

CHINA AND INDIA IN THE WORLD ECONOMY

**Paper presented to the
International Conference of Commercial Bank Economists**

**Marriott Resort, Costa do Sauípe
Bahía, Brazil**

7 July 2005

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China and India in the world economy: a snapshot

According to estimates compiled by the IMF for the most recent edition of its *World Economic Outlook*¹, China is the world's sixth largest economy measured by GDP converted to US dollars at market exchange rates, while India ranks eleventh. Converted to US dollars at purchasing power parities, which as the System of National Accounts emphasizes is the more appropriate measure "when the objective is to compare the volume of goods and services produced or consumed per head"², China is the second-largest economy in the world, having overtaken France in 1984, Russia in 1985, Germany in 1987 and Japan in 1995; while India is the world's fourth largest economy, having passed Italy and France in 1985, Russia in 1992, and Germany in 1997.

Over the past decade, China's economy has expanded at an average annual rate of 8.4%, a pace exceeded by only six other countries in the IMF's universe of 180 countries³, while India's economy has grown at an average annual rate of 6.0%. Over the same period, OECD economies have grown by an average of 2.7% per annum.

These growth rates are rapid by historical standards, but they are by no means unprecedented for economies at China's and India's stage of economic development. For example Japan's economy grew at an average annual rate of 8.8% in the 1950s and 10.5% in the 1960s; West Germany grew by 8.2% per annum in the 1950s; Spain at an 8.6% annual rate in the 1960s; Hong Kong at annual rates of 6.9%, 8.9% and 9.0% in the 1950s, 60s and 70s, respectively; South Korea at annual rates of 8.7%, 9.6% and 9.1% in the 1960s, 70s and 80s, respectively; Taiwan at annual rates of 8.5%, 10.0% and 9.2% in the 1950s, 60s and 70s, respectively; Singapore at annual rates of 9.2%, 9.0%, 7.1% and 7.7% in the decades from the 1950s through the 1990s; Israel at annual rates of 10.7% and 8.9% in the 1950s and 60s; Iran at a 10.0% annual rate in the 1960s; Brazil at an 8.1% annual rate during the 1970s; and more recently, Ireland and Vietnam at annual rates of 7.2% and 7.6%, respectively, in the 1990s⁴.

Of course in many cases these growth rates were in part driven by faster rates of population growth than in India or, especially, China over the past decade; and in other cases rapid economic growth entailed levels of borrowing which eventually proved unsustainable. However, even in per capita terms, China's and India's impressive growth rates of 6.9% and 4.6%, respectively, over the past decade have previously been exceeded by Japan and West Germany in the 1950s; Japan, Greece, Spain and Taiwan in the 1960s; South Korea, Taiwan and Singapore in the 1970s; and by South Korea in the 1980s.

Despite this impressive growth, China and India are still relatively poor countries. China's per capita GDP (in US\$ at PPP) in 2005 of \$5,642 places it in 95th position among the IMF's sample, while India with \$3,029 ranks 120th.

¹ IMF, *World Economic Outlook* (Washington DC, April 2005). The database is available at <http://www.imf.org/external/pubs/ft/weo/2005/01/data/index.htm>.

² United Nations et al, *System of National Accounts 1993*, paragraph 1.38. See Ian Castles and David Henderson, "International Comparisons of GDP: Issues of Theory and Practice", *World Economics* Vol 6, No 1 (January-March 2005), pp. 55-84, for a discussion of the issues involved in international comparisons of GDP.

³ Those being, according to the IMF, Equatorial Guinea, Bosnia and Herzegovina, Azerbaijan, Qatar, Turkmenistan (!) and Burma (!!).

⁴ The growth rates in this paragraph are calculated from estimates of real GDP in 1990 US\$ compiled by the Groningen Growth and Development Centre (at the University of Groningen in the Netherlands) and available on-line at <http://www.ggdc.net/>.

If the long-term consensus projections compiled by Consensus Economics earlier this year are vindicated, by the year 2015 China will have (just) overtaken the United States as the world's largest economy, while India will have moved past Japan into third place. These projections are set out in Table 1.

Table 1: Actual and projected GDP in US\$ at 2005 PPPs, 2005 and 2015

	<i>GDP - 2005</i>		Projected growth rate, 2005-2015	<i>GDP - 2015(f)</i>	
	<i>US\$ bn</i>	<i>Rank</i>		<i>US\$bn</i>	<i>Rank</i>
United States	12,332	1	3.2	16,950	2
China	8,092	2	8.0	17,533	1
Japan	4,009	3	1.5	4,662	4
India	3,603	4	6.9	7,015	3
Germany	2,499	5	1.5	2,897	5
United Kingdom	1,826	6	2.1	2,250	=7
France	1,812	7	2.1	2,239	9
Italy	1,695	8	1.6	1,978	10
Russia	1,586	9	5.0	2,585	6
Brazil	1,553	10	3.8	2,252	=7
Canada	1,112	11	2.7	1,448	14
Korea	1,099	12	4.5	1,702	11
Mexico	1,065	13	3.7	1,537	=12
Spain	1,026	14	2.8	1,422	15
Indonesia	864	15	6.0	1,543	=12

Sources: IMF, *World Economic Outlook* database, April 2005; Consensus Economics, *Consensus Forecasts* (and sister publications), April 2005 (March 2005 for Russia); author's calculations.

Of course, these projections may prove inaccurate: by and large they extrapolate the growth rates of the recent past, and make no allowance for a global economic downturn, or for downturns in any individual economy, and they do not seem to make much allowance for demographic factors (on which see more below). On the other hand, as noted earlier, the growth rates projected for China and India have been sustained by other countries for long periods.

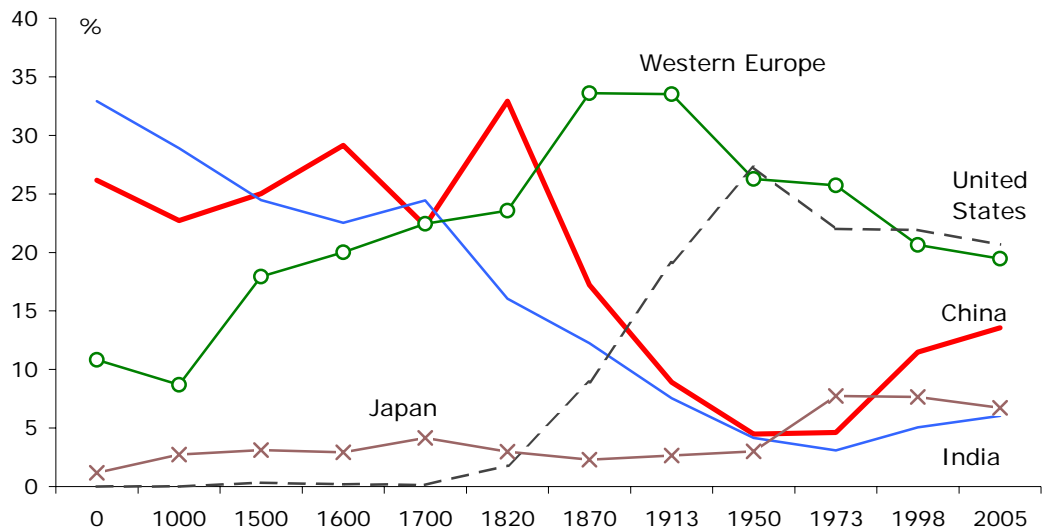
Whatever their precise growth rates over the next decade, China and India will still be relatively poor countries in 2015, despite their size. On the projections given in Table 1, China's per capita GDP will be barely more than one-fifth that of the US (cf. about one-seventh in 2004) and slightly less than one-third of Japan's (cf. a little over one-sixth in 2004); while India's per capita GDP would be about one-tenth that of the US (cf. about one-thirteenth in 2004) and about one-seventh of Japan's (cf. about one-tenth in 2004).

