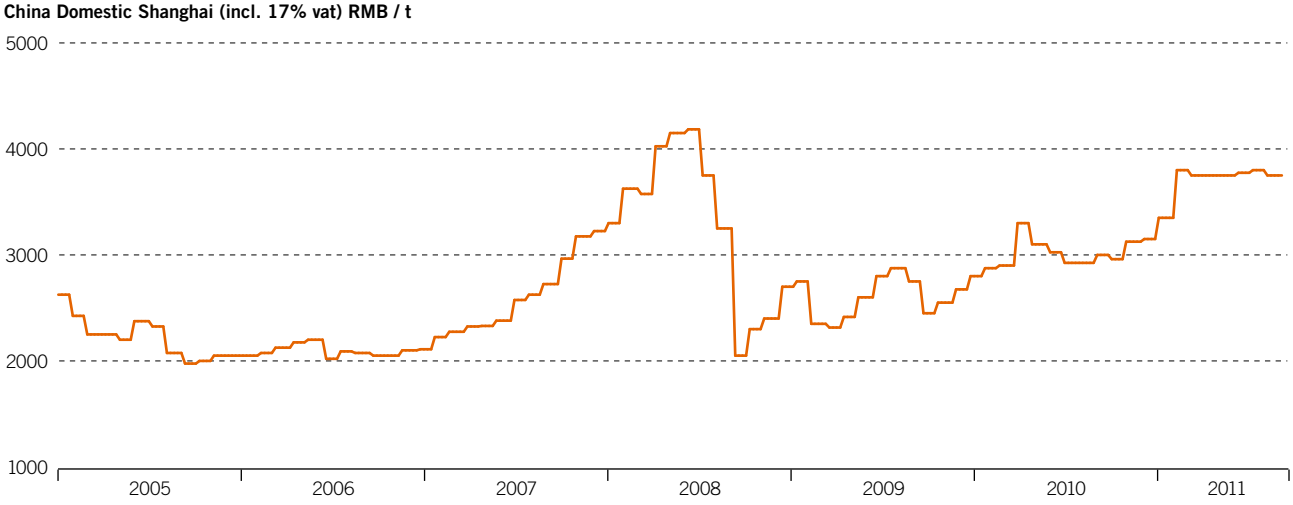


Source: SBB

Rotterdam Export Shredded Scrap fob Prices (2005-2011)

Source: SBB

China Domestic ex Works Shanghai Scrap Prices (2005-2011)



Source: SBB

World Steelmaking raw Materials in 2010

Ferrous scrap use in crude steel making is not yet back to what it used to be five years ago.

Total Metallics for Steel making in the World

	2006	2007	2008	2009	2010	% 2010/2009
Crude Steel Production	1247	1347	1327	1230	1412	+14.8
of which Oxygen (BOF)	820	901	890	863	988	+14.5
Electric (EAF)	395	416	409	342	405	+18.5
(Share EAF of Crude Steel) in %	**31.7**	**30.9**	**30.8**	**27.8**	**28.7**	
Pig Iron	880	961	935	914	1028	+12.5
(Ratio Pig Iron/Crude Steel) in %	**70.6**	**71.4**	**70.4**	**74.4**	**72.8**	
Steel Scrap	500	540	530	460	530	+15.2
(Ratio Steel Scrap/Crude Steel) in %	**40.1**	**40.1**	**39.9**	**37.6**	**37.5**	
DRI	60	67	68	64	65	+1.6
(Ratio DRI/Crude Steel) in %	**4.8**	**5.0**	**5.1**	**5.1**	**4.6**	
Total Metallics	1440	1568	1533	1438	1623	+12.9
(Ratio Total Metallics/Crude Steel) in %	**115.5**	**116.5**	**115.4**	**116.9**	**114.9**	

Source: BIR World Steel Recycling in Figures 2006-2010

Scrap Global Trade

	2001	2005	2008	2009	2010
World Scrap Exports (in Mt)	39.0	63.7	74.2	71.4	76.7
EU27	8.7	9.2	12.8	15.8	19.0
Turkey	–	0.06	0.07	0.06	0.09
CIS	10.5	17.0	8.3	3.3	4.5
North America	9.5	17.1	27.9	28.4	27.6
Asia (without China)	8.1	12.1	11.0	12.6	11.7
World Imports (in Mt)	47.0	63.7	67.4	66.7	83.0
EU27	4.5	7.9	4.8	3.3	3.6
Turkey	9.8	10.2	17.4	15.6	19.1
CIS	0.2	2.2	2.5	1.8	3.5
North America	5.2	6.9	6.7	5.3	15.5
Asia (without China)	26.0	33.2	31.4	37.6	31.8
China	9.7	10.1	3.5	13.6	5.8

Source: Worldsteel Yearbook 2011 and Official Trade Statistics /WV Stahl

World Iron Ore, Scrap, Steel and Non-Ferrous Markets

January to June 2011

2011 began with a very strong hike in iron ore spot prices close to $200/t, with the three global miners trying to pass higher costs to their clients in China as well as in the Rest of the World. Miners tested another major contractual change from quarterly to monthly contracts, based on the average spot prices of the previous monthly period. Scrap prices went up also to a new peak in February, pushing long steel products up and flat carbon steel a bit later in the same direction. Ferrous scrap prices followed the upward trend, until March for some regions. The feeling changed in the markets before the end of Q1, with scrap prices falling, then rebar prices and by the end hot rolled and cold rolled coils, mostly in developed countries where real demand didn't follow forecasts, slowed by the sovereign debt crisis in Europe, the fear of a debt default in the United States and at a minor level by the Japanese earthquake and tsunami's effects. Whilst growth remained sustained in China, India, Brazil and other emerging regions, a short hesitation was felt by the end of May in China as it tried to contain its real estate industry consumption of raw materials and energy.

Vale, the world's biggest iron ore producer, posted record sales and a 74% profit increase in the second quarter as surging Chinese orders made up for tepid demand in Europe. China's low-income housing boom and long list of civil construction projects have fuelled demand for the steelmaking raw material, boosting the Brazilian miner but also raising concerns that the company has become too reliant on its Asian market. Vale launched several 400,000 tonnes bulk carriers in 2011 to deliver iron ore to China.

Date	Iron Ore		Scrap		Steel and Non Ferrous	
	Event	Price	Event	Price	Event	Price
Jan 2011	ArcelorMittal buys 100% Baffinland shares with Nunavut. Floods in Australia, force majeure in mines.	Indian 63%Fe cfr China $176-185/t.		Trend upwards HMS 1/2 80:20 cfr Turkish port $525/t.	ArcelorMittal splits its carbon steel and stainless steel activities, creating Aperam after spin-off.	HRC fob China $690/t.
Feb 2011	Peak point: Miners ask monthly contracts. Rio Tinto says its 2010 profits has been tripled yoy.	Indian 63%Fe cfr China $188-197/t.	Stainless steel scrap prices pushed up by nickel's LME price.	HMS 1/2 80:20 cfr Turkish port $465/t.	World crude steel production up 8,8% yoy. Carbon steel hot furnaces at 85-90% of their capacities. Electric mills near by 95%. Nippon Steel & Sumitomo say they'll merge into the world second-largest steelmaker.	Coking coal fob Austr. Ports at $325/t. Copper at $10,147/t Nickel over $29,000/t.

To be continued

Table continued

Date	Iron Ore		Scrap		Steel and Non Ferrous	
	Event	Price	Event	Price	Event	Price
March 2011	Slight doubt in the iron ore market, Japan earthquake affecting global demand. ArcelorMittal iron ore production up to 48.9 Mt in 2010.	Indian 63%Fe cfr China $188-172/t.	US and Russia Q1 scrap exports up, EU (-11%) and Japan (-27%) down says BIR. Turkey's steel scrap usage soared 43% on Q1 2010 to 7 Mt.	HMS 1&2 $460-470/t cfr Turkish ports. Shredded $465/470/t cfr Turkey.	LME Steel Billet volume at +406% yoy for Q1. Brazil anticipates 3.3 Mt Al production compared to 1.8 Mt in 2010.	HRC fob China $732/t.
April 2011	Rio Tinto aims at 330 t/y iron ore production in 2015. Glencore's IPO in London & Hong-Kong with a value of more than $10 Bn.	Indian 63%Fe cfr China $173-189/t.		HMS 1/2 80:20 cfr Turkish port $445/t.	HRC prices cuts around $50 fob Black Sea/Russia.	HRC fob China $710/t. US HRC $890.
May 2011	Vale launches 400,000 tonnes dry bulk capesize. Increased seaborne supply in China. Freight rates still low.	Indian 63%Fe cfr China $190-176/t.		HMS 1/2 80:20 cfr Turkish port $470/t.	May global steel output up by around 3.6 Mt yoy.	
June 2011	ArcelorMittal Q2 results given separatly for its iron ore & coking coal mining division. Brazil exported 25.5 Mt of iron ore.	$ 176-180/t. cfr China Q2 average price: $176.34-175/t.	Prices steady, demand slows, demand expected to strengthen post-Ramadan.	Turkish imports HMS 1&2 80/20, cfr ports at $477-480/t, slightly for shredded.	New record prod. high of 2m tonnes/day in China, CISA says. ArcelorMittal H1: 47.9 Mt of steel, 29.5 Mt iron ore, 4.29 Mt c.coal, steel price hikes +22.7%.	HRC prices $720-740.

July to September 2011

Expectations about new iron ore, scrap and steel price hikes to come by the end of 2011 are not yet confirmed by market analysts, still cautious about real demand levels in Q4. Our model would rather credit those hikes apart from the beginning of Q1 2012, with analysts predicting a slight shortfall of iron ore at this moment. They believe China will require an additional 250 Mt / year of steel between 2011 and 2105, equivalent to a 400 Mt stock of iron ore. More ferrous scrap alone would not make the difference. Chinese steelmakers are now trying to boost their own iron ore resources, like ArcelorMittal already does, with its integrated mining division.

