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Mature Chinese growth leads the global Platinum Age

Ross Garnaut and Yiping Huang

China's strong and accelerating growth, with low inflation and growing external payments surpluses, continued in 2007. The longer that strong growth in China continues, the greater is China's influence on global outcomes. Global growth looks set to exceed 5 per cent in 2007 for the fourth successive year—higher than the 4.9 per cent average of the 'Golden Age' from 1950 to 1973. China is now at the centre of what could turn out to be the strongest period of global economic growth the world has seen—a 'Platinum Age'.

Investment as a share of Chinese output rose again in 2007, from levels that many had said could go no higher. Our conclusion in the 2005 China Update volume (Garnaut and Song 2005)—that there was no sound basis for external and Chinese assessments that growth based on the high investment shares of the early twentieth century was unsustainable—seems so far to have been validated by subsequent experience. The continued rapid increase in nominal and real wages alongside some (albeit small) currency appreciation confirms that 'turning-point' adjustments—the focus of last year's China Update volume (Garnaut and Song 2006)—have begun without dislocation of the growth process. Chinese officials talk privately of the economic system functioning better than at any time for 5,000 years, and an economist with historical interests can see where they are coming from.

The two most difficult challenges to the sustainability of current Chinese and global prosperity come from China's relations with the international economy. The external payments surpluses—the trade surplus, the current account surplus and the capital account surplus, adding up to an extraordinary rate of

increase in foreign exchange reserves—are straining relations with the United States in particular as never before. And sustained, super-charged growth is placing unprecedented stress on the global biosphere.

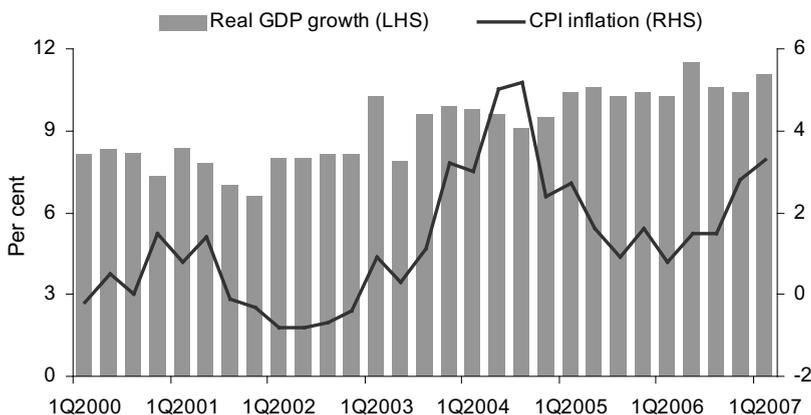
An overview of macroeconomic performance

China's growth reached 10.7 per cent in 2006, taking the average of the past three years to 10.4 per cent—almost a full percentage point above the average of the first quarter-century of the reform era. Gross domestic product (GDP) growth accelerated further—to 11.1 per cent for the year to the first quarter of 2007 (Figure 2.1). Inflation also rose—to more than 3 per cent for the first time in the recent period of exceptionally strong growth.

Investment and net exports led growth, but consumption, while growing strongly by the standards of other countries, lagged behind. External account surpluses surged, causing concerns at home and abroad. In 2006, investment contributed 55 per cent and net exports 29 per cent to GDP growth (Figure 2.2).

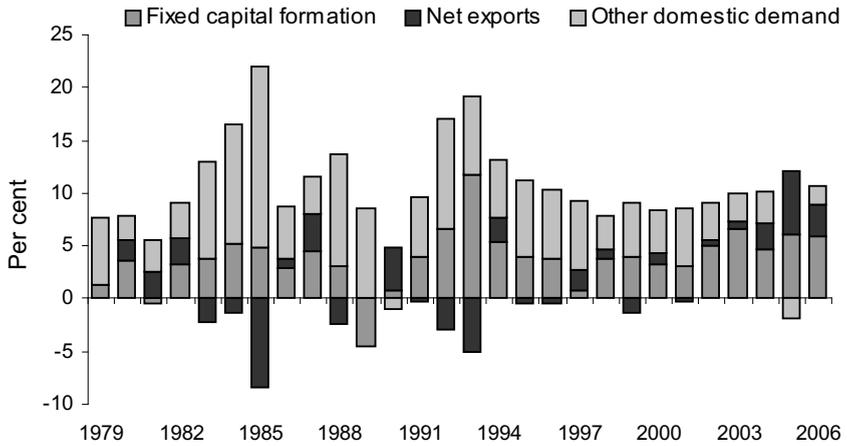
The investment share of GDP rose from 35.3 per cent in 2000 to 42.7 per cent in 2006, and the net exports share rose from 2.4 per cent to 7.3 per cent in the same period (Figure 2.3). Meanwhile, household consumption as a share of GDP dropped by 10 percentage points in the six years, from 46.4 per cent to 36.4 per cent.

