

May 2010

Commodities

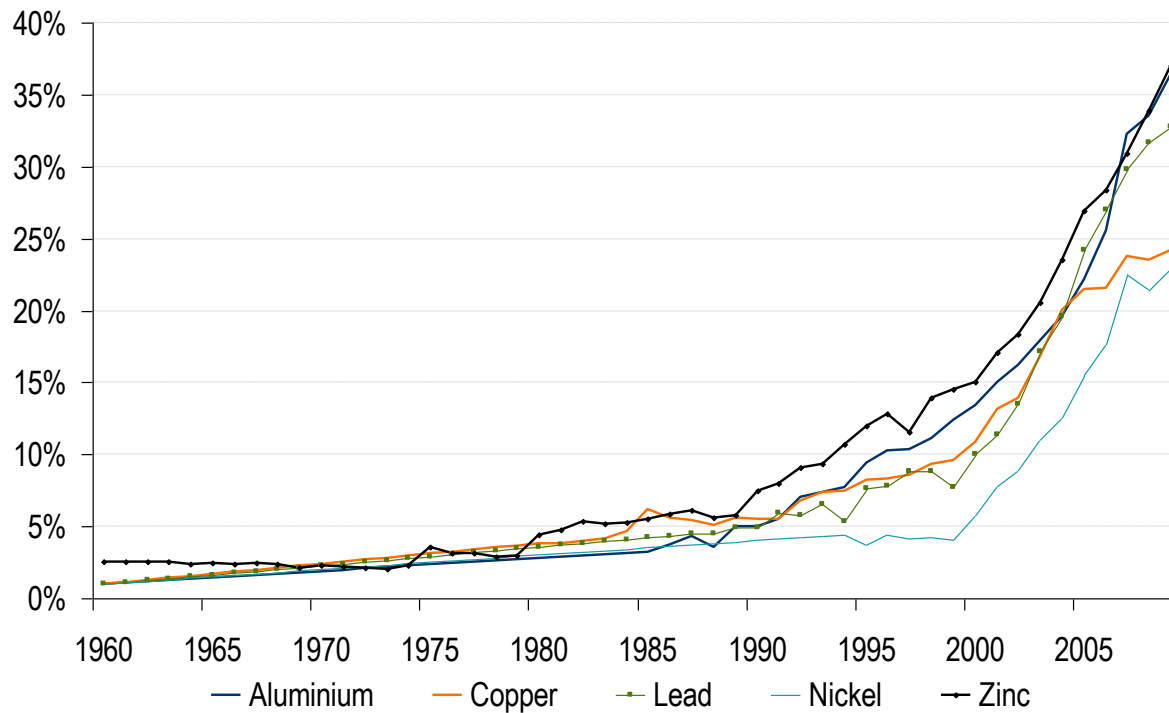
Bank of America
Merrill Lynch

Metals Outlook



China is the most important metal consumer

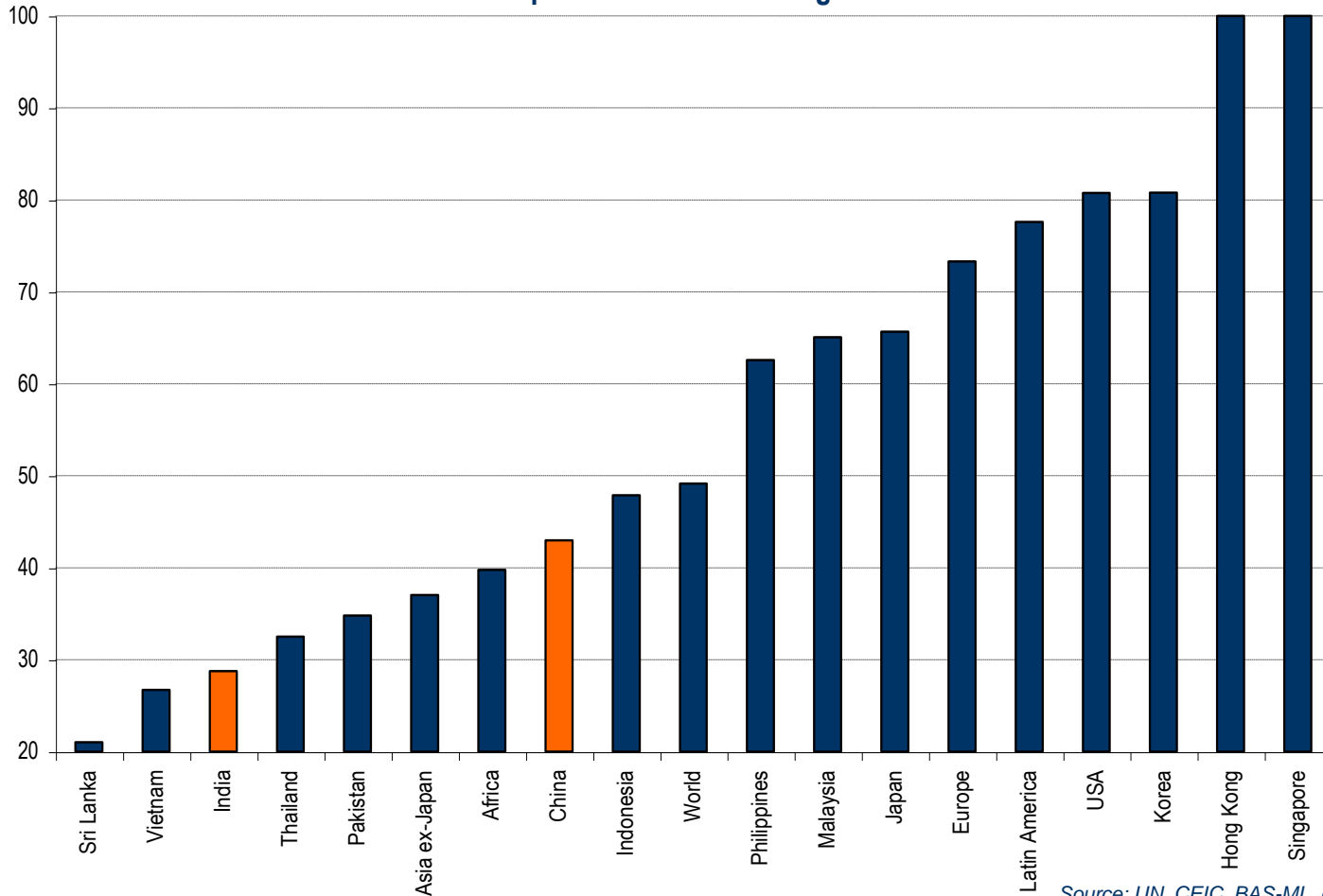
China, % of global metals demand



Source: Woodmac, BofA Merrill Lynch Commodity Research

Solid source of future growth

Urban Population as a Percentage of Total

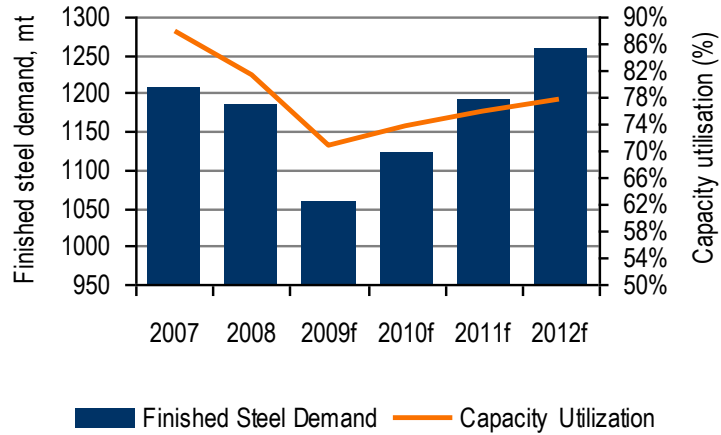


Source: UN, CEIC, BAS-ML estimates

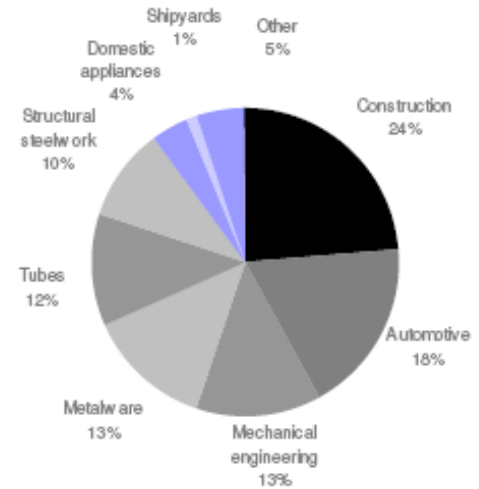
Urbanisation drives infrastructure development; increased economic development drives wealth which drives consumption... this will be a commodity demand driver for several decades to come