Date	Iron Ore		Scrap		Steel and Non Ferrous	
	Event	Price	Event	Price	Event	Price
July 2011	H2 2011 is likely to see stronger restock-driven pricing, at an average $175/t, says Credit Suisse. LKAB's Asian clients sign an annual iron ore contract, $188/t, says Metal Bulletin. 20th: China's iron ore port stocks increased to a new high for the year of 96 Mt.	Indian iron ore 63% Fe at $184-185/t cfr China.	China Recycling Corp. to open a 750,000 t/y ferrous scrap processing plant in Sept. in Jiangxi region. China's Scrap consumption up to 26.13 Mt in Q2.	Turkish imports $469/t cfr, $474/t cfr for shredded scrap. CIS exp. prices at $460-465/t cfr for A3 grade. Saudi scrap up $37/t. Eu HMS 1&2 80:20 at $465/t cfr Turkish ports.	Some Chinese mills lower HRC prices. Coking coal prices down 10% at an average $310/tonne fob Australia.LME Zinc up to $2,232 from $2,240 two weeks before.	US HRC prices $740/sh.t, CRC $840-860/sh.t China HRC fob export prices $700-710 China's CRC export prices up to $740/t fob. Alu $2,620/t, cop. $9,650/t. Steel bill. $590/t.
Aug 2011	Global iron ore deficit to last until 2015 (SBB). Vale to produce 469 Mt of iron ore in 2015, rather than 522 Mt. China's iron ore imports up to 670 Mt in 2011 (+8% yoy). Beijing looking for new deals in S. Africa. Chinese demand has boosted Vale's profits by 76% in Q2 2011.	African iron ore 62% Fe at $176.80/t TSI's 63.5/63% Fe reference price, which is representative of many Indian exports, has also risen to $184.40/dmt.	Turkish shipbreaking scrap output could rise 50% this year to 650,000 t. Limited impact of Ramadan on Turkish scrap price bids. Eurofer shredded scrap index down 9%. Chinese domestic scrap prices stable at $594-602/t.	Shipbreaking melting scrap prices at $455-457/t in Turkey. Indian shredded scrap imports above $500/t. 4 cargoes of US shredded scrap at $502/t cfr Eastern China (SBB).	ArcelorMittal to idle 2 blast furnaces in France and Belgium on lower demand. LME's prices fall (1st-10th of Au.) Tokyo Steel restarts exports.	HRC fob Shanghai $695/t. High-grade nickel pig iron of 10-15% content up to $255-258 in China. Copper cash at $9,826,50/t then down to $8,759,50/t.
Sept 2011	Rio Tinto's H1 net earnings up 30% yoy. BHP's Australian shipments up to 155 Mt/year in H1, 220 Mtpa in H2.	Indian iron ore 63% Fe at $184-185/t cfr China.	World trade in scrap exports 2010: 102 Mt versus 117.6 Mt for imports. South Chinese mills raise their prices due to firm demand.	US HMS 1&2 80:20 at $470/t cfr, shredded scrap pegged at $475/t cfr, CIS A3 grade scrap stable at $455-460/t cfr.	Aperam assets value halved since its creation in January 2011. Brazilian crude steel output up 8.7% yoy on 7 months. ArcelorMittal to idle one blast furnace in Eastern Germany due to weaker demand level.	Turkish rebars EW at $745/t. All prices are expected to grow again, if demand comes back after summertime. LME non-ferrous prices started to fall at the end of the month.

"Vertical Integration", the New Culture for Steel Makers Confronted to Global Miners Pricing Power

With the price of iron ore at its highest ever, the tug of war is definitely on between the global miners, Vale, Rio Tinto and BHP Billiton, and the main steel producers all around the world. The annual iron ore prices benchmark is dead. Spot price indexes sustained by mining leaders' communication with investors and the press are the new contractual reference.

Steel giant ArcelorMittal has continued the growth of its mining division to slightly over 50 Mt/year and keeps using more scrap per tonne of crude cast, while China is going to open its biggest scrap processing plant by the end of 2011, to produce 500,000 tonnes of scrap in 2012, and up to 750,000 tonnes later on. Vertical integration for ore and a better use of scrap in the steel industry are the answers for the coming years to the overwhelming pricing power of the three big miners.

Steel Production Prices and Volumes in the World

Hot Rolled Coil Prices are not yet Back to Their 2008 Levels

Some Global Prices for Hot Rolled Coils (US $ / t)									
	2008	2009		2010		2011			
	July	May	Dec	Jan	April	Feb	July	August	Sept
China Fob SH	810	455	486	512	685	763	695	715	715
Northern Europe Ew	1199	456	576	586	710	845	790	748	715
North America Dom US	1210	418	546	642	760	845	740	725	745
Russia Black Sea	1004	–	540	475	695	776	695	700	705
Brazil Fob Exp	1244	690	845	845	690	765	775	780	780

Source: SBB Steel Index & CJ

Total World Production was 1,413.5 Bn tonnes in 2010, up from 1,230.9 Bn tonnes in 2009

World Steel in Figures: In 2010, the Five Major Steel Producing Countries (Mt)				
		2010		2009
1	**China**	626.7	China	573.6
2	**Japan**	109.6	Japan	87.5
3	**United States**	80.5	India	63.5
4	**India**	68.3	Russia	60.0
5	**Russia**	66.9	United States	58.2

The Largest Five Steel Producing Worldsteel Members (Mt)				
		2010		2009
1	**ArcelorMittal***	98.2	ArcelorMittal	77.5
2	**Baosteel**	37.0	Boasteel	31.3
3	**POSCO**	35.4	POSCO	31.1
4	**Nippon Steel**	35.0	Nippon Steel	26.5
5	**JFE**	31.1	JFE	25.8

*ArcelorMittal, the largest global steel maker, officially declared 90.6 million of crude steel last year, an average 6% of the global crude steel production.

Source: World Steel Association

MEPS: Global Iron and Steel Production Forecasts 2011			
Region	**Crude Steel**		
	(E)2010	**(F)2011**	**% +/-**
EU 27	172.7	180.0	4.2
Other Europe	33.6	38.5	14.6
CIS	108.2	113.5	4.9
NAFTA	111.4	117.9	5.8
South America	43.9	51.1	16.6
Africa	16.6	14.5	-12.8
Middle East	20.6	22.8	10.8
MEPS (E) – China	**672.0**	**728.0**	**8,3**
China	626.7	–	–
Japan	109.6	110.0	0.4
Other Asia	166.3	183.4	10.3
Oceania	8.1	8.3	1.9
MEPS Total	**1463.7**	**1568.0**	**7.2**
Total	**1417.7***	**1568.0**	**10.6**

*Based on Official Statistics Sources – MEPS World Steel Outlook Q2 2011 and MEPS China Steel Insight.

MEPS Forecast a 10.6% hike of global crude steel production in 2011, 155 Mt above its initial prediction. Driven by emerging countries economies, this progression put pressure on steel scrap demand.

India, a Major Steel Scrap Importer Together with Turkey and China, Plans to Reduce its Steel Imports

Indian fiscal year begins on April 1st.

Import of Iron and Steel Through Major Indian Ports (Mt)

SL	Category	2006-07	2007-08	2008-09	2009-10*	2010-11* (April-Dec)
I	**Semi-finished Steel (Non-Alloy)**					
	Semis	268.7	156.3	481.9	327.3	228.3
	Re-mallable Scrap	154.7	200.8	98.4	95.9	60.6
	Finished Steel (Non Alloy)					
	Bars & Rods	290.1	436.0	433.2	588.3	385.2
	Structurals	86.2	75.7	55.4	90.7	77.2
	Rly. Materials	2.0	20.0	23.4	11.7	6.9
	Plates	1124.0	1461.9	991.4	886.0	641.6
	HR Sheets	56.9	29.0	55.2	23.5	60.9
	HR Coils/Skelp/Strips	1571.7	2947.5	2293.0	2938.6	1940.6
	CR Coils/Sheets	605.8	820.8	710.2	881.9	830.8
	GP/GC Sheets	195.2	268.2	294.3	286.6	263.7
	Elec. Sheets	252.4	241.9	222.3	280.3	247.9
	TMBP	1.8	3.4	2.3	1.0	1.2
	Tin Plates	124.1	100.9	101.5	155.5	117.5
	Tin Plates W/W	25.0	46.6	36.2	41.4	26.3
	Tin Free Steel	32.2	44.0	31.8	34.0	47.9
	Pipes	69.0	85.1	21.0	42.1	31.8
	Total Finished Steel (Non-Alloy)	**4436.4**	**6580.9**	**5271.2**	**6261.8**	**4679.5**
II	**Alloy/Stainless Steel**	**491.0**	**448.0**	**569.0**	**1034.5**	**681.8**
	Total Steel (I+II)	**4927.4**	**7028.9**	**5840.2**	**7296.3**	**5361.3**
III	**Other Steel Items**					
	Fittings	137.2	170.2	25.2	38.4	43.1
	Misc. Steel Items	317.7	399.2	302.9	974.4	1041.4
	Steel Scrap	2185.3	2557.9	3161.9	4403.6	2772.5
IV	**Iron**					
	Pig Iron	3.7	10.7	7.8	10.8	7.1
	Sponge Iron	0.1	0.8	0.5	0.2	0.2
	H.B. Iron	–	–	–	–	–
V	**Ferro-Alloys**	**105.9**	**199.0**	**144.6**	**95.2**	**114.7**
	Grand Total	**7677.3**	**10366.7**	**9483.1**	**12818.9**	**9340.3**

*Provisional

Source: Indian Min. of Industry

India's Ministry of Mines and Industry ordered severe restrictions on several kinds of imports during the 2010-2011 fiscal year running from April to March. The country plans a strong 10% yearly hike of its industrial production, and up to 15% for some materials such as stainless steel and special steel.