Figure 2.1 **Quarterly real GDP growth and CPI inflation in China, 2000–2007** (per cent, year on year)



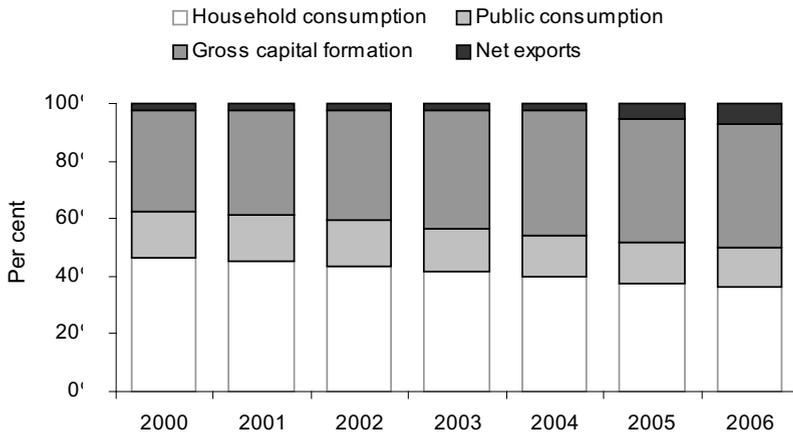
Source: CEIC Data Company and National Statistics Bureau of China.

Figure 2.2 **Contribution of various components to GDP growth, 1979–2006**



Source: CEIC Data Company and National Statistics Bureau of China.

Figure 2.3 **Shares of main components of GDP in China, 2000–2006**



Source: CEIC Data Company and National Statistics Bureau of China.

While we have challenged for several years the conventional wisdom of the early twentieth century that the investment share of Chinese production was already unsustainable and had to fall, we have acknowledged the arithmetic reality that the share could not increase without limit (Garnaut and Huang 2005). There was, therefore, comfort in the signs of falling rates of growth in investment and rising consumption growth rates through 2006. Fixed-asset investment growth moderated to about 25 per cent from close to 30 per cent. Retail sales growth picked up from 13–14 per cent early in 2006 to more than 15 per cent through the first half of 2007 (Figure 2.4). Fixed-asset investment has, however, re-accelerated through the early months of 2007. The overall result has been an acceleration in growth momentum without significant rebalancing of the sources of growth so far in 2007.

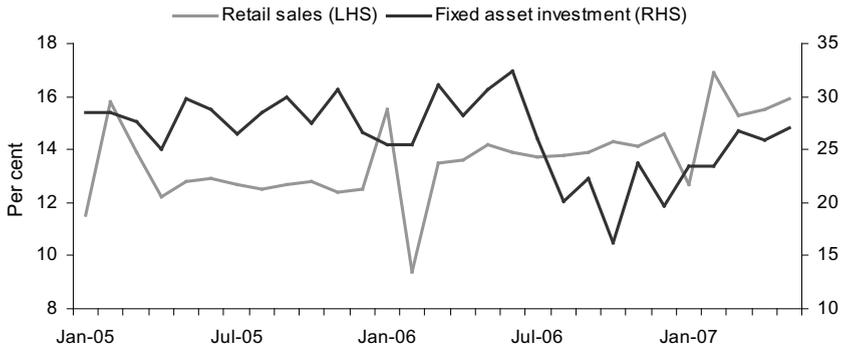
The near consensus two years ago that the investment rate was too high and that its reduction would require a fall in the rate of growth is now less widely held. Weakening, too, are some analysts' expectations of a hard landing for the Chinese economy on the basis that input prices—wages and costs of materials—are growing much faster than output prices in most Chinese industries. This had been expected by some to lead to narrowing profit margins, declining investment and increasing non-performing assets in the financial system. None of these events have occurred. Strong productivity growth helped Chinese industry to absorb the cost pressure and supported profit growth. According to growth accounting analysis by Bosworth and Collins (2007), total factor productivity growth contributed about 55 per cent of output growth in the manufacturing sector in China in 1995–2004. Total profits of the industrial sector have continued to grow at about 30 per cent annually in recent years. Earnings of listed Chinese companies increased by 46 per cent in 2006.

Inflation rates for non-food prices were generally well behaved. Energy prices have given way to food prices as the main driver of headline inflation. Between March and May, headline consumer price index (CPI) increases rose above 3 per cent, breaching an informal target set by the People's Bank of China. Food prices, which account for about one-third of the basket, increased significantly, affected by bad weather across the country.

In the first half of 2006, pork prices jumped by close to 50 per cent year-on-year, exacerbated by a number of pig disease incidents in southern China. Purchasers from southern China, including Hong Kong, went as far away as northeast China to buy pork, pushing up national prices.

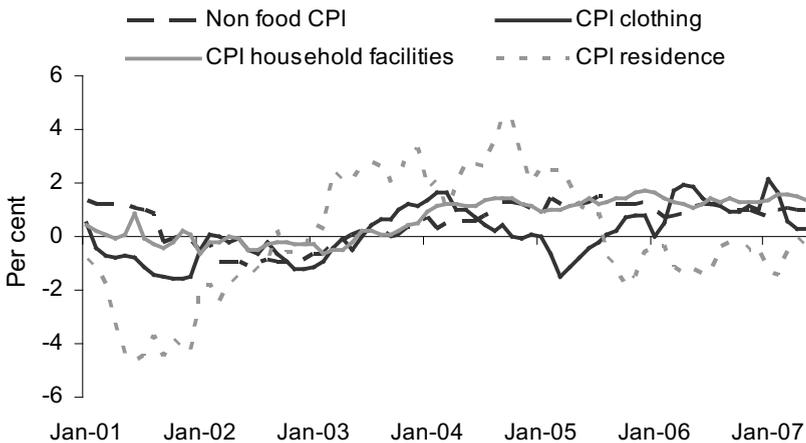
While food prices could remain volatile—especially with recent floods in parts of the country—the fact that non-food inflation has been stable at about 1 per cent (Figure 2.5) suggests that headline inflation could stabilise at about 3 per cent relatively soon.