Steel: supply vs demand

BAS-ML global supply and demand estimates (central case)

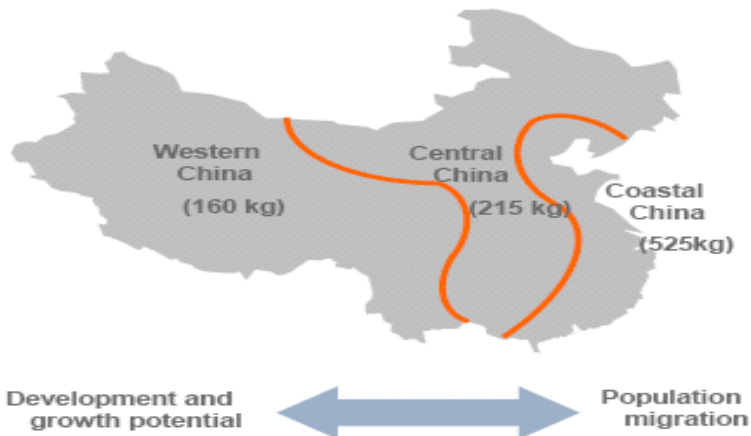


OECD Steel demand

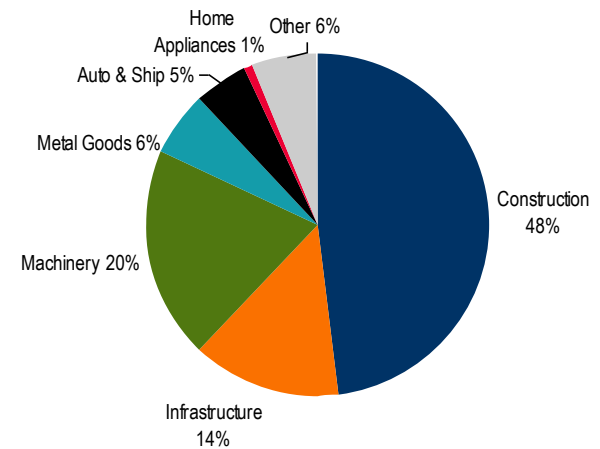


Steel Consumption per capita in China

Steel consumption per capita in 2008e (kg)



China Steel demand

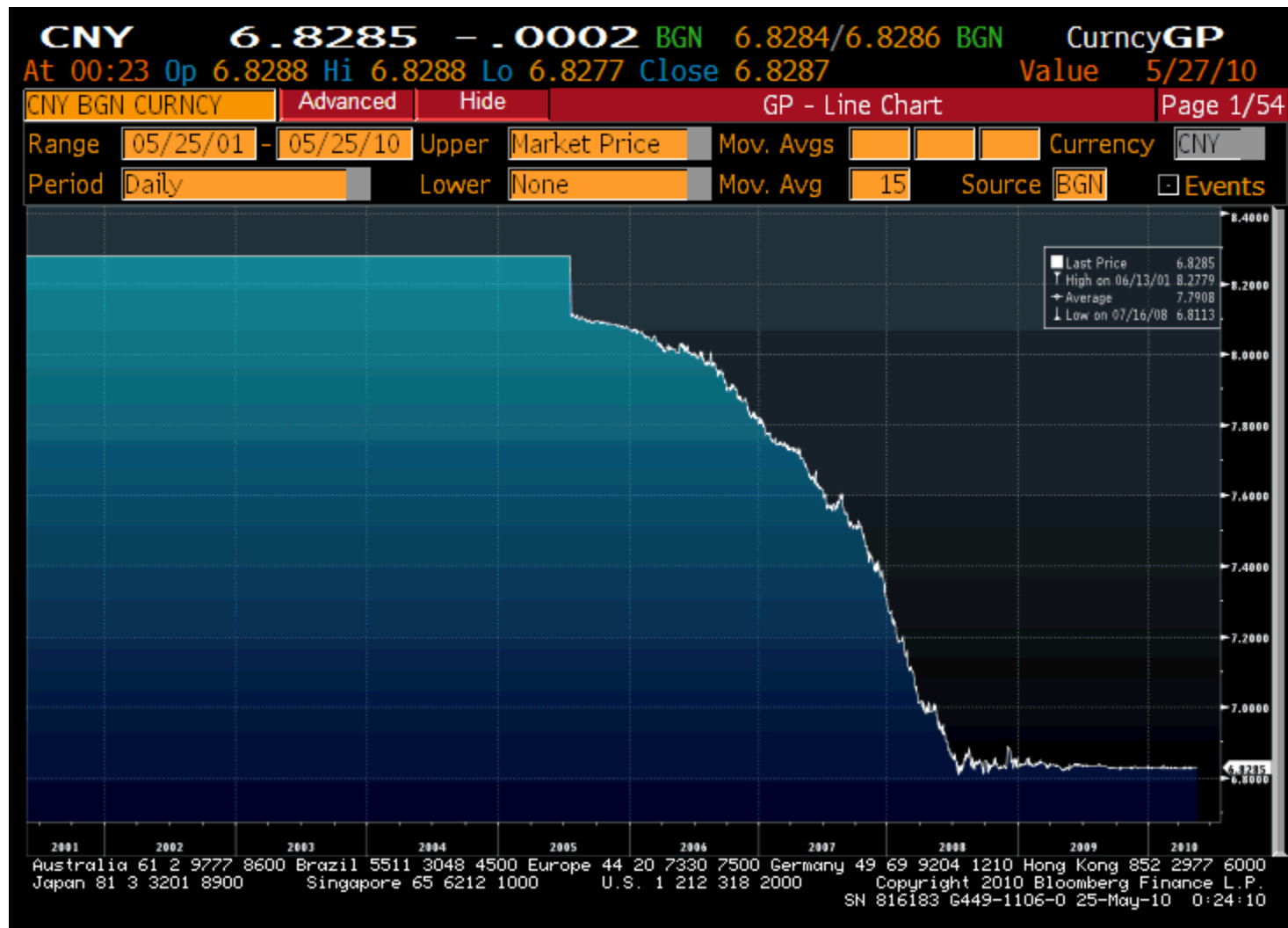


Source: BAS-ML estimates

20 years of Yuan (90-99)

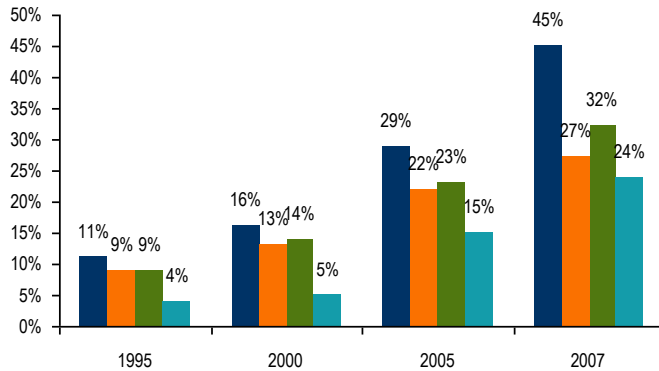


20 years of Yuan (01-10)



