

Perspective on the Global and European Steel industry evolution

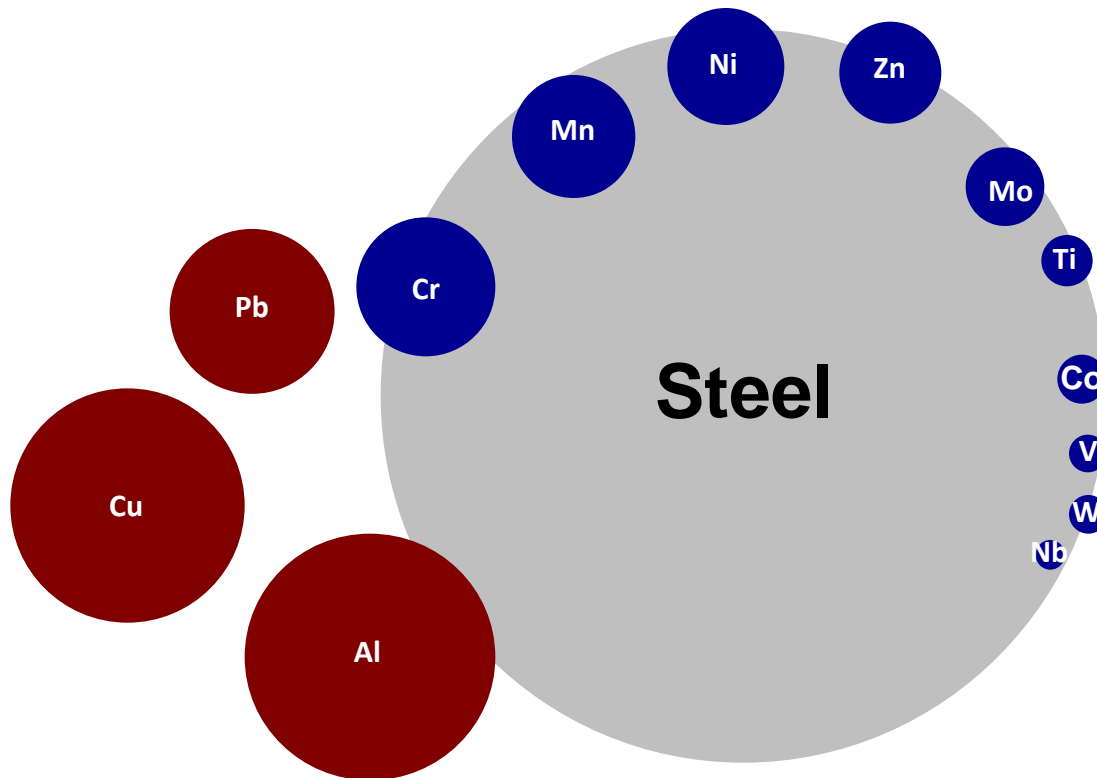
CRU Ryan's Notes
Ferroalloys Europe 2016

Dusseldorf, June 20 2016

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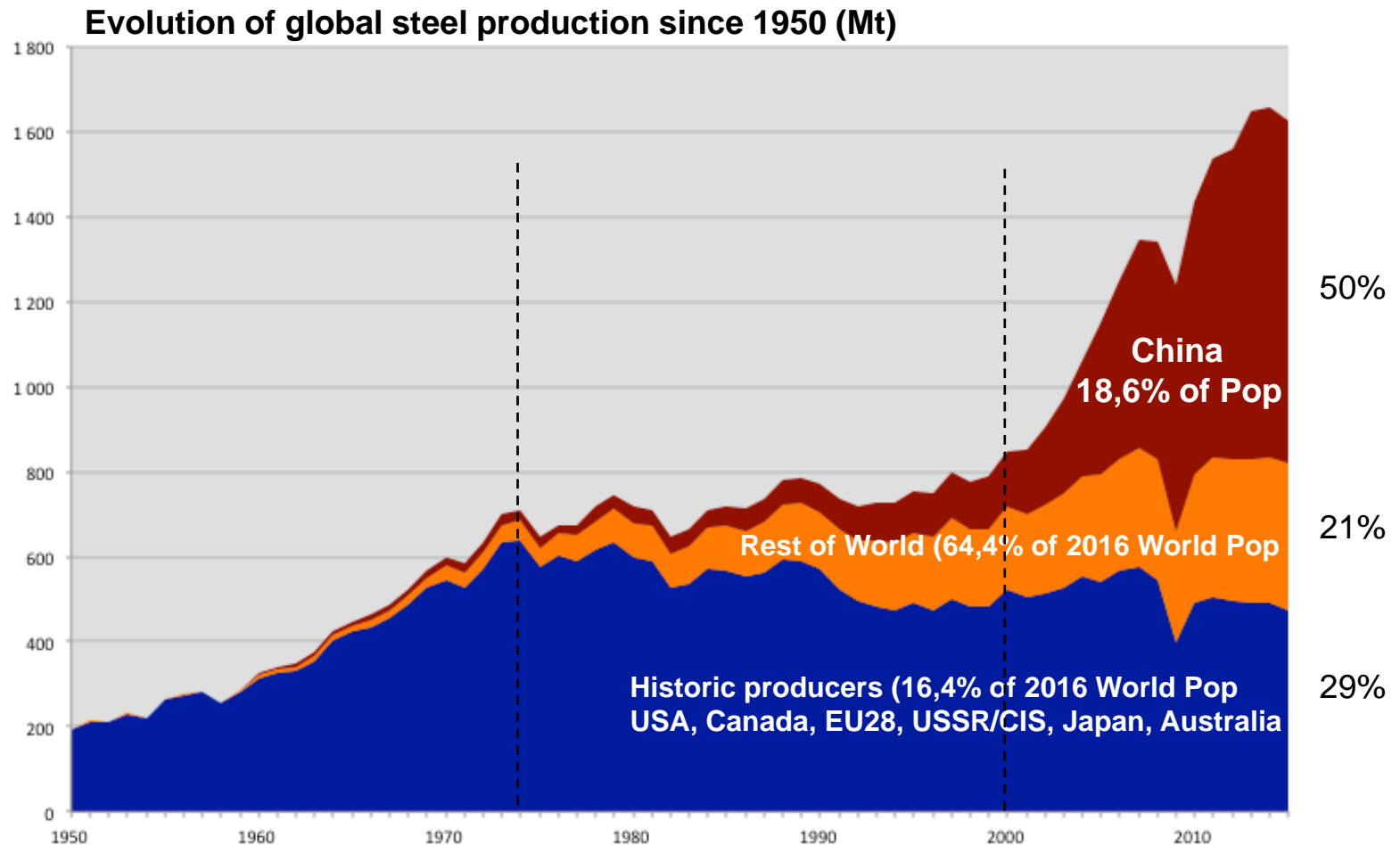
Most non-ferrous metals, except Al, Cu and Pb, are used predominantly as alloying elements for steel

Size of the main metals markets (\$ Billion)



Source : USGS, Analyses Laplace Conseil

In 1974, Historic producers controlled 90% of world production. Their share has since declined to 29%



Source : Worldsteel, Laplace Conseil analysis

The extraordinary rise of China production after 2000 is the latest disruption forcing industry to change

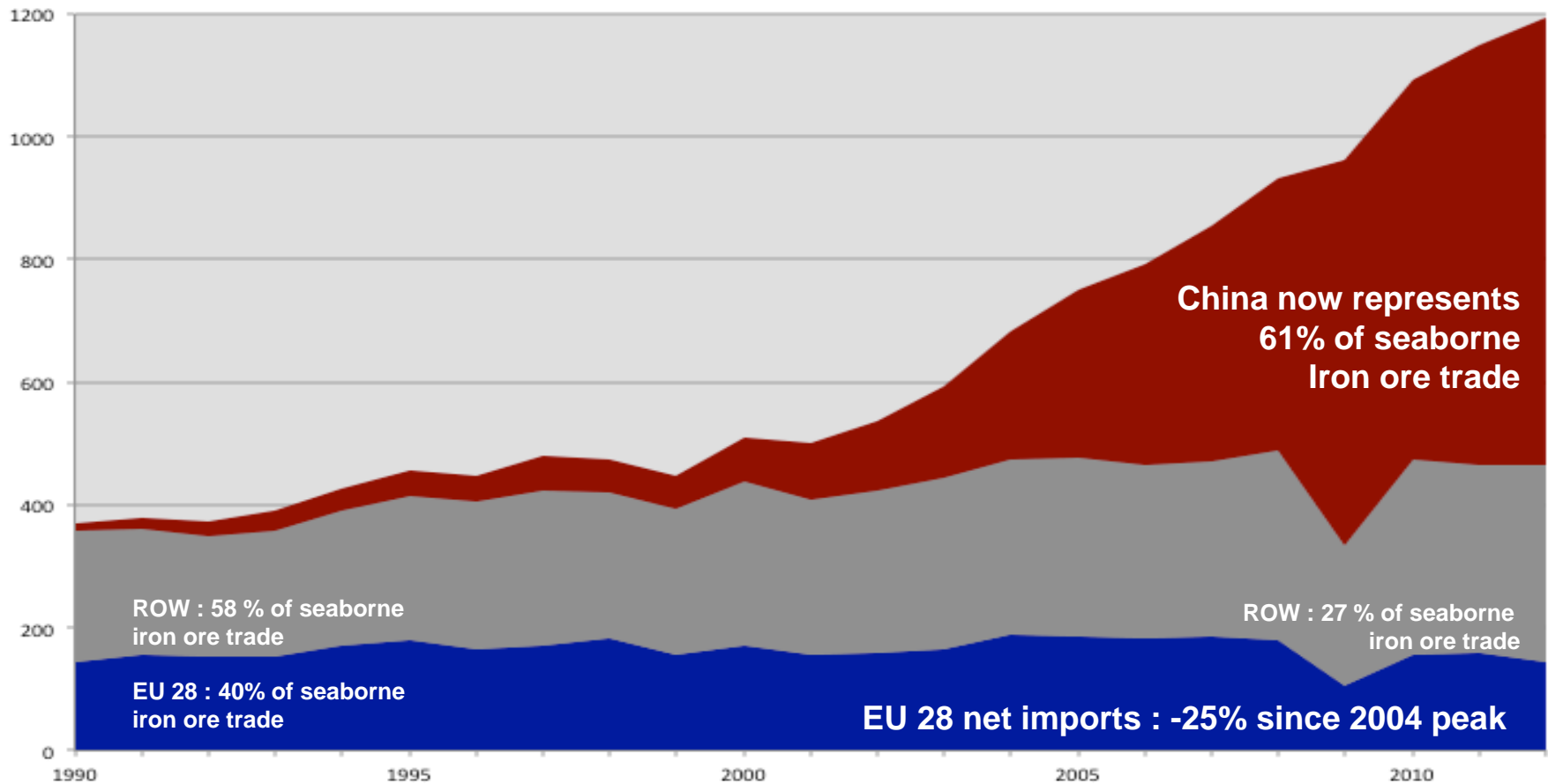
Evolution of Historic producers, China and ROW crude steel production (Mt)



Source : WorldSteel, Laplace Conseil analysis

Seaborne iron ore trade trebled since 2000, exclusively as a result of Chinese demand growth

