



Setting the Stage: Global Context for Mining and Extractive Industries

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Overview

Setting the Stage: Global Context for Mining and Extractive Industries

- ✓ Size and profitability of the world's mining industry
- ✓ Impact of the Global Financial Crisis and the importance of China in future metal demand
- ✓ Which metals will perform well in future ?
- ✓ Importance of exploration in growing the industry



SIZE AND PROFITABILITY OF THE WORLD'S MINING INDUSTRY



The following analysis is based on CRU's *Minerals Industry Competitor Analysis (MICA)* data base

The data base:

- Has detailed financial information on 323[#] publicly listed mining and resource companies that operated in the world between 1978 and 2009
- Data is grouped by the main commodity produced by the company:
 - Base Metals (Copper, Lead, Zinc, Nickel, Aluminium and Tin),
 - Precious Metals (Gold, Silver and Platinum),
 - Coal
 - Other (Diamonds, Uranium and Iron Ore etc)

Also have separate data for “Diversified Companies” (such as Rio Tinto and BHP Billiton) and “Mining Finance Houses” (such as the old South African companies like Minorco which invested in other mining companies)

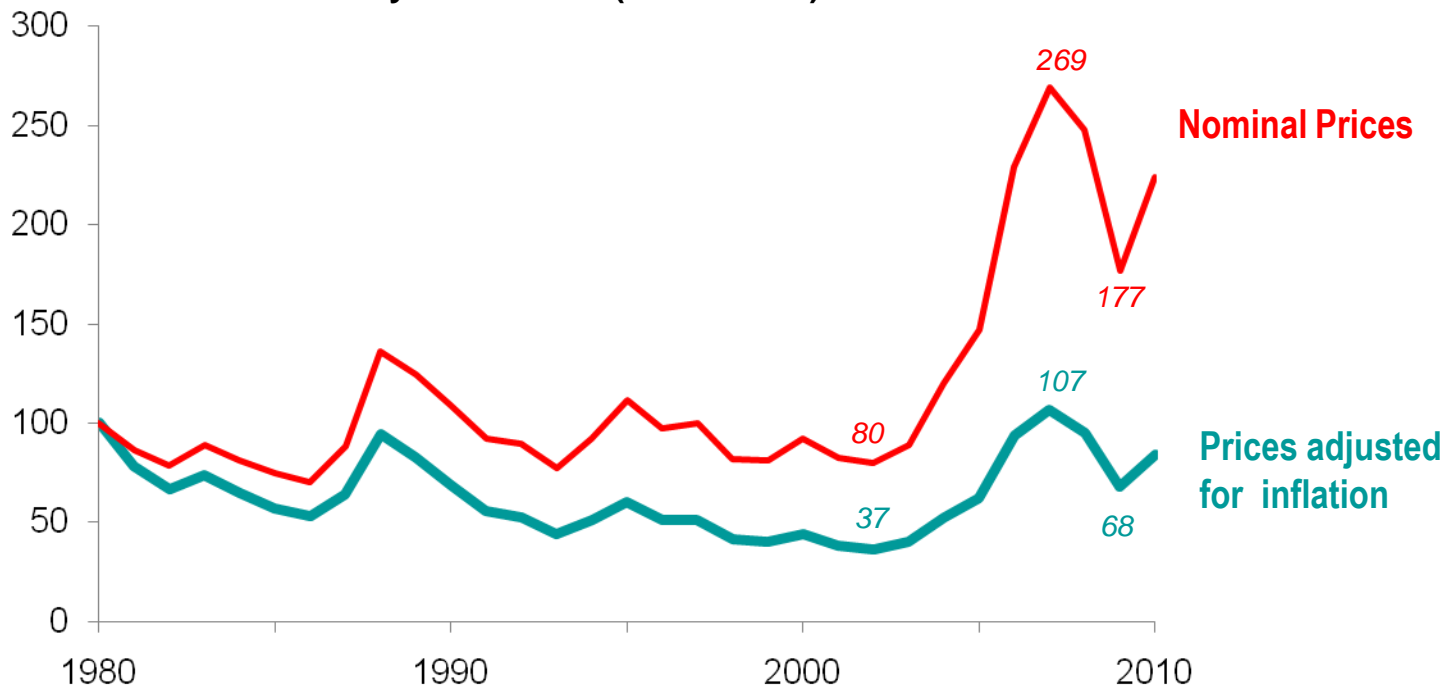
- These companies represent ~90% of western world mineral production and ~70% of total world production

This includes 20 Iron & Steel companies – which have been excluded from the current analysis



After a long period of real decline, commodity prices have significantly risen over the last decade

World Metal Commodity Price Index (1980 = 100)

