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# **Quarterly Update**

**September 2007**



The World Bank quarterly update provides an update on recent economic and social developments and policies in China, and present findings from ongoing World Bank work on China. The update is produced by a team from the Beijing Office with support from the China country team. Questions and feedback can be addressed to Li Li (lil2@worldbank.org).

## OVERVIEW

**Economic growth remains rapid and the trade surplus continues to widen, while the pattern of growth remains unchanged.** With a continued strong contribution of external trade and an investment driven recovery in domestic demand, GDP growth reached 11.5 percent (yoy) in the first half of 2007. The soaring trade surplus, which so far seems little affected by measures to contain export growth, constitutes the bulk of the rising balance of payment surplus. This surplus is adding to domestic liquidity and contributing to steady asset price increases, share prices in particular. Although consumer price inflation has risen to a decade high, this has largely been because of higher food prices.

**The recent financial market turmoil may affect China's economy, but China is well-placed to absorb the impact.** The impact via losses of Chinese financial institutions on overseas assets and the transmission of financial turmoil to China's markets seems to be limited. However, although the world economy still retains momentum, China would be affected significantly by an economic slowdown in key markets, because of the large weight of exports in China's economy. At the same time, China is well-placed to deal with a possible impact. A moderate global slowdown would mitigate concerns of policymakers on overall growth, inflation, and the trade surplus, while China's strong macroeconomic position provides room to adjust the domestic policy stance if necessary.

**China's macroeconomic prospects remain good.** Internationally, there are no indications that cost pressures are reducing the competitiveness of China's exports. Domestically, prospects remain buoyant. Profit and credit growth are high, so investment is likely to continue to expand strongly. Consumption is expected to remain solid, although higher inflation is constraining real consumption growth. We project GDP growth of 11.3 percent in 2007 and below 11 percent in 2008. International food prices are expected to increase further, but international industrial commodity prices may continue to decelerate. We expect CPI inflation to gradually ease from later in 2007 onwards, but there are upward risks. We now project a current account surplus of around 12 percent of GDP in 2007.

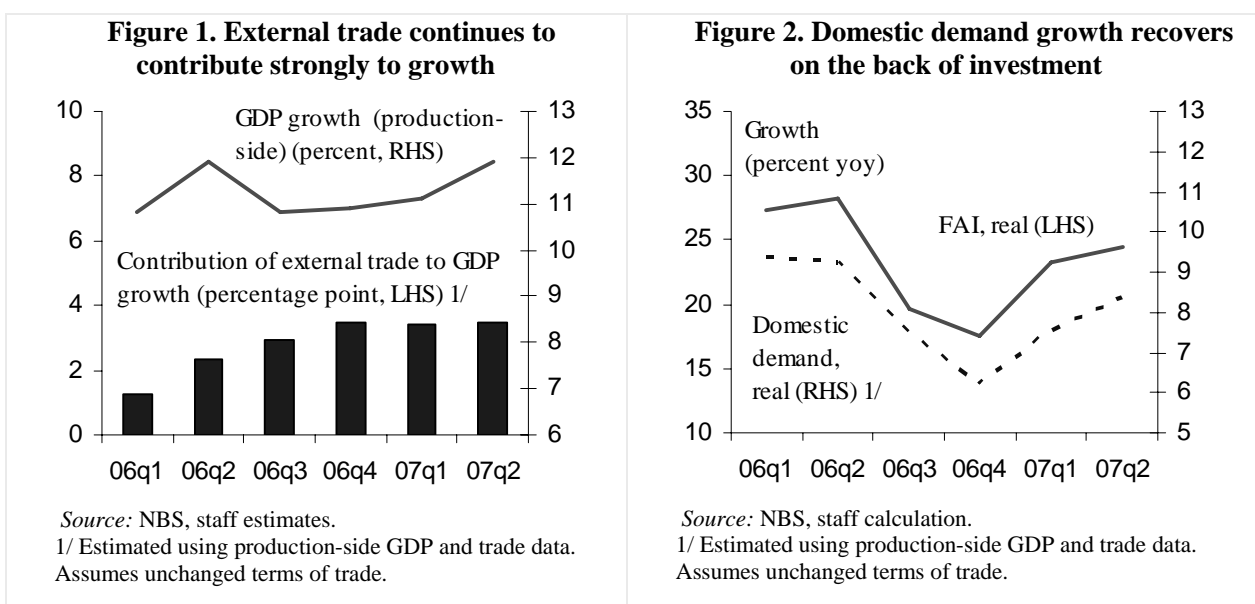
**The external imbalance remains the main macroeconomic issue.** While there are no serious demand and price pressures yet, the very strong growth risks eventually outpacing supply. Thus, the authorities are rightly aiming at avoiding excess demand and the spillover of high food prices into generalized inflation, and mopping up liquidity and raising interest rates will continue to be needed. However, the main macroeconomic task remains to contain the trade surplus, and a stronger real exchange rate is the most obvious tool. Reducing the external imbalance may become an important contribution from China to world growth, if a sharper than expected US slowdown was to affect this adversely. The government has taken some tax-based measures to contain the trade surplus. However, more policy action will be needed.

**A key challenge remains to rebalance the economy.** This calls for fiscal and structural policy measures. A Special Focus section finds that, while continued rapid growth would eventually exhaust China's surplus labor, this is unlikely to happen soon. The section notes that policies on education, pensions, land reform, and migration can all affect labor supply.

RECENT ECONOMIC DEVELOPMENTS

Recent data indicate that economic and industrial activity remains very buoyant, the trade surplus continues to widen, and surging food prices have lifted inflation to levels not seen in a decade. Growth continues to be powered by exports and investment on the demand side and strong industrial production on production side as the underlying incentives driving investment and industrialization, and thus the pattern of growth, have not changed.

**The external contribution to growth remained high in the first half of 2007 and domestic demand rebounded.** Our estimates, based on production-side GDP and trade data, suggest that the contribution of net external trade to growth remained at the high level of the second half of 2006, contributing over one-fourth of overall growth (Figure 1). At the same time, implied domestic demand growth rose in the first half of 2007, compared to the second half of 2006 when tightening measures temporarily slowed down investment (Figure 2). Thus, with strong contributions of both external trade and domestic demand, GDP growth accelerated to 11.9 percent in the second quarter (yoy) after 11.1 percent in the first quarter and in 2006.<sup>1</sup>



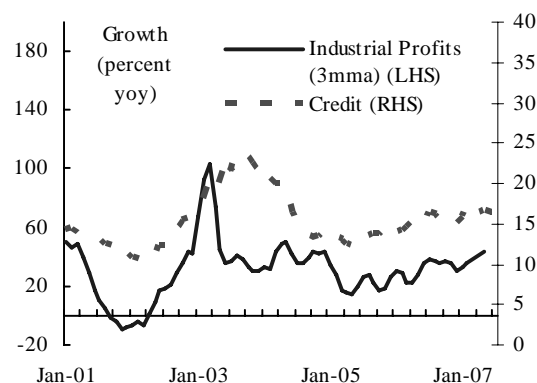
**July data for industrial production, exports, and fixed asset investment (FAI) suggest that the growth momentum and pattern has continued into the third quarter of this year.** The data suggests that the pace of expansion edged down only mildly. The large and growing role of industry—which grew 13.6 percent in the first half (yoy) compared to the tertiary sector’s 10.6 percent—makes it challenging to meet energy use and pollution and emission targets.<sup>2</sup>

<sup>1</sup> Our estimates—based on the revised annual 2006 GDP data, suggest that GDP growth was 11.9 percent in the second quarter of 2006 as well.

<sup>2</sup> SO2 emission dropped 0.9 percent in the first six months of 2007, and COD emission rose 0.24 percent, compared to a target to reduce emission by 2 percent per year (Xinhua, August 22, 2007). The energy intensity fell by 2.8 percent in the first half of 2007 (Xinhua, August 28, 2007).

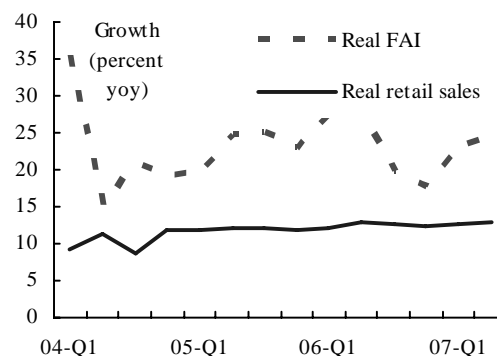
**Almost all of the variation in domestic demand growth recently has been driven by investment, including the upturn in the first half.** In the second half of 2006, investment slowed down after the imposition of largely administrative tightening measures (Figure 2). However, the underlying incentives for investment continue to be strong. Indeed, profitability and profit growth has continued, as has credit growth (Figure 3), while real interest rates remained low. When the administrative measures lost their effectiveness, investment growth bounced back. Real fixed asset investment (FAI) grew about 25 percent in the second quarter (yoy), before edging down slightly in July.<sup>3</sup> Looking at sectoral patterns, nominal urban FAI rose particularly strongly in manufacturing (35 percent yoy) the first 7 months, while it increased more moderately in services (25 percent). At the same time, real retail sales growth remained virtually unchanged at 12.8 percent (yoy) in the second quarter, with higher nominal growth explained by higher inflation (Figure 4).<sup>4</sup>

**Figure 3. The drivers of investment remain strong**



Source: NBS, staff estimates.

