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Quarterly Update

February 2008

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 (lli2@worldbank.org).

OVERVIEW

China's economic growth has begun to inch down from its record rates earlier in 2007, while food prices are lifting inflation. GDP grew 11.4 percent in 2007, making it the fifth year in a row with double digit growth. The slowdown in the 4th quarter was due to a lower contribution of net exports, as external demand slowed, partly offset by stronger domestic demand. Food prices lifted headline inflation to 6.5 percent in December, but there is to date no apparent significant overall excess demand or spill-over of high food prices into general inflation.

The global outlook has weakened and is uncertain, but China is likely to grow robustly and is well-positioned to stimulate demand if needed. The slowdown in the global economy should affect China's exports and investment in the tradable sector, but the momentum of domestic demand should remain robust and a limited global slowdown could contribute to rebalancing of the economy. We now project a solid 9.6 percent GDP growth for 2008. If the global slowdown will be more pronounced, China is in a strong macroeconomic position to stimulate demand by easing fiscal policy and/or credit controls. Inflation concerns make lowering interest rates or relaxing liquidity management less obvious. Uncertainties in the outlook call for vigilance and flexibility.

Macroeconomic policy needs to address the challenges of inflation and persistent external surpluses. Overall price pressures should ease in 2008 as some factors behind high food prices taper off. But there are risks, including from international food prices and wage cost pressures, and inflation is not likely to decline to low levels soon. The inflation concerns call for relatively tight monetary policy. However, interest rates are constrained by the authorities' concern of attracting interest-sensitive capital inflows. Thus, with the external surplus expected to remain very large, monetary policy will continue to rely on credit controls and liquidity management. Continuing to appreciate the RMB against the US dollar will help dampen inflation pressures and reduce the current account surplus.

The government recently introduced further administrative measures to contain inflation. Their objective is to dampen price rises, keep items affordable, and manage expectations. In the long run, the detrimental incentive effects that they generate are likely to outweigh the benefits. The government has rightly announced its intention not to rely on them for long. Given China's strong fiscal position, the authorities could consider replacing some price controls with direct subsidies, ideally targeted at needy groups.

The recent revision of purchasing power parity (PPP) estimates does not change the conclusions about China's growth and poverty reduction. A special focus article notes that the new estimates revise up considerably China's price level, relative to other countries, and thus revise down the size of China's economy in PPP terms. The revised PPP estimates do not change our understanding of real growth. With the new relative price data, the World Bank's estimate of the $1 per day (PPP) poverty rate will go up modestly. However, estimates for earlier years will be revised as well. The revision does not change the fact that China has had the largest and fastest poverty reduction in history. Another special article discusses China's railway transport issues.

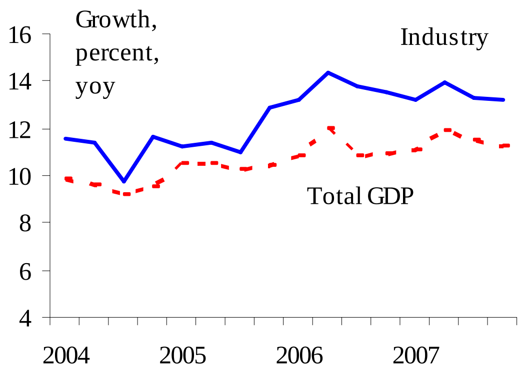
RECENT ECONOMIC DEVELOPMENTS

China's economy has begun to slow down somewhat from its record growth rates earlier in 2007. The domestic economy has started to contribute more to growth, and the trade surplus may stop rising going forward. Food prices lifted headline inflation to 6.5 in December, but general inflation pressure (except food) remains modest.

Economic growth remained strong in 2007, but the economy appears to have slowed down somewhat in the second half. GDP grew 11.4 percent in 2007, compared to 11.1 percent in 2006, making it the fifth year in a row with double digit growth. However, on a quarterly basis, GDP growth came down within the year from a peak of 11.9 per cent (yoy) in the second quarter to 11.2 per cent in the fourth quarter (Figure 1). Production-wise, this slowdown was reflected in lower growth of industrial production, which declined from a peak of 19.4 per cent in June to 17.3-17.4 per cent in November-December 2007.

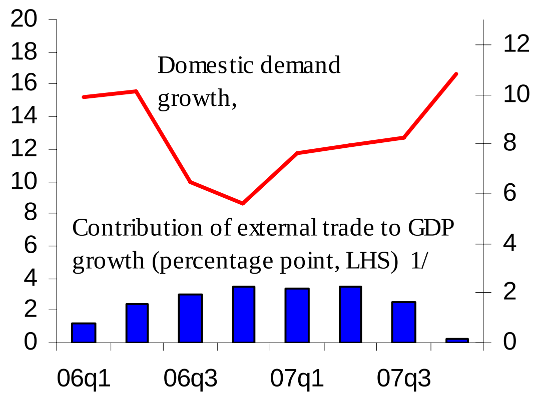
The slowdown in demand was due to a declining contribution of external trade to GDP growth, partly offset by a rising contribution of domestic demand. Export growth had started to outpace import growth by a large margin in early 2006. Since then, a substantial share of GDP growth was due to net trade (Figure 2). However, in the second half of 2007, import growth picked up while export growth declined and imports outpaced exports for 3 consecutive months in the fourth quarter. As a result, the contribution of net trade to growth came down, particularly in the fourth quarter.[1] Most of the impact on overall GDP growth was offset by an apparent rebound in domestic demand growth. Signaled earlier in the year, this rebound became firmer in the 2nd half of 2007 (Figure 2).

Figure 1. Still impressive growth, but some slowdown



Source: NBS, staff estimates.

Figure 2. The contribution of external trade is declining as domestic demand seems to recover

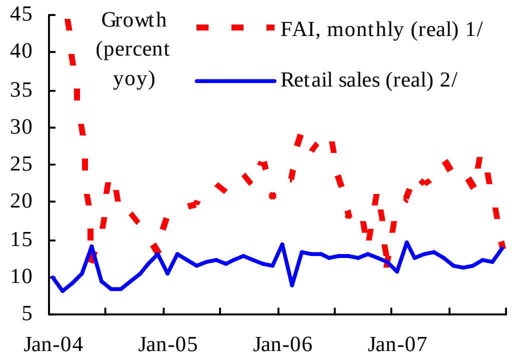


Source: NBS, staff estimates.
1/ Estimated using production-side GDP and trade data. Assumes unchanged terms of trade.

[1] The data for Figure 2 is calculated using unchanged terms of trade. Accounting for changes in the terms of trade would give a larger contribution of net trade during 2007, but this approach shows the same trend of a substantially lower contribution of net trade in the fourth quarter.

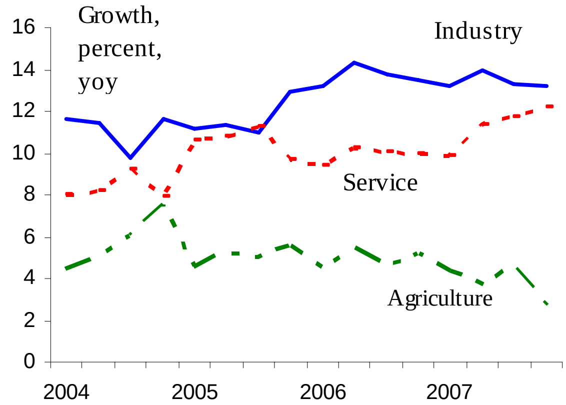
It is too early to tell whether more general rebalancing of the pattern of growth is taking place. On the heels of tightening measures introduced in the fourth quarter, including stricter enforcement of window guidance on bank lending as well as of criteria for investment projects, growth in *rea*l urban fixed asset investment (FAI) (deflated with the PPI) declined sharply at the end of the year to 13.5 percent (yoy) in December (Figure 3).[2] In the mean time, retail sales growth increased in the fourth quarter, even in inflation-adjusted terms. However, because of the recent measures, the December outcome for FAI is not likely to be representative for trend developments. Overall investment growth in 2007 overall was only moderately lower than in 2006, and it continues to be higher than consumption growth, thus increasing its share in GDP. Similarly, industrial production decelerated, but it continues to grow faster than services, thus increasing its share in GDP (Figure 4). These developments suggest that the measures taken so far to rebalance economic growth away from investment and industry to consumption and services have not yet had a noticeable impact. This is in large part because the fundamental drivers of investment in industry have not yet been much affected.

Figure 3. FAI and retail sales



Source: NBS, staff estimates.
1/ Deflated with PPI.
2/ Deflated with the retail price index

Figure 4. Movement towards rebalancing?



