



Steel Business Briefing

SBB Steel Markets Middle East 2009
Dubai

Have the fundamentals of the steel industry changed?



Siddhartha Sengupta

Hatch Beddows

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- **Hatch, Hatch Consulting, and Hatch Beddows**
- Objective
- Drivers of steel consumption
- The China issue
- Evolving landscape
- Implications for Middle East
- Conclusions

Our organisation

- Hatch supplies business, process and technology consulting, design and engineering and construction, operations and project management to the mining and metals, energy and infrastructure industries worldwide
- Established 1955 and employee owned
- 8000 highly skilled people serving clients worldwide
- US\$40BN of projects now under management in 80 countries

Our values

- Safety
- Quality
- Innovation
- Sustainable development
- Effective risk management

We deliver unprecedented and sustained results for our clients

Global reach and resources



Hatch services and sectors

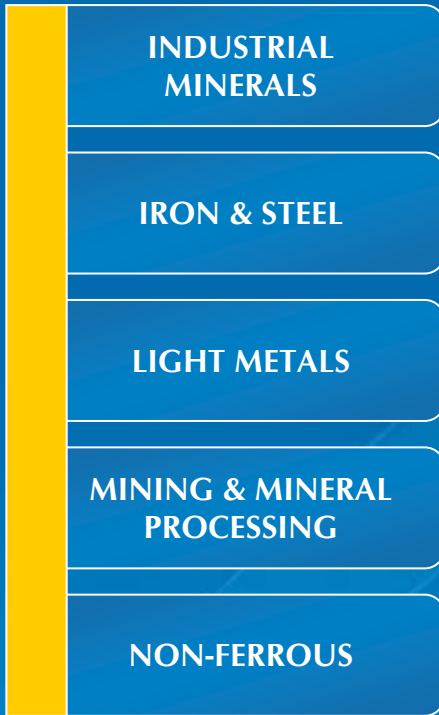
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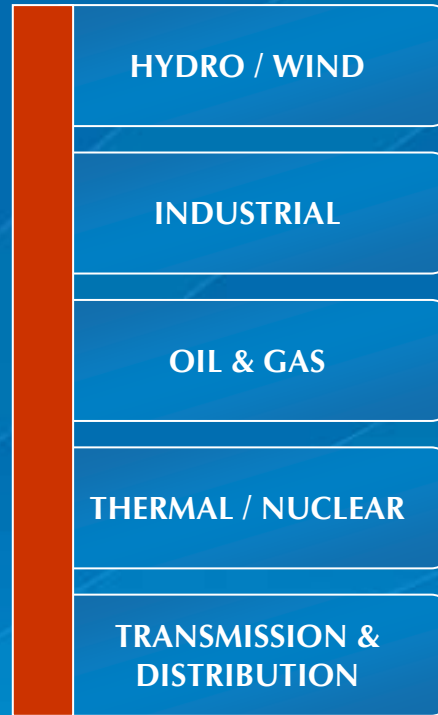
SECTORS

Hatch business units

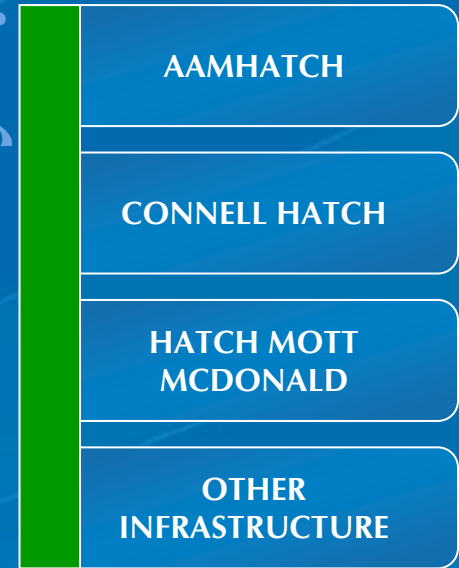
metals



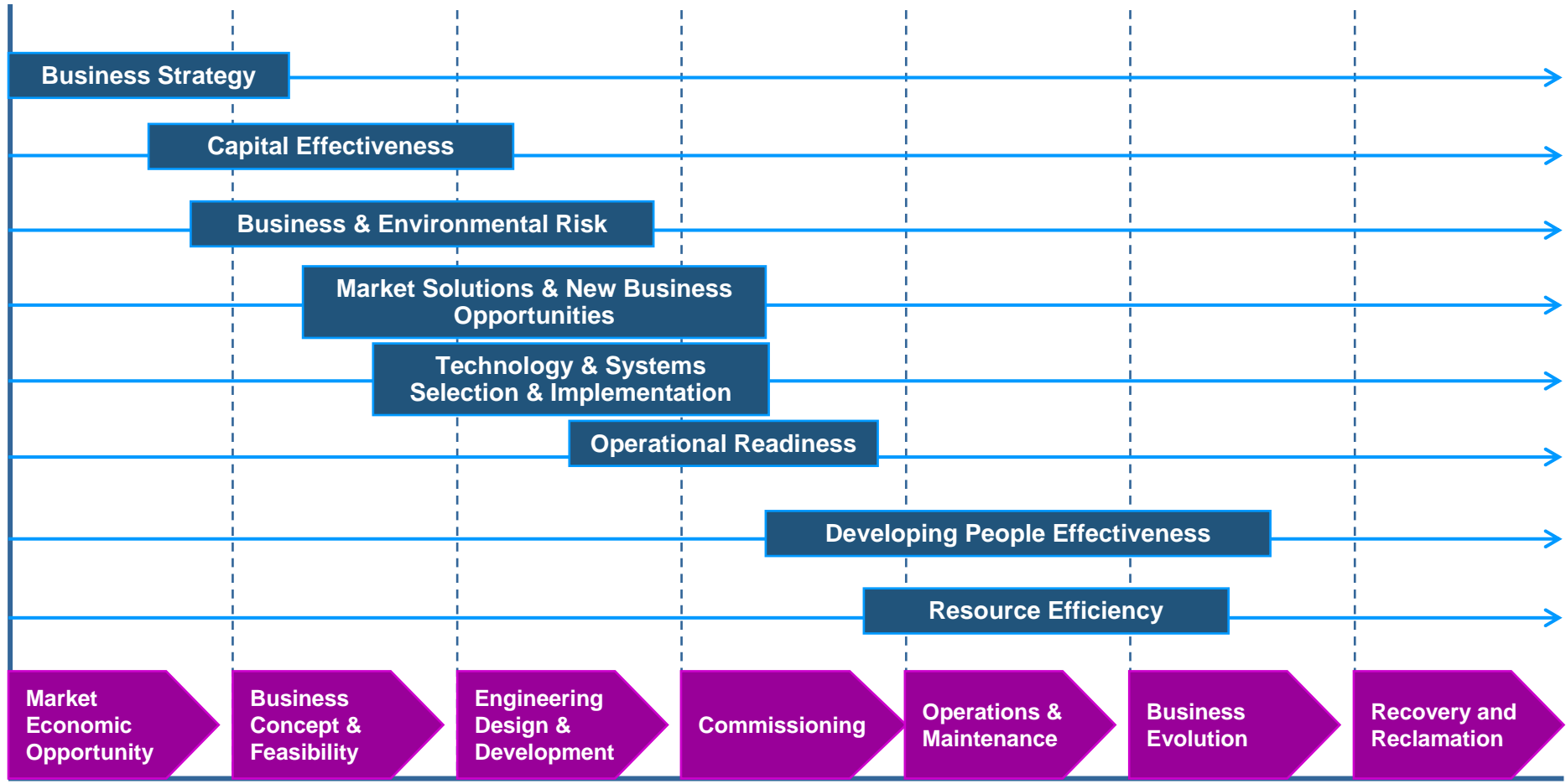
energy



infrastructure

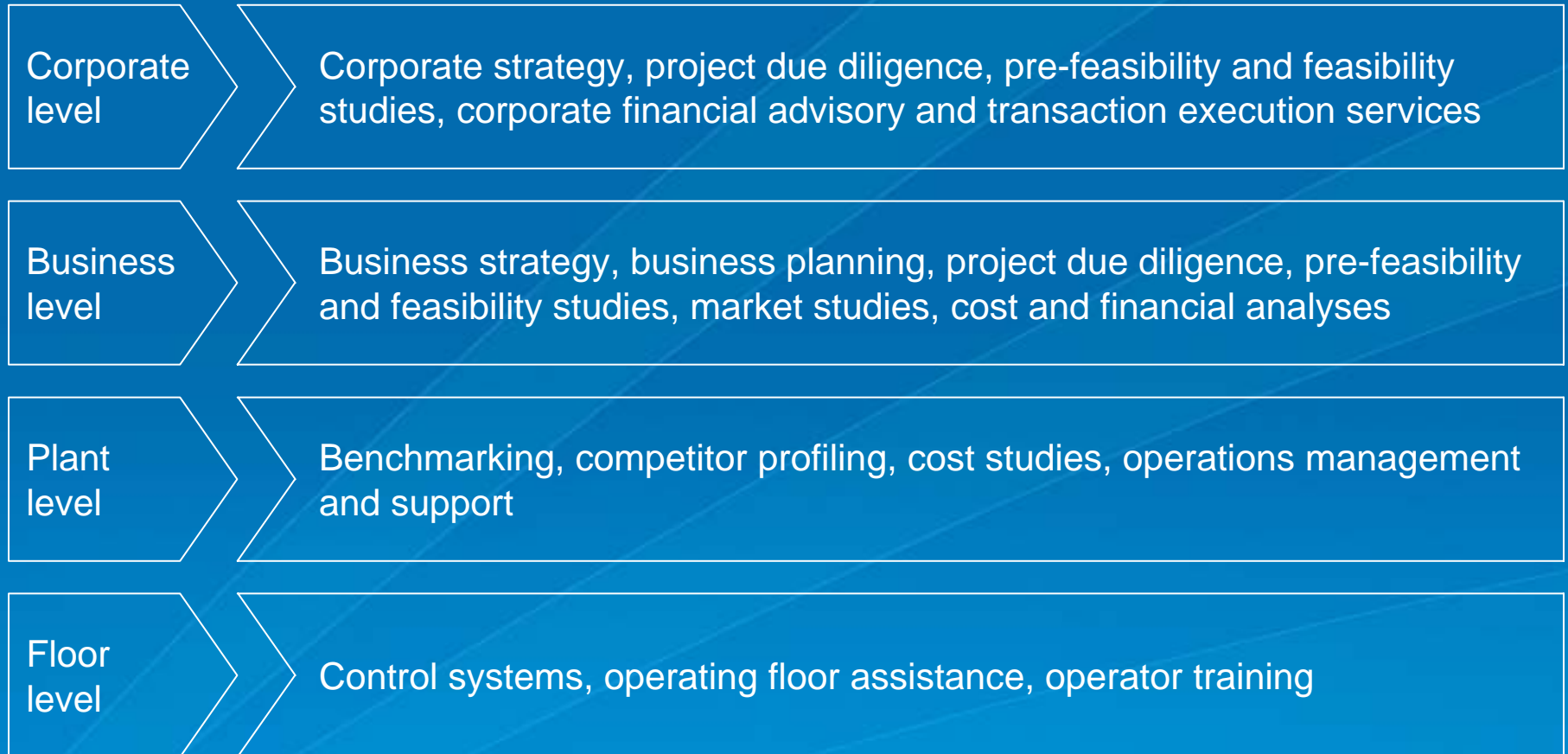


Hatch works with managers to build sustainable and high-performing businesses



Business Lifecycle

Hatch supplies a complete range of services covering the full scope of clients' activities from corporate level to floor level



Hatch Consulting is the leading management consultancy dedicated to the metals and mining industries