**Figure 4. Consumption growth remains stable (quarterly data)**



Source: NBS, staff calculation.

**With exports continuing to outpace imports by a large margin, the external surplus is set for an impressive record.** In the first 7 months, exports and imports grew by 29 and 20 percent (yoy), in dollar terms, for a trade surplus of US\$137 billion, up 80 percent from a year earlier. China's high and growing trade surplus is creating friction internationally. The government introduced some measures to reduce the trade surplus, including a reduction in VAT rebates for various export products and export taxes on some products, although there has to date been only modest appreciation of China's effective exchange rate.<sup>5</sup> As suggested by the impressive export performance in July (up 34 percent yoy, in

<sup>3</sup> Deflated by the PPI

<sup>4</sup> Indeed, real retail sales growth declined to 11.5 percent (yoy) in July, the lowest since January.

<sup>5</sup> The VAT export rebate was reduced or removed on 2831 items, or 37 percent of the total number of export items, by an average of 8 percentage points. As a percent of the total number, this means an unweighted average reduction of almost 3 percentage point. However, the weighted average is likely to be significantly less, since the reductions seem smaller for items with a large weight in total exports, such as textiles and most electronics. Other recent measures include introducing or increasing export taxes for some 'highly energy using and polluting industries' including steel and aluminum, and requiring exporters to deposit money (and thus forego the interest) on the import of certain goods for processing.

US\$ terms), these measures and other domestic cost pressures including from higher wage and land costs have to date had limited impact on exports compared to other factors at play.<sup>6</sup>

**The trade surplus makes up the bulk of the balance of payment surplus, which is adding to high domestic liquidity growth.** Under the current exchange rate policy, the People's Bank of China buys the foreign exchange surpluses, to prevent the RMB from appreciating. Buoyed by the swelling trade surplus and other inflows, foreign exchange reserves rose by US\$267 billion in the first half to US\$1333 billion. The resulting increase in liquidity is only partially offset by the issuance of central bank bills and reserve requirement increases. Base money and M2 grew 15 and 18.5 percent in July (yoy). The fairly relaxed monetary policy stance has kept interest rates in the interbank market low, while lending and, especially, deposit rates also remain low, despite recent increases. This stance has also contributed to pressure on asset prices. In response to the exchange rate pressures, the authorities have taken several measures to reduce capital inflows and stimulate outflows, including by expanding the QDII scheme, more tightly enforcing capital inflows restrictions, and allowing Chinese citizens to buy Hong Kong listed shares via Tianjin. Also, as part of the government's efforts to diversify the composition of reserves and get better returns, the government prepared the establishment of the China Investment Company. One of the first decisions of its leadership was to take an equity share in Blackstone, a US private equity fund.

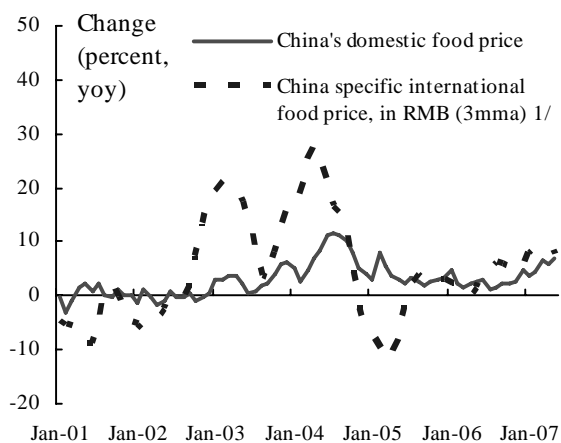
**Consumer price inflation has risen on the back of higher international food prices, but producer price inflation has come down as industrial commodity price rises have moderated.** Consumer price inflation rose to 6.5 percent in August, the highest since more than a decade and well above the central bank's 3 percent indicative target. So far, the increase in consumer price inflation has been because of higher food prices, largely because of higher international food prices, but with pork prices also affected by subdued domestic supply (Figure 5). Non-food inflation declined to 0.9 percent in July, held down in part by administrative controls on various prices, including on utilities and fuels. Raw material price inflation remained below 4 percent through August (yoy) and producer price inflation (PPI) remained stable at around 2.5 percent through August as price increases for industrial commodities on the international markets—including metals and minerals—have slowed (Figure 6). If continued, the moderation of “upstream” price increases will help contain inflationary pressures. The GDP deflator, the broadest indicator, rose 3.3 percent (yoy) in the second quarter.

**China's stock market is booming.** With enthusiasm for equity investment booming, and large amounts of money flowing into the market, the A share index rose 95 percent in the first 8 months of this year, after a 130 percent rise in 2006. This rise was briefly interrupted a few times, after government efforts to stem the rise, including through a rise in the stamp duty tax. A recent initiative to allow Chinese citizens to buy stocks on the Hong Kong stock exchange (without limit), which may eclipse the existing QDII initiative, had little impact on domestic share prices, although it boosted Hong Kong-listed shares of Chinese companies, which had been valued by far less than on the mainland.

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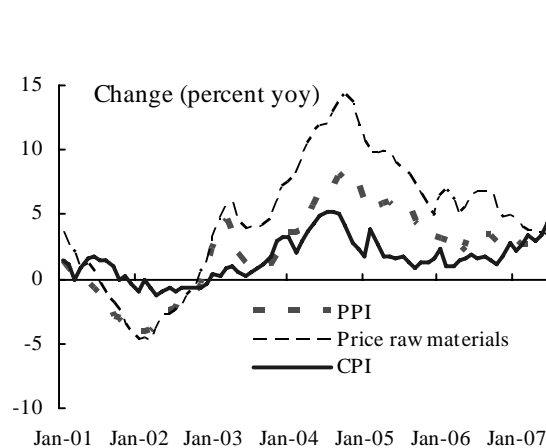
<sup>6</sup> Exports of iron and steel rose by 87 percent (yoy) in real terms in July.

**Figure 5. Food prices up with international prices**



Source: NBS, World Bank (DEC) staff estimates.  
1/ weighted using China's food imports.

**Figure 6. CPI inflation up, raw material price inflation down**



Source: NBS, staff calculation.

## ECONOMIC PROSPECTS AND POLICIES

### *Economic prospects*

**The world economy retains momentum.** Recent data on economic growth in the world has been good. The US slowdown has so far been gentle, although the August employment data suggest further slowdown, while growth in Europe and many other parts of the world has remained robust. The latest World Bank projection for world economic growth (weighted at current exchange rate) is 3.3 percent, compared to 4.0 percent in 2006.

**However, the recent financial market turmoil will likely have an adverse impact on the global economy.** The turmoil triggered by the sub prime problems in the US is likely to affect world economic activity. The main channel is likely to be US spending on consumption and housing, while the cost of credit may rise worldwide. As the impact of financial sector turmoil on the real economic is unfolding in the coming months, it is not yet clear how large the impact will be. But there is a risk that the process of unfolding takes long and the impact on the US economy could be significant, accentuating the US slowdown. While China's direct exposure to sub-prime problems is believed to be modest (see below), China will be affected more than most other large emerging markets by such a slowdown, because of the large weight of exports in China's economy.<sup>7</sup> We modeled the impact of 1 percent of GDP lower consumption in the US with the Oxford Economic Forecasting world model. Assuming that US monetary policy would respond in the standard way by lower short-term interest rates, the consumption shock would be partly

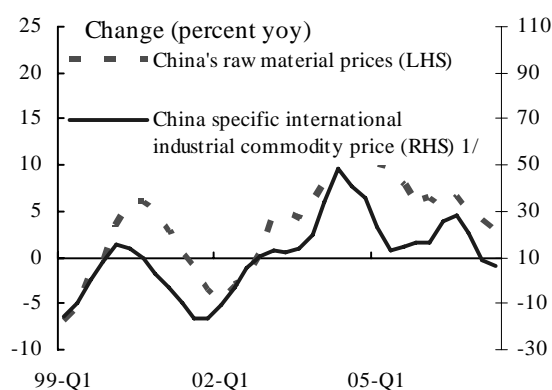
<sup>7</sup> This is true even though so far this year there has been some decoupling of China from the US in that China's economic growth has accelerated while US growth has slowed down.

offset. In this scenario, China's GDP would be 0.2 percent lower than in the base scenario in the year of impact. However, it may well be that a relaxation of monetary policy does not happen because of macroeconomic considerations or because monetary authorities fear such a move could create moral hazard. Or, in a situation where creditworthiness of many institutions and individuals is reassessed, such a relaxation may not have its usual expansionary effects. If US monetary policy either does not respond or its response is not effective in easing credit conditions, China's GDP would be 0.5 percent lower than in the base scenario for every 1 percent of GDP drop in US consumption. This is higher than the estimated impact for most other large emerging markets.

**Price increases on the international commodity markets are coming down, which should help attenuate price pressures in China, although upside risks remain.**

Most of China's raw material prices are strongly affected by international commodity prices (Box 1, Figure 7). Forecasts for international commodity prices including energy and food have again been revised up due to continued strength in the global economy, disappointing supply responses, and policies supporting bio-fuels production that are keeping grain prices high. Nonetheless, after growing at double-digit rates for the past four years, price increases of a China-specific basket of industrial commodities on the international markets declined to 9 percent (yoy) in the first quarter of 2007. The World Bank expects the rate of increase to slow down further over the next quarters (Figure 7). This slowdown should help reduce price pressures. However, forecasters have repeatedly been surprised by the strength of commodity prices in recent years and risks remain on the upside.