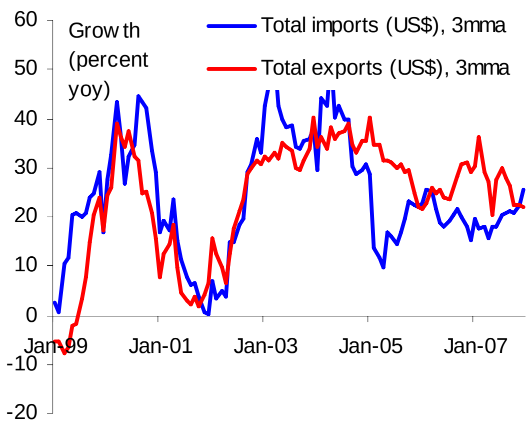
Source: NBS, staff calculation.

More detailed trade data reveals a strengthening of demand for imports in China's domestic economy throughout 2007. The easing of export growth through 2007 in response to a less buoyant world economy and several policy measures (Figure 5) including VAT rebate cuts for exporters, was particularly pronounced for normal (non-processing) exports. However, the VAT rebate adjustment has had a limited impact on China's processing trade. This trade is VAT exempt and is responsible for the bulk of the trade surplus (US$249 billion of the $266 billion surplus in 2007). Meanwhile, the pick up in import growth in the second half of 2007 was particularly pronounced for normal

2 In China, economic statistics on real (constant price, or price-adjusted) and nominal (current price) variables are still regularly put together and compared with each other. For instance, growth in retail sales and FAI in nominal terms is sometimes compared with real GDP growth. The agencies providing and publishing data could usefully be clear in their communication about the difference between nominal and real concepts.

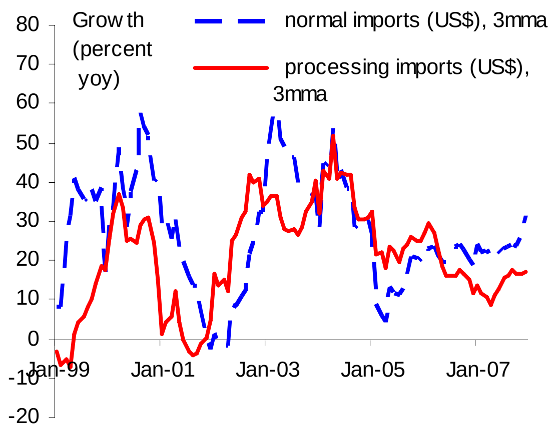
imports, which grew 31 percent (yoy) in US$ terms in the fourth quarter (Figure 6). Even after taking into account rapidly growing import prices (the import price index grew 10.6 percent in November, in US$ terms), this suggests strong demand for imports in the domestic economy. The fact that import growth was considerably stronger than export growth recently may signal an upcoming slowdown in the rise in the trade surplus (in the fourth quarter, the rise in the trade surplus (yoy), in US$ was only 13 percent, compared to 86 percent in the first half of the year).

Figure 5. Import growth picks up while exports decelerate



Source: customs, staff estimates.

Figure 6. Normal imports gain particular momentum



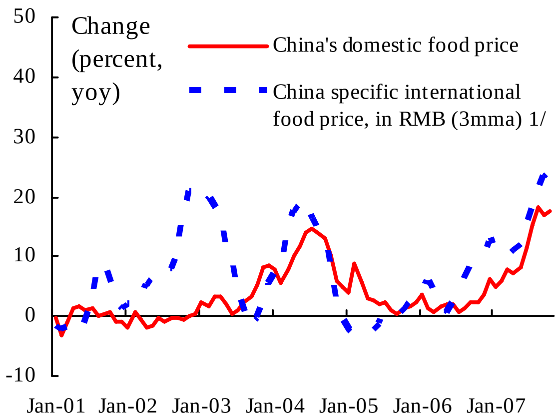
Source: customs, staff estimates.

Inflation rose considerably, due to higher food prices. Pork prices increased sharply because of weak supply, in part due to the outbreak of diseases. In addition, prices of internationally traded food products such as grain rose sharply. This matters because China's food prices have become increasingly linked to international prices since WTO entry (Figure 7). Given their large weight (1/3rd), food prices drove up overall inflation from 2.2 percent in January 2007 to 6.5 percent (yoy) in December, which triggered several measures, including some price controls (see policy section). Sharp increases in global prices of industrial commodities (mainly metals) in recent years have driven up China's raw material prices and, to a lesser extent, producer prices. But their impact on consumer prices was modest. International oil prices also soared, but this was only partly reflected in China's prices because of domestic price controls on fuels.

Some wage cost pressure seems to have emerged, but there is no significant spill over into general inflation yet. There are some signs that wage growth has been on the rise (Figure 7). Using data for manufacturing, growth of unit labor costs—the cost (in RMB) of producing a unit of output—in manufacturing has been positive in 2006-07 and is rising

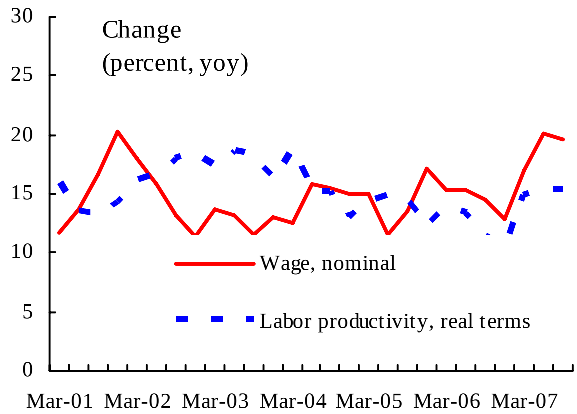
(Figure 9).[3] There is also some anecdotal evidence that high food prices are starting to spill over somewhat into prices of low-end services (where low-income workers' wages are an important cost factor). The pick up in producer price inflation to 5.4 percent in December reflects higher raw material and processed food prices, and possibly some wage pressures. Policymakers have been keen to prevent spill-over into more generalized inflation, including by raising interest rates and by introducing specific price freezes (see below). So far increases in consumer prices of industrial goods remain very modest, while profitability in industry has also remained strong. Indeed, the headline CPI data also suggests very little spill-over of high food prices into more generalized inflation to date, with non-food inflation remaining at around 1 percent through end-2007 (Figure 10). This suggests that wage cost pressures, if they exist, have so far been largely absorbed by companies and not passed on.

Figure 7. China's food prices have become quite responsive to international prices



Source: NBS, staff estimates.
1/ Intern. prices weighted using weights in China's food imports.

Figure 8. Is wage growth in manufacturing picking up?



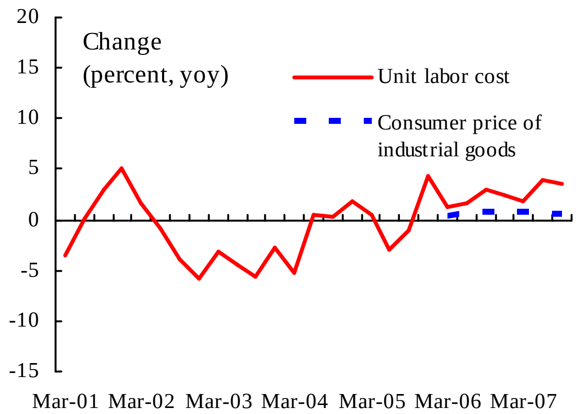
Source: NBS, staff estimates.

There are so far few signs of overall excess demand pressure, but there are risks. That non-food inflation has remained so low indicates that there has so far been little domestically-generated overall inflationary pressure in China. However, price controls and rationing may lead to an underestimation of inflationary pressure, and risks remain. This is consistent with the conclusions of comparing actual output with potential output. Potential output growth has kept up with actual output growth, preventing overall excess demand. But overall there is little spare capacity left in the economy.[4]

[3] It is difficult to put together consistent data for unit labor cost analysis in China, and it is better to treat this data with caution. That is in part because the official wage data only covers a part of manufacturing, with a bias to large SOEs. However, information on changes over time in wage growth are likely to be meaningful.
[4] See figures 12 and 13 in our September 2007 Quarterly Update.