China: Remains Short, Medium and Long Term Driver

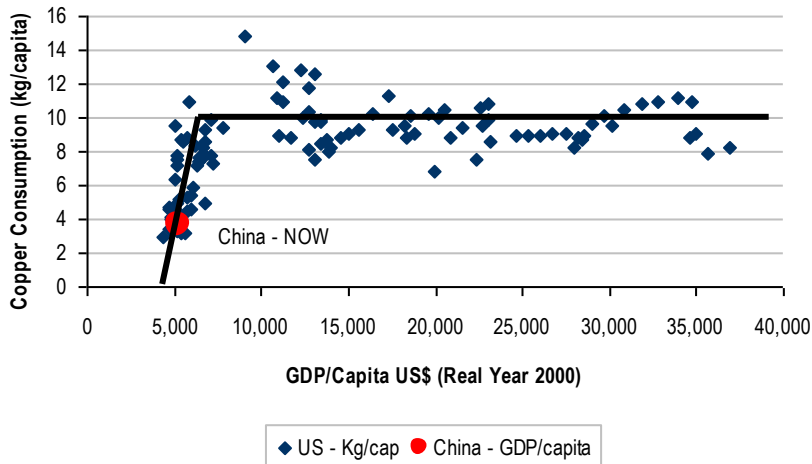
China's World Consumption Share of Metals 1995-2007



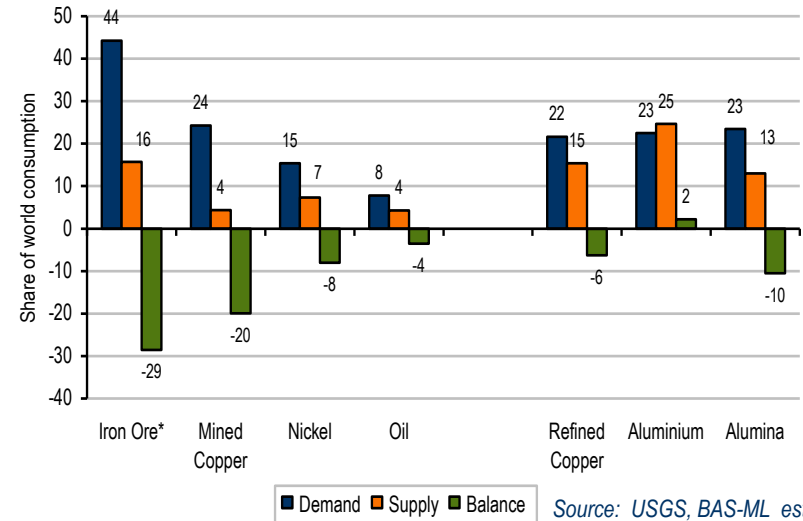
Source: WBMS, BAS-ML Estimates



US Historical Copper Consumption Pattern vs. China



Chinese Shortfalls in Selected Commodities



Source: USGS, BAS-ML estimates

- China is short resources.
- Fewer barriers to entry in downstream industries.
- Share of global consumption doubled/tripled in last decade.
- Consumption per capita still lags US.
- Economic growth = greater marginal propensity to consume metals.

China already the dominant consumer of metals but massive growth potential remains

India: Emerging source of demand

Chinese and Indian Consumption Relative to the US

	1995	2000	2005	2006	2007	2008	2008 % of US Consumption	2008 % of World	Compound Growth 95-08	Growth 05-08
Copper (kt)										
US	2,517.4	3,025.5	2,256.8	2,096.0	2,140.0	1,933.0	-	10.7%	-2.0%	-14.3%
China	1,143.4	1,928.1	3,656.1	3,613.8	4,863.4	5,133.6	266%	28.5%	12.2%	40.4%
India	116.4	240.2	397.2	406.7	516.1	511.3	26%	2.8%	12.1%	28.7%
Copper Per Capita (kg/person)										
US	9.3	10.6	7.6	7.0	7.1	6.4	-	-	-2.9%	-15.9%
China	0.9	1.5	2.8	2.7	3.7	3.9	61%	-	11.5%	38.9%
India	0.1	0.2	0.36	0.36	0.46	0.45	7%	-	10.3%	23.7%
	1995	2000	2005	2006	2007	2008	2008 % of US Consumption	2008 % of World	Compound Growth 95-08	Growth 05-08
Zinc (kt)										
US	1,202.1	1,314.6	1,017.9	1,122.1	1,050.0	984.9	-	8.6%	-1.5%	-3.2%
China	909.4	1,195.5	2,989.0	3,155.5	3,631.5	4,018.6	408%	35.3%	12.1%	34.4%
India	200.0	224.3	388.8	444.1	480.0	460.1	47%	4.0%	6.6%	18.3%
Zinc per Capita (kg/person)										
US	4.5	4.6	3.4	3.7	3.5	3.2	-	-	-2.4%	-5.0%
China	0.7	0.9	2.3	2.4	2.7	3.0	93%	-	11.4%	33.0%
India	0.2	0.2	0.4	0.4	0.4	0.4	12%	-	5.0%	13.7%
	1995	2000	2005	2006	2007	2008	2008 % of US Consumption	2008 % of World	Compound Growth 95-08	Growth 05-08
Aluminium (kt)										
US	5,054.8	6,161.3	6,114.4	6,150.0	5,579.8	5,614.7	-	14.7%	0.8%	-8.2%
China	1,941.6	3,499.1	7,118.6	8,648.1	12,347.0	12,412.5	221%	32.5%	15.3%	74.4%
India	581.0	602.4	957.9	1,079.5	1,207.1	1,304.8	23%	3.4%	6.4%	36.2%
Aluminium Per Capita (kg/person)										
US	18.7	21.7	20.5	20.4	18.5	18.5	-	-	-0.1%	-9.9%
China	1.6	2.7	5.4	6.5	9.3	9.3	50%	-	14.6%	72.5%
India	0.6	0.6	0.9	1.0	1.1	1.1	6%	-	4.8%	30.9%

Source: WBMS, UN Population Statistics, BAS-ML estimates

Indian metals demand story in its early infancy but already showing up as a key positive driver