Some historical perspective

From a long-term perspective, the prospect of China becoming the world's largest economy, and India the third largest, within the next 10-15 years, represents a return to the order which has prevailed throughout most of human history. According to calculations by Angus Maddison⁵, from at least the beginning of the common era until the early 19th century, China and India accounted for around half of global GDP (see Chart 1). For much of this period China and India were intact polities, had the world's largest populations and were technological leaders.

⁵ For a critique of Maddison's estimates, see Bryan Haig's review of his *The World Economy: Historical Statistics* (OECD, 2003) in *The Economic Record*, Vol. 81 No. 252 (March 2005), pp. 91-93.

Chart 1: Major economies' share of global GDP, 0 - 2005



Sources: Angus Maddison, *The World Economy: A Millennial Perspective*, OECD Development Centre, 2001; IMF, *World Economic Outlook Database*, 2005.

As Jared Diamond notes, “until around AD 1450, China was technologically much more innovative and advanced than Europe”⁶. Chinese inventions before or during this period included the wheelbarrow, gunpowder, matches, cast iron, porcelain, magnetic compasses, sternpost rudders, paper, printing, paper money and a meritocratic civil service.⁷ Indian inventions from this period include the decimal system (and the concept of zero), the water-wheel, cotton-ginning, cloth dyes, brass and the extraction of crystalline sugar from cane⁸.

The decline in the relative importance of China and India between the early 18th and late 20th centuries resulted from, *inter alia*, the industrial revolution in Western Europe; the formation and rapid expansion of the United States; China’s retreat from engagement with the global economy beginning during the Ming Dynasty⁹ and subsequent decay under the Qing dynasty; the impact of colonial rule on India, and ‘gunboat diplomacy’ and ‘unequal treaties’ on China; nearly fifty years of warfare and social disorder in China in the first half of the 20th century followed by another quarter-century of chaos and misrule under Mao Zedong; and forty years of growth-stultifying Nehruvian socialism in India from independence until the financial crisis of 1991.

⁶ Jared Diamond, *Guns, Germs and Steel* (Vintage, London, 1998), p. 253.

⁷ Diamond, *ibid*; see also Robert Temple, *The Genius of China: 3,000 Years of Science, Discovery and Invention* (Simon and Schuster, New York, 1986).

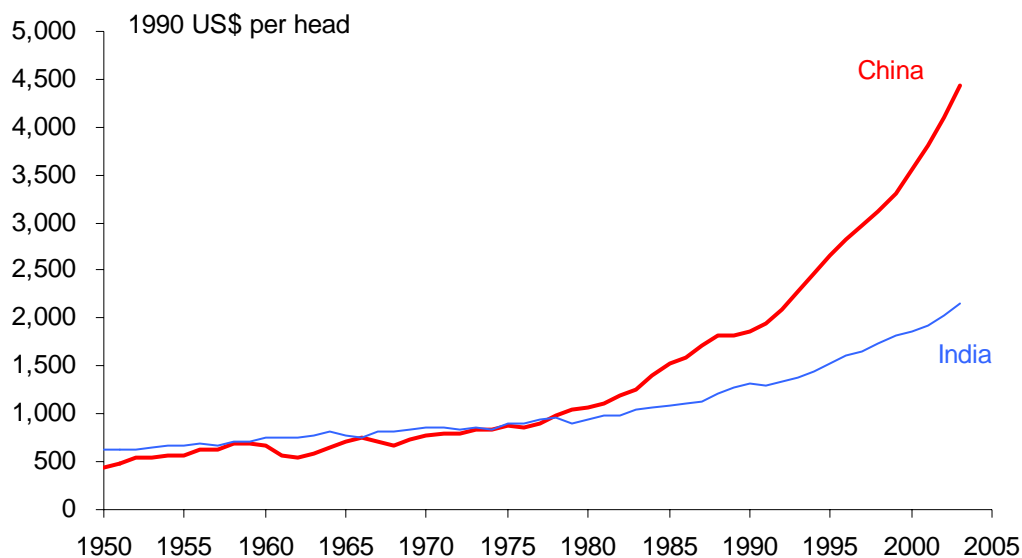
⁸ Charles Seife, *Zero: The Story of a Dangerous Idea* (Viking Putnam, New York, 2000). Zero was passed on to Europeans via Arabs but was not invented by them.

⁹ See, for example, Gavin Menzies, *1421: The Year China Discovered the World* (Bantam Books, London, 2002), which argues (not uncontroversially) that Chinese explorers reached the Americas before Columbus and Australia before De Vlaminck, Dampier, Tasman, Cook et al. These voyages “were stopped by Confucian-trained scholar-officials who opposed trade and foreign contact on principle ... anti-commercialism and xenophobia won out, and China retired from the world scene”: John King Fairbank, *China: A New History* (Harvard University Press, Boston, 1996), pp. 138-9. Diamond, *op. cit.*, pp. 412-5, argues that because China was politically unified there was no way that any frustrated Chinese explorer could have turned to another sovereign to back his proposed voyages, as Columbus did from the King of Portugal to two minor Italian dukes before securing the support of the King and Queen of Spain on his second attempt. Ming and Qing China arguably constitute an early example of the folly of turning one’s back on globalization.

Against this background, the ‘emergence’ of China and India can be seen as a reversion to a more ‘natural’ state of affairs, which has been made possible by the implementation of more stability-oriented and growth-friendly macro-economic policies and by far-reaching micro-economic reforms (as well as a wide range of social and other policy changes), beginning in China in 1979 and in India in 1991.

In 1950, three years after India gained independence from Britain and less than a year after the Communists gained complete control of China, India’s per capita GDP was some 40% higher than China’s. Although China’s economy grew more rapidly than India’s during the 1950s, Mao’s “Great Leap Forward” and the ensuing famine (in which as many as 30 million people are estimated to have died¹⁰) resulted in China’s per capita GDP falling by 21% (see Chart 2). China’s per capita GDP fell another 10% during the first two years of the Cultural Revolution. Not until 1978 did China’s per capita GDP surpass India’s for the first time in the twentieth century. By 2002, however, China’s per capita GDP was more than double that of India.

Chart 2: China and India – per capita GDP 1950-2003



Source: Groningen Growth and Development Centre *Total Economy Database*, <http://www.ggd.net/>.

Table 2 on page 5 disaggregates China’s and India’s GDP growth over the four periods – the 1950s; the period from 1961 until 1979 (the beginning of China’s reforms); from 1980 until 1991 (the beginning of India’s reforms); and 1991 through 2003 – into the contributions from population growth, increases in the employment rate (employment as a percentage of the population), and labour productivity (defined here as GDP per person employed, rather than per hour worked, due to data limitations).

China’s superior economic performance stems largely from its greater success in creating employment and its faster rate of productivity growth. Among the factors contributing to the latter are:

¹⁰ Jasper Becker, *Hungry Ghosts: Mao’s Secret Famine* (Free Press, New York, 1996).