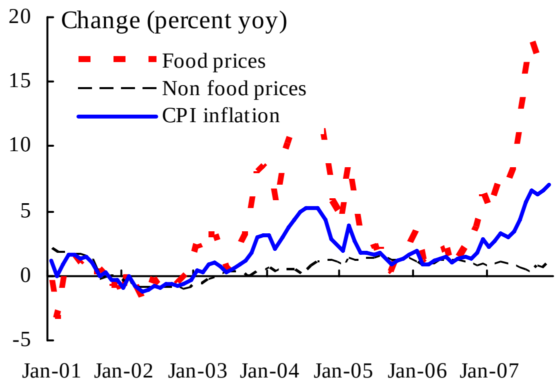
These price and cost developments take place against a backdrop of large balance of payment surpluses that continues to boost liquidity. China's external surpluses stem from large current account surpluses and capital inflows under its relatively fixed exchange rate regime. During 2007, the RMB rose gradually against the US dollar, with the pace accelerating at the end of the year and into 2008, although the effective nominal exchange rate strengthened less (the US dollar exchange rate was in end-January almost 11 percent stronger than a year ago). In 2007, with a current account surplus estimated at US$359 billion, a further rise in incoming FDI to US$ 83 billion (partly offset by rising FDI outflows), and apparently large net portfolio inflows as well, official foreign reserves surged US$459 billion in 2007 to US$1529 billion (excluding foreign exchange reserves "offloaded" to other institutions and commercial banks) (Table 1). The resulting increase in liquidity calls for sterilization, which the PBC does by issuing central bank bills and hiking reserve rates. Liquidity is also affected by domestic financial market developments that increase the money multiplier (the ratio between M2 and central bank-issued base money).[5] Nonetheless, window guidance has so far been relatively successful in reducing credit expansion, including the tightening of window guidance at the end of 2007. M2 growth of 16.7 percent (yoy) at the end of 2007 was lower than registered nominal GDP growth of 20 percent in the fourth quarter.

Figure 9. Seeming rise in unit labor costs in manufacturing has not yet fed through to prices



Source: NBS, staff calculation.

Figure 10. While food prices soar, non-food price inflation remains low



Source: NBS, staff calculation.

So far, balance of payment surpluses (and the policy response to them) have mainly contributed to high asset prices—shares in particular—as opposed to goods inflation. With non-food inflation still so modest, it does not seem that inflation is due to excessively loose monetary policy. The liquidity from the external surpluses is contributing to steady asset price increases, share prices in particular. The massive increase in share prices in 2006 and 2007 is primarily a domestic phenomenon, rather than primarily caused by capital inflows. With enthusiasm for equity investment booming, and deposit rates low, households have shifted assets from deposits to shares. A key reason why deposit rates are

[5] See the Box on page 13 of our November 2006 Quarterly Update.

so low is that, under the existing exchange rate regime, and the resulting balance of payment surpluses, the authorities are reluctant to raise domestic interest rates, for fear of attracting portfolio capital inflows. The liquidity is also contributing to housing market price increases, although China's overall increases in housing prices remain low by international comparison.

ECONOMIC PROSPECTS AND POLICIES

Economic prospects

Global growth prospects for 2008 have deteriorated considerably amidst financial market turmoil and increased uncertainty. As the negative impact of the financial turmoil on the real economy in the US and elsewhere becomes visible, the consensus forecast for US GDP growth in 2008—collected from professional forecasters, with some lag—has declined by 0.6 pp to 2 percent since early September, when we prepared the previous quarterly.[6] The consensus forecast for US domestic demand in 2008, a better determinant for US demand for China's exports, came down by about 1 pp. On the heels of disappointing recent economic activity data from the US and renewed financial turmoil, the International Monetary Fund revised down its GDP forecast for the US to 1.5 percent in end-January, and many see a distinct possibility of a US recession. The consensus forecast for domestic demand growth in the euro zone came down by ½ pp in the 4 months to January. Overall, the risks to the global growth outlook seem to be mainly on the downside. Weaker growth prospects in the US also mean lower interest rates there, as indicated by the rapid reduction in US Fed interest rates in recent months, and a weaker US dollar against other major currencies.

The expected weakening of global growth is bound to affect China's economy. Chinese financial institutions have low direct exposure to US sub prime securities, and the direct effect of the US sub prime problems via balance sheets is small.[7] The direct impact of the international financial turmoil on China's financial markets has also been small, because capital flows are restricted by controls on portfolio flows. The expectation of weaker economic growth and earnings prospects for Chinese companies due to the international market turmoil has affected sentiment on China's stock markets. However, much of the recent volatility in China's stock markets was due to domestic concerns and policies. The main impact of the international turmoil on China comes via the real economy. With over 40 percent of China's exports going to Europe and the US, exports will be affected considerably by the slowdown in the high income countries, which are most affected by the financial turmoil. Exports may further be somewhat affected by accelerated appreciation against the US dollar and domestic cost increases, including from other rebalancing policies (see price prospects below), although these may be largely offset by continued rapid productivity growth. The prospects of slower global growth and cost increases, combined with more uncertainty, is also likely to reduce the appetite for

[6] Consensus Forecast (January 14).
[7] Only a few Chinese banks have significant exposure. For the Chinese bank that reportedly had the largest exposure, this exposure was still very small relative to its balance sheet.

investment in the (manufacturing) tradable sector, who's fortunes depend on the state of the global economy.

China's domestic economy should maintain robust momentum. China entered 2008 with strong momentum behind domestic demand. The policies introduced to contain investment are taking effect. However, so far confidence about the domestic economy has remained high, as well as liquidity and enterprise profitability, which is so important for financing investment in China. That makes a drastic slowdown still unlikely. Moreover, while policymakers want to contain investment growth, they do not want to see a sharp slowdown in investment.[8] Thus, the tightening measures may be eased in accordance with evidence about a slowdown of the economy (see below). Therefore, we assume some but no dramatic slowdown in overall investment in 2008.

Consumption should grow robustly. During the last decade, consumption has grown more slowly than the overall economy, as the share of wage income and household income in the economy declined and household saving rates remained high. Rebalancing is on the agenda, and there have in recent months been several announcements about policy measures that together should have some positive impact on consumption (see the section on fiscal and structural policies). It is unlikely that there will be a rapid increase in the share of wages and household income in the economy or the high household saving rate. Nonetheless, solid income and rising asset prices provide support for consumption, as witnessed by the strong retail sales growth at the end of 2007.

In light of these considerations, we now project GDP growth of 9.6 percent for 2008 (Table 1**).** This is down from the previous projection of 10.8 percent in early September. This is also slightly below estimates of current potential growth, which may help to limit the risk of spill-over of food price increases. Given the current uncertainty about the global outlook, the risks are larger than normal, especially the downside risks.

The trade and current account surpluses are likely to remain broadly at the high levels of 2007. A soft export outlook combined with relatively strong prospects for imports suggest that the trend of imports outpacing exports that started in the fourth quarter could continue in 2008. With the level of exports considerably higher than imports, the trade surplus is unlikely to fall significantly. But, if the trend of imports outpacing exports continues at lower rates of export growth, the trade surplus should stop increasing.[9]

[8] The CPC's Central Economic Working Conference which formulated the broad macroeconomic policy stance for 2008 was held in early December 2007 (when projections for the global economy had not yet been adjusted much from the optimistic views held throughout most of 2007). It concluded that the primary tasks the "two prevents" (i) prevent economic growth developing from rapid to overheating and (ii) prevent the current food-price led price rises from evolving into "evident inflation." The conference concluded that this should be possible if China continued with a "prudent" fiscal policy and shifted monetary policy from "prudent" to "tight."

[9] If exports grow 15 percent in 2008 (in US$ terms), imports need to grow by 19 percent to stabilize the trade surplus in absolute terms.

Table 1. China: Main Economic Indicators

	2004	2005	2006	2007	2008 1/
The real economy (change in percent)					
Real GDP (production side)	10.1	10.4	11.1	11.4	9.6
Real GDP (expenditure side) 2/	9.9	13	13.6	…	…
Consumption 2/	7.1	9.4	10.3	10.9	11.0
Gross capital formation 2/	13.4	11.6	13.2	14.3	13.5
Fixed capital formation	11.7	13.6	13.3	14.5	14
Exports (goods and services) 3/	28.4	23.6	23.6	21.2	15.2
Imports (goods and services) 3/	22.7	13.4	18.6	16.5	18.8
Consumer prices (period average)	3.9	1.8	1.5	4.8	4.6
GDP deflator	6.9	3.8	3.0	5.2	5.0
Fiscal accounts (percent of GDP) 4/					
Fiscal balance	-1.3	-1.2	-0.5	-0.6	-0.9
Total revenue	16.6	17.8	18.9	19.8	20.6
Total expenditure	18.0	19.0	19.4	20.4	21.5
External account (US$ billions)					
Current account balance	69	161	250	359	378
As share of GDP (%)	3.6	7.1	9.5	11.0	9.3
Capital account balance	138	47	-3	100	80
(including errors & ommissions)					
of which: FDI (net)	53	68	60	75	60
Change in reserves (increase =+)	206	207	247	459	458
Foreign exchange reserves	610	819	1066	1529	1987
Other					
Broad money growth (M2), e-o-p, in percent	14.6	17.6	16.9	16.7	15

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.

