

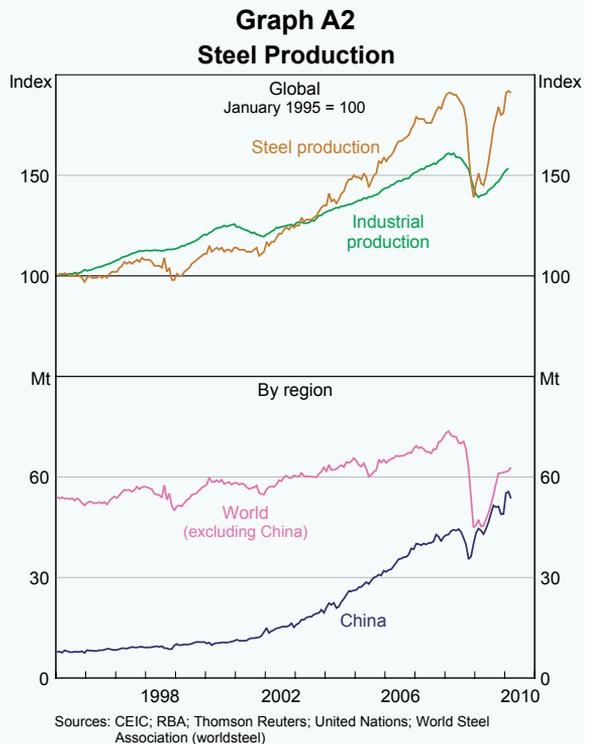
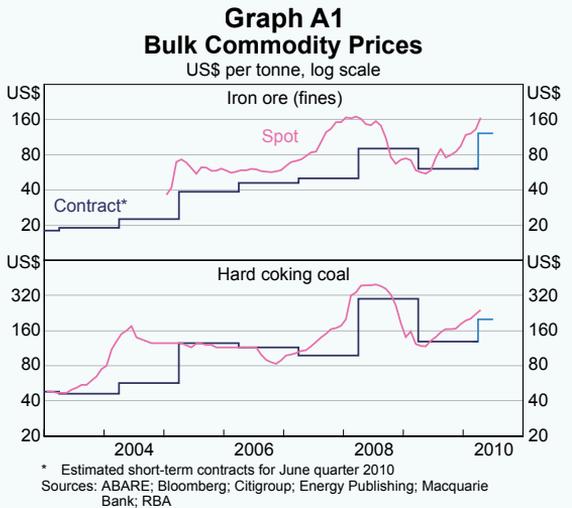
Box A

The Boom in the Prices of Steel-making Commodities

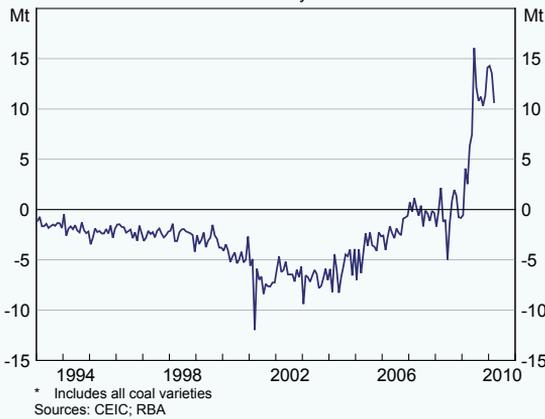
The global economic recovery has resulted in a significant tightening in the markets for iron ore and coking coal – the main raw materials used in steel-making. Since the start of the year, spot prices for iron ore and coking coal have risen by nearly 70 per cent and 35 per cent respectively (in USD terms), to be two to three times their troughs in mid 2009 (Graph A1). In line with higher spot prices, Australian exporters have negotiated substantial increases in contract prices, with iron ore contract prices expected to reach record levels in the June quarter.

The recent surge in prices has been underpinned by a sharp rebound in global steel production which is now back to around its pre-crisis peak and has experienced a stronger recovery than global industrial production (Graph A2). Steel industries in other countries had more severe downturns and have only begun to restart idled capacity more recently. Demand for steel in China has been boosted in part by fiscal measures, including investment in major infrastructure projects and a reduction in sales tax on some motor vehicles, leading to a surge in motor vehicle production and consumption.