Restrictions were laid down on steel imports from December 2010 until summer 2011, and on iron ore and scrap trade, after four consecutive years of rising steel scrap imports, going from 2.1 Mt in 2006-2007 to 4.4 Mt in 2009-2010. The forecast of steel scrap imports for the nine following months from April until December 2011 were only up to 2.7 Mt.

This figure was a necessity for the federal Indian state to convince local neighbourhoods of the mining and steel industry to accept industrialisation plans, like in Karnataka state where Indian steelmakers are trying to build new mills, confronted by opposition from residents fearing for their homeland status and preservation of traditions.

Hedging on Derivatives: 2011 – Asian Iron Ore Swaps Record Year

Hedging steel products or purchasing iron ore with over-the-counter (OTC) swaps is the new up-to-date industrial way to secure one's results. Iron ore futures trading on the Singapore Mercantile Exchange (SMX) launched in April 2009 hit new record contract volumes in May and August 2011 (10% higher than May): as a whole, 55 Mt have been traded so far, representing altogether an amount of about $8 Bn cleared through six or seven different financial structures. 85% of them were traded by the SMX, 5% to 10% were cleared by LCH.Clearnet (London), about 5% by NOS clearing (Norway), 1% through the Chicago Mercantile Exchange (CME), and a smaller proportion by Intercontinental Exchange (ICE, Atlanta, USA). About 95% of those contracts or iron ores swaps are settled against The Steel Index (TSI) Indian iron ore 62% reference, at $172.98/dmt by the end of July 2011, $180/t in September.

But there are strong signs that Chinese companies are eager to take up more iron ore derivatives elsewhere. The spot market remains pre-eminent but more and more actors are looking toward better risk strategies linked with the Shanghai futures iron ore swaps market. On the other hand, the LME steel billets contracts launched in 2008 and globalised since July 2010 saw its performance soaring more than 400% during last winter.

The LME's Controversial Steel Contract

Steel leaders like ArcelorMittal or China's Baosteel would rather try to ignore the phenomenon, remaining rather reticent to the LME's growing steel pricing power going against their own capacity of margins reconstitution on shorter contractual periods than ever. However, the LME's Billet lots weight (65 t) does not correspond either to the Hot Rolled Coils weight which varies itself with plate products thickness and composition. Moreover, the LME's influence on non-ferrous metals prices, often described by traders as "a democratic way of price ruling", is also said to be controversial by non-ferrous scrap metals collectors, reluctant to pay high prices when copper or nickel's LME quotations are boosted by speculation like they were last winter, respectively near to $10,000 and $30,000 highs.

LCH.Clearnet has also been trading since December 2010 two steel swaps over the counter (OTC) contracts – north and south European contracts for lots of 20 tonnes – on hot rolled coils, for which TSI has laid the settlement of a new prices index. This is another influence playing on a merchant sector with a value in excess of €300 Bn per year, says Steve Randall, TSI managing boss.

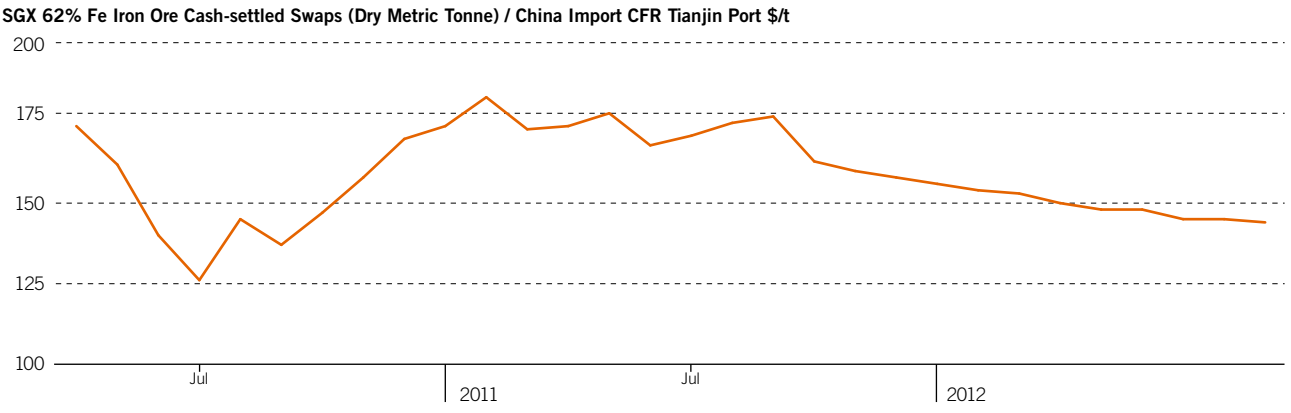
A new scrap swap contract is now available in Europe. Just like the steel HRC, it is cleared on LCH.Clearnet and was launched in December 2010. It has traded small volumes in 2011, but interest is growing. The swaps are settled against prices of Turkish imports of Heavy Melt Scrap (HMS) 1&2 80:20 (cleared contract launched on LCH.Clearnet in Q4 2010, settling against TSI's Turkish imports HMS price Index).

LME's Steel Billettes up More Than 400% yoy in Q1 2011 (Lots Exchanged*)

Q1 2010	By Month	Q1 2011	By Month	% up yoy
Jan 2010	3,024	**Jan 2011**	22,855	–
Feb 2010	3,406	**Feb 2011**	19,445	–
Mar 2010	10,662	**Mar 2011**	27,126	406%
Apr 2010	11,961	**Apr 2011**	19,692	–
May 2010	13,788	**May 2011**	16,163	–
Jun 2010	14,765	**Jun 2011**	17,892	–
July 2010	18,906	**July 2011**	19,645	–
Total	**76,512**	**Total**	**153,05**	**200,03**

* 1 lot = 65t. The Q1 2010 volume, 17,092 lots (1,110,980 mt) versus Q1 2011 at 69,426 lots (4,512,690 mt) represents an increase of just over 406%.

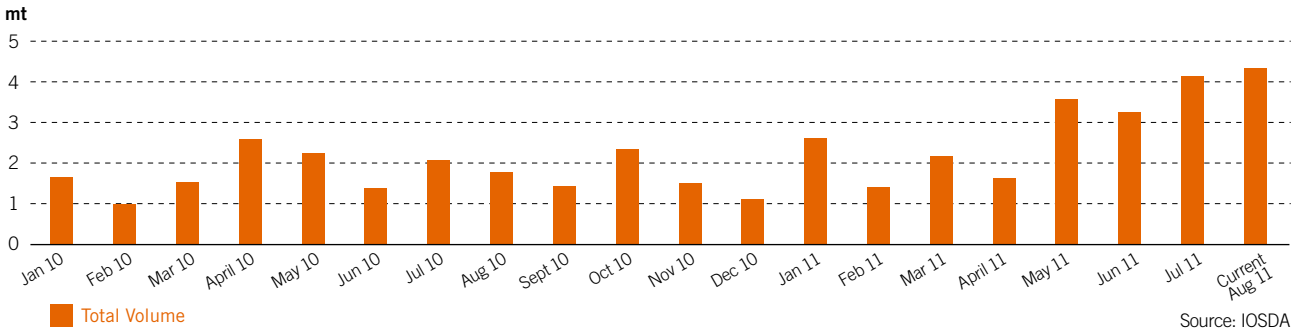
SGX 62% Fe Iron ore Cash-settled Swaps / China import CFR Tianjin Port US $ / t



Source: SBB

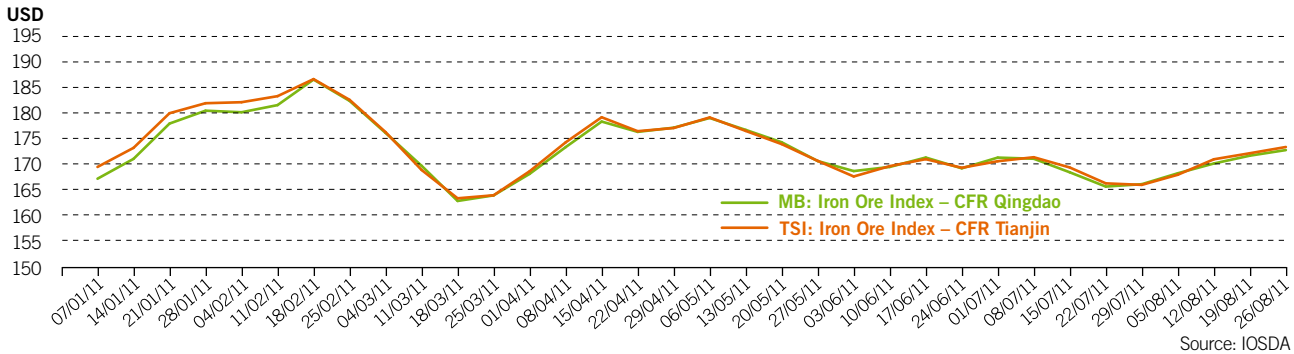
Total Cleared Iron ore Swaps Monthly Volume

Iron ore swaps have again traded actively in August, setting a new volume record since their beginning as 5.119 Mt of swaps and 1.522 Mt of options have been cleared globally across SGX Asiaclear, LCH.Clearnet, NOS Clearing and CME Group. TSI estimated an August iron ore paper market nominal value of US $ 1.1 Bn.