Figure 2.4 **Growth of retail sales and fixed asset investment in China, 2005–2007** (per cent, year on year)



Source: CEIC Data Company and National Statistics Bureau of China.

Figure 2.5 **Some components of CPI, 2001–2007** (per cent, year on year)

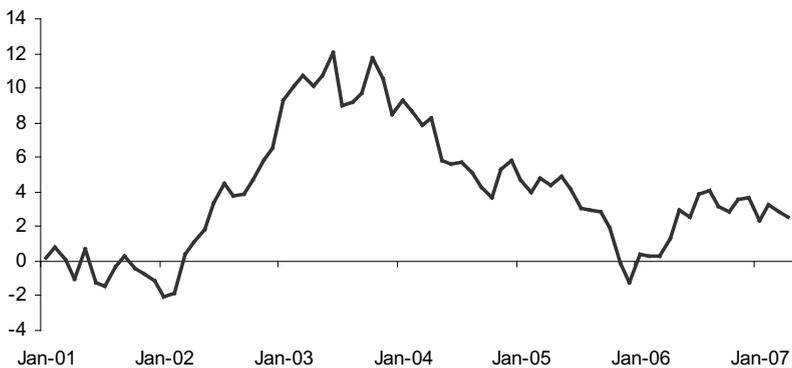


Source: CEIC Data Company and National Statistics Bureau of China.

Recent spikes in CPI inflation have already invited the concern of monetary policymakers. The People's Bank of China has related its general goal of holding CPI increases within 3 per cent specifically to the outcome for 2007. Since the beginning of 2007, the central bank has raised the reserve requirement three times and hiked deposit and lending rates three times. On 18 May, the People's Bank of China announced three policy measures at once: it increased the reserve requirement ratio by half a percentage point; it raised base deposit rates by 27 basis points and lending rates by 18 basis points; and it widened the trading band of the exchange rate to 0.5 per cent from 0.3 per cent.

These were modest adjustments. The current official reserve requirement ratio—11.5 per cent—remains way below the real reserves that commercial banks deposit with the central bank, which are close to 13 per cent of total commercial banks' deposits. While deposit and lending rates increased by 81 and 72 basis points respectively in the first half of 2006, this was significantly less than the increase in the CPI. Real interest rates, from this perspective, declined. Citigroup's monetary conditions index—which is a weighted average of real interest rates, real effective exchange rates and real credit growth—suggests that monetary conditions in China showed little tightening (Figure 2.6).

Figure 2.6 **Monetary conditions index of China, 2001–2007**



Note: The MCI is a weighted average of real interest rate, real effective exchange rate and real credit growth.

Source: Citigroup estimates.

Policymakers have not tightened monetary policy much because they think that overall macroeconomic conditions remain healthy. With GDP growth more than 10 per cent and CPI inflation well below 5 per cent, some officials argue privately that the Chinese economy is probably in its best state for 5,000 years. They also recognise limits on the extent to which monetary tightening can be effective with a fixed exchange rate.

Increasing income inequality

Unequal income distribution affects consumer spending, especially spending of low-income households. What focuses the minds of officials is that it can lead to social and political tension. There has been a rapid increase in incidents of social unrest. Most of these problems have been caused by local issues, such as corruption of local officials, land compensation for property development projects and uncivilised implementation of family planning policies. Unrest would be harder to manage if local concerns were joined by tensions over systemic increases in inequality.

Asset price bubbles

With regard to asset price bubbles, a few years back the authorities were worried about the housing market. In Shanghai and Beijing, prices of luxurious properties doubled every three to four years, and there was a strong increase in property prices more generally. This raised two types of concerns among policymakers: damage to housing affordability of ordinary households and potential implications for quality of financial assets if the bubble were to burst.

From 2004, the national government started to introduce a number of measures to cool the property markets around the country, including a higher requirement of equity for property development loans, tighter controls on land supply, higher interest rates for second mortgage loans and regulated proportions of small apartments in new housing developments. Local governments in most areas were initially resistant to the restrictive measures. Some local authorities, however, later supplemented the national policies with specific measures, such as banning construction of villas, prohibiting sales off the plan and levying capital taxes. After implementation of these policies, property markets in large cities such as Shanghai and Beijing showed signs of stabilisation; however, housing prices in many second-tier cities continued to show double-digit growth.

From early 2006, concerns about asset bubbles shifted to the stockmarkets. By the end of 2005, China's domestic A-shares had experienced a multi-year

bear market. The domestic stockmarkets, however, experienced a significant turn around in 2006. By early 2007, A-share prices had risen by 180 per cent year-on-year (Figure 2.7). Some security market participants and regulators argue that the fundamentals support a long bull market in China. China in recent years has implemented a number of equity-market reforms, including reform of non-tradable shares (98 per cent completed), the establishment of incentive structures for listed companies, the development of institutional investors, the introduction of the Qualified Foreign Institutional Investor (QFII) plan and reform of the initial public offering (IPO) process. Many government officials argue that today's stockmarkets are already fundamentally different from those of a few years ago, justifying higher values.

Corporate earnings and liquidity conditions also support a strong market. Earnings were strong even in labour-intensive sectors such as clothing (see Figure 2.8). Domestic liquidity remains abundant. Bank deposits, for instance, are almost 200 per cent of GDP and more than double the stockmarket capitalisation.

So why do so many government officials worry about the risk of stockmarket bubbles? Mainly because of the increasing role played by retail investors, and the resulting political sensitivity of any crash. The amount of retail investment is already double that of institutional funds. The number of investment accounts was growing by one million every three days in the second quarter of 2007.