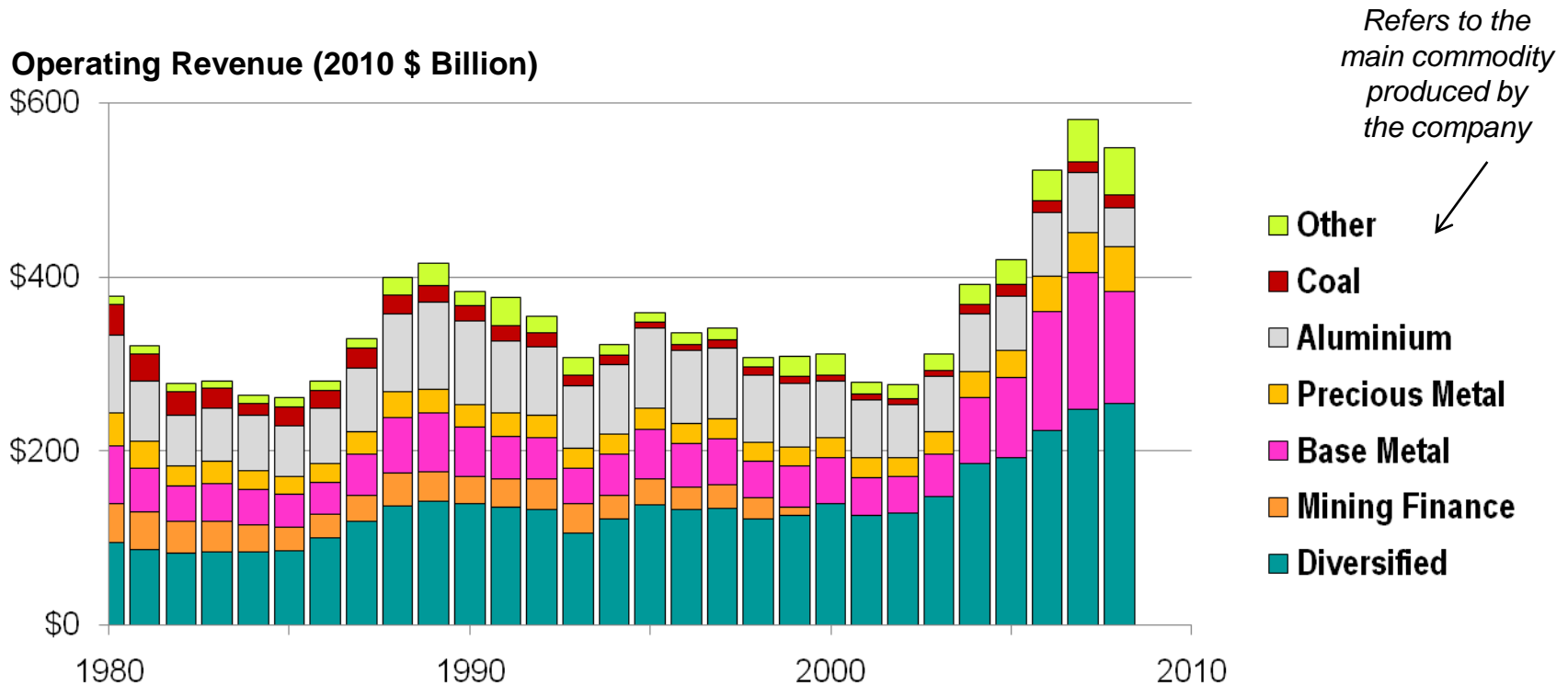


Index is made up of a basket of six commodities - copper, aluminium, iron ore, tin, nickel, zinc, lead, and uranium

Data: IMF



This has led to higher sales revenues for mining companies

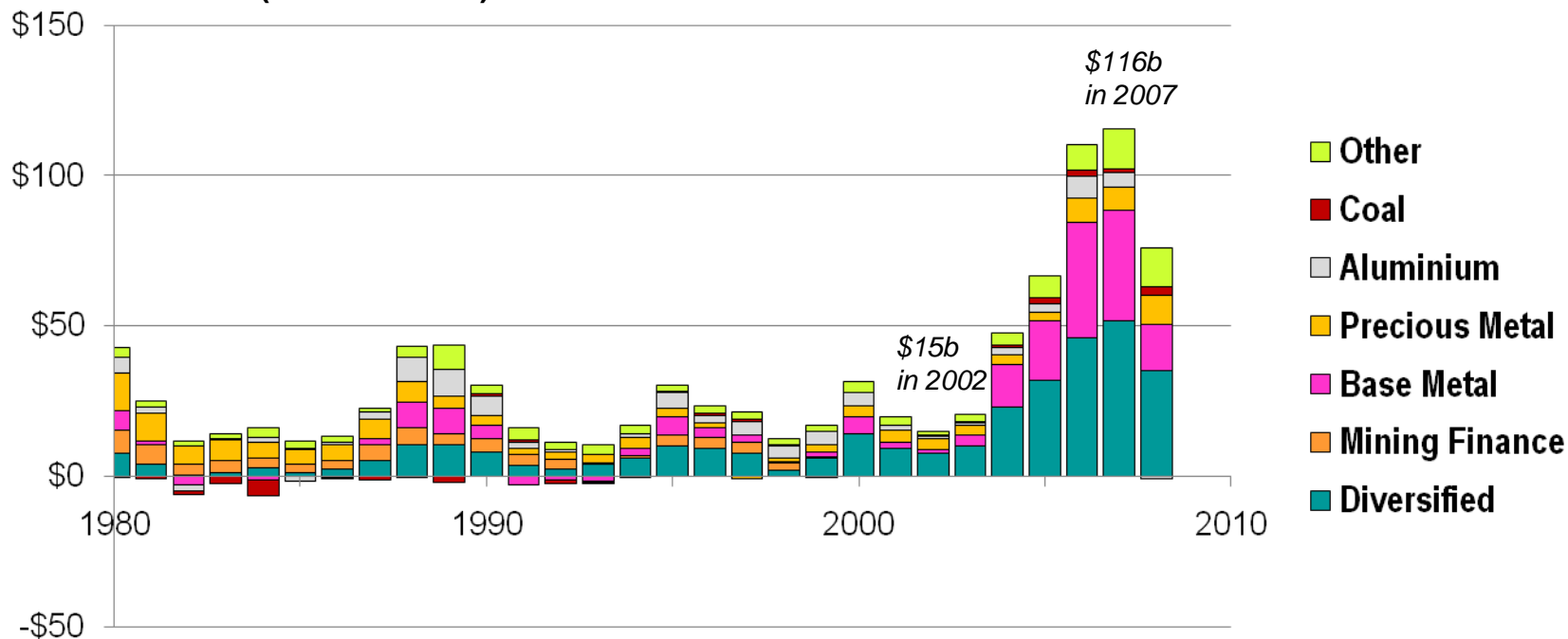


Data: CRU MICA data base



And significantly higher profits ...