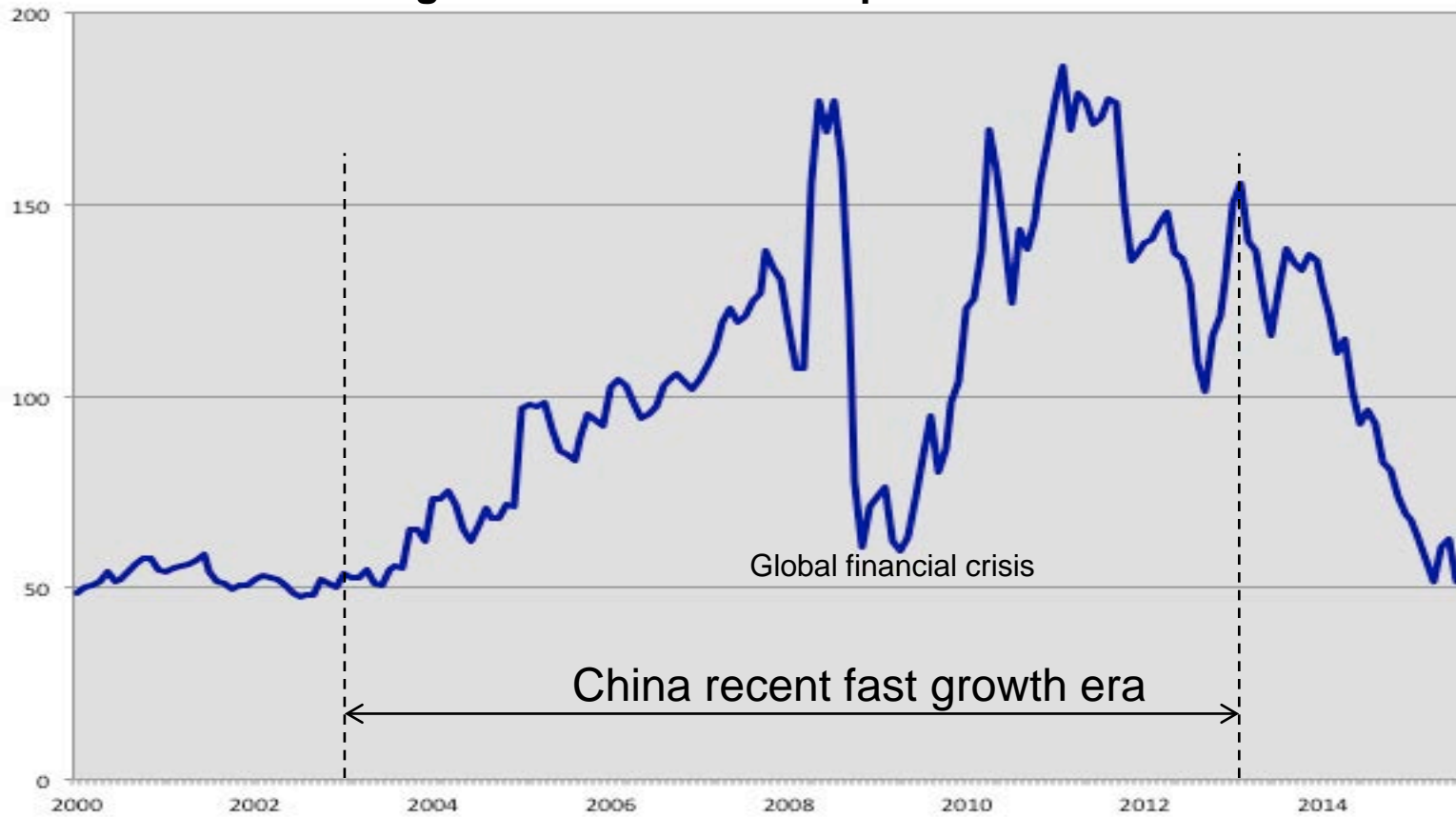
Evolution of seaborne iron ore trade by region (Mt/year)



Source : WorldSteel, Laplace Conseil analysis

The massive changes in China production, hence iron ore demand, are the main cause for the price change

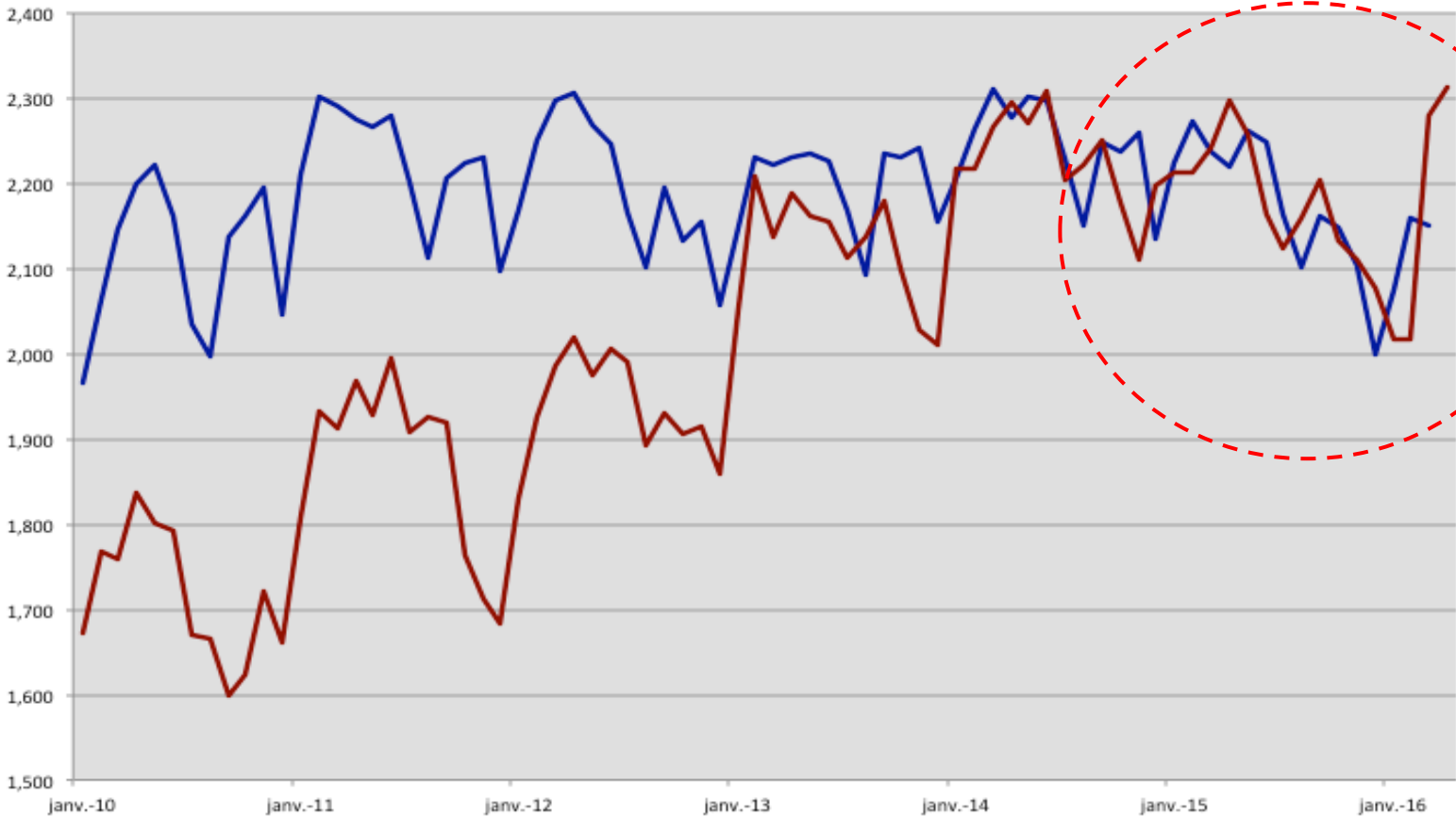
Spot market Iron Ore prices delivered to China, normalized to Qingdao and 62% Fe US \$ per tonne



Source : SteelFirst, Laplace Conseil analysis

World production has reached a low point at the end of 2015; China has rebounded in March, April and May.

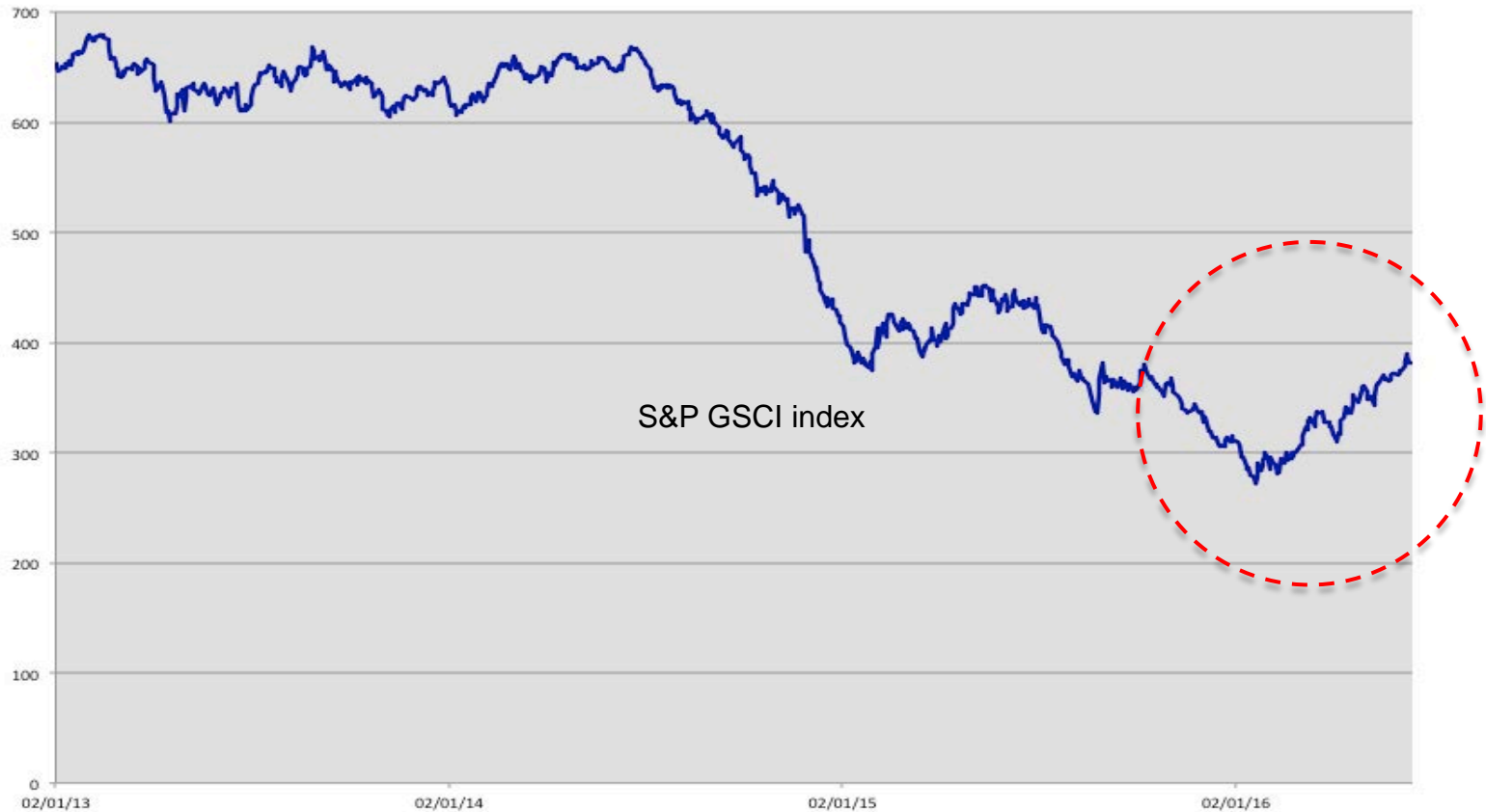
Daily crude steel production in China and ROW (Mt/day)