The market has continuously ignored policy messages during the past years—share prices kept rising after the various tightening announcements by the People's Bank of China. What eventually caused a short-lived correction was the increase in stamp duty on stock trading from 0.1 per cent to 0.3 per cent in the night of 29 May. On 30 May, the A-share index declined by 6.5 per cent. This caused widespread market shudders, including in Indonesia, Hong Kong, India, Taiwan and Australia and on the major world exchanges. International markets quickly stabilised, as they refocused on the fundamental strengths of the Chinese economy. The domestic market remained volatile in the following weeks, but then recovered its losses and stabilised.

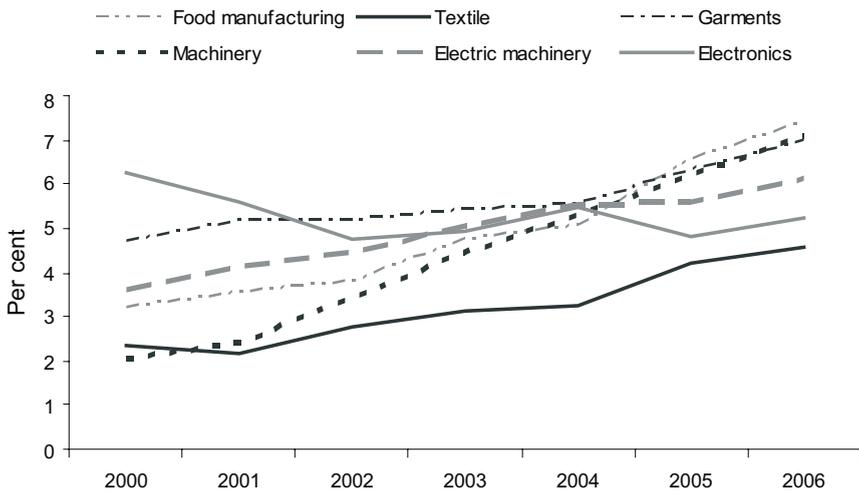
While the stockmarket seems likely to lift further after a period of stabilisation, it is worth analysing, by way of risk analysis, what would follow if there were, say, a 30 per cent decline in A-share prices. The first point to note is that the market has risen by more than 100 per cent during the 12 months to mid 2007, so the hypothetical correction would leave prices way above the levels of a few months earlier. High-level inspection of the historical data reveals no clear general relationship between A-share prices and GDP. During the past 15 years, stockmarkets had roller-coaster variability, while GDP growth was strong and stable. Any effects of a major correction would be in three main

Figure 2.7 **Growth of property prices and Shanghai A-share prices, 2005–2007 (per cent)**



Source: CEIC Data Company and National Statistics Bureau of China.

Figure 2.8 **Profit/asset ratios of selected industries in China, 2000–2006 (per cent)**



Source: CEIC Data Company and National Statistics Bureau of China.

areas—consumption through the wealth effect, non-performing loans in the banking sector and social instability.

In 2002, stocks accounted for only 10 per cent of households' total financial assets. This proportion has increased, but it would still be low. Total stockmarket capitalisation still accounts for only 20 per cent of China's financial assets. Applying the historical monthly share price and retail sales data between 1994 and 2006, we estimate the elasticity of retail sales with regard to share prices at 0.1. In other words, a 10 per cent decline in the A-share index tended to be associated with a 1 per cent slow-down in retail sales.

This means that if the A-share index declined by 30 per cent, retail sales growth could fall by 3 percentage points below what it would otherwise have been. A hypothetical sustained fall by 30 per cent could bring down retail sales growth from a recent 15 per cent to about 12 per cent. This would be noticeable, but not devastating. It might translate into a single percentage point slow-down in GDP growth, in the absence of countervailing adjustments in fiscal or monetary policy.

Given that most investors do not borrow from banks for stockmarket investment and there are no margin accounts, the impact of a potential equity-market correction on loan quality should be limited. In fact, a significant fall in the stockmarket could result in the withdrawal of funds from that market and flows into the property markets and bank deposits. A rebound of property prices could result. This would modify the wealth effect on consumption.

The authorities would seek especially to avoid a major stockmarket fall in the year of a new round of leadership change, with the five-yearly Party Congress late this year. Many investors would blame the government for a large correction—as they have done many times during the past 10 years. The political reaction would be more significant this time, with the number of active investment accounts rapidly approaching 30 million. This is an important constraint on any aggressive policy actions to prick the bubble.

Growing external imbalances and conflict with the United States

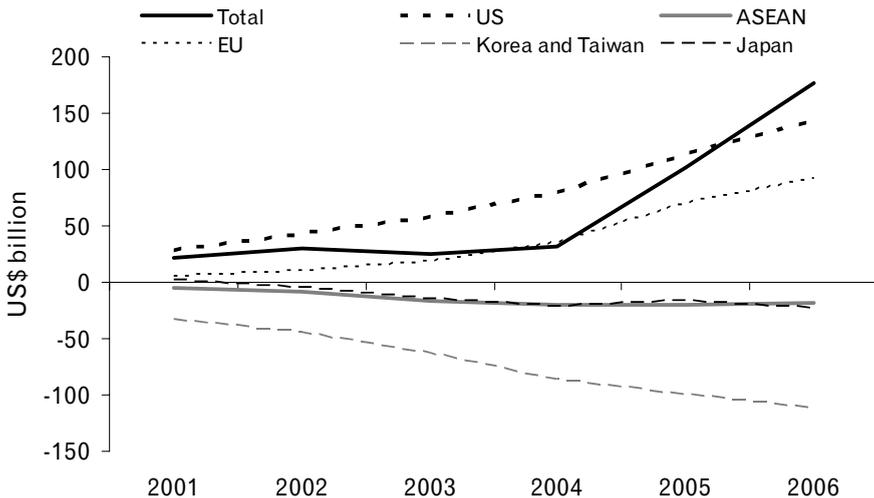
Exports now account for 36 per cent of GDP (national accounts measure) and are still growing at a rate of more than 20 per cent. Export growth has helped to absorb the increase in productive capacity each year. This is one reason why the National Development and Reform Commission's consistent warnings in the past 10 years about an over-investment problem have not been reflected in developments in the real economy.