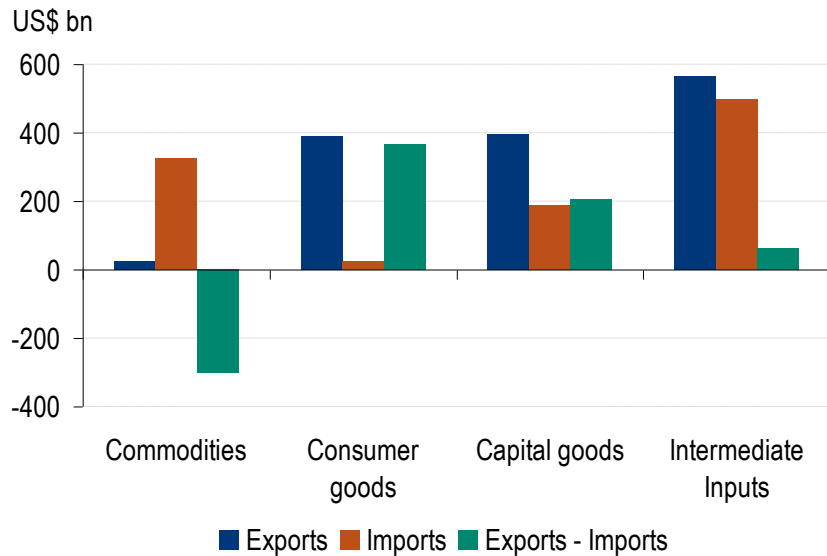


Prices have recovered, but uncertainties remain

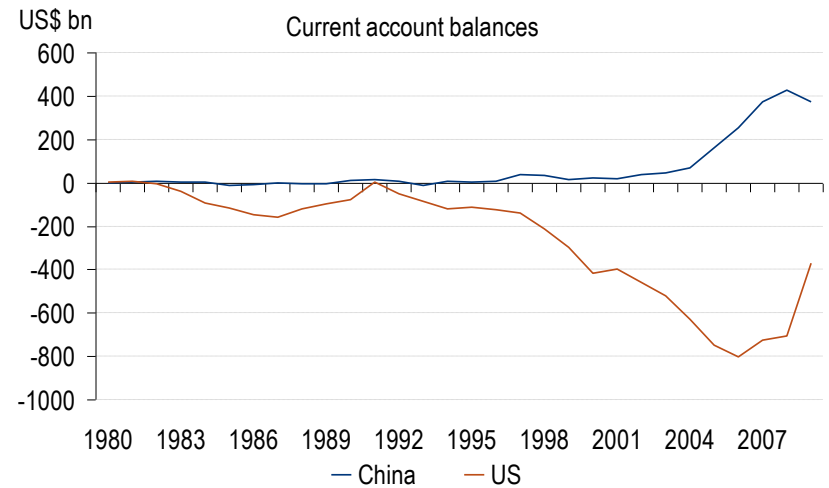
- Prices collapsed towards the end of 2008 as industrial activity decelerated, which was driven by the meltdown on financial markets.
- The collapse in end-user demand was exacerbated by de-stocking through the supply chain. Manufacturers, for instance, cut output in excess of the declines in end-user demand to reduce excess inventories. De-stocking driven by production cuts has been fading out. This should support metals demand and prices in 2010.
- The improvement of metal demand was driven by fiscal stimuli. Private sector activity has generally still been subdued in many countries, although there are signs of a pick-up. There are concerns over the strength of metal consumption once governments tighten the belt, especially in China. There are also uncertainties over sovereign debt in Europe.
- Nevertheless, a likely slowdown of China's metals demand should be offset by higher consumption in World ex-China.
- Metals producers pushed through significant output cuts. Reported inventories of some metals, notable copper and zinc, remain low, suggesting little buffer has been built.
- Meanwhile, excess capacities on the aluminium market are substantial. We believe that smelters need to show production discipline in the coming years to restore a degree of normality on the aluminium market.

Global imbalances (I) - imbalances have been a key driver of metals

China's economy has been geared towards buying raw materials and re-exporting manufactured goods



This is reflective of the global growth model, which contributed to the crisis

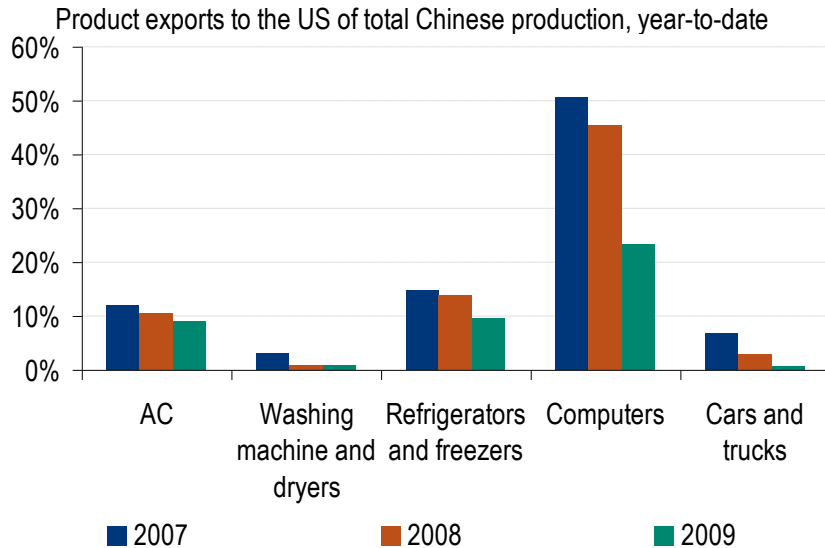


Source: CEIC, UN, BofAML Global Research calculations.

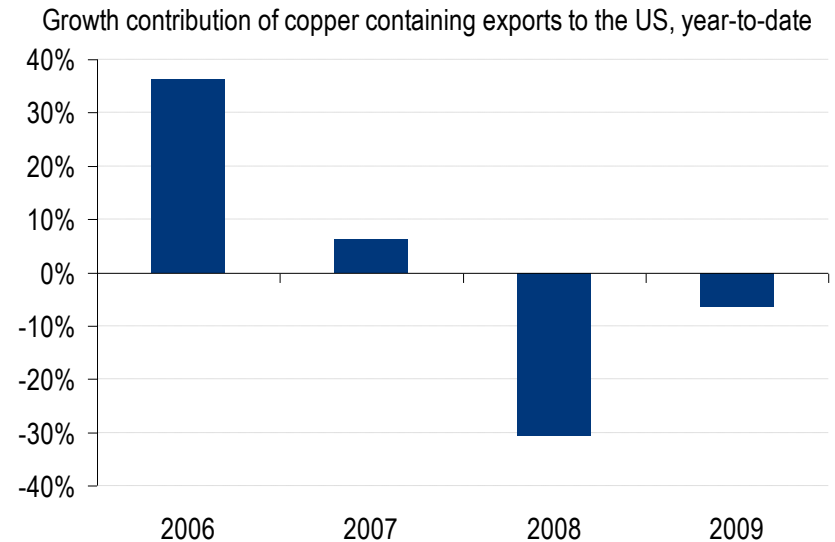
Source: IMF, BofAML Global Commodity Research

Global imbalances (II) - China's processing economy boosted metals demand

China exports a substantial part of its copper containing products to the US



In 2006 and 2007, exports to the US made a positive contribution to Chinese copper demand



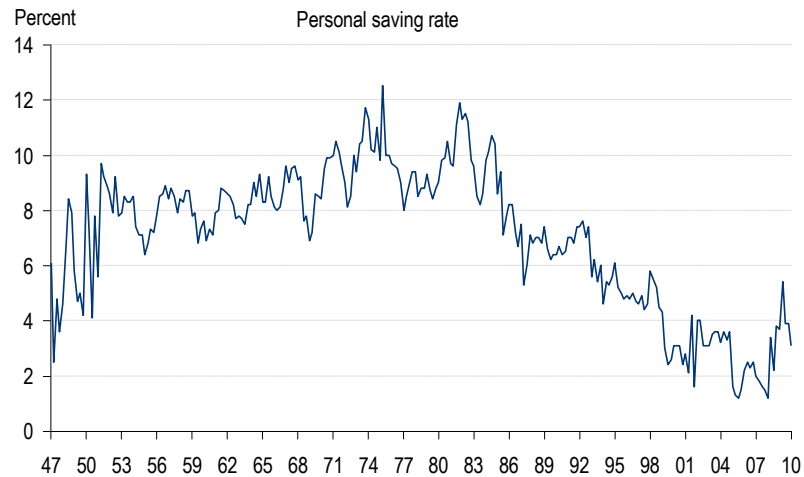
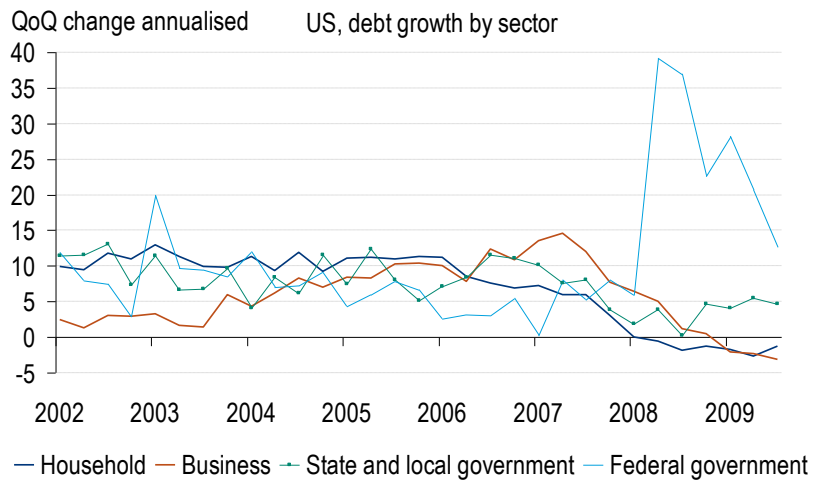
Source: USIT, CEIC, Reuters Ecowin Pro, BofA Merrill Lynch Global Commodity Research