**Figure 7. China's raw material prices broadly follow international ones**



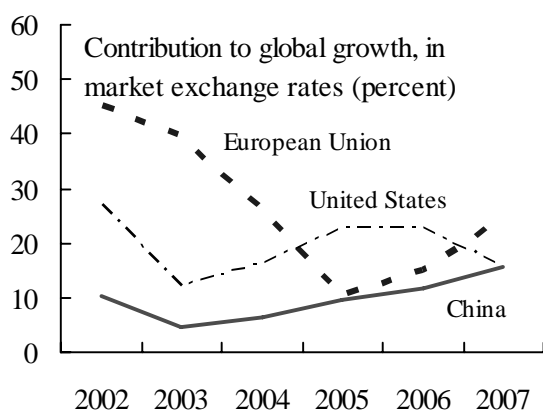
Source: National Bureau of Statistics, World Bank.  
1/ weighted with China's imports

**China's growing role as source of global demand and supply influences commodity prices.** For most countries, international commodity prices can be taken as exogenous. However, increasingly, that cannot be done for China. China's economy is still only one-fourth of that of the US (in market exchange rates). But, with China's growth much higher, China's contribution to world GDP growth in market exchange rates may this year reach 16 percent and exceed that of the US (Figure 8), while China's contribution at PPP exchange rates—considered a better indicator for commodity demand—is even higher.<sup>8</sup> The increasingly large role of China in the global economy means that international commodity prices become more and more sensitive to China's growth and its prospects

<sup>8</sup> China's contribution to world demand is significantly lower (less than three-fourth) than its contribution to world GDP growth.

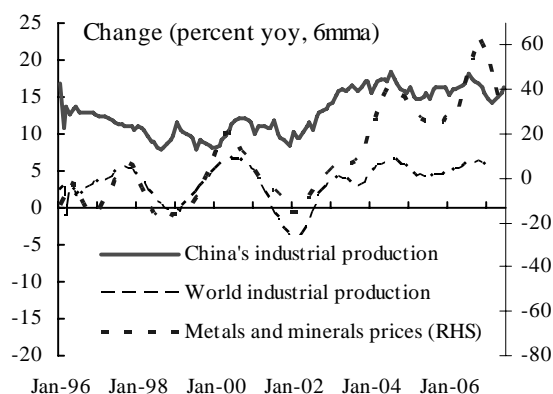
(Figure 9). Indeed, this influence may in part be self-fulfilling, with markets responding to changes in expectations about China's growth prospects even beyond what would be reasonable on the basis of China's weight in the world economy.

**Figure 8. China's role in the global economy is increasing**



Source: IMF WEO, staff estimates (for 2007)

**Figure 9. International commodity prices become more sensitive to China's growth**



Source: World Bank

**There are no indications that cost pressures are significantly affecting China's competitiveness.** Although China's export prices have started to rise in dollar terms, they have risen by less than prices of other exporters. China is facing 2 types of cost pressures: international ones and domestic ones. Internationally, the large increases in commodity prices in recent years have pushed up prices of manufacturing goods across the world, including China. Domestically, cost increases include rising wages, higher land lease fees, cuts in VAT export rebates, and imposition of export taxes on energy intensive products. Exchange rate changes also play a role. How these factors play out is illustrated by import prices on the US market.<sup>9</sup> Since 2003, the weakening of the US\$ against the Euro and other currencies—but not the RMB—increased US import prices from countries with appreciating currencies, which also experienced commodity price increases (Figures 10 and 11). More recently, the RMB has appreciated against the US\$, while China's industry has also experienced commodity price increases, and an additional effect of the domestic cost pressures. As a result, US import prices from China are now rising (Figure 11). But prices of US imports from China are still rising less than those from other countries, which is what matters for competitiveness. Indeed, so far, the increases in China's export prices have not led to lower export volumes or lower profits margins. On the contrary, profit margins in China's industry have continued their trend increase, supported by continued rapid growth of efficiency and labor productivity (Box 1).<sup>10</sup> Additional rebalancing

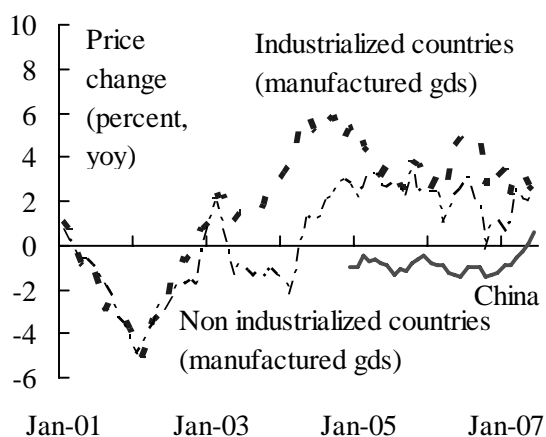
<sup>9</sup> US import prices reflect price increases better than other indicators, because they are adjusted for changes in the composition and quality of China's exports.

<sup>10</sup> Another indication of the attractiveness of producing tradables in China is that nominal urban FAI growth in manufacturing—the best proxy of tradables—rose to 35 percent in the first 7 months of 2007, up from 29 percent in 2006.



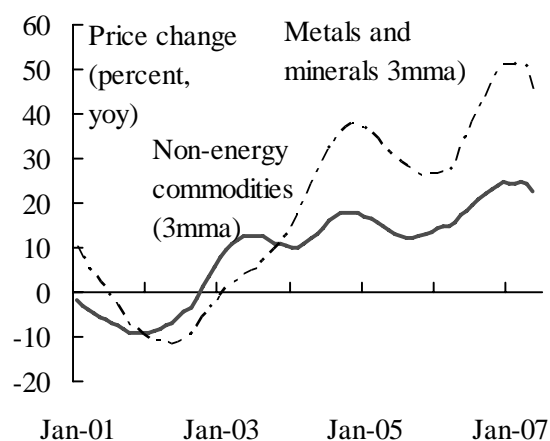
measures are likely to come, including further currency appreciation against the US dollar. But implementation is likely to be gradual, so that most of the cost pressures can continue to be absorbed by productivity growth and upgrading of the production structure.

**Figure 10. International commodity prices raise costs for everyone**



Source: World Bank (DEC)

**Figure 11. China is still becoming more competitive in price on the US market**



Source: CEIC

**Turning to domestic demand, investment is likely to continue to expand strongly.** Profit and credit growth both remain strong, and profit margins have been rising across the board, indicating that available financing and the rate of return of investment remain favorable. Interest rates have been increased several times, and nominal lending rates are now 7 percent. However, this is still significantly lower than estimated rates of return on investment. Thus, barring further policy actions, investment is likely to remain robust. Consumption growth is expected to remain solid as well, supported by rapid income growth. However, high consumer price inflation reduces growth in purchasing power and real consumption.

**What will imports do?** While China's exports get most of the attention, the slowdown in imports has been a key factor behind the rise in the trade surplus in recent years. Actually, since 2005, when the trade surplus started to soar, export growth has been lower than in 2003 and 2004. But import growth slowed significantly, apparently in large part because of growing import substitution. We assume that import growth will be buoyed by stronger domestic demand growth in the second half of 2007 and in 2008. However, in part because there are to date few signs of rebalancing, imports may turn out weaker than forecast.

**In all, we expect only a moderate slowdown in growth.** We now project GDP growth of 11.3 percent in 2007 and 10.8 percent in 2008. With international food price increases expected to remain substantial but domestic pork prices to ease, no significant supply bottlenecks yet, and producer price rises to moderate, we expect CPI inflation to gradually ease from later in 2007 onwards. But there are upside risks, including higher food prices.

We now estimate that China's current account could reach \$378 billion, or 12 percent of GDP.

Table 1. China: Main Economic Indicators

	2004	2005	2006	2007 1/	2008 1/
<b>The real economy (change in percent)</b>					
Real GDP (production side)	10.1	10.4	11.1	11.3	10.8
Real GDP (expenditure side) 2/	9.9	13	13.6	...	...
Consumption 2/	7.1	9.4	10.3	10.5	10.7
Gross capital formation 2/	13.4	11.6	13.2	14.3	12.3
Fixed capital formation	11.7	13.6	13.3	14.5	12.6
Exports (goods and services) 3/	28.4	23.6	23.6	22.8	18.4
Imports (goods and services) 3/	22.7	13.4	18.6	18.2	17.4
Consumer prices (period average)	3.9	1.8	1.5	4.6	3.8
GDP deflator	6.9	3.8	3.0	3.5	3.3
<b>Fiscal accounts (percent of GDP) 4/</b>					
Fiscal balance	-1.3	-1.2	-0.5	-0.9	-1.2
Total revenue	16.6	17.8	18.9	19.4	19.7
Total expenditure	18.0	19.0	19.4	20.3	20.9
<b>External account (US\$ billions)</b>					
Current account balance	69	161	250	378	408
As share of GDP (%)	3.6	7.1	9.5	11.9	10.7
Capital account balance	138	47	-3	-20	-10
(including errors & omissions)					
of which: FDI (net)	53	68	60	50	40
Change in reserves (increase =+)	206	207	247	358	398
Foreign exchange reserves	610	819	1066	1428	1826
<b>Other</b>					
Broad money growth (M2), e-o-p, in percent	14.6	17.6	16.9	17.0	16

Sources: NBS, PBC, Ministry of Finance, and staff estimates.

