Macquarie
Commodities Research

China outlook

Separating the myth from the reality
Climbing the great wall of fear!

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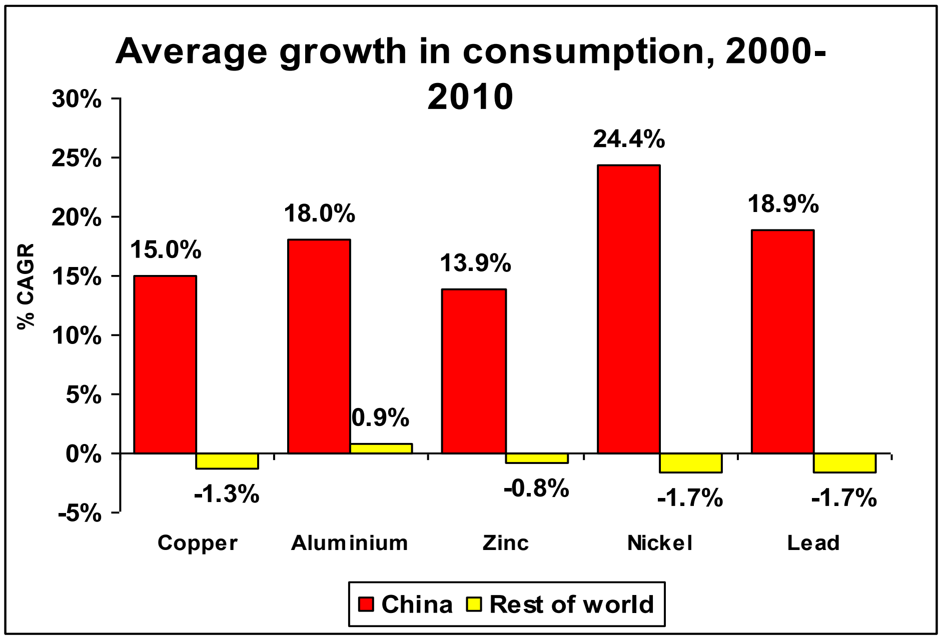
Overview of presentation

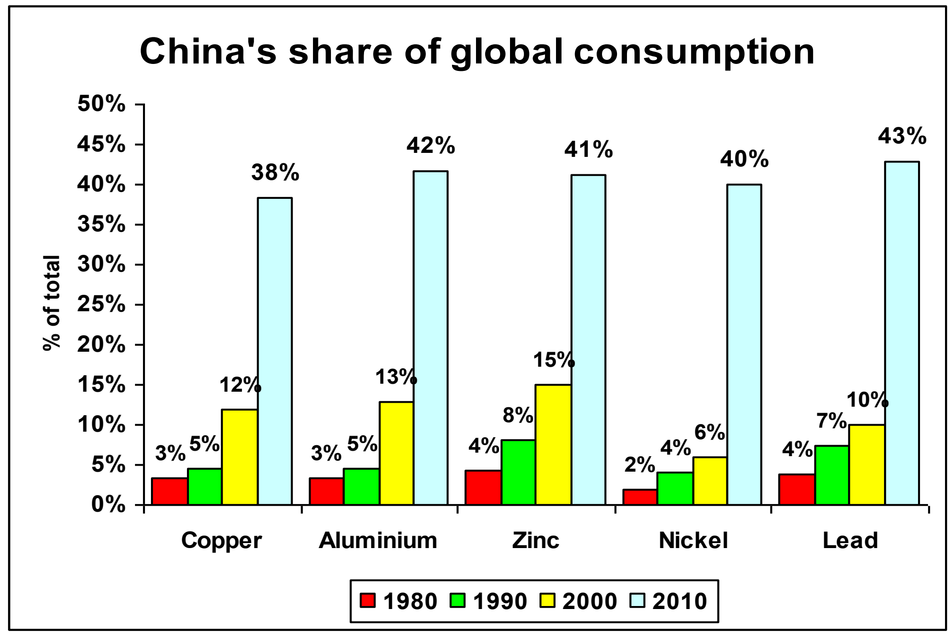
- ➔ Trends in Chinese supply and demand over the past decade
- ➔ Summary of our medium term supply and demand forecasts
- ➔ Short term Chinese volatility – why we are not worried about China in 2012 – a review of recent macro trends
- ➔ China's "de-synchronisation" with rest of world – we explain why

China outlook – short-term slower but still "stronger for longer"

- China commodities growth is cyclical but in a steady upward direction – still plenty of growth to come as urbanisation and industrialisation trends continue.
- The Chinese authorities are as worried about bubbles/over-capacity/over-heating as anybody. China moves quickly to prevent them…as it is doing now
- China opens <u>and shuts</u> capacity more quickly than anyone else
- Per capita analysis and common sense suggest that there is still a lot more growth to come from China, at least out to 2015 and probably to 2020.
- 2011 has been a year of inventory destocking in China due to tight monetary policy – 2012 could see a strong 1H rebound in apparent demand, **especially** if the rest of the world slows

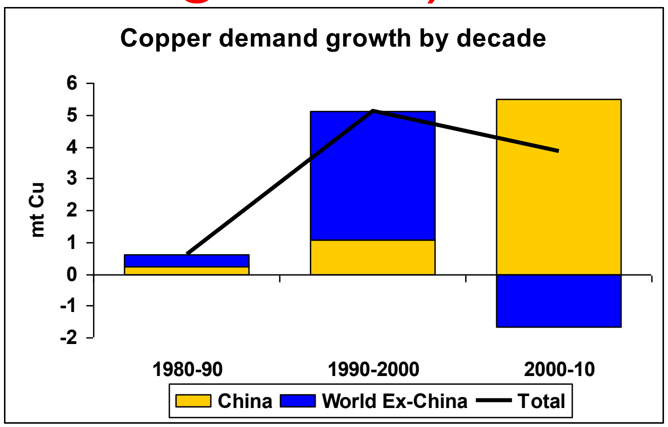
It’s all been China for demand over the past decade…

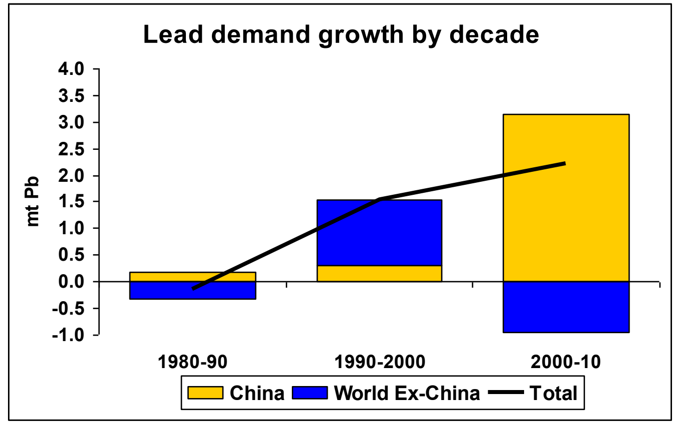


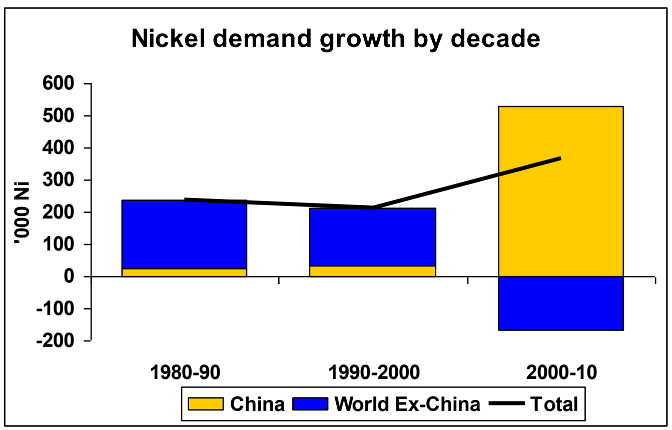


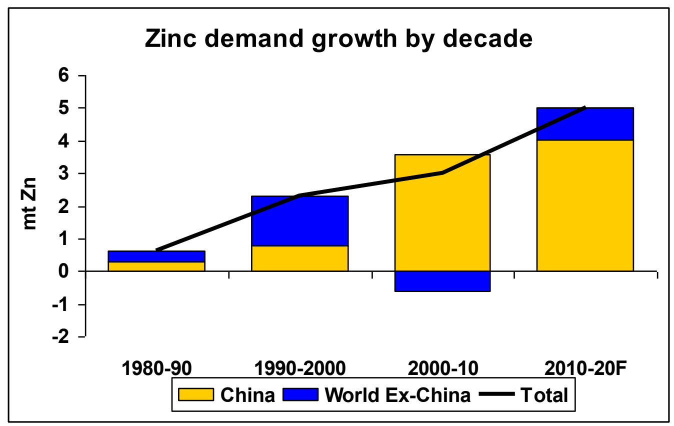
Source: Antaike, ICSG, ILZSG, INSG, IAI, Brook Hunt, Macquarie Research, September 2011

Big jump decade on decade in demand, except for copper (wasn't enough of it!)



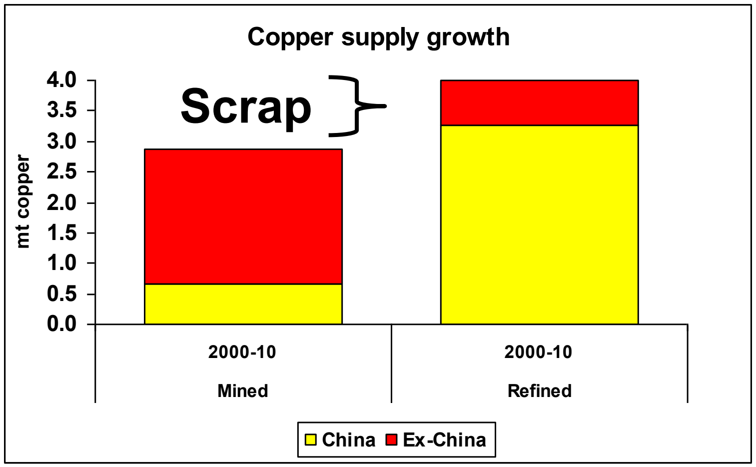


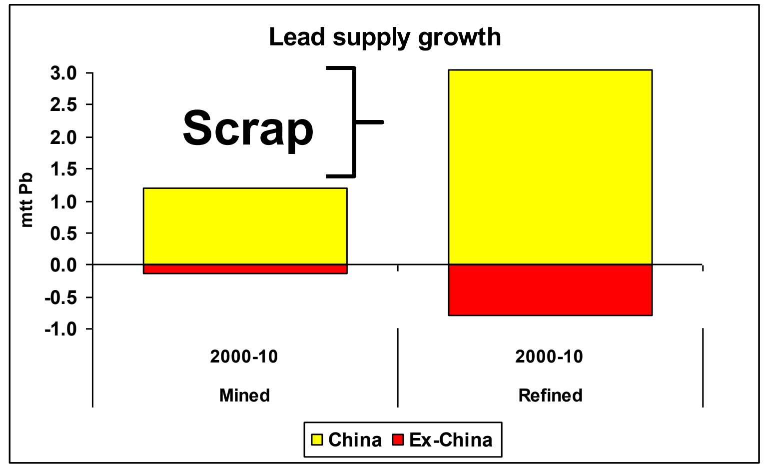


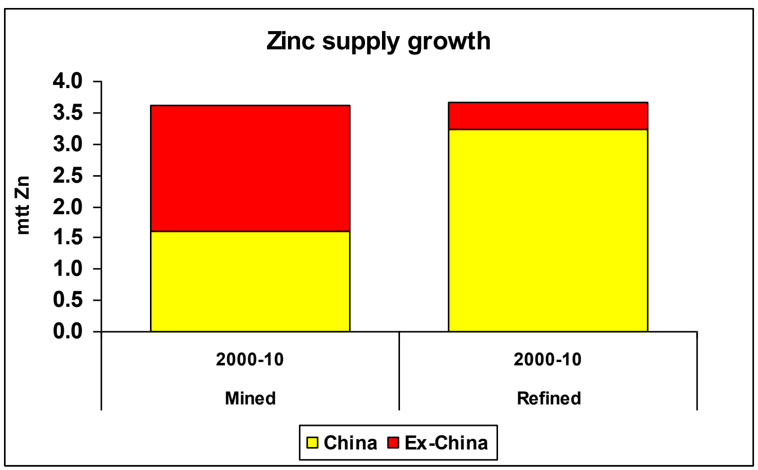


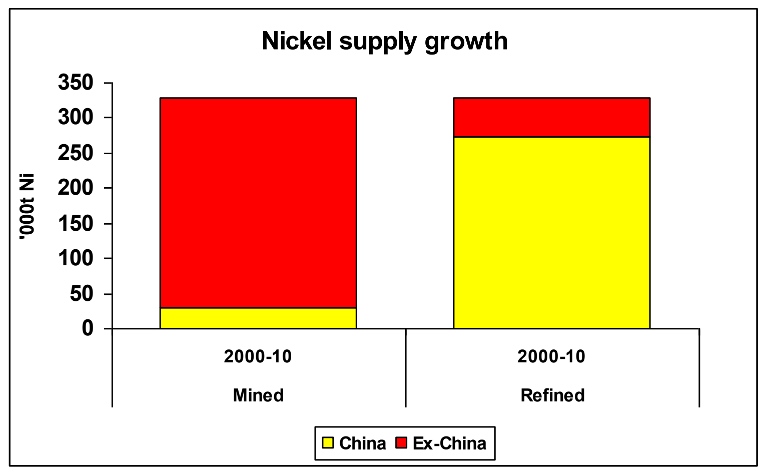
Source: Antaike, ICSG, ILZSG, INSG, IAI, Macquarie Research, September 2011