Profit After-Tax (2010 \$ Billion)



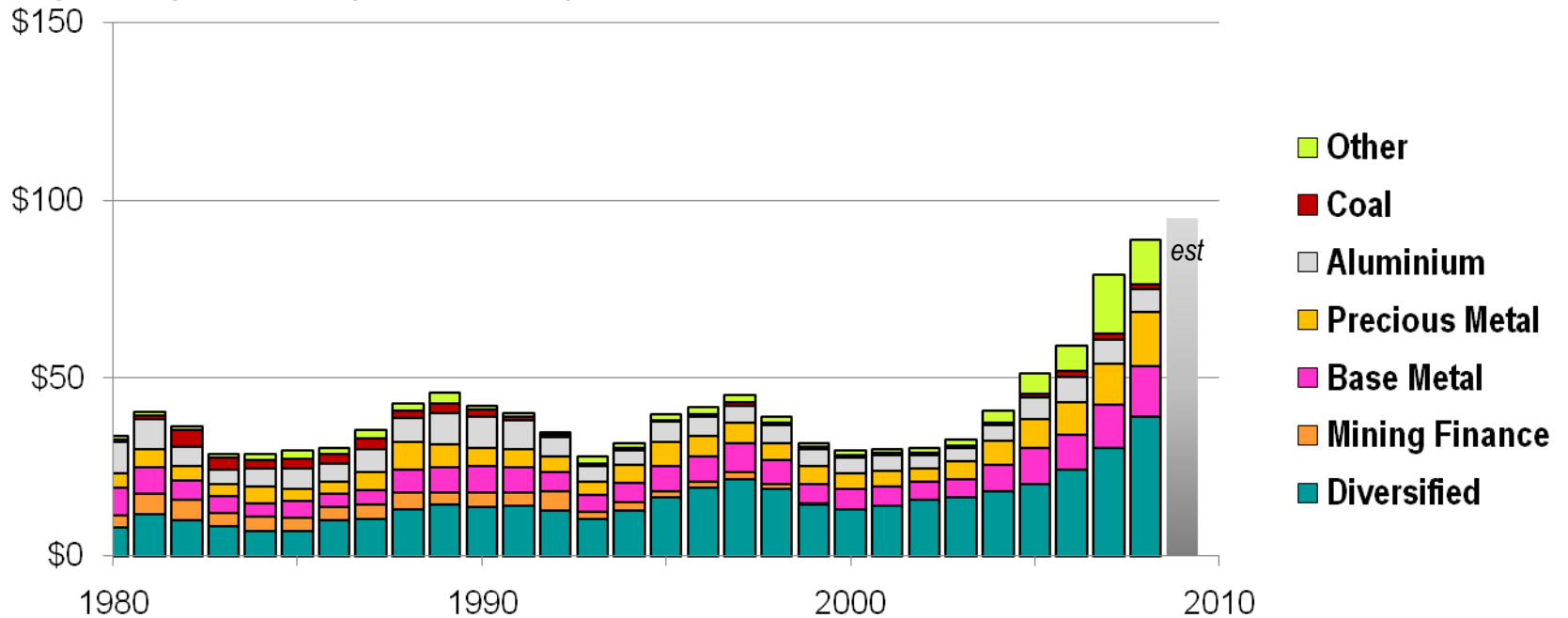
Note: Negative numbers refer to losses

Data: CRU MICA data base



However, the mining industry is very capital-intensive ... requiring large amounts of investment to grow