Price pressures should ease in 2008, but inflation is not likely to decline to low levels. The World Bank projects that international food prices rise a further 5-10 percent on average in 2008 (in US$), with international grain price rises at the high end of this range. This would imply a decline in the *rate* of global food price increases.[10] Domestically, pork prices should eventually respond to new production coming on the market. The Bank sees international industrial commodity and energy prices decline somewhat on average in 2008, compared to 2007 (in US$ terms), which could mean more modest increases in China's raw materials and the PPI over time. However, cost increases may come from rebalancing policies—including higher land lease fees, cuts in export tax rebates, export taxes on energy intensive products, and a new labor law. Energy and utilities prices will

[10] World Bank, Development Prospects Group (December 2007).

eventually have to be brought closer to market and/or cost recovery levels (see below), and inflation prospects will depend on the timing and speed of adjustment. Unit labor costs in manufacturing may continue to increase (yoy), although probably at still modest rates. Under these assumptions, consumer price inflation pressure may ease somewhat through 2008, but inflation is not likely to decrease to the low levels seen in most of 2000-2006 and upward risks remain.

Risks on price pressures may be on the upside. International commodity prices including food are notoriously difficult to forecast and in recent years prices have usually been higher than expected. Thus, price pressures in global commodity markets including food this year may again be higher than expected. The significant downside risk to global growth is also somewhat of a downside risk to China's price pressures, because many global commodity prices would ease and some of China's exporters will redirect production to the local market, putting downward pressure on prices. However, China's inflation is currently largely driven by food prices. Unlike industrial commodities, international food prices do not depend much on growth in the world economy, and the same is true for domestic food prices (bio fuel production and supply side issues are currently the main drivers for high food prices).

Macroeconomic policies

In light of these developments and prospects, the three key macroeconomic issues that policy makers have to deal with are: (i) the likely impact on China of the prospective global slowdown; (ii) inflation; and (iii) continued large balance of payment surpluses.

The first key issue is the likely impact on China of the prospective global slowdown. It is important to have a view on the likely impact on China's economy and on how the overall macroeconomic policy stance should be adjusted in light of changes in the outlook. Given the large degree of uncertainty, this requires vigilance and flexibility.

China is well-placed to deal with a contained global slowdown. This is so because of the strong momentum of the domestic economy and the strong macroeconomic position. In fact, a somewhat weaker world economy with somewhat weaker demand for China's exports and lower international commodity prices can help meeting China's objectives by lowering somewhat overall growth, inflation pressures, and the trade surplus. It is too early to say what is the appropriate stance on the existing tightening measures to contain investment. However, in the case of a mild internationally-driven slowdown there is likely no need to actively pursue expansionary macro policies to stimulate the economy.

In the case of a more pronounced global slowdown and impact on its economy, China is in a strong macroeconomic position to stimulate demand. China can do this by adjusting the fiscal stance and ease credit controls. In light of the current concerns about affordability of food, targeted direct subsidies to offset the impact of high food prices on the poor may be an attractive alternative to price controls. Easing the fiscal stance can also be done via more general spending or tax cuts. Barring a serious downturn, the domestic case for lowering interest rates and relaxing liquidity management is not strong, however, given the concerns on inflation and the need to ensure that price pressures do not spill over.

The second key issue is inflation. This is the issue that currently concerns policymakers the most**.** As discussed above, with inflation currently largely driven by food prices, inflation prospects do not depend much on global and/or domestic growth prospects, even though lower growth helps somewhat to dampen overall price pressures. The government's main objectives are to contain overall inflation at a reasonable level; ensure sufficient supply of goods on key markets; and keep basic necessities including food affordable for people with modest incomes. So far there is limited spill over of higher food prices into more generalized inflation and no obvious overall excess demand yet. Economic policy makers need to ensure this remains the case and that inflation expectations remain contained. This calls for relatively tight monetary policy and effective communication, while exchange rate policy also matters. The government has also implemented administrative measures including some price controls, and it could consider using direct subsidies.

The third key issue is continued large balance of payment surpluses that inject liquidity into the economy. As with inflation**,** the balance of payment surplus is also not very dependent on global growth. The surplus will remain large even with weak global growth, thus continuing to put pressure on the currency, inject liquidity, and compromise monetary policy.[11] Appropriate policies are needed to (i) reduce the surpluses and (ii) deal with the liquidity. In the short term, this notably has implications for monetary and exchange rate policy. Structural policies to reduce the imbalances associated with China's pattern of growth are also key.

Inflation concerns and balance of payment surpluses have implications for monetary and exchange rate policy, and administrative and fiscal measures.

Monetary and exchange rate policy

Inflation concerns call for relatively tight monetary policy. A stronger exchange rate will help dampen inflation pressures and reduce the current account surplus, while concerns about capital inflows call for strengthening the enforcement of existing capital controls and more exchange rate flexibility.

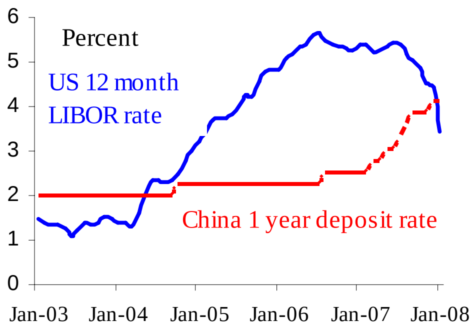
With monetary policy remaining constrained by the exchange rate policy, administrative measures continue to play a role in monetary policy. High balance of payment surpluses put upward pressure on the RMB. Much of the surpluses are sterilized using open market operations and reserve rate increases. With the interest differential between China and the US having turned positive (Figure 11), policy makers are concerned that high interest rates would attract more portfolio flows (although it is not clear how high interest rate sensitive capital inflows are). This external constraint has kept

[11] If global growth weakens while China's growth remains robust, the current account surplus would reduce but this would be offset by higher net capital inflows into China attracted by growth and interest rate differentials.

domestic interest rates lower than they otherwise would be. Interest rates were increased during 2007, but these increases lagged behind the rise in inflation. Thus, on the metric of real interest rates (deflated by current inflation) there was no monetary tightening in 2007 (Figure 12). As a result, administrative measures and window guidance are used to affect bank lending. The tightening of window guidance at the end of 2007 have been relatively successful in reducing credit expansion, although the success of such measures is difficult to maintain for long periods without economic costs.

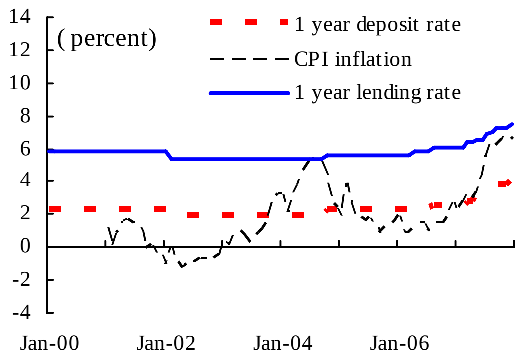
Looking ahead, monetary policy may continue to rely on credit controls and liquidity management. The government's desire to rely more on interest rates in the conduct of monetary policy will over time require a more flexible exchange rate regime. In the meantime, as long as external surpluses remain large, policy makers will consider the prospects for further US Fed cuts as a constraint on China's interest rate policy. Thus, a relatively tight monetary stance may continue to be pursued by mopping up liquidity (through open market operations and higher reserve requirement ratios) and administrative measures such as the quarterly credit quotas. The PBC's monetary policy program for 2008 will likely be reflected in lower M2 and lending growth targets, including bank-specific quotas for the large banks. Under current conditions, it pays to enforce existing capital controls on inflows as much as possible.[12] While liberalizing controls on outflows is tempting, 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.

Figure 11. The interest rate differential with the US has reversed



Source: CEIC, staff calculation.

Figure 12. Interest rate increases lagged behind the rise in inflation



Source: CEIC, staff calculation.

Regardless of the framework, it is important to continue to communicate effectively and credibly to the public about the projections for inflation and how monetary policy will ensure moderate inflation in the medium term, as the PBC is doing, for instance in the recent monetary policy report.

[12] In early December, the State Administration of Foreign Exchange (SAFE) announced that it would treble the amount of money that foreigners can invest in the mainland. Specifically, the quota for qualified foreign institutional investors (QFII) has been increased with immediate effect from US$10 billion to US$30 billion.

The authorities have speeded up the pace of appreciation against the dollar. This has helped dampen price rises of tradable goods—including food prices. Speeding up the pace of appreciation would further dampen these price increases directly and indirectly stem the current account surplus that is an important contributor to the overall external surplus. Given the movements of the US dollar against other currencies, and the growing importance of countries other than the US as trading partners, it is increasingly necessary to look at and discuss China's effective, trade weighted exchange rate, as opposed to the US dollar exchange rate.