The expansion of China's external account surpluses has accelerated since its accession to the World Trade Organization (WTO) in late 2001 (Figure 2.9).

China's imports grew rapidly, but its exports grew more rapidly still. China's trade surplus surged from US\$23.1 billion in 2001 to US\$177.5 billion in 2006, and its current account surplus jumped from 1.5 per cent of GDP to 9 per cent of GDP during the same period. The largest increases in the trade surplus occurred during 2005 (211 per cent) and 2006 (74 per cent). During the first five months of 2007, the surplus rose again by 87 per cent from the same period in the previous year. Part of this increase has come from slower growth in China's deficit with—or, in the case of the Association of Southeast Asian Nations (ASEAN), a real decline in—bilateral trade deficits with these countries. This reflects the shift of more and more components supply into China (Figure 2.9), driven by increasing Chinese competitiveness with the world as a whole. Increasing self-sufficiency in components strengthens Chinese enterprises' position to meet rules of origin of bilateral preferential trade agreements as they become more important through the Asia Pacific region.

The bilateral trade imbalances with the United States and the euro area have been contentious. Until 2006, China's bilateral trade surpluses with the United States were often significantly greater than its overall surpluses. China had trade deficits with other trading partners considered together. Athukorala

Figure 2.9 **China's trade surpluses, 2001–2006 (US\$ billion)**



Source: CEIC Data Company.

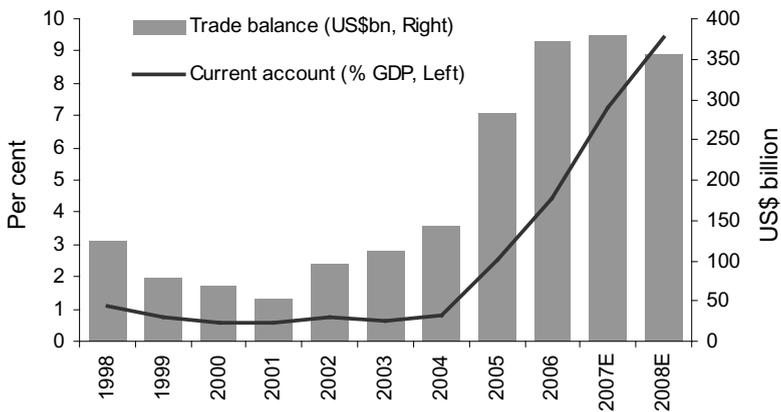
(2005) has described how this has reflected the movement of final assembly of many manufactured goods into China for supply to North America and Europe, by firms that drew components from a range of Asian economies according to comparative advantage. Between 2001 and 2004, China's overall trade surpluses were relatively stable at about US\$30 billion a year, despite changes in bilateral imbalances.

This pattern, however, started to change in 2005. China's trade deficits with Japan and ASEAN economies have recently stagnated or fallen, while its surpluses with the United States and Europe have continued to rise rapidly. In fact, the only major trading partners that still enjoy rapidly growing bilateral trade surpluses are Korea and Taiwan. Such developments reduce the benefit of China's rapid growth to the rest of Asia, and are likely to make China's imbalances more widely contentious.

Current account surpluses have also increased rapidly (Figure 2.10). The sum of gross domestic investment and net exports—that is, China's national savings rate—is now more than half of GDP. This is high by the standards of other East Asian economies through their periods of strongest growth.

Large and increasing external surpluses pose two types of risks for China. First, there is international resistance to absorption of increasing values of

Figure 2.10 **China's current account and trade balances, 1989–2008** (per cent of GDP, US\$ billion)



^E estimate

Source: CEIC Data Company and Citigroup estimates.

Chinese exports, especially when external payments are in large surplus. Second, escalating external surpluses threaten monetary stability.

Chinese growth has become more susceptible to fluctuations in the global economy. Exports already account for 36 per cent of GDP, of which about 22 per cent goes to the United States. This implies that exports to the United States are equivalent to 8 per cent of GDP. Analyses applying the Oxford macroeconomic forecasting model suggest that a decline of the US economy by 1 per cent slows Chinese growth by 1.3 percentage points. China could maintain 10 per cent growth if external demand softens temporarily through domestic demand expansion, especially through fiscal policy. Any serious slow-down in external demand would, however, challenge the momentum of Chinese growth. No such general slow-down is currently within sight.

International politics also set important constraints for China's export-led growth. China already accounts for 8 per cent of world exports. Growth in Chinese exports above 20 per cent year after year requires significant structural adjustment in the rest of the world. While expansion of Chinese exports is a result of market forces and benefits consumers world-wide, the adjustment costs caused by this expansion generate political tensions in some other countries. This is most obvious in the United States and Europe, where bilateral trade deficits with China have been largest. Already, the United States has imposed countervailing duties on imports of Chinese coated paper and lodged three complaints with the WTO about intellectual property rights and income tax subsidies. If China does not respond quickly, new waves of trade protectionism could swell in and beyond the United States.