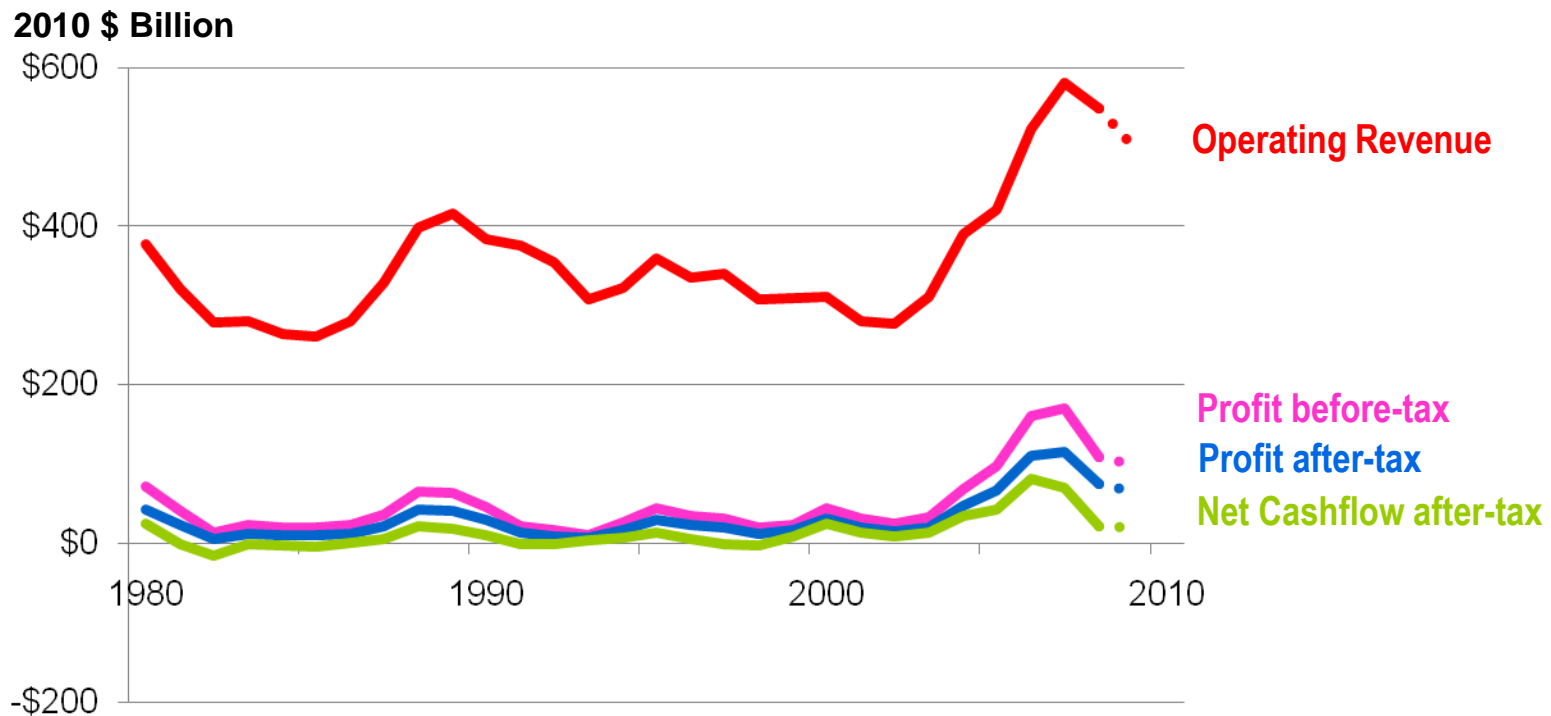
Capital Expenditures (2010 \$ Billion)



Data: CRU MICA data base



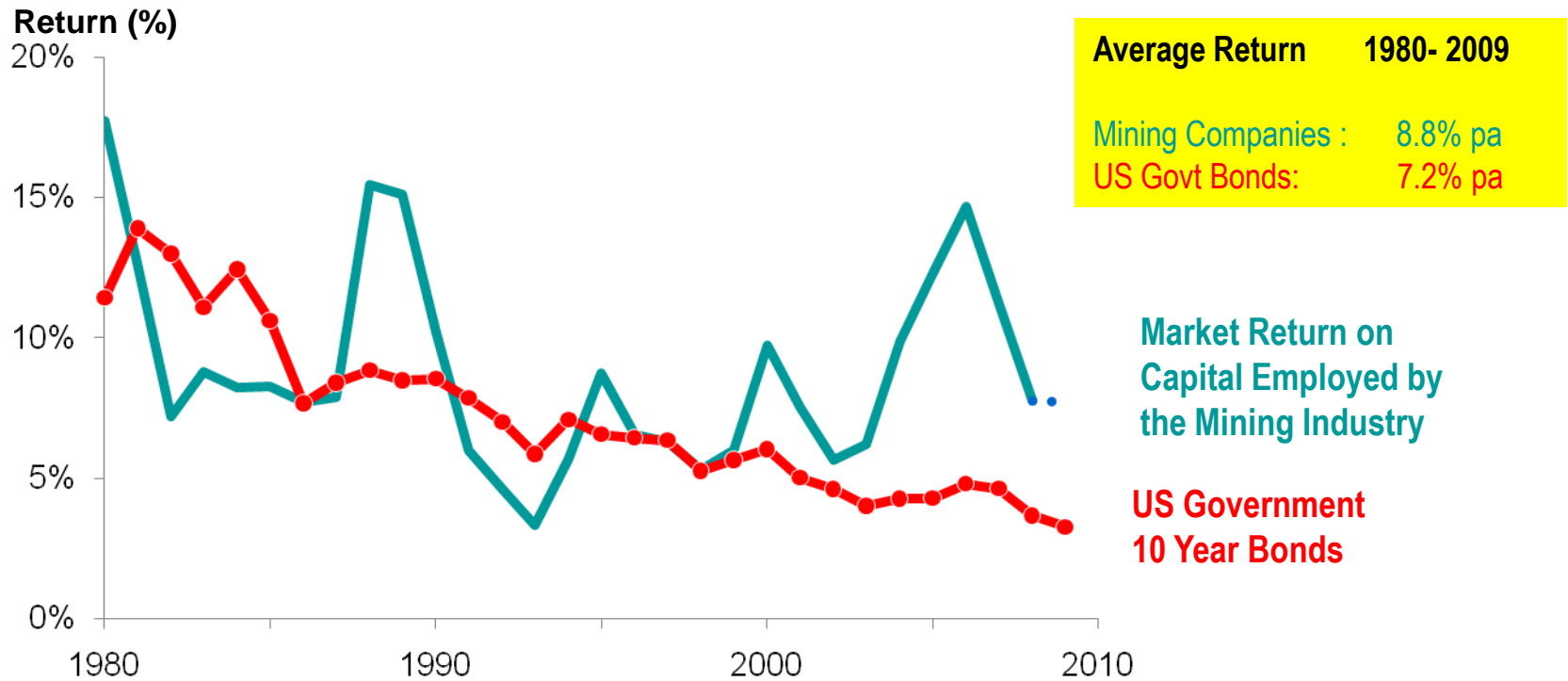
The end result being that the industry doesn't generate large amounts of surplus cash ...
 ... even during the "boom times"



Data: CRU MICA data base



In spite of the risks involved, the mining industry doesn't make a high return on its investment and it is only in the last 5 years that it has performed significantly better than investing in US Government Bonds !