1/ Projection.

2/ Estimations are based on the national account data (Table 3-13 in China Statistical Yearbook 2006).

3/ Estimates based on trade deflators for goods published by the Custom Administration.

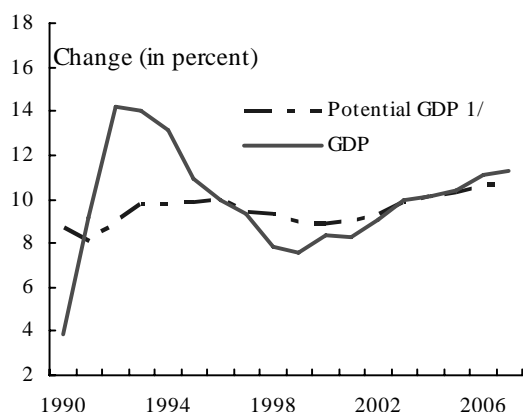
4/ GFS basis; central and local governments, including all official external borrowing. The data are not adjusted for accumulation of arrears in tax rebates to exporters during 2000-2002, and the repayment of these arrears in 2004 and 2005. Such an adjustment would increase the deficit in 2000-02 and lower it in 2004-05.

## Policies

**While there are no serious generalized price pressures yet, the risk of demand eventually outpacing supply has increased.** To date, higher inflation has been concentrated in food prices, and price pressures from within China's own economy remain modest. Looking ahead, the authorities are rightly concerned about food price increases spilling over into wages and more generalized inflation. In light of this, excess demand

pressures need to be avoided. In the first half of 2007, GDP growth increased at a pace higher than reasonable estimates of potential growth for the first time in a decade (Figure 12). As a result, the mild “output gap” that had emerged since 2000 has disappeared (Figure 13). So if growth were to continue at the speed of the second quarter, supply constraints may emerge eventually, raising the probability of higher inflation. At the same time, the emerging excess demand is modest compared to the phases of overheating China experienced in the past.

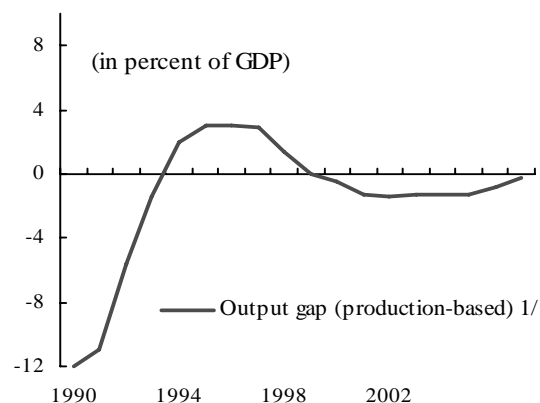
**Figure 12. Actual GDP growth is now exceeding potential GDP growth**



Source: NBS, staff estimates

1/ Estimated using a growth accounting framework with Cobb Douglas production function.

**Figure 13. There is little spare capacity left**



Source: NBS, staff calculation

1/ Set at zero in 1999.

**The main macroeconomic task remains containing the rising trade surplus.** The growing trade surplus is not only causing trade tensions internationally; domestically it is the key driver of the large balance of payment surpluses that buoy liquidity, keep monetary conditions loose, and contribute to asset price pressures.

**In this environment, policy measures should continue to focus on reducing the external imbalance, while also paying attention to overall demand growth.** Encouraging imports or reducing exports would both fit this bill, and both can be achieved with a stronger real exchange rate. Such an appreciation is likely to also moderate investment growth in tradables, as it reduces the returns on such an investment. And it would moderate some of the imported inflation at the same time. This is a good time to move in this direction, as enterprise profits are still high, wages are rising rapidly, and agricultural prices have been on the rise. Thus, any negative distributional impact can be easily absorbed.

**The government has taken some measures in recent months.** The measures included (i) tightening monetary policy, by increasing interest rates and increases in reserve requirement ratios; (ii) using the tax system to discourage specific export items, by reducing VAT rebate rates, increasing export taxes on some products, and effectively introducing a tax on the processing of 1853 specific processing trade products; (iii)

promoting capital outflows, by expanding the QDII scheme, enforcing capital inflows restrictions more tightly, and allowing Chinese citizens to buy Hong Kong listed shares. However, more policy action will likely be needed because these steps are unlikely to be sufficient to deal with the macro economic challenges, particularly the challenge to contain the balance of payment surpluses. This is because (i) the monetary stance remains relatively loose, with interest rates relatively low; (ii) the current policy stance facilitates little change in the composition of demand; (iii) the impact on the external imbalance of the tax-based measures to affect trade and those to raise capital outflows seem modest (see below); and (iv) more generally, the fundamental drivers of the existing growth pattern have not been addressed.

**There remains a risk of an unexpectly strong slowdown in the world economy.** While China's export-oriented economy may be affected significantly by a global slowdown, China is better placed than most to deal with the impact. A moderate global slowdown, with somewhat weaker demand for China's exports and lower commodity prices, would tone down overall growth, reduce inflationary pressures, and lower the trade surplus. If the slowdown in the US were to be drastic, China's strong macroeconomic position means that the domestic policy stance could be eased in order to boost domestic demand, presumably mainly via fiscal initiatives. Given China's rising share in the world economy, such a move is likely to reduce the trade surplus and help the world economy avoid a more serious slowdown.

**The key challenge remains to rebalance the growth pattern.** The government wants growth to become less resource intensive, cleaner, and more equally shared. This requires a change in the growth pattern with, on the production side, more growth of the services sector instead of industry, and, on the demand side, a larger role for consumption instead of investment and exports. Such a shift would also make growth less capital intensive, allowing China to grow with lower saving. Moreover, it would mean more labor intensive growth, with more urban employment creation and less rural poverty and less urban-rural inequality. Besides being desirable in their own right, measures that support rebalancing also help reducing the external imbalances.

**A package of economic policies would lead to a shift in the growth pattern.** These include (i) policies that achieve a real exchange rate appreciation, with over time more exchange rate flexibility (ii) monetary policies that tighten liquidity and increase the costs of capital, (iii) fiscal policies that limit investment growth, stimulate consumption demand growth, and compensate any losing groups in the process (iv) financial sector policies that further reduce the risk of asset bubbles emerging; and (v) structural policies that increase the costs of investment in export oriented industries—by charging the full price of inputs and environmental damage—, while increasing the attractiveness of investing in services.

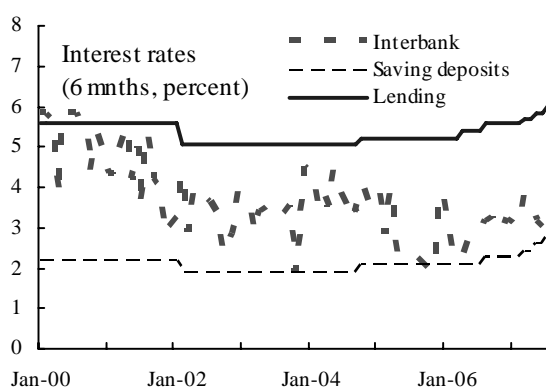
#### ***Monetary and exchange rate policy—key for macro management***

**Risks of rising inflation have increased.** As discussed before, there has so far been little inflationary pressure generated in China's economy. But, if growth were to continue at the recent pace, demand and price pressures may arise. Price rises have so far been limited to

food. Many central banks tend to not gear monetary policy towards them, basing policy instead on core inflation. However, in China, spending on food may be too large a share of total consumption to ignore it in considering monetary policy options. Moreover, rising headline inflation may start to drive inflationary expectations, and it is key for policy to prevent second round effects of food price increases via wages and more general price rises.

**Mopping up liquidity and raising interest rates were necessary moves and more will be needed.** Tighter monetary policy would increase domestic interest rates and avoid liquidity from driving up asset prices. Further, because of the structural changes in the financial sector, a tighter base money target is likely to be needed to achieve desired broad money growth (see November 2006 Quarterly Update, box on p. 13). And the broad money growth target itself would probably need to be set somewhat tighter in light of the changing demand for money. As liquidity continues to come in via the external surpluses, mopping up liquidity could be achieved by further increasing bank reserve requirements, selling the government bonds for the China Investment Company, issuance of more central bank bills, or a combination of these. Deposit rates should be further increased to retain deposits in the banking system and limit their flows into the stock market. The lending floor rates need not necessarily increase.

Figure 14. Interest rates



Source: CEIC

**The case for exchange rate strengthening has become stronger, given the concerns about high inflation, rapid growth, and an excessive trade surplus.** While the real exchange rate strengthening required for attenuating the external imbalance can in principle be achieved by higher domestic prices, nominal exchange rate appreciation is faster and mitigates domestic inflation, which is the other macroeconomic concern. Irrespective of the pace of exchange rate appreciation, more variability in the exchange rate and strict enforcement of foreign exchange regulations could limit capital inflows, especially short term inflows.