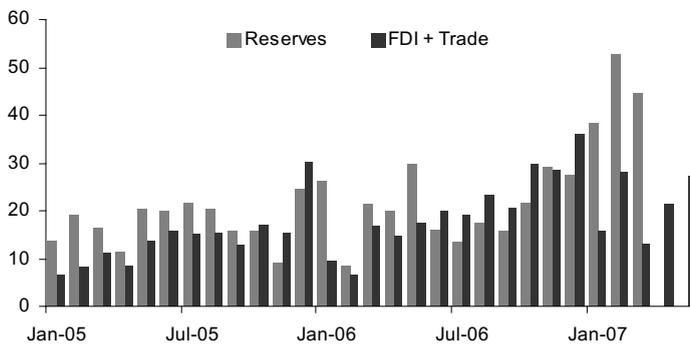
Policymakers in both countries recognise the importance of maintaining smooth trade and economic relations. The semi-annual China–US Strategic Economic Dialogue is fundamentally important to mature political and economic relations between two of the world's largest economies. With little demonstrable change in the exchange rate or the overall trade surplus, however, calls for more substantial policy changes are rising within the US Congress. The International Monetary Fund's Multilateral Consultation on Global Imbalances has not generated immediate economic effects.

The risks of trade protectionism in the United States have increased significantly since November 2006, when the Democrats won control of Congress. Recently, two new bills were put forward in Congress: one by Senators Dodd and Shelby and another by Senators Baucus, Grassley, Schumer and Graham. Both aim to limit the scope for executive discretion in judging exchange rates and to prescribe explicit sanctions if manipulation or fundamental misalignment is found. The upcoming presidential election could push the policy debate further in that direction, especially in relation to China.

As a matter of domestic policy, large current account surpluses and capital inflows on the back of a rigid exchange rate regime also hurt domestic monetary policy autonomy. Massive foreign reserves and excess domestic liquidity are two obvious outcomes (Figure 2.11). The central bank is forced to buy as much foreign exchange as the market offers at the controlled rate, in order to maintain exchange rate stability. This injects local currency liquidity into the domestic system. In order to reduce the inflationary consequences, the central bank engages in sterilisation. For the past years, however, the People’s Bank of China has found sterilisation increasingly difficult. Domestic commercial banks have become increasingly reluctant to purchase central bank paper given the very low returns on these assets. The scale of the outstanding central bank paper makes rollover pressure heavy. In response, during the past year, the central bank has focused more on reserve requirements as a way to tighten liquidity.

In March 2007, the National People’s Congress approved the establishment of a new National Foreign Exchange Investment Corporation, which is mandated initially to manage about US\$200 billion of the foreign reserves. The Ministry of Finance will issue special T-bonds to commercial banks and exchange the revenue for foreign reserves from the central bank. Meanwhile, by issuing longer-term bonds to the financial sector, the Ministry of Finance will share responsibility for sterilisation. Given that US\$200 billion will be about 10 per cent of Chinese GDP and one third of the existing stock of treasury bonds, this

Figure 2.11 **China’s monthly increase in foreign reserves and sum of FDI and trade surplus, 2005–2007 (US\$ billion)**



Source: CEIC Data Company.

is likely to increase yields significantly. Indeed, domestic bond yields jumped by between 25 and 50 basis points in late June 2007.

The Chinese government has identified containing the trade surplus as a top policy priority in 2007. It has recently taken a number of policy decisions that could have some modest effect on the growth in exports and the trade surplus.

First, it announced the unification of the corporate income tax, effective January 2008. Previously, corporate income tax rates were 15 per cent for foreign-invested firms and 33 per cent for domestic enterprises. As foreign-funded companies contribute 60 per cent of Chinese exports, this preferential tax treatment has been seen as effectively boosting the export sector. In March of this year, the National People's Congress approved unification of corporate income tax rates to 25 per cent for all types of enterprises. This measure was also required by China's WTO entry commitment to treat national and foreign enterprises in similar ways, but it could have some dampening effect on export growth.

Second, the government has cut export tax rebates. The Ministry of Finance adjusted value-added tax (VAT) rebates on export goods in the steel industry on 10 April. Of 159 tax categories for steel products, 83 will enjoy no VAT rebates and 76 will have rebates cut from 8 per cent to 5 per cent. Since April 2005, China has nullified a 13 per cent export tax rebate on steel billets. On 20 June, the Ministry of Finance announced another package of massive reduction of export tax rebates, especially for resource-based products and goods with low margins but associated with high trade friction.

Third, the government has imposed new export taxes. On 21 May, the Ministry of Finance decided to impose export tariffs on 142 goods, effective 1 June. Approximately 80 steel products (including steel wire, rods and plates) will face 5–10 per cent export tariffs.

Fourth, it has widened the daily trading band of the exchange rate. The People's Bank of China decided to widen the daily trading band for the yuan–US dollar rate to 0.5 per cent from 0.3 per cent, effective 21 May. This might not affect near-term currency appreciation, but it has been interpreted by some as raising the potential for future revaluation.

Fifth, the government has introduced and increased a number of taxes and controls to improve energy efficiency and promote environmentally friendly technology, which are likely to have a dampening effect on the export of some manufactured goods.