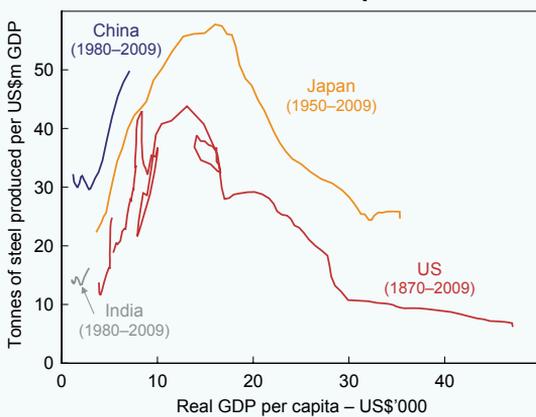
As steel-making has recovered, global supplies of iron ore and coking coal have become increasingly stretched. Australia and other major exporters have seen a return to near full capacity, and vessel congestion off major ports has begun to rise. Within China, domestic coal supplies have lagged demand growth, owing to consolidation of the coal industry and a lack of the better quality coals that are needed by newer steel mills. This has contributed to China



Graph A3
China – Net Coal Imports*
 Monthly



Graph A4
Steel Production Intensity and Economic Development*



* 2009 prices converted at 2005 PPP exchange rates; 5-year moving-averages. US iron production intensity prior to 1897.
 Sources: Conference Board 'Total Economy Database' (January 2010); IMF; Japan Iron and Steel Federation; Maddison A (2009), 'Statistics on World Population, GDP and Per Capita GDP, 1-2008 AD'; RBA; US Bureau of Mines; US Geological Survey; World Steel Association (worldsteel)

becoming a significant net importer of coal, after having been a net exporter for many years (Graph A3). Chinese iron ore production, which is characterised by low ore grades and high production costs, has also not been able to alleviate demand pressures.

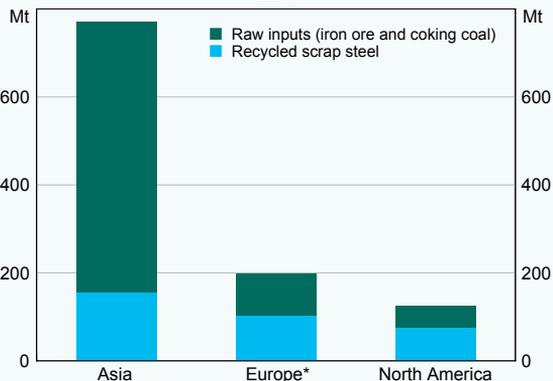
China's demand for steel has been rising steadily for a number of years, reflecting its stage of economic development and the growth model that it has pursued. Rapid industrialisation and urbanisation are driving high levels of investment in fixed capital, such as infrastructure and buildings, and an export-oriented growth model has contributed to the development of a large manufacturing sector. As a result, China's economy exhibits a high level of 'steel intensity' – for an equivalent amount of real economic output, China uses around nine times as much crude steel as the United States. High levels of steel intensity have been typical in the past among economies at a similar stage of development (Graph A4). For example, periods of industrialisation in the United States in the late 1800s and early 1900s and Japan in the 1960s also saw rapid growth in steel production to build their capital stock, which in turn boosted labour productivity and real incomes. In contrast, steel intensity has remained at very low levels in other developing economies such as India, and there is considerable scope for increased use of steel as incomes rise.

China's appetite for steel has translated into demand for raw materials, as a relatively small proportion of its steel production is fed by recycled scrap (Graph A5). In 2008, around 10 per cent of Chinese steel and 20 per cent of total Asian steel was produced from scrap steel. This is in contrast with steel industries in developed economies such as the United States and Europe where between half and two-thirds of steel is produced from scrap, and there is a higher prevalence of electric arc furnace technology.

While the surge in iron ore and coal prices will provide a large boost to Australian incomes, it will also act

as an important signal to producers and users of these commodities. High prices create an incentive for producers to expand supply, encouraging exploration and investment in new capacity. Reflecting this, a large number of new mining projects are progressing around the world. In Australia alone, coking coal and iron ore export capacity are expected to increase by more than 10 per cent annually for the next few years. Among importers, high prices encourage substitution away from steel-intensive activities and reduce real incomes, acting to moderate growth in demand. ✎

Graph A5
Composition of Inputs to Steel Production
 2008



* EU-27
 Sources: RBA; World Steel Association (worldsteel)