Average Return 1980- 2009
 Mining Companies : 8.8% pa
 US Govt Bonds: 7.2% pa

Market Return on Capital Employed by the Mining Industry

US Government 10 Year Bonds

Note: Nominal returns only

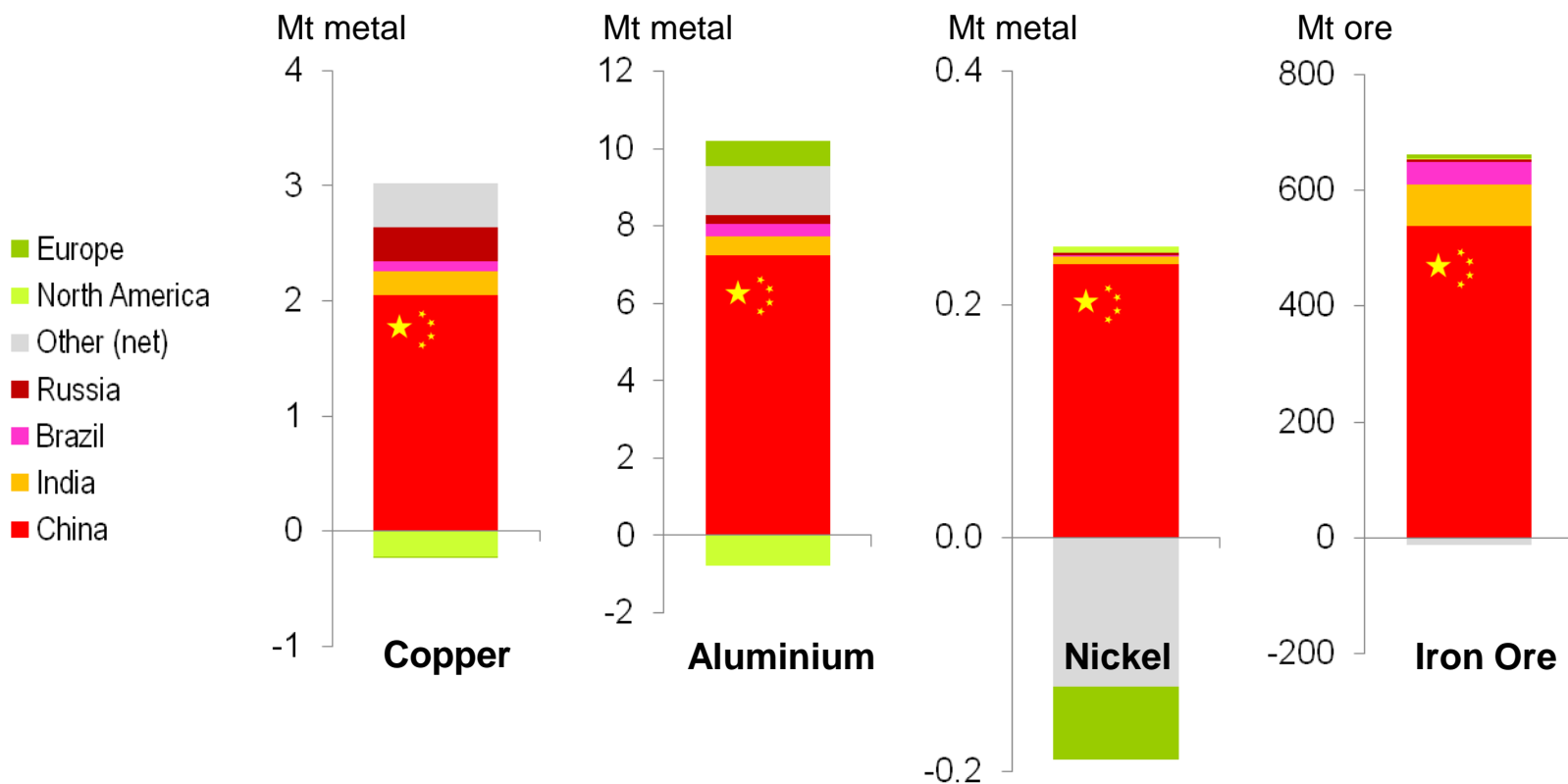
Data: IMF, CRU MICA data base



IMPACT OF THE GLOBAL FINANCIAL CRISIS AND THE IMPORTANCE OF CHINA IN FUTURE METAL DEMAND



In the last 5 years most of the growth in the world's metal demand came from China



Note: Charts refer to the incremental increase in metal consumption between 2003 and 2008

Data: CRU



How will metal demand recover from the GFC?