- **Hatch Consulting** is the world's leading management consultancy specialising in the steel, metals and mining industries and provides high level support services, ranging from corporate and business strategy development through strategic market studies to implementation of new technologies, management and operating practices
- Hatch Consulting is organised into specialised practices by industry and service, combining to provide precise solutions, expertly delivered to the exact needs of each individual client
 - **Hatch Beddows** is the strategy and market development practice, specialising in steel and related industries, and providing strategy development and implementation services
 - **Investment and Business Planning** (IBP) provides economic, environmental and technical evaluations of minerals properties and processing facilities, due diligence, pre-feasibility and feasibility studies and related investment planning and appraisal services
 - **Performance and Risk Management** provides high performance management, asset performance enhancement and optimisation, process and facilities benchmarking, and risk management services
- **Hatch Corporate Finance** (HCF), a FSA-regulated joint venture company, provides corporate financial advisory and transaction execution services

Hatch Beddows' services range from strategic advisory, transaction support and government related work

Hatch Beddows' range of services

Strategic advisory

- Group strategy
- Business unit strategy
- Corporate development and restructuring
- Portfolio management
- Market entry strategies
- Investment analysis
- Business planning
- Pre-feasibility and feasibility studies

Transaction support

- Due diligence
- M&A asset search and selection

Public sector & Government

- Privatisation and restructuring
- Government policy options and design
- Long term development plans for resources

Hatch Beddows' strategy consulting experience spans the whole of the value chain from raw materials to finished steel to processed products for a comprehensive perspective

- **Raw materials and consumables**
 - Iron ore, pellet and sinter
 - Coking coal and coke
 - Metallics: scrap, pig iron, DRI / HBI
 - Ferroalloys: Cr, Mn, Ni, Si
 - Refractories
- **Semi-finished steel**
 - Slab
 - Billet and bloom
- **Long products**
 - Rebar
 - Merchant bars
 - Structural sections
 - Wire rod and wire products
 - Engineering bars
 - Rails
 - Grinding balls
- **Reversing mill / Steckel mill plate**
- **Strip mill products**
 - HR sheet / plate
 - CR sheet
 - Electrical steels
 - Galvanised sheet
 - Organic coated sheet
 - Tin mill products
 - Tailor-welded blanks
- **Pipe and tube**
 - OCTG and line pipe
 - Seamless and welded tubes
 - Hollow sections
- **Stainless steel**
- **Speciality steels and special metals**

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The objective of this paper is to examine the fundamentals of steel industry in light of the changed economic landscape

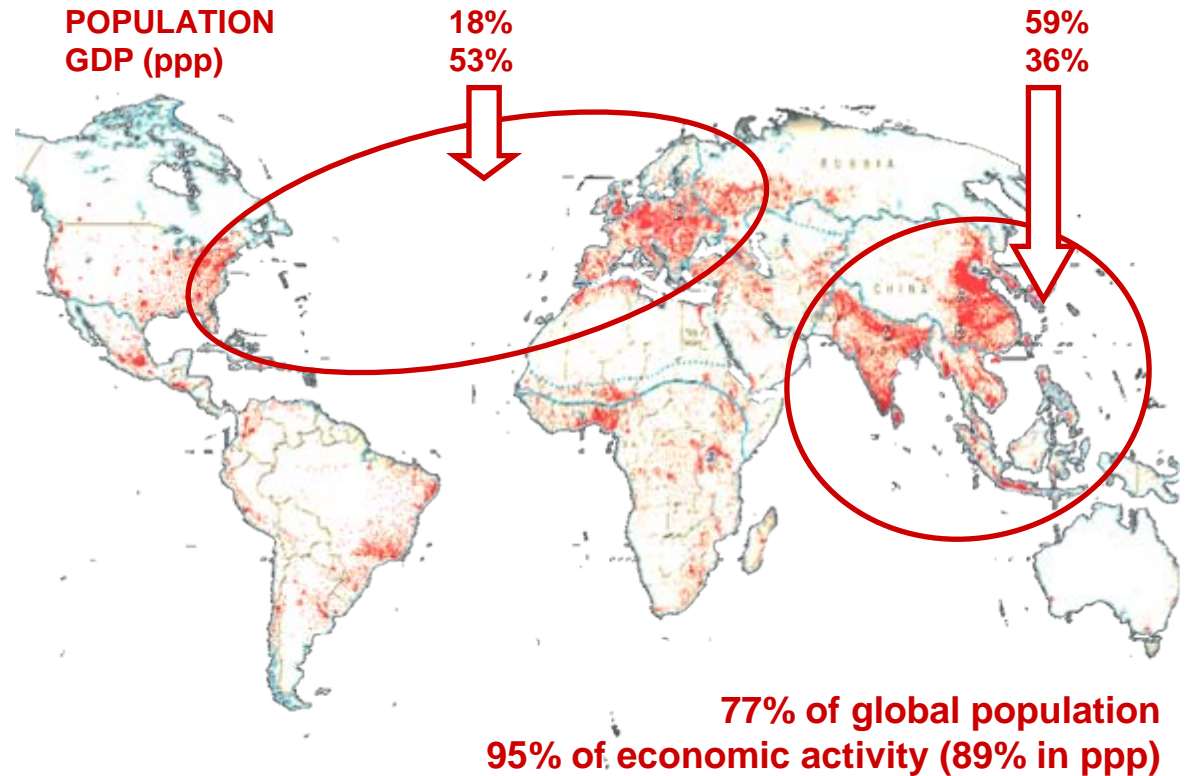
- This paper addresses the following objectives:
 - Has the changed economic landscape changed the fundamentals of the steel industry?
 - What are the structural challenges and opportunities for the industry?
 - How have the fundamentals of the industry in the Middle East likely to hold in the future?

Population clusters and their location will continue to drive steel consumption and the location of the steel industry

- The North Atlantic basin and the Pacific / Indian rim account for 77% of the global population and 95% of the economic activity.
- Steel consumption and steel plant locations match such population and economic clusters closely.

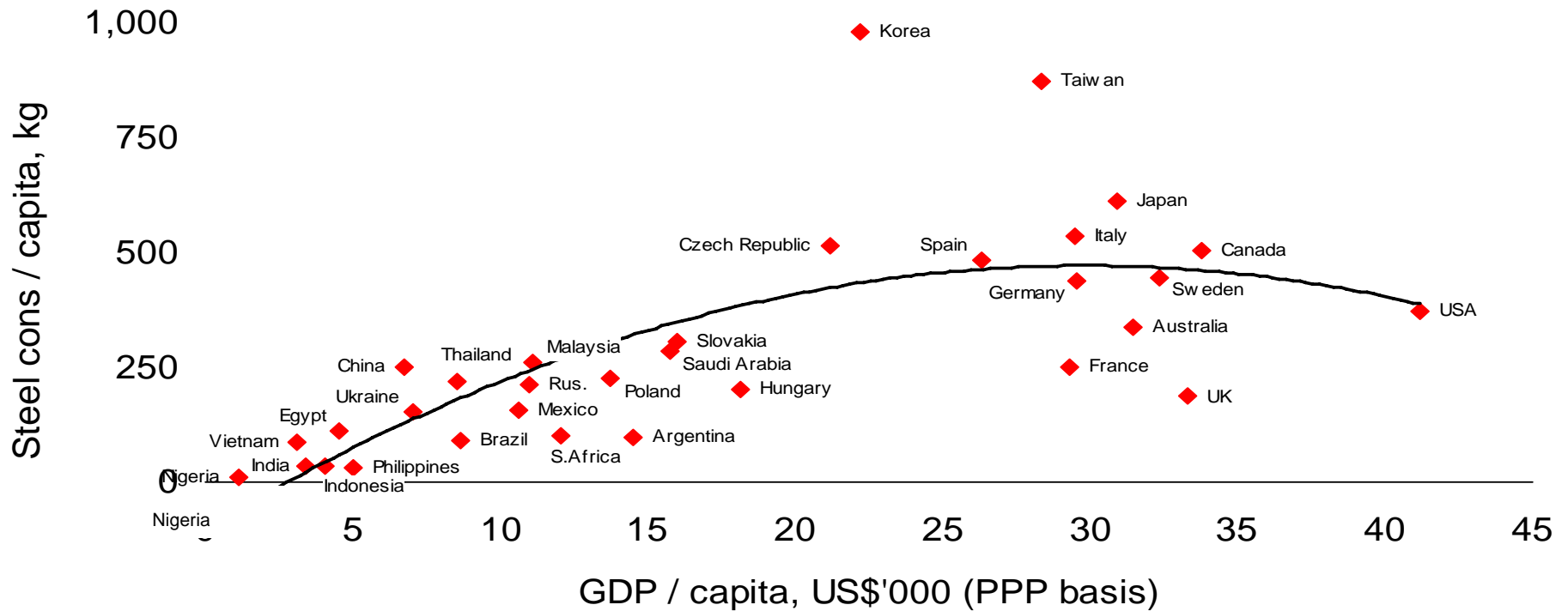
Major Regions of Population and GDP

Each red dot is 100,000 people



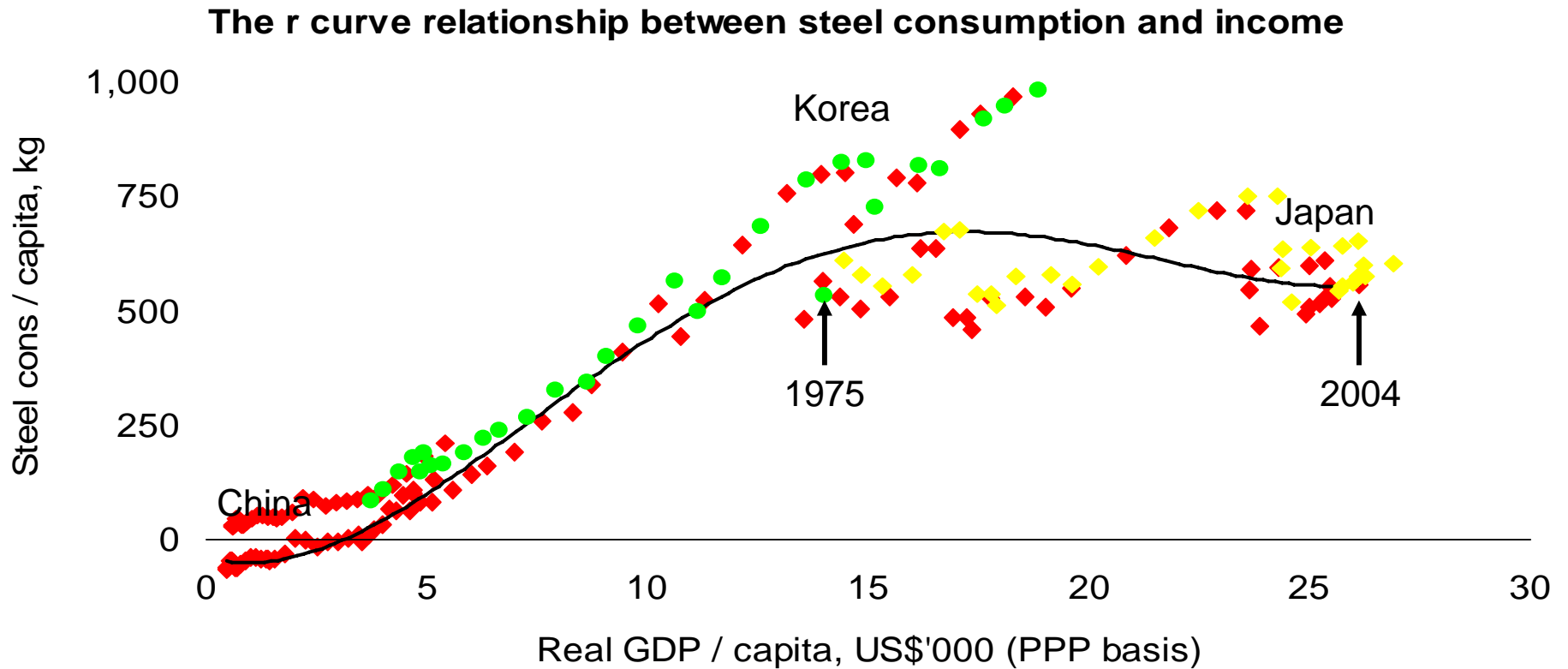
There is a clear relationship between average incomes levels and steel consumption per capita...