Where supply came from: China dominates except in mining



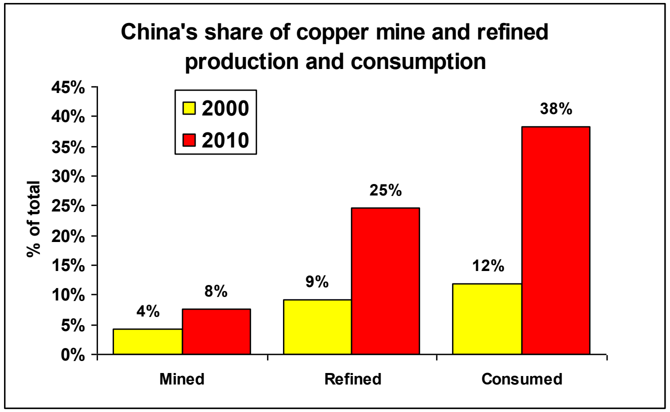


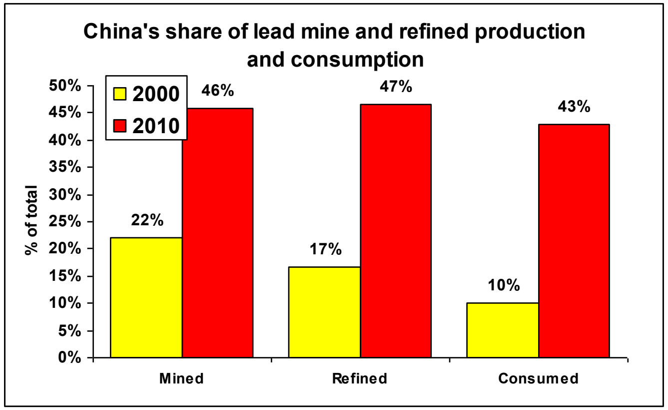


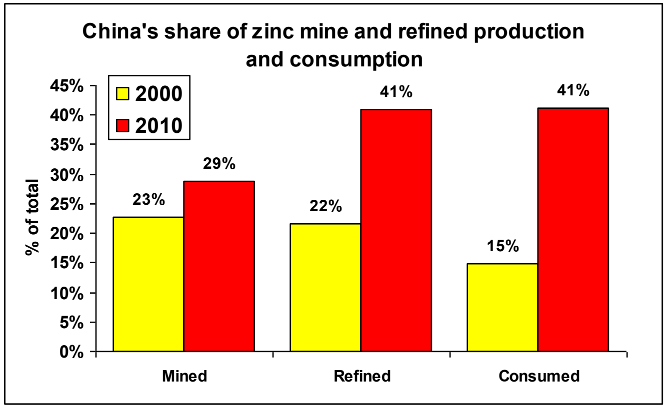


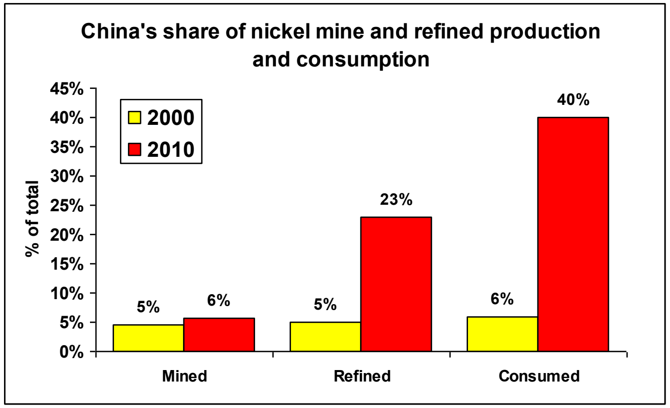
Source: Antaike, ICSG, ILZSG, INSG, IAI, Brook Hunt, Macquarie Research, September 2011

China has met a lot of its own requirements, especially in smelting/refining







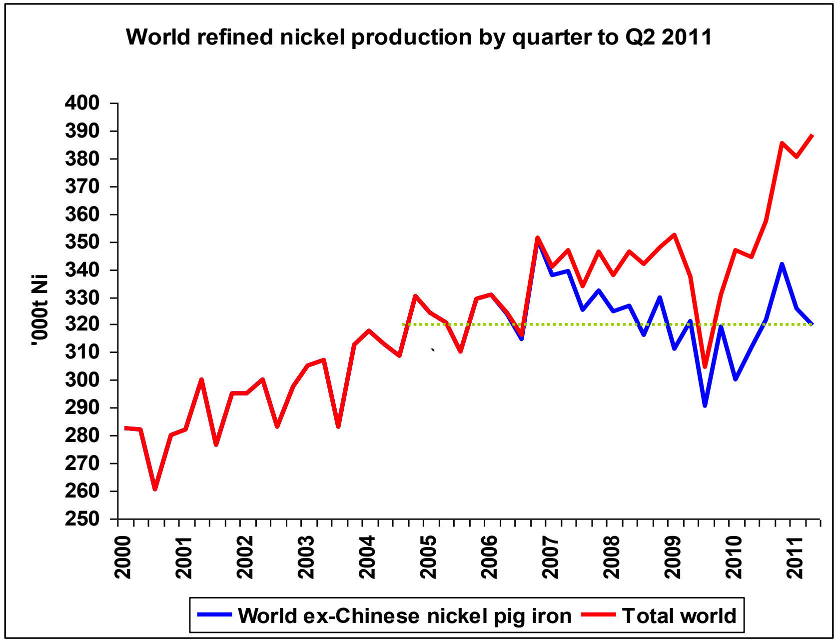


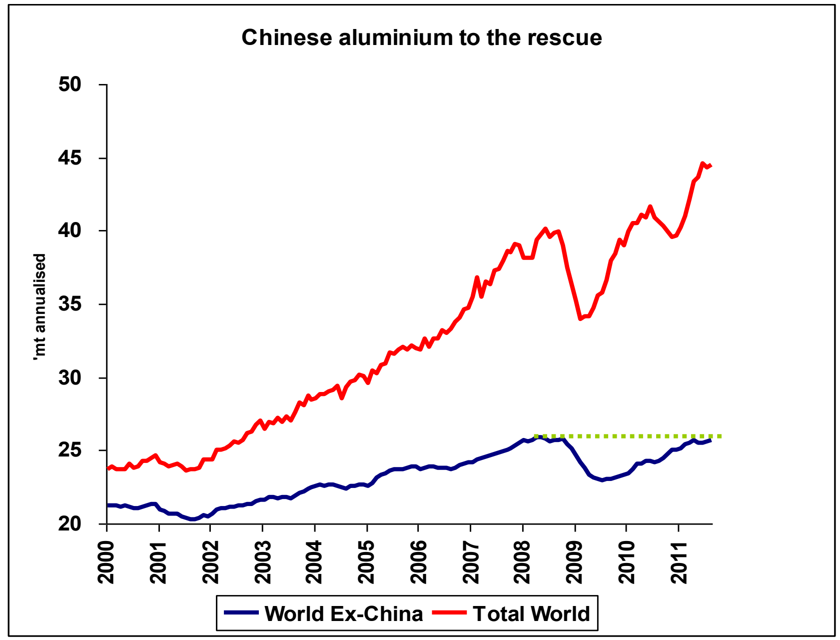
China has excelled in smelting/refining due to:

- ➔ Extremely low capital costs of building new smelters (1/4th to 1/3rd of rest of world)
- ➔ Short lead times to build – 12-18months vs. 3-4 years elsewhere
- ➔ Lower environmental standards (arguably now changing)
- ➔ Access to cheap finance and other incentives

Source: Antaike, ICSG, ILZSG, INSG, IAI, Brook Hunt, Macquarie Research, September 2011

Virtually ALL nickel and aluminium growth have come from China in recent years, based on cheap smelting capacity

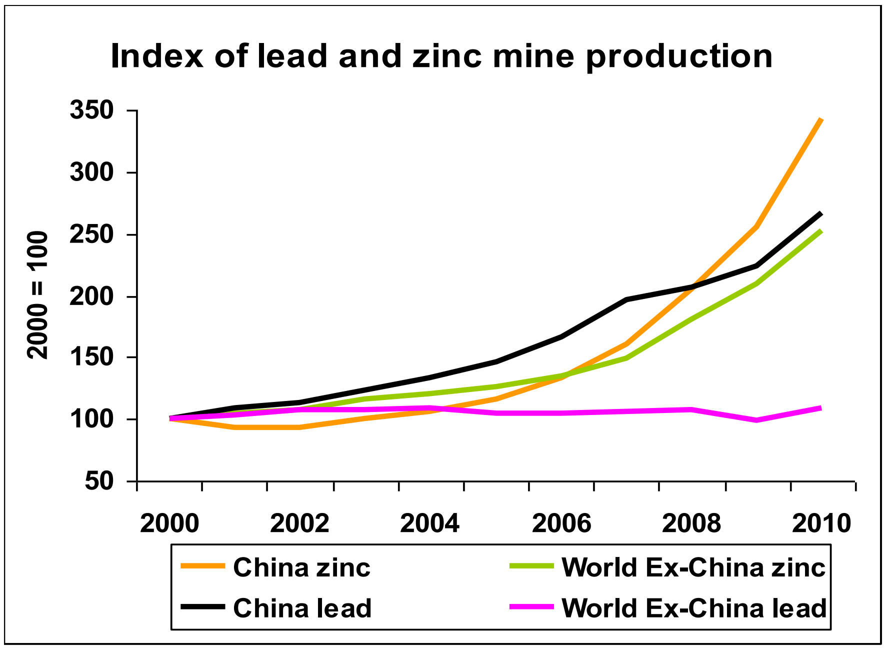


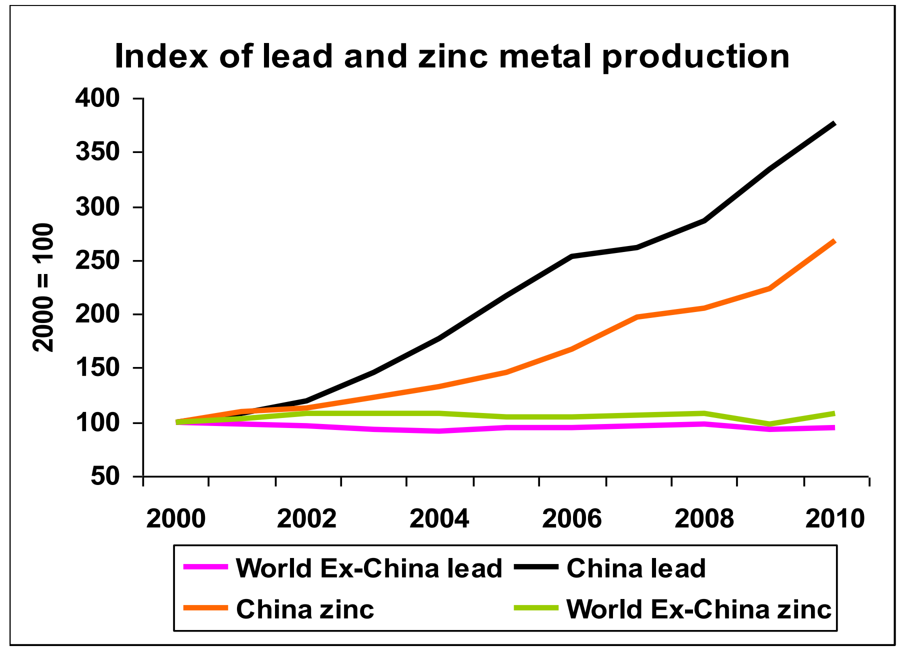


Source: Antaike, INSG, Brook Hunt, Macquarie Research, September 2011

- ➔ Chinese nickel pig iron and aluminium production near the top of global cash cost curves – extremely low capex means 1-3 year capital payback possible on investments
- ➔ Raw materials: bauxite and low-grade nickel ores (from Indonesia/Philippines) which are plentiful and easy to mine