Table 2: Major drivers of Chinese and Indian GDP growth, 1950-2003

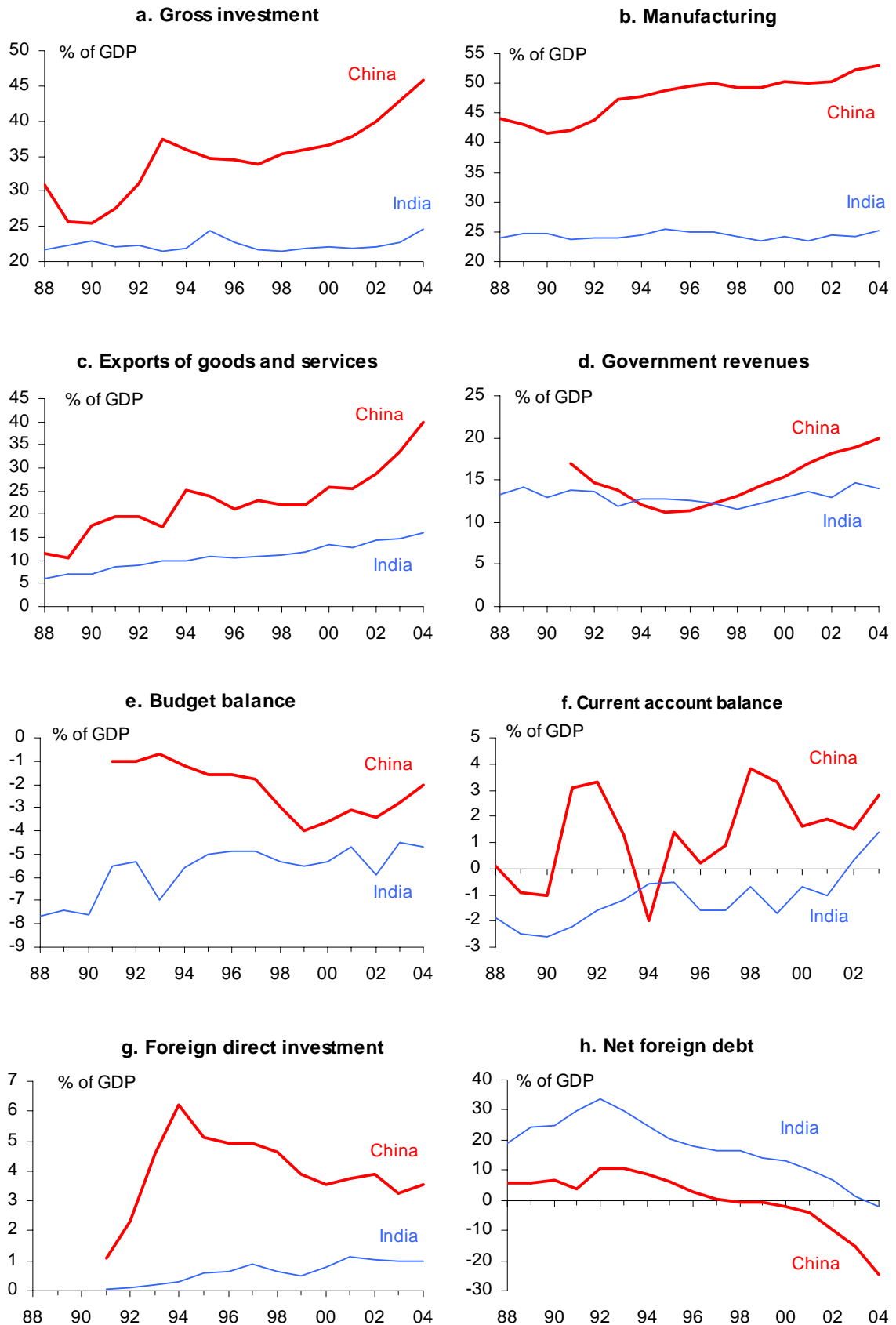
Period	Average annual rate of change (%)				Per capita GDP	Employment rate (%) [†]
	Population	Change in employment rate	Productivity*	GDP		
<i>China</i>						
1950-60	2.0	1.0	1.8	6.5	4.4	39.5
1961-79	2.0	0.4	2.0	4.4	2.3	42.2
1980-91	1.4	1.5	3.8	6.9	5.3	50.3
1991-03	0.9	0.4	6.7	8.1	7.1	53.0
<i>India</i>						
1950-60	1.9	na	na	3.9	2.0	37.7
1961-79	2.3	-0.3	1.3	3.2	0.9	35.3
1980-91	2.1	0.4	2.8	5.3	3.1	36.9
1991-03	1.8	0.2	4.2	6.2	4.4	37.7

* Defined as GDP per person employed. † Employment as a percent of population.

Source: Groningen Growth and Development Centre *Total Economy Database*, <http://www.ggdcc.net/>; and Economics@ANZ computations.

- China has saved and invested a larger share of its GDP (an average of 39.7% and 37.5%, respectively, over the ten years ended 2004) than India (21.9% and 22.5%, respectively).
- Manufacturing, where productivity growth is typically fastest, accounts for twice as large a share of China's GDP as India's (an average of 50.1% over the past decade, cf. 24.5%).
- China has achieved much higher adult literacy rates (90.9% in 2002) than India (61.3%), especially for women (86.5% in China as against 46.4% in India); better health standards (life expectancy at birth of 70.9 years in China in 2002 compared with 63.7 years for India, and 39 infant deaths per 1000 live births in China compared with 93 in India); and has been more effective in reducing poverty (46.7% of adults living on less than US\$2 per day on average in China, compared with 79.9% in India).
- China's basic infrastructure is in most respects superior to India's: for example, although India has over 3.3mn kms of roads compared with China's 1.8mn, China has 30,000 kms of expressway (ten times as much as India), and carried 633,040 mn ton kms of freight in 2002, compared with just 958 mn ton kms in India. China and India's rail networks are of similar length – 60,627 and 63,140 kms, respectively, but China's carries nearly five times as much freight as India's. India loses 26% of its electricity output in transmission and distribution, while for China the equivalent figure is only 7%.
- China is in most respects an easier place in which to do business than India, despite the more widespread use of English in India and the legal system inherited from British colonial rule: for example it takes 75 days and costs 55% of per capita gross national income to start a business in China, compared with 126 days and 97% of per capita GNI in India, it takes 41 days to register ownership of a property in China as against 85 days in India, and an average of 33 days to enforce a contract in China as against 103 in India.

Chart 3: China and India – some comparisons



Sources: Economist Intelligence Unit; IMF; Thomson Financial Datastream.

- China has been more effective in collecting taxes than India – Chinese government revenues have averaged 15% of GDP over the past decade (and over 21% in the last three years), compared with 13% for India (19% in the last three years). This has enabled it to spend more on education (in particular) and health than India whilst running smaller budget deficits – China's have averaged 2.6% of GDP over the ten years ended 2004 while India's have averaged 5.1% of GDP.
- China has integrated itself more successfully with the global economy – exports have accounted for an average of 26.5% of China's GDP over the last decade (reaching 40% in 2004), compared with only 12.4% of India's GDP (with a high of 16% in 2004).
- China has attracted ten times as much foreign direct investment as India over the past decade, US\$473bn (4.1% of GDP) compared with US\$41bn (0.8% of GDP), bringing with it management skills, technological know-how, etc. India remains less welcoming of foreign investment in many areas than China: for example, foreign investment in retailing is banned altogether, and in insurance is limited to a minority stake; while although foreign investment in civil aviation has recently been permitted, foreign airlines are still precluded from taking equity stakes in the Indian aviation sector.
- China is perceived to be less corrupt than India, ranking 71st on Transparency International's 2004 index, as against India's 90th¹¹. 37.4% of Indian firms surveyed by the World Bank's Investment Climate Survey regarded corruption as a major constraint, compared with 27.3% of Chinese firms. And despite India's British-based judicial system, 29.4% of Indian firms lacked confidence in the ability of courts to uphold property rights, compared with 17.5% of Chinese firms¹².

Some of these differences are the inevitable result of the realities that China is a one-party dictatorship (albeit a less repressive one than in earlier years) that can in most cases ignore or over-ride public opinion, while India is a functioning, multi-party democracy¹³; that China is (except for some outlying areas) essentially a mono-cultural society with a single national language and no strong religious beliefs, whereas India is a multi-cultural, multi-lingual society with numerous and often strongly-held religious beliefs; and that China has a long tradition of strong central government, whereas India is a more loosely-knit federation of 28 states and seven territories. As *The Economist* noted earlier this year, "most Indians seem to accept that a more indecisive, less radical government is the price of democracy"¹⁴.

¹¹ All the data in these dot points are from the Economist Intelligence Unit database, except for those relating to literacy, life expectancy, infant mortality and poverty, which are from the UN Development Program *Human Development Report 2004* (available at <http://hdr.undp.org/reports/global/2004/>); on road and rail infrastructure, which are from the World Bank's *World Development Indicators 2005* (available at <http://www.worldbank.org/data/wdi2005/>) on ease of 'doing business', which are from the World Bank's *Doing Business* database (<http://rru.worldbank.org/DoingBusiness/>); and on perceptions of corruption, which are from Transparency International's *Corruption Perceptions Index 2004* (<http://www.transparency.org/cpi/2004/cpi2004.en.html>).