Administrative and fiscal measures

The government has introduced several administrative and fiscal measures to dampen price rises, keep items affordable, and manage expectations. Administrative measures introduced include: (i) a moratorium on price adjustments on administratively controlled prices of energy and utilities; (ii) price controls on a small set of food items, including instant noodles and university cafeteria prices; and, (iii) in January, temporary measures that require large producers of grain, edible oil, meat products, eggs, milk, and LPG to seek approval from the government before raising prices while medium and large wholesalers and suppliers must report within 24 hours of any significant price increase. Fiscal measures introduced include (i) subsidies for taxi drivers; (ii) subsidies for raising pigs and producing grain; (iii) taxes on the export of grain and introducing export quotas; (iv) taxes on the export of energy intensive products; and (v) reductions in import tariffs for fuel. The government also released stocks from the national grain reserve on the market.

As the government may consider additional such measures, there are several observations to make. Box 1 discusses some general considerations. How do these general considerations help in deciding what to do if food price pressures intensify?

- **Under current circumstances, price controls have short term benefits and costs.** It is difficult to know with certainty, but it is at least possible that the beneficial effects of modest price controls may well outweigh the detrimental effects in the short run. That is because price increases so far are mostly in food and do not obviously come from large excess aggregate demand.

- **In the longer run, the detrimental incentive effects are likely to outweigh the benefits.** Price controls block the transmission of price signals to producers to increase supply. It is difficult to maintain administrative measures for long periods of time, especially if they become at odds with market conditions and the macro stance. Price controls and quotas also contribute to policy uncertainty, which is not helpful for the business environment.

- **Thus, administrative measures such as price controls and quotas should be used sparingly and should not be relied on for long periods of time.** Indeed, the

NDRC, who issued the recent measures, indicated that they should be abolished as soon as the "obvious" price pressures have abated. [13]

- **Short-term considerations should not distract from the strategic direction of reform.** Policy makers need to balance the need to reduce inflation in the short term with the need to improve efficiency and reduce resource intensity and pollution. This is a particularly pressing issue for energy prices, where the 11th 5 year plan calls for improving energy and resource efficiency, for which pricing energy in line with scarcity is key. If, as many, including the World Bank, expect, international oil prices were to be sustained at high levels, Chinese retail prices of fuel would have to increase significantly. This would likely be done gradually, which is fine. It would help the government's efficiency goals, however, if a calendar of gradual price increases is announced in advance. In that way, people start to change their behavior, for instance in terms of what type of car or house heater to buy.

- **Given the government's strong fiscal position, the authorities could consider introducing direct subsidies.** Such subsidies could help meet the key objectives of keeping supply up and basic necessities including food affordable while keeping markets clearing.

- **To minimize costs and keep subsidies justifiable, direct subsidies are, if practically possible, best targeted at the most needy groups.**

- **The use of administrative and fiscal measures should be flanked by consistent macroeconomic policies.**

Other fiscal and structural policies—key for rebalancing

Fiscal and structural policies are important to rebalance the pattern of growth, making growth more resource efficient, cleaner, and more equally shared. During the last 6 months, many fiscal and structural policy initiatives have been taken.

Recent fiscal policy initiatives include the following.

- A proposal to raise the (monthly) individual income tax levy threshold from RMB 1,600 to RMB 2,000 is expected to be adopted in March. The raise would reduce tax collection by RMB 30 billion and would increase the share of income earners exempt from income tax from 50 to 70 percent.

[13] The NDRC, who issued the measures, indicated that they should be abolished as soon as the "obvious" price pressures have abated.

Box 1. Administrative and fiscal measures in the context of inflation—general considerations

As the government may consider additional such measures, there are several observations to make.

Administrative measures such as price controls are typically introduced to stabilize prices. They affect the incentives to supply and demand. On the supply side, price controls typically discourage supply (as with fuel products) or lead to a reduction of quality and quantity (less meat in cafeteria food). On the demand side, capping prices in the face of changing market conditions prevents the reduction in demand or substitution to other, similar products that would be useful to re-equilibrate market conditions (as with pork) or be appropriate otherwise (as with energy).

Fiscal measures such as direct subsidies and taxes can sometimes substitute for administrative measures and have a different economic impact. Overall, they tend to keep incentives closer to being market determined and thus be less distortive. A producer subsidy increases the incentive to supply and leaves demand market determined. We would normally expect a producer subsidy to result in a (somewhat) lower market price, and higher supply and demand. A consumer subsidy makes items more affordable while leaving supply market determined. We would normally expect the consumer subsidy to result in a (somewhat) higher market price and higher supply and demand. On the downside, subsidies have fiscal costs

There are a few general principles on administrative and fiscal measures.

- **Administrative measures can be helpful in managing expectations.** They may in certain circumstances stabilize market conditions. They can be particularly helpful to quickly stabilize conditions and can be effective for a short period.

- **If overall market conditions and macro policies are broadly consistent with the administrative measures, the measures may help restoring market equilibrium and stability.** In this case, the potential negative incentive effect of price controls are limited.

- **If overall market conditions and macro policies are inconsistent with the administrative measures, it is difficult to enforce the measures successfully for longer periods of time.** That is because in these circumstances the underlying economic incentives are at odds with the measures. For instance, price controls reduce the incentives to produce.

- **Direct subsidies cause fewer incentive problems.** The key considerations determining their introduction are: (i) is the fiscal cost reasonable and financially sustainable; (ii) is the subsidy justifiable from the perspective of fairness.

Targeting direct subsidies to specific groups (or markets) can sharply reduce the fiscal burden. Targeting has administrative cost and may distort decisions. However, international experience suggests that with subsidies the weighing of pros and cons often points to targeting them to specific groups.

- Under a temporary pilot program in 3 provinces, people will receive a 13 percent subsidy when they purchase electrical appliances in rural areas.

- The government will double its contributions to the cooperative rural and urban health insurance schemes. Currently the central and local government each contribute RMB 40 per person per year.

State-owned enterprises will pay dividend to Government from 2008. Under a pilot project, the Ministry of Finance and the State Asset Supervision and Administration Commission (SASAC) will collect 10 percent of the after-tax profits of enterprises in the chemical, coal, oil, power, telecommunications and tobacco industries, and 5 percent in the case of most other SOEs.

Some progress has been made in reducing the energy intensity and emission. China aims to reduce its overall energy intensify (energy consumption per unit of GDP) by 20 percent during the 11th Five Year Plan, and emission by 10 percent. In 2006, the first year of the Plan, progress was disappointing. Energy intensity fell only 1.3 percent and emissions of sulphur dioxide, a cause of acid rain and chemical oxygen demand (COD), a measure of water pollution, increased. In 2007, the government took several new measures and initiatives, including increasing spending on saving energy and reducing emissions, closing inefficient coal-fired power units and outmoded steel plants, and applying environmental criteria to bank lending. Partly as a result of these above-mentioned measures, China's energy consumption per unit GDP fell three percent in the first nine months of 2007, while both sulphur dioxide emissions and chemical oxygen demand dropped. Later in the year, the government also raised oil product prices, by 10 percent, and imposed an export tax on some energy intensive products.

The government cracks down on environmental violators. The Ministry of Commerce (MOC) has issued a notice that exporters would be prohibited from trading abroad for one to three years if they were found to be violating China's environmental protection rules. These measures are targeted at five sectors, including metal processing, chemicals, cements, textiles and light industry, which together account for 80 percent of the country's energy consumption.

FINANCIAL AND CORPORATE SECTOR POLICIES AND DEVELOPMENTS

Capital market developments

China's stock market saw another year of fast growth in 2007. By the end of 2007, Shanghai and Shenzhen Stock Exchanges had 1,550 listed companies. The total market capitalization of these markets was approx. US$4.48 trillion (about 140 percent of GDP), making China third in global markets and the first among emerging markets in terms of total market capitalization to GDP.[14] The big caveat is that a large portion of the shares is

[14] Source: CSRC Reports

still non-tradable. Nonetheless, total funds raised by Chinese companies through IPOs in the domestic market in 2007 reached US$62.1 billion, the highest world-wide. Daily trading volume averaged at US$26 billion, making China's market one of the most actively traded markets in the world.

Major reforms in the law enforcement in the equity market were implemented. China Securities Regulation Commission (CSRC), the securities market regulator, beefed up its enforcement capacity in late 2007. A new committee on administrative sanctions was set up in CSRC to oversee the enforcement activities by CSRC. A Chief Inspector's Office and a new Inspection Bureau were established with a total staffing of 170 law enforcement officials at CSRC's headquarters and 110 staff at CSRC's regional offices. Under the new system, the chief inspector is given the responsibility to coordinate and oversee the investigation at all levels. The priorities for enforcement activities of CSRC are investigations on insider dealings, market manipulation and false statements, as well as critical, urgent and sensitive cases with extensive concerns and potentially large impact on the economy. CSRC is also to disclose their investigation to the public through their public information system. This is seen as a very positive move for China in law enforcement and investor protection.