All growth in lead is from China – in zinc China is all the smelting growth

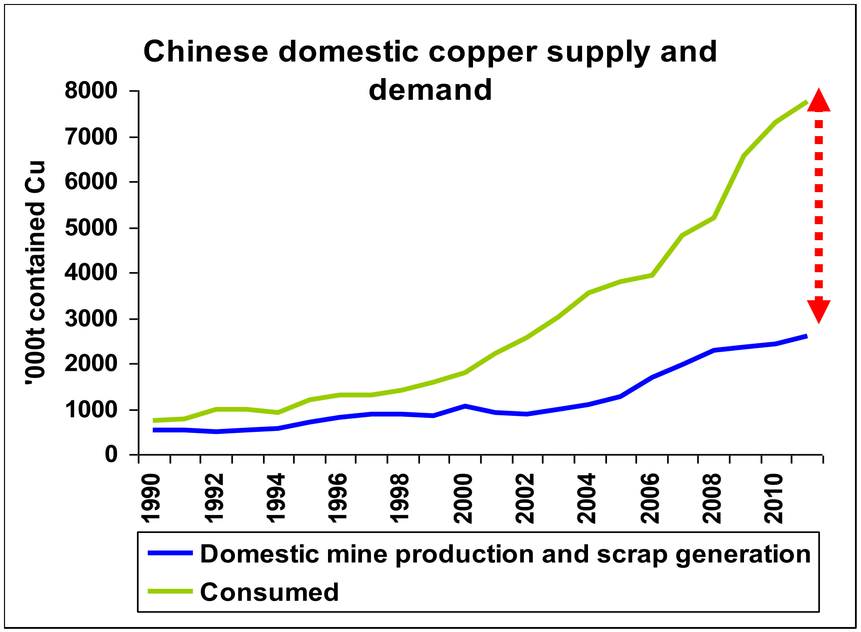


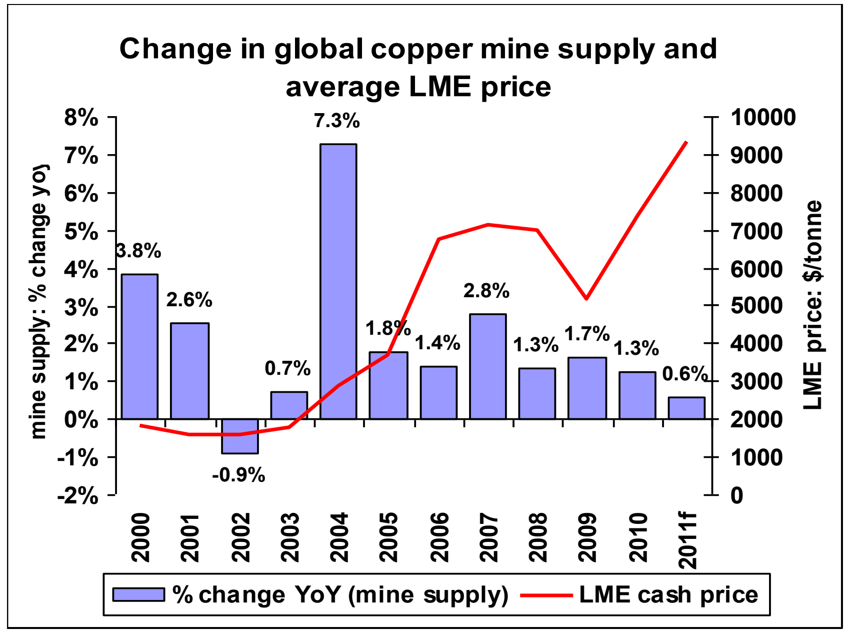


Source: Brook Hunt, Macquarie Research, September 2011

- Chinese zinc mine production have average 13% a year since 2000, while rest of world production has averaged 10% a year; lead mine and zinc and lead refined production has not grown outside China

Copper supply tightness driven by lack of China supply response



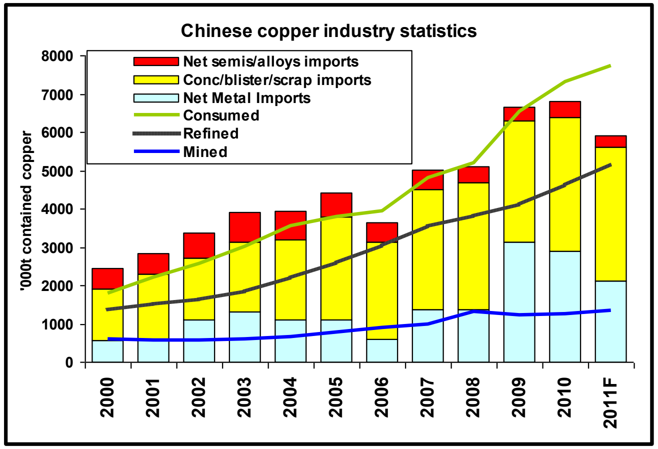


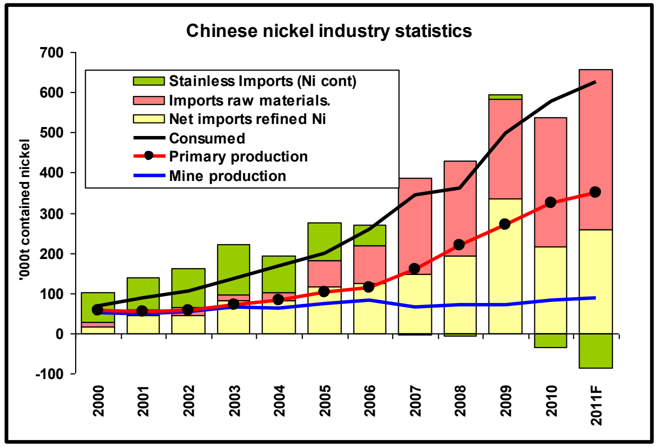
Source: Antaike, ICSG, Brook Hunt, LME, Macquarie Research, September 2011

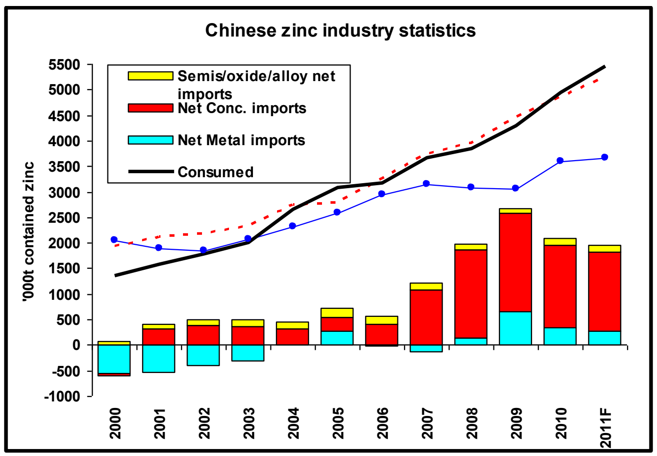
➔ China can meet only one-third of its copper demand (from concentrate and scrap)

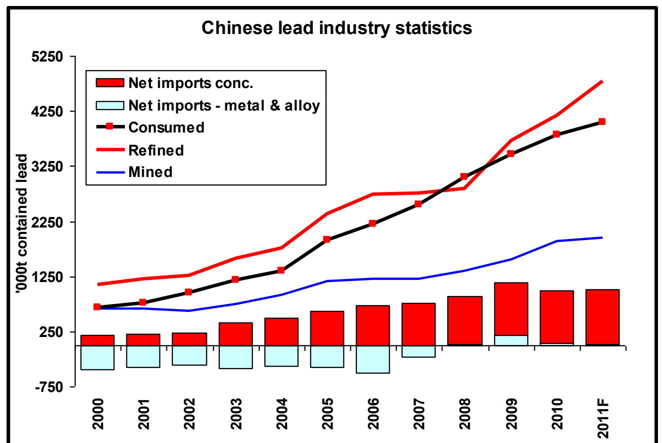
➔ Non-Chinese production has not responded to price incentive over past six years

Imports of raw materials and primary have soared





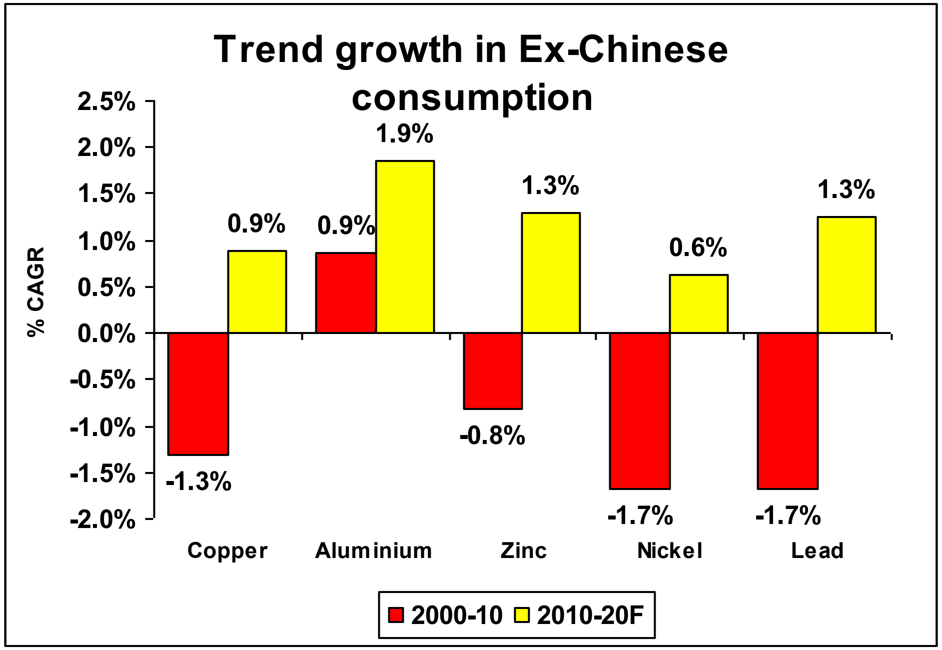


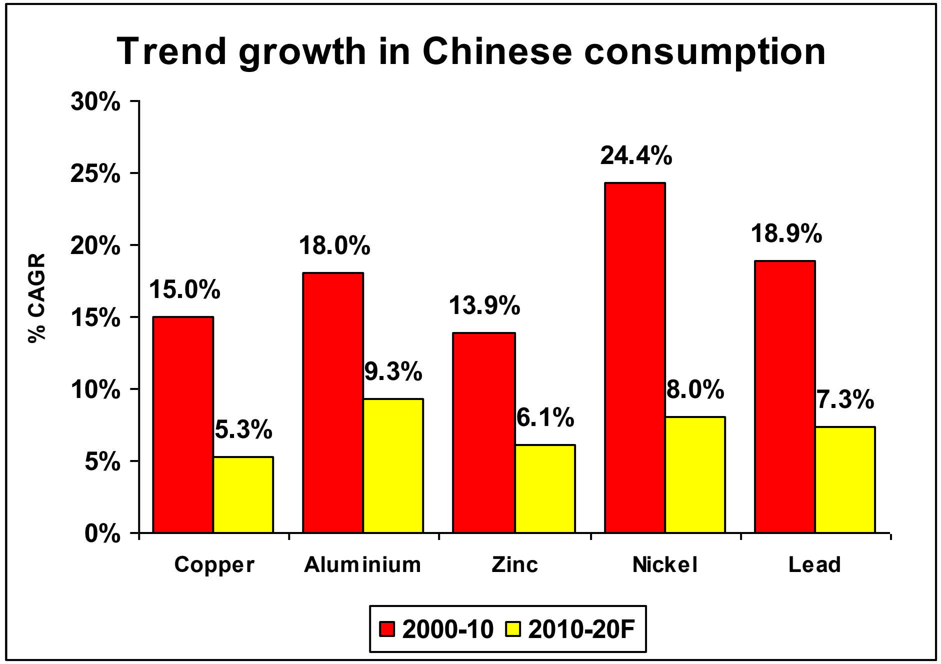


Note: 2011 based on pro-rated YTD data

Source: Antaike, ICSG, ILZSG, INSG, Brook Hunt, Macquarie Research, September 2011

