

# ECONOMIC FOCUS

Treasury Division



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## Mainland China to Remain a Major Force in the Global Commodity Market

- Mainland China has been regarded as among the most significant factors behind the phenomenal surge of global commodity prices in the period 2003 to mid 2008. A major reason was that the country accounted for a majority of the increase in the global consumption of oil and metals during the period. More significantly, a substantial share of its oil and metal needs had to be bought overseas.
- On a per capita basis, mainland China's consumption of oil and metals was still only a fraction of those of the more developed countries like the US, Japan and South Korea, suggesting that the potential growth of the country's commodity demand would be enormous in the years ahead. The impact on the global commodity market would be especially significant as many of the Mainland's key commodity reserves are insufficient to meet future demand, according to the country's own projection.
- Mainland China began to speed up its global search for oil and metals at the turn of the century. Close to 40% of its US\$56 billion outward investment (excluding those in Hong Kong SAR) in the period 2004-2008 was related to mining ventures.
- Looking ahead, mainland China will continue to be a major force shaping global commodity prices for years to come, but slack demand from other countries as a result of the present economic slump and new production capacity built prior to the financial crisis may help offset price pressure originated from China's demand. Accordingly, while global oil and metal prices are likely to rise further in the medium term, the pace of growth may not match that of the past several years.

The world commodity market has over the last few years experienced one of the most spectacular boom-bust cycle since the 1970s. While prices have come down in the past year, the sheer magnitude and duration of the recent boom have called into question whether there has been a fundamental shift in the global supply and demand for commodities, and whether commodity prices have jumped to a higher, long-term growth path.



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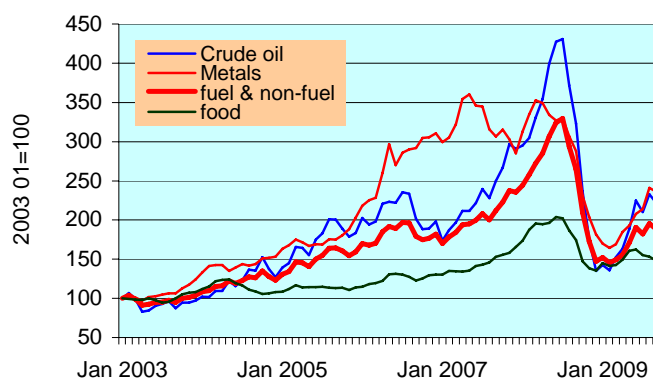
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## The 2003 to mid 2008 commodity market boom

After surging 230% between January 2003 and July 2008, global commodity prices as measured by the IMF fuel and non-fuel commodity price index plummeted 56% by February 2009 as the global economy dipped into the worst slump since the Great Depression (Exhibit 1).

**Exhibit 1: Commodity price indexes**



Source: IMF; Hang Seng Bank

Global commodity prices have since rebounded by about 30% under the concerted effort of the major countries to revive economic growth. The boom-bust cycle would have been even more dramatic had there not been a milder increase in food prices in the period.

Many suggestions were put forward to explain why commodity prices could have risen so vigorously and persistently in the first place. One was inadequate capacity to meet rising demand, especially in the initial stage of the boom, as a result of a lack of capacity investment after years of falling commodity prices in the 1980s and 1990s.

Another was intermittent supply disruptions due to power shortage in South Africa that helped push precious metal prices up, or problems in Nigeria, North Sea and, especially Venezuela, that lifted crude oil prices to above USD100 a barrel.

Yet another was policy measures such as the loose monetary environment in the US that might have contributed to at least some of the price increase. But a stronger and persistent global economic growth between 2003 and 2007 was probably the most convincing reason. After all, a sustained increase in commodity prices needs the support of economic fundamentals. In the five years ended 2007, the global economy grew at a faster pace of 4.7% per year than the 3.2% per year of the preceding five years (Exhibit 2).