Source: IOSDA

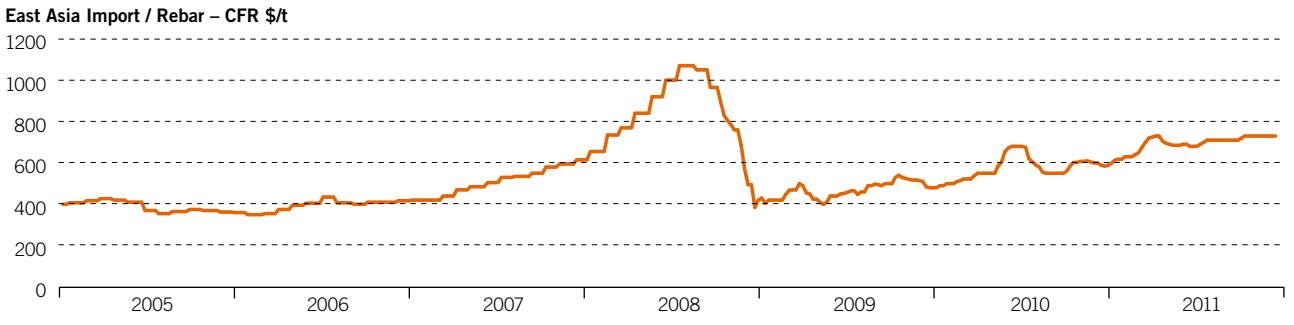
Iron ore Prices c&f China, 63%, US $ dmt (Jan-August 2011)



Source: IOSDA

Steel Rebar Price c&f East Asia

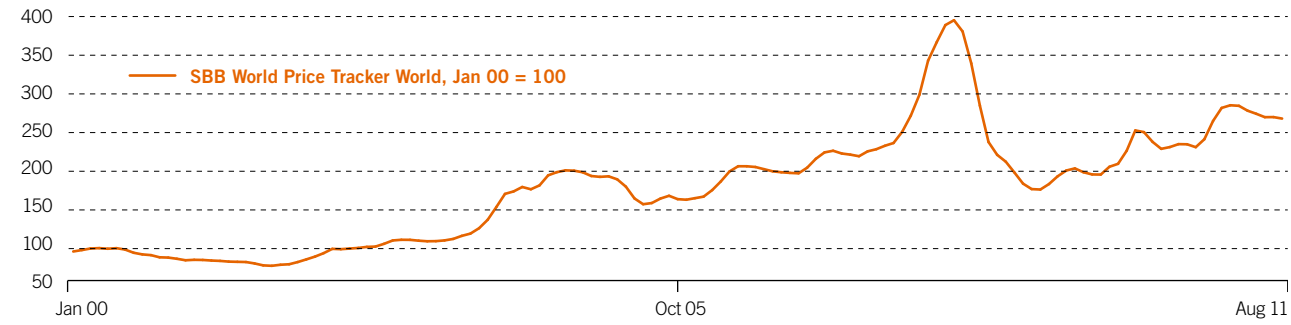
The steel rebar market has not yet fully recovered to its pre-crisis prices. It is driven both by Turkish and Chinese traders and depends a lot on scrap price levels in developed countries.



Source SBB/Steel Index

World Steel Average Prices (2001-2011)

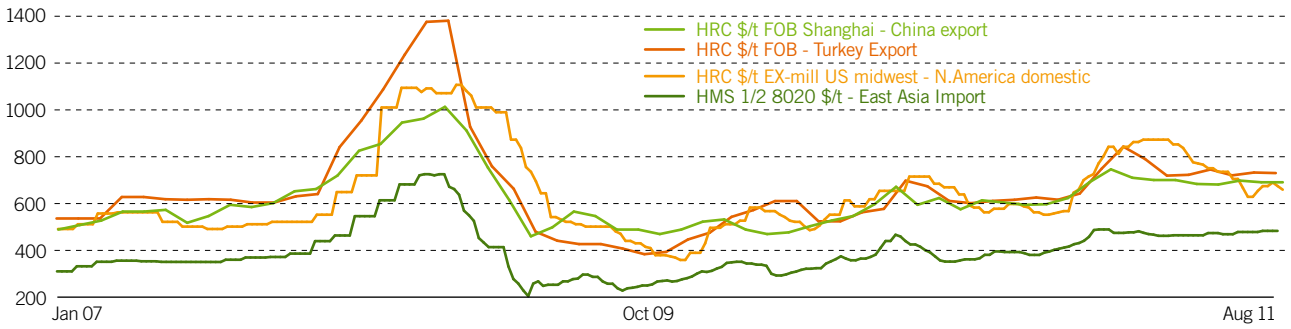
SBB World Price Tracker



Source: SBB/Steel Index

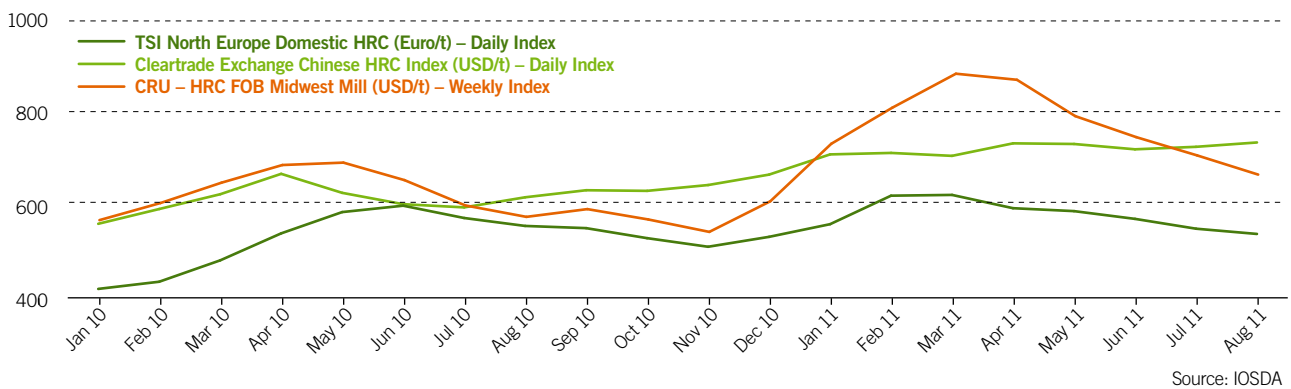
HRC Prices China, Turkey, US, versus Asian Scrap

Million SBB Steel Prices



Source: SBB/Steel Index

Weekly Global hot Rolled Coil Prices 2010-2011



Source: IOSDA

Non-Ferrous Scrap: The Balance for Markets Regulation

Trading on the London Metal Exchange (LME) surged for non-ferrous metals over the first half of 2011, with volumes up 16% on average across all non-ferrous contracts compared with the corresponding period of 2010. In 2011, 68.6 million lots were traded (59.3 million), equivalent to 1.7 Bn tonnes of metal (1.5 Bn) and $7.8 trillion ($5.5 trillion). Nevertheless, many doubts have been expressed about the lack of regulation by market authorities as well as about the control of metals stockholding companies by some leading players.

LME non-ferrous contracts now account for an average of 82% of volumes traded on exchanges globally (tonnes), an increase of 13%.

Aluminium alone now represents 98% of the global market share in terms of tonnage and copper accounts for 73%, up 11%.

Volume (lots) of NF Metals LME Traded

Metals	H1 2010	H1 2011	% Increase
Aluminium	24,383,003	28,443,486	17%
Copper	16,338,186	17,851,120	9%
Zinc	9,563,583	10,987,049	15%
Nickel	3,855,278	4,074,362	6%
Lead	3,826,307	5,404,928	46%
Tin	778,161	1,137,738	41%

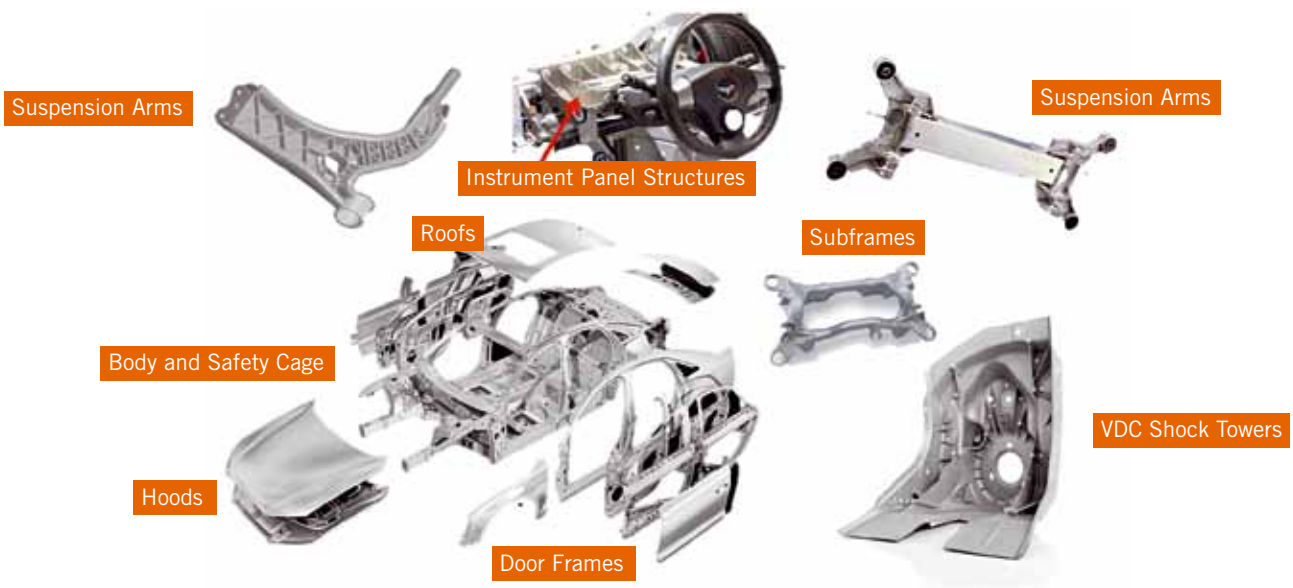
Copper and aluminium stocks declined slightly in H1 owing to the pace of industrial recovery. The aeronautics, automobile and energy sectors saw a strong increase in their activities in emerging countries and also in OECD countries, with Airbus signing with Alcoa the biggest aluminium contract ever mentioned in late June, of $1 Bn over several years, to cover its Airbus 320 neo and other series orders in the whole world for the coming years.