Source : WorldSteel , Analyses Laplace Conseil

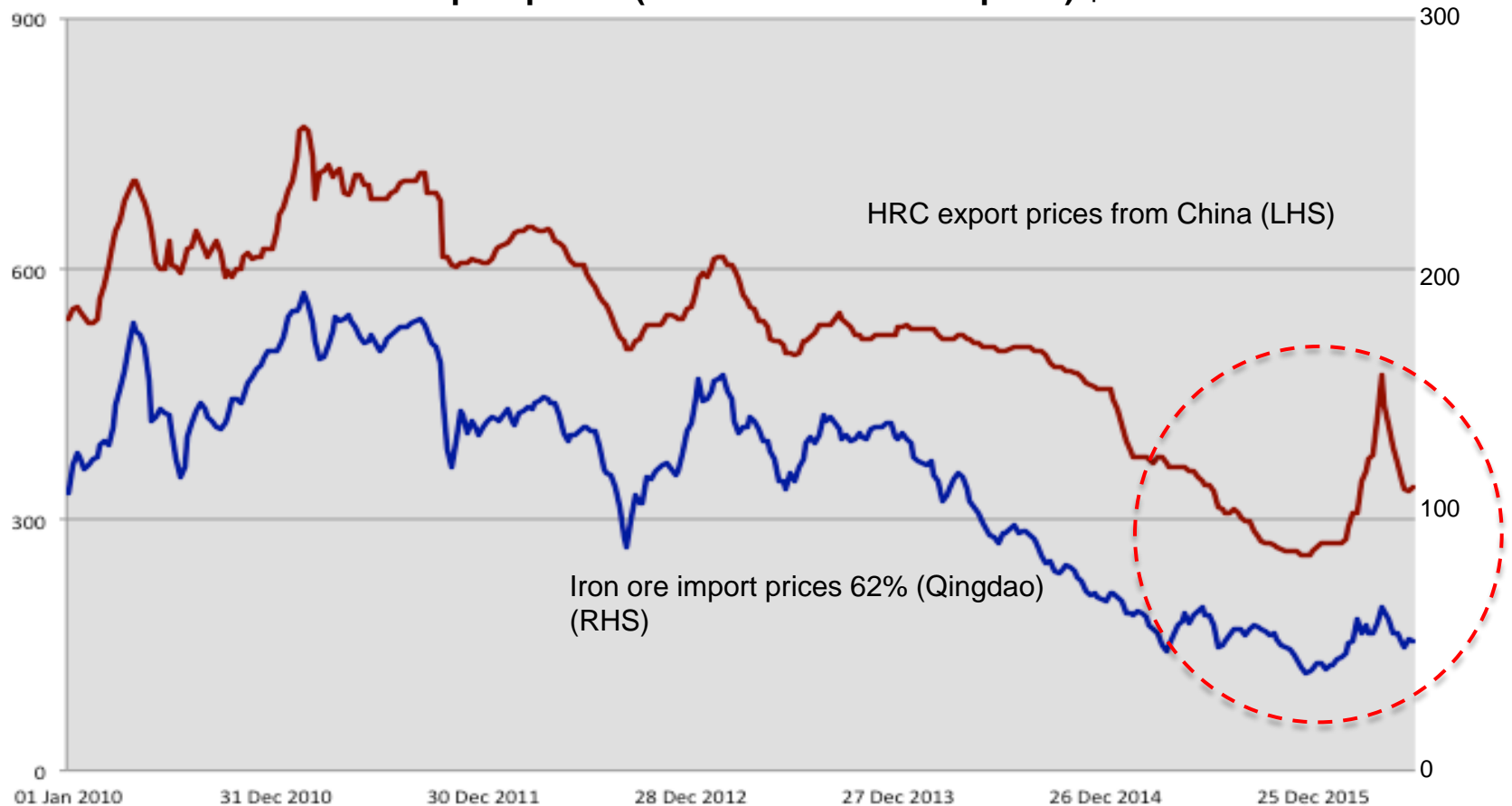
The stock market for metal and mining companies has bottomed out in early 2016

World index of metal and mining companies



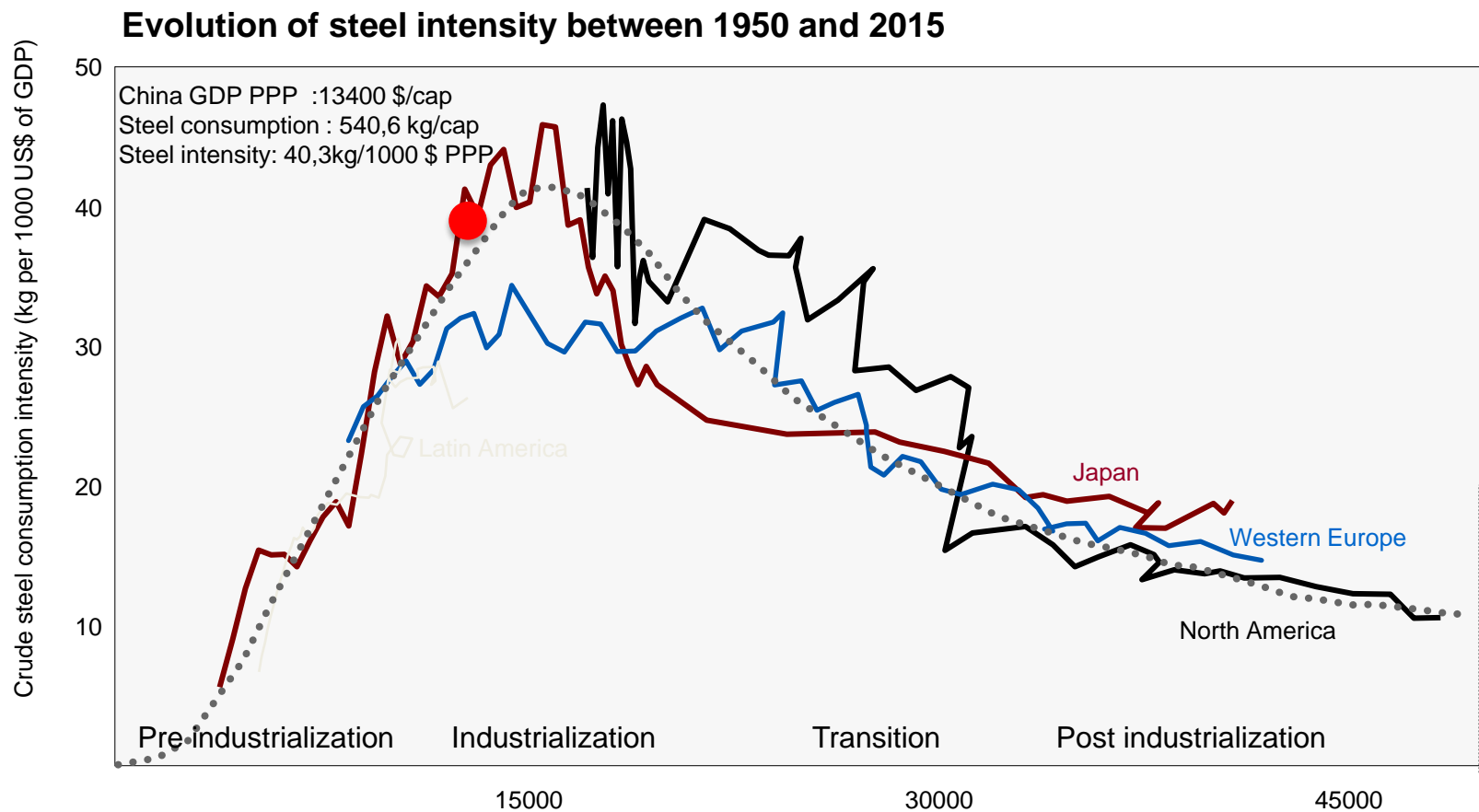
Prices of hot rolled coils and iron ore have rebounded in January 2016 but the improvement was short lived

Evolution of iron ore import prices (CIF Qingdao)
And hot rolled coils export prices (FOB China Northern ports) \$/t



Source : Steel first, Laplace Conseil analysis

Using the steel intensity curve concept, China appears close to its peak steel consumption

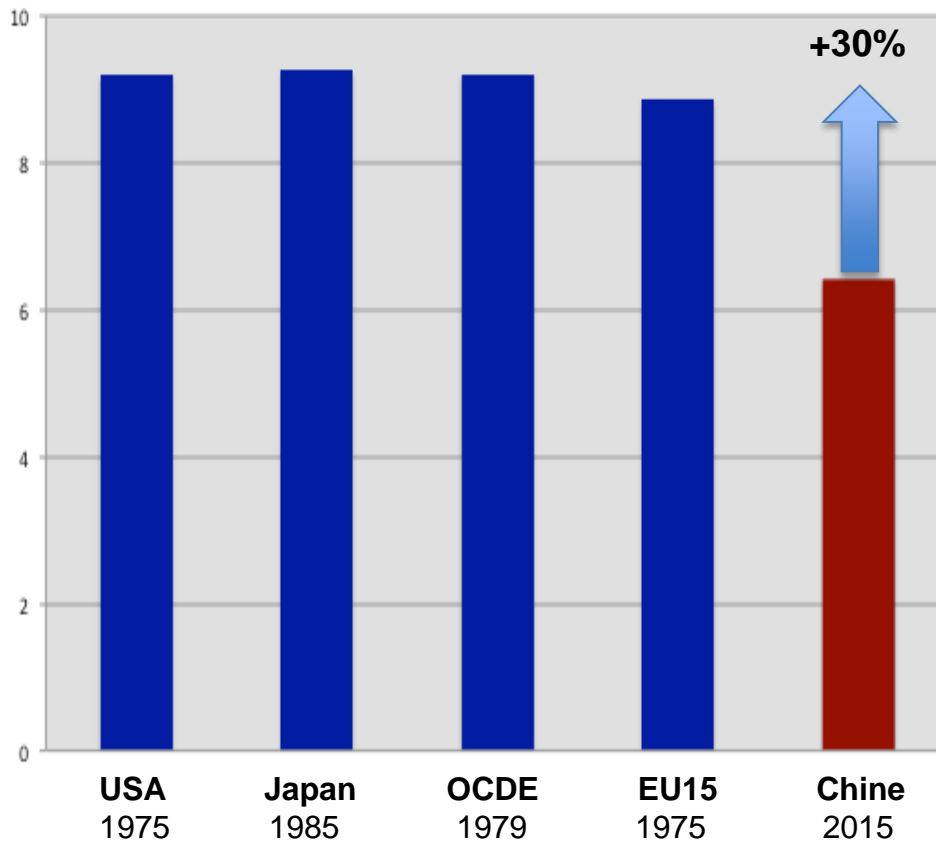


Source: The concept of steel intensity was first introduced by the IISI in the late 70ies.
 Data are from OECD (constant GDP PPP), World Bank and the IISI

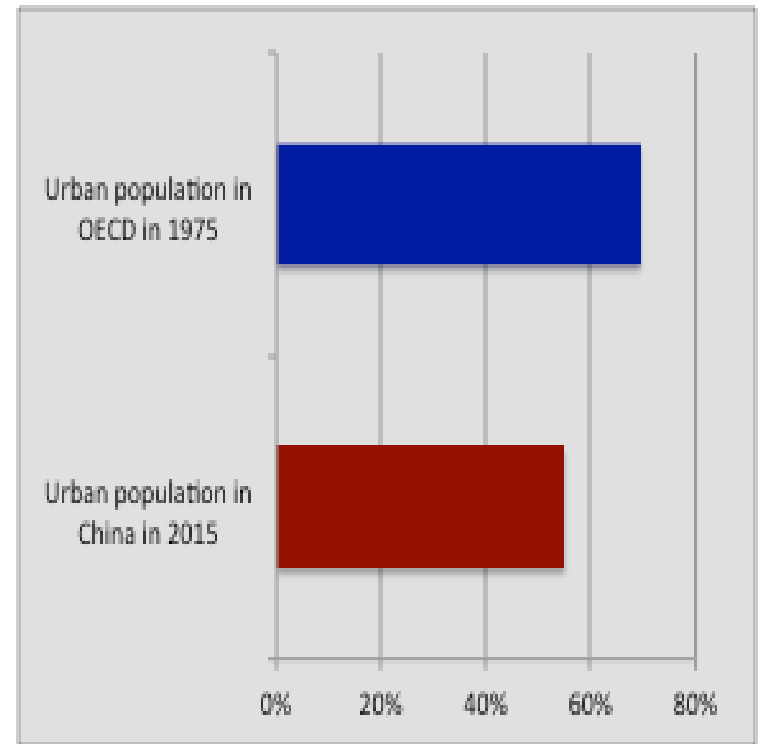
GDP/capita (constant 2015 US\$ PPP)

China may not have reached its construction peak and growth could resume

Cumulative consumption at the year of peak (t/cap)