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**Exhibit 2: Real GDP growth (period average)**

|           | World | Advanced economies | Developing Asia |                |
|-----------|-------|--------------------|-----------------|----------------|
|           |       |                    | All             | Mainland China |
| 1998-2002 | 3.2%  | 2.6%               | 5.9%            | 8.2%           |
| 2003-2007 | 4.7%  | 2.7%               | 9.3%            | 11.0%          |

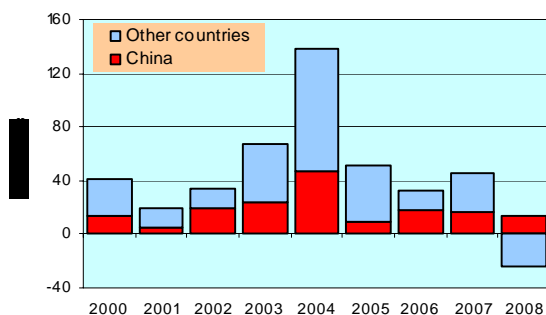
Source: IMF; Hang Seng Bank

Economic growth in developing Asia was especially impressive, averaging 9.3% per year for the period 2003-07 compared with only 5.9% for the preceding five years. Not surprisingly, mainland China with the strongest economic growth in the region was singled out as among the most important factors for the commodity boom. In the period 2003-07, mainland China's economic growth averaged 11.0% per year, up from an annual growth of 8.2% in the preceding five years.

## How significant was the China factor

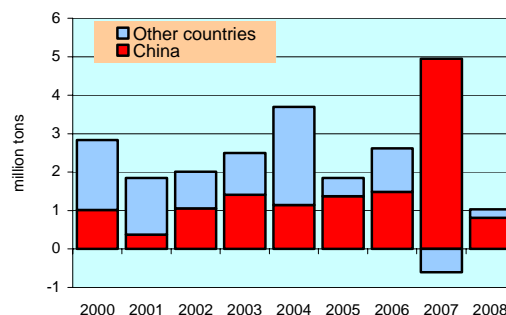
To quantify the contribution of the China factor to the 2003 to mid 2008 commodity boom would be difficult, however, as causes of high commodity prices are multiple. But evidence of a significant China influence during the period was abundant. In 2003-07, global oil consumption increased 333.9 million tons, of which 115.4 million tons or 34.6% of the total was due to mainland China (Exhibit 3). In the preceding five years ended 2002, the Mainland's share of the increase was a much smaller 28.7%.

**Exhibit 3: World oil consumption growth**



Source: International Energy Agency; Hang Seng Bank

**Exhibit 4: World copper & aluminium consumption growth**



Source: IMF; Hang Seng Bank

Mainland China's rising demand for metals was even more astonishing. Of the 15.0 million ton increase in global consumption of copper and aluminium in the period 2003-07, the Mainland alone accounted for 10.4 million tons or 69.3% of the total (Exhibit 4). The same was true for other metals such as zinc, nickel and steel<sup>1</sup>.

<sup>1</sup> A study by Milton Keynes Open University showed that China accounted for over 85% of the increase in global zinc demand, 80% for nickel and 60% for steel for the period 2000-2007. "China's structural demand and the commodity super-cycle: implications for Africa"; Masuma Farooki, Development Policy & Practice, The Open University, Milton Keynes.



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That mainland China was singled out as a major contributor to the 2003-07 global commodity boom was that quite a substantial share of its commodity needs had to be satisfied by overseas supply, especially for certain key commodities such as crude oil, iron and copper. Mainland China became a net importer of oil in 1993. By 2007, 46.6% of its oil consumption had to be met by imports (Exhibit 5). In the same year, 35.1% of the country's iron ore demand had to be satisfied by overseas supply.

**Exhibit 5: Mainland China's import dependence for some commodities (2007)**

|           | Domestic output<br>(million tons) | Import       |                            |
|-----------|-----------------------------------|--------------|----------------------------|
|           |                                   | Million tons | Share of total consumption |
| Crude oil | 186.3                             | 163.2        | 46.7%                      |
| Iron ore  | 707.0                             | 383.1        | 35.1%                      |
| Copper    | 3.4*                              | 4.5**        | 57.0%                      |

Sources: "National Mineral Resources Plan (2008-2015)", Ministry of Land and Resources; China Customs  
\*refined copper, \*\*copper ore

## Mainland China's future demand for commodities

On a per capita basis, mainland China is still at the early stage of development when compared with other advanced economies. In 2008, mainland China's oil consumption was only about 1/7<sup>th</sup> that of South Korea and 1/9<sup>th</sup> that of the US on a per capita basis, while its copper consumption was slightly higher, it was still only about 1/5<sup>th</sup> that of South Korea and 2/5<sup>th</sup> that of Japan (Exhibit 6).