Source: USIT, CEIC, Reuters Ecowin Pro, BofA Merrill Lynch Global Commodity Research

The rebound of the economy was driven by the public sector; private sector spending has gradually been picking up

The private sector does not make use of cheap money

US consumers are unlikely to be the main growth driver in the medium-term



Source: Reuters Ecowin Pro, BofA Merrill Lynch Global Commodity Research

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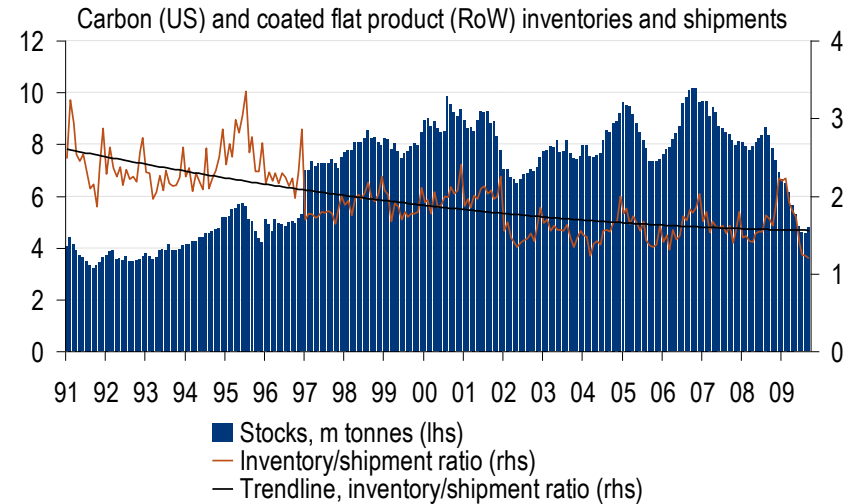
Stock draws exacerbated the crisis; restocking has added to demand

Four stages of stocking cycles

Phase 1 (downturn)	Shipments decline and inventories rise. Metal demand falls.
Phase 2 (recession)	Shipments decline and inventories decline. Accelerated decline in metals demand.
Phase 3 (recovery)	Shipments rise and inventories decline. Metal demand rises
Phase 4 (boom)	Shipments rise and inventories rise. Accelerated rise in metal demand.

Source: BofA Merrill Lynch Global Commodity Research

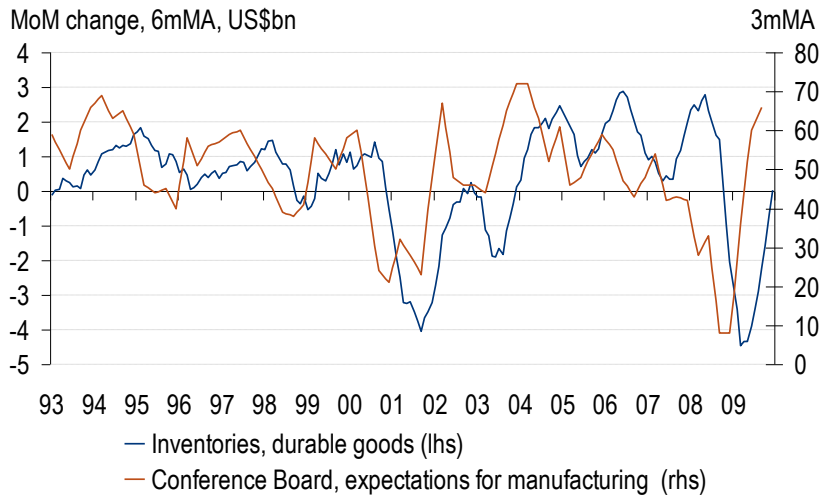
Inventories have remained low



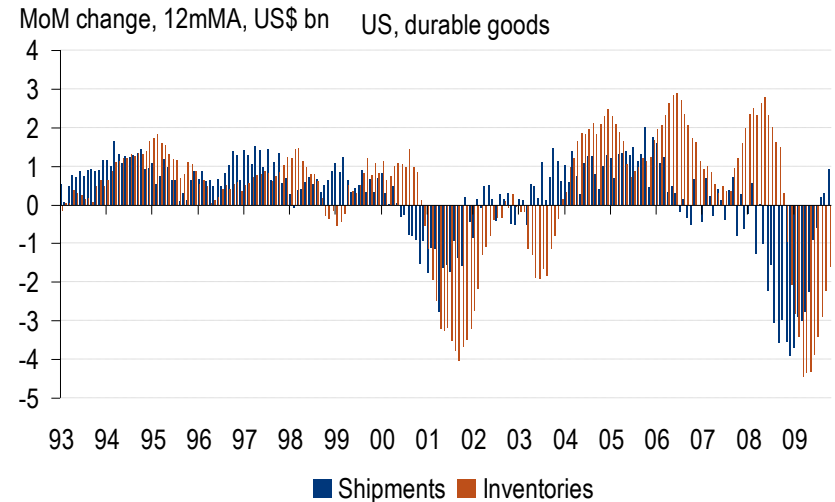
Source: CRU, BofA Merrill Lynch Global Commodity Research

Re-stocking plays out through medium-term cycles

Business confidence in the US tends to be a good leading indicator for changes to inventories



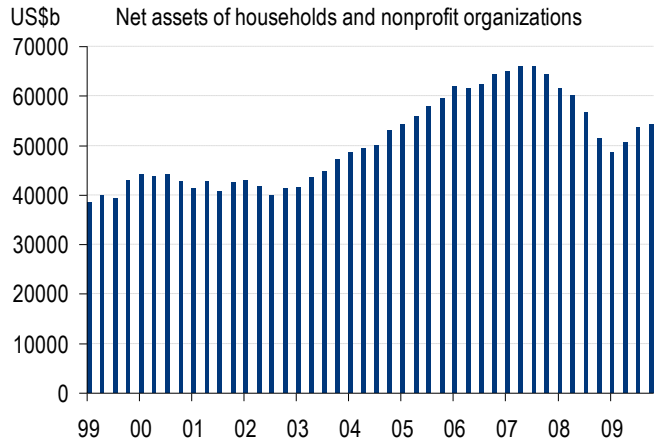
Shipments move ahead of inventories in the US



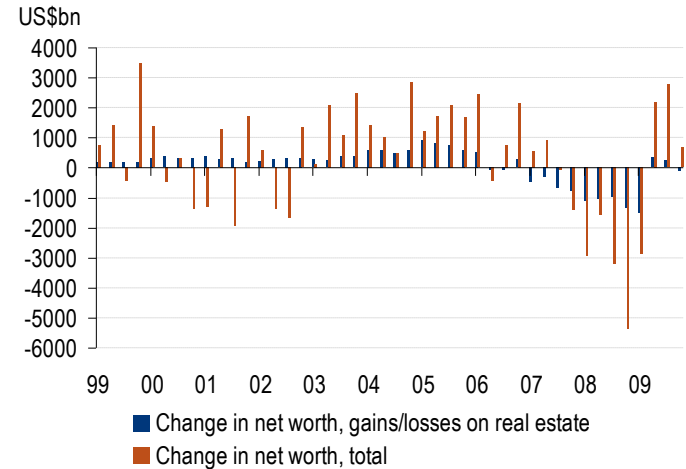
Source: Reuters Ecowin Pro, BofA Merrill Lynch Global Commodity Research