¹² World Bank, *World Development Report 2005* (Washington DC, September 2004), p. 246.

¹³ Although China ranks slightly higher, at 112th, than India, at 118th, out of 155 countries on the Heritage Foundation's *Index of Economic Freedom* for 2005 (details available on-line at <http://www.heritage.org/research/features/index/>).

¹⁴ Simon Long, "The Tiger in Front", *The Economist*, 5 March 2005, p. 16.

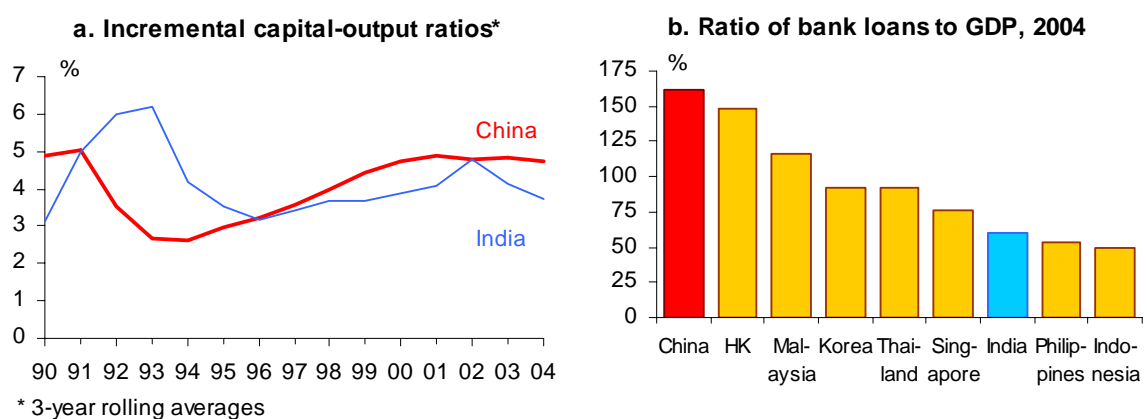
The desire for greater political freedom in China which found its peak expression in Tiananmen Square in June 1989 appears to have been tempered by the collapse of the Soviet Union a few years later: there is a widespread (though far from universal) acceptance in China that, if a choice must be made between economic growth and political freedom, the former is to be preferred. India may well be better-placed to accommodate the desire for greater political freedom that typically accompanies rising living standards than China; but it remains unclear how well India will be able to accommodate tensions between different religions and castes, which have regularly been vented in violent social unrest.

China's achievement of rapid rates of economic growth on the basis of (inter alia) high rates of investment is not an unalloyed blessing. China's incremental capital-output ratio or ICOR (defined as the ratio of the investment share of GDP to the growth rate) has averaged 4.2 over the decade ended 2004 (ie, it has required investment equivalent to 4.2% of GDP to boost real GDP growth by one percentage point), compared with 3.7 for India; over the last five years China's ICOR has averaged 4.8%.

These ratios are much higher than the corresponding periods for other economies during periods of rapid growth, for example 3.2 for Japan in the 1960s, and with 3.2 and 2.7 for South Korea and Taiwan in the 1980s, respectively¹⁵.

The implication is that capital is being allocated inefficiently in China and, to a lesser extent, India; and, moreover, that the efficiency with which capital is being allocated is declining, especially in China (see Chart 4a). The overwhelming majority of Chinese investment capital is provided by loans, particularly from State-owned banks, which until the late 1980s provided credit in accordance with centrally-determined plans rather than according to normal banking criteria. China's ratio of bank loans outstanding to GDP of over 160% is exceptionally high for a developing country (Chart 4b). Foreign-sourced funds account for less than 5% of total fixed investment, and over the past ten years funds raised from the equity market have totalled just over Rmb 1 trillion (US\$126bn), or 1.1% of GDP. There has been little 'market discipline' over the allocation of capital in China.

Chart 4: Efficiency of investment and bank lending



Sources: Economist Intelligence Unit (via Thomson Financial Datastream); IMF, *International Financial Statistics*; Economics@ANZ computations.

¹⁵ Chi Hung Kwan, "Why China's Investment Efficiency is Low – Financial Reforms are Lagging Behind", Japan Research Institute of Economy, Trade and Industry, *China in Transition*, 24 June 2004 (<http://www.rieti.go.jp/en/china/04061801.html>).

China also confronts a more serious demographic challenge than India. Largely as a result of the 'one-child' policy, China's population has a median age of 33, compared with India's 24. 7.6% of China's population is aged 65 or over, compared with 5.3% of India's; these figures will rise to 13.7% and 8.1%, respectively, by 2025. China's working age (15-65) population will peak at just over 1 bn around 2015, and decline by 15mn over the next ten years, and by a further 141 mn over the following 25 years.

India's working-age population will overtake China's by around 2030 and will not peak until after 2050¹⁶. As Jonathon Anderson of UBS points out, China "faces developed-country demographics [and] developed-country social liabilities ... at a per capita income level of only slightly more than US\$1,000"¹⁷.

China, India and world trade

As noted earlier, China has been much more successful in integrating itself into the world economy than India. China's merchandise exports have grown at an average annual rate of 13% per annum since 1981 (in US\$ at market exchange rates), and by 18% per annum since 1991. As a share of the world total, China's merchandise exports have risen from 1.1% in 1981 to 6.8% in 2005 (or to 10.5% of world exports excluding intra-EU and NAFTA trade); last year China became the world's third largest exporter, after Germany and the United States. If the growth rates of the past decade are sustained, China will overtake the US in 2007 and Germany in 2009. China's merchandise imports have likewise grown rapidly, at an average annual rate of 15% since 1981: with 6.1% of the world total China is also now the world's third-largest importer¹⁸.

The composition of China's exports has changed significantly over the past decade. For all the public attention devoted this year to China's exports of textiles, following the (belated) dismantling of trade barriers erected under the Multi-Fibre Agreement and the Agreement on Textiles and Clothing, their share in China's total exports has fallen from nearly 24% in 1997 to 15% in 2004 and to less than 14% in the first four months of 2005. Footwear has likewise fallen from 4½% of China's total exports in the mid-1990s to 2½% in the first four months of this year; while toys, games and sporting equipment have declined from 4% to less than 2½% of the total over the same period. Conversely, exports of 'high and new technology products' have risen from less than 15% of the total in 2000 (the first year for which data on this category are available) to nearly 28% in 2004 and the first four months of this year; China's trade balance in these products has swung from a US\$17bn deficit in 2001 to a \$4bn surplus in 2004 (and one of just under \$4bn in the first four months of 2005). China has also become a net exporter of auto parts in the first four months of this year¹⁹.

¹⁶ Projections from United Nations, *World Population Prospects: 2004 Revision*, medium variant (<http://esa.un.org/unpp/>). Note that China's demographic profile and prospects pale in comparison with Japan, whose median age in 2005 is already 43; 19.7% of whose population is 65 or over, a proportion projected to rise to 29.1% by 2025; and whose working-age population peaked in the late 1990s, and will shrink by 32% (an average annual rate of 0.9%) between now and 2050.

¹⁷ Jonathon Anderson, "How to Think About China (Part 2)", *Asian Economic Perspectives*, (UBS Investment Research, Hong Kong, 7 February 2005), p. 17.