Finished steel consumption and income per capita



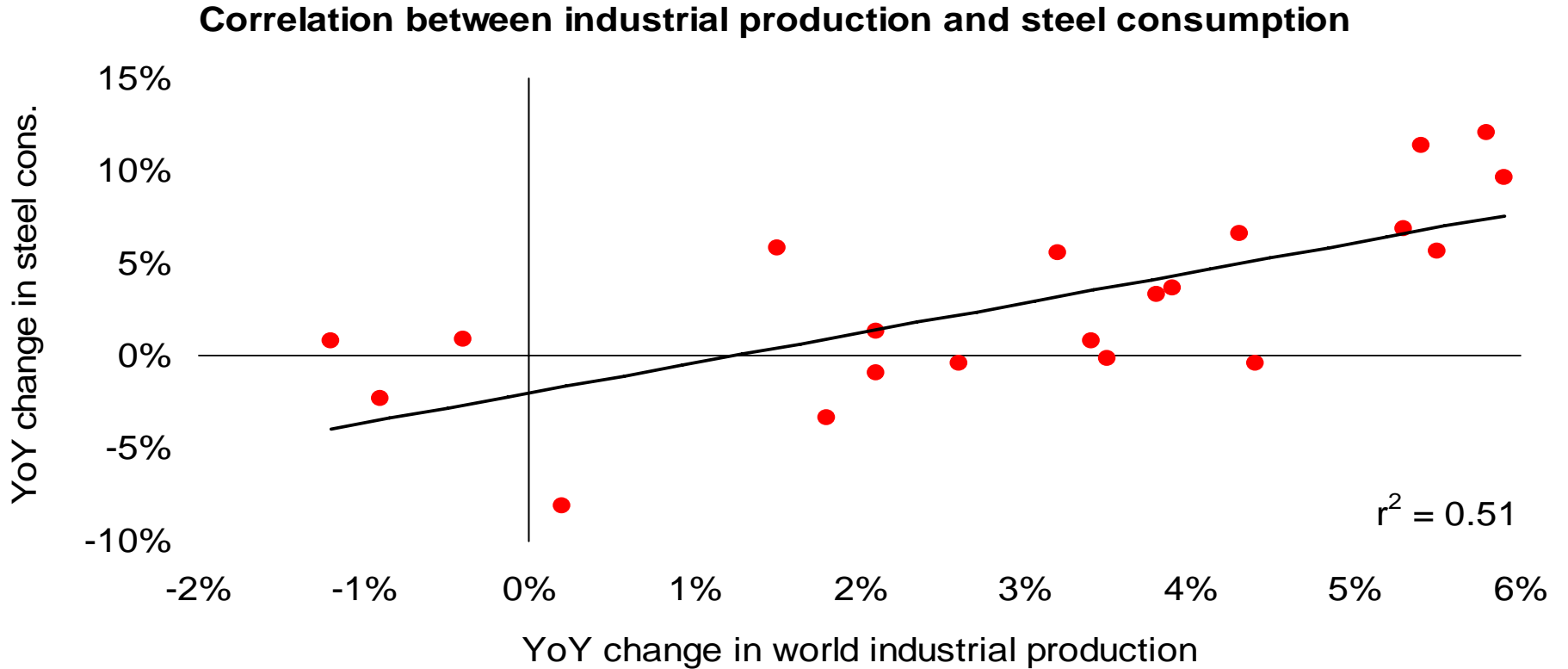
Data: Hatch Beddows, WSA, IMF. Note: 2005 data. PPP – purchasing power parity

Adding a second dimension we can see that this relationship is sustained over time; as average incomes rise steel consumption per capita tends also to rise



Data: Hatch Beddows, WSA, IMF. Note: PPP – purchasing power parity

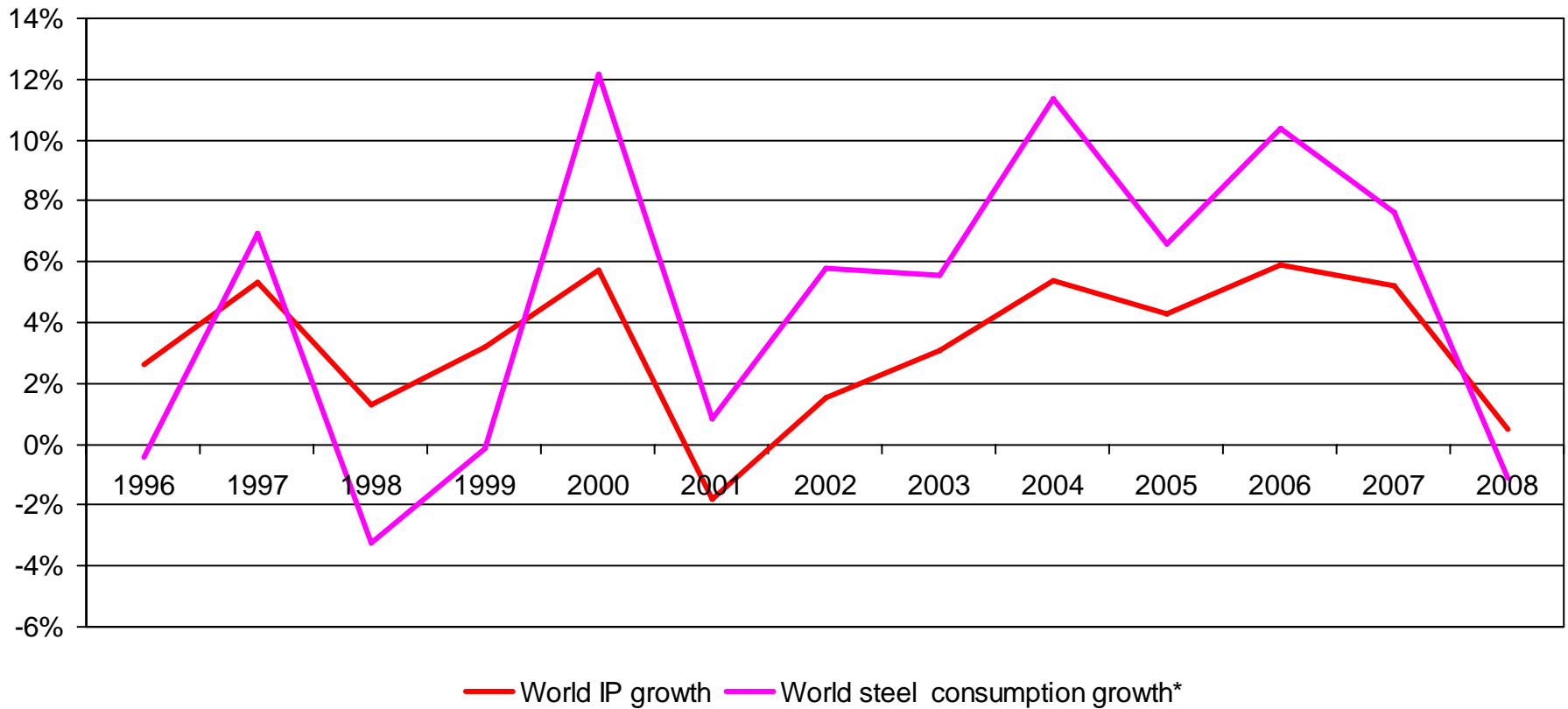
There is a close correlation between growth in industrial production and steel consumption (1)



Data: Hatch Beddows, WSD, OEF. Note: Annual data from 1986-2006

There is a close correlation between growth in industrial production and steel consumption (2)

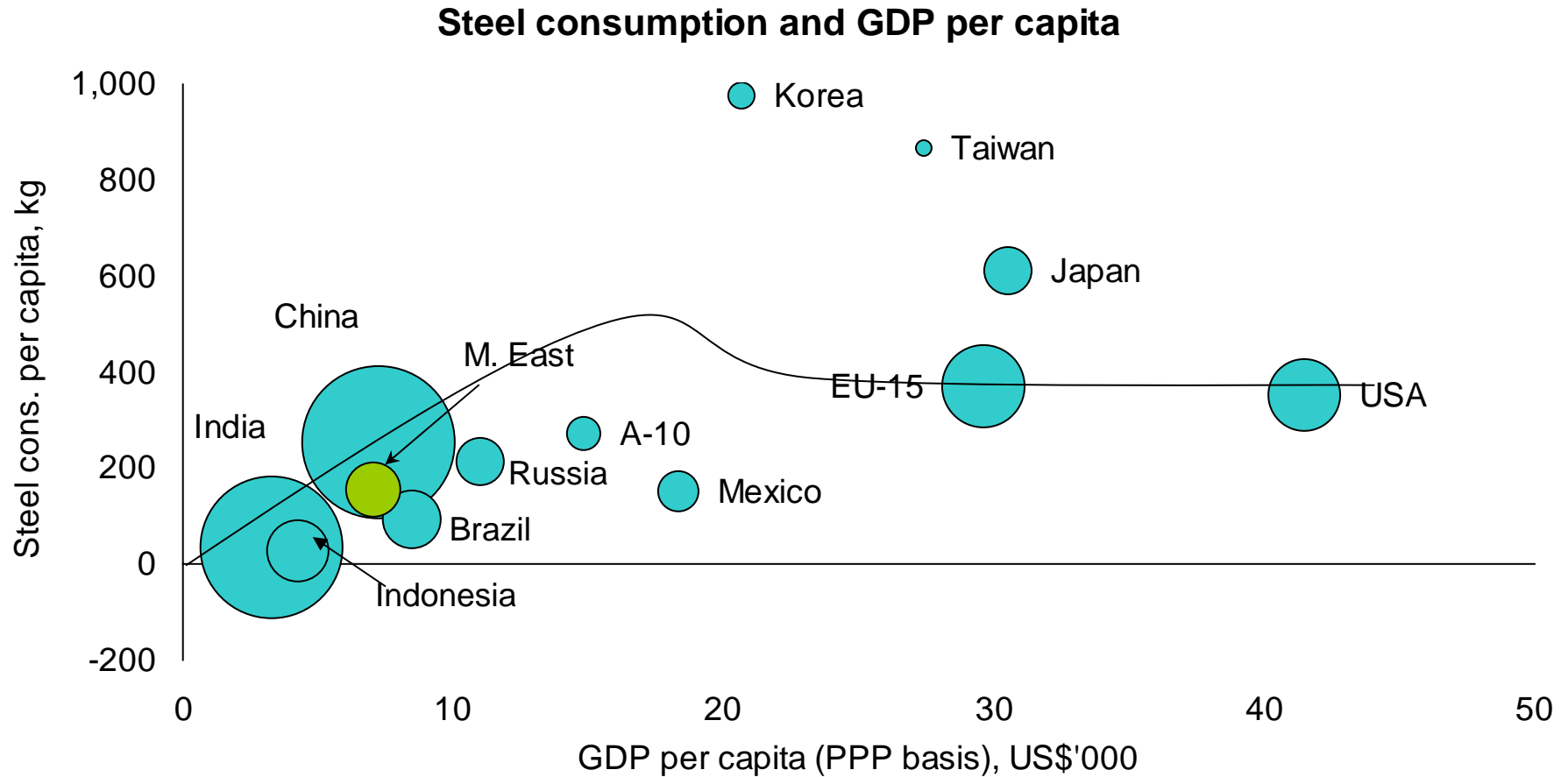
Trends in changes in global steel consumption and IP



Data: Hatch Beddows, SBB, CHR Economics.

