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The perils of abundance

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China must learn to do more with less

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The environment gets them going

THE irony of China's struggle with energy intensity is that until recently its policymakers did not even have to try to encourage sparing use of resources: it just happened naturally. By the late 1970s, thanks to the party's ill-conceived industrialisation drive during the era of central planning, the country found itself saddled with lots of inefficient, loss-making, power-guzzling factories. As the reforms launched by Deng gathered speed, many of these cast-iron albatrosses were either forced to operate more efficiently or closed down. At the same time lots of light manufacturing plants sprang up. The growing export sector was much more profitable and used far less power than the heavy industry it was replacing, so China's energy intensity began to fall.

Indeed, it kept on falling consistently and dramatically for a quarter of a century. Between 1978 and 2000 it dropped by two-thirds, according to a recent paper by Daniel Rosen and Trevor Houser, respectively of the Peterson Institute for International Economics and City College of New York. But in 2002 this virtuous cycle went into reverse. Energy consumption, which had been growing at half the pace of the economy as a whole, suddenly began to grow one-and-a-half times as fast. An increase in the pace of economic growth compounded the effect.

The authorities were taken by surprise, and so were the global commodities markets. Analysts instantly increased their estimates for Chinese economic growth, commodity consumption and imports. Mining and oil firms, which had been investing on the assumption that sales would grow slowly and steadily, suddenly found themselves struggling to cope with China's ballooning demand. The resulting rapid inflation continues to this day.

In retrospect, however, the surge in energy consumption is easily explained. It stems from the spectacular renaissance of heavy industry. Firms such as Shougang had been investing in steel mills, cement plants, aluminium smelters and the like without let-up. Between 2000 and 2005 the share of metal-processing in national output doubled and that of petrochemicals rose by two-thirds. Cement, glass, paper and other energy-intensive industries also boomed. Although the new factories tend to use fewer resources and less energy per unit of output than most of China's older stock, the surge in their number has dwarfed the gains in efficiency.

Economists offer two opposing, although not entirely incompatible, reasons for this unexpected flowering of heavy industry. Some believe that China has reached a stage in its development when labour becomes relatively scarce and growth begins to rely more heavily on investment. At this turning point, the theory runs, shortages of labour lead to rising wages and so to higher incomes. Consumers with more spending power, in turn, start to buy homes, cars and televisions, gobbling up huge volumes of natural resources in the process.

Last year, in a report funded by Rio Tinto, Ross Garnaut and Ligang Song of the Australian National University argued that in countries where income per person has passed $2,000, as it did in China in 2006, demand for natural resources begins to grow at a much faster pace than previously, and continues to do so until income per person reaches roughly $20,000. That pattern has been particularly pronounced in Japan and South Korea, they argue, because of high levels of investment, exports and urbanisation. China also has high and rising levels of all three, so the authors expect its consumption of natural resources to follow a similar path.

“The increase in China's demand for metals during the next two decades may be comparable to the total demand from the industrialised world today,” they conclude. Prices, they add, “will remain on average much higher in real terms than they were during the last quarter of the 20th century.” Mr Albanese, Rio Tinto's boss, agrees. China's appetite for his firm's wares may not keep on jumping by a fifth or a quarter each year, he says, but he expects growth to remain in double digits. There could always be political or economic hiccups, but the more he and his staff look at China, the more confident they are that growth in demand will remain high.

A capital mess

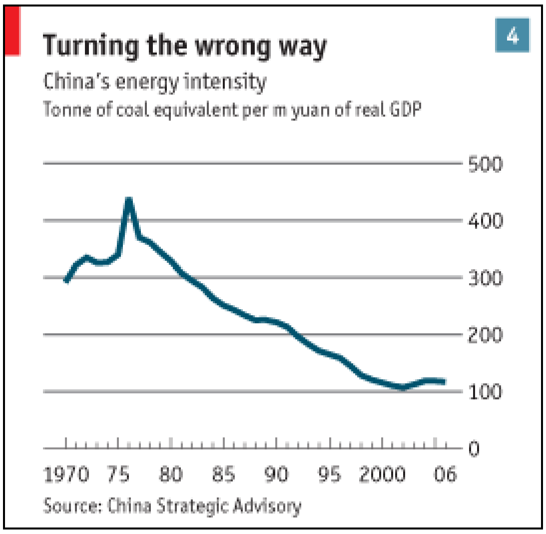
Messrs Rosen and Houser contend that the boom in heavy industry is a product mainly of poor regulation rather than of inexorable demographic forces. They believe that China's development is becoming more capital-intensive not so much because labour is getting scarce but because capital is too abundant.

Local officials, keen to register impressive increases in output that might earn them promotion, lean on state-owned banks to lend to state-owned firms for investment in heavy industry. The banks can lend cheaply because the government sets the interest they pay to depositors at a very low rate (in real terms, it is currently negative). The industrial firms, in turn, seldom pay dividends, usually receive land free of charge and often ignore environmental regulations that push up costs. All this makes them much more profitable than less privileged companies, providing further funds for investment.

China's rapid transformation from a big importer of steel to a big exporter suggests that global production is moving there to take advantage of the exceptionally favourable investment climate. In other words, much of China's industrial bonanza exists only thanks to subsidies paid by its frugal households and its long-suffering taxpayers.

If this argument is correct, it is heartening because it suggests a clear remedy: an overhaul of the financial sector. Indeed, such reforms are all the more necessary if Messrs Garnaut and Song are right that demography is helping to spur the expansion of heavy industry. To their credit, the authorities are already trying to rein in overgenerous loan officers and overenthusiastic industrialists. They have repeatedly raised interest rates and reserve requirements and instructed banks to steer clear of dubious industrial projects. Last year, for the first time, they started demanding dividends from some state-owned enterprises, albeit on a modest scale.

But such measures, like environmental controls, must be implemented by officials whose heart may not be in them because their first priority is economic growth, Moreover, they are essentially administrative in nature and do little to tackle the underlying problem: that capital is too cheap and that Chinese banks are not very good at allocating it. Even the central government has repeatedly shied away from root-and-branch reform of China's opaque financial sector.



The vast supply chain that stretches from the pot-holed streets of Lubumbashi and the fly-blown bush of the Pilbara to China's proliferating steel mills and cement plants is raising all sorts of concerns as it cranks into action. Governments around the world are struggling to adapt to the scale and pace of the change. But the biggest strains, and the greatest risk of serious damage, are concentrated at the end of the chain: in China itself.

So far, China's leaders have managed to keep the tensions brought on by rapid development under control. But doing so has not been easy, especially given their country's unwieldy and undemocratic system of government. Now China is importing even more environmental and social pressures along with the raw materials with which it feeds its hungry industries. Long before the world runs short of the commodities China needs, those pressures are likely to come to a head.