Alcoa refused to comment about the volumes and qualities of aluminium concerned. Market actors say they do not fear scarcity, but LME's Detroit aluminium stocks were said to be sold out before Q3. Russian group Rusal made several public offers to produce more of the white metal to help LME withstand the tide.

Aluminium Scrap, a Chance for Car Builders

Target Parts for Widespread Global Conversion to Aluminium

Car builders have already chosen to convert several steel or cast elements into aluminium, from secondary or primary origin.



Chinese Car Production from 14 to 22 Million New Cars in 2011

The global automobile market uses an average 100 Mt of metals each year, 87 Mt of steel and 12.5 Mt of primary and secondary aluminium: this latter proportion is to grow to help car makers reach the goal of building lighter and cleaner cars, according to Ducker Worldwide analysts. 7 Mt of this global annual automobile demand comes from recycled aluminium. Ducker's forecasts say this demand will grow by 6% yoy until 2025 at least, up to 11 Mt of recycled aluminium out of a 25 Mt global consumption, compared to 3.3 Mt of recycled aluminium out of 5.8 Mt in 1999 and 9.2 Mt of recycled aluminium out of 16.8 Mt in 2017, and more if developed countries' automobile markets recover to better levels.

The new fact for 2011 is that there will be enough demand for aluminium scrap and secondary aluminium in the developed countries to absorb their own regional recycled production, though Chinese demand keeps driving the market with its car production on the point of going from 14 million to 22 million new cars from 2010 to 2011.

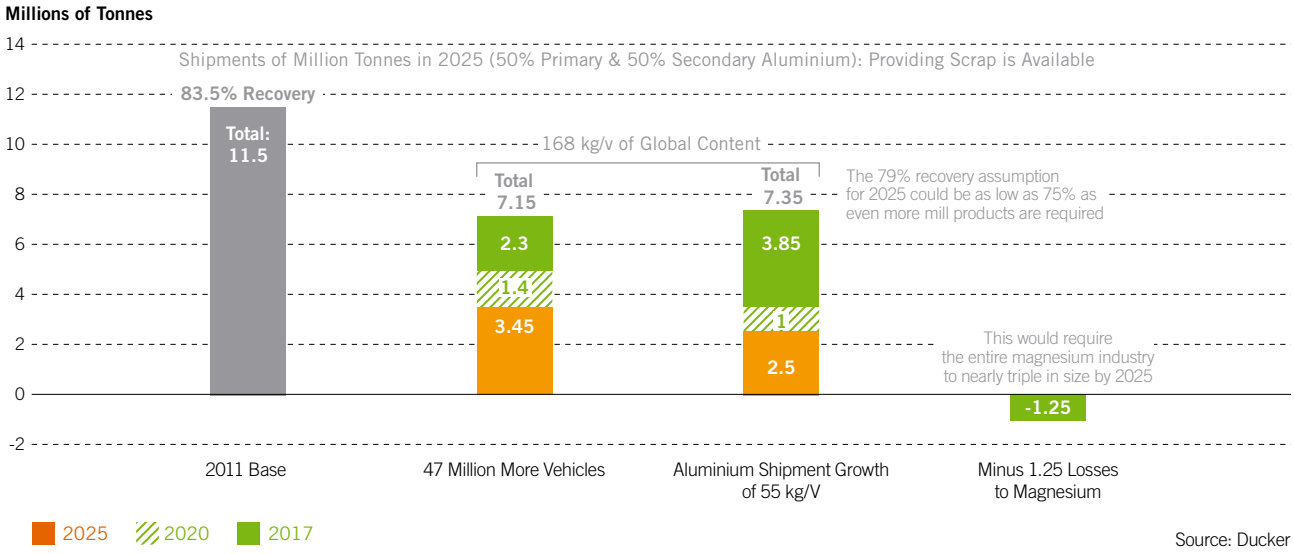
While global automobile sector demand is on a growth trend of more or less 6%, at least 60% of the white metal purchased for this purpose will have to come directly from recycling activities.

The European aluminium recyclers will face the dilemma of using all their available aluminium scrap in Europe, or to export and sell at least 500,000 tonnes at a much better price to Chinese consumers, compared to 750,000 tonnes in 2010 and to 1 Mt in 2009, when the European market was still a net exporter. The question of secondary aluminium scarcity may be a good one, with 47 million more cars on the Chinese motorways.

The Exemple of Aluminium as a Solution for Lighter Cars

Ducker anticipates a new balance between primary and secondary aluminium usage in 2025, "providing scrap is available" and with an average Aluminium Shipment Growth of 55 kilo/Vehicle. Car builders are already asking aluminium producers and their middle stream providers to use as much secondary aluminium as possible to make components and products for cars.

A Practical Look at Global Aluminium Light Vehicle Shipments 2011-2025 (Content plus Scrap plus Spare Parts)



Source: Ducker

Copper Recycling to be Boosted by China's Demand as a Strategic Activity

According to ICSG data, global growth in copper demand for 2011 is expected to exceed global growth in copper production and the annual production deficit, estimated at about 250,000 tonnes (t) of refined copper in 2010, is expected to be about 380,000 t in 2011. Copper prices will probably remain in a state of tension around $9,000 on the LME thanks to Chinese demand and speculative interests. Nevertheless, the copper market recorded a 74,100-tonne surplus in January-May 2011, according to the World Bureau of Metal Statistics (WBMS).

Once again, let's look at what's happening in China : "China's overseas purchases of copper scrap amounted to around 4 Mt last year alone – an increase of 9.2% over the 2009 figure. But this does not tell the whole story: at the CMRA's Secondary Metals International Forum in Ningbo last November, it was intimated that the country's next Five-Year Plan covering the period from 2011 to 2015 will raise secondary materials to the level of a strategic industry on a par with steel, oil, defence and other enterprises considered key to Chinese national security and social stability. The clear aim is for secondary non-ferrous metals to play an ever more key role in building the nation's sustainable economy, said Mr Robert Stein, the President of BIR's Non-Ferrous Metals Division, during the last International Copper Study Group meeting in Lisbon in April 2011. "The Chinese are targeting an annual secondary non-ferrous metal production of 11.1 Mt per annum by 2015, with copper contributing 3.6 Mt," he added.

The International Copper Study Group adds that mine production in 2011 will increase by about 740,000 t (4.6%); however, it is expected that the actual increase

will be significantly lower as production disruptions from project delays, technical problems and labour and political unrest are thought likely to continue to reduce output. World refined copper production for 2011 (adjusted for production disruptions) is therefore projected to increase by only an average 3.5% to 19.7 Mt. In 2012, it is anticipated that refined production will increase nearly 5% following continued ramp-up of projects in Chile, Africa and the CIS.

World Refined Copper Usage and Supply Trends, 2005-2011

Copper, Thousand Metric Tonnes												
	2005	2006	2007	2008	2009	2010	2010	2011	2010			2011
							p/	Jan/Mar	Dec	Jan	Feb	Mar
World Mine Production	14,992	14,990	15,483	15,547	15,954	16,116	3,783	3,876	1,445	1,331	1,180	1,365
World Mine Capacity	16,123	17,174	18,111	18,740	19,523	19,898	4,876	4,978	1,709	1,712	1,549	1,718
Mine Capacity Utilization (%)	92.5	87.3	85.5	83.0	81.7	81.0	77.6	77.9	84.5	77.8	76.2	79.4
Primary Refined Production	14,441	14,678	15,191	15,403	15,439	15,725	3,852	3,898	1,364	1,339	1,210	1,349
Secondary Refined Production	2,161	2,613	2,743	2,823	2,839	3,356	776	797	303	262	241	294
Total World Refined Production	**16,572**	**17,291**	**17,934**	**18,226**	**18,278**	**19,081**	**4,628**	**4,695**	**1,667**	**1,602**	**1,450**	**1,644**
(Secondary + Primary)	–	–	–	–	–	–	–	–	–	–	–	–
World Refinery Capacity	19,153	20,555	21,784	22,723	23,625	23,908	5,872	6,007	2,059	2,064	1,869	2,074
Refineries Capacity Utilizat. (%)	86.5	84.1	82.3	80.2	77.4	79.8	78.8	78.2	81.0	77.6	77.6	79.3
World Refined Usage 1/	**16,674**	**17,034**	**18,197**	**18,039**	**18,090**	**19,327**	**4,618**	**4,728**	**1,573**	**1,651**	**1,452**	**1,626**
End of Period	867	1,132	1,028	1,159	1,433	1,289	1,473	1,422	1,289	1,364	1,416	1,422
Period Stock Change	-56	265	-105	132	274	-144	40	134	39	75	53	6
Refined Balance 2/	-102	257	-263	187	188	-246	10	-33	94	-49	-1	18

Due to the nature of statistical reporting, the published data should be considered as preliminary as some figures are currently based on estimates and could change.

p/ preliminary, 1/ Based on EU apparent usage. 2/ Surplus/deficit is calculated using refined production minus refined usage.

Source: ICSG

Many analysts think that figures for secondary copper production might be far higher; some speak of levels of 50% of global mine production, as about 30% of plants worldwide are not reporting capacity.

ICSG: Recycled Copper Increased by 2.7% yoy in Q1 2011

During the first quarter of 2011, world refined production of copper grew by 1.5% as compared with the same quarter of 2010. Primary production increased by 1.2% and secondary production (from scrap) increased by 2.7%. Production increases of 71% in Australia (a recovery from the low 2010 level), 11% in China, and 6% in India were partially offset by declines in Chile (-3.5%), the United States (-12%), Canada (-27%) and Japan (-12%). Refined production capacity utilization in the first quarter of 2011 was around 78% as compared with 79% in the same quarter of 2010. The average LME cash price for May 2011 was $8,927.05 per tonne, down from the April 2011 average of $9,483.25 per tonne.