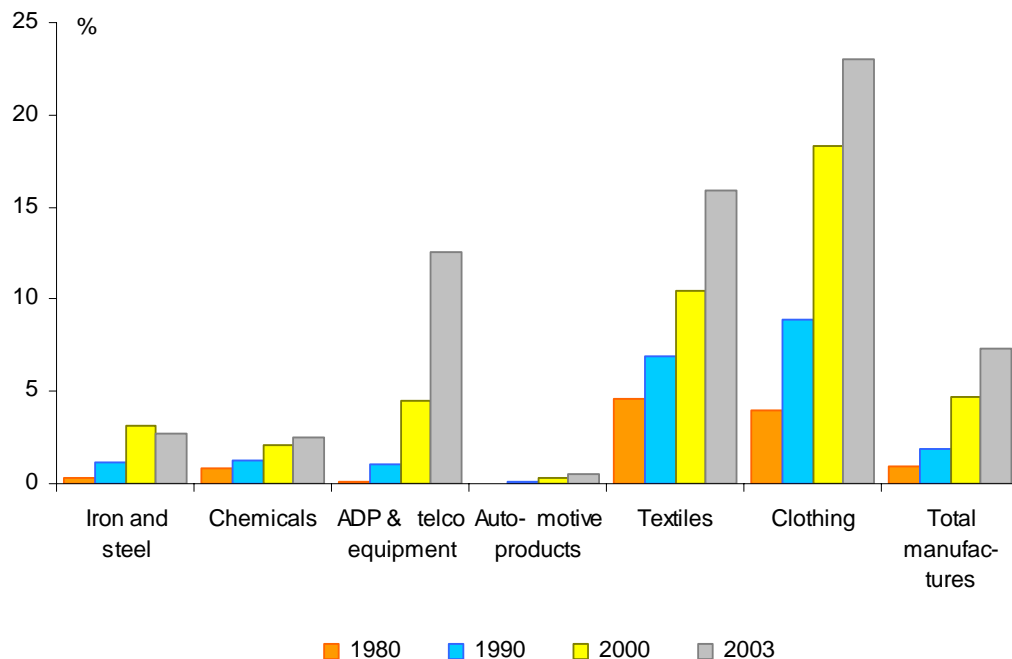
¹⁸ Statistics in this section are sourced from IMF, *Direction of Trade Statistics*, unless otherwise noted.

¹⁹ Data in this paragraph are from China's General Administration of Customs.

China's share of world exports of manufactures has risen from 0.8% in 1980 (and 1.9% in 1990) to 7.3% in 2003²⁰. Chart 5 provides further details. This trend is likely to continue, as China's share of world markets for textiles and clothing increases further following the expiry of the ATC (although the 'safeguard measures' imposed by the US and EU this year may slow that), and as its range of manufactured exports expands. As Haier's bid for Maytag indicates, China is becoming a significant exporter of whitegoods, while China is likely to begin exporting motor vehicles to the EU and the US over the next few years. Brilliance Automotive expects to export 2000 Zhonghua sedans to Germany this year; Chery is planning to start selling cars in the US in 2007, and Honda's Chinese subsidiary is scheduled to lift its exports from 10,000 units this year to 50,000 per annum over the next five years²¹.

India's merchandise trade has also grown rapidly, though at a slower rate and from a much lower base than China's. India's merchandise exports have grown at a 12.5% annual rate since the start of its reform period in 1991, lifting its share of total world trade from 0.5% (to which level it had declined, after 43 years of the deliberate pursuit of autarchy by Nehru and his successors, from 2.2% in 1948) to 0.9% (and 1.4% of world trade excluding intra-EU and NAFTA trade) by 2004. India ranks 24th among the world's 25 largest economies in terms of its share of world trade.

Chart 5: China's share of world exports of manufactures



Source: World Trade Organization, *World Trade Statistics 2004* (Geneva, August 2004).

The composition of India's merchandise trade has changed much less than that of China's. Textiles and garments still account for 22% of total goods exports, and gems and jewellery for nearly 18%: these proportions are virtually unchanged from a decade ago. High-tech products account for just 5% of India's manufactured exports, compared with 23% of China's²².

²⁰ World Trade Organization, *World Trade Statistics 2004* (Geneva, August 2004).

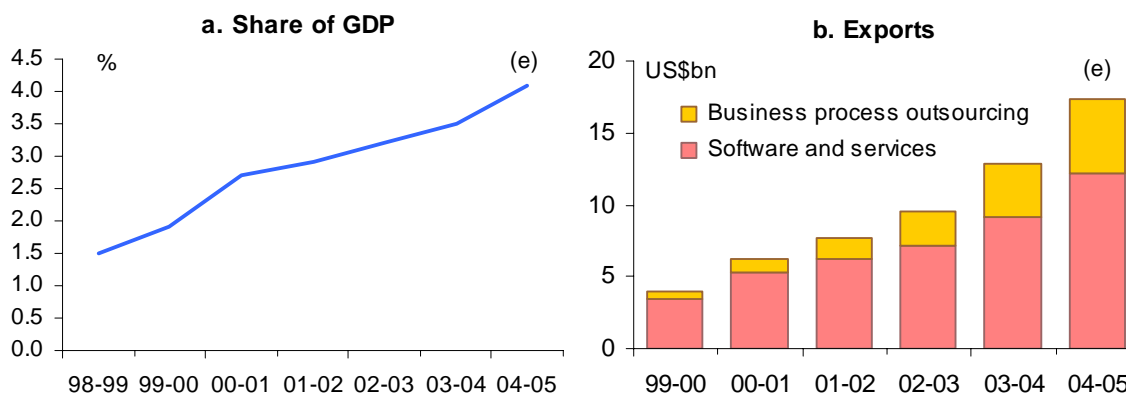
²¹ Keith Bradsher, "China shaping as a major car exporter", *New York Times* 24 June 2005.

²² Data in this paragraph from EIU *Country Report: India* (June 2005), p. 5, and World Bank, *World Development Report 2005* (Washington DC, September 2004), p. 261.

India has made far less progress in reducing tariffs than China. India's weighted mean tariff has fallen from 56% in 1990 to 28% in 2004, and less than three-quarters of its tariff lines are 'bound' in accordance with WTO practice. Indeed, India's weighted mean tariff on imports of primary products has actually risen slightly over this period, from 34% to 37%, even though the simple mean has fallen significantly. China's weighted mean tariff, by contrast, has declined from 32% in 1992 to just 6% in 2004 (partly reflecting the greater 'concessions' made by China upon its entry into the WTO). Over 92% of India's tariff lines exceed 15%, compared with just 16% of China's. India's government still derives nearly 20% of its revenue from import duties. And the impact of India's non-tariff barriers on prices of importable goods is twice as large as China's²³.

India's exports of commercial services have grown more rapidly than its merchandise exports, largely thanks to its burgeoning software and business process outsourcing industries (call centres, back-office processing, etc.). These industries accounted for 3.5% of India's GDP in the 2003-04 fiscal year and earned export income of US\$13.3bn (equivalent to nearly one-quarter of India's merchant exports). Largely as a result of the growth in these exports, India has run a surplus on services trade since 2002; NASSCOM (the industry association for India's IT services sector) projects exports of US\$57-65bn by 2008.

Chart 6: India's IT services sector



Source: (Indian) National Association of Software and Services Companies (<http://www.nasscom.org>)

Nonetheless, for all the world-wide attention that this sector of the Indian economy has attracted, it is worth noting that China's exports of commercial services other than transport, travel, and finance and insurance (the residual in which IT services are included in internationally comparable statistics) totalled US\$20.6bn in 2003, compared with India's US\$18.9bn.

While India does enjoy an advantage over China in regard to its relatively large number of English speakers, in other respects it seems difficult to argue that India is better placed than China to compete internationally in this field. China spends 5.3% of its GDP on IT, compared with India's 3.7%; China has 27.6 personal computers per 1000 people, as against India's 7.2; and China has 63 internet users per 1000 people, compared with 17 in India.

²³ Tariff data are from World Bank, *World Development Indicators 2005*, Table 6.6, <http://www.worldbank.org/data/wdi2005/wditext/Section6.htm>.

More generally, China has 633 R&D researchers per million people, more than five times as many as India's 120 per million, publishes almost twice as many scientific and technical journal articles per million people, and spends half as much again of its GDP on R&D (1.2% against 0.8%)²⁴.

China, India and commodities markets

Energy commodities

China has had a substantial impact on global energy markets over the past five years. China has been the world's second largest consumer of primary energy (after the United States) since 1994. China's primary energy consumption was 60% of that of the US in 2004, compared with 34% five years earlier. Over the past five years, China's primary energy consumption has risen at an average annual rate of 12.5%, more than four times that of the world as a whole: China has accounted for fully 46% of the increase in global primary energy consumption over this period (and for 52% of the increase over the past three years)²⁵.