**Exhibit 6: Per capita consumption of key commodities by major countries (2008)**

|                | Oil<br>(barrel per day) | Aluminium<br>(kg) | Copper<br>(kg) | Nickel<br>(kg) |
|----------------|-------------------------|-------------------|----------------|----------------|
| USA            | 0.064                   | 18.6              | 6.4            | 0.4            |
| Japan          | 0.038                   | 17.6              | 9.3            | 1.5            |
| South Korea    | 0.047                   | 19.9              | 17.5           | 1.5            |
| Mainland China | 0.006                   | 9.4               | 3.9            | 0.2            |

Sources: "Global Commodity Markets", 2009, World Bank; Hang Seng Bank.

If the historical relationship between commodity consumption and economic development in countries such as the US, Japan, and South Korea is of any guide, the growth potential of mainland China's commodity consumption would be enormous in the years ahead. The trouble is that many of the Mainland's commodity reserves are insufficient to meet future demand.

While the Mainland's coal reserves will be sufficient to cover the next 100 years' consumption, many of its other reserves such as crude oil and copper may be depleted soon, according to the consumption rates projected by the country's Ministry of Land and Resources for the period 2008-2020<sup>2</sup> (Exhibit 7).

<sup>2</sup> "National Mineral Resources Plan (2008-2015)", Ministry of Land and Resources, 2009



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**Exhibit 7: Mainland China's projected demand and supply of key commodities**

|          | Domestic consumption (mn tons) (1) |            | Domestic supply (mn tons) (1) | Ensured reserves (2) |                  |
|----------|------------------------------------|------------|-------------------------------|----------------------|------------------|
|          | Annual average 2008-2020           | 2020       | 2015                          | As of 2008 (mn tons) | Years of supply* |
| Coal     | over 3,308                         | over 3,500 | over 3,300                    | 326,144              | 98.6             |
| Oil      | over 462                           | over 500   | over 200                      | 2,890                | 6.3              |
| Iron ore | over 1,231                         | over 1,300 | over 1,100                    | 22,640               | 18.4             |
| Copper   | About 7.7                          | 7.3-7.6    | over 1.3                      | 28.9                 | 3.8              |

Sources: (1) "National Mineral Resources Plan (2008-2015)", Ministry of Land and Resources; (2) China Statistical Yearbook 2009, p.386

\*At the average consumption rate for the period 2008-2020

According to the Ministry, 19 of the country's 45 key minerals will be in shortage by 2020 if the Mainland does not change its present economic growth model, which is investment- and export-dependent. By 2020, 40% of the country's iron ore demand, 60% of its crude oil consumption and 70% of its copper and potassium requirement will have to be met by imports. The Ministry makes it clear that 11 of the 19 minerals projected to be in short supply are crucial for the country's economic growth.

While the Ministry did not disclose its assumptions on such variables as economic growth and efficiency improvement when presenting its projections, no one would probably question its conclusions, especially when judging from the country's aggressive global search for commodities in recent years.

## Steps taken to ensure future supply

Mainland China began to search for key commodities overseas in mid-1990s, but the speed of the search has been picking up since the turn of the century. To secure future oil supply, for example, the Mainland has made a spate of acquisitions in the form of oil-for-infrastructure deals in Africa since 2004. Today, Angola is mainland China's third largest oil supplier after Saudi Arabia and Iran, covering about 6% of the country's needs<sup>3</sup>.

Other efforts to secure future commodity supply can be seen from the extensive list of overseas investment made by Mainland companies. Not surprisingly, a majority of such investment involved acquisition of or investment in oil and metal mining ventures. Of the US\$56 billion the Mainland invested overseas (excluding those in Hong Kong SAR) in the period 2004-2008, US\$21.9 billion or 39% of the total was related to mining ventures (Exhibit 8)<sup>4</sup>.