* crude steel basis

Adding a third dimension underscores potential for growth in steel demand. Half of the world's population lives in high-growth developing countries



Data: Hatch Beddows, WSA, IMF, UN. Size of bubbles is proportional to size of population in each country or region

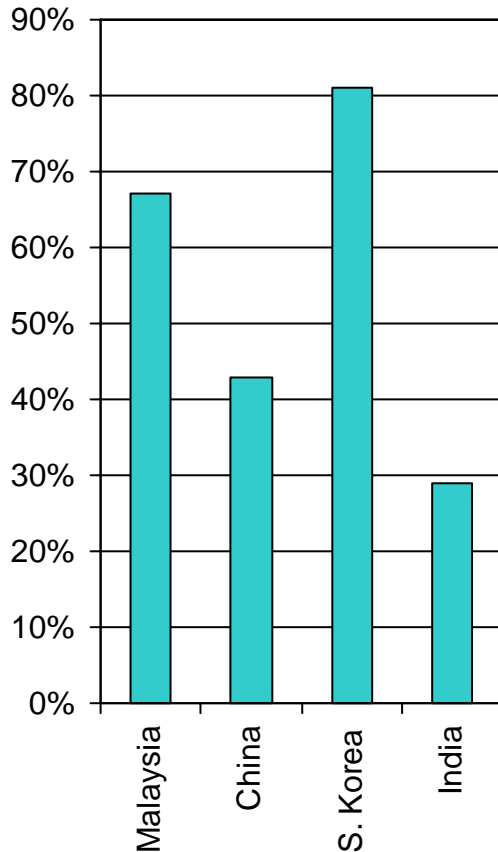
Significant investments are required in India to support the rising urbanisation and movements of rural people to cities. Therefore steel consumption is likely to increase in the future

India as an example

Urbanisation rates in India are low but it is at a point of take off

..... resulting in massive movements of rural people to the cities

..... therefore requiring significant investments in



By 2020 : 140 million

By 2050 : 700 million



- Housing
- Infrastructure
- Transport
- Power
- Education
- Healthcare

Construction spend will continue to drive half of steel consumption. The threat to substitution of steel by other materials is over rated

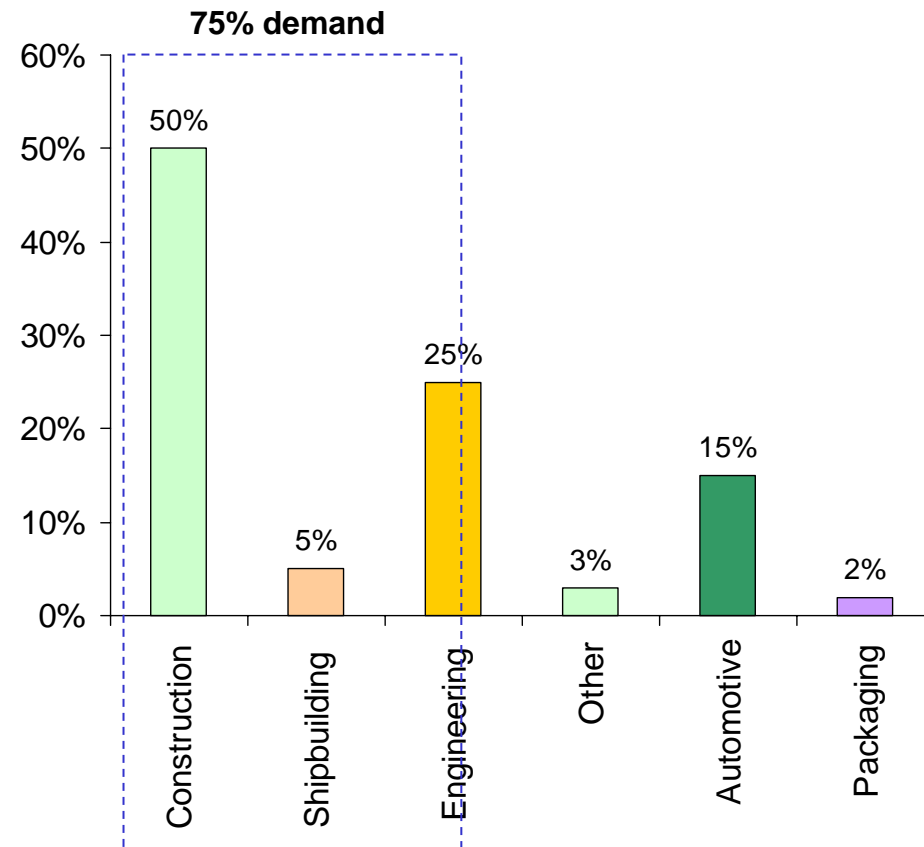
Sectors

- Not all global steel demand is driven by automotive industry. The influence of automotive sector on steel demand is over rated despite it accounting for only 15% of the total demand.
- Fixed assets investments includes construction, shipbuilding, engineering and machine building will be the key drivers of steel demand in both developing and developed countries.

Substitution

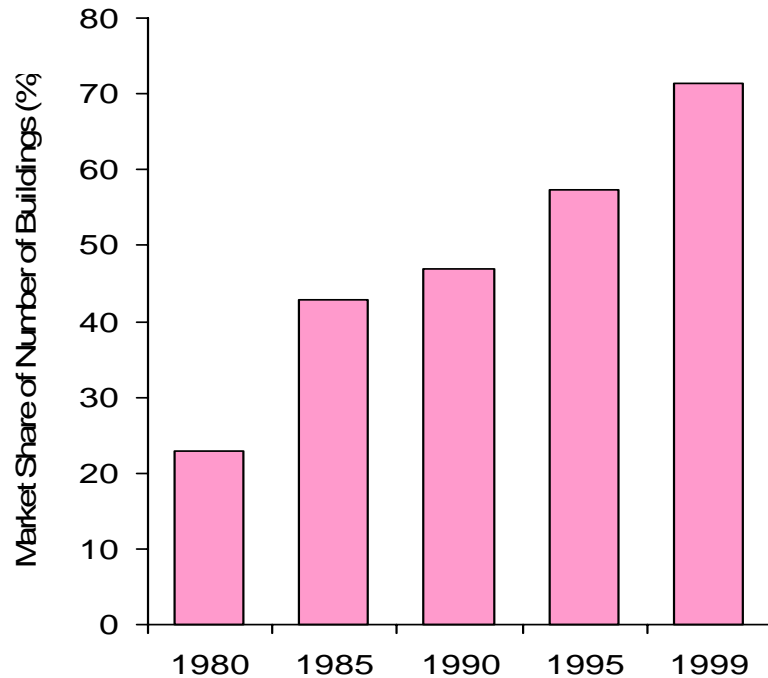
- The threat of substitution of steel by other materials such as aluminium, plastics is over rated.
- Steel in construction, shipbuilding and engineering cannot be suitably substituted by other materials.
- In construction, there is an opportunity for steel to substitute other materials such as concrete.

Breakdown of global steel demand by sectors

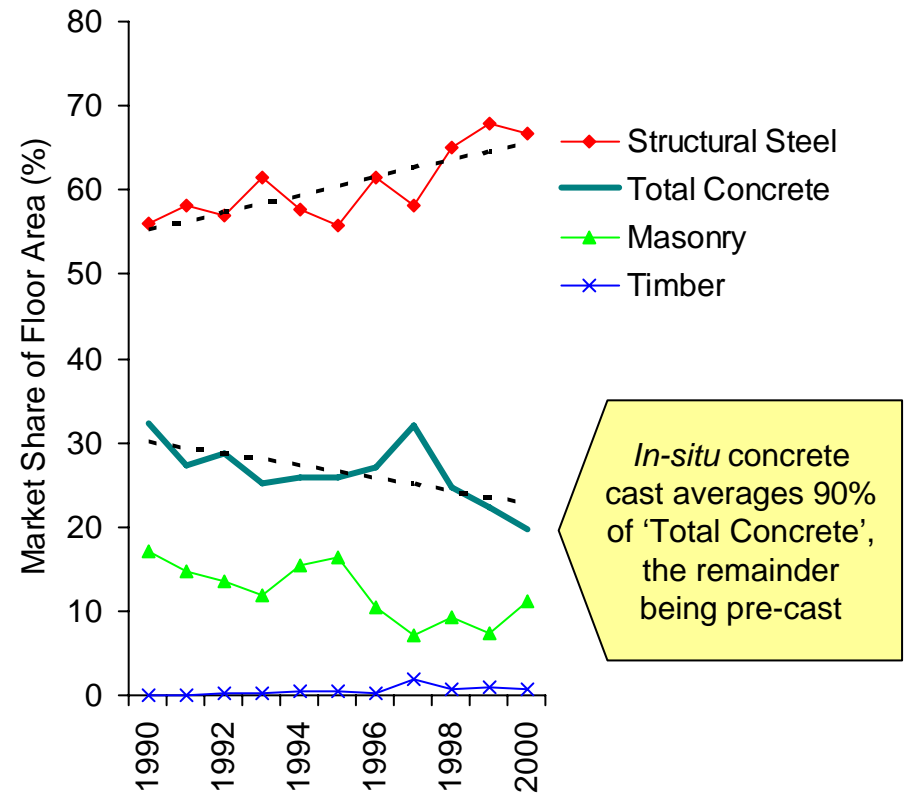


Corus successfully displaced reinforced concrete as the preferred material in commercial buildings in the UK