At the centre of the international policy dialogue is the renminbi exchange rate policy. On 21 July 2005, China abandoned its *de facto* peg of the renminbi

to the US dollar and introduced a 'managed float' system with reference to a basket of currencies. Since then, the renminbi has risen by 7.6 per cent against the dollar, but by only 4.3 per cent in real effective exchange terms (REER) (see Figure 2.12). This appreciation has been small compared with the demands of prominent US analysts. What matters economically is China's international competitiveness, taking account of Chinese—relative to international—cost and productivity increases, as well as the nominal exchange rate. The appreciation in this wider context has been too small so far to reduce significantly Chinese export or increase import growth.

Rational economic analyses suggest that even a large appreciation of the renminbi would do little to increase manufacturing employment in the United States or to solve America's current deficit problem. Nevertheless, the reality is that China's current expansion of external account surpluses cannot continue for long. While currency appreciation alone would not remove current tensions between China and its major trading partners, exchange rate policy needs to be a part of any effective adjustment package.

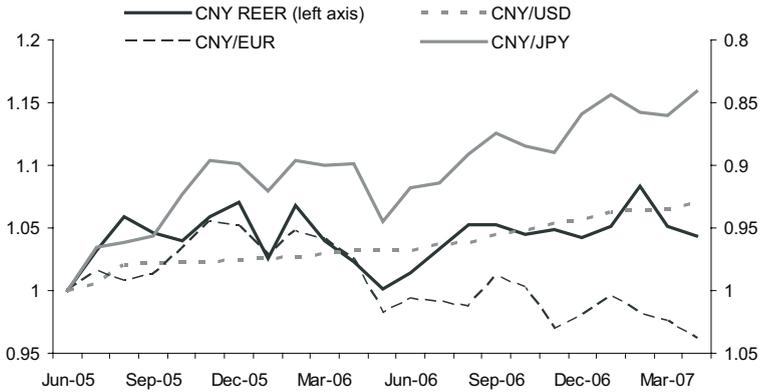
Recent evidence about the turning point in the labour market

Last year's book in this series, *The Turning Point in China's Economic Development*, triggered considerable discussion in China about whether China was indeed approaching the point in economic development at which labour supply to modern sector activities becomes scarce and increasingly expensive, forcing structural changes of many kinds (Garnaut and Song 2006; Garnaut and Huang 2006). Among other things, it was followed by substantial research efforts on this subject for the Chinese Academy of Social Sciences and the Development Research Centre of the State Council (see Chapter 1, this volume, for reference to these studies).

The labour market data at a national level reveal that wages and related costs have been rising strongly (Figure 2.13). Regional (Table 2.1) and sectoral (Table 2.2) wage data indicate acceleration in wage increases in recent times.

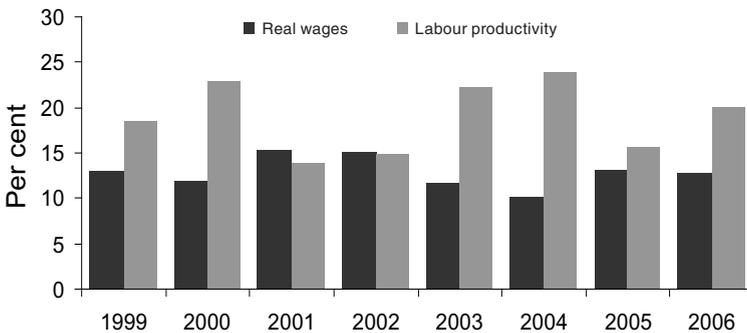
The lift in real wage growth in 2006 coincided with a rise in the rates of domestic inflation and nominal appreciation against the US dollar. It therefore understates the labour cost adjustment relative to other countries. The rate of wage increase remains well behind the prodigious increase in labour productivity, a fact that goes a long way towards explaining the absence of general inflationary pressures, and the strength of the continuing momentum in the growth of exports and the trade and payments surpluses. Rising labour costs will have been placing pressure on the profitability of labour-intensive activities using standard technologies. These parts of the economy—having

Figure 2.12 **Renminbi exchange rates: bilateral rates and real effective exchange rate, 2005–2007**



Source: Citigroup estimates.

Figure 2.13 **Increases in national real wages and labour productivity, 1999–2006 (per cent)**



Source: CEIC Data Company and National Statistics Bureau of China.

Table 2.1 Wages by province, 1999–2006 (yuan constant 1999 prices and per cent per annum increase)

	Beijing	Liaoning	Shanghai	Zhejiang	Hubei	Guangdong	Sichuan	Ningxia
1999	14,572	7,780	16,588	11,074	6,766	12,108	7,134	7,226
2000	16,994	8,738	18,298	12,931	7,304	13,701	8,267	8,541
2001	20,011	10,233	21,098	16,279	8,524	15,828	9,936	10,250
2002	23,666	11,662	23,363	19,008	9,522	18,167	11,152	11,515
2003	25,626	13,226	25,614	22,065	10,696	20,618	12,580	13,741
2004	29,400	15,128	27,756	25,987	11,818	23,179	14,003	14,265
2005	33,764	17,231	31,875	28,723	13,766	25,183	15,968	16,924
2006*	39,597	19,496	37,649	30,563	15,948	26,831	17,888	20,187
Growth								
1999–2006	15.4	14.0	12.4	15.6	13.0	12.0	14.0	15.8
2005–2006	17.3	13.2	18.1	6.4	15.9	6.5	12.0	19.3

Note: Beijing, Shanghai, Guangdong and Zhejiang are from the dynamic coastal region; Liaoning from the old industrial Northeast; Hubei from central China; and Sichuan and Ningxia from the Southwest and West respectively.