The economic recovery is uneven; residential construction in the US is underperforming

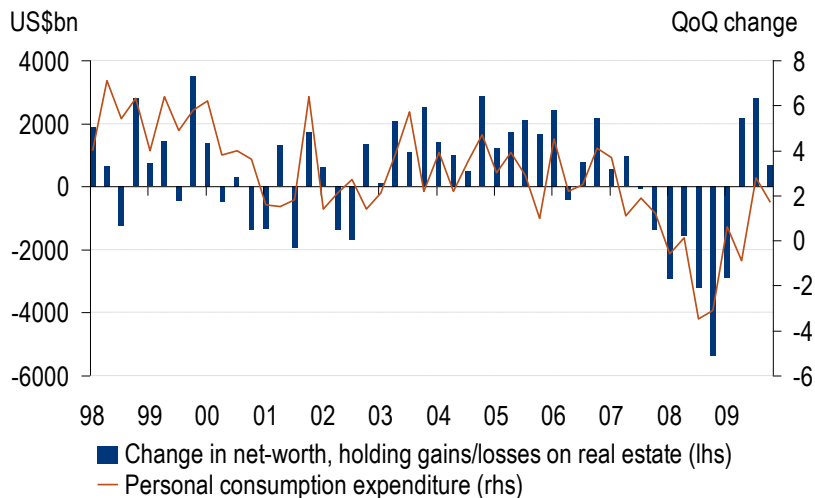
Net worth of households has been hit



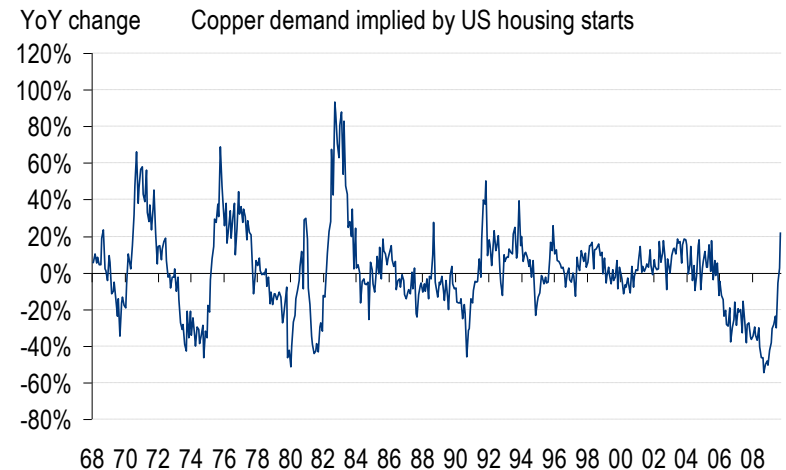
Holding losses on housing were significant



Real estate can have an impact on PCE

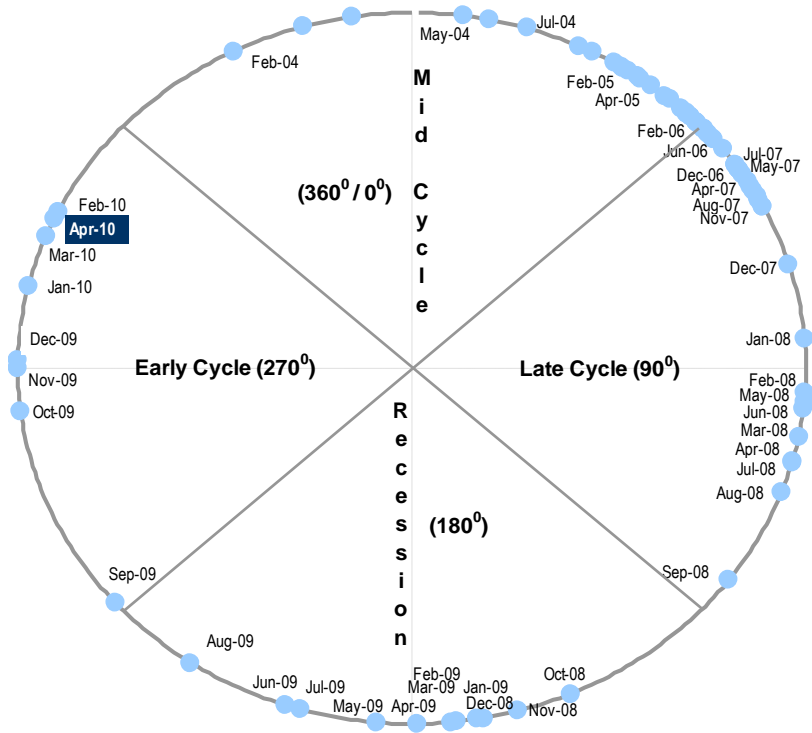


The housing market is stabilising at a low level

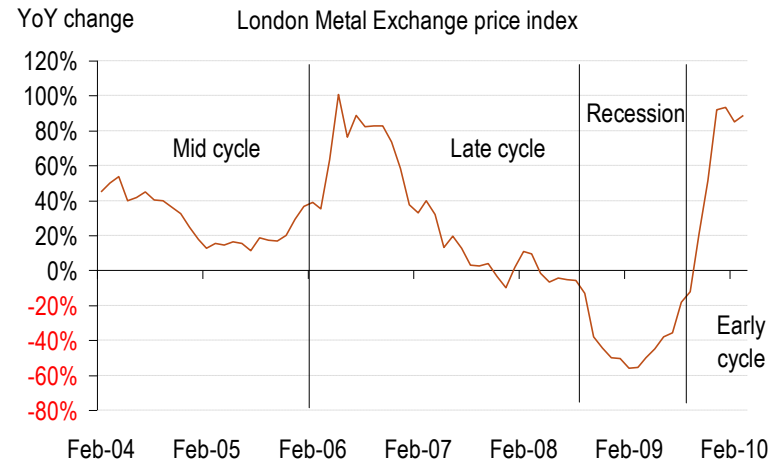


The current cycle is young, but a correction is possible

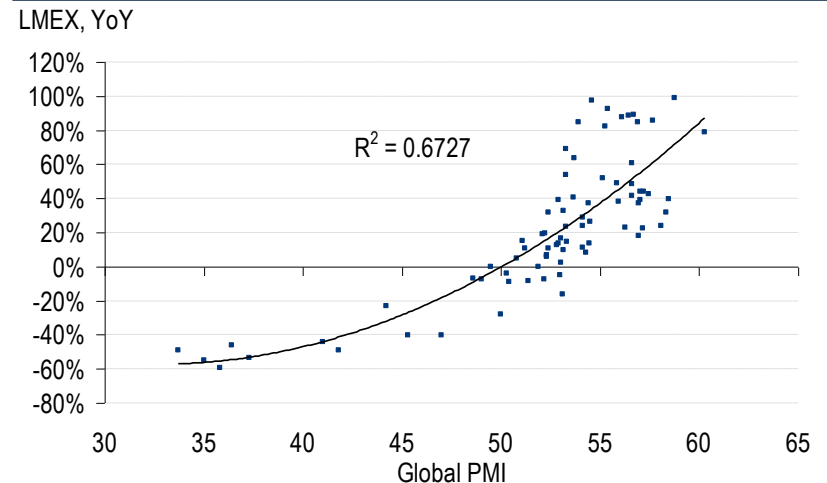
Fund managers believe the global economy is in early cycle