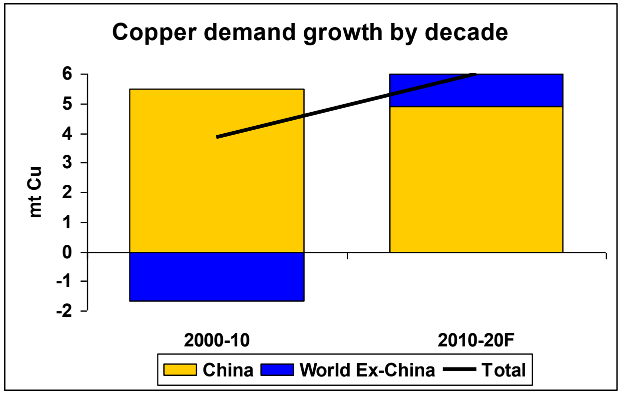
We think that there is yet more growth to come, albeit slower in China than in the past decade

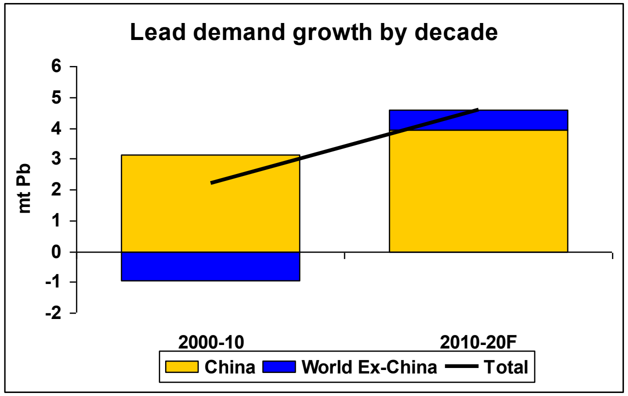


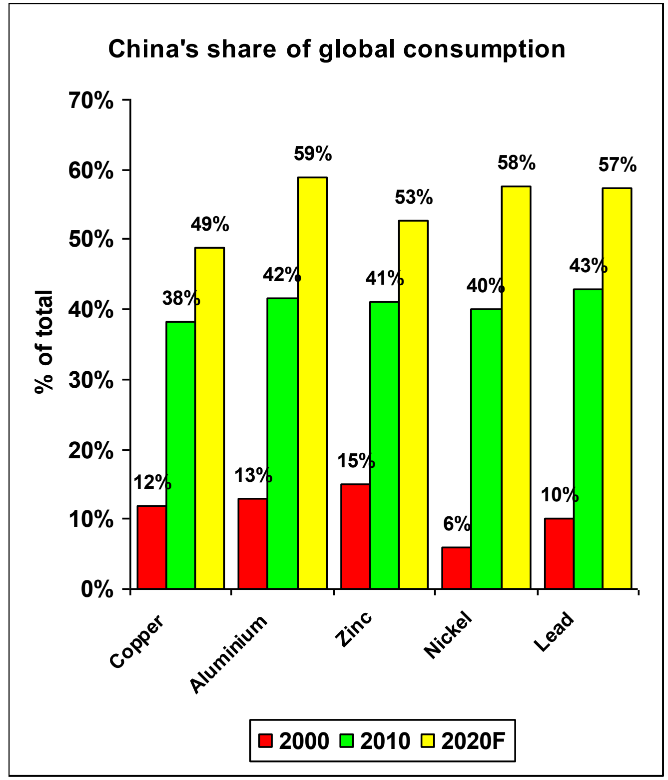


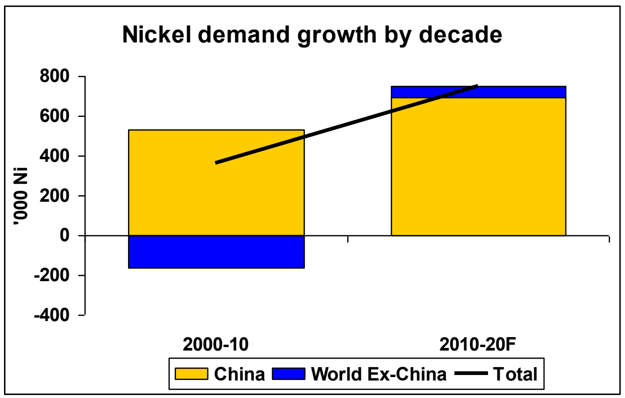
Source: Antaike, ICSG, ILZSG, INSG, IAI, Brook Hunt, Macquarie Research, September 2011

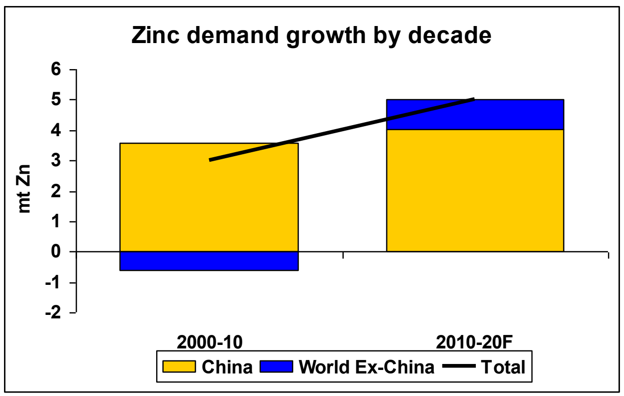
Summary of demand forecasts to 2020 – still lots of growth





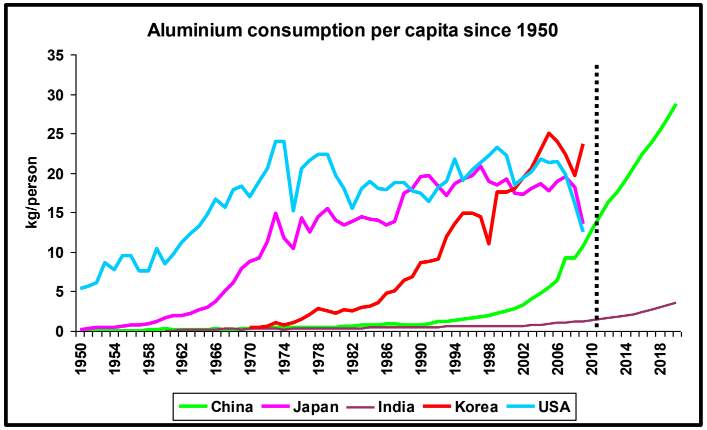


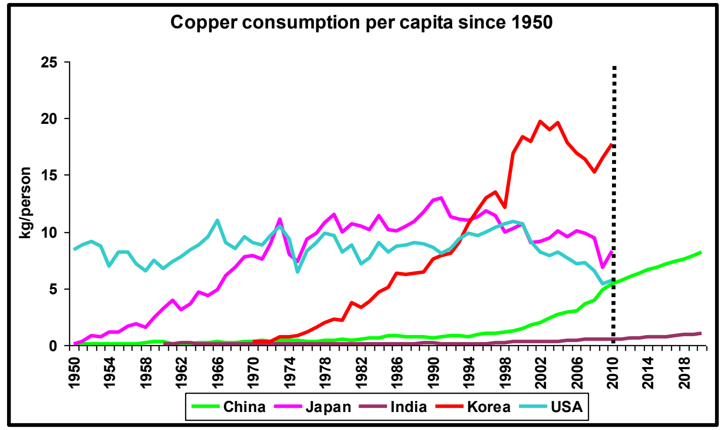


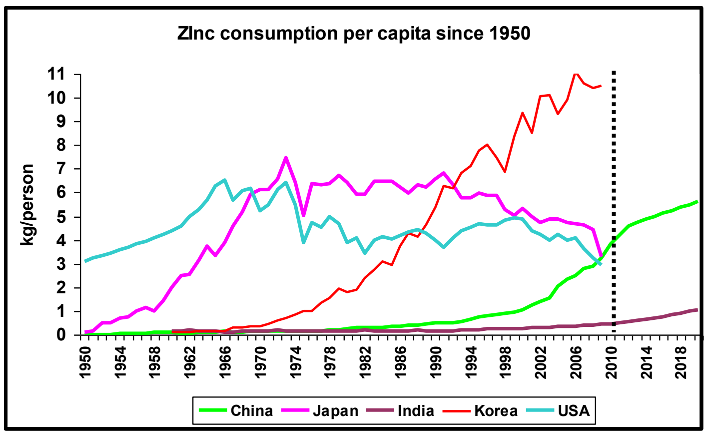


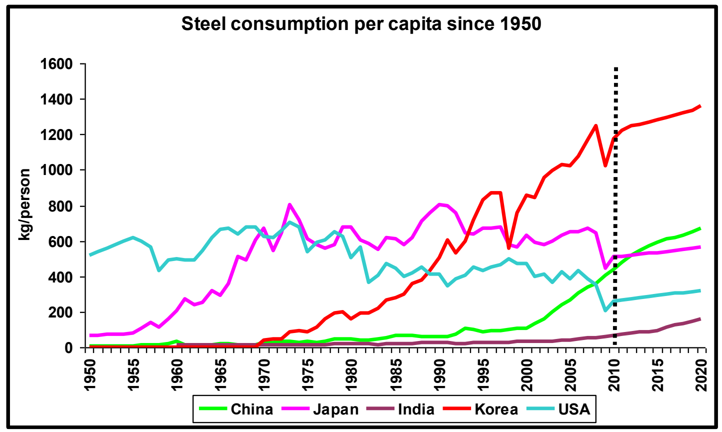
Source: Antaike, ICSG, ILZSG, INSG, Macquarie Research, September 2011

Per capita consumption still has some way to go



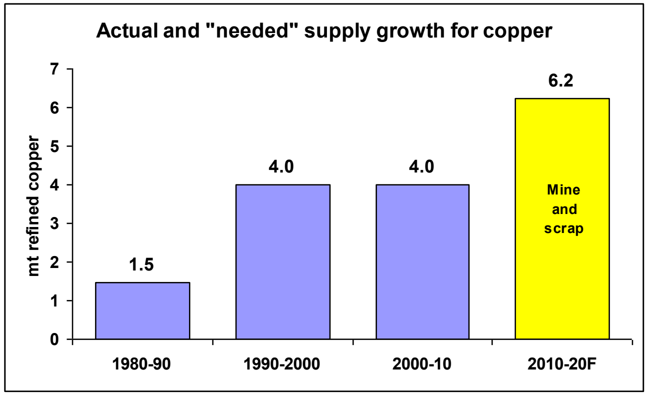


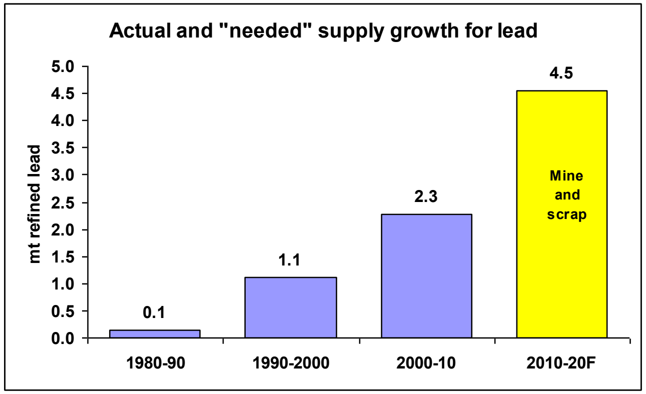


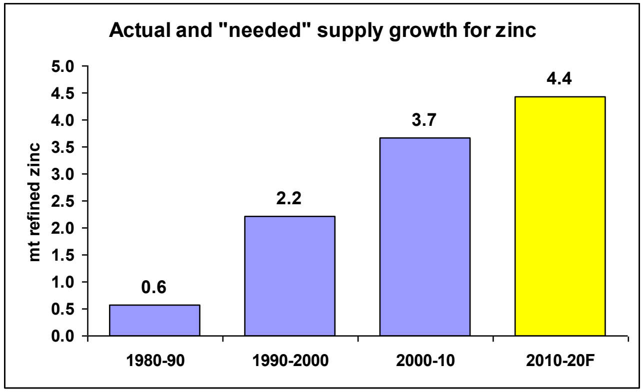


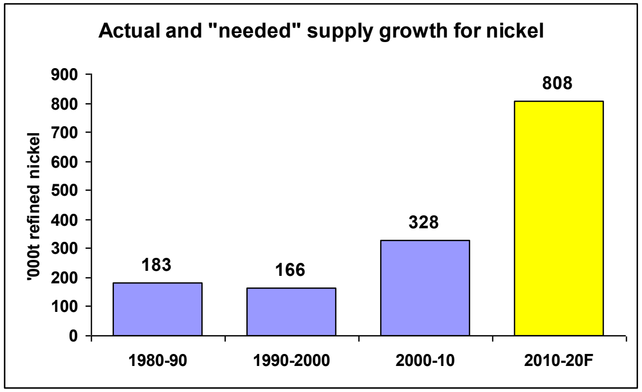
Source: Antaike, ICSG, ILZSG, INSG, IAI, world steel, World Bank, Macquarie Research, September 2011