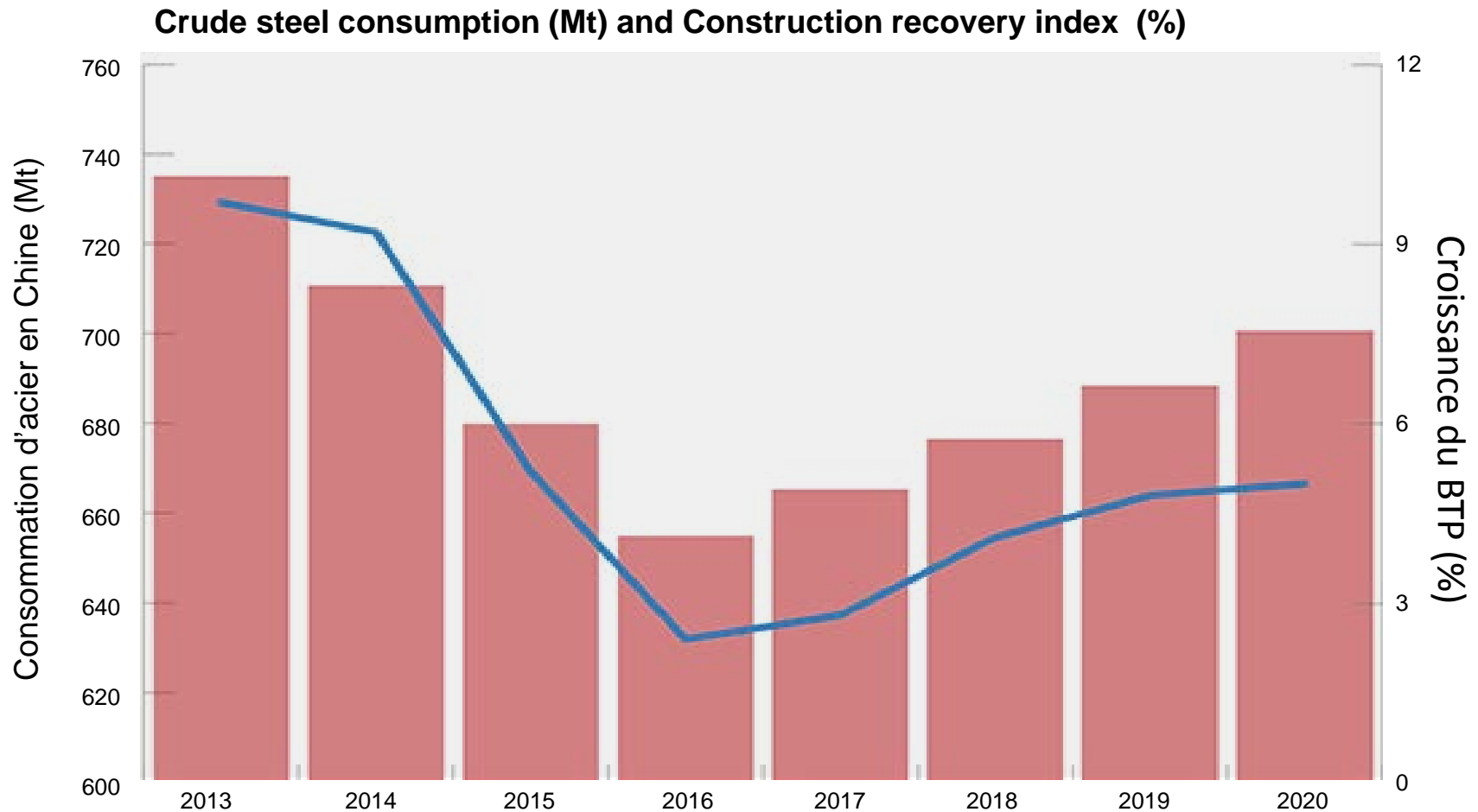
Urban population at peak year(%)



In addition, 20 to 25% of all urban population still live in shanty town

Source : WorldSteel, OECD, Laplace Conseil analysis

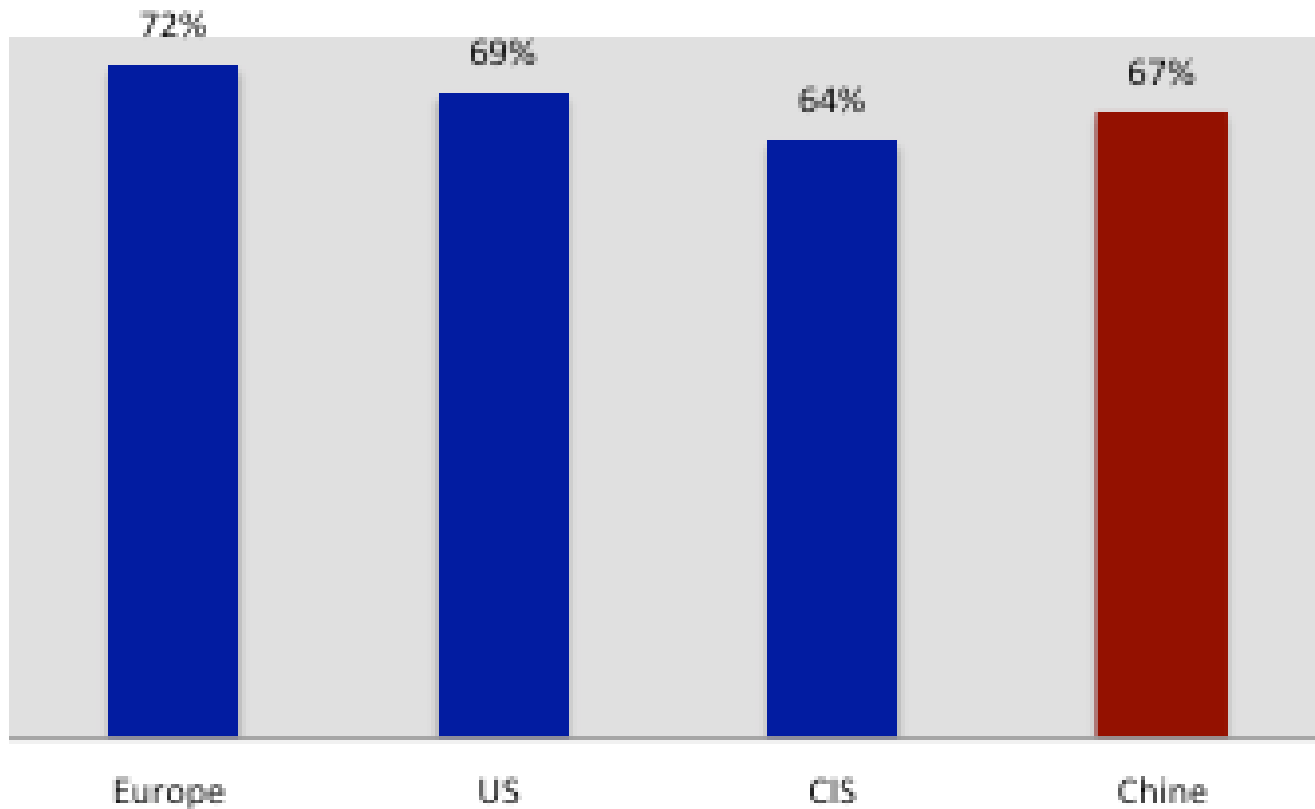
Previsionists expect a recovery of construction activity in China after 2017



Source : Metal Bulletin Research, WorldSteel, Oxford Economics, analyses Laplace Conseil

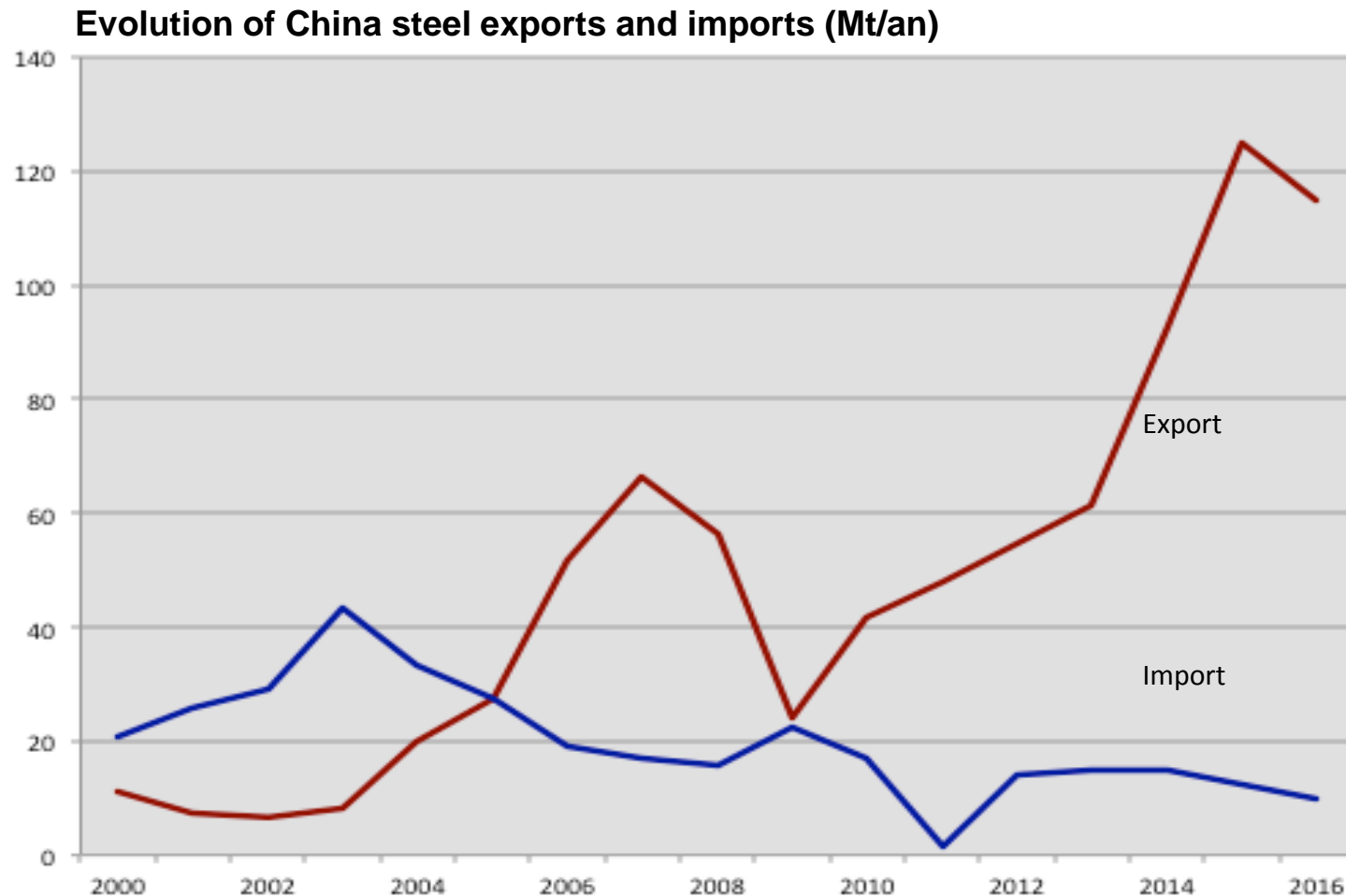
In 2015, each region capacity utilization was about the same. *China overcapacity is not bigger percentagewise*

Capacity utilization in different regions (%)