Use of Steel Frames for Multi-storey Office Buildings in the UK



UK Market Share for Multi-storey Buildings

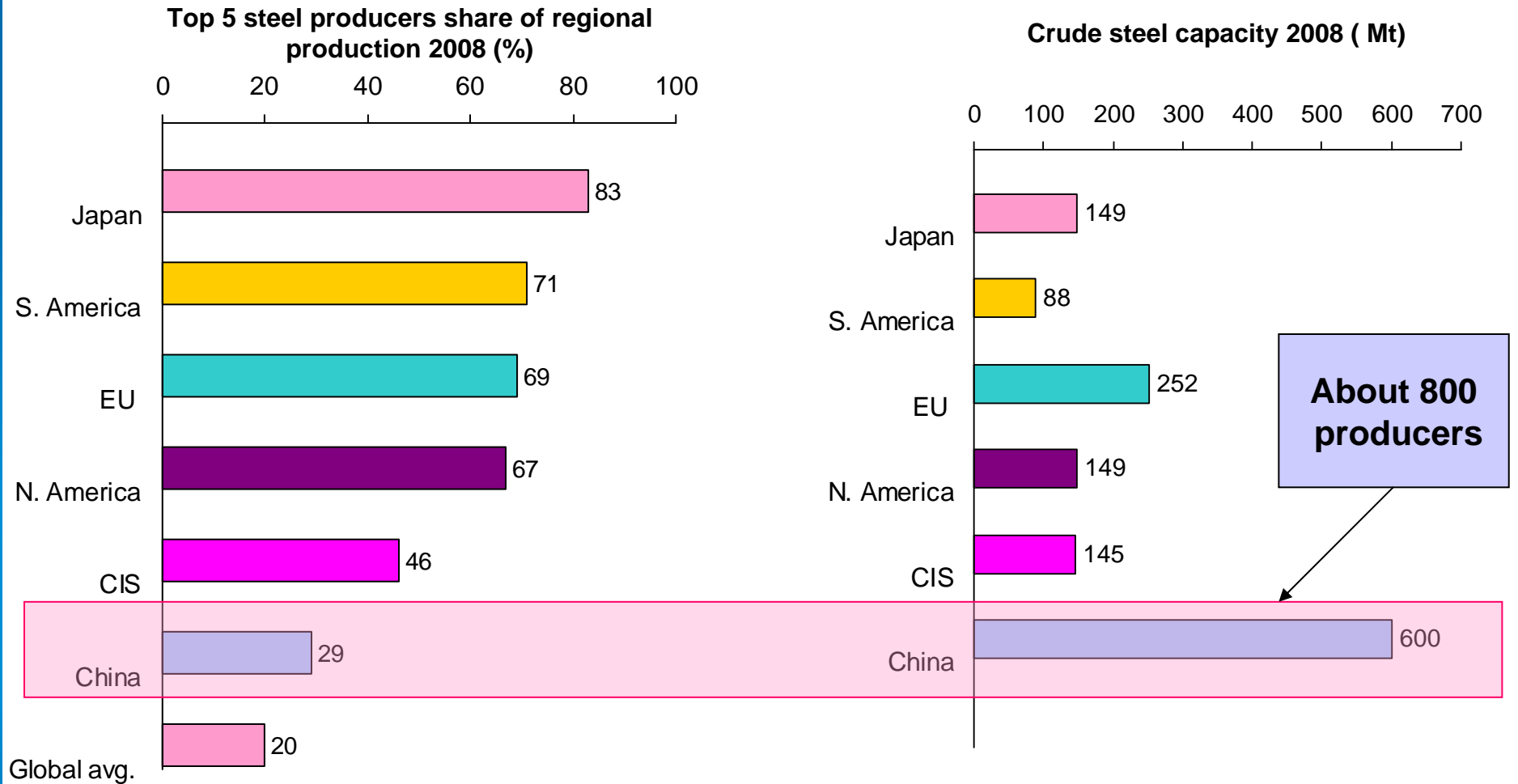


Source: Corus, Construction Markets (2000), Hatch Beddows

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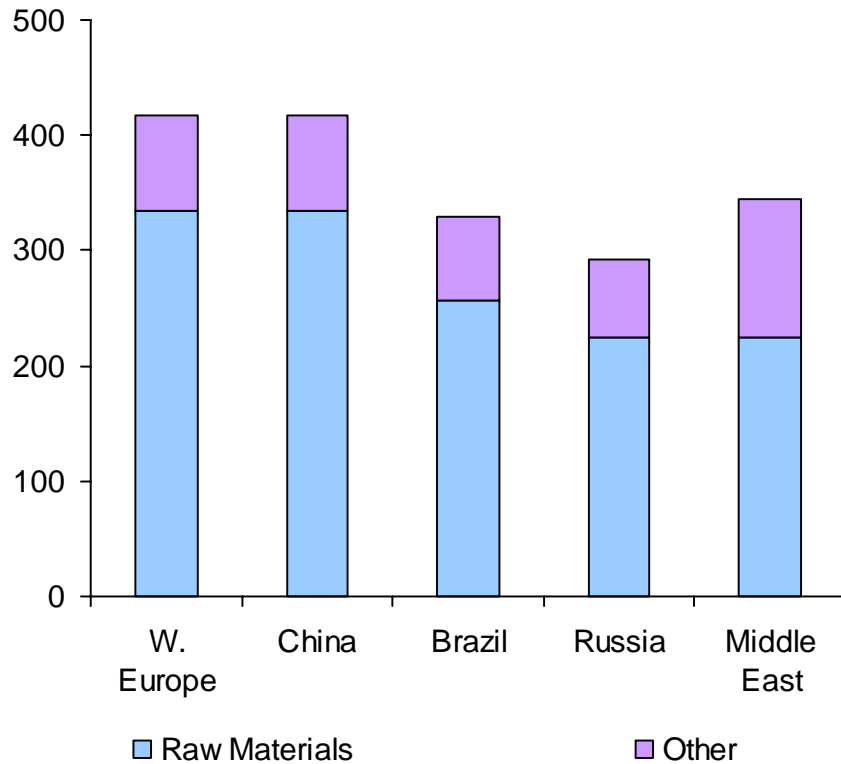
Consolidation has increased in the global steel industry but China, the largest steel producing country, remains fragmented



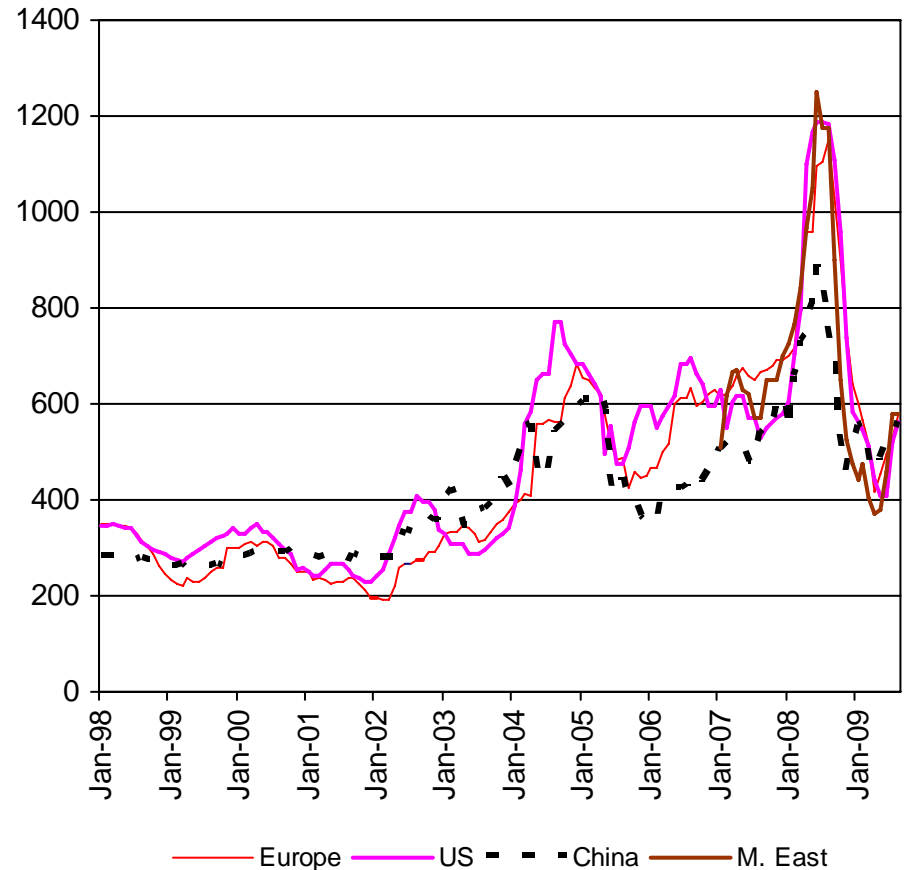
Source: WSA, James King Plant Database, Hatch Beddows

High steel making costs in China has put a cap on floor prices. Domestic steel prices in China continue to trail behind prices in rest of the world

Cash costs at liquid steel stage (USD/t)



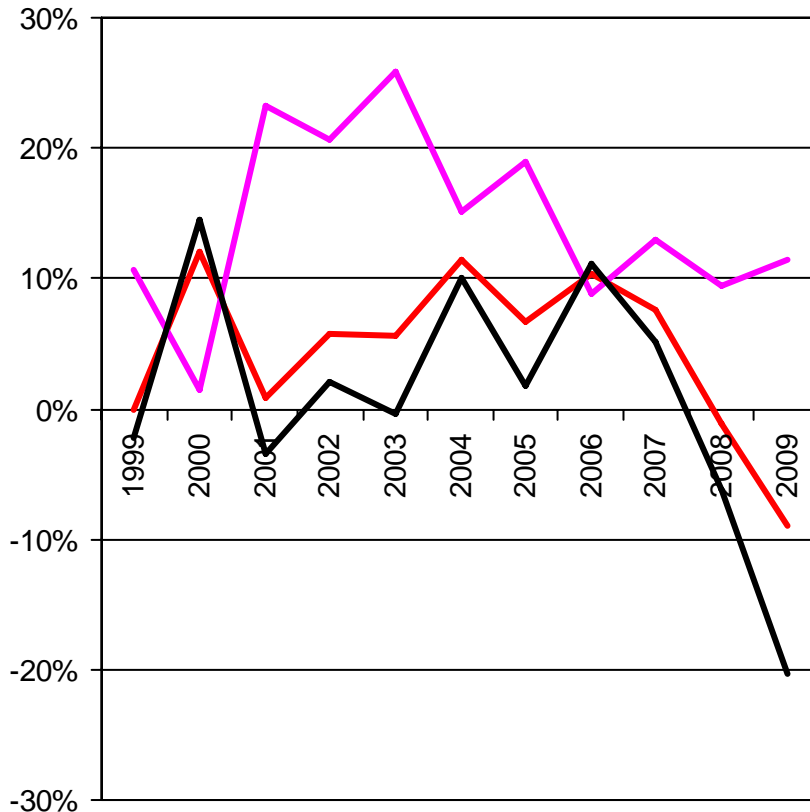
Domestic HRC price trends (USD/t)



Source: SBB, Tex report, MB, AMM, Hatch Beddows

Chinese steel growth has remained delinked from the world, even during 2009. When capacity utilisation is low, we see large surges in export volumes, helped by trailing prices

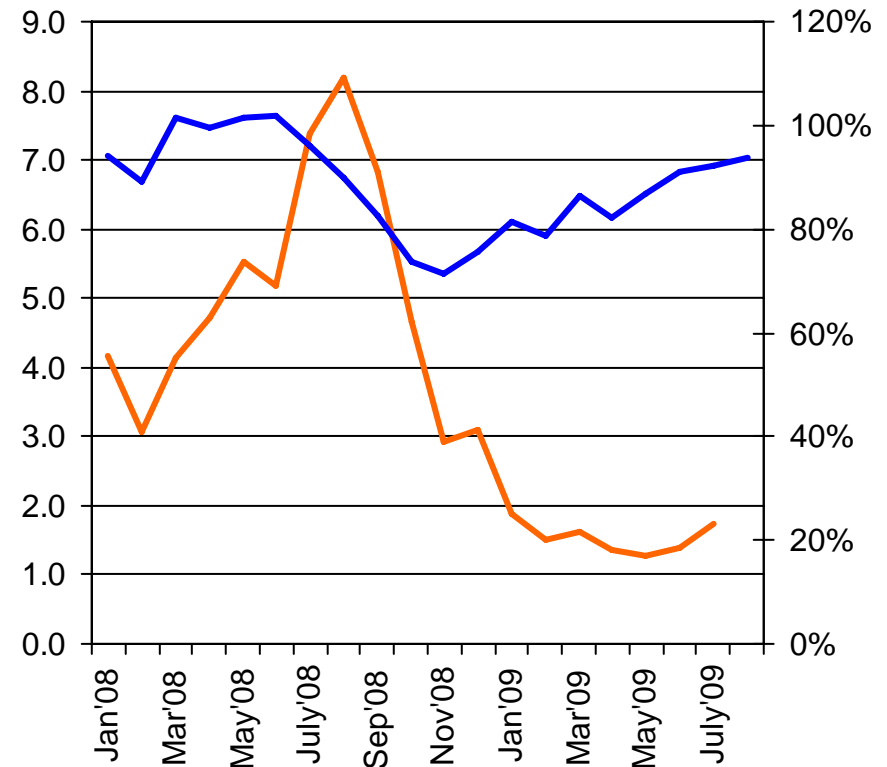
Steel consumption growth* (%)



— World — China — World Ex China

*crude steel basis

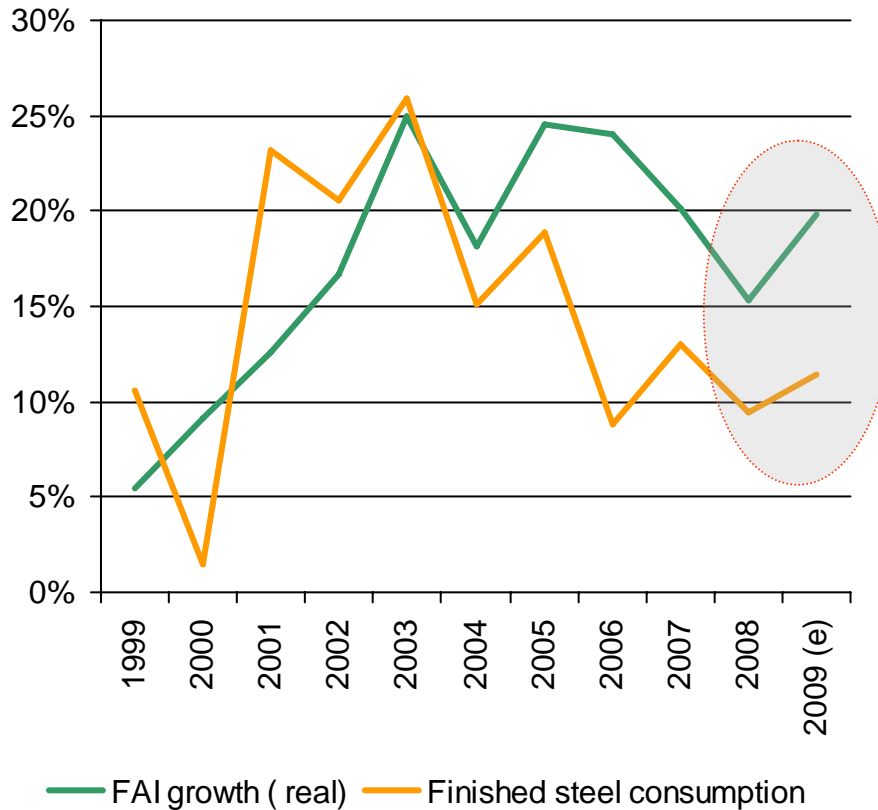
Capacity utilisation (%) versus exports (MT) in China