The fact that China's energy consumption has risen at a more rapid pace than the level of economic activity implies that China's energy efficiency (as measured by primary energy consumption per US\$ of GDP at PPP) has declined significantly in recent years. In the early 1980s China was the most inefficient user of energy of the 57 countries included in BP's *Statistical Review of World Energy*, using 1030 tons of oil equivalent (toe) to produce US\$1mn of GDP per annum (56% more than the equivalent figure for the US in 1980). By 2001, this figure had fallen to 157 toe per \$1mn of GDP (cf. 226 toe per \$1mn for the US, and 152 for Japan). But by 2004, it had risen again to 189 toe per \$1mn.

China's oil consumption has risen by 2.2mn barrels per day over the past five years (a growth rate of 8.6% per annum), accounting for 38.4% of the increase in global oil consumption and absorbing 28.6% of the increase in world oil production over this period. Yet China's oil consumption is still relatively low – 0.91 bpd per US\$1mn of GDP (cf 1.39 for Japan and 1.77 for the US), or 1.8 bpd per person – and is likely to continue growing at a rapid pace. Moreover China intends to establish a strategic petroleum reserve (similar to that of the US) with a capacity of 300mn barrels by 2010.

China's impact on the global coal trade has been even more striking. China is the world's largest coal user by a wide margin; rapidly increasing electricity generation has seen its coal consumption rise at an average annual rate of 14.2% over the past five years, accounting for 70% of the increase in global consumption over this period. Although China also exports thermal coal, its imports (mainly of higher-quality coals) have increased more than four-fold over the past five years (albeit from a very low base). Mounting mine safety and environmental concerns are likely to restrict growth in domestic production over the medium term, so that China's thermal coal imports are likely to continue to grow rapidly.

It thus seems almost unarguable that the demand for energy to fuel China's rapid industrialization and growth has been an important, if not the most important contributor to the sharp rise in energy prices over the past few years.

²⁴ World Bank, *World Development Indicators 2005*, Table 4.7, 5.11 and 5.12, and Economics@ANZ computations.

²⁵ Unless noted otherwise, data referred to in this section are derived from BP, *Statistical Review of World Energy 2005* (<http://www.bp.com>).

China is moving to improve the security of its access to reliable sources of energy by taking equity positions in energy suppliers, such as Australia's North-West Shelf natural gas field and, more recently and controversially, China National Overseas Oil Corporation (CNOOC)'s US\$18.5bn bid for Unocal. In this regard China is following a similar strategy to Japan in previous decades, although for the United States at least this potentially raises strategic issues that were not at stake with Japanese investment in energy sources.

India's economy is considerably less energy-intensive than China's, in part reflecting its much smaller manufacturing sector. India consumed only 114 toe of primary energy per US\$1mn of GDP in 2004, compared with over 200 in the early 1980s. Nonetheless, India has been the fifth largest consumer of primary energy since 2001, when it moved past Germany; its energy consumption has risen at an average annual rate of 4.3% over the past five years, accounting for 5.4% of the increase in total world primary energy consumption over this period (the same as the US).

India is the sixth largest consumer of oil, and has accounted for 7.1% of the increase in global oil consumption over the past five years. India is the world's third largest consumer of coal, and the growth in its consumption over the five years to 2004 represented 6.9% of the increase in total global consumption, a proportion exceeded only by China.

Other mineral commodities

China's rapid industrialization has also had a significant impact on the markets for a range of other metals and minerals. For example China is now producing close to 300Mt of steel annually, double the amount in 2001, and nearly three times as much as Japan. China has thus emerged as a major source of demand for iron ore and metallurgical (coking) coal. China is the world's largest producer of iron ore, but its production has a low Fe content: China's imports of iron ore have risen at an average annual rate of 30% over the past five years, accounting for over 85% of the increase in global iron ore trade (India is the third largest exporter of iron ore, after Australia and Brazil).

Similarly, although China is a large producer of coking coal, the quality is poor, and Chinese imports of coking coal have jumped sharply from less than 0.5Mt pa prior to 2003 to 6.8Mt in 2004. Although this represents only 3% of total world trade in coking coal, China has accounted for one-third of the increase in coking coal trade over the past two years. India (which has no significant coal production) last year overtook Brazil as the world's third largest importer of coking coal (behind Japan and Korea); India has accounted for a further 16% of the increase in global imports over the past two years. Against a background of very tight supplies, Chinese and Indian demand has been a key contributor to the more than doubling of coking coal prices over the past 12 months.

China's consumption of nickel has also trebled over the past five years, vaulting past Germany and the US to become the world's second largest consumer (after Japan) and accounting for 55% of the increase in global nickel use during this period; over the same period, India's nickel consumption has doubled, accounting for a further 11% of the increase in global use.

China's demand for copper has risen 75% over the past five years, more than accounting for the entire increase in global demand (copper usage in the United States, which was the world's largest copper user until overtaken by China in 2001, has fallen by more than 12% over this period).

With production of refined copper disrupted by maintenance programs at a number of smelters around the world over the past year, copper prices have more than doubled over the past two years, although they are likely to ease back a little over the remainder of 2005 and into 2006 as smelter capacity returns to more normal levels.

In 2004 China overtook the US as the world's largest primary consumer of aluminium; growth in Chinese demand has accounted for half the increase in global primary aluminium consumption over the past five years. In this case, however, Chinese aluminium production has risen at an even faster rate (20% pa over the past five years) than consumption (16% pa), so that China has been a net exporter of aluminium since 2002; in 2004 its net exports totalled 646,000 tonnes, as against net imports of 705,000 tonnes in 2000. Hence the rise in aluminium prices has been much less pronounced than that of other metals where China is not a significant net exporter, such as copper, nickel and zinc. Partly because of its disproportionate impact on electricity demand, aluminium smelting has been a key target of measures by Chinese authorities to slow the rate of growth of fixed asset investment

Over the medium term, continued rapid growth and industrialization in China, and to a lesser extent, India, is likely to underpin demand for and the prices of those mineral ores and metals which China is unable to produce itself – a prospect of considerable benefit to Australia, Canada and Brazil in particular. However this prospect is also likely to prompt a supply-side response, which will limit the scope for further significant price gains.

Agricultural commodities

The impact of rapid Chinese and Indian economic growth on markets for agricultural commodities has been less pronounced than on markets for minerals and energy. This largely reflects the fact that world markets for agricultural commodities continue to be highly distorted by trade barriers and subsidies, (including those of China and India themselves). Like the EU, Japan and the United States, China and India attach inordinate importance to 'food security' and are willing to force their consumers to pay higher prices for food in order to ensure it, and to subsidize the production of commodities such as wheat. Although China has reduced tariffs on imports of agricultural products to a weighted mean of 5.6% in 2004, from 14.1% in 1992, its share of world imports of agricultural products has risen by only about two percentage points over the past two decades or so, from 2.1% in 1980 to 4.2% in 2003; while its share of agricultural exports has risen from 1.5% to 3.3% over the same period. India's weighted mean tariff on agricultural imports has actually risen by nearly three percentage points, to 36.9%, since the early 1990s; India does not rank in the top 15 importers of agricultural products.

Rising incomes, changing tastes and more widespread household whitegoods ownership are nonetheless likely to see China become a more significant importer of certain agricultural commodities such as meat, sugar and dairy products. For example, China's imports of whole milk powder have increased by 120% since 2000 and are expected to continue rising rapidly in response to government campaigns promoting the health benefits for children of drinking milk. China's per capita sugar consumption has risen by about 25% over the past five years, but is still half the level of India and Japan; Chinese sugar imports are projected to grow by around 13% per annum over the medium term²⁶.

²⁶ Data and forecasts from Australian Bureau of Agricultural and Resource Economics, *Australian Commodities* Volume 12, No. 1, March quarter 2005.