Price rises may be less pronounced as the economy moves into mid-cycle

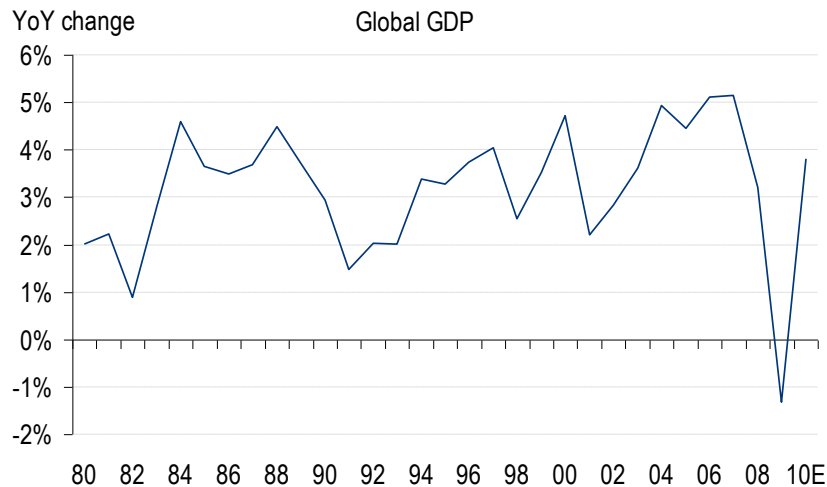


A global PMI above 45-50 suggests metal prices are supported



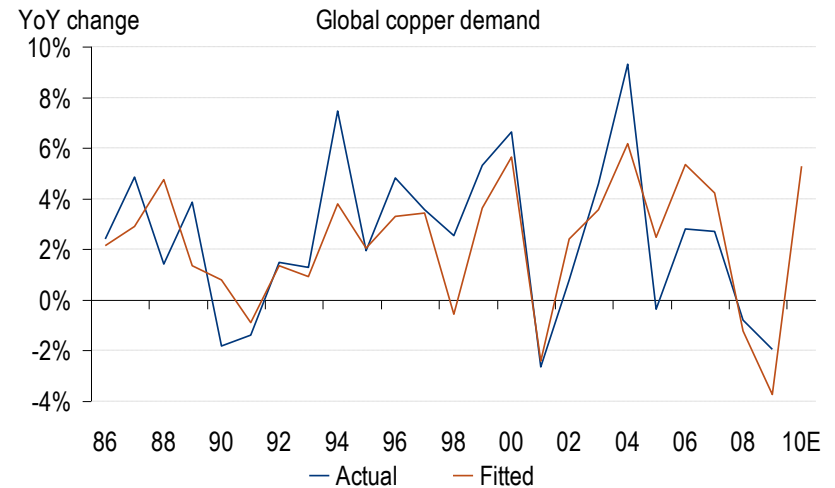
We expect a sharp rebound of the economy this year

Global GDP growth is set to rebound this year



Source: BofA Merrill Lynch Global Commodity Research

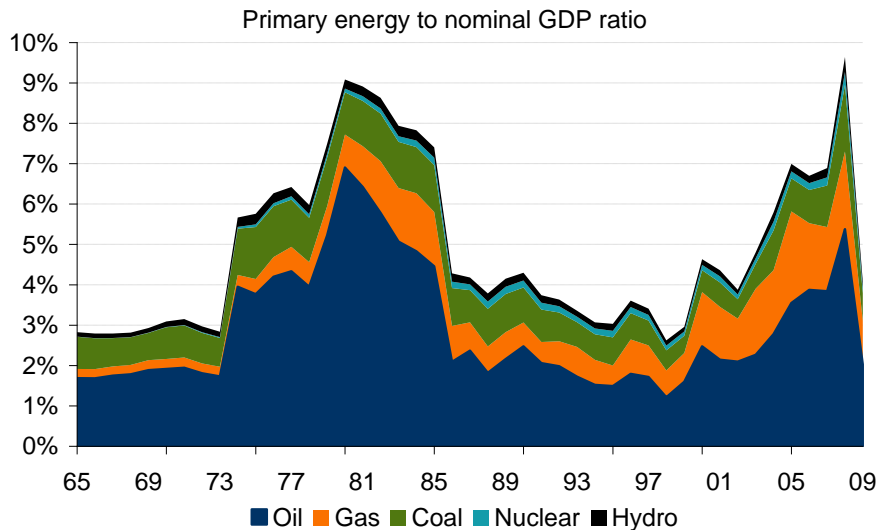
Our econometric model suggests that global copper demand will recover



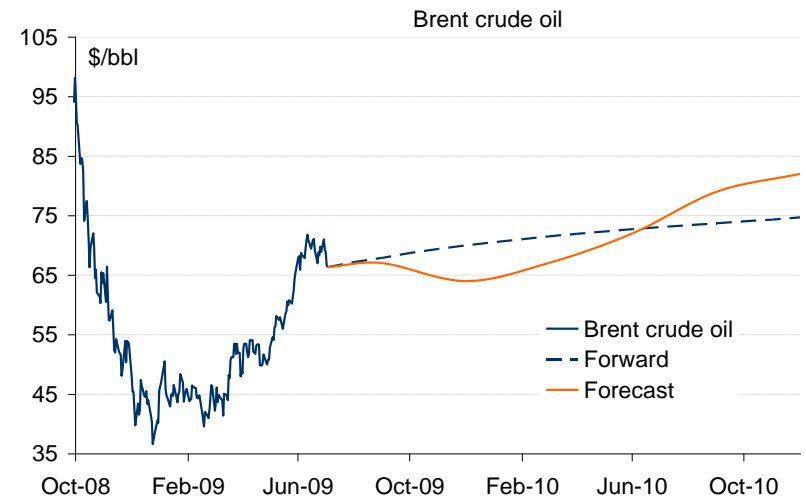
Source: BofA Merrill Lynch Global Commodity Research

Although the outlook for commodities is positive, there is a negative feedback loop

With the drop in prices, the energy sector is back down to a more sustainable level as a share of global GDP



Given the more stable demand outlook and the supply reduction, we see crude oil prices moving a lot higher in 2H2010



Source: BP, BofA Merrill Lynch Global Commodity Research

Source: Bloomberg, BofA Merrill Lynch Global Commodity Research

Base metal market balances and price forecasts

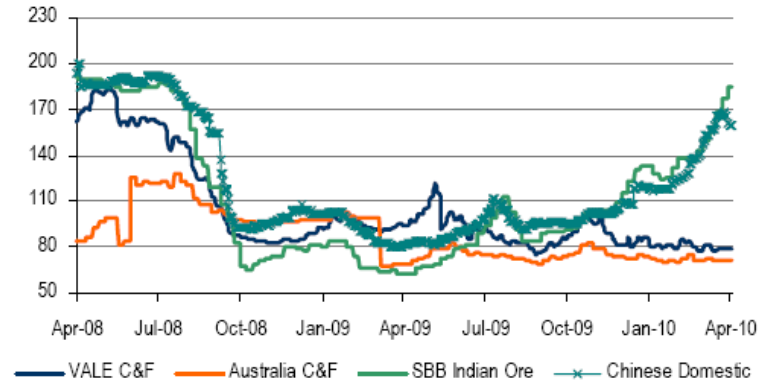
'000 tonnes	2007	2008	2009	2010E	2011E	2008	2009	2010E	2011E
Aluminium									
Production	37,680	39,408	37,446	40,784	44,342	4.6%	-5.0%	8.9%	8.7%
Consumption	37,980	37,837	34,448	38,943	42,847	-0.4%	-9.0%	13.0%	10.0%
Balance	-300	1,571	2,998	1,841	1,495				
Stocks in weeks' consumption	3.8	6.3	11.4	12.6	13.2				
Price (\$/t)	2,641	2,621	1,702	2,275	2,100				
Price (c/lb)	120	119	77	103	95				
Copper									
Production	17,952	18,294	18,471	18,381	19,146	1.9%	1.0%	-0.5%	4.2%
Consumption	17,977	18,019	17,507	18,314	19,328	0.2%	-2.8%	4.6%	5.5%
Balance	-26	275	964	67	-181				
Stocks in weeks' consumption	1.6	2.1	2.9	3.0	2.3				
Price (\$/t)	7,144	6,884	5,184	7,275	8,000				
Price (c/lb)	324	312	235	330	363				
Lead									
Production	8,139	8,389	8,224	8,802	9,130	3.1%	-2.0%	7.0%	3.7%
Consumption	8,290	8,507	8,238	8,749	9,149	2.6%	-3.2%	6.2%	4.6%
Balance	-151	-118	-14	52	-19				
Stocks in weeks' consumption	1.7	1.9	2.4	2.6	2.3				
Price (\$/t)	2,590	2,097	1,710	2,300	2,650				
Price (c/lb)	117	95	78	104	120				
Nickel									
Production	1,429	1,392	1,289	1,372	1,474	-2.5%	-7.4%	6.4%	7.5%
Consumption	1,371	1,284	1,295	1,392	1,477	-6.4%	0.9%	7.5%	6.1%
Balance	57	109	-6	-20	-3				
Stocks in weeks' consumption	8.4	11.1	12.6	11.0	10.2				
Price (\$/t)	37,167	21,291	14,735	20,950	20,000				
Price (c/lb)	1686	966	668	950	907				
Zinc									
Production	11,192	11,592	11,336	11,406	11,794	3.6%	-2.2%	0.6%	3.4%
Consumption	11,436	11,209	10,310	11,282	11,908	-2.0%	-8.0%	9.4%	5.6%
Balance	-244	384	1,026	124	-114				
Stocks in weeks' consumption	2.6	3.4	5.3	5.4	4.6				
Price (\$/t)	3,394	1,905	1,686	2,325	2,750				
Price (c/lb)	154	86	76	105	125				