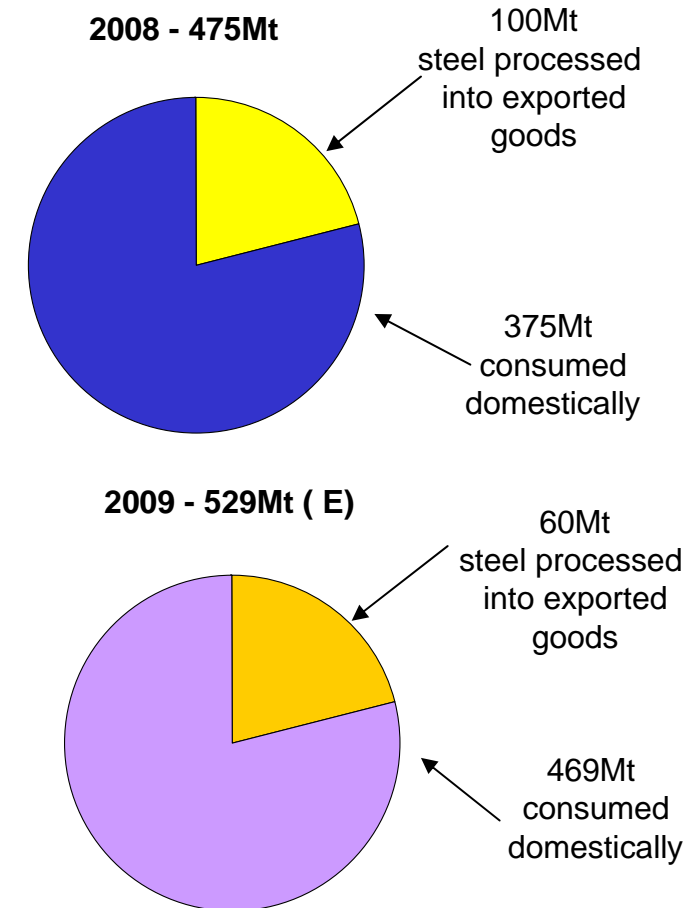
— Exports (LHS) — Cap. utilisation (RHS)

In 2009, a massive 20% increase in FAI is sustaining a 11% increase in Chinese steel consumption offsetting a decrease in steel processed into exported goods. Can this be sustained for the next few years?

Trends in FAI and finished steel consumption growth in China (%)



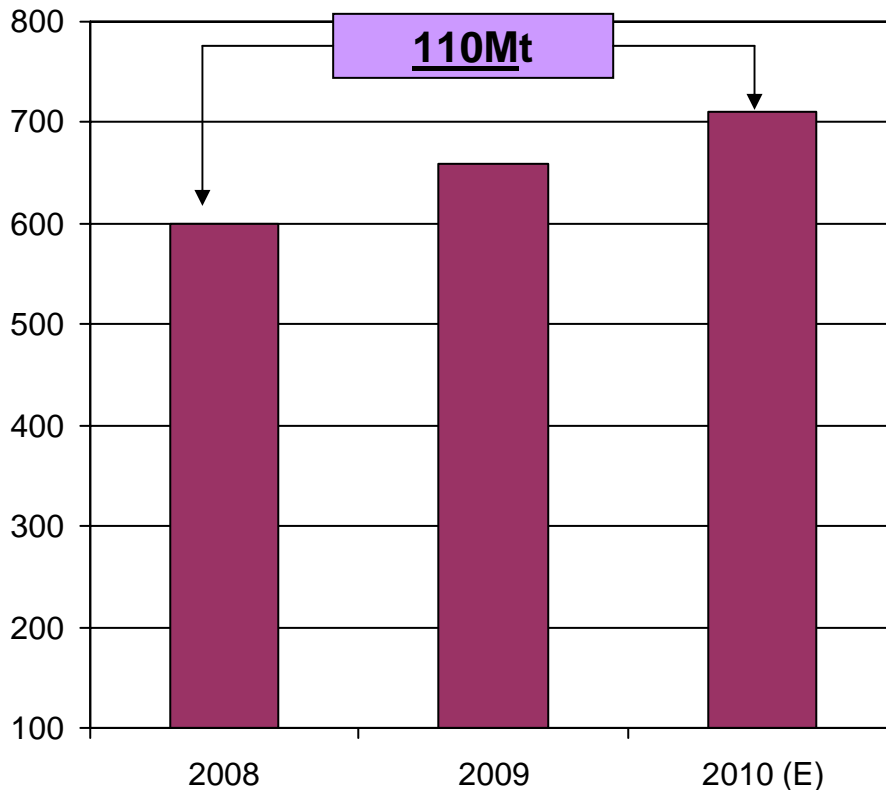
Breakdown of China's finished steel consumption



Source : Dragonomics economic research, WSA, Hatch Beddows

China has never been fully successful with capacity rationalisation. In their defence it must be said that the task is immensely complex with no previous parallels and there are too many producers!

Crude steel capacity growth in China (Mt)



Source: SBB, CISA, Hatch Beddows

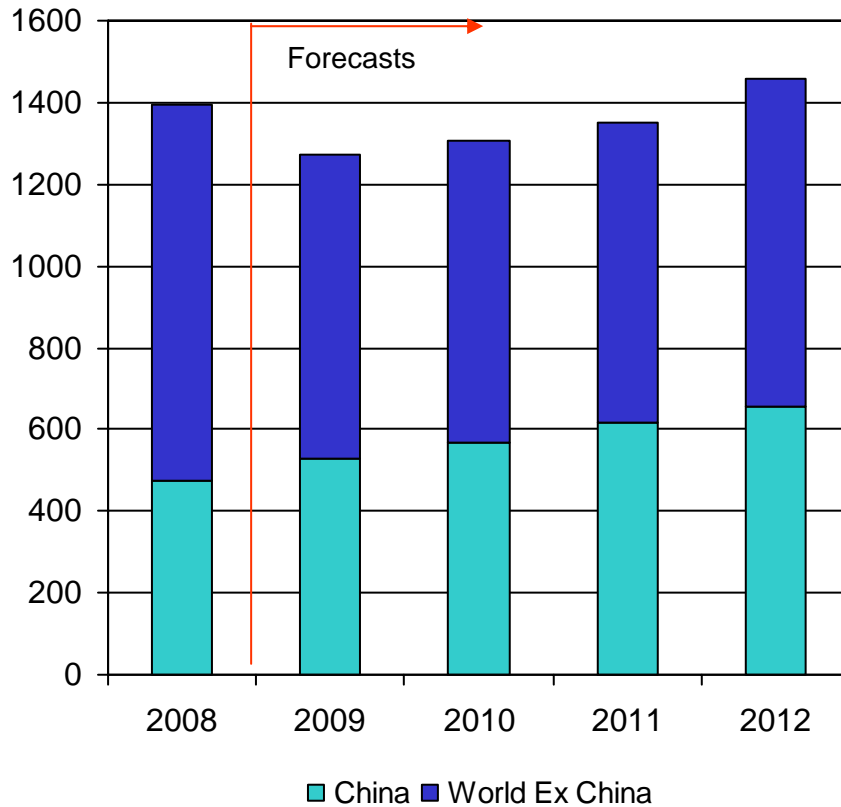
- Capacity build-up in China is happening on number of fronts and does not follow a central government generated vision plan:
 - Central government funded projects
 - Provincial government funded projects
 - Private enterprises
- China has never been successful in implementing capacity rationalisation. The process can be distorted due to considerations of social unrest, unemployment and tax revenues.
- China will continue to build capacities because this is domestic demand driven and there is no other superior economic alternative.

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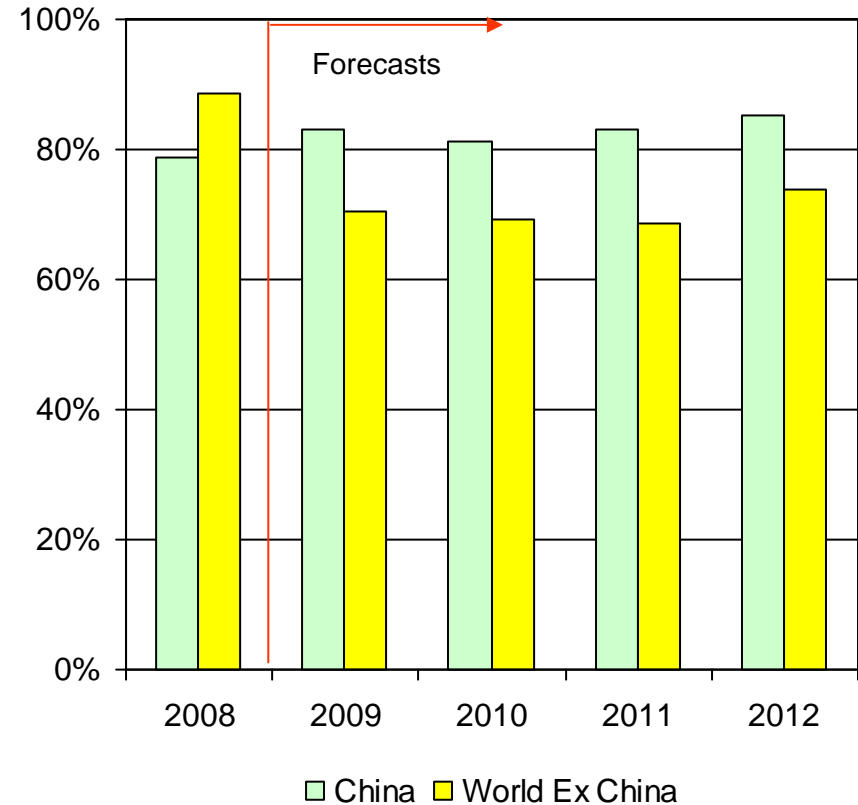
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Consumption could recover to 2008 levels by 2012. Recovery could be diluted due to capacity overhang , less in China but more so in World ex China i.e US, EU and Japan

Steel consumption forecasts* (Mt)



Forecast capacity utilisation (Mt)