Source : Worldsteel, Laplace Conseil analysis

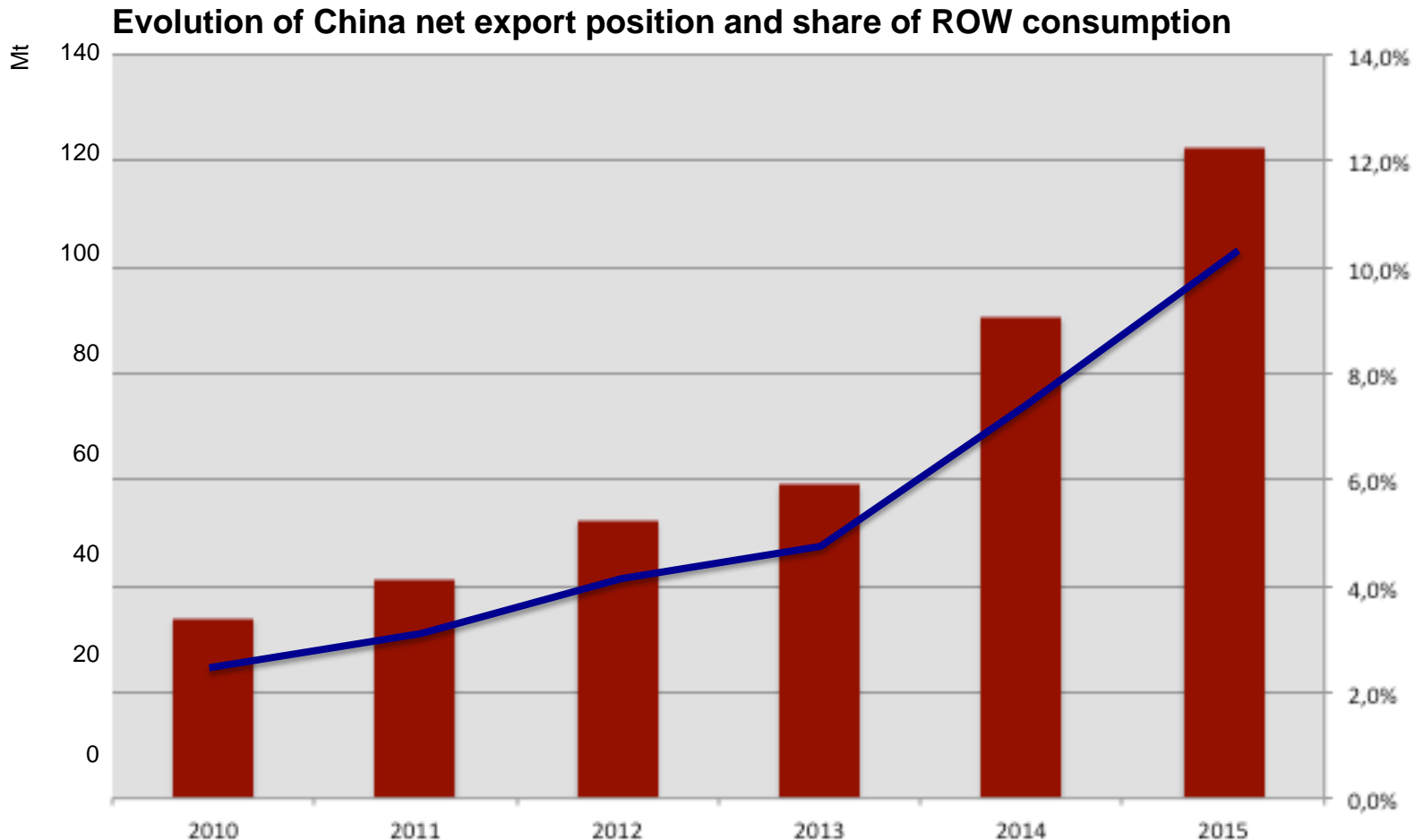
Chinese exports have kept growing but may also have peaked in 2015



Source : WorldSteel , Analyses Laplace Conseil



China exports now represent 12% of ROW consumption against 3% in 2010.

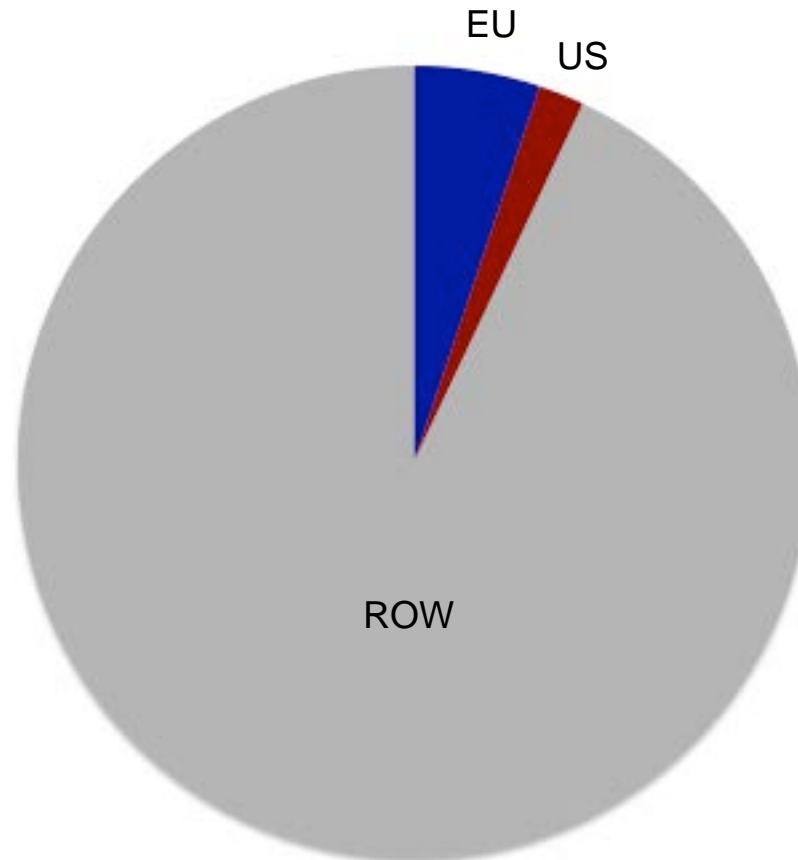


Source : ISSB, WorldSteel, MBR, Laplace Conseil analysis



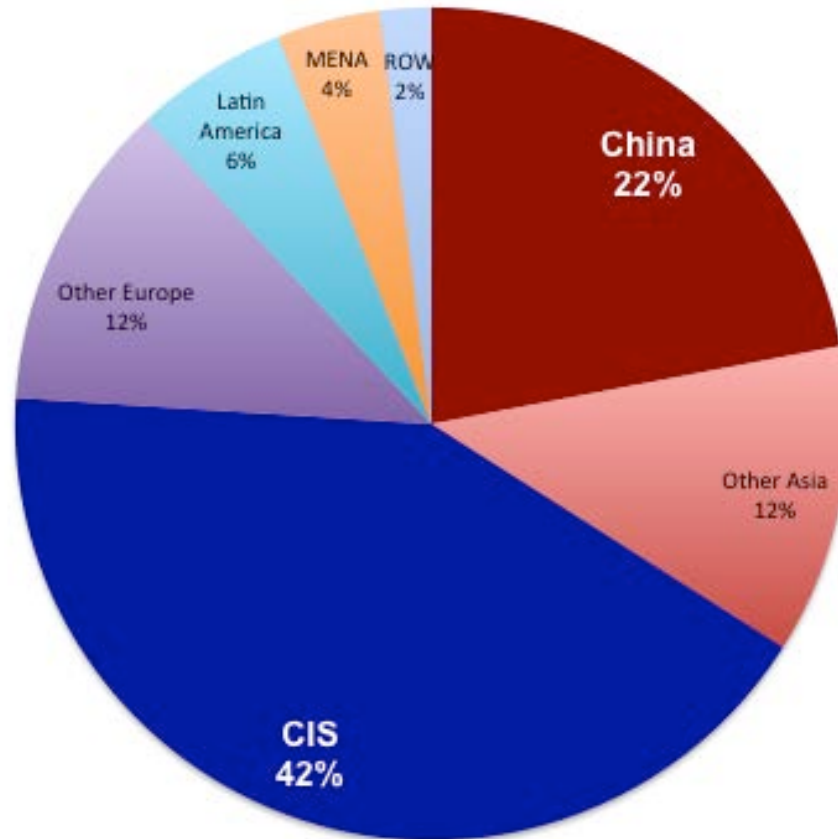
But most exports from China are bought by third countries that are net importers, not US nor EU

Export share of China in 2015
(100% = 120 Mt)



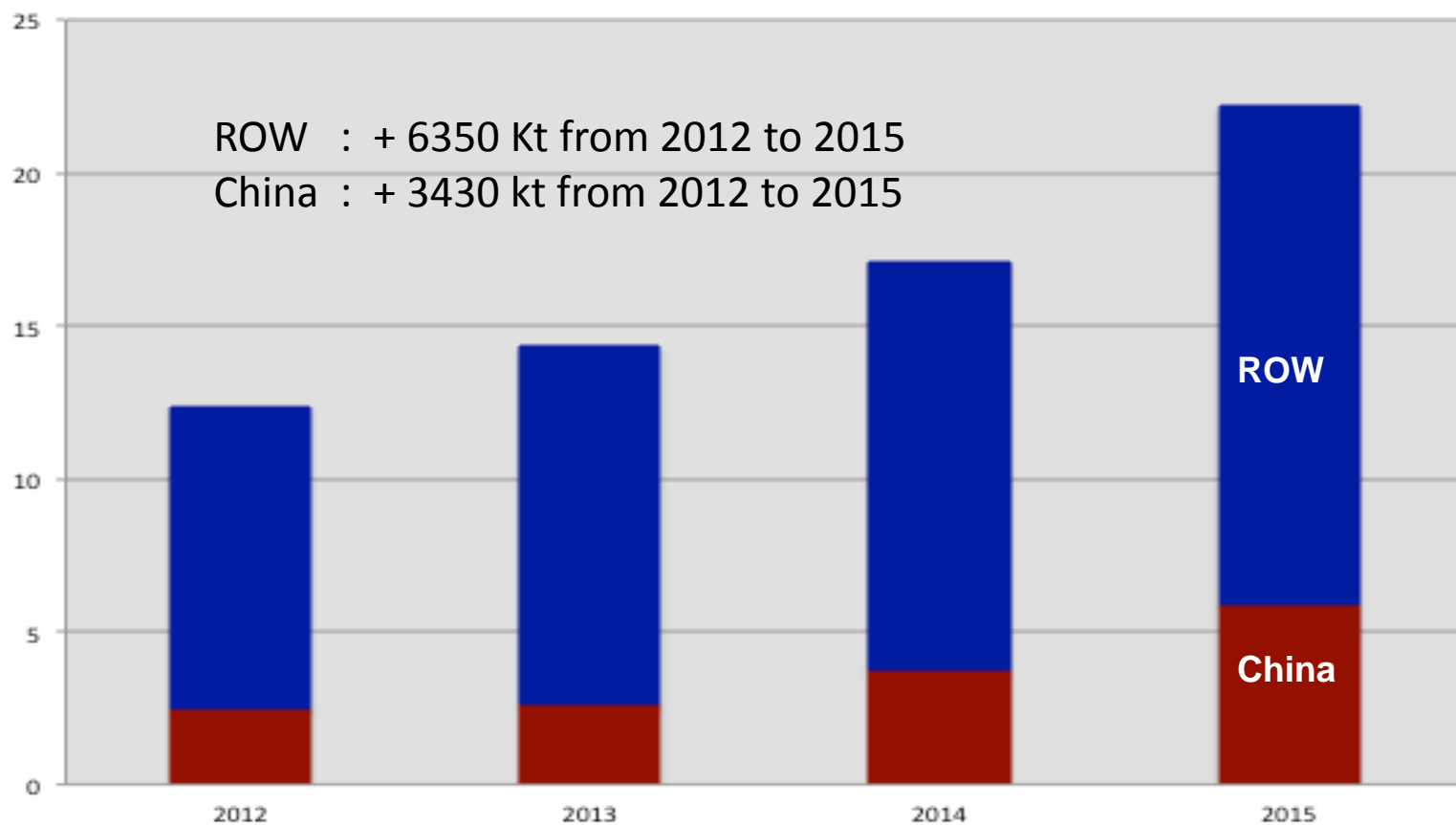
Source : US department of commerce, Eurofer, Laplace Conseil analysis

CIS is EU largest steel trade partner and China is only second, even though its share has grown