Source: Woodmac, company reports, Reuters, Bloomberg, Metal Bulletin, BofA Merrill Lynch Commodity Research

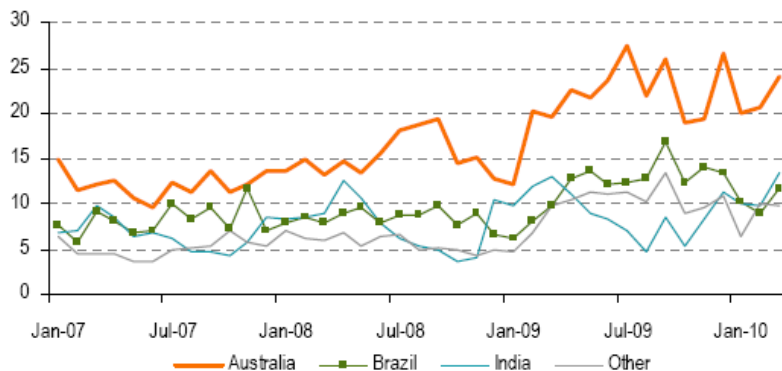
Iron ore: prices at US\$110/mt in 2010/11

- Iron ore pricing has changed and most clients have already accepted;
- Positives of new pricing: no more annual negotiations, market prices, quality premium;
- Negatives: more volatility, risk of spot x quarterly price, higher freight rates;
- Prices could correct in the short term, given the looser market, but expected to remain at high levels;
- Iron ore market to remain tight until 2013

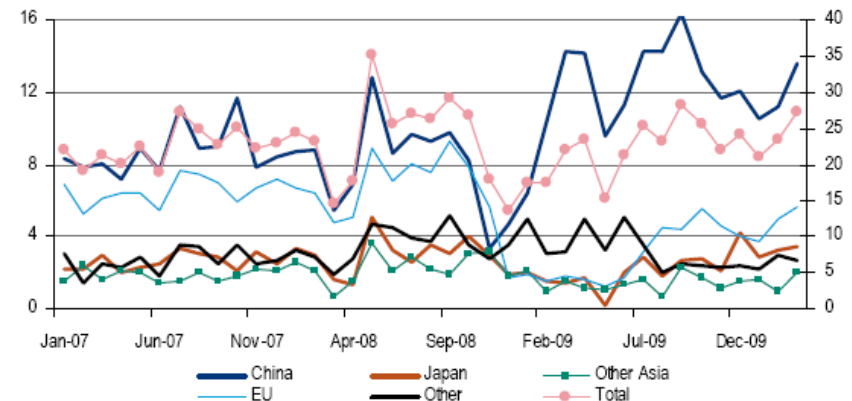
Spot and C&F contract prices in China



China Iron ore imports



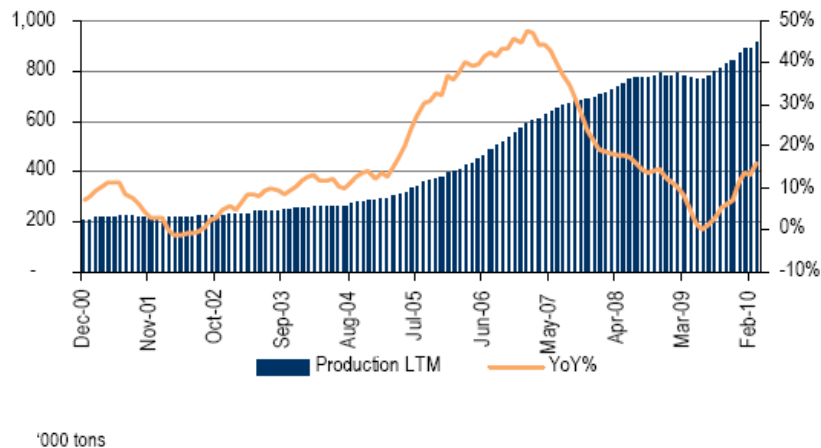
Brazil's iron ore exports



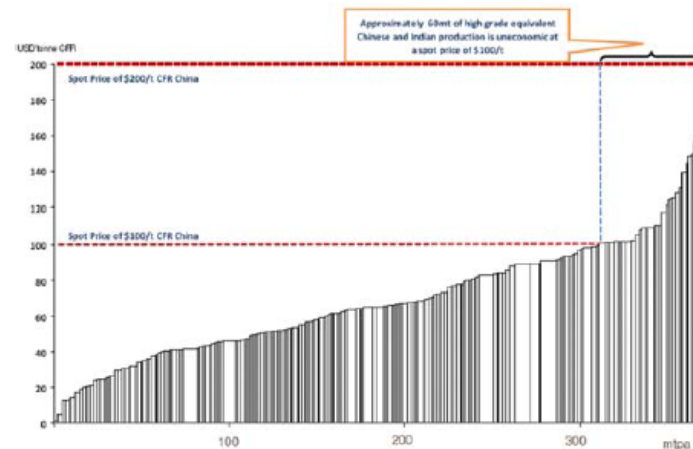
Source: Bloomberg, BofA Merrill Lynch Research

Iron ore: demand in China remains strong

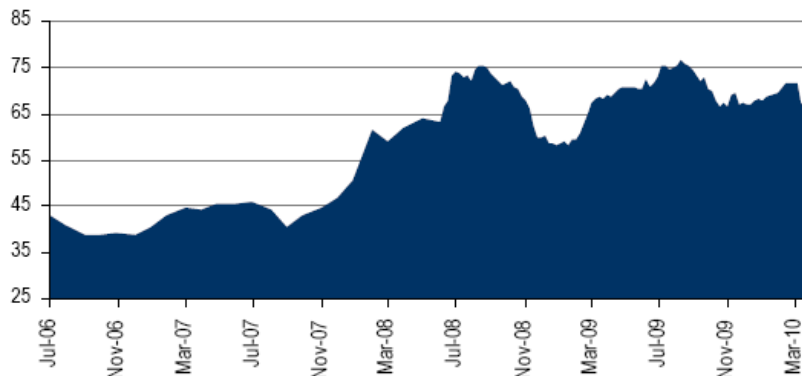
China iron ore production



China and India iron ore cost



China's iron ore inventories



Implied Fe grade of domestic ore in China