The 2011 high and low copper prices through the end of May were $10,148 and $8,536.50 per tonne, respectively, and the average was $9,147.26 per tonne. As of the end of May, copper stocks held at the major metal exchanges (LME, COMEX, SHFE) totalled 626,651 t, an increase of 58,469 t from stocks held at the end of December 2010. Compared to the March levels, stocks were up at the LME and down at Comex and SHFE, said Metal Bulletin.

International Copper Study Group Forecast 2010-2012

Regions (1000t)	Mine Production			Refined Production			Refined Usage		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
Africa	1,315	1,428	1,655	857	1,082	1,249	285	277	303
N. America	1,915	2,173	2,433	1,690	1,843	1,953	2,182	2,270	2,355
Latin America	7,031	7,383	7,617	3,893	3,997	4,077	632	652	675
Asean-10	1,089	863	844	534	567	601	748	775	806
Asia ex Asean/CIS	1,661	1,750	1,904	7,591	7,930	8,620	11,054	11,601	12,196
Asia-CIS	491	506	532	413	468	515	96	100	104
EU-27	756	790	812	2,613	2,706	2,776	3,332	3,429	3,491
Europe Others	826	843	857	1,053	1,072	1,087	856	865	900
Oceania	1,011	1,097	1,250	417	499	509	128	132	135
Total	**16,097**	**16,833**	**17,904**	**19,061**	**20,164**	**21,390**	**19,314**	**20,102**	**20,965**
Adjustment for Primary Feed Shortage 1/						-169			
Allowance for Disruptions 2/					-439	-535			
World	**16,097**	**16,833**	**17,904**	**19,061**	**19,724**	**20,686**	**19,314**	**20,102**	**20,965**
% Change	0.93%	4.57%	6.37%	4.43%	3.48%	4.88%	6.76%	4.08%	4.30%
Refined Production – Usage Balance							**-252**	**-377**	**-279**

1/ Based on a formula for the difference between the projected copper availability in concentrates and the projected use in primary refined production

2/ Allowance for supply disruptions based on average ICSG forecast deviations for pre-recession years 2003/2007

Recycled Cellulose Fibres on the Way to a New World Balance

The EU goal of a 'recycling society' was fulfilled last year: the European paper recycling rate reached an impressive 68.9% as announced at the end of June by the European Recovered Paper Council (ERPC). This profits China and other emerging countries whose real demand keeps growing nearly at the same pace as it was last year; US exports are slowing down with daily newsprint paper use falling. Moreover, global recovered paper prices reached a new historical high in August, above $212 per tonne for US old corrugated paper export prices.

The 2010 European paper recycling rate of 68.9% is higher than the target set by the European paper industry for the ERPC commitment period of the 2nd European Paper Recycling Declaration 2006-2010. In the meantime, a new ambitious commitment for 2011-2015 is being prepared, keeping the industry on its path to meet ambitious targets of recycling paper at a steadily increasing rate in Europe.

But until spring 2011, there was a real gap between the industry's view that recovered paper was a new raw material, and the view of public authorities, which considered it as "waste", before an important change in EU waste regulations.

Prices of old paper and board have never been so high in 2011 at more than $60 above 2010 levels for US exports as well as Chinese imports, and €30 to 50 for average European prices. A very strong H1 pulled up demand and prices to these new highs, said BIR Paper Division President Ranjit Baxi.

World Consumption of Recycled Fibres (in Mt)

	2000	2006	2007	2008	2009	2010
China	18.1	42.1	50.2	55.5	61.0	66.3
EU-27	41.5	49.1	49.9	48.6	44.6	48.3
USA	31.3	30.6	30.2	28.9	25.9	27.7
Japan	17.8	18.8	19.3	19.0	16.8	17.3
South Korea	6.9	8.2	8.7	8.5	8.5	–
Indonesia	3.9	4.9	5.2	5.2	5.3	–
India	2.3	3.9	4.3	4.6	4.7	–
World Total	**152.1**	**194.7**	**206.9**	**208.9**	**206.2**	

The Rise in Chinese Imports of Recycled Fibres (in Mt)

	2001	2006	2007	2008	2009	2010
USA	4.0	8.5	9.3	10.1	10.8	10.1
EU-27	1.0	5;4	7.0	8.0	9.3	7.1
Japan	0.5	3.2	3.1	2.9	4.1	3.5
Total Imports	**6.4**	**19.6**	**22.6**	**24.2**	**27.5**	**24.4**

Source: CEPI

China Reducing its Obsolete Recycling Capacities – European Paper Recycling Rate at 68.9%

China has carried on since 2010 in its fight against obsolete domestic paper production capacities. It still is the main global old and corrugated papers importer and price maker. After a strong H1 2011, public expenditure restrictions in the USA and Western Europe may place more pressure on the markets and increase tension on the supply side.

In the USA, the Pulp and Paper Products Council (PPPC) said a few weeks ago that domestic shipments declined 8.3% in June and that overseas global deliveries were 5.9% lower year-over-year. Mill inventories at the end of June were down 10.9% from a year earlier. Newsprint consumption by US daily newspapers in June was down 15.6% from June 2010 and publishers' stocks of newsprint at the end of June represented 55 days of supply, according to the Newsprint Association of America (NAA) and RISI.

Added to the difficulty of collecting exact data, even in the States, the reduction of old news printing stocks in the developed economies is a real challenge for China, the main buyer of old papers.

Overall, shipments were 4.2% lower compared with a decline of 5.3% for the first six months of the year, pulling up paper pulp demand.

"Public expenditure in the USA and Europe is going to correct itself technically under 2010's levels; the question is how high will be demand until December. Next winter is going to be harsh if the number of unemployed people keeps growing in developed countries," says Ranjit Baxi, BIR Paper Division President.

China Continues Active Buying of US Recovered Paper with Volume up by 23.5% Last May

China's Ministry of Industry and Information Technology (MIIT) published in August 2010 a list of 279 pulp and paper companies, ordering them to shut their outdated equipment by the end of September.

These closures were expected to result in the closure of 4.65 Mt / year worth of pulp, paper and board capacity, larger than the authorities' previous goal, set out in late May, of taking out 4.32 Mt / year in total.

More than 2,000 companies are concerned. Two subsidiaries of the giant Nine Dragons, Nine Dragons Xing An Pulp & Paper (Inner Mongolia) and Nine Dragons Pulp & Paper (Leshan), were named. The equipment targeted is comprised of mainly old, inefficient paper and board machines as well as non-wood pulp and recovered fibre lines.

China continued in 2011 with its strong buying of US recovered paper with shipments year-to-date up by 23.5% compared with 2010 shipments through May, according to figures issued by the US Dept of Commerce, Bureau of Census. In May 2011, China purchased 1.25 Mt from the USA, up from its four-month average of nearly 1.18 Mt heading into May.

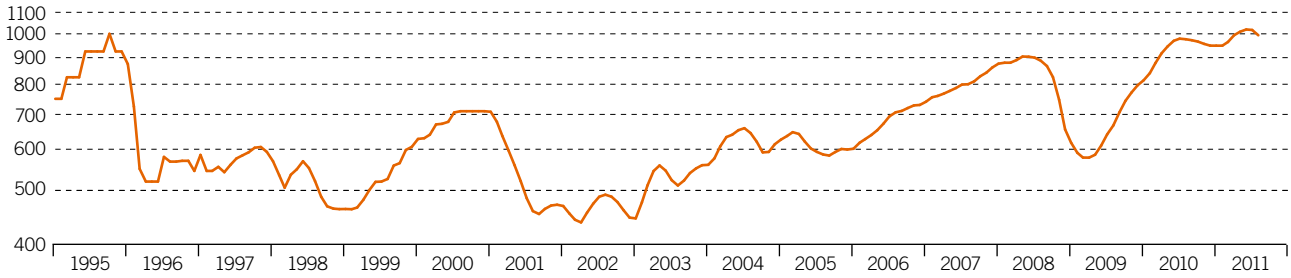
Overall in the first five months of this year, China purchased 67.5% (5.96 Mt) of all US recovered paper exports, which totaled 8.8 Mt, up 13.9%.

Contacts quoted by the RISI agency said: "China's big buying was done to feed plans to start up new capacity especially in both containerboard and boxboard. Also, in the last several weeks, mill buyers in China have tried to reduce demand to lower pricing for US old corrugated containers, which has touched as high as nearly $280/tonne delivered to a main port in China, from the strong demand through May."

The Price of Paper Pulp

The paper pulp price reached an historic new high at the beginning of 2011, amplifying the pressure on the recovered paper global market.