More supply required over the next decade than in previous decades…and now mostly Greenfield…



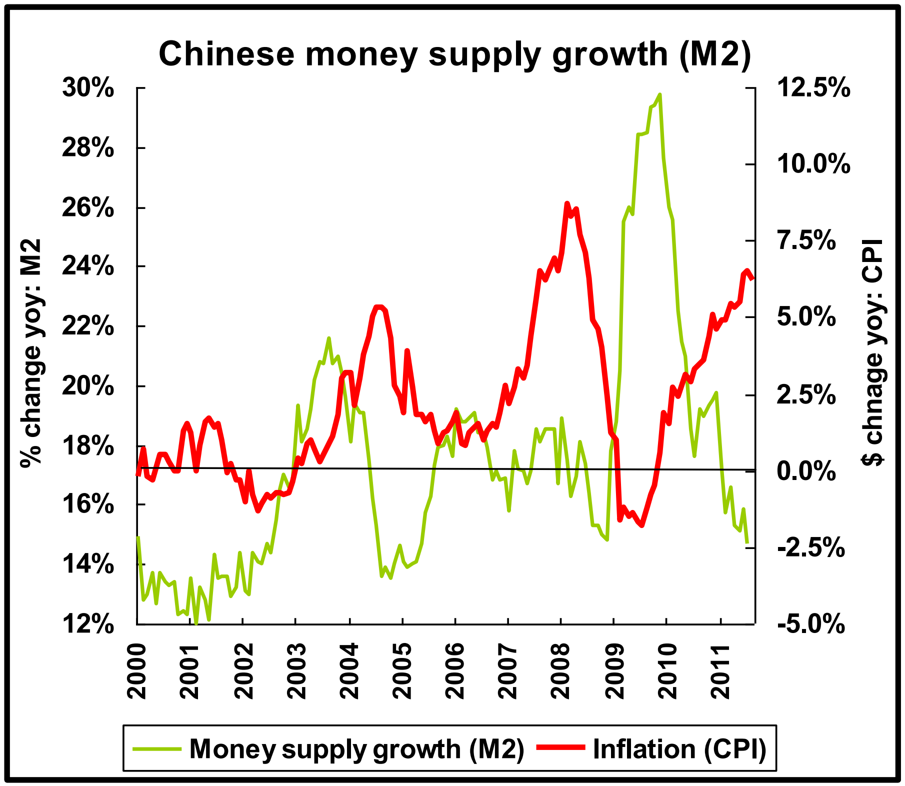


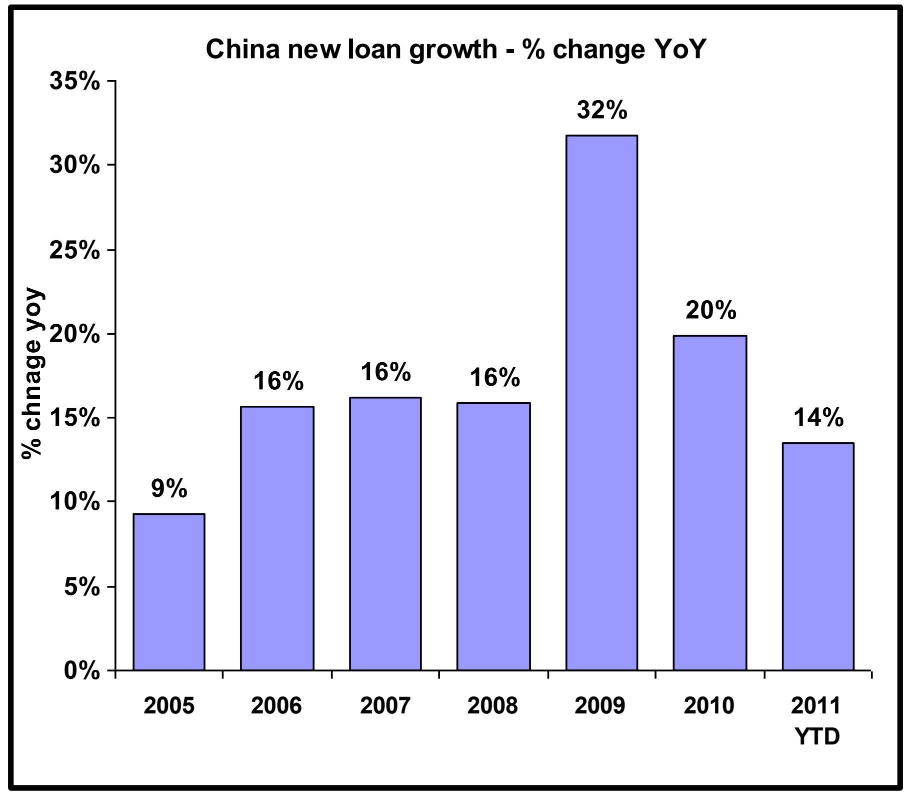




Source: Antaike, ICSG, ILZSG, INSG, IAI, Brook Hunt, Macquarie Research, September 2011

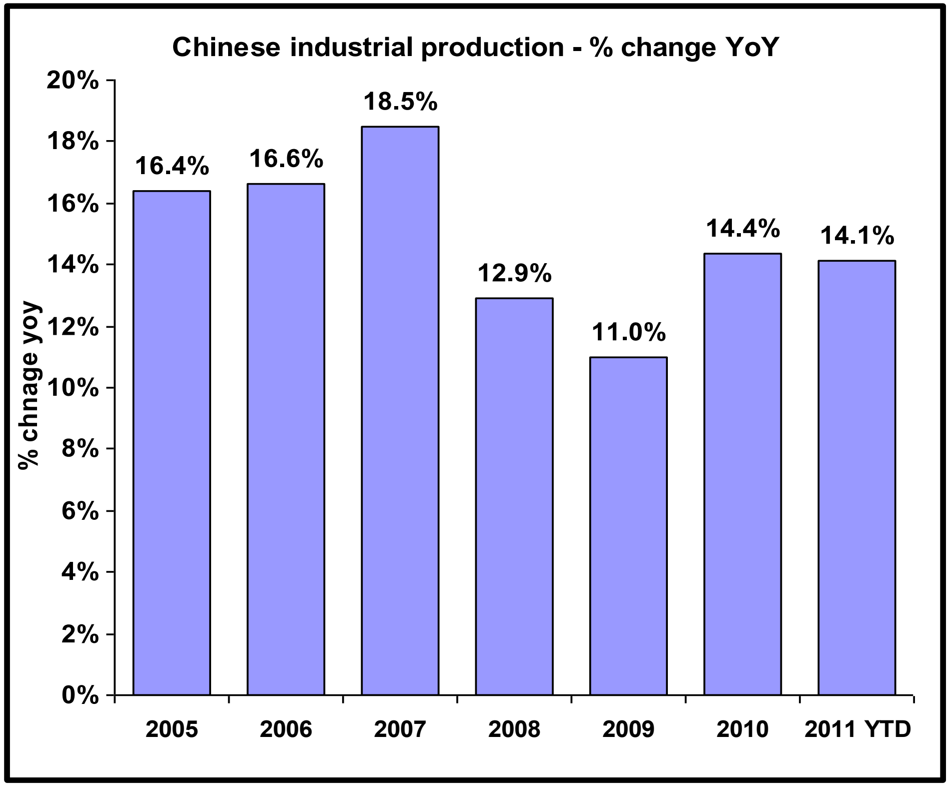
China "normalises" monetary policy after 2009 stimulus – object to get CPI down