China, India and international financial flows

As noted earlier, China has been particularly successful at attracting foreign direct investment. In each of 2002 and 2003 China attracted over US\$50bn in inward FDI; as a result of the sharp decline in FDI into the US since the collapse of the tech bubble, China has become the second largest recipient of FDI in the world, after Luxembourg. China's stock of inward FDI stood at \$501bn (35.6% of GDP) at the end of 2003, the fourth largest in the world (after the US, the UK and Germany). More than half of China's FDI has come from Hong Kong - some of it undoubtedly from mainland Chinese sources seeking to take advantage of tax incentives for foreign investors (so-called 'round-tripping').

However it has not been one-way traffic: China's outward FDI has averaged around \$2.8bn per annum over the past five years, larger than for any non-OECD economies with the exceptions of Hong Kong, Singapore, Taiwan, Russia and some Caribbean tax havens. Nearly half of this outward FDI has been to Hong Kong, although commodity-producing countries (including Canada, Australia, Russia, Peru, Mexico and Zambia) also feature in China's top ten investment destinations²⁷.

FDI inflows into India have been much more modest, rising from US\$2.2bn in 2000 to \$4.3bn in 2003. India's stock of inward FDI stood at \$31bn (5.4% of GDP) at the end of 2003, less than Malaysia, Indonesia, and Thailand, all of which are smaller economies than India. Indian outward FDI has averaged around \$1bn pa in recent years, with the US and Russia being the most important destinations.

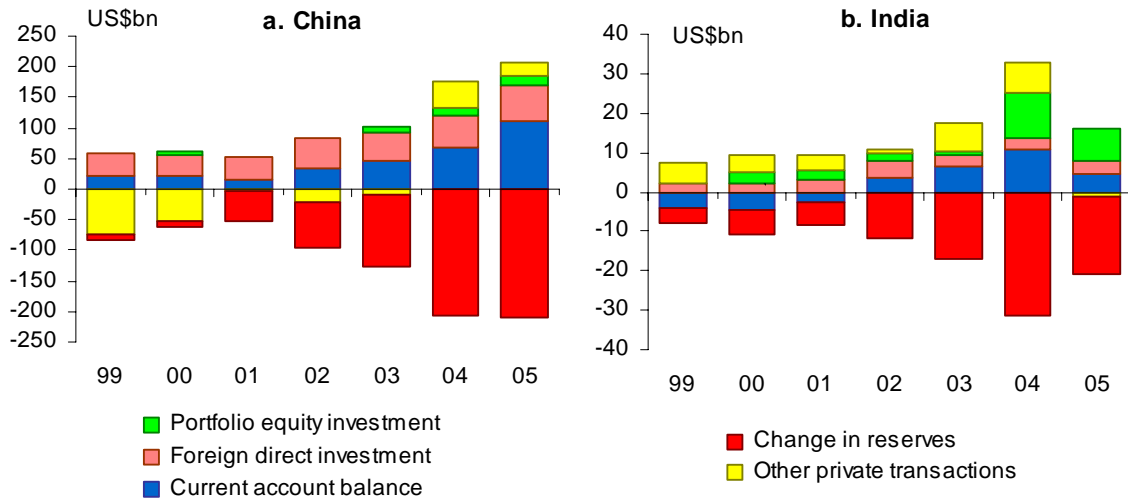
China experienced net portfolio investment outflows of nearly US\$50bn in the five years following the Asian financial crisis, but more recently has attracted significant net inflows, a good deal of which appears to have been prompted by expectations of a revaluation of the renminbi. Portfolio inflows into India have been more modest, although India typically also attracts a steady stream of deposits from non-resident Indians, the stock of which exceeded US\$33bn at the end of 2004.

In recent years China's most significant impact on international flows has been through its accumulation of foreign exchange reserves. Until 2003, China's current account surpluses were typically quite small, averaging less than 2% of GDP between 1990 and 2002 and exceeding 3% of GDP (at market exchange rates) in only four years (see Chart 3f on page 6). Over the past two years, however, China's current account surplus has mushroomed, reaching US\$70bn (4.2% of GDP) in 2004 and on track to exceed \$100bn (5% of GDP) this year.

A country running a large current account surplus and attracting significant net private capital inflows under a flexible exchange rate regime would almost certainly see its exchange rate appreciate. Of course China has maintained a fixed exchange rate regime since 1994 (something which served as a stabilizing influence during the Asian financial crisis of 1997-98), so that swings in the net balance of its current account and private capital flows are instead mirrored in its levels of foreign exchange reserves. In order to maintain the exchange rate fixed at Rmb8.28 to the US dollar, the People's Bank of China has had to sell over Rmb 3 trillion of its own currency since the end of 2002, lifting its foreign exchange reserves from US\$286bn to US\$671bn as of April this year. Since most of these reserves are held in US\$, the PBoC (in company with Bank of Japan and other Asian central banks) has been financing a large share of the US Budget deficit.

²⁷ United Nations Conference on Trade and Development (UNCTAD), *World Investment Report 2004* (UN, New York, July 2004).

Chart 7: China and India external payments

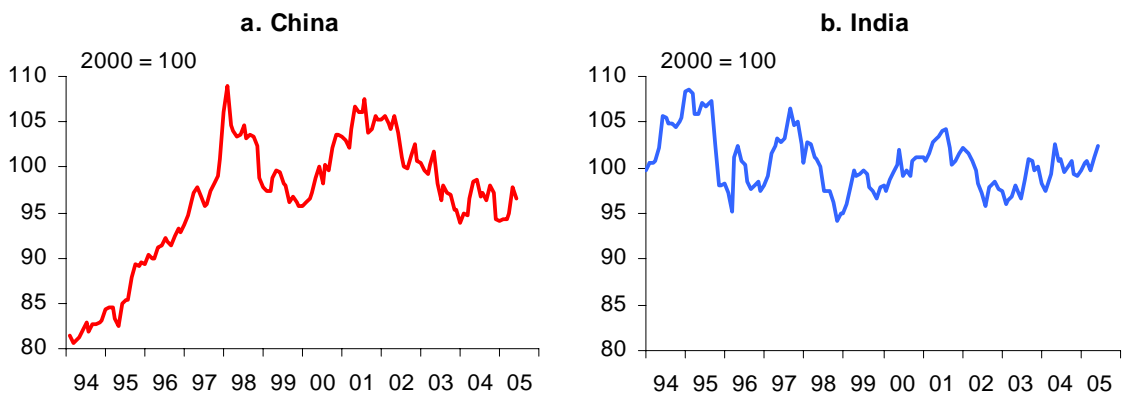


Note: Indian data are for fiscal years ended 31 March of year shown. Transactions with multilateral financial institutions and official creditors, and errors and omissions, are not shown. *Source:* Institute for International Finance (Washington DC).

China's holdings of US Treasury bonds, as recorded by the US Treasury's TIC system, stood at US\$230bn at the end of April (and these may well underestimate China's total holdings).

The fact that China has been accumulating a large volume of reserves does not necessarily indicate that its exchange rate is 'undervalued', or that China has been 'manipulating' its currency to gain 'unfair' advantages over its trading partners, as has been alleged by (among others) members of the US Congress and other officials. China's real effective exchange rate has fallen by about 10% since its most recent peak in mid-2001, but that followed an appreciation of around 12% after the onset of the Asian financial crisis; its value as of May this year was more or less in line with its average value since the devaluation of January 1994 (see Chart 8).

Chart 8 – China and India: real effective exchange rates



Source: JP Morgan.

Rather, China's persistence with a fixed exchange rate and in accumulating a mountain of foreign exchange reserves reflects three other considerations:

- an unwillingness to succumb to foreign pressure to revalue its currency, which (rightly or wrongly) it sees as an encroachment on its 'sovereignty';
- a concern that its financial system is as yet inadequately prepared for a floating exchange rate (and, in particular, that the banking system could not cope with the significant outflow of deposits that might occur in the event that capital controls were eased); and
- a desire, which China shares with other Asian economies, to take out 'insurance' against the possibility of another financial crisis by holding a much larger volume of foreign reserves than previous experience had suggested was appropriate.