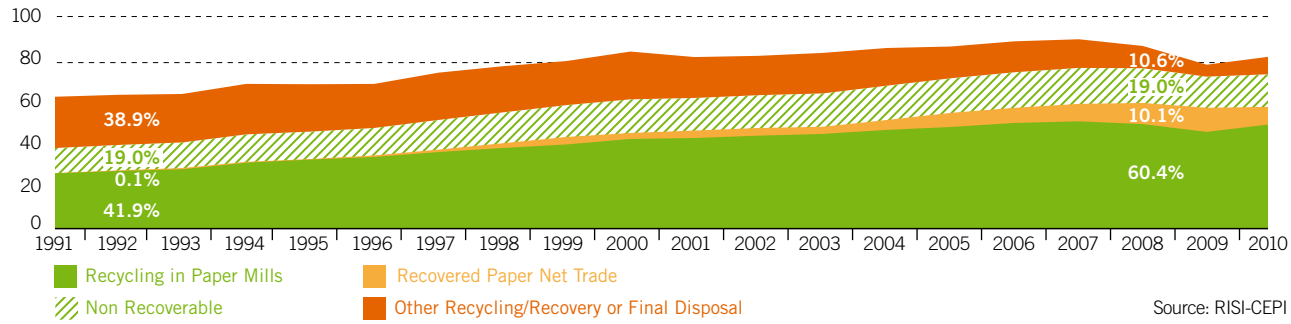
The Price of Paper Pulp US $ / tonne



Source: © Coe-Rexecode

Recovered Paper Utilisation, net Trade and Recycling Rate (Eu 1995-2010)

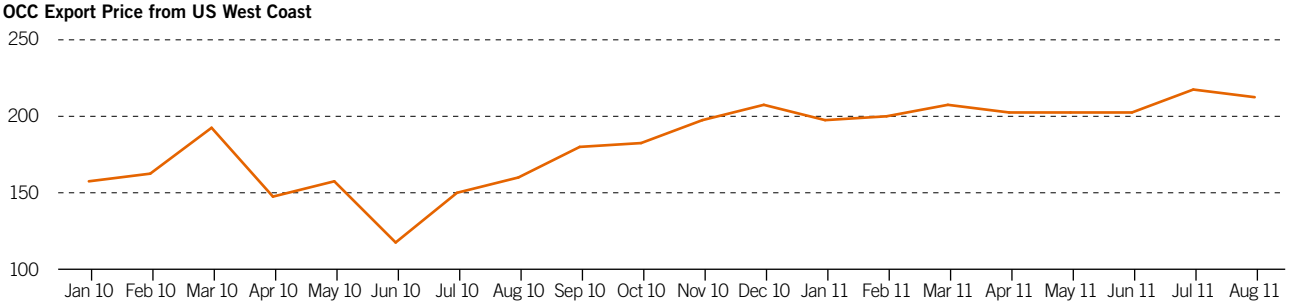
Million Tonnes



Source: RISI-CEPI

Corrugated Recycled Paper Export Prices for US West Coast

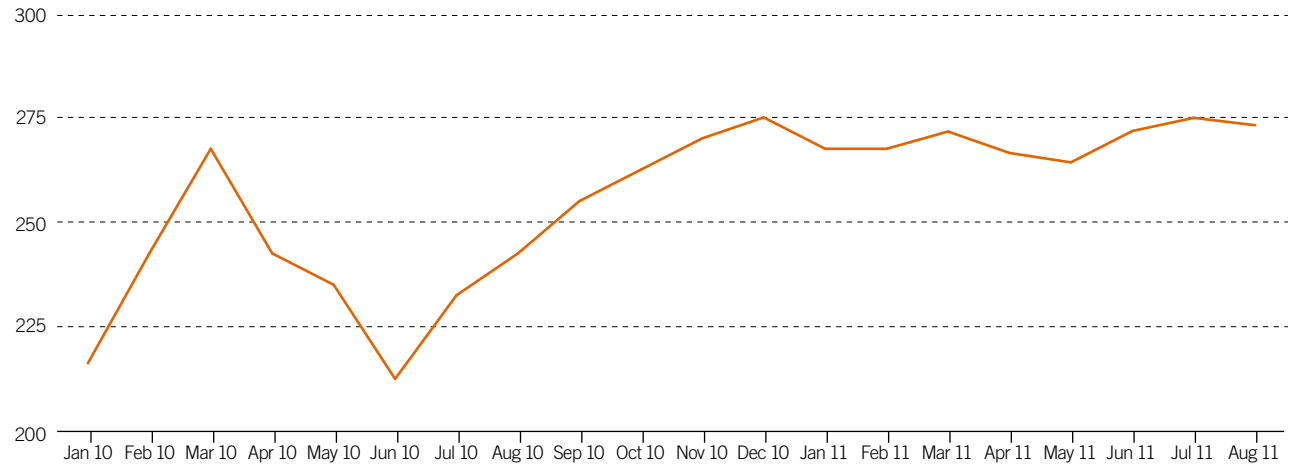
OCC Export Price from US West Coast



Source: RISI

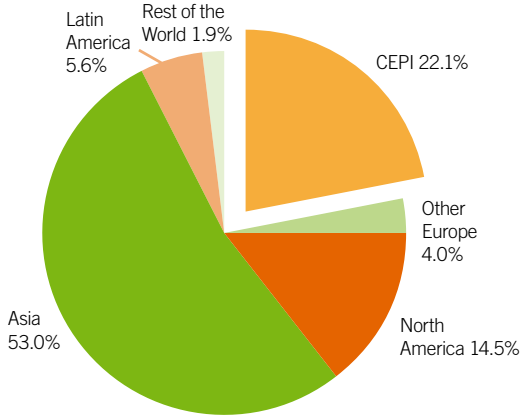
Corrugated Recycled Paper Import Prices c&f China from the US

OCC Import to China



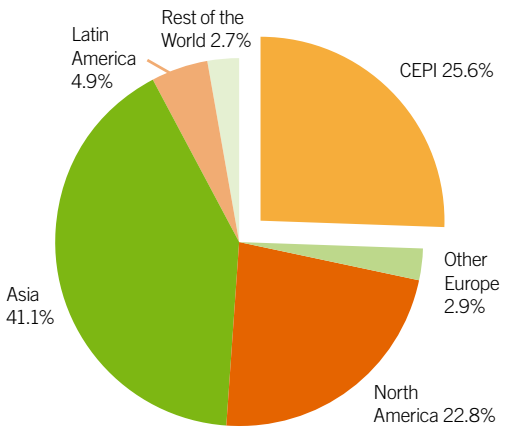
Source: RISI

Recovered Paper Utilisation by Region in 2010



Total RP Utilisation: 221.9 Mt

Recovered Paper Collection by Region in 2010



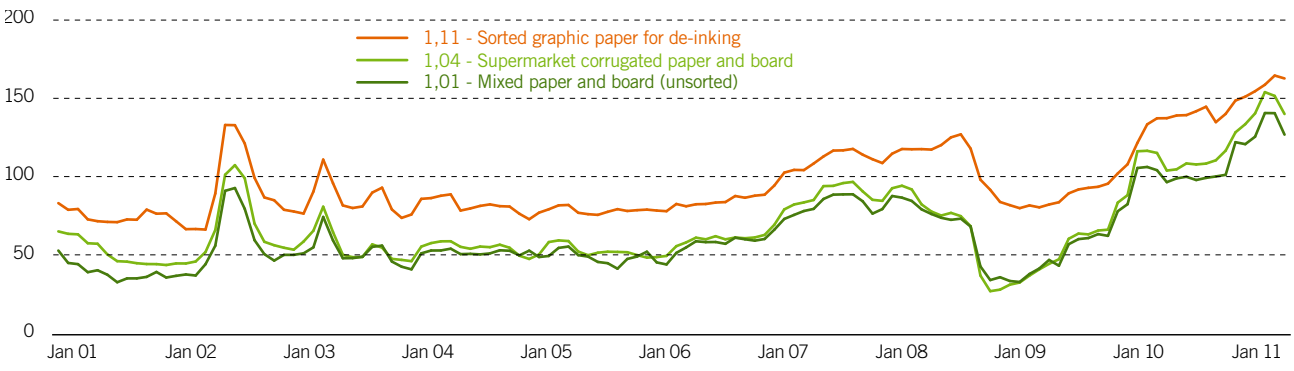
Total RP Collection: 223.4 Mt

Tension in Recovered Paper Prices in 2011

What is new in 2011 is that the tension in recovered paper prices may last until the end of the year, with China trying to cool the market whilst reorganizing its main tools of production and letting its stocks move slowly downwards, trying to get better shipment prices before the next seasonal hike in winter 2012.

Chinese New Year-time remains the real "point zero" in the global recycled paper game.

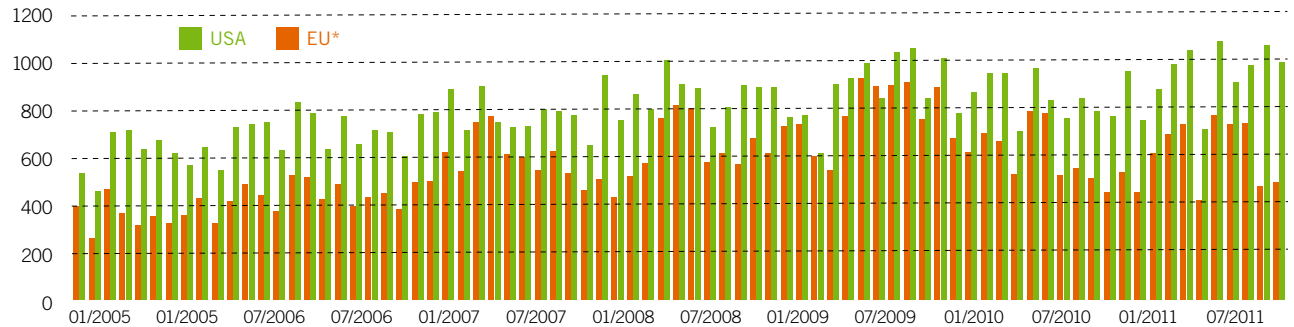
European Average Prices for Recycled Paper Main Grades



Source: CEPI

1,01 Austria, Benelux, Czech Republic, Germany, Romania (from 2008), Spain, Switzerland and United Kingdom
1,04 Austria, Netherlands, Czech Republic, France, Germany, Italy, Norway, Romania (from 2008), Slovak Republic, Spain and Switzerland
1,11 Austria, Benelux, Finland, France, Germany, Italy, Norway, Spain and Switzerland

China Recovered Paper Imports from EU and USA (2004-2010)



*as represented by CEPI: EU 27 + Norway and Switzerland

Source: CEPI

Seaborne Freight: As Long as Chinese Demand Keeps Strong

Of all commodity markets, maritime freight has been by far the most volatile in recent years: in the second half of 2008, the Baltic dry index lost 95% of its value! For most of 2011, freight rates have kept fairly low levels (around 1400 to 1500 for BDI).