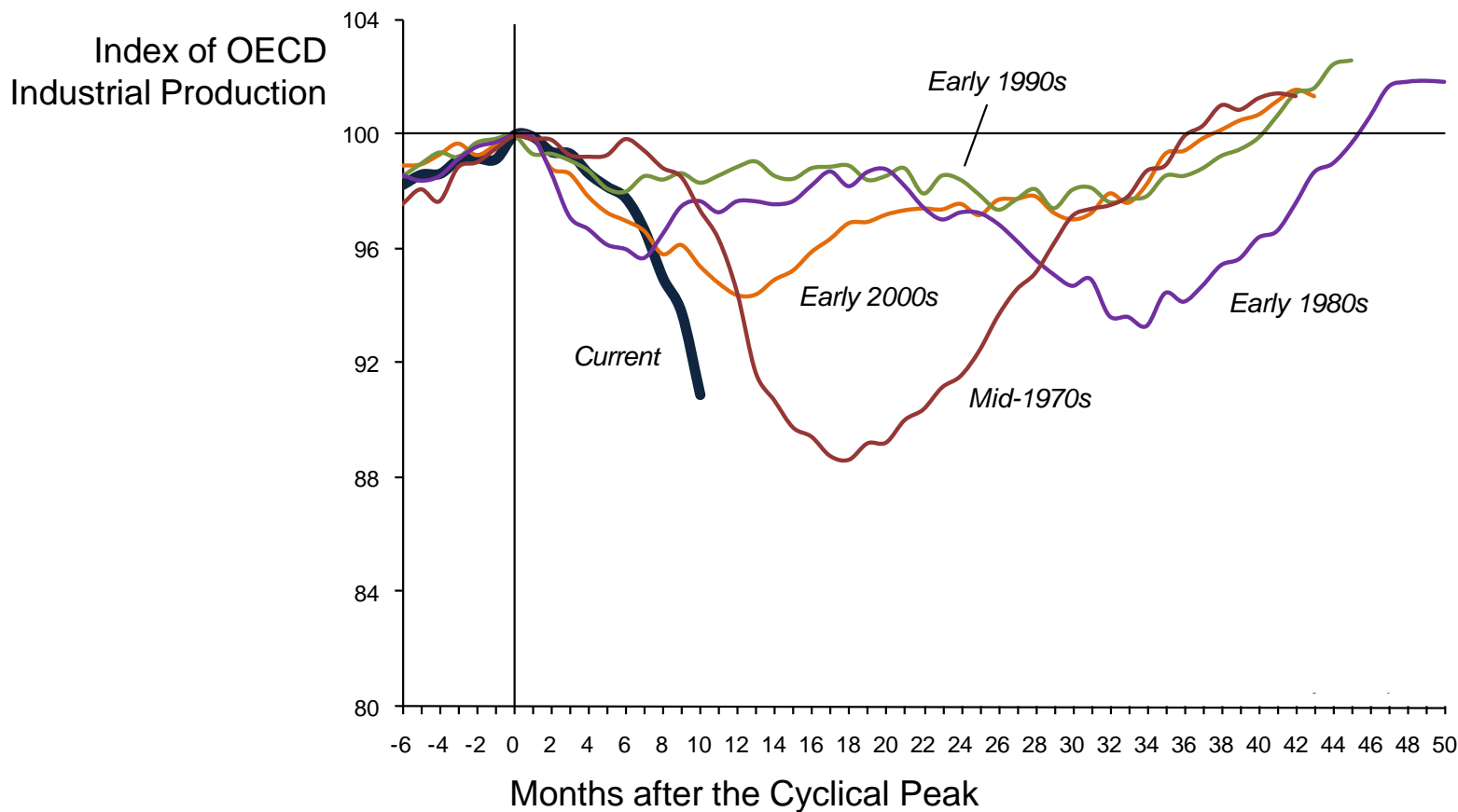
CRU's view is a return to the boom times for selected markets

- Metal demand is strongly linked to Industrial Production which, in-turn, is linked to world GDP
- The Global Financial Crisis (GFC) caused a sudden and short-term drop in metal demand
- But macroeconomic stimulus by Governments has pulled demand forward – resulting in very strong year-on-year consumption gains
- CRU forecasts that that the market will return to its old 2007 levels by 2012-13



The Global Financial Crisis compared to previous downturns

12 months ago, the world's economy was in free-fall ...