<sup>3</sup> "US enlists oil to sway Beijing's stance on Tehran", Wall Street Journal, 20 October 2009.

<sup>4</sup> "2008 Statistical bulletin of China's outward foreign direct investment", Ministry of Commerce, p.39 & 67

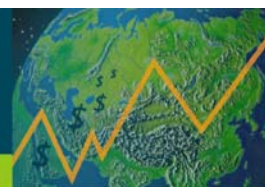


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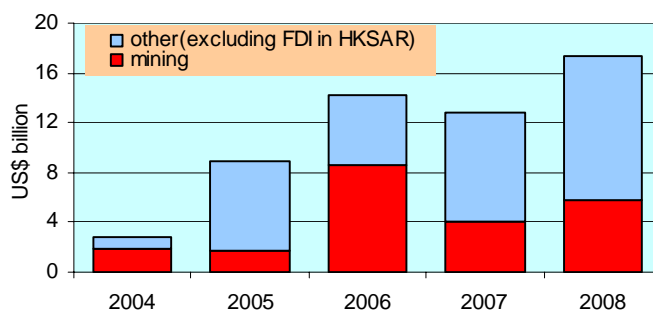
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**Exhibit 8: Mainland China's outward FDI by industry**



Source: Ministry of Commerce; Hang Seng Bank

Mainland China also started to set up an oil reserve in 2005 with the ultimate target of building up an oil reserve equivalent to 100 days of oil imports by 2020. The first phase of the oil reserve with a capacity of 10-day import was completed earlier this year<sup>5</sup>. The project has two more phases.

## Potential impact on global commodity prices

Mainland China's demand for oil and metals is set to grow steadily in the years ahead, and many of the key commodities the country needs will have to be sourced overseas. A key question is how global commodity prices will respond to such a steadily growing demand from the Mainland. Clearly, Mainland China's demand is only one of many factors shaping global commodity prices.

According to the IMF, world GDP growth will slow to about 4.1% per year in the period 2010-2014 from about 4.5% per year in the previous five years (excluding 2009) (Exhibit 9). Though mainland China is expected to account for nearly one-third of the world GDP growth in 2010-14, up from 22% in the period 2004-08, it is not enough to compensate for the expected fall in contribution from other countries.

**Exhibit 9: World GDP growth forecast**

|                                | Annual contribution to GDP growth (percentage points) |           | Change from previous period (percentage point) |
|--------------------------------|---|-----------|--|
|                                | 2004-2008   | 2010-2014 |  |
| Mainland China                 | 1.0   | 1.3       | 0.3  |
| USA                            | 0.5   | 0.4       | -0.1   |
| Other advanced countries       | 0.9   | 0.7       | -0.2   |
| Rest of the world              | 2.1   | 1.7       | -0.4   |
| All (real GDP growth per year) | 4.5   | 4.1       | -0.4   |

Sources: World Economic Outlook, October 2009, IMF; Hang Seng Bank

<sup>5</sup> Together with reserves of oil companies, total oil reserves in mainland China amounted to about 30-day imports now.



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With commodity demand being closely related to economic activities, it is not surprising if mainland China's future demand for oil and metals cannot fully offset the expected slowdown in demand from other countries. Indeed, commodity demand from advanced economies may grow at a much slower rate in the next few years than before the financial crisis.

The sheer magnitude of the present global slump may change the consumption behaviour of the advanced economies, so much so that those economies may settle on a lower long-term growth path. US consumers, for example, have become more frugal since the outbreak of the crisis. Slack demand from other countries could more than offset any price pressure originated from the Mainland.

Another factor which may help contain commodity price surge is easing supply constraints as new capacity built in recent years in response to the 2003-07 rally in global commodity prices will start to come on stream.

Looking further ahead, the gradual shift of mainland China to a more service-oriented economic structure from the present investment and export-based one will gradually reduce the country's demand for oil and metals relative to the size of its economy. The same is true for technological advancement. But all these will be a very slow process.



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