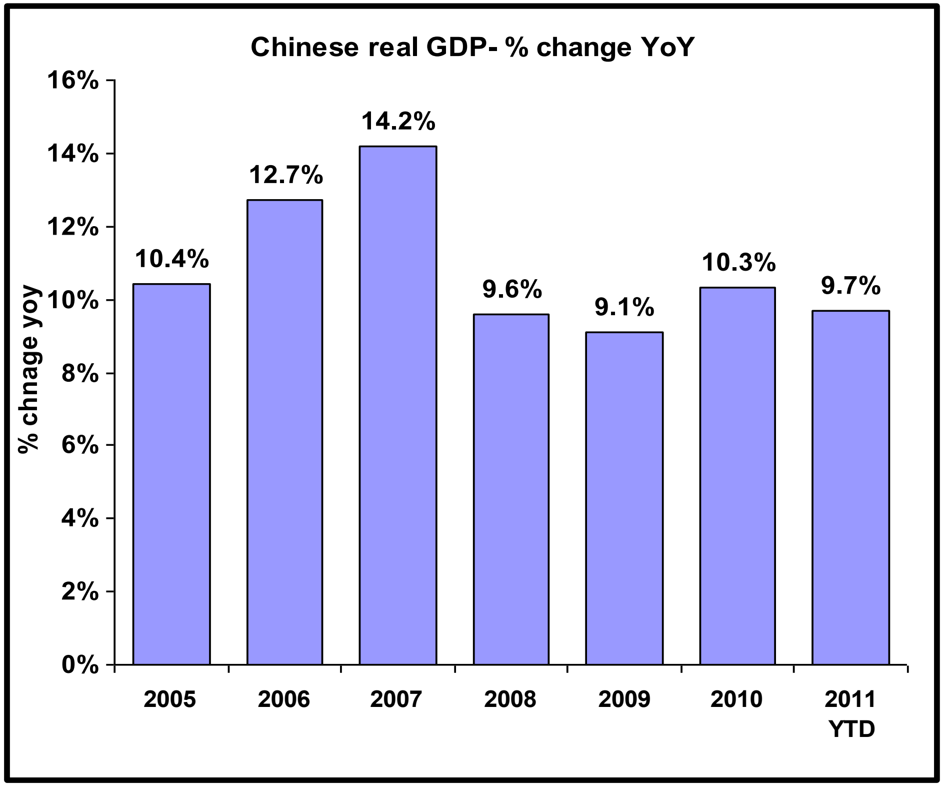




Source: NBS, Macquarie Research, September 2011

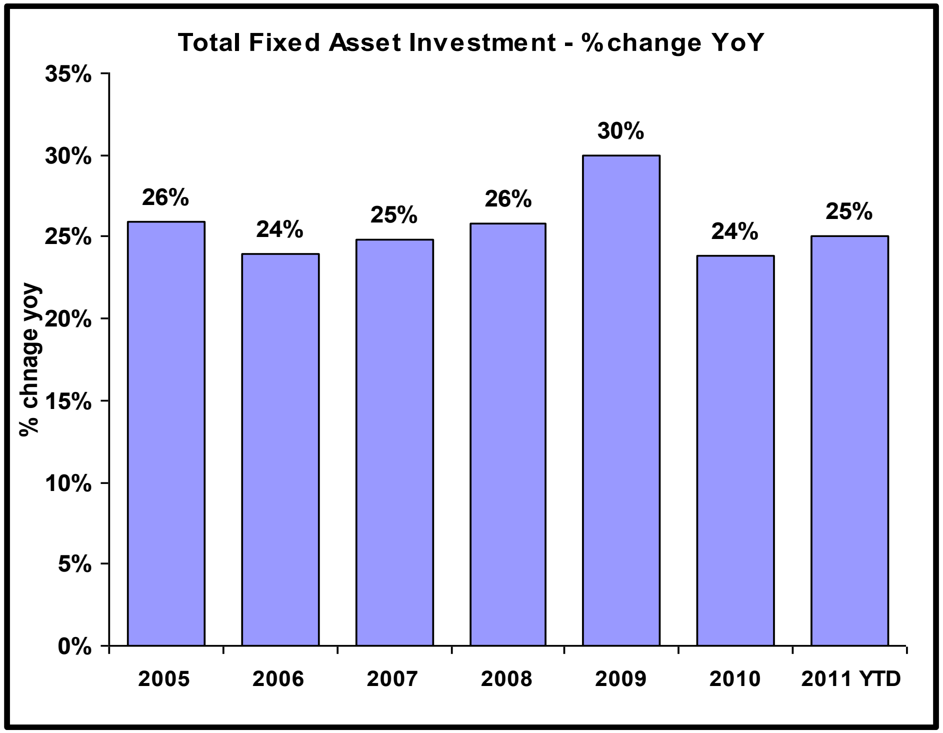
Chinese growth is still strong in 2011

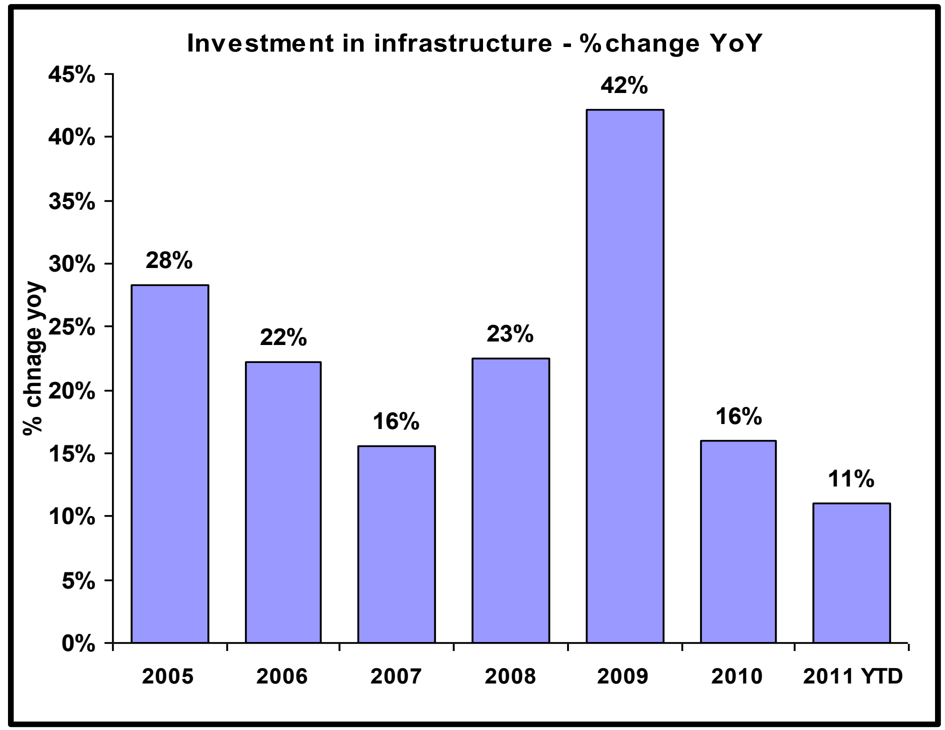




Source: NBS, Macquarie Research, September 2011

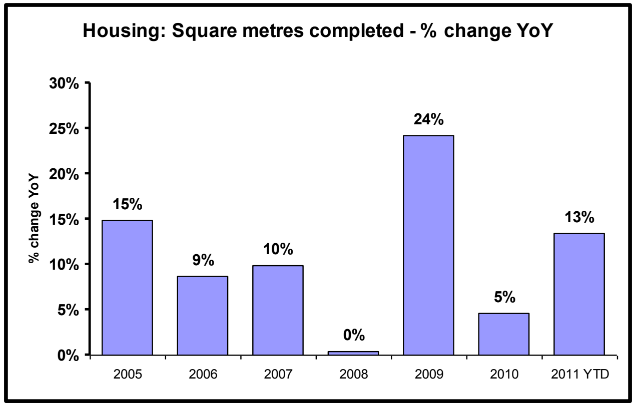
Chinese investment spending (FAI)

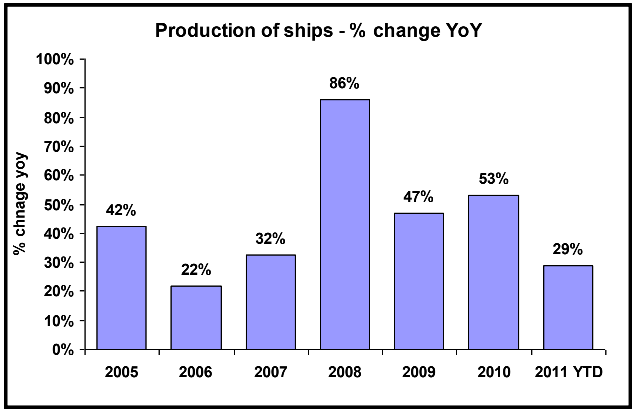


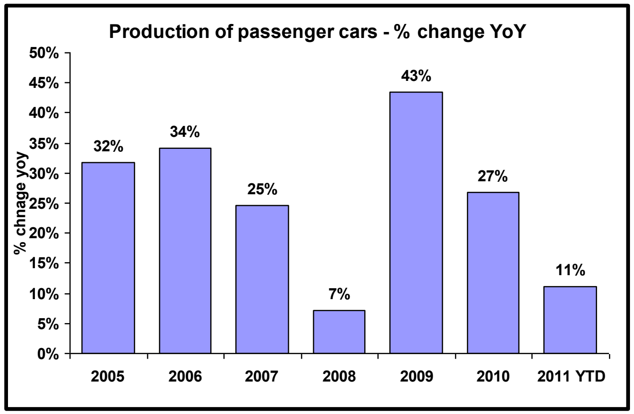


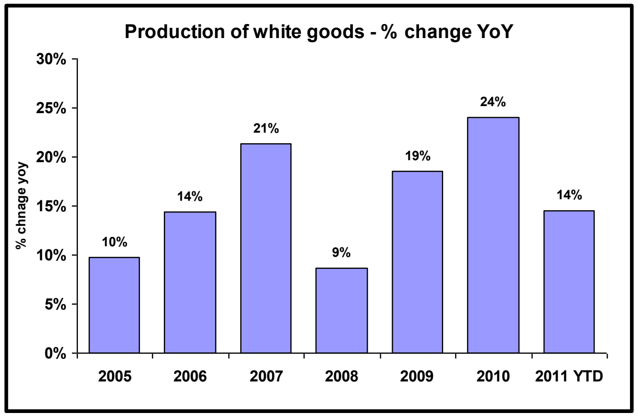
Source: NBS, Macquarie Research, September 2011

Main demand indicators in China still growing strongly in 2011



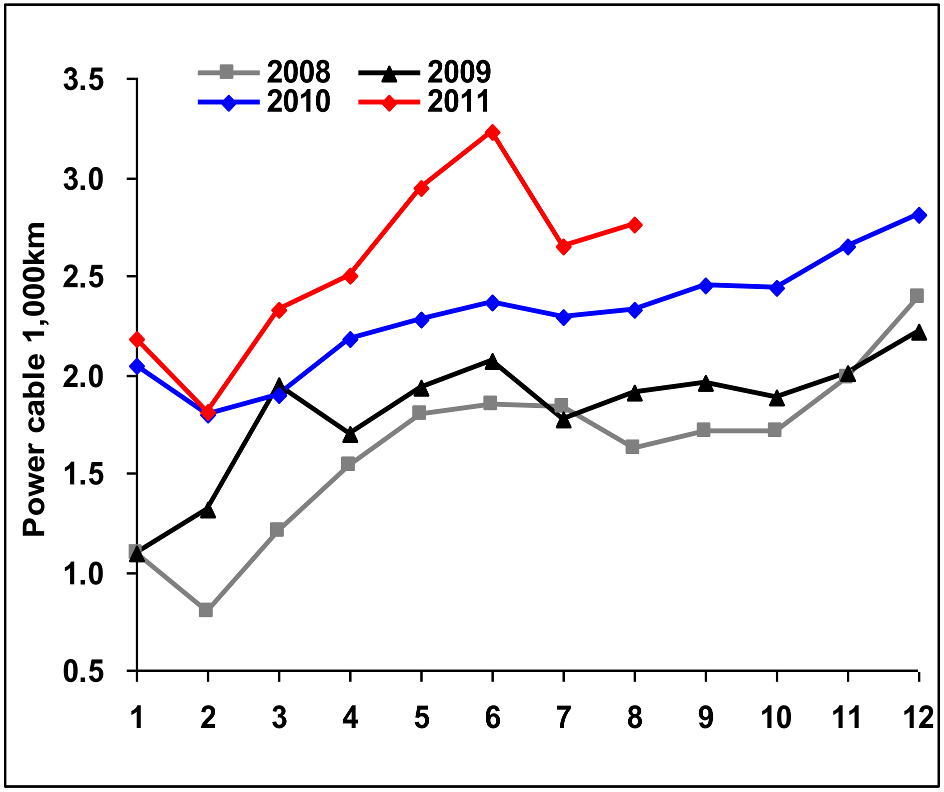


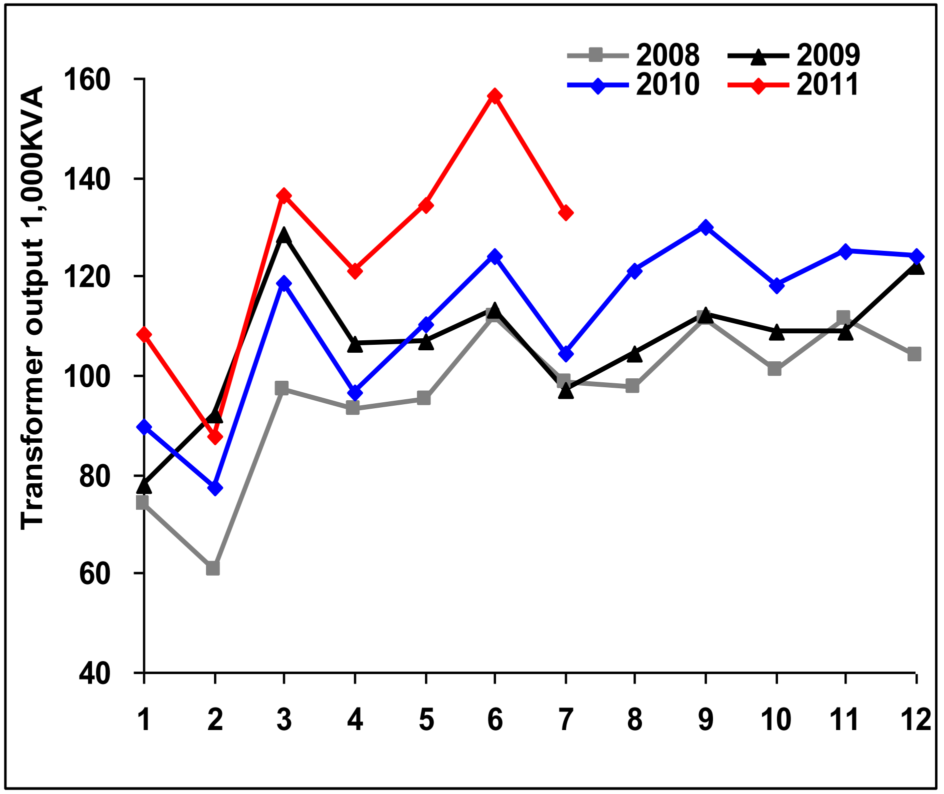




Source: NBS, Macquarie Research, September 2011

Power transformer and cable output has been growing up strongly year to July in 2011





Source: NBS, Macquarie Research, September 2011

A weaker ex-China just means more material available to China without the same level of inflation worry