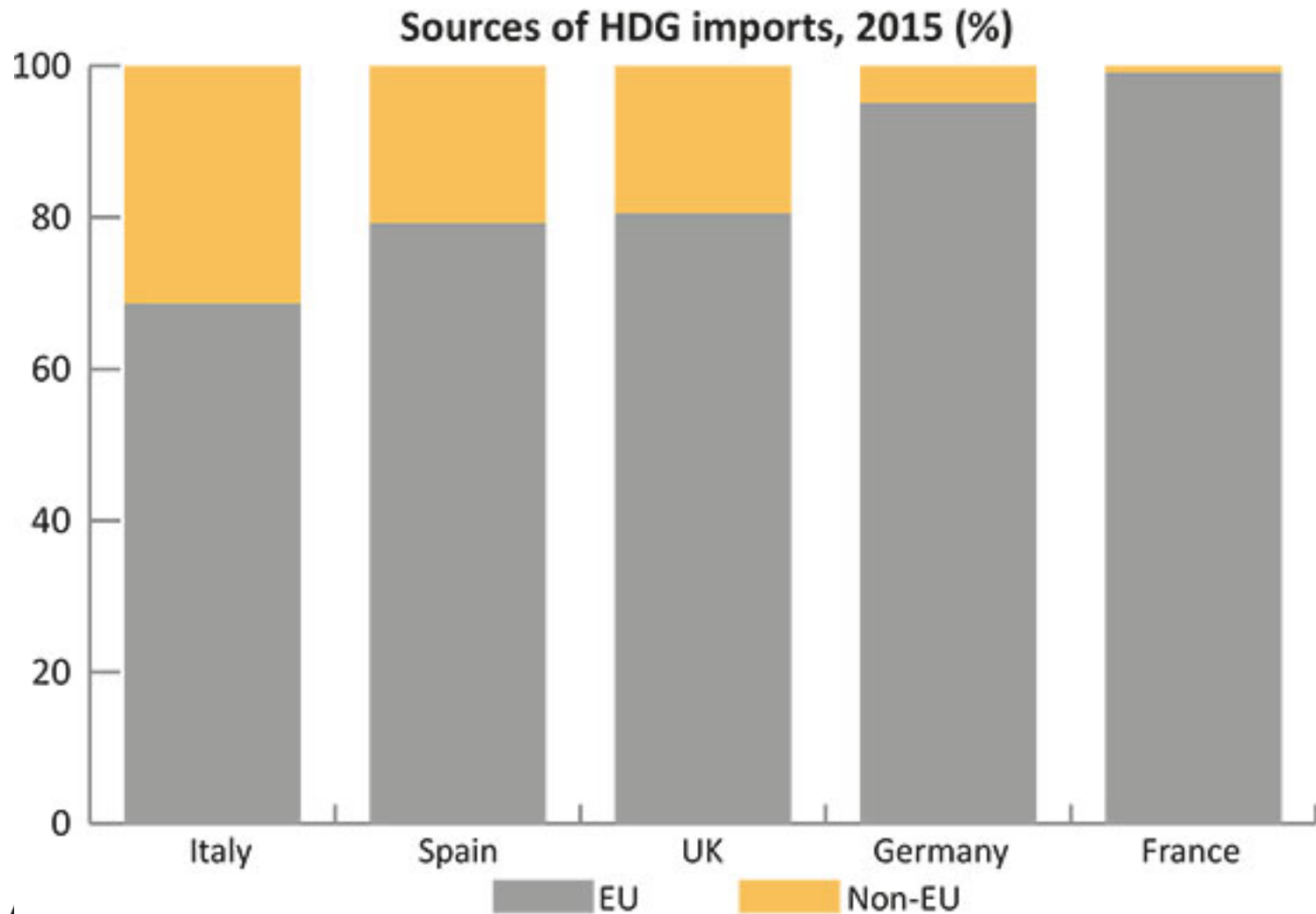
EU imports from third countries predominantly originate outside China

EU external import evolution (Mt)



Source Eurofer, Eurostat, Laplace Conseil analysis

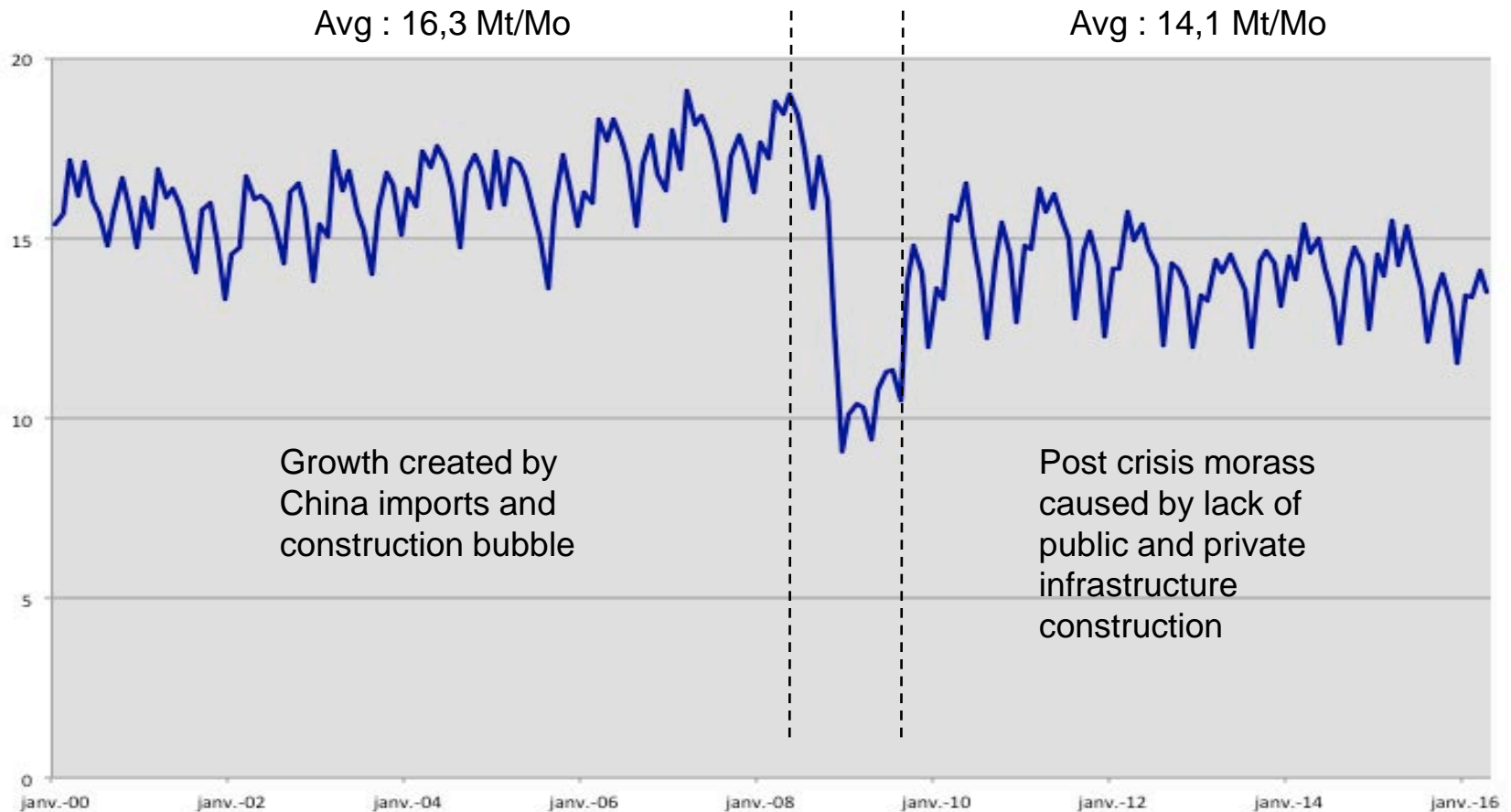
Italy is a main entry point due to the relative weakness of Ilva, Tata UK and AM Spain.



Sources: ISSB, Metal Bulletin Research

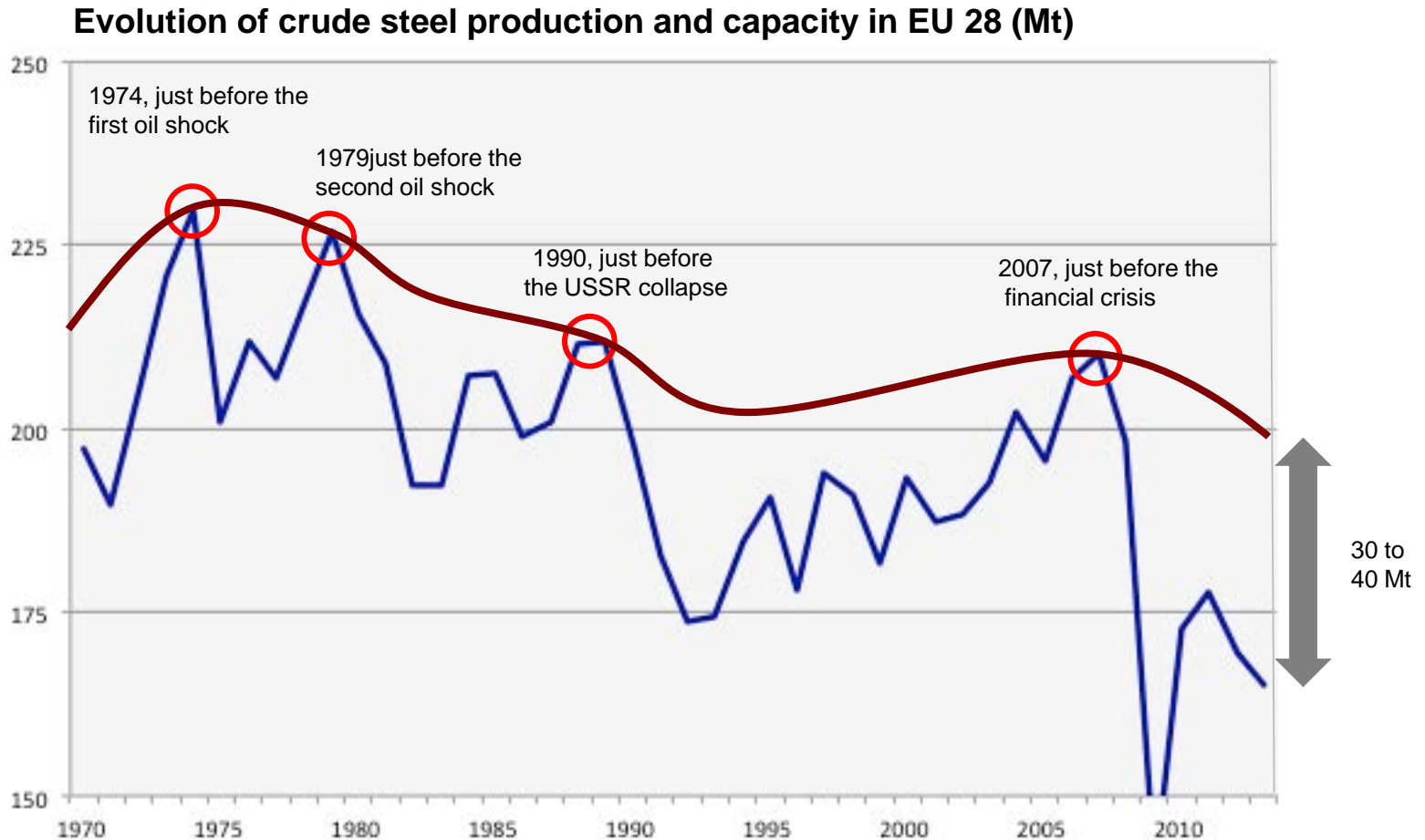
In fact, EU Steel production was durably damaged by the financial crisis, not by China

Evolution of EU28 monthly crude steel production (Mt/month)