As the Governor of the Australia's Reserve Bank recently noted, "in a world of floating exchange rates and mobile international capital, a number of emerging market economies came to the conclusion that the international financial system was so potentially unstable that the only way they could participate was by paying [a] large insurance premium in the form of cheap loans to the United States"²⁸.

Former Federal Reserve Governor (and now Chairman of the Council of Economic Advisors) Ben Bernanke makes the point that the magnitude of the turnaround in the current account position of the developing countries as a group (from a deficit of US\$90bn in 1996 to a surplus of \$326bn in 2004, a swing of \$417bn of which Asia accounts for \$220bn) has been the key reason for the emergence of a 'global savings glut', which has pushed down real long-term interest rates, which has in turn boosted house prices in the United States and other countries which have high home ownership rates, and that this in turn has encouraged households in those countries to increase their consumption and reduce their saving²⁹.

In Bernanke's view, this provides an explanation of the "transmission mechanism" by which current account deficits in a number of (mainly English-speaking) advanced economies have widened in order to balance the swing from deficit to surplus in the current accounts of the developing countries.

In effect, the People's Bank of China, the Bank of Japan and other East Asian central banks are running what could be described as the greatest vendor financing scheme the world has ever known: lending to American consumers, via the US budget, the money that American consumers need to keep borrowing so that they can keep buying the products that East Asian economies need to keep selling to them so that they, in turn, can keep growing at the rates to which they have become accustomed.

Conceptually, the PBoC can continue to purchase enough US\$ to prevent any appreciation of the Rmb against the US\$ indefinitely (since – in direct contrast to the position of, for example, the Bank of Thailand in mid-1997 or Argentina's BCRA during 2001 – it controls the supply of the currency it needs to sell).

²⁸ Ian Macfarlane, *Payments Imbalances*, Presentation to the Chinese Academy of Social Sciences (Beijing, 12 May 2005), p. 3.

²⁹ Ben Bernanke, *The Global Savings Glut and the US Current Account Deficit*, Homer Jones Lecture, 14 April 2005, pp.7-8.

However, the PBoC's strategy is not without costs or risks. First, to the extent that the PBoC 'sterilizes' its US\$ purchases through sales of Chinese government bonds or its own paper, there is an on-going cost arising from the fact that interest rates on Rmb-denominated instruments are higher than those on US Treasury securities. Second, the PBoC is exposed to a growing risk of capital losses in the event that the Rmb is eventually revalued. Finally, and most importantly, the scale of the PBoC's foreign exchange operations complicates the task of domestic monetary policy, by expanding the domestic monetary base to the extent that it is not able to 'sterilize' the liquidity impact of its US\$ purchases.

In marked contrast to Japan, Chinese banks have no difficulty finding willing borrowers. Although the PBoC has had some success in slowing the rate of growth in overall lending through a combination of modest increases in interest rates and administrative measures to curb lending to particular sectors, mortgage lending has continued to grow rapidly and now accounts for 23% of banks' medium- and long-term loans, up from almost nothing five years ago³⁰. Partly as a result, prices of new homes rose by 15.2% in 2004, after a 5.7% increase in 2003. Thus one of the key risks confronting the PBoC is that its foreign exchange operations may fuel an unsustainable asset price bubble.

In some respects, the PBoC is in a similar position to that of the Bank of Japan in the aftermath of the Louvre Accord of February 1987, with the difference that the Bank of Japan's efforts to prevent the US\$ falling below ¥120 were in accordance with US pressure to do so, rather than despite US pressure to do the opposite. The 1980s Japanese asset price bubble came to an end when a newly installed Governor of the BoJ, Yasushi Mieno, took the view that the bubble was undermining the egalitarian basis of Japanese society and kept raising interest rates until the bubble burst.

It is plausible that a similar view could at some point be adopted by the PBoC if property prices in Chinese cities were to continue rising at a rapid pace, further widening perceived inequalities between the coast and the interior. However such a decision seems unlikely to be contemplated ahead of the 2008 Beijing Olympics.

Any decision by the PBoC to discontinue its policy of doing 'whatever it takes' to prevent a rise in the Rmb against the US\$ (a decision which would likely be mirrored by other Asian central banks) would undoubtedly have significant consequences for the financing of the US budget and current account deficits, and hence for US long-term interest rates and asset prices. In that sense, it is difficult to understand why US legislators and officials are so anxious to have the PBoC embark on precisely such a course.

India's current account balance has also improved significantly in recent years: after running deficits (averaging 1.5% of GDP) in every year between 1980 and 2000, India has accrued current account surpluses averaging over 1% of GDP in the past two years. The rupee has appreciated by around 12% against the US\$ since early 2002; nonetheless, India has also accumulated foreign reserves, which stood at nearly US\$136bn in April this year, up from \$67bn at the end of 2002 and compared with barely over \$1bn at the time of India's foreign exchange crisis in 1991. India now has the fifth largest foreign exchange reserves in Asia (after Japan, China, Taiwan and Korea). Nonetheless, India's influence on international financial flows remains relatively small in comparison with that of China and Japan.

³⁰ Institute of International Finance, *Country Report: People's Republic of China* (Washington DC, June 3 2005), p. 5.

Conclusion

As noted earlier in this paper, from a long-term historical perspective the 'emergence' of China and India as economic giants is more accurately described as a return to the position that they have held throughout most of recorded history. Of course that does not mean that China and India's return to 'superpower' status (at least in the economic sense, and perhaps more so in other senses) will be a smooth and comfortable ride. As Robert Kagan points out, "rarely have rising powers risen without sparking a major war that reshaped the international system to reflect new realities of power ... There is no reason to believe that we are any smarter today than the policymakers who mismanaged the rise of Germany and Japan"³¹.

Certainly it would be a mistake to assume, as was widely believed in the years leading up to the First World War, that "elaborate interdependence, not only in the economic sense, but in every sense" among great and powerful nations *guaranteed* "the good behaviour of one state to another"³².

Not unreasonably, Kagan goes on to ask, "Might not China, like all rising powers of the past, including the United States, want to reshape the international system to suit its own purposes, commensurate with its new power and to make the world safe for its autocracy? Yes, the Chinese want the prosperity that comes from integration in the global economy, but might they believe, as the Japanese did a century ago, that the purpose of getting rich is not to join the international system but to change it?"³³.

The same could be said of India: for example, India and China, together with Brazil, have led the so-called 'G21' group of developing countries in calling for rich countries to make cuts in agricultural subsidies and to remove barriers to agricultural trade³⁴. In many areas, however, India's view of how the 'international system' should evolve may well be different from China's. India appears to be more sympathetic to US perspectives on international terrorism, and both governments now talk about a "strategic partnership" in a way that neither does with China.

As more countries come to depend on exports to China, they are likely to face dilemmas (arising from potential conflicts between their economic interests and their traditional defence alliances with the US) that were never posed by the rise of Japan in the forty years after the end of the Second World War.

However there seems little doubt that, as Singapore's elder statesman Lee Kuan Yew put it in April this year, "in 20 years time the centre of gravity of the world will shift from the Atlantic to the Pacific and Indian Oceans"³⁵.

³¹ Robert Kagan, "The Illusion of 'Managing' China", *The Washington Post*, 15 April 2005.

³² Norman Angell, *The Great Illusion* (London, 1913), quoted in Niall Ferguson, *The Pity of War* (Penguin Books, London, 1998), p. 21. Cf. Thomas Friedman's widely-quoted assertion that "no two countries that both had McDonald's had fought a war against each other since each got its McDonald's" (*The Lexus and the Olive Tree* (Harper Collins, London, 1999), p. 196), which was subsequently disproved in Bosnia.

³³ Robert Kagan, *op. cit.*

³⁴ *The Economist*, 20 September 2003, p. 27.

³⁵ Lee Kuan Yew, "Win-Win Approach for China's 'Peaceful Rise'", Speech at the Bo'ao Forum for Asia, Bo'ao, Hainan, 23 April 2005 (Singapore Ministry of Information, Communications and the Arts), <http://app.sprinter.gov.sg/data/pr/2005042302.htm>.