Capital markets opened up further to foreign participation. As part of the latest China-U.S. strategic economic dialogue in December 2007, China committed to allowing foreign companies to issue RMB-denominated stocks, corporate bonds and financial bonds. CSRC is going to assess the impact of foreign investment in Chinese securities companies and come up with policy recommendations. In related developments, Credit Suisse and Morgan Stanley have each signed agreements with Chinese companies (the Founder Group, and China Fortune, respectively) to establish investment banking joint-ventures in mainland China. Under the current law, foreign firms can own a maximum of 33 percent equity in such joint ventures. These, along with Goldman Sachs and UBS, are currently the only foreign investment banks that the Chinese Securities and Regulatory Commission (CSRC) is considering to allow to underwrite IPOs and conduct advisory and research services in the mainland Chinese capital market.[15]

The first corporate bonds were launched under new, simplified rules. CSRC issued provisional rules for pilot issuance of corporate bonds on Aug. 14, 2007 which has substantially scaled down government approval requirements, and the mandatory bank guarantee previously required for issuing enterprise bonds was removed. On September 19, 2007 Yangzi Power became the first listed company to issue RMB4 billion corporate bonds under the new CSRC rules (the company obtained approval for a total issuance of RMB8 billion, the second batch will be issued later).

SME Finance

Several efforts have been made to improve access to finance by SMEs through the capital markets in 2007. Notably examples are "SME bundled bonds" issuance and the Venture Board development. "SME bundled bonds" are bonds of different firms bundled

[15] Source: Financial Times, December 9-10, 2007.

together by the China Development Bank into a bond that is treated as one bond by the NDRC, the regulator. The first "SME bundled bond" was issued on November 26, 2007 in Shenzhen. The bond was issued by 20 SMEs jointly, while each bears their own repayment obligation. It was underwritten and guaranteed by China Development Bank. The bond was issued under the NDRC approved enterprise bonds quota approved in early 2007. .

Discussion is going on about a new board for high growth enterprises. Regulatory authorities held a working meeting in Hangzhou on November 24, 2007 to discuss the preparation for a venture board targeting at high-growth SMEs. It is widely expected that the venture board can be launched in 2008. CSRC and other related government agencies are to develop rules and regulations for this new board.

Housing Finance

China's government has stepped up its efforts to meet the demand for affordable housing from lower and middle income households in cities. An intra-government task force was formed to address a series of policy issues related to urban housing, ranging from urban and rural land policies, urban planning, fiscal subsidies from central government to low income households, and local governments subsidies programs for low income housing, housing for migrant workers.

There are several obstacles to develop appropriate products for this group of borrowers. Most of the measures implemented to date focused on the supply side (building houses). On the demand side, specific credit policies are yet to be developed to cater to the lower and middle income households and to the urban migrants. The obstacles include the following:

- ***First***, there is a lack of effective credit information system for the lenders to track the credit history of borrowers, especially for the lower and middle income households. Although the default rates of residential mortgage loans have been kept low in China in the past years, the behavior of mortgage borrowers have not been fully understood as China's housing market has not gone through a full cycle yet.

- ***Second***, the property registration system in China is not a national system, making it difficult for lenders to verify the housing status of the borrowers. Although PBC recently issued new policies to tighten mortgage lending, especially for real estate investors and the second house buyers, mortgage lenders will find it hard to apply the rule if the borrowers buy in cities other than their hometown**.**

- ***Third,*** there are no effective mortgage insurers in the market to share the risks with mortgage lenders to reduce the down payment and provide the necessary insurance coverage for defaults, which will help the lower and middle income households to buy their houses earlier. Legal and regulatory framework for this type of credit insurance is yet to be further developed to ensure proper supervision of the mortgage insurers in their own risks management.

SPECIAL FOCUS –NEW PPPS AND CHINA'S ECONOMY

The International Comparison of Prices (ICP) project recently released improved estimates of different countries' GDP and per capita GDP calculated on a purchasing power parity (PPP) basis.[16] These new estimates show the Chinese economy to be about 40 percent smaller in PPP terms than previously thought. How do these new PPP estimates affect our understanding of the Chinese and global economies?

PPP estimates are useful to compare real living standards in different countries. The U.S. is the richest large country in the world with per capita GDP of about $42,000. At official exchange rates, China's per capita GDP in 2005 was about $2,000, less than one twentieth the U.S. level. However, that 20:1 ratio is not a good indication of differences in real living standards. The reason is that, translated through official exchange rates, the prices of many non-traded services are low in China (as in other developing countries). A restaurant meal, a haircut, or household help are all very inexpensive in developing countries, compared to developed ones. Prices of traded manufactured products, on the other hand, tend to be similar: a brand name television costs roughly the same everywhere because international trade brings prices of traded goods to about the same level in all economies.[17] Correcting for the differences in prices is important, because PPP estimates of economic size are better determinants for the demand for inputs and resources.

The purpose of PPP exercises is to try to correct for these differences in prices. The ICP exercise involves collecting data on prices of more than 1000 different goods and services. For the current ICP effort, 146 countries participated. This was the first time that China participated. Previous PPP estimates for China were academic guestimates from the 1980s and were clearly imperfect. For this round of the ICP, price data were collected in 11 Chinese cities. In each city some rural districts were included, but there is a question as to whether these close-in rural areas really represent rural Chinese prices. If they do not, then there would be some upward bias in the estimated average price level. Since only a small amount of GDP is produced in rural areas, this would probably not create a big error for the overall GDP estimate. However, it does raise questions about PPP poverty estimates, to which we return below.

The new estimate for China's relative price is closer to that in other countries at similar stage of development. The ICP project found that prices in China—for the GDP basket—were around 42 percent of those in the US.[18] **Figure 1** shows price levels, relative to the US price level (or, the ratio of the PPP exchange rate to the official exchange rate), for over a hundred countries. This ratio tends to be low for developing countries (where prices of non-traded goods are low) and rises toward 1 as per capita income increases. The

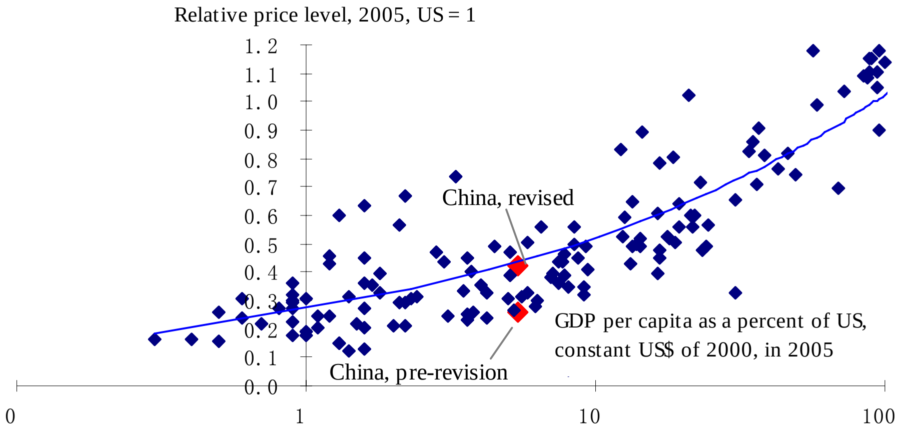
[16] The press release and full report can be found at www.worldbank.org/data/icp.

[17] Some manufacturing goods made and sold in developing countries such as China are cheaper than international brands. The difficulty is to separate out the price difference, adjusted for perceived quality and brand value.

[18] Thus, the average PPP exchange rate with the US dollar in 2005 was 3.4, compared to a market exchange rate of 8.2.

old ratio for China was far below the regression line, whereas the revised data put China right around the regression line.

Figure 1. The relationship between relative prices and stage of development



Sources: ICP, World Bank Development indicators.

PPP estimates for economic size and living standards for several developing countries including China have been revised downwards. The resulting PPP estimate of per capita GDP for China is $4091 in 2005. Thus, the best estimate of the difference in real living standards between the U.S. and China in 2005 is 10:1. The previous academic guestimate, updated to 2005, yielded an estimate of $6760 for China's PPP per capita GDP (about a 6:1 difference with the U.S.). On this basis China's real per capita income is about 40% lower than previously thought. China is not the only large economy for which such a revision was made. The estimate for India has been revised down by broadly the same factor. Thus, the updated estimate of India's PPP per capita GDP is $2126, so that the ratio between China and India (roughly 2:1) is what we previously thought.