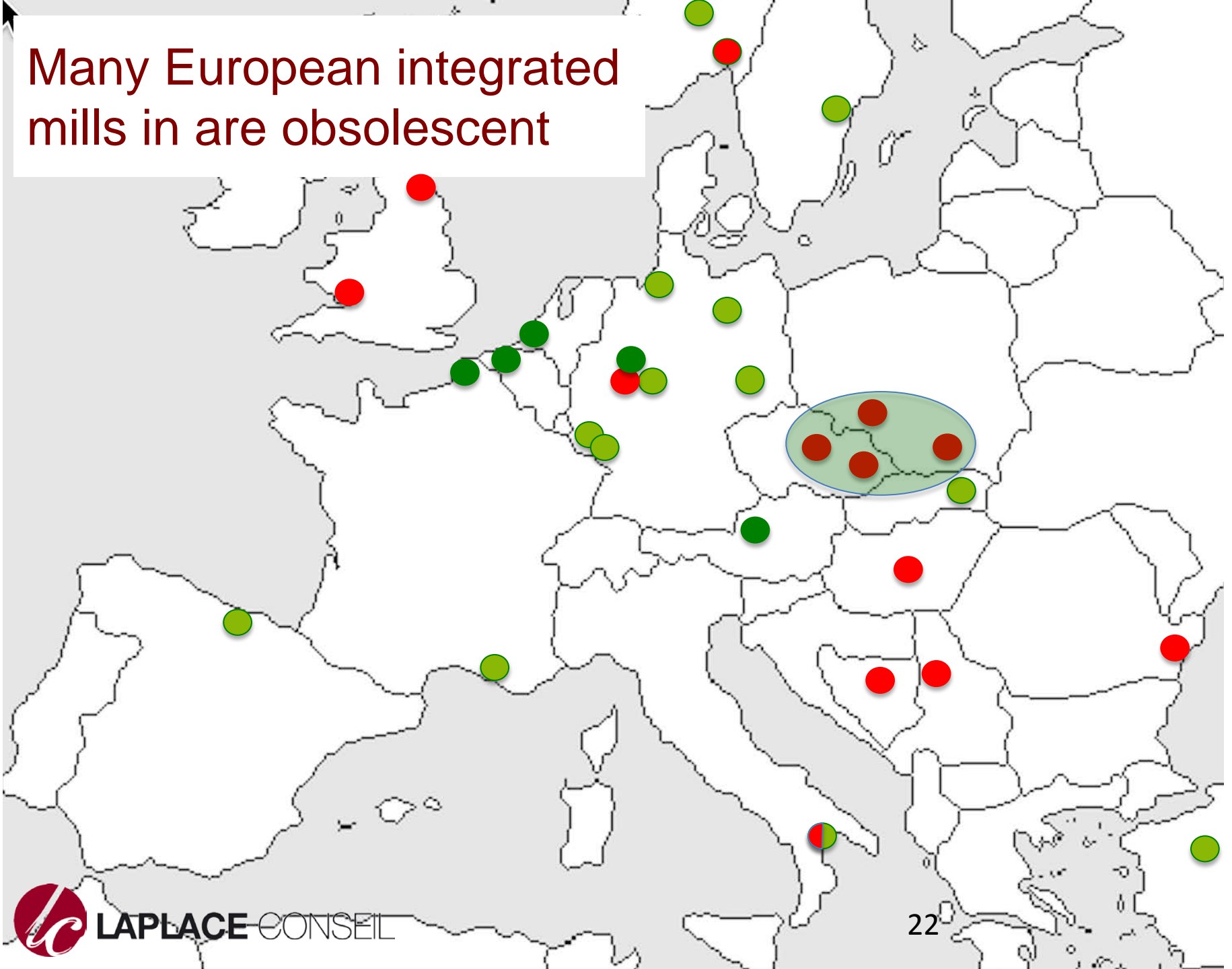
Source Worldsteel, Laplace Conseil analysis

Since the end of the « Glorious Thirty », the European market was balanced only during four years



Source : Worldsteel, Laplace Conseil analysis

Many European integrated mills in are obsolescent

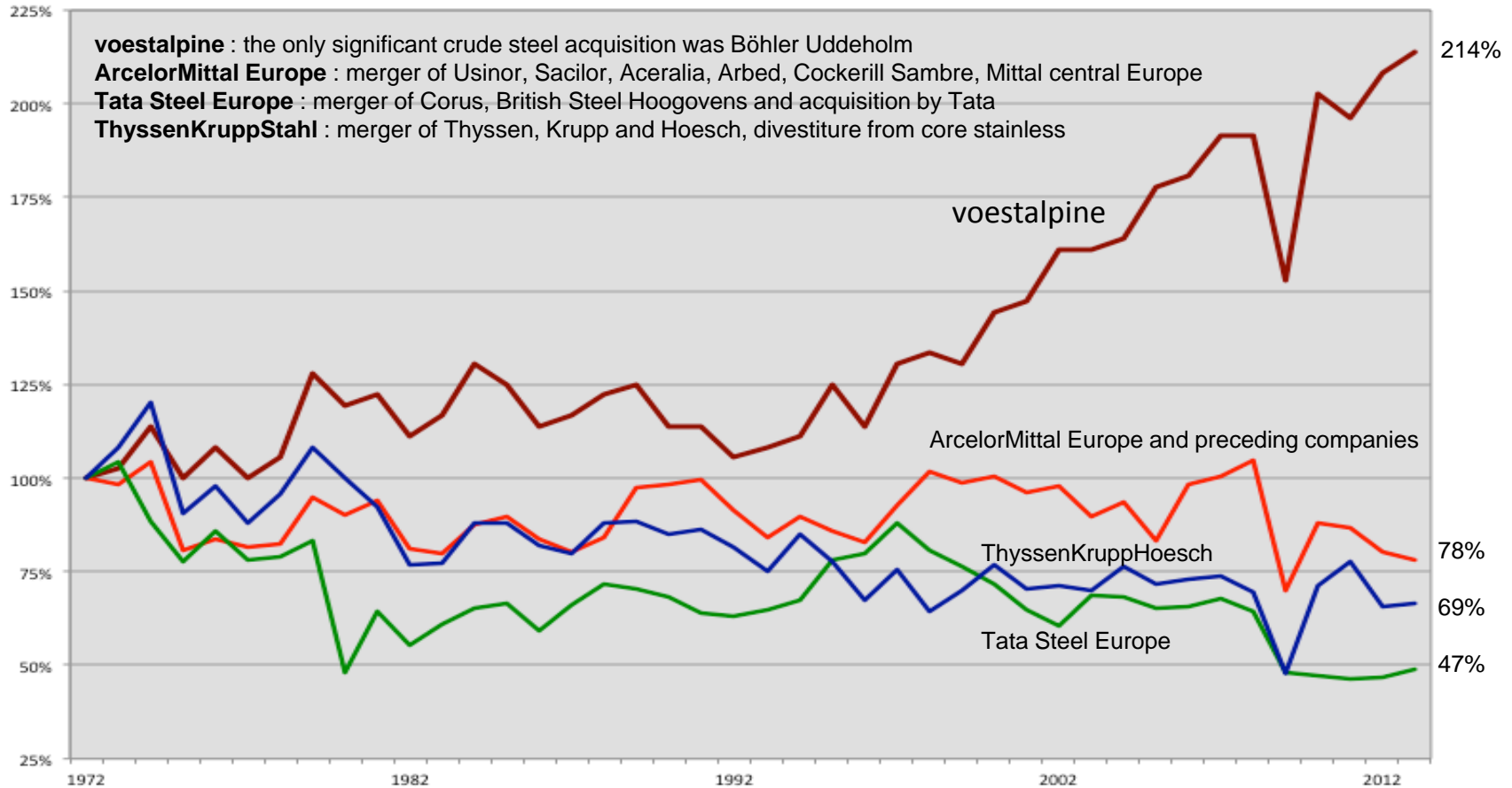


Trade barriers are requested all over the world to contain unfairly traded Chinese steel.

- Trade barriers are ineffective since more than 80% of Chinese steel exports are sent to net importing countries that welcome cheaper steel. World price levels will not change much.
- Trade barriers exacerbate the gap between “protected countries” (mostly US and Europe) and open countries. Any eventual reduction in Chinese import is automatically replaced by imports from other countries attracted by the price differential.
- Steel users that employ far more people are penalized and are less competitive for their own exports.
- In fact, trade barriers only protect a few high cost producers that can no longer survive without state assistance.
- Protectionism in turn slows down the inevitable restructuring of the industry, in particular the “big four” (MT, X, Tata, ILVA)

All big *merged* companies such as ArcelorMittal, Tata Steel and TKS have lost steel production

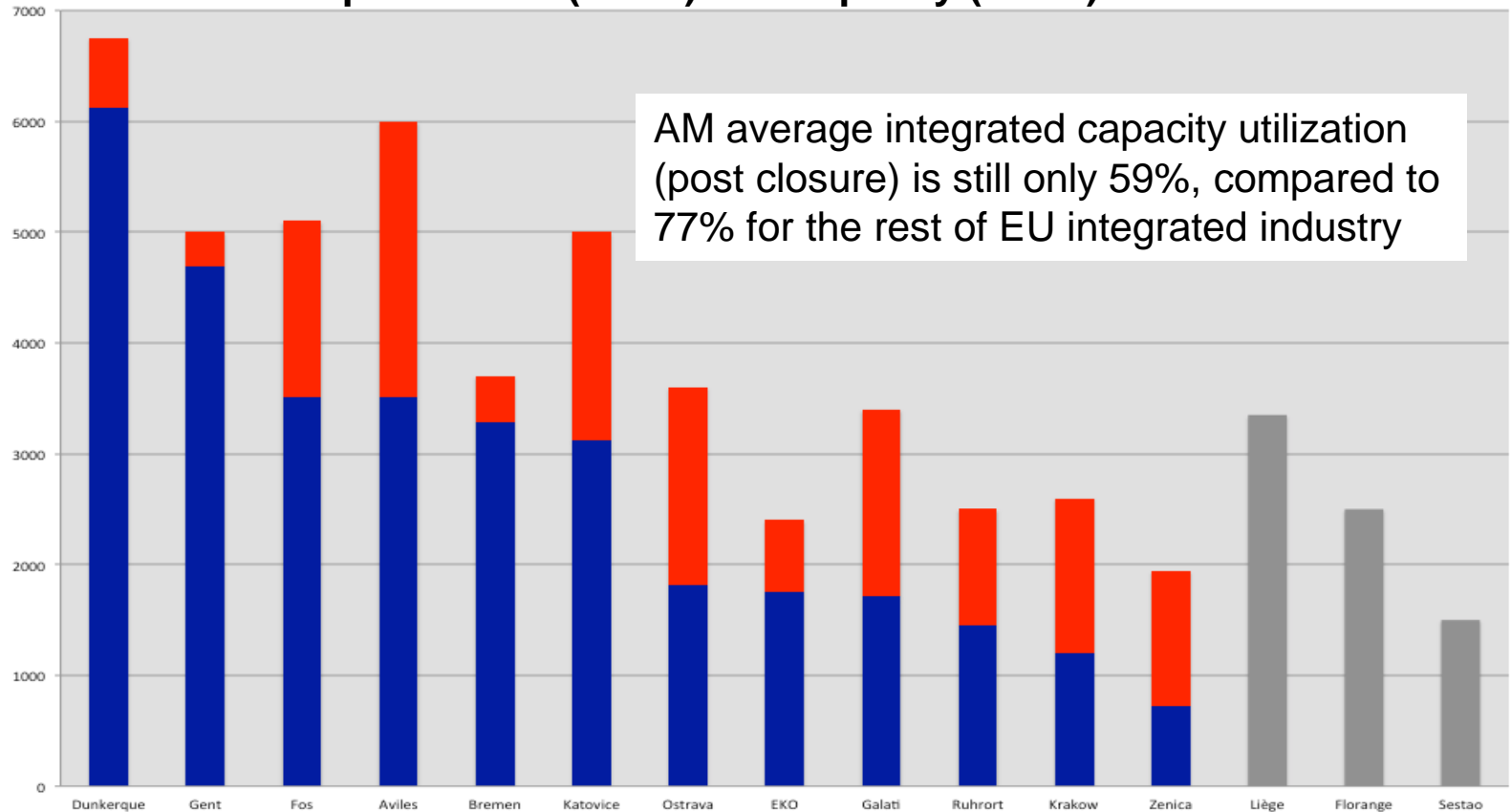
Evolution of leading European steelmakers production (1972=100%)



Source : Worldsteel, voestalpine, ArcelorMittal, TKS, Tata Steel, Laplace Conseil analysis