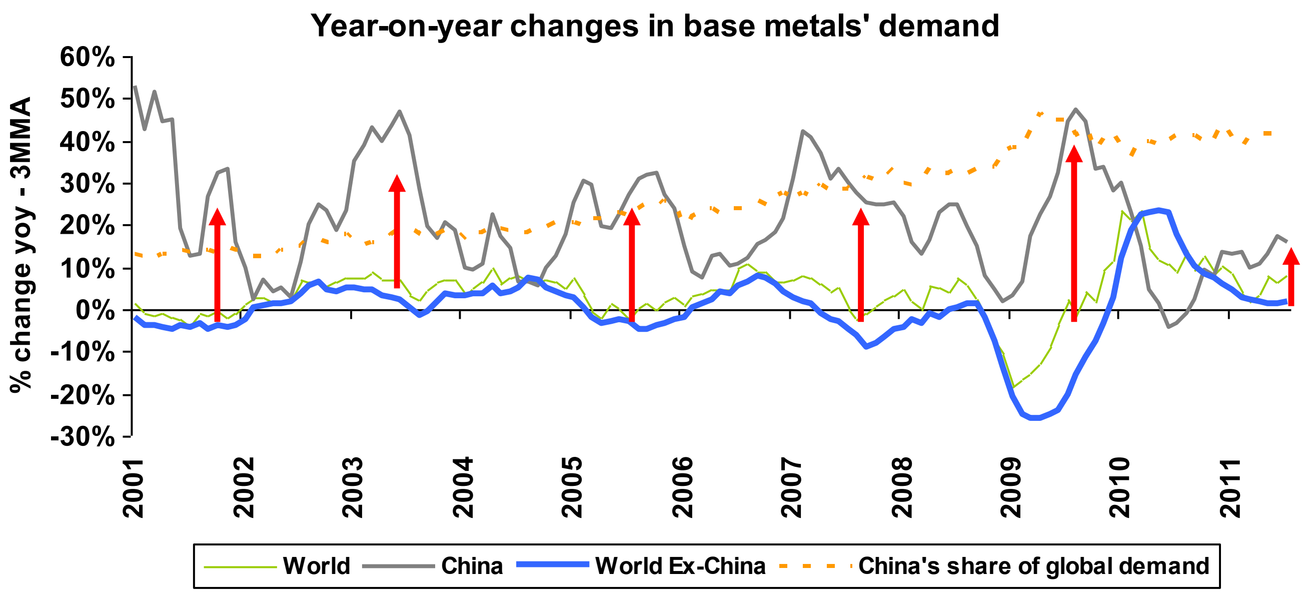


Chart shows year-on-year changes in monthly base metals demand (average of cu/al/zn/ni)

China and ex-China demand has been highly counter-cyclical

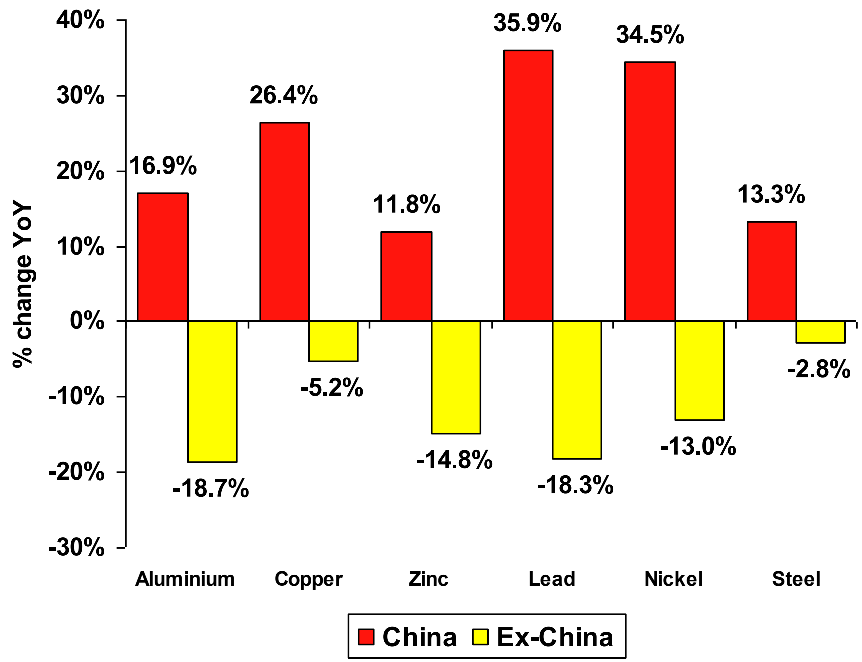
Source: INSG, ICSG, ILZSG, IAI, Macquarie Research, Ecowin, September 2011

Chinese growth offset decline elsewhere in 2009

Summary of metals/steel demand

	Jan-Dec 2009	Jan-Dec 2008	% Change Y-o-Y
Aluminium (mt)			
China	14269	12202	16.9%
World Ex-China	19891	24460	-18.7%
Total World	34160	36662	-6.8%
Copper ('000t)			
China	6550	5180	26.4%
World Ex-China	11713	12361	-5.2%
Total World	18263	17541	4.1%
Zinc ('000t)			
China	4300	3845	11.8%
World Ex-China	6327	7429	-14.8%
Total World	10627	11274	-5.7%
Lead ('000t)			
China	3470	2553	35.9%
World Ex-China	4857	5942	-18.3%
Total World	8327	8495	-2.0%
Nickel ('000t)			
China	484	360	34.5%
World Ex-China	797	916	-13.0%
Total World	1282	1277	0.4%
Steel (crude basis-mt)			
China	538	475	13.3%
World Ex-China	171	176	-2.8%
Total World	1204	1350	-10.8%

Changes in apparent demand, Jan-Dec 2009/2008



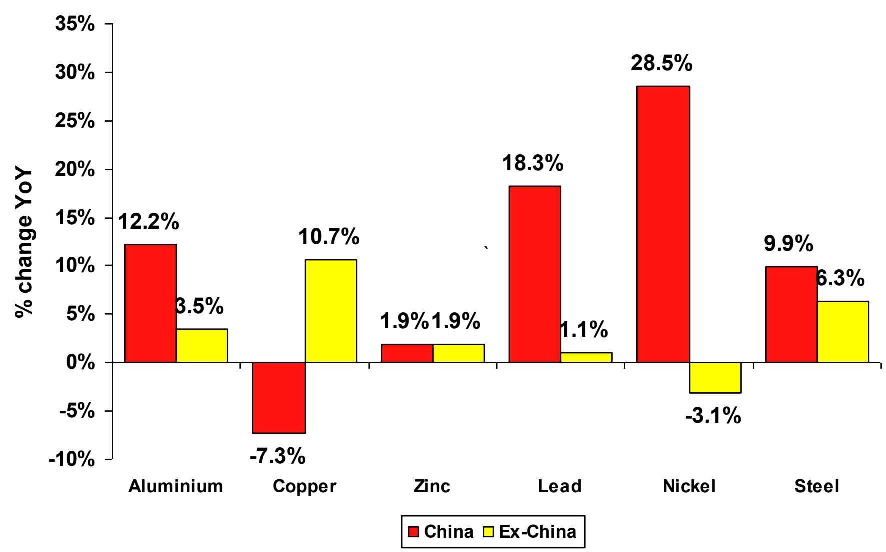
Source: Macquarie Research, INSG, ICSG, IAI, ILZSG, worldsteel, China Metals, September 2011

Chinese 2011 apparent demand has been slower than expected (except for Ni/Pb) due to destocking

Summary of metals/steel demand

	Jan-July 2011	Jan-July 2010	% Change Y-o-Y
Aluminium (mt)			
China	10346	9223	12.2%
World Ex-China	14818	14318	3.5%
Total World	25163	23541	6.9%
Copper ('000t)			
China	4082	4402	-7.3%
World Ex-China	7616	6882	10.7%
Total World	11698	11285	3.7%
Zinc ('000t)			
China	3009	2953	1.9%
World Ex-China	4304	4222	1.9%
Total World	7313	7175	1.9%
Lead ('000t)			
China	2542	2149	18.3%
World Ex-China	3134	3101	1.1%
Total World	5676	5250	8.1%
Nickel ('000t)			
China	394	307	28.5%
World Ex-China	504	520	-3.1%
Total World	898	827	8.7%
Steel (crude basis-mt)			
China	390	355	9.9%
World Ex-China	508	478	6.3%
Total World	898	832	7.8%

Year-on-Year changes in apparent demand Jan-July 2011/2010



Source: Macquarie Research, INSG, IAI, ICSG, ILZSG, China Metals, September 2011

Why the inverse relationship between Chinese and rest of world growth?

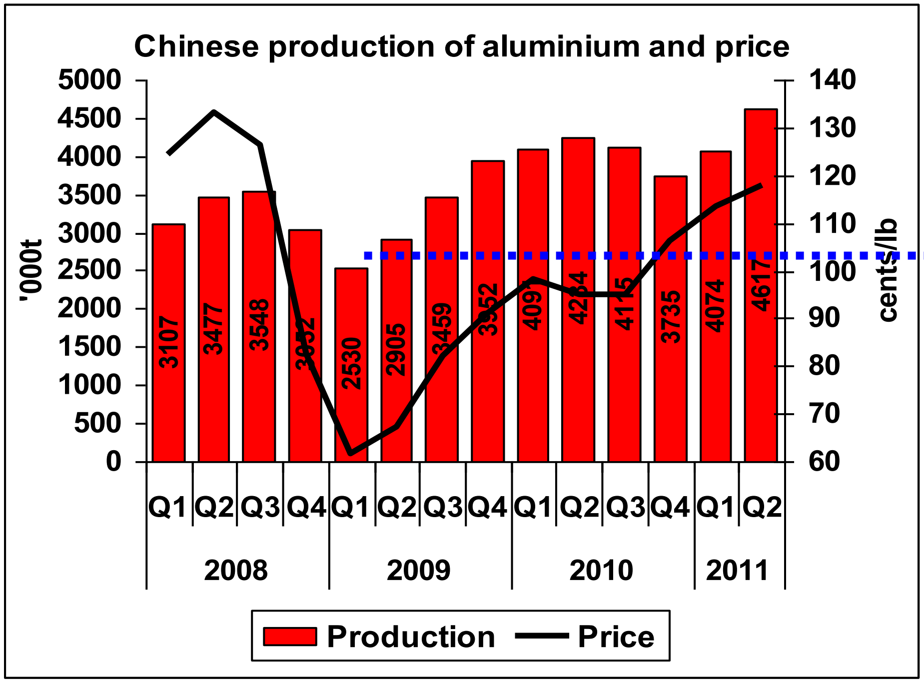
- Chinese potential growth always exceeds the capacity for it to grow due to bottlenecks including energy and resources
- When the rest of world and China grow strongly together, inflationary pressures become a worry in China and the authorities move quickly to slow growth; when the rest of the world is weak, resource availability rises and inflationary pressures dissipate (the rest of the world "exports" disinflation pressures to China) and the Chinese authorities allow growth to accelerate again
- China responds **more quickly** than the rest of the world because:
    1. Monetary policy is direct (banks told directly to start and stop lending rather than via long lead-time interest rate changes)
    2. Infrastructure and other construction expenditures can be turned on and off quickly due to long term planning (engineering and planning for projects done years in advance), a flexible, mobile, non-unionised work force and "short-circuited approval" procedures for projects (for EIAs, getting finance, approving projects, clearing construction sites, etc)

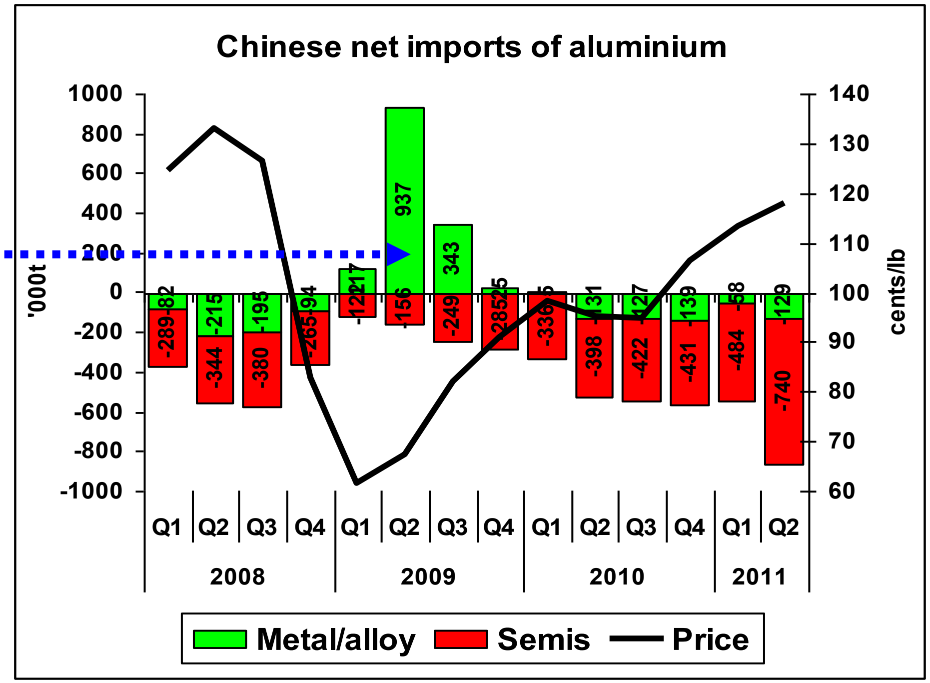
So what did China do as the 2008/09 crisis unfolded?