**Liberalizing the capital account should be done with caution.** The government's response to the large trade and balance of payment surpluses has emphasized measures to open up the capital account to outflows. There have been measures to affect the trade balance, but they have been modest and have so far not had obvious effect. However, with high growth and high return on capital in China, it is unlikely that net outflows can be generated of the order of magnitude of the large current account surplus. Moreover, one of the key lessons from previous emerging market crises is not to liberalize the capital account before the exchange rate is sufficiently flexible and financial system reform has

made headway. A controlled opening, like the one initiated through the QDII scheme and the “going global” initiatives is to be preferred over complete liberalization at this stage.

**Which monetary aggregate is the right one—if any?** Amidst sustained growth of M2 and even more rapid growth of wider aggregates, there has been a discussion recently about which aggregate is a better indicator of the monetary stance and future inflationary pressure: M2, M3, or other. Arguably the bigger question is whether any monetary aggregate is still a good indicator of future inflationary pressure. In most developed countries, the use of monetary aggregates as anchors of monetary policy has diminished in recent years, in part because of less tight relationship with inflation, in part because more independent central banks had regained anti-inflation credentials. In a rapidly growing and changing economy such as China’s, the use of monetary aggregates may be even more problematic. Internationally, the alternative has been to monitor real economy indicators on price pressures, with a prominent role for indicators of spare production capacity in the economy (the output gap) (see Figures 12 and 13).

### **Fiscal and structural policies—key for rebalancing**

Fiscal policy can support the longer term project of rebalancing by contributing to the shift in demand to consumption, while providing incentives for investment and production to shift from export-oriented manufacturing industry towards services catering to the domestic market, as well as for making production less energy intensive and more environmentally friendly.

**On the spending side, higher spending on health, education, and pensions is likely to boost consumption demand, particularly if focused on rural areas.** The government has already made some commitments in this area and is considering additional initiatives (see May 2007 Quarterly Update pp. 14-15 for specific measures). In the area of pensions, the government could considering the introduction of a rural old-age pension, which could be tax-funded through the National Social Security Trust Fund. Such a pension is, in contrast to rural *dibao* relatively easy to administer, and if set at a flat rate at *dibao* levels, easily affordable now, and over time, while it could have considerable impact on consumption of all rural citizen, who would then need to save less for old age. The government could also consider increasing public funding for urban pensions through the NSSF with the aim to finance the so-called “legacy costs” from general means rather than payroll taxes. This has the added advantage that it reduces the price of labor, is therefore likely to promote more labor-intensive growth, and could offset any negative impact on labor-intensive industries caused by a stronger exchange rate.

**On the revenue side, changes in the tax system provide price incentives that support rebalancing.** Several changes in export taxes and VAT rebates for exporters have been discussed above. These measures have de facto appreciated the real exchange rate faced by exporters, although not by importers. But they can only be seen to be a temporary measure. Over time it is desirable to tax *all* resource intensive goods produced, regardless of destination (export or domestic market). Introduction of taxes on *inputs* of energy could further raise revenues and rebalance the economy toward more resource efficiency.

**Other policies could further reduce the implicit subsidies for manufacturing industry, and thus promote the expansion of the services sector.** Possible measures include abolition of tax credits for certain investment and increasing prices for land, energy, utilities, and natural resources. Second, lowering the relative price of (formal) labor by shifting some payroll taxes to general taxes would reduce the price of labor, which is used more by the relatively labor-intensive services sector. Third, increasing migration by further relaxing the *hukou* system would increase competition in the urban labor market, and lower the relative price of services. Fourth, the government could open up certain services for more competition, with the government focusing on its regulatory function.

**Improving energy efficiency remains high on the agenda.** To help China meet the challenging targets to improve energy efficiency and reduce pollution, the government is working on adjusting the performance evaluation system for local government officials and SOE top management, including the performance in environment protection and energy efficiency as criteria (Xinhua, July 31, 2007). The government is taking additional initiatives in setting standards, trying to close down inefficient power plants and steel and cement plants (see May 2007 Quarterly Update, p.14). The government is reluctant to use price increases at times of high inflation. Nonetheless, such considerations should probably not block needed price adjustments because, in the long run, price adjustments towards levels that reflect economic scarcity and social costs and benefits have a positive impact on resource allocation and economic efficiency, and will help in the efforts to reduce energy intensity.

#### FINANCIAL SECTOR POLICIES AND DEVELOPMENTS

**The sub-prime troubles in the US triggered wider financial turmoil.** While the sub-prime mortgage market that triggered the turbulence is relatively small, the rise in risk aversion and possible contagion that resulted may make this a much larger financial problem, and possibly an economic problem. Sub-prime mortgages are those granted to borrowers with lower credit rating, and often at adjustable rates. Originating banks package those mortgages in mortgage-backed securities and sell those relatively high-yielding instruments to investors, often enhanced with other types of financial innovations. While this has spread the risk over many investors, it also meant that, when the quality of those mortgages started to decline in 2006, the impact of that was also spread—but it was unclear who was affected. The demise of two hedge funds managed by Bear Stearns, an investment bank, and suspension of funds withdrawals in other investment funds, triggered a credit crunch, and liquidity in the interbank markets in the US and Europe dried up.

**Box 1. Raw material price and wages—why have they not lead to lower profitability in China’s industry?**

**Rapid raw material price and wages rises have increased costs in China’s industry in recent years.** Output prices (factory gate) have also risen, but for industry as a whole input prices have risen significantly faster than output prices. However, this relative price increase has varied across sectors, depending in part on the inputs used. At the same time, profit margins in most industrial sectors have continued to increase in recent years. Higher “technical efficiency” of using intermediate inputs and rapid labor productivity growth are the key factors explaining this.

**Prices of raw materials have risen significantly in China since 2002, although not as rapid as international commodity prices.** Having accelerated since 2003, the World Bank’s international energy price index rose by an annual average of 29 percent in 2004-06, in RMB terms. The non-energy commodity index rose by an average 17 percent per year in this period, with prices of metals and minerals up 36 percent per year on average. In China, the overall purchasing price index of raw materials rose almost 9 percent per year on average in 2004-2006, with the sub-index “fuel and power” rising 12 percent per year and that of “non-ferrous metals” 22 percent.

**There are several reasons why China’s overall raw material price index has not risen as much as the international commodity price indices.** Domestic prices of some individual commodities (copper, nickel, rubber, and, to some extent, zinc and coal) have followed world market prices closely. But prices of others (including aluminum, steel, and oil and oil products) have risen significantly less than international ones. For oil and oil products, this is because of government controls on the price of refined products. For steel and aluminum, domestic market conditions and cyclical issues have affected price movements beyond the impact of international prices. As other reason is that the composition of China’s raw material index differs from the international commodity price indices. In part this reflects different consumption patterns and economic structures. Moreover, China’s overall raw materials price index actually captures all inputs including intermediate ones such as chemicals, metals, and “machinery and equipment”, whose prices have not risen as much as primary commodities.

**Output prices (PPIs) have generally also increased, but for most sectors in industry they increased significantly less than input prices and wages.** As a result, relative, or real, input prices rose significantly. Weighing intermediate input prices for all sectors using information from the input output table, Kim and Kuijs (2007, forthcoming) estimate that for core manufacturing this relative price rose almost 4 percent per year on average between 2002 and 2006 (Table). For individual sectors, this relative price rise ranged from less than 1 percent per year for the metal sector to 7 percent for the machinery and equipment sector. Wages also rose fast, further adding to cost pressures. Official sectoral wage data suggests that wages have risen by 10-15 percent in most sectors. Including informal employment would likely result in lower average wage growth, because those employed informally tend to be lower skilled workers who have seen significantly lower wage increases. However, it would also imply higher average employment growth, because informal employment has grown faster than formal employment, thus dampening the distortion from potentially not capturing all employment.

**Despite rapid increases in prices of intermediate inputs and wages, profit margins have continued to rise in most sectors since 2002.** Combined with rapid growth of turnover/sales in industry, this has resulted in impressive profit growth. Two key factors have made this possible. First, the technical efficiency of the usage of intermediate inputs (in real terms) has improved substantially since 2003. Kim and Kuijs (2007, forthcoming) estimate that in core manufacturing the amount of intermediate input per unit of output (in real terms) declined 1.5 percentage point per year between 2002 and 2006.

(continued overleaf)



The improvement varies from no improvement in the food industry to over 4 percentage point in machinery and equipment. Second, labor productivity—value added per employee—increased strongly. Less important but significant, the burden of taxation per unit of output also diminished, further adding to higher profit margins.

Table. Input cost pressures and technical efficiency of using intermediate inputs in industry (2002-06, annual average change)

	Weighted relative input price (%) 1/	Efficiency of using intermediary inputs (%p) 2/	Wage (nominal) (%)	Labor productivity (nominal) (%)
<b>Manufacturing</b>	2.7	0.7	14.0	21.3
<b>Core manufacturing</b>	3.8	1.5	12.7	22.9
Mining and Quarrying	-6.8	-3.2	21.0	16.0
Utility	5.1	2.1	14.4	18.9
Petroleum Refining	-6.9	-10.3	12.6	-22.1
Foodstuff	3.7	-0.3	11.6	24.9
Textile	2.7	2.4	12.0	20.7
Other	4.2	2.1	13.6	33.4
Chemical	2.4	0.1	12.3	20.0
Building Materials	5.4	2.0	11.9	21.7
Metal products	0.8	-1.1	14.1	19.8
Machinery and Equipment	7.1	4.2	12.7	25.2

Source: Kim and Kuijs (2007, forthcoming)

1/ For each sector, the weighted raw material price increase is estimated using weights from the 2002 input output table.