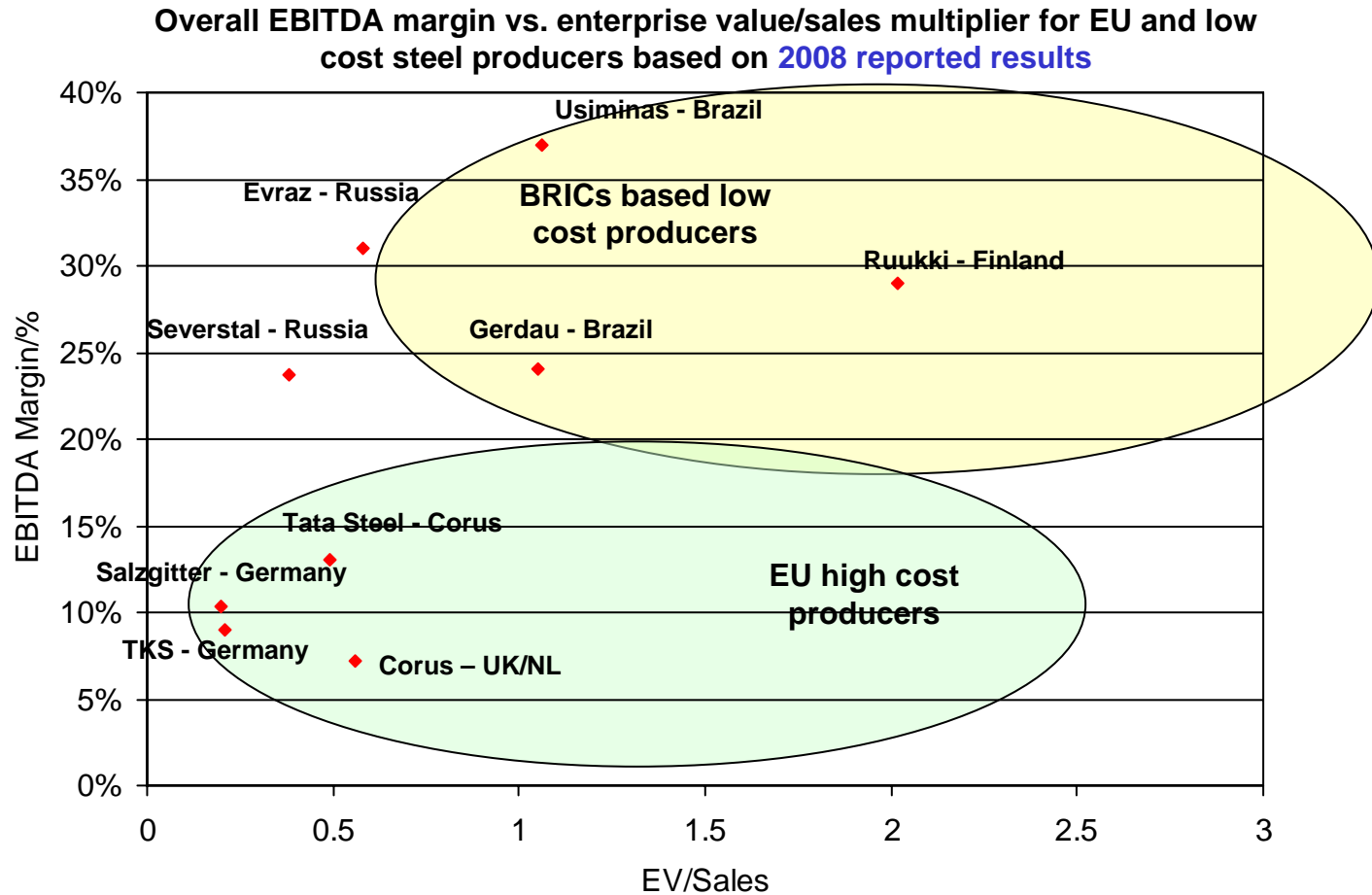
Source: Hatch Beddows

*crude steel basis

We are likely to see a more stronger pricing recovery than finished steel consumption recovery

- An increasing demand for steel from China is likely to push up raw materials prices.
- An increase in raw materials will push costs and prices of finished steel.
- With the steel industry being more consolidated in EU, N. America and Japan, these price increases will likely be passed on customers. This is where it breaks away from trends in 1980, when the balance of negotiation power was with customers.
- Prices in China and in the Middle East are likely to follow similar trends. But Chinese prices will continue to trail behind international prices due to lesser consolidation.
- Higher raw materials prices will benefit vertically integrated producers like Severstal, NLMK, even more.
- Therefore we are likely to see a more stronger pricing recovery than finished steel consumption recovery.
- Expect volatility in prices and exports! As demand and prices recovers, production, inventory and exports could overshoot consumption !

The capital markets are re-rating the steel industry and clearly favour the low cost producers (1)

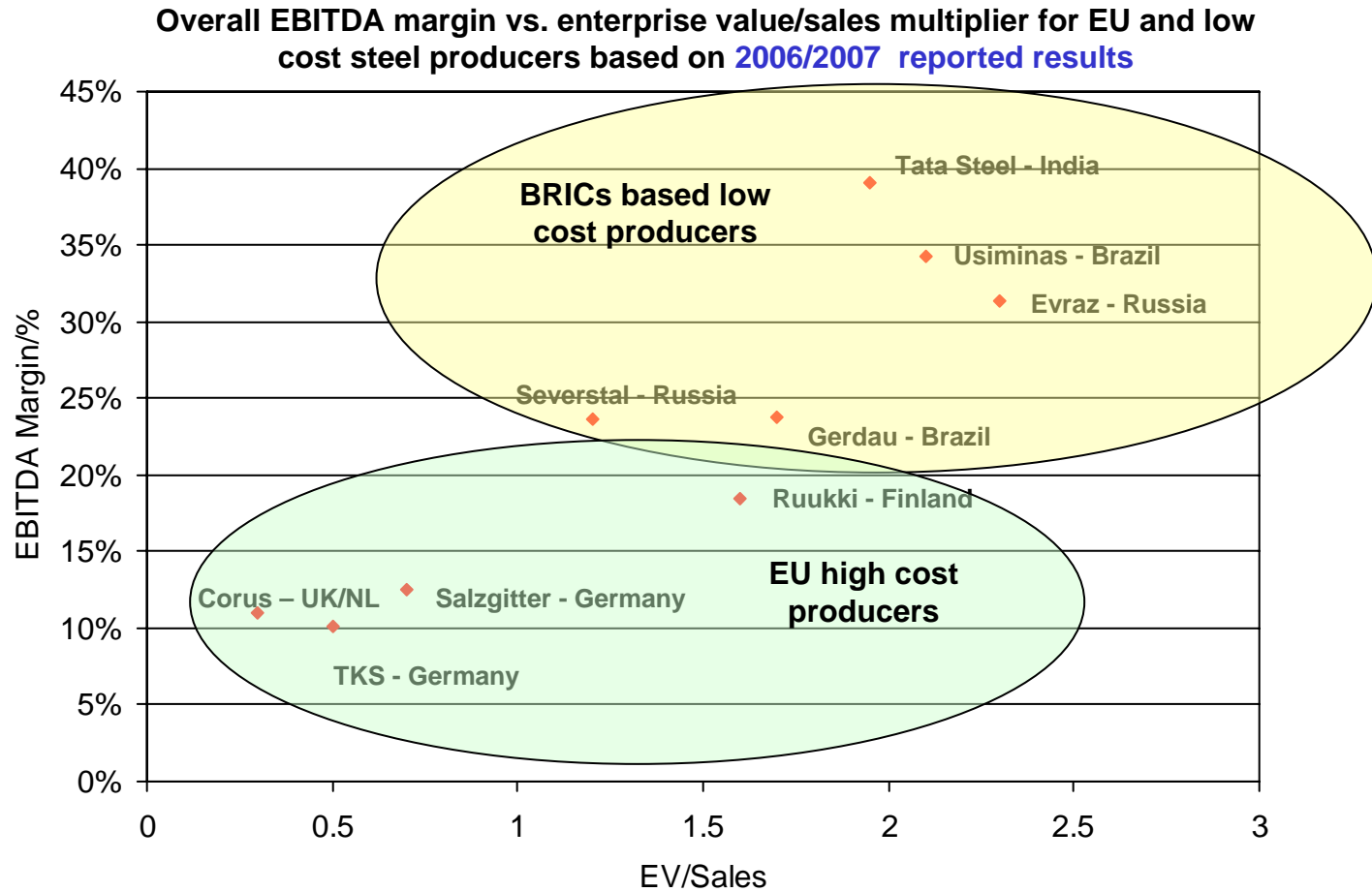


Note: Note: Enterprise Value ("EV") calculated as Market Capitalisation + Net Debt

Corus Group and Tata Steel before their merger

Source: Bloomberg and Hatch Beddows

The capital markets are re-rating the steel industry and clearly favour the low cost producers (2)

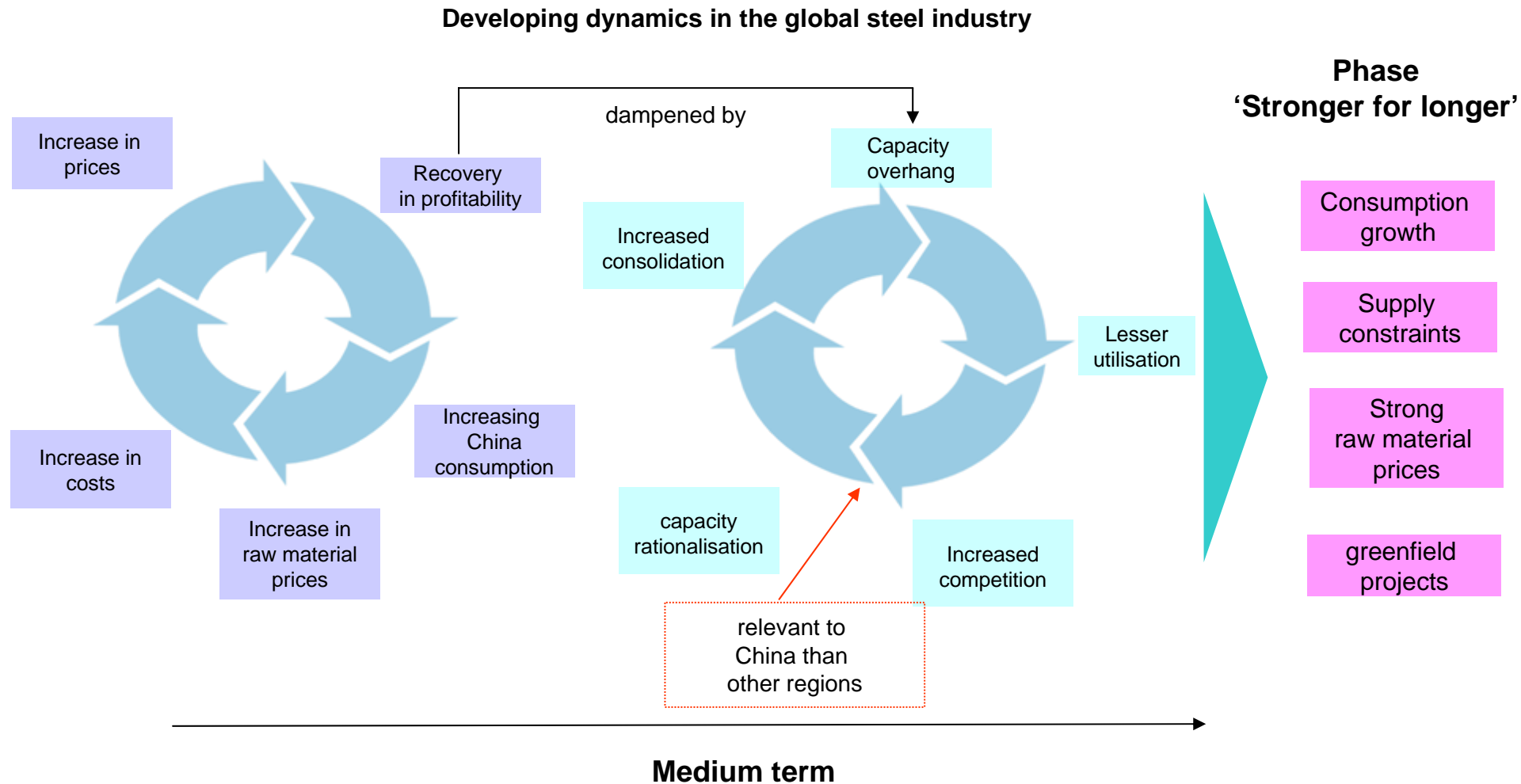


Note: Note: Enterprise Value ("EV") calculated as Market Capitalisation + Net Debt

Corus Group and Tata Steel before their merger

Source: Bloomberg and Hatch Beddows

The period of the medium term dynamics will depend largely on how rapidly governments in US, EU and Japan can revive the economies. So far, only a crisis has been averted!