The revised PPP estimates do not change our understanding of real growth. We know from the domestic price data how prices in China developed over the last 25 years. The problem was benchmarking China's price level to international prices. The new estimates mean that—compared to developed countries—China was poorer in the past than previously thought. The best estimate of growth rates, for all countries, comes from the country's own constant-price GDP data. So, the new data do not mean that China was growing more slowly than we thought, only that, in PPP terms, it started from a lower base in 1978 than the previous estimates suggested.

The new data change the picture of what is happening in the global economy somewhat, but not much. On the previous estimates, we thought that on our growth projections China would overtake the U.S. as the largest economy in PPP terms in a few years. On the new estimates, this will take over a decade longer. But the big growth story remains the same: for the past 15 years or so, several developing economies have been growing much faster than rich ones so that their weight in the world economy is increasing. The new data show that, measured in PPP terms, they started from a lower base than we had thought, and thus had not reached quite the level that we had thought, but the basic picture is not altered by the new estimates. Moreover, our understanding of the relative size of economies measured in market exchange rates now and in the future has not changed. On this metric, it will take much longer until China's economy becomes larger than the US. Using our real growth projection, that would take around 20 years with Japan-style real exchange rate (RER) appreciation, and almost double that time with Thai-style RER appreciation. Table 1 shows shares of the world economy in 2005 according the various metrics for key countries.

Table 1. GDP, as share of the world (2005)

	market exchange rates	PPP	
		old	revised
High income	75.6	54.2	…
US	28.0	20.5	22.5
Other	47.7	33.7	…
Low and middle income	24.4	46.1	…
China	5.0	14.2	9.7
India	1.8	6.2	4.3
Other	17.6	25.7	…

Source: ICP, World Bank.

What about poverty? If China as a whole is poorer than we thought, then are there a lot more poor people than we had reckoned? And what has been the trend of poverty reduction?

Analysis of poverty reduction is best done with household survey data measured in constant price domestic currency. China has good household survey data going back to 1981. World Bank analyses use a "cost of basic needs" poverty line that is an estimate of how much income a family needs in order to consume 2100 calories per day plus other basic necessities of life. The World Bank prefers to apply the methodology to consumption rather than income, in order to focus on whether or not families actually consume a minimum basket of necessities. Anyone who does not, falls below the "cost of basic needs" poverty line. Based on this line, we estimate that poverty declined from 64 percent of the population in 1981, to 33 percent in 1990, 10 percent in 2004, and 7 percent in our most recent estimate for 2007 (Table 2).

PPP conversion factors enter into the analysis if one wants to add up or compare the number of poor people in different countries based on a common monetary global poverty line. Based on the old PPP conversion factors, the cost of basic needs line in China was coincidentally almost exactly $1 per capita per day at PPP, so that the estimates immediately above could also be cited as $1 per day poverty estimates. The improved PPP conversion factors show that prices are higher in China than previously thought. So we will prepare new estimates of $1 per day poverty in China (and all other developing countries).

Table 2: Estimates of poverty rates in China based on different poverty lines

Poverty line	1981	1990	2004	2007
World Bank cost of basic Needs poverty line	64%	33%	10%	7%
$1 PPP Poverty line (using New PPPs)	71-77%		13-17%	

There are three important points to note about this process. First, the cost of basic needs poverty estimates in the table will not change and are still our preferred estimates for analyzing poverty in China. Second, because prices are higher in China than previously thought, the new $1 per day poverty line will be higher. The estimated number of $1 per day poor in China will go up – but the estimated number in the past will go up as well. The choice of PPP conversion factor does not affect the trend. Third, the World Bank will not take the GDP conversion factors published by the ICP and directly apply these to household survey data. The poor do not consume a representative basket of GDP. They consume a much more narrow basket in which food dominates. Also, the poor in China are almost exclusively rural, so we will make a correction for differences between the urban prices sampled in the ICP exercise and rural prices based on other price surveys. So, the World Bank will calculate special conversion factors for poverty analysis, for all countries where the data allow this, not just for China. That work will take some months to complete, but we can already see in the data that in China's case the change in the conversion factor for poverty is not going to be that large (as the change in the conversion factor for GDP). So, to avoid misinterpretations based on the new GDP conversion factors, we present here an initial estimate of the range in which the new poverty estimates for China are likely to lie. The $1 per day poverty rate in 2004 is likely to be in the range of 13-17%, rather than the earlier estimate of 10%. Estimates for earlier years will be revised upwards as well, so that based on this new conversion factor the poverty rate in 1981 will be estimated to be in the range of 71-77% of the population.

In summary, the choice of PPP conversion factor does not change the conclusion that China has had the largest and fastest poverty reduction in history. Our old estimate of $1 per day PPP poverty reduction in China was from 64% of the population at the beginning of reform to 10% in 2004. The new estimate will show a reduction from something like 74% in 1981 to 15% in 2004.

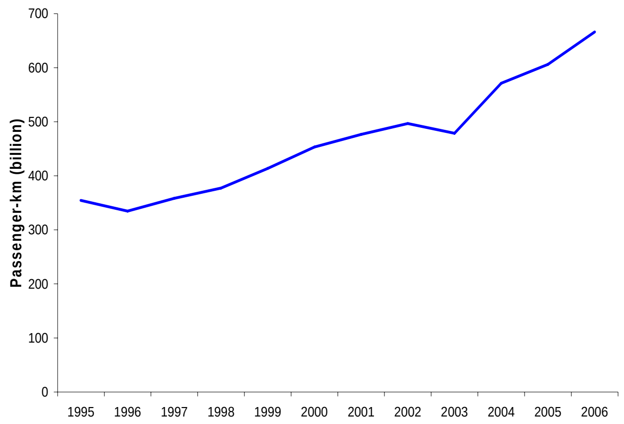
SPECIAL TOPIC –CHINA'S RAILWAY DEVELOPMENTS, AMBITIONS, AND CHALLENGES

China's railway network and traffic have seen an impressive expansion during the last 2 decades. This Special Focus discusses China's ambitious plans for further expansion and some of the policy challenges involved.

Several factors make railway traffic well-suited for China and its economy. People and goods in China move in large volumes over long distances for which well-run railways can provide a safe, low cost, energy efficient, less land intensive, and environmentally-friendly mode of transport. In terms of freight, China's economy depends heavily upon coal and coke, metal ores, iron and steel, petroleum products, grain, fertilizers and other bulk products. The technology and economics of rail transport are well suited to this traffic. Moreover, the average transit distance of China Rail's freight is 762 km (2006), relatively high by world standards. With favorable traffic profile and distances, the Chinese rail system carries about two-thirds the country's inland freight task (that is including inland waterways but excluding coastal shipping). China also has a high population density in its settled areas and numerous large cities. With increasing purchasing power to back up their growing propensity to travel this is fuelling some of the most intense inter-city passenger flows in the world, as well as heavy demand for suburban and regional travel within the larger conurbations.

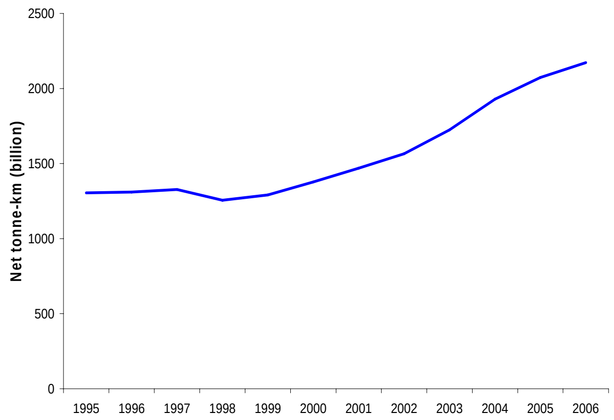
Railway traffic has been rising rapidly. Over the last decade, passenger traffic (measured in passenger-km) grew by 70 percent and freight (in tonne-km) grew by 60 percent (Figures 1 and 2). In 1980, China Rail was the third largest rail freight carrier globally, accounting for 8.5 percent of the world's rail freight traffic; by 2005, it was the second largest freight carrier (after the US Class I system). In 1980 China Rail was the fourth largest railway in the world in terms of passenger traffic; by 2005 it had become the largest passenger carrier. Taking freight and passenger traffic together, China Rail is now the busiest railway in the world.

Figure 1. Passenger traffic has grown rapidly



Source: China's authorities.