2/ Estimated improvement technical efficiency of using intermediary inputs.

**Comparing patterns across sectors, it seems as if sectors with stronger increases in relative input prices have worked harder to reap efficiencies.** Sectors have become more efficient by either improving the technical efficiency of intermediate inputs particularly rapidly (machinery and equipment), increasing labor productivity (value added per worker) particularly fast (“other” manufacturing, which stands for light manufacturing including furniture), or having lower wage increases (again, machinery and equipment).

The turbulence also affected other markets, including stockmarkets, as a flight to quality took place. Authorities in the US, Europe, Japan, and other countries reacted by providing additional liquidity through open market operations, and the US central bank also lowered interest rates on the discount window, which is used for granting credit to the financial system in exceptional circumstances. In lowering the discount rate, the FED had to balance the need to maintain financial stability with the risk of bailing out irresponsible lenders and borrowers, and the risk of inflation, which is seen to be higher now than it was on earlier occasions of major financial market disruptions, notably in the aftermath of the Russian default in 1998 and the September 11 2001 terrorist attacks in the United States.

**Emerging markets were less affected than on previous occasions of financial turbulence.** Their stock markets and currencies did experience some jitters, and emerging markets spreads increased by 50 to 100 basis points. Nevertheless, this pales in

comparison with spread increases during previous financial crises. This is in large part because emerging markets economies are currently in better shape than before, with high international reserves, stronger financial sectors, less corporate debt and more fiscal space to counter a downturn.

**The direct impact on China is for now likely to remain limited.** There are three possible channels of such an impact: losses of Chinese financial institutions holding overseas securities, transmission of turbulence in international financial markets to China's markets, and impact of the economic consequences of the financial market turbulence. Exposure of Chinese financial institutions to the sub-prime market seems to be limited, although this is hard to assess because of lack of available data. Bank of China, CCB and ICBC each declared their exposure to subprime mortgages, which added up to some \$12 billion. However, the bulk of exposure to US mortgages is likely to be embedded in China's international reserves. Wachovia, a US bank, reported on the basis of 2006 data from the US treasury that China's total exposure to US mortgages was in the order of \$250 billion. However, all but a fraction of it is of high quality, so-called agency debt, which is debt issued or backed by Fannie Mae and Freddie Mac, government-backed mortgage corporations.

**China's own financial markets remained relatively unaffected by the turmoil.** China's capital account remains relatively closed. Moreover, high international reserves and a rapidly expanding economy continue to boost investor confidence. Indeed, with only a brief interruption, China's stock market continues to rise rapidly, raising concerns of a different kind (China's rapidly rising stockmarket and the policy implications are discussed in detail in the May 2007 Quarterly Update). China's credit spread in the international market and the RMB were also hardly affected. Barring further impact of financial panic, therefore, the main effect on China is likely to be through the economic impact in the United States and elsewhere.

**The economic impact of the financial turbulence may affect China's economy significantly.** The economic impact in the economies directly affected could follow three channels. The direct wealth effect of financial losses could bring down consumption and investment. The same is true for a reassessment of credit risks, which is likely to lead to less credit for households and businesses, in particular in the United States but also in other parts of the world.<sup>11</sup> An important channel of the economic impact is likely to be the US housing market. First, tightening of the mortgage credit market is likely to reduce the number of housing starts and construction. The number of housing starts has already been on the decline in the past 18 months or so, and this trend is likely to accelerate. Second, higher mortgage rates and defaults could lead to an increase in forced housing sales that would suppress prices, which over the recent year had already been declining slightly. This

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<sup>11</sup> For sub-prime mortgage holders in particular, this may be a problem. Some \$650 billion of adjustable rate mortgages are due next year in the United States. The rates on these mortgages are likely to go up significantly and some of the current holders may not be able to pay at all. This is likely to reduce consumption, and may well lead to further problems in credit markets as defaults are set to increase.

in turn could reduce overall household consumption. The reason is that consumption was driven to a significant extent by households refinancing their mortgage while “taking out” some of the equity from their house—in other words, by cashing in on the increase of the value of their house. This practice, already faltering over the last year, is now likely to be even less of a driver of consumption growth. At this stage it is hard to estimate how large this effect would be. However, the simulation exercise discussed above, in the *economic prospects* section, suggest that the impact, directly as well as through the indirect effect that such a slowdown has on China’s other export markets, can be substantial.

#### **SPECIAL FOCUS: IS CHINA REACHING THE END OF ITS LABOR SURPLUS PHASE? <sup>12</sup>**

Many news reports have recently focused attention on China’s possible emerging shortage of workers.<sup>13</sup> Guangdong province claims some 2.5 million unfilled job vacancies and other provinces such as Jiangsu, Shandong and Zhejiang also report facing labor shortages. Wages have been increasing steadily across sectors, with official average wages now rising by 10-15 percent. Wages for higher skilled workers have generally risen significantly faster than those of lower skilled workers. However, recently there are indications that wage increases for lower skilled workers and migrants, which have long lagged behind, are also on the rise, although estimates of migrants’ wage increases vary. In addition, many firms complain of high and increasing turnover rates, even among unskilled labor. Both rising wages and increasing turnover are revealing growing competition between firms for workers. Based on these trends a number of analysts have argued that China is approaching the end of its labor surplus phase and faces a tightening labor supply, which will inevitably lead to higher wages. Since low cost labor has been an important ingredient in China’s export competitiveness and growth, prospects of rising labor costs are feeding concerns about future competitiveness among foreign investors, policymakers and academics.

This section investigates these issues. The section makes the following points. First, while continued rapid development would eventually lead to a drying up of surplus labor, there are several reasons to think that China may not yet be very close to a labor shortage. Second, while most of the debate has focused almost exclusively on rural demographics and migration, these are not the only driver of the labor supply. Nationwide demographics and policies, which influence choices on education, retirement, migration, and the mode of agricultural production, also affect labor supply. Thus, preparing for an eventual reduction of excess labor, it is important to take into account the impact of policies in these areas on labor supply. Lastly it should be noted that the eventual end to surplus labor will be an occasion to celebrate, since—if well managed—it will lead to wide-spread sustainable improvements in living standards, the ultimate goal of development.

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<sup>12</sup> This section relies in part on a forthcoming World Bank report titled “China’s Modernizing Labor Market: Trends and Challenges.”

<sup>13</sup> For English language media coverage, see, Financial Times, June 2006; The Economist, August 2, 2007.

***How large is China's excess labor; will there be a labor shortage soon?***

The received wisdom has long been that China still has many people 'locked up' in relatively unproductive employment in agriculture. According to the labor market data as from the NBS Statistical Yearbook (Table 5-2), which is considered the most comprehensive official data and the most commonly quoted, there were 340 million people employed in agriculture in 2005, or 44.8 percent of total employment<sup>14</sup> Traditional estimates of how many of these are 'surplus labor', in that employing them in other sectors would not significantly reduce agricultural production, vary between 150-200 million.<sup>15</sup> Experts note that even though these data are supposed to exclude rural people that actually work in sectors other than agriculture, the actual number of people employed in agriculture is lower. The data do not reflect this in large part because of the difficulty of correctly classifying people who work partly in agriculture and partly in other sectors, including as migrants. In an important article, Cai Fang (2007) estimates that in reality around 285 million people worked in agriculture in 2004, or 38 percent of total employment, and other experts' estimates, including from the Ministry of Labor and Social Affairs, are comparable. Other researchers, including Brandt, Hsieh, and Zhu (forthcoming), have even suggested that the agricultural employment share is as low as 32 percent. Experts also note that migrants tend to be young, implying that a disproportionately large share of those still present in agriculture are older, presumably less employable people. By assuming that people older than 40 cannot be successfully employed outside of agriculture, Cai Fang estimates that the actual 'surplus' labor is only 40 million people instead of 150-200 million. Using a different methodology, Wang and Ding (2005) have recently also estimated the surplus labor in agriculture to be around 40 million people.

In combination with complaints of labor shortages in some coastal areas and observations of rising wage increases in recent years, these results have been interpreted by some as implying that China's 'surplus' labor phase is about to be over. However, there are several factors that suggest it may take a while before this happens.

- The labor shortages reported in some coastal areas, including Guangdong, appear to have been concentrated in specific industries and/or companies. What has happened is that migrant workers now have more information at their disposal and have become more mobile. Thus, areas and/or sectors that traditionally paid less well than others have in recent years had to adjust compensation and living conditions.
- There is uncertainty about how many people officially registered as working in agriculture are actually working in other sectors as migrants. Moreover, not all working age people that work outside agriculture (whether migrant or not) have left the surplus labor group, because significant numbers of them are occupied in fairly low-productivity non-agricultural activities, including self employment, in cities.

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<sup>14</sup> Holz (2006) notes that the SYB data on employment in agriculture is 20 percent lower than that in the Population Census. Comparing the sets of data, he suggests that this may be because of different treatment of people who work partly in agriculture and partly in other sectors.

<sup>15</sup> Brooks and Tao (2003) suggest 150 million, and they quote a similar estimate of the Ministry of Agriculture. Others have produced higher estimates.