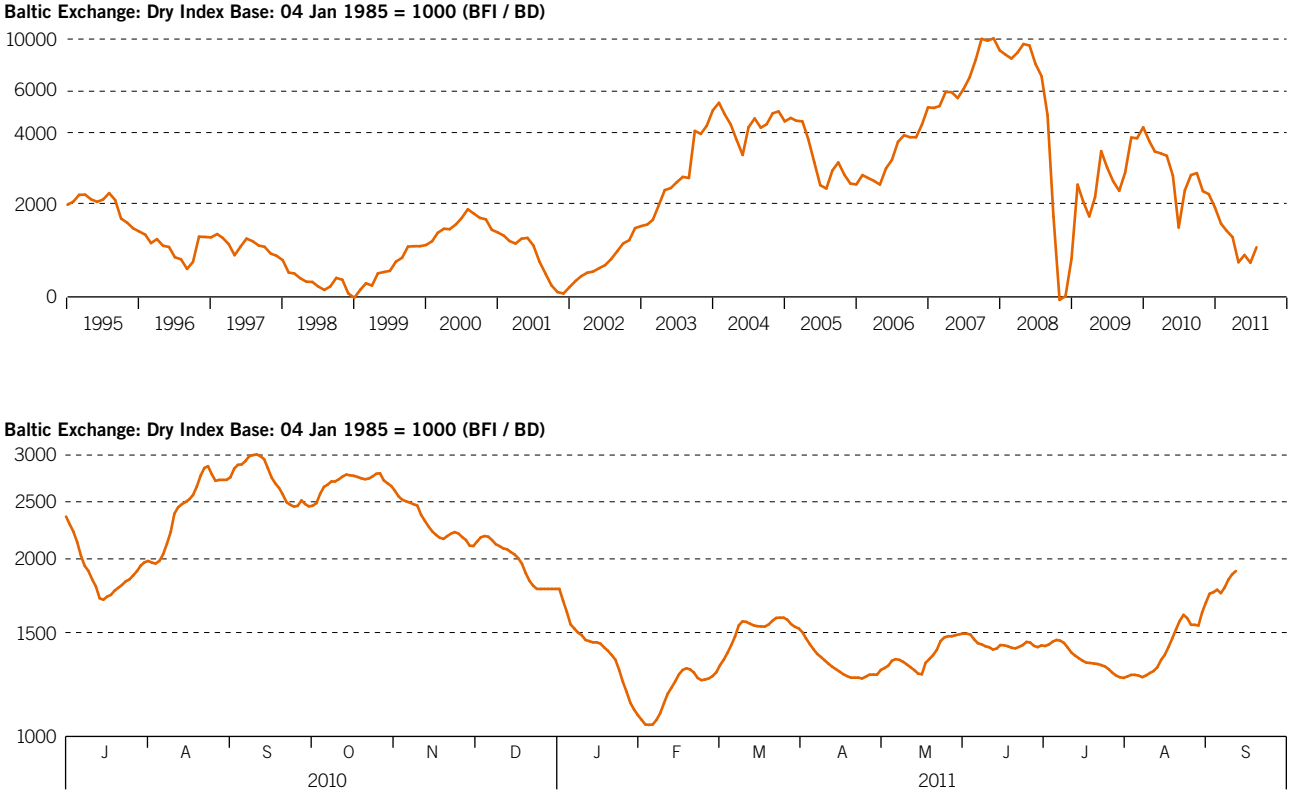
This has included a surge of ships demolition which, however, was not enough to compensate for the arrival of all ships ordered during the boom years of 2007 and 2008.

Nevertheless, it is interesting to see during the month of August 2011 a small rebound of freight rates linked to stronger Chinese demand for bulk commodities.

As for iron ore, coal and steel, the competition is fierce between derivatives markets with the recent launch of the Shanghai Shipping Freight Exchange (SSFE) in direct competition with London's Baltic Exchange.

Freight Graphic Indexes (Baltic Dry) 1995-2011

The world-known Baltic Dry Index is just coming out of a declining phase due mainly to the arrival of ships ordered in 2007 and early 2008.



Source: © Coe-Rexecode

Textiles: The Other Side of the "Urban Mine"

Last winter-time was hard for the textile recycling sector, in particular for stock reconstitution, according to the main actors on this market. Yet demand remained rather firm and growing on a global basis, Africa being back on the scene from December 2010 until March 2011 or so. The rise in cotton prices also had an impact on textiles costs of production and therefore on recycled products.

The complex structure of the old clothes and textiles collecting networks, split between many different charity organisations and commercial enterprises, and lacking international links and common rules, was again a real issue in 2011, with industrial concerns missing an accurate overview of the availability of recovered raw material to anticipate their activity and employment levels.

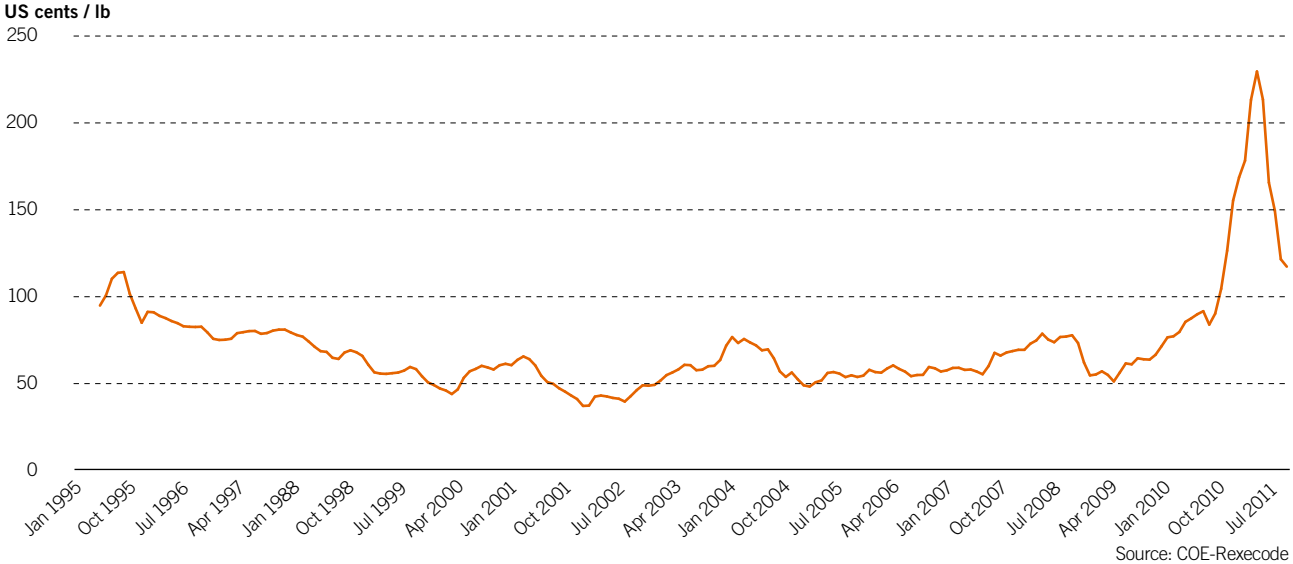
"Some were fearing a new textile crisis before the spring, consecutive to the ramping-up of prices of food and energy, with the demand for collected materials exceeding supply in Europe," explain our sources.

Building sufficient stocks by purchasing additional volumes of old textiles and clothing is still difficult in most developed areas. Some textiles companies are still concerned with illegal collecting circuits in several countries.

Eastern European and African demand for used clothing remained mostly good during the summertime this year despite the new recovery break in Q3. As for all grades of wiping cloths and bed feathers, their prices kept climbing with demand until August at least.

Then market actors became more cautious because of the new depression on the global stock exchanges, and cotton prices falling back to their Q4 2010 level.

Collected and Recycled Natural Textiles Have Been under Pressure from Cotton Prices in 2010 and 2011 (Cotlook Index of World Cotton Prices)



Source: COE-Rexecode

Conclusion

This study was completed in the early days of September 2011. At that time, commodity prices - both primary and secondary - were still fairly high, and some of them (iron ore, paper pulp, scrap, copper) were at, or almost at, record levels. Most markets had been unaffected by the summer financial turmoil and by revised OECD economic perspectives.

"...we shall need more and more transparency on prices and data, a goal which is at the core of BIR's future development."

Since then, things have changed dramatically for many of our markets. The "zero growth" situation of the most advanced economies (and even the possibility of recession), the difficulties of salvaging both Greece and the Euro, and even some doubts regarding the strength of the Chinese economy have affected some commodity markets: this has been the case for most non-ferrous metals quoted on the LME, most noticeably copper which was worth less than $7000 a tonne in early October, paper pulp and to a lesser extent iron and steel. More than ever, "China watchers" will have the last word.

But regarding the future of the world's recycling industry, there is one new development which must be mentioned: the growing volatility of markets. The destabilisation of primary commodity markets (steel, paper) has led to the same evolution in secondary markets. Never have the prices for scrap and old paper been so unstable, which explains the development of new derivatives markets.

This is, of course, a challenge for the recycling industry: to manage long-term policies of collecting "waste" and making it an "Urban Mine" in a context of world markets that are more volatile than ever. This is one of the reasons why we shall need more and more transparency on prices and data, a goal which is at the core of BIR's future development. What a tremendous task!

Philippe Chalmin

"Never have the prices for scrap and old paper been so unstable..."

Credits

Professor Philippe Chalmin, of Paris-Dauphine Economics University, founder of the Institute for market analysis Cercle CyclOpe, has put his expertise at BIR's disposal for the completion of this second edition of the statistical report using key datas of the commodities represented by the Bureau of International Recycling (BIR).

Christophe Journet, a senior French Journalist, Managing Editor of MPE-Media, a French information webtool and raw material dedicated events organiser, realised the interviews and news investigation to boost the success of this 2nd annual edtition of BIR's World Markets for Recovered and Recycled Commodities.

The Bureau of International Recycling (BIR) is the only global Recycling Industry Association representing more than 750 companies and 40 affiliated federations from 70 different countries. Its members are world leaders in the supply of raw materials and a key pillar for sustainable economic development.

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