- Chinese authorities, faced with rapid inflationary pressures in 1H 2008 had tightened to slow growth and then when the global financial crisis unfolded (exports collapsed), a sharp slowdown ensued in China; after a short period of panic, the authorities moved quickly to massively ease monetary and fiscal policy.
- Short-term collapse in commodity markets provided China with opportunities:
  - Shortages of key commodities that were bottlenecks in China's growth process eased – Chinese government could accelerate its infrastructure build in a non-inflationary way – rest of world exported deflation to China
  - Chinese government and other market participants bought 'cheap' commodities for stockpile, in part replacing expensive domestic production
  - Chinese government encouraged restructuring of its own domestic industries by using availability of 'cheap' imports to close inefficient and dangerous small producers

Sounds familiar?!

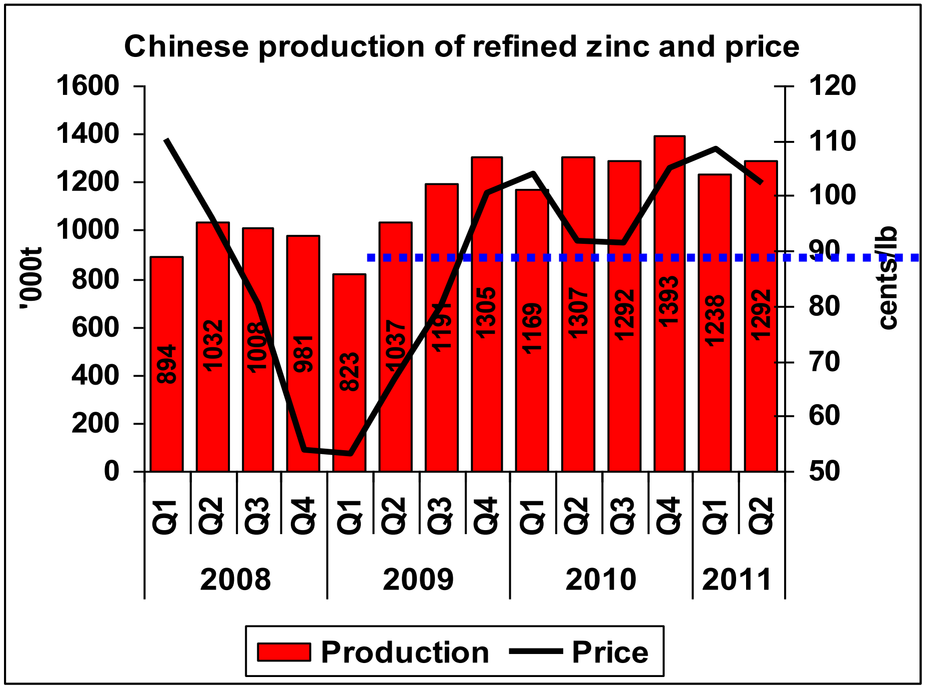
Chinese producers <u>are</u> cost and price sensitive…the case of aluminium

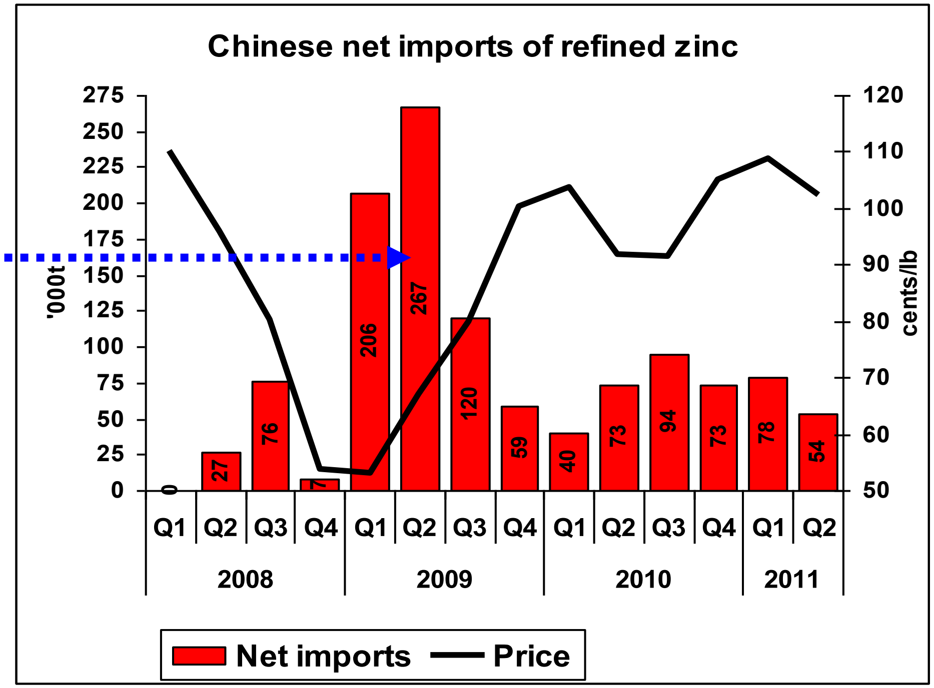




Source: CNAI, Chinese Customs, LME, Macquarie Research, September 2011

The case of zinc…supply adjusts to price

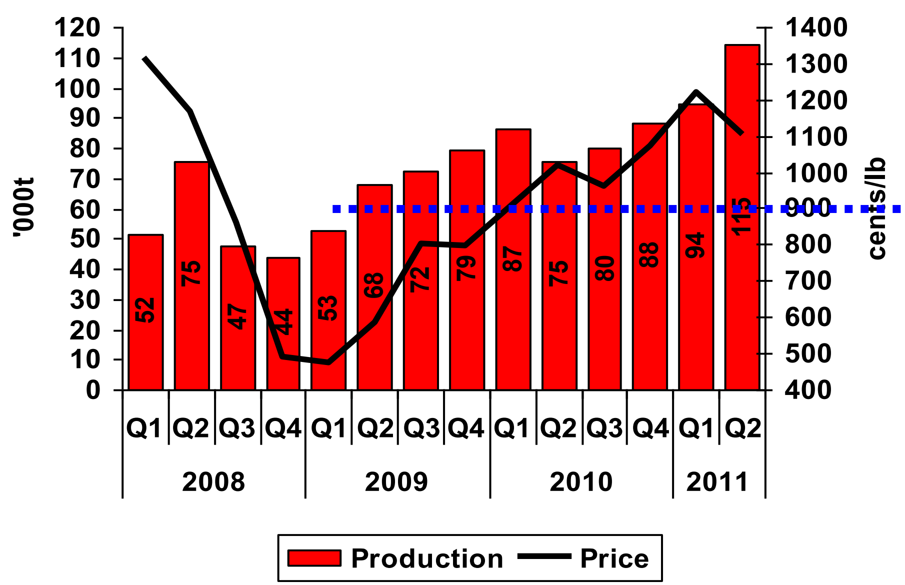




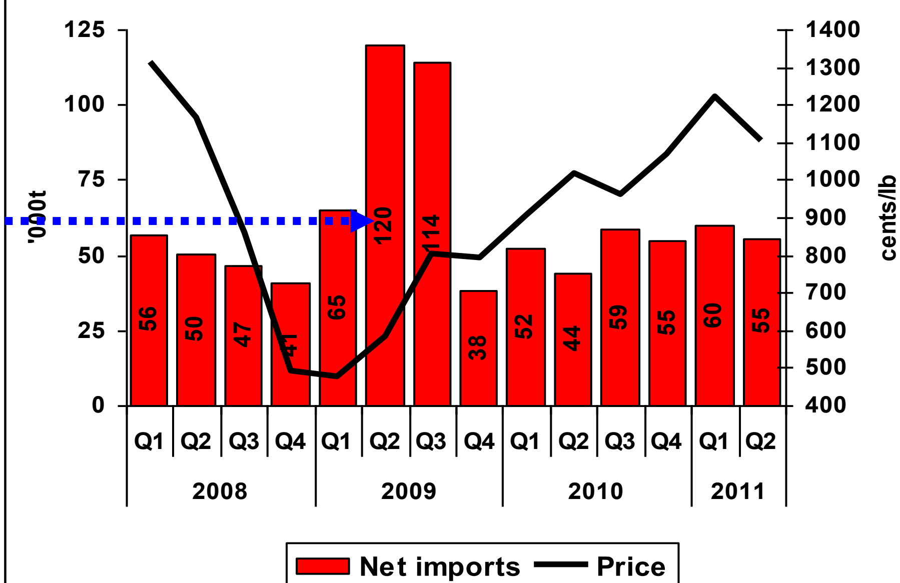
Source: CNAI, Chinese Customs, LME, Macquarie Research, September 2011

…and for nickel

Chinese production of primary nickel and price



Chinese net imports of primary nickel



Source: CNAI, Chinese Customs, LME, Macquarie Research, September 2011

Medium term challenges and concerns

- Rising costs in China: China's dominance in supply (except for copper) means that Chinese costs matter and we think that due to rising labour, energy, transport costs in RMB terms and a 3-5% a year revaluation of the RMB against the US dollar, Chinese costs can rise by 7-10% a year in US dollar terms (before offsetting efficiencies)
- Ongoing economic and political reform needed to sustain growth

Summary

- China has been dominant in supply and demand growth over the past decade – it will continue over this decade
- Short term correction in Chinese demand is similar to previous ones and reflects prudent monetary and fiscal policy adjustment in China to make growth more sustainable
- Marked inverse relationship between Chinese and non-Chinese growth – China will do its best to "save the commodities world" in 2012

Important disclosures:

Recommendation definitions

Macquarie - Australia/New Zealand

Outperform – return >5% in excess of benchmark return (>2.5% in excess for listed property trusts)
Neutral – return within 5% of benchmark return (within 2.5% for listed property trusts)
Underperform – return >5% below benchmark return (>2.5% below for listed property trusts)

Macquarie - Asia

Outperform – expected return >+10%
Neutral – expected return from -10% to +10%
Underperform – expected <-10%

Macquarie First South - South Africa

Outperform – return > 10% in excess of benchmark return
Neutral – return within 10% of benchmark return
Underperform – return > 10% below benchmark return

Macquarie - Canada

Outperform – return > 5% in excess of benchmark return
Neutral – return within 5% of benchmark return
Underperform – return > 5% below benchmark return

Macquarie - USA

Outperform (Buy) – return > 5% in excess of benchmark return
Neutral (Hold) – return within 5% of benchmark return
Underperform (Sell) – return > 5% below benchmark return

Recommendation – 12 months

Note: Quant recommendations may differ from Fundamental Analyst recommendations

Volatility index definition*
This is calculated from the volatility of historic price movements.

Very high–highest risk – Stock should be expected to move up or down 60-100% in a year – investors should be aware this stock is highly speculative.

High – stock should be expected to move up or down at least 40-60% in a year – investors should be aware this stock could be speculative.

Medium – stock should be expected to move up or down at least 30-40% in a year.

Low–medium – stock should be expected to move up or down at least 25-30% in a year.

Low – stock should be expected to move up or down at least 15-25% in a year.

* Applicable to Australian/NZ stocks only

Financial definitions

All "Adjusted" data items have had the following adjustments made:

Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense
Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

EPS = adjusted net profit /efpowa*
ROA = adjusted ebit / average total assets
ROA Banks/Insurance = adjusted net profit /average total assets
ROE = adjusted net profit / average shareholders funds
Gross cashflow = adjusted net profit + depreciation
*equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions – For quarter ending 31 December 2009

	AU/NZ	Asia	RSA	USA	CA	EUR	
Outperform	47.94%	60.52%	37.50%	43.42%	65.26%	41.60%	(for US coverage by MCUSA, 3.76% of stocks followed are investment banking clients)
Neutral	35.58%	18.70%	53.13%	49.06%	29.11%	36.80%	(for US coverage by MCUSA, 4.51% of stocks followed are investment banking clients)
Underperform	16.48%	20.79%	9.38%	7.52%	5.63%	21.60%	(for US coverage by MCUSA, 0.0% of stocks followed are investment banking clients)

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