- The estimates of surplus labor in agriculture involve an estimate of how many employees are required to support current agricultural output. The papers by Cai Fang and that by Wang and Ding estimate this at around 180 million, or 24 percent of total employment. However, as countries develop, agriculture's share in total employment and value added continue to decline (these shares are now 3 and 2 percent in the OECD). Thus, looking ahead, there should still be substantial room for a movement of agricultural labor to the non-agricultural sector.
- Double digit wage growth has been used as a sign of labor market shortages. However, the official wage statistics are incomplete and give a biased picture. They largely capture only official employment in State Owned Enterprises and large private enterprises. By leaving out informal employment and employment in smaller firms, this data does not capture most low-skilled workers and migrants who have seen significantly lower wage increases than others. Given these data weaknesses, organizations and researchers have held surveys into the wages of migrants and lower skilled workers. However, different surveys appear to give different results. While some reports note that wages of unskilled rural migrants increased by 11.5 percent in 2006, a recent survey by the Chinese Ministry of Agriculture registered 6.1 percent.<sup>16</sup>

A key reason why there is a lot of unsolved debate on this important issue is the poor quality of labor market data. Indeed, there is an urgent need for meaningful data on the composition of employment (across sectors and across the urban-rural dimension) and wage growth. Irrespective of the exact amount of surplus labor now, however it is clear that continued rapid development and urban growth will eventually lead to the end of surplus labor and a tighter labor market, even for migrants. However, the above considerations suggest that a labor shortage may be quite some time away in China.

The debate on rural migration, important as it is, though, is not the only issue at hand for China's labor supply. Labor supply is determined by a combination of demographic, behavioral and policy factors, and the rest of this section will discuss each of these in turn.

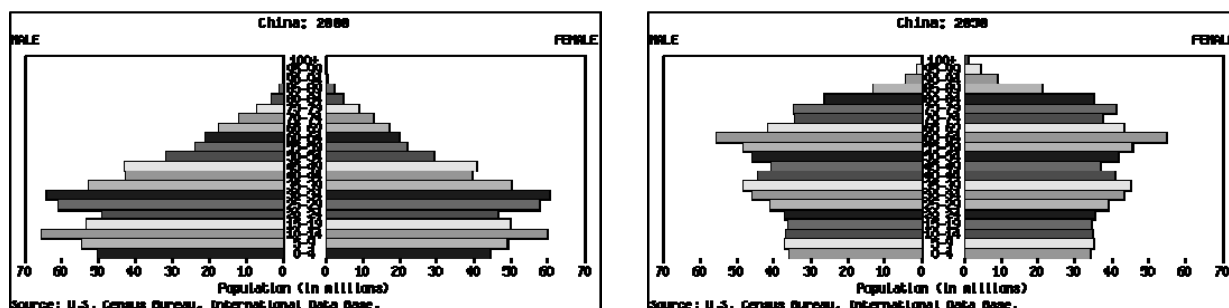
### ***Demographics***

China has experienced a remarkably compressed demographic transition. Rapid drops in fertility starting in the 1970s yielded a large bulge in the working age population which translated into high employment rates (employment as a share of the total population) and low dependency ratios (children and old people, as a share of the total population). The working age population is projected to peak in 2011 at 882 million, after which it will gradually decline at a rate of 0.1-0.4 percent per year. The effect of falling fertility rates is seen clearly in the shrinking size of cohorts under the age of 24: by 2015, the cohort entering the labor market (age 15-24) will be 10 percent smaller than in 2005. This trend will accentuate going forward so that by 2050 the cohort entering the labor market is 30 percent smaller than it was in 2005. As a result of these shrinking cohorts of new entrants,

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<sup>16</sup> Xinhua, November 22, 2006.

the share of the population of working age (15 to 59) in the total population will fall from 67 percent in 2000 to 57 percent by 2050. In the absence of behavioral or policy shifts these demographic changes will contribute to a much tighter labor supply in the future.



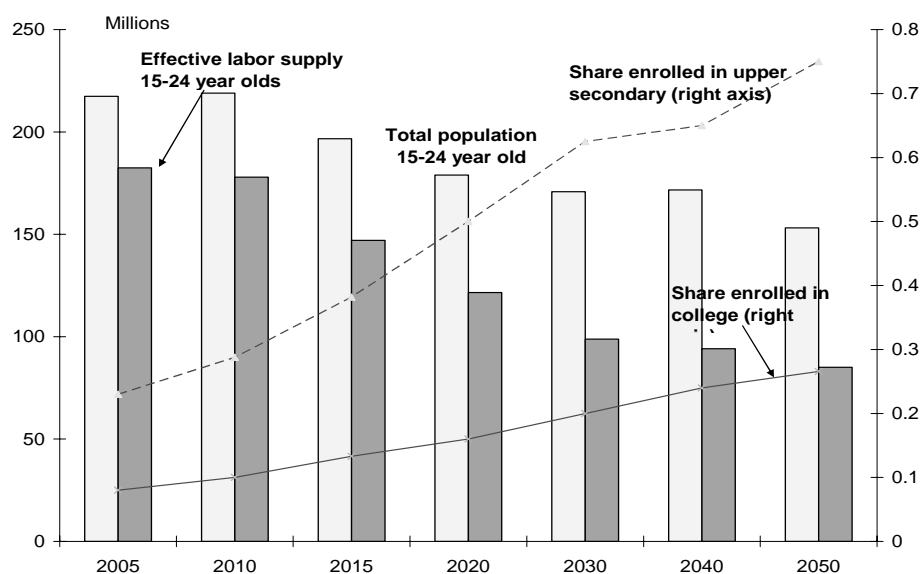
### *Educational choices*

Higher enrollment in education will further reduce labor supply. Enrollment in upper secondary and tertiary education in China remains low relative to other countries of the region, but is rising quickly. Among 15 to 24 year olds in 2000, only 22.1 percent of girls and 23.5 percent of boys had completed or were enrolled in senior or specialized middle school, and only 5.6 percent of girls and 6.1 percent of boys in the same age cohort had completed or were enrolled in college (NBS, 2004). Given the rising demand for skills in China, it can be expected that enrollment in upper secondary and tertiary education will increase quickly. This means that many young adults in the (already shrinking) 15-24 age cohort will delay their entry into the labor market to invest in more schooling. While this delayed entry will yield substantial benefits to China overall in terms of increased productivity and competitiveness of its workers, and will allow for the desired upgrading of the production structure, it will nevertheless accentuate the squeeze on labor supply in the coming decades. We can simulate the impact of these educational decisions by making some assumptions about the projected path of secondary and tertiary enrollments. The figure below presents the total and the 'effective' size of cohorts of new labor market entrants (age 15-24) under the assumption that both upper secondary school and college enrollments converge to levels comparable to those of China's regional competitors by 2050 (Thailand and Malaysia were used as benchmarks). The figure below shows that if we take into account the likely increase in upper secondary and higher education enrollments, the implied decline in the effective labor supply for the 15-24 age cohorts between 2005 and 2050 is almost twice as large as projected by demographics alone.

### *The role of policies*

Demographics and expected schooling choice suggest that China will face a rapidly shrinking new labor supply in the decades to come. However, there are several policies that could offset this projected tightening of the labor supply.

**Figure. The impact of education on effective labor supply**



Source: World Population Prospects, 2006 rev, United Nations (using official data from NBS), and staff estimates.

First, rural workers face significant regulatory barriers to moving to the city. Au and Henderson (2006) have shown that these restrictions have a high cost in terms of foregone productivity growth, including within the agricultural and rural sectors. As such they also work to constrain the size of the pool of surplus labor available in rural areas. A rapid phasing out of the Hukou system, providing migrants access to education for their kids, health care, and social security in the city would alleviate this constraint, and would induce many more to make the move, thereby effectively increasing the labor supply.