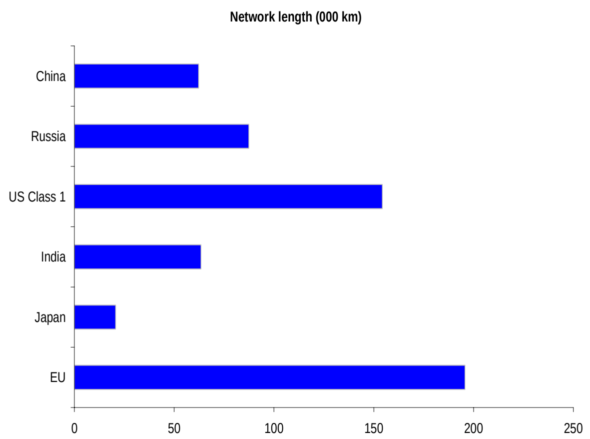
Figure 2. Cargo traffic has grown steadily



Source: China's authorities.

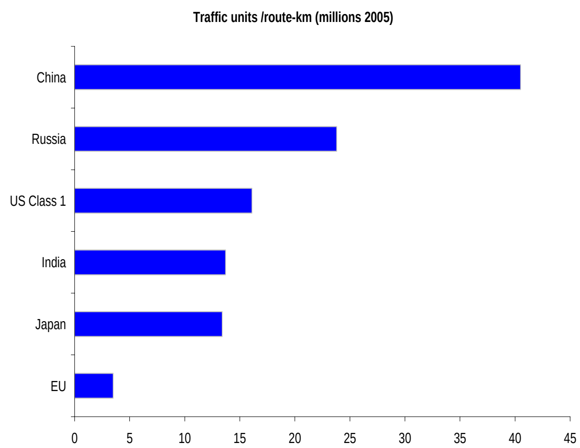
With high utilization rates and traffic constrained by capacity, railway expansion is a key government objective. China Railways now carries almost a quarter of the world's traffic on 6 percent of the world's track length. China Rail was the only major railway in the world to increase its network significantly in recent years, but this was from a relatively small size, relative to China's large population and railway traffic (Figure 3). As a result, China Rail's traffic density (40.5 million traffic units/km of line[19]) remains the highest in the world, nearly twice the next highest, Russia, and far higher than the US, India, and the European Union (Figure 4). As might be expected, on the busiest routes and during the busiest periods demand is constrained by capacity. As a result there is a significant amount of diversion of traffic to higher cost road transport, and probably an even greater suppression of demand. Not surprisingly, in its 10th and 11th Five Year Plans the Government has given increased emphasis to the role of railway transport in order to prevent railways from becoming a serious bottleneck to economic growth.

Figure 3. A large network, but still modest relative to China's large population



Source: International Union of Railway.

Figure 4. Traffic density is high



Source: World Bank estimates.

The railway industry remains largely monolithic and centrally controlled. A small proportion of traffic is carried by local railways and joint-venture railways in which ownership is shared with provincial governments and others. However, the great majority is carried by the 18 regional railway bureau of the Ministry of Railways. Their management of the railway network and the operation of trains are carried out with high operational discipline and efficiency. But the Government and Ministry of Railways have long recognized the need for railways to become more market-oriented in customer service, more competitive with road transport in terms of passenger speeds and freight delivery times, and more commercial in their management of the railway business.

China's railway policy makers therefore face two immense strategic challenges. One is to achieve a 'step change' in the capacity and quality of infrastructure. The other is to

[19] A traffic unit is a passenger-km or a tonne-km of freight.

reform the industry to become more responsive to the needs of a modern market economy. Pursuing these two goals at the same time, on the world's busiest railway, adds up to the most challenging railway industry agenda facing any government in the world today.

To meet the infrastructure challenge, China has embarked upon the world's biggest program of railway construction since the nineteenth century. In January 2004 the State Council approved in principle the Mid- and Long-Term Railway Development Plan ('the Plan'), setting out the construction priorities of the Chinese railways and providing the framework for developing future railway five-year plans. The Plan will cost an estimated RMB 1.7 trillion through 2020 (in 2004 prices). The public rail network is planned to be increased from around 75,000km in 2005 to 100,000 km in 2020. There are to be separate high-speed passenger and freight routes on the main corridors. By 2020 half of the network will be double-tracked or electrified or both. The high-speed passenger network with services up to 300km/h will be based on four north-south and four east-west corridors. When completed by 2020 it will contain more high speed rail line than in the rest of the world put together. Three regional inter-city systems are planned in the Bohai Sea area (Tianjin, Beijing, Qinhuangdao), the Yangtze River delta (Shanghai, Nanjing, Hangzhou) and the Pearl River delta (Hong Kong, Guangzhou, Shenzhen), covering the major cities and towns in each area.

Rail freight transport will also be enhanced. Capacity on the existing network freed up by the new dedicated passenger lines will be used to meet growing freight demand. The Plan also includes high-capacity coal transport corridors, together with the duplication and electrification of other trunk corridors. The poorly-developed rail container industry will be boosted with upgrading of those railway lines that have intensive container transport, and the operation of double-stack container trains. Some 18 central container terminals are to be built in the main ports and inland centers, with a further 40 terminals in major provincial centers and at inland border crossings. In addition, the Plan includes building new lines in the western region.

The risks of financial and technical overreach in implementing the Plan need careful management. Even allowing for contracting out and mobilization of international specialist skills, the resources and capacity simply to supervise, deliver and monitor such a huge and diverse program are not assured. As with any large and long-term program, there is a risk that, as pressure on resources and timetables increases, the delivery costs will start to escalate. (On the other hand there should be some countervailing economies of scale and of experience as the program progresses). This is also a human resource concern because railway skills, such as in train signaling, power supply, locomotive engineering, systems integration, rail safety and so on, are very specialized.

In pursuing the reform challenge, China Rail has taken great strides in improving the organization of China Rail. Through the 1990s there has been a separation of non-core activities (construction, manufacture, telecom, design, education and social activities). Rail operating staff levels have been reduced from 2.2 million in 1992 to 1.4 million in 2005, a period during which traffic increased by 60 percent. Implementation in 1999 of the Asset Operation Liability System has made managers of regional railway administrations accountable for return on capital, output, profitability and safety. It also gives incentives if agreed performance levels are exceeded. China Rail's operating labor productivity (excluding non-core business) has more than doubled since 1992. In 2003 specialist companies were formed to operate container services, mail and parcels, and special freight. In 2005 MOR took out a whole layer of management by eliminating the 44 sub-regional administrations. Management was consolidated into 18 regional bureau and some 60,000 staff positions were removed. This change brought together management responsibility and accountability at the regional level. It also facilitated and encouraged higher utilization of locomotives and crews, which had previously been changed mainly at the sub-regional boundaries.

The railway industry is increasingly embracing new participants. By 2005 the MOR had also supported the establishment of 46 joint-venture railways (of which 24 were operating) owned jointly by MOR with provincial governments, enterprises and (to a minor extent) private investors; 19 of these were newly-formed to support trunk-corridor development. In 2007 MOR agreed with international freight and logistics companies to establish a new container terminals joint venture company to develop and operate the 18 new regional container hubs. There has also been some separation of management of many low-density lines with emphasis on reducing losses.

New modes of financing are needed, but these may expose tensions in the institutional set up. The Plan requires a substantial increase in infrastructure investment from about RMB 76 billion/year in the decade 1995-2004 to around RMB 120 billion/year over the Plan period. China's traditional sources of funds for railway development since 1990 have been dominated by revenue from the Railway Construction Fund, which is accumulated by a surcharge on rail freight rates, and by domestic loans and bonds. The Joint Ventures with Provincial Governments are also providing a useful way of attracting some additional funding. But there is widespread agreement that the successful delivery of such an ambitious railway development Plan will also require non-traditional sources of funding including private sector loans and equity This does not sit well with the MOR being responsible simultaneously for railway policy, regulation and the commercial operation of rail transport services (through its 18 regional railway bureaus). In terms of dealing or competing with China Rail, external investors in new rail entities might reasonably question how well their rights will be protected and obligations fairly administered when one party controls entry to the playing field, makes the rules, referees the game and manages the other team.

There is a need for institutional reforms, in addition to "system development".
A more diverse and pluralist railway industry, based on market principles, implies a need for institutional reforms. It seems inevitable that at some stage the government will separate the policy-making functions of government from the commercial functions of railways. At the same time it is desirable to establish independent regulatory mechanisms that will protect rights and enforce obligations of a wider range of participants in a fair and transparent way. Such rights and obligations are themselves not yet well defined in regard to matters such as track access rights and charges, arrangements for interchanging rolling

stock between adjacent operators, and division of revenue from a through passenger trip or freight consignment between say a China Rail operation and an adjacent private operation.

The stakes are high. China's geography, demographics, bulk natural resources, distances and multiplicity of large cities mean it is highly amenable to the economics of an efficiently run fixed rail network. Further, the continuing growth of China's trade in goods, and soaring purchasing power and personal mobility of its people underline the importance of a successful railway industry. That success will depend upon continuing to make progress in both railway system development and institutional reform

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