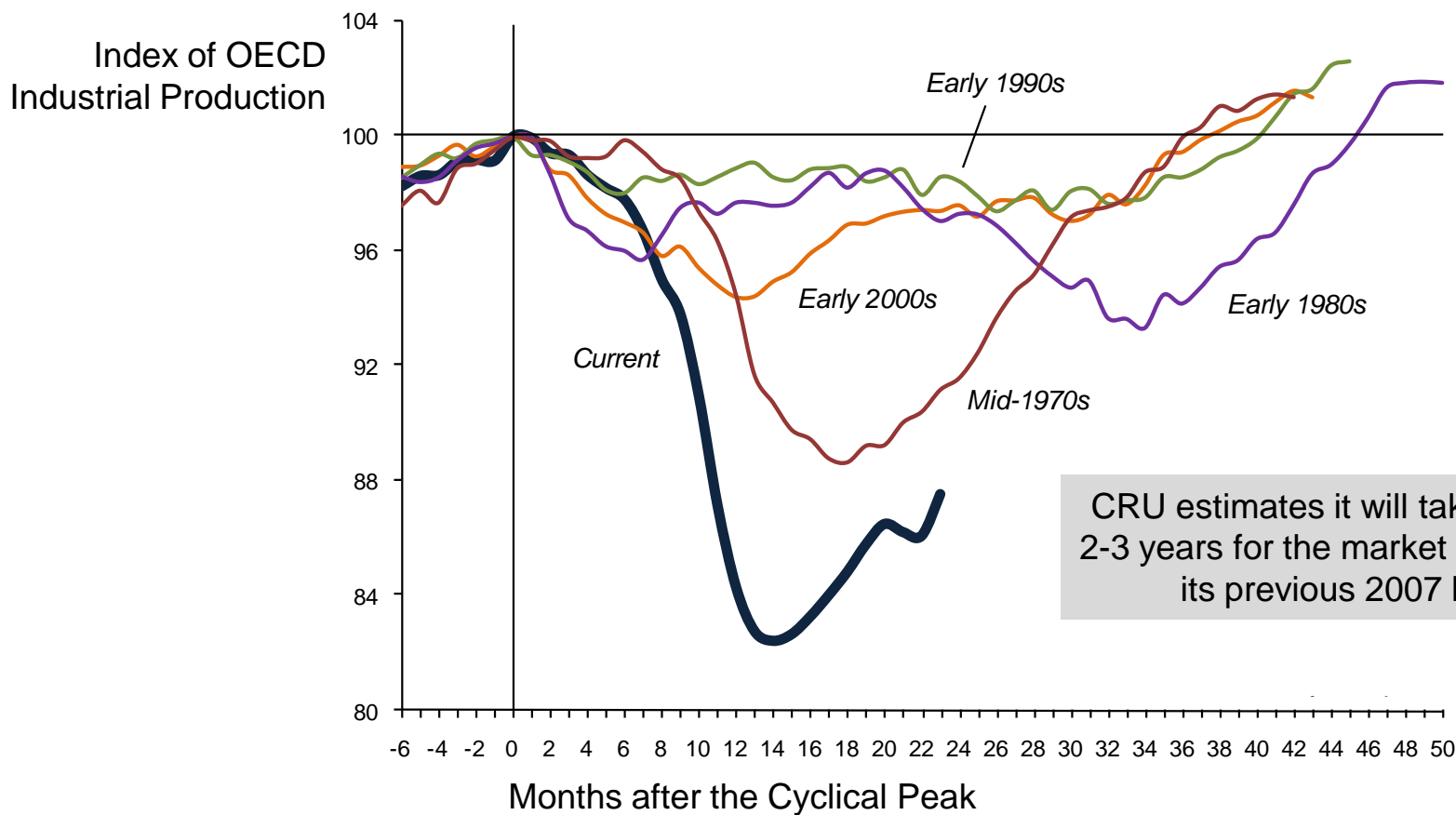


Data: CRU



The Global Financial Crisis compared to previous downturns

... Things got worse, but a recovery is now underway

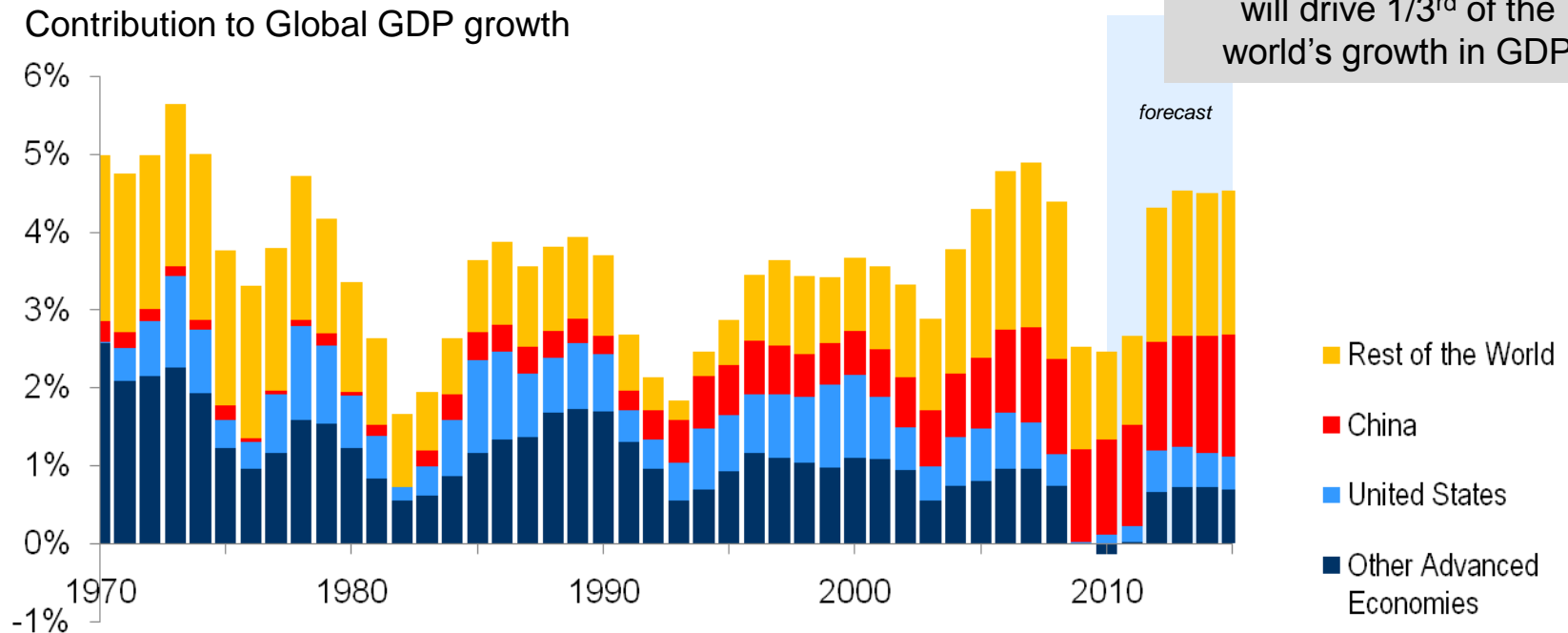


Data: CRU



China and the other developing countries have now become the engine of the world's economy