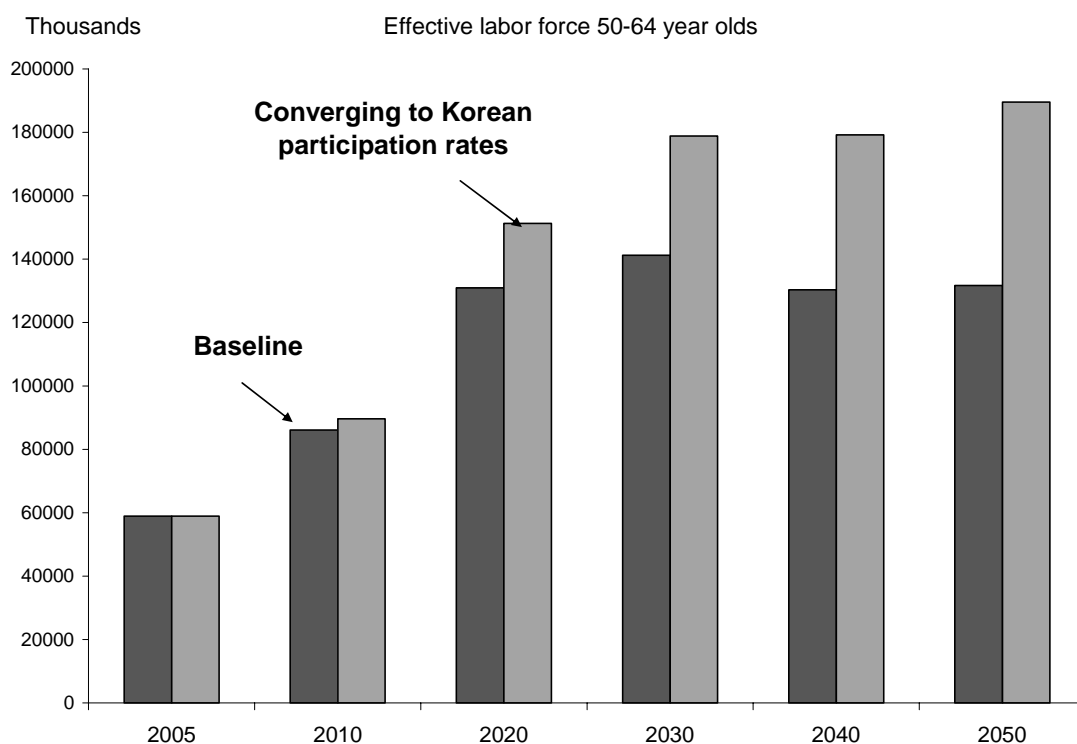
Second, as argued by Cai Fang (2007) many of the remaining rural residents are older (above 30) and lack the basic skills that would make them employable in good jobs in cities. Too old to be reached through formal education programs, they could be trained by future/interested employers. However, many firms are reluctant to provide any training for fear of then quickly losing their investment in a labor market with high turnover. Poor labor market information systems also contribute to mismatch between labor demand and labor supply, as rural migrants depend almost exclusively on informal (and imperfect) networks for information on vacancies and jobs. The government is already stepping in and is promoting vocational skills training. Expanding and improving programs for vocational training, and ensuring access also for older workers could further reduce the urban labor constrain.

Third, agriculture is still tying up a lot of labor. The estimated 180 million workers needed for agricultural production assumes prevailing agricultural productivity and techniques. However, looking ahead, there is likely to be continued labor productivity growth, particularly if land reform and rural finance reform boost land consolidation and

mechanization. The government could accelerate this process by improving the rural land management system thereby facilitating consolidation of land plots, and by increasing competition in rural finance, which would allow for more capital intensive production and mechanization. The labor thus saved would be able to find urban employment easily in a tightening labor market.

Fourth, changes in pension policies can substantially expand labor supply in the decades ahead. Current labor force participation rates among older workers – those aged 50 and over- are very low, partly as a result of a discouraged worker effect resulting from past SOE restructuring. As the cohorts that are currently part of the working age ‘bulge’ reach retirement age, they may extend their participation in the labor force, especially if they face prospects of remunerative employment. Policies to encourage these workers to remain active until a later age could help mitigate the impact of demographic changes (particularly given the large size of those cohorts). This might require providing strong financial incentives to late retirement. As an example, raising the participation rates of people in the 50-64 age group (now 60 percent for men and 30 percent for women) to current south Korean levels (80 percent for men and 50 percent for women) by 2050 would increase labor supply by 60 mln by that time, or 8 percent of the labor force (Figure).

**Figure. The impact of pension policy on effective labor supply**



Source: World Population Prospects, 2006 rev, United Nations (using official data from NBS), and staff estimates.



Other policies can target groups with weaker labor force attachment, with a view to increasing their participation. We know from international experience that the labor force participation of women, for example, is very sensitive to the availability of care for dependents – especially children. In China, women’s labor force participation also seems quite sensitive to the health and need for care of elderly family members. For example, Giles (2007) finds that having an elder family member who is ill and requires care significantly reduces women’s labor force participation. Policies that aim at providing affordable care for dependents can help boost the labor force participation of women in China, which fell substantially after economic restructuring, and again help mitigate the overall squeeze in labor supply resulting from demographic factors.

The bottom line is that the invariable tightening of China’s labor supply, driven by demographic patterns, is not a given: it can be modulated through appropriate policies. More careful analysis of the determinants of labor supply decisions is needed, however, in order to design adequate policy interventions.

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This paper investigates China's export boom in machinery and analyzes trade in components and finished machinery between China and Southeast Asia. The author finds no evidence that China's expansion in the world machinery market has squeezed the market shares of Southeast Asian machinery exports. Full text available at [http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000158349\\_20070801133318&searchMenuPK=64187283&theSitePK=523679](http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000158349_20070801133318&searchMenuPK=64187283&theSitePK=523679)
  
- ***China, India, and the future of the world economy: fierce competition or shared growth? (WPS No. 4304)*** by Betina Dimaranan, Elena Ianchovichina, and William Martin, the World Bank  
Although both China and India are labor-abundant and dependant on manufactures, their export mixes are very different. Improvement in the range and quality of exports from China and India has the potential to create substantial welfare benefits for both countries and the world, and to act as an offset to the terms-of-trade losses otherwise associated with rapid export growth. Full text available at [http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000158349\\_20070828132716&searchMenuPK=64187283&theSitePK=523679](http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000158349_20070828132716&searchMenuPK=64187283&theSitePK=523679)
  
- ***Geographic inequity in a decentralized anti-poverty program: a case study of China (WPS No. 4303)*** by Martin Ravallion  
The paper shows that in decentralized anti-poverty programs which are preferred by government of many developing countries, the potential advantage of differentiated eligibility criteria can come at a large cost, to the extent that the induced geographic inequities undermine performance in reaching the income- poor nationally and generate considerable horizontal inequity, China's Di Bao program as an example. Full text available at [http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000158349\\_20070806101315&searchMenuPK=64187283&theSitePK=523679](http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000158349_20070806101315&searchMenuPK=64187283&theSitePK=523679)
  
- ***Strengthening China's technological capability (WPS No. 4309)*** by Shahid Yusuf and Kaoru Nabeshima, the World Bank  
China is increasing its outlays on research and development and seeking to foster innovation that will deliver quick results not just in absorbing technology but also in pushing the technological envelope. This paper concludes that although the level of financing for R&D is important, technological advance is closely keyed to absorptive capacity. Full text available at [http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000158349\\_20070809111012&searchMenuPK=64187283&theSitePK=523679](http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000158349_20070809111012&searchMenuPK=64187283&theSitePK=523679)
  
- ***The Growth of China and India in the world trade: opportunity or threat for Latin America and the Caribbean? (WPS No. 4320)*** by Daniel Lederman, Marcelo Olarreaga, and Isidro Soloaga, the World Bank  
This paper studies the relationship between the growth of China and India in world merchandise trade and Latin American and Caribbean commercial flows from two perspectives. Full text available at [http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000158349\\_20070814104424&searchMenuPK=64187283&theSitePK=523679](http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000158349_20070814104424&searchMenuPK=64187283&theSitePK=523679)
  
- ***Poverty, inequality, and social disparities during China's economic reform (WPS No. 4253)*** by David Dollar, the World Bank  
China has been the most rapidly growing economy in the world over the past 25 years with remarkable increase in per capita income, and decline in the poverty rate. However, disparity has risen along several dimensions. The paper investigates China's policies, reasons behind the rising disparities, and the recent policy shift to reduce them.  
Full text available at [http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000016406\\_20070613095018&searchMenuPK=64187283&theSitePK=523679](http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000016406_20070613095018&searchMenuPK=64187283&theSitePK=523679)
  
- ***Sustainable Energy in China: The Closing Window of Opportunity*** by Fei Feng, Roland Priddle, Leiping Wang, and Nouredine Berrah  
China's remarkable economic growth has been supported by a generally adequate and relatively low-cost supply of energy. This paper assesses China's future energy requirements and the resources to meet them, and calls for a high-level commitment to develop and implement an integrated, coordinated, and comprehensive energy policy

to building a "resource-conscious society". Full text available at [http://publications.worldbank.org/ecommerce/catalog/product?item\\_id=5990409](http://publications.worldbank.org/ecommerce/catalog/product?item_id=5990409)

- ***Enhancing China's Competitiveness through Lifelong Learning*** by Carl Dahlman, Douglas Zhihua Zeng, and Shuilin Wang, the World Bank  
This book discusses the issues and steps involved in building a lifelong learning system in China, including: a coherent policy framework, a sound incentive and institutional framework, a sound regulatory environment, a coordinated governance process, and a timely and reliable management information system, among others. Book available at <http://publications.worldbank.org/ecommerce/catalog/product?context=drilldown&item%5fid=6360292>
  
- ***Study of Capacity Building of the Electricity Regulatory Agency*** by SERC China, Ministry of Finance China, and the World Bank  
This report presents the results of a sector analysis and research that is published to encourage discussion and comments on the electricity regulation and power market-oriented reform, as consultation reference for policy making in other countries. Full text available at [http://www.worldbank.org.cn/english/content/dl/jg\\_en.pdf](http://www.worldbank.org.cn/english/content/dl/jg_en.pdf)
  
- ***China: Water Pollution Emergency – Prevention and Response***  
Aiming to assist the Government of China to improve its emergency prevention and response in high risk industries, this paper presents an analysis of the Chinese situation and systems currently in place for the prevention of and response to pollution emergencies, as well as some relevant international experience.  
Full text available at [http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000020953\\_20070905150632&searchMenuPK=64187283&theSitePK=523679](http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&theSitePK=523679&entityID=000020953_20070905150632&searchMenuPK=64187283&theSitePK=523679)