Source: CEIC Data Company.

played useful roles in past growth—are being forced to change into new types of specialisation or to shrink rapidly.

One interesting feature of the regional data is the marked acceleration of wage increases in a number of poorer provinces: Hubei in the central region and Ningxia in the west. There was a deceleration in the high-income coastal provinces of Zhejiang and Guangdong which have long been the locus of the strongest internationally oriented growth. The opportunity cost of labour from backward inland areas has been rising rapidly.

Unsurprisingly, wages have been rising more rapidly in mining than in other sectors. Chinese mining has been participating in the global resources boom and mining-related skills are in high demand. The rate of wage increases has been high in all sectors, including wholesale and retail trade, with their intensive utilisation of less-skilled labour. The rate of increase in wages in agriculture remains below that in other industries.

China and global environmental problems

Local environmental problems have been accumulating through the years of market reforms and rapid growth. Government commitment to action has been strengthening in response to them, although real policy measures so far have

been small in their effects. Awareness of the external environmental costs of established growth patterns has been heightened in the past year by growing appreciation that China is at once a victim and an increasingly important cause of human-induced global warming.

The environmental costs of established growth patterns were recognised first as dark skies and air that was unpleasant to breathe, and in the obvious health problems associated with these conditions; as poisoned water in rivers and lakes that humans had used for centuries; and as soils that required increasing applications of chemical fertilisers to maintain yields. In recent

Table 2.2 **Average annual wage rates for agriculture, manufacturing, construction and finance, 1978–2005** (yuan, constant 1999 prices and per cent per annum increase)

	Agriculture	Mining	Manufacture	Construction	Wholesale and retail	Finance
1985	878	1,324	1,112	1,362	1,007	1,154
1986	1,048	1,569	1,275	1,536	1,148	1,353
1987	1,143	1,663	1,418	1,684	1,270	1,458
1988	1,280	1,964	1,710	1,959	1,556	1,739
1989	1,389	2,378	1,900	2,166	1,660	1,867
1990	1,541	2,718	2,073	2,384	1,818	2,097
1991	1,652	2,942	2,289	2,649	1,981	2,255
1992	1,828	3,209	2,635	3,066	2,204	2,829
1993	2,042	3,711	3,348	3,779	2,679	3,740
1994	2,819	4,679	4,283	4,894	3,537	6,712
1995	3,522	5,757	5,169	5,785	4,248	7,376
1996	4,050	6,482	5,642	6,249	4,661	8,406
1997	4,311	6,833	5,933	6,655	4,845	9,734
1998	4,528	7,242	7,064	7,456	5,865	10,633
1999	4,832	7,521	7,794	7,982	6,417	12,046
2000	5,184	8,340	8,750	8,735	7,190	13,478
2001	5,741	9,586	9,774	9,484	8,192	16,277
2002	6,398	11,017	11,001	10,279	9,398	19,135
2003	6,969	13,682	12,496	11,478	10,939	22,457
2004	7,611	16,874	14,033	12,770	12,923	26,982
2005	8,309	20,626	15,757	14,338	15,241	32,228
Average growth (per cent)						
2000–2005	9.9	19.9	12.5	10.4	16.2	19.1
2004–2005	9.2	22.2	12.3	12.3	17.9	19.4

Source: CEIC Data Company.

years, attention has been drawn more dramatically to the links between health and exposure to the atmosphere of China's most vibrant cities; Chinese media attracted the attention of citizens with reports that the life expectancy of traffic police in major cities—exposed constantly to extremes of atmospheric pollution—was 49 years, compared with a national average of 73 years.

An incomplete estimate by the National Bureau of Statistics and the National Environmental Protection Agency put environmental costs not measured in the national accounts at 3.5 per cent of GDP in 2004.

For some time, commentators have drawn comfort from the 'environmental Kuznets curve': the observed tendency for countries to make environmental amenity a major objective when average incomes exceed a threshold level—above those in China today. Public concern and official policy action have begun in China at an income level below that suggested by the experience of other countries.

There are important reasons why China needs to take decisive action now, in advance of its environmental Kuznets position. The concentration of economic activity on an immense scale in small areas in coastal China creates risks beyond those seen in other countries at comparable stages of development. And the scale and timing of China's extraordinary growth is coinciding with the crystallisation of the long-heralded problem of global warming.

The interaction of local environmental pressures with global warming has the potential to be severely disruptive. Chinese scientists are drawing attention to the likelihood that this interaction is behind the severe water problems in northern China and the floods in the south. One response to water shortages in the north has been the launching of three massive projects to transport water by pipeline from the south. Scientists are, however, noting the vulnerability of the sources of these southern rivers to global warming, as evidence mounts of shrinking ice coverage and changing patterns of melting on the Tibetan Plateau—source of the Yangtze, Yellow and other rivers.

These were all matters of increasingly common discussion when news came through in June 2007 that China had overtaken the United States as the world's largest source of greenhouse gas emissions (see Song and Sheng, Chapter 12).

China's prosperity is at the core of the emerging Platinum Age of global economic growth. But the economic growth that makes up the Platinum Age—first of all but not only in China—if left unmodified by major action to change radically the relationship between economic growth and the emission of greenhouse gases, could be so disruptive to economic and

political arrangements everywhere that it gradually introduces problems for international development that severely damage growth opportunities in China and elsewhere.

Chinese officials and private citizens have now entered the search for a means of reconciling continued strong growth with avoidance of macroeconomic disruption on a massive scale. A satisfactory outcome will require effective cooperation across national borders, which has so far eluded the international community in other spheres.

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