Over next 5 years China will drive 1/3rd of the world's growth in GDP



Note: GDP calculated in terms of Power Pricing Parity basis smoothed using a three year moving average

Data: IMF April 2010



**WHICH METALS WILL PERFORM WELL
IN FUTURE ?**



Commodity Price ‘Climate Change’.... Hot Spots

CRU Commodity Price Climatic Zones – What’s hot to 2012?

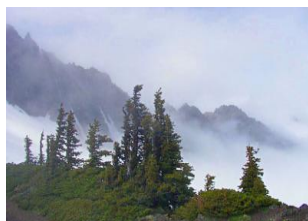
commodities available in Cambodia



– “Hot”



– “Warm”



– “Cool”



– “Cold”



* Indicative forecast average 2012 prices versus February 2010 base (nominal prices)



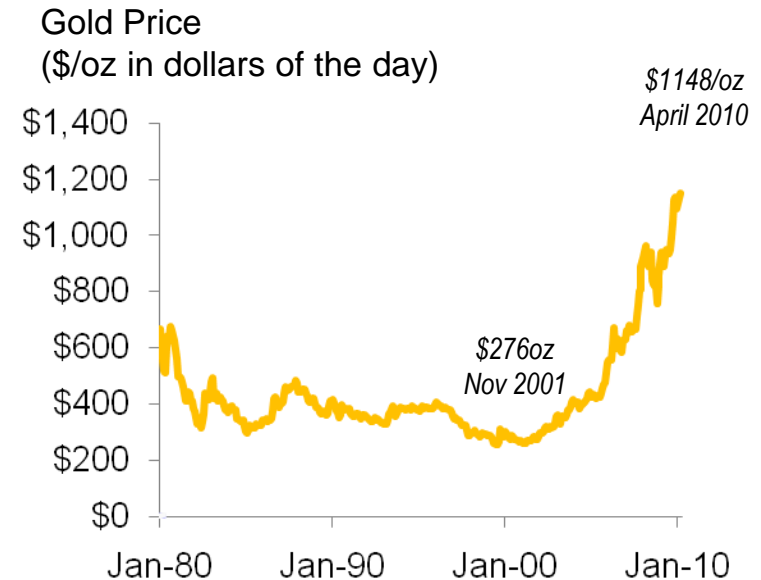
Why have gold prices risen in recent years?

2001-2007

- Rising demand for Jewellery – which is driven by increased availability of disposable income.
- Main markets were India, China and Europe
- Offsetting this were large sales from Central Banks
- Production declined from 2618t to 2476t

2007-2010 (ie post GFC)

- World Jewellery demand went down by 20% in 2009, mainly due to problems in western countries. China was flat and India up 20%
- Central Banks – new countries started buying gold (China, India, Sri Lanka, Mauritius) – net position was neutral
- Production rose 7% in 2009 as new mines came on-stream. Slower growth in future
- Private Investment grew very strongly - Exchange Traded Funds (ETF) doubled in size and now control 1750 tonnes of gold – the risk is what will happen if these people decide to sell?



Data: LME



IMPORTANCE OF EXPLORATION IN GROWING THE INDUSTRY



Need to remember that to generate taxes from mining, we need to find deposits and build new mines

The first step in the chain is to have an active and successful exploration program. The second step is to have low business risk to encourage capital investments.

- The Government needs to provide support and have transparency and good governance
- To earn their social license to operate, companies need to demonstrate strong environmental and social performance

On average[#], for every **\$1** spent on exploration, the industry spends **\$6** in capital, producing (in the longer term) **\$55** of sales revenue and **\$3** of direct taxes and **\$1 to 3** of indirect taxes and royalties



Don't forget that not all exploration projects will be successful

- The likelihood that a given exploration program will be successful depends on:
 - The Commodity (bauxite is common / gold is rare / diamonds are very rare !)
 - Size of the target (there are a lot more smaller deposits than giant deposits)
 - Mineral Endowment (some countries have better geology)
 - The company (some companies have better geologists)
 - Luck and persistence!

The average success rate for a gold or copper exploration project turning into a large mine is around one chance in 100 to 400 (say 1 in 200). If you are looking for a giant mine (like Escondida) the odds are 10-times worse !



Summary

- The world's mining industry is huge – with ~\$800 billion in annual sales
- The industry is very capital-intensive – and re-invests most of its profits back into new projects
- The return of capital invested is not high
 - Governments need to be careful about not over-taxing the industry
- The world's economy will return to its 2007 level by 2013. This is driven by China
- “Hot” commodities will be iron ore, copper, nickel, tungsten and coking coal
- Exploration is a risky business – typically less than one in a hundred projects will lead to a mine
 - Governments need to lower the business risk and encourage exploration
 - Companies need to demonstrate strong environmental and social performance



Thank-you

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