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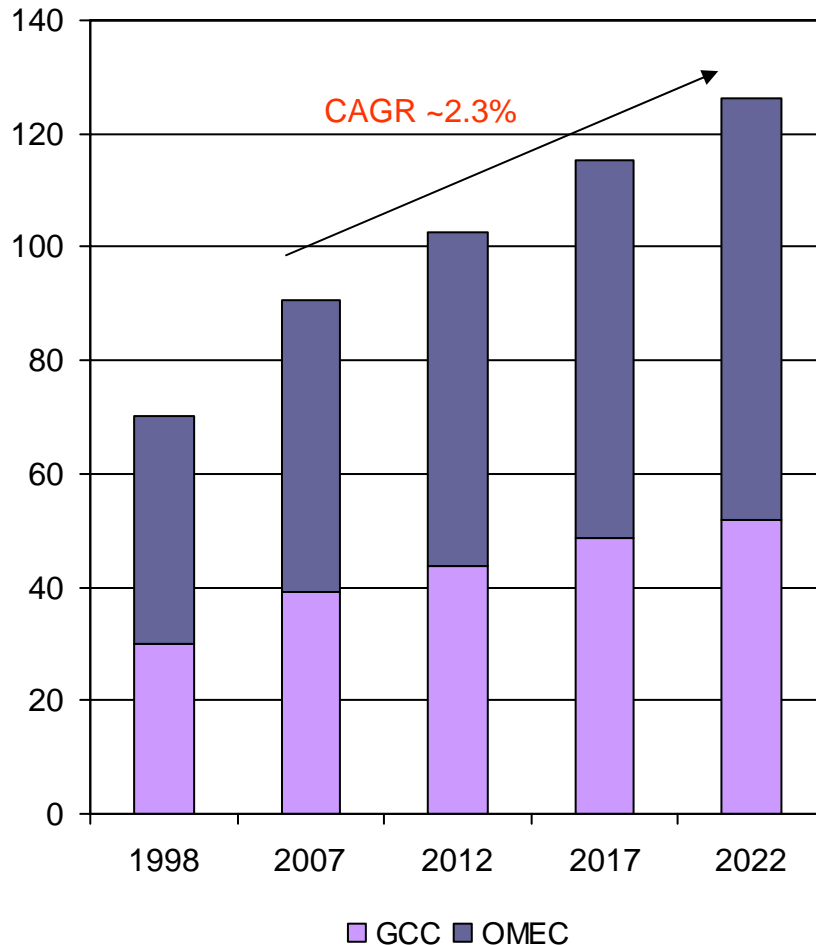
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Consumption of flat products in the Middle East will be driven by - oil prices, construction spend, population growth, industrial growth policy

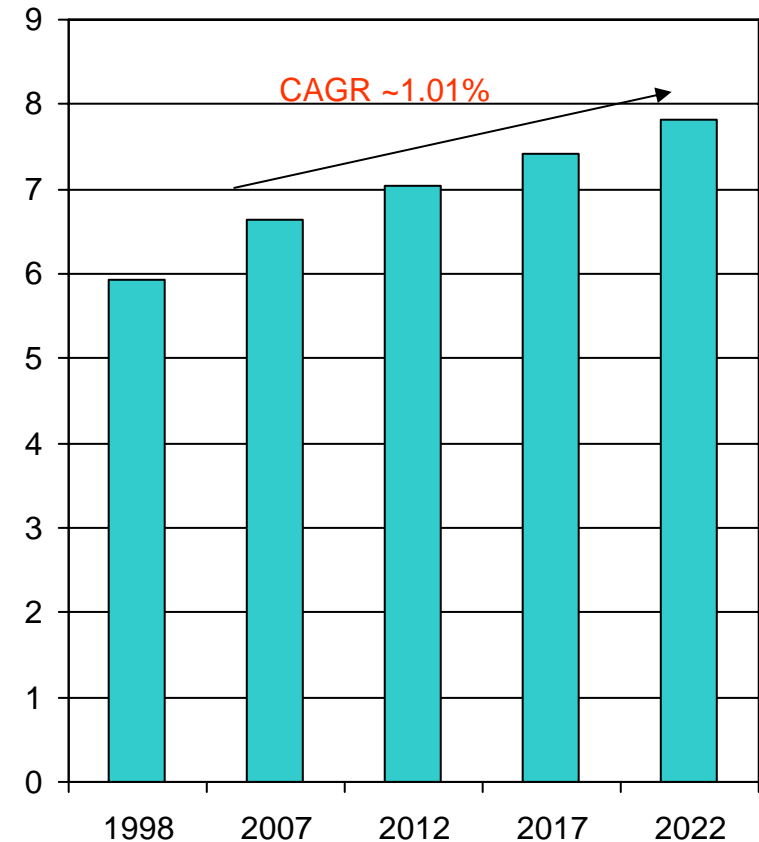
- Hatch Beddows is of the view the fundamentals driving steel consumption in the Middle East has not changed in the economic crisis.
 - Oil and gas prices
 - Population growth
 - Construction spend
 - Industrial growth policy

The pressures of a growing population in the Middle East (twice the world avg. growth rates) are forecast to continue in the next 15 years

Historical and forecast population in GCC and OMEC (millions)

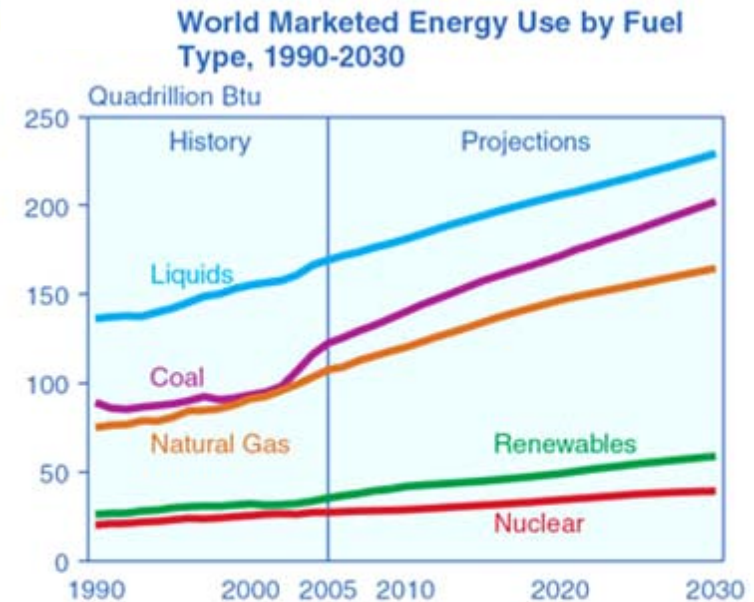


Historical and forecast of world population (billions)

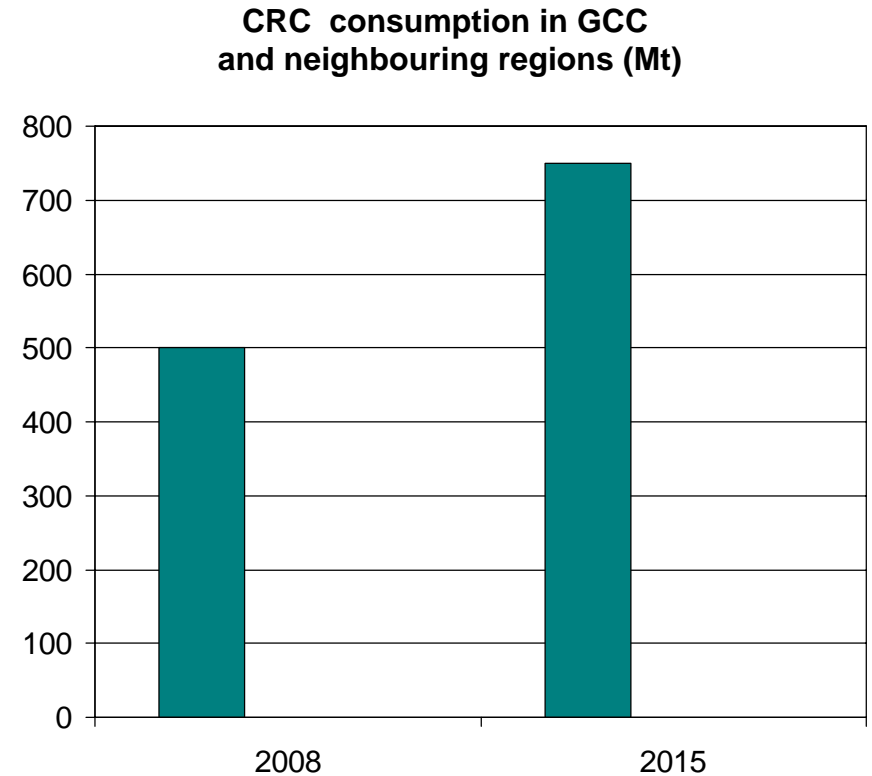
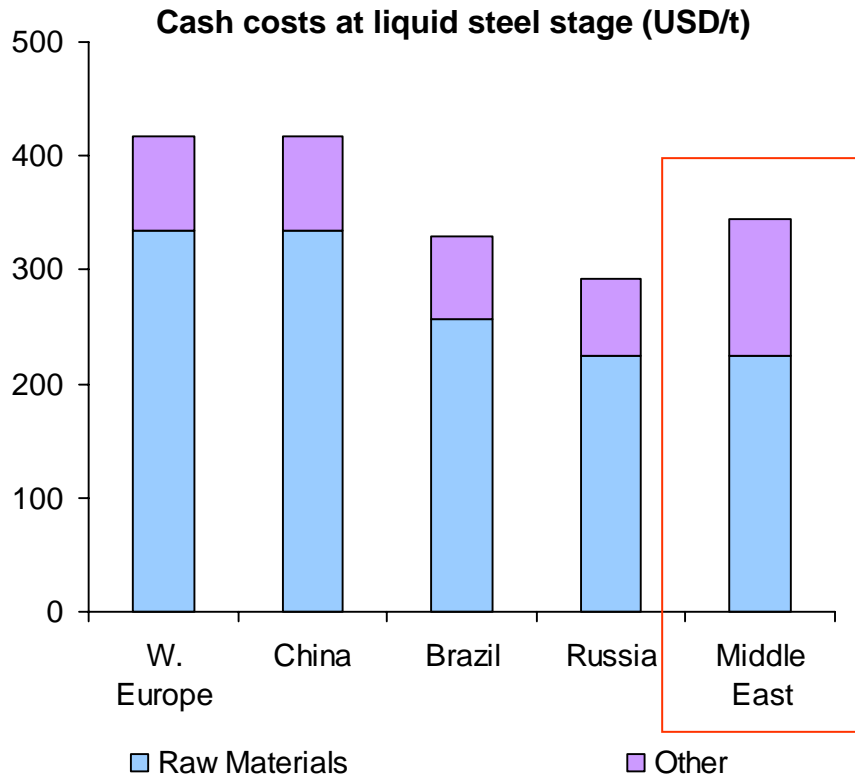


The oil demand and price scenario, despite short term volatility, is still very strong and robust

- The following consensus views on oil consumption drives our confidence:
 - There is a clear consensus among oil producers, governments, consultants and stake holders that oil and gas will continue to maintain a substantial share in the energy mix.
 - Bulk of the oil demand increase in the next decade is likely to come from China and India, both the economies are maintaining growth during 2009.
 - The ongoing economic crisis inadvertently also tightened oil supply.
 - An oil price spike in the medium term cannot be ruled out



A combination of competitive steel making costs and growing local consumption is likely to attract investments in capacity building in the Middle East



Source : Hatch Beddows

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Hatch Beddows is fundamentally bullish on the steel industry in the Middle East and the region is expected to continue its growth in a steel intensive economic development curve

- Despite the current crisis, Hatch Beddows does not anticipate a discontinuity in demand in developing regions such as China, Middle East and India.
- The Middle East will continue to “climb” the economic development curve and this phase is steel intensive.
- We expect the industry consolidation in China and Middle East will increase. In China, the consolidation process may not reach the levels in EU, N. America and Japan in many years to come but it will still be a significant improvement over the past.
- The lower cost producers, specifically the vertically integrated ones, will have access to capital and flexibility in capacity adjustments strengthening their competitive position. The industry is more likely to behave rationally than in the past 3 decades.
- The capacity overhang in China is a threat but these are more cyclical in nature and not structural. The problems in N. America, Europe and Japan are much more serious.

Please contact us for further information

Hatch Beddows Strategy Consulting



9th Floor, Portland House, Bressenden Place, London, SW1E 9BH, UK



+44 20 7906 5100 (switchboard)

www.hatch.ca/hatchbeddows

Siddhartha Sengupta **Managing Consultant**



+44 20 7906 5123

Fax

+44 20 7233 1908



ssengupta@hatch-europe.com

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