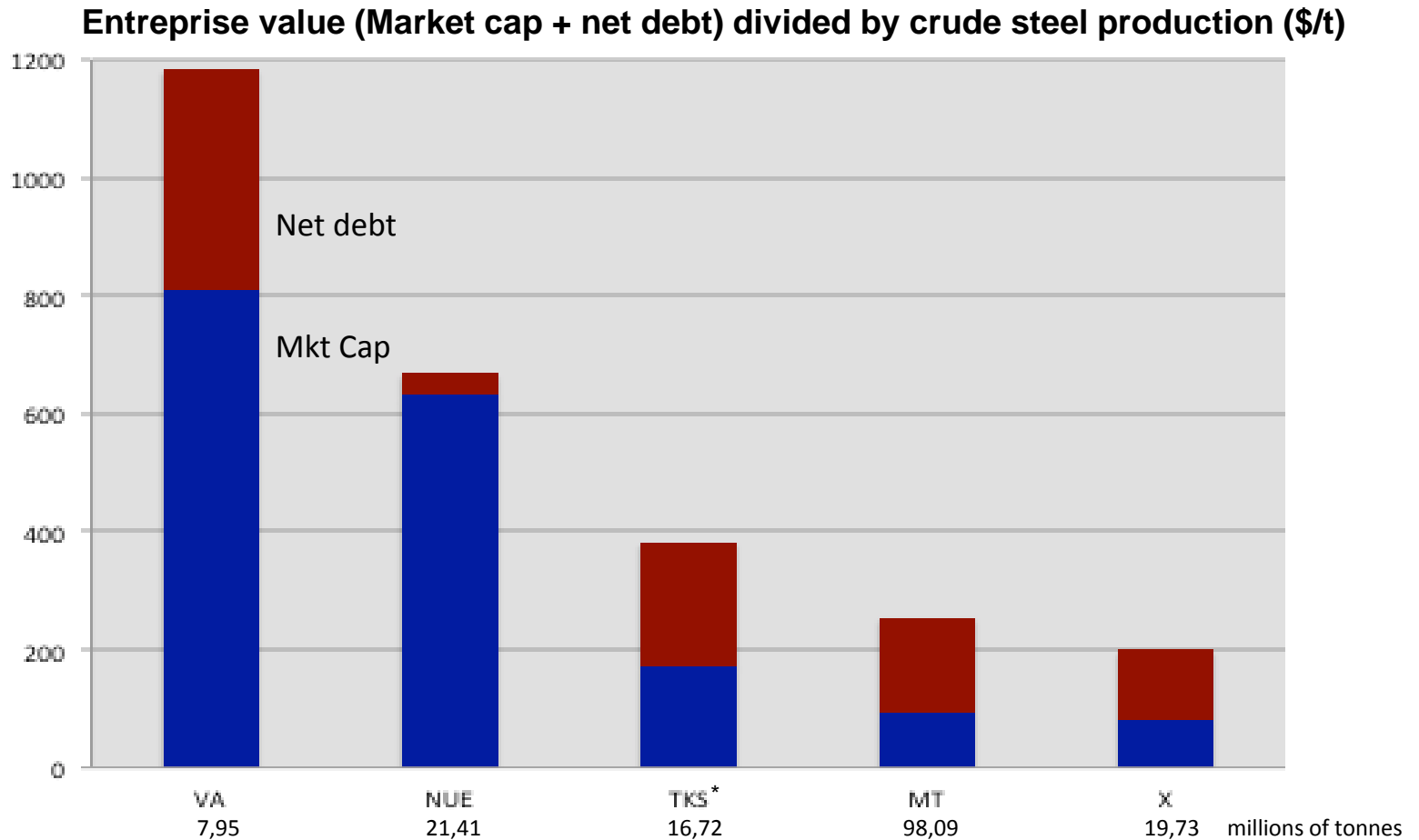
Despite past closures, ArcelorMittal still utilizes no more than 59 % of its integrated capacity in Europe

ArcelorMittal production (33 Mt) and capacity (55 Mt)



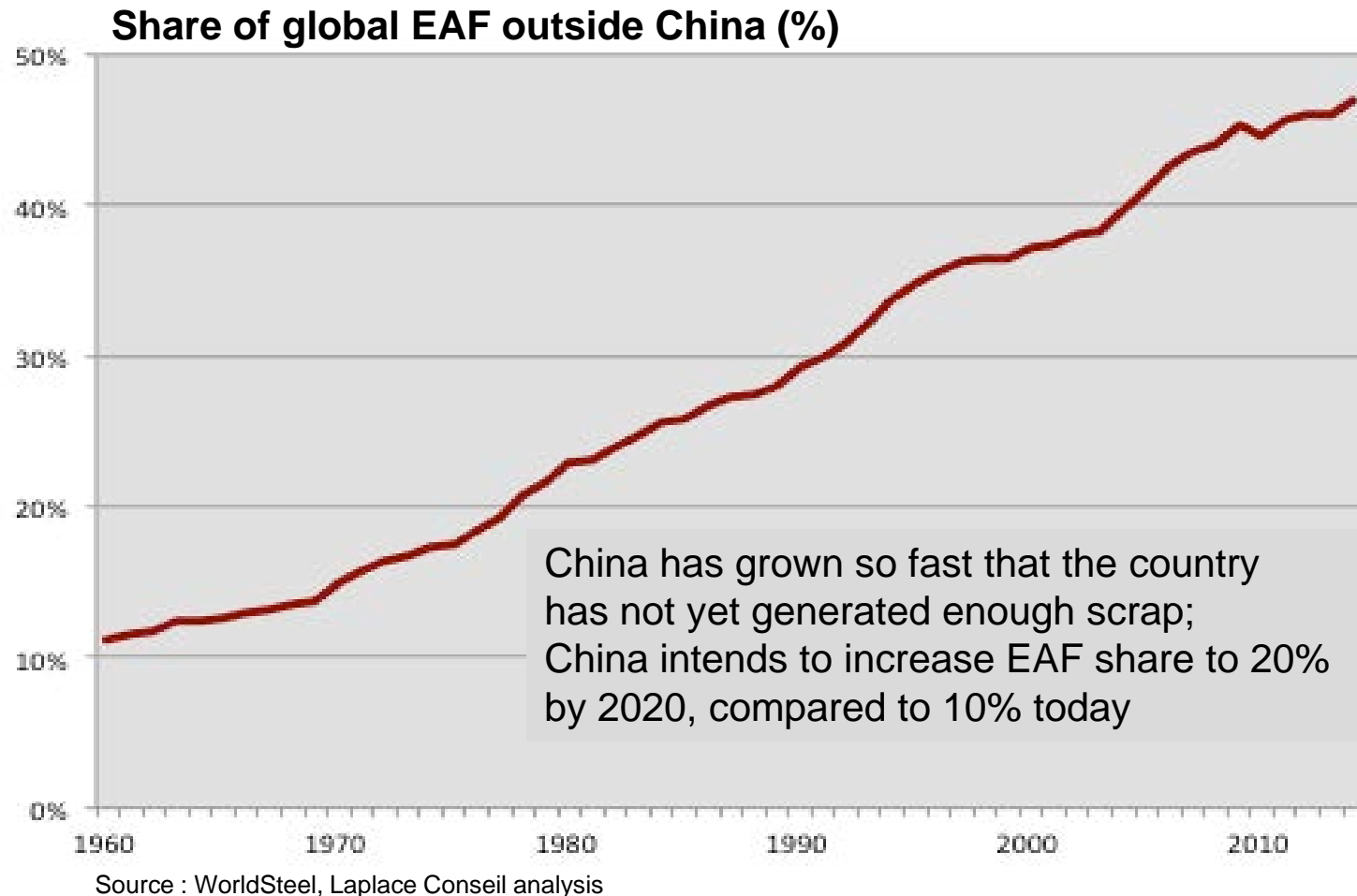
Source : ArcelorMittal factbook 2014, Laplace Conseil analysis

Adjusted for the size of production, VA is worth 7 time more per tonne of steel produced as MT and X



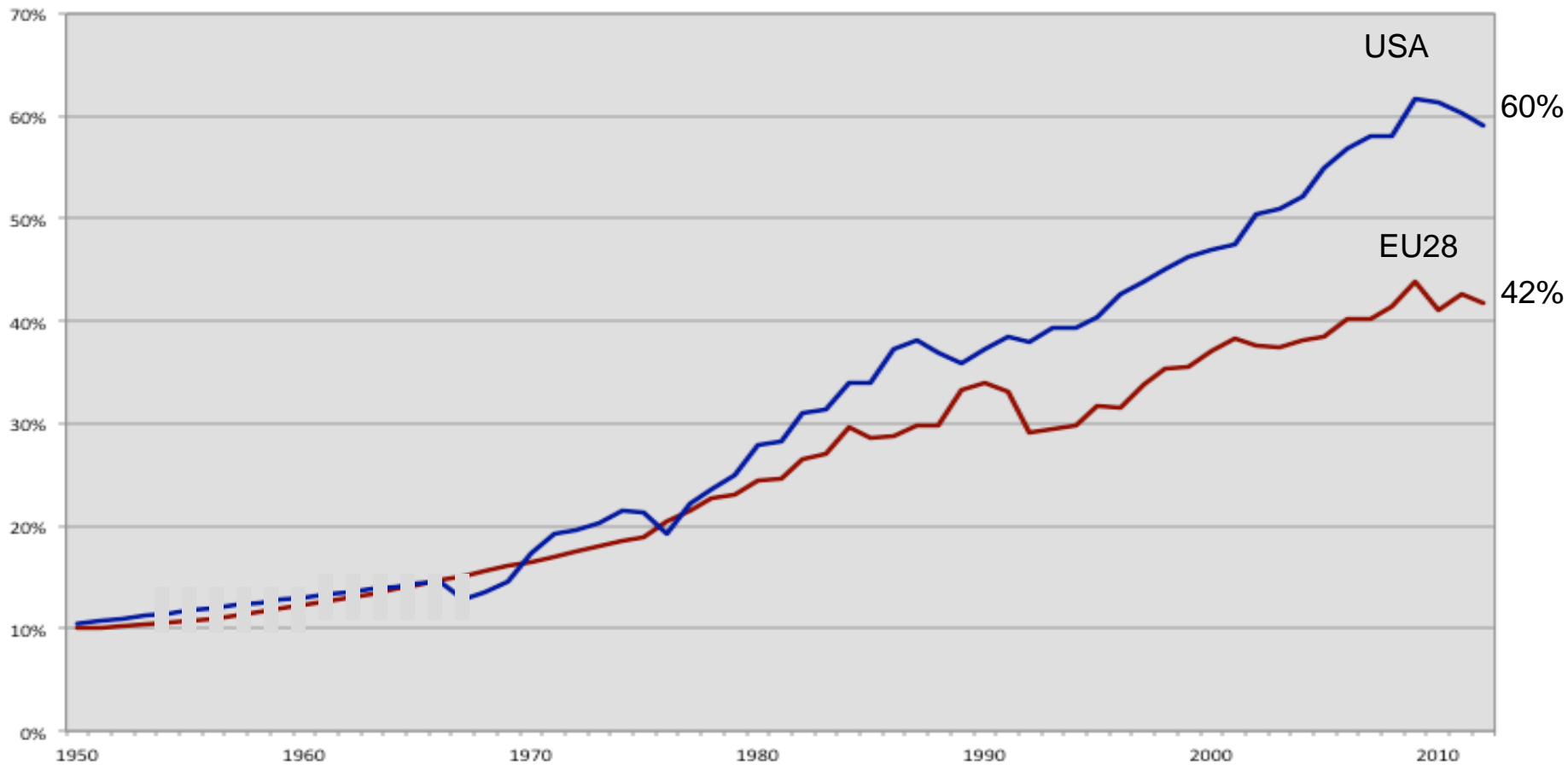
* Estimate as TKS is a diversified group with component, elevators and industrial businesses
Source : Company data, Laplace Conseil analysis

All over the world, the share of EAF steel has grown continuously at the expense of all other processes



For many decades, the share of EAF steel has grown steadily in Europe and USA

EAF share in crude steel production in EU28 and USA (%)



Source : WorldSteel, Laplace Conseil analysis

Prospect for the steel industry in Europe :

At best stability of production, no capacity reduction

- Despite limited improvement in the European Automotive market, Steel production in Europe, remains behind the level of the first four months of 2015 by 6,5%.
- World Steel short term outlook of 1,6% and 1,7% consumption growth may prove optimistic.
- Imports from third countries will not grow and may even decline, but exports to third countries, fully exposed to international competition, will decline more significantly.
- Overcapacity will decline somewhat, including in China. But the movement will inevitably be slow.
- In Europe, it is likely that the troubled plants of UK and Taranto will receive enough government support to avoid closure. In Central Europe, where most of the integrated plants are very old there is no known attempt to reduce capacity

Conclusions

- Unfortunately, there is little hope for a significant improvement in the European steel market.
- The global market is saturated with overcapacity in each region of the world; China is not different percentagewise; blaming the neighbor will not solve the problem.
- Feeble demand growth worldwide is not expected to solve the problem in the short run.
- Consequently, world prices for steel will remain low. Protectionism will not work. Raw material prices will also remain low.
- However, there are many companies in Europe and worldwide that succeed in this difficult market. Their success is based on :
 - Good technological choice, in particular minimills
 - Good *consensual* productivity improvement
 - Excellent relations with customers and value added relationships



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