

A 1 Trillion Dollar Question: Is The Current Chinese Exchange Rate Regime Sustainable?

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The recent surge in China's foreign exchange reserves (one trillion US\$ in October 2006) calls for a reassessment of their potential impact on the national economy. The speculation on a future appreciation of the yuan has recently boosted money growth in China. Some controls on capital inflows reduced short-term capital in 2005 and 2006 but this has been compensated for by a surge in the trade surplus. This has resulted in abundant liquidity in China responsible for distortions which this article endeavours to analyse.

In October 2006, China's foreign exchange reserves reached US\$1 trillion, exceeding for the first time Japan's foreign reserves, up to now ranked first in the world.

As a result, controversy about China's monetary policy is not likely to stop. China is still accused, mostly by the Americans, of strengthening its position in international trade by manipulating its exchange rate to gain an unfair competitive advantage. American critics still claim that the resulting Chinese trade surplus is partly responsible for the all-time high trade deficit in the United States. They warn that adjustment might lead a severe economic decline in the United States, which would in turn be destabilising for the rest of the world. To call the figures to mind, in 2005 China's current surplus amounted to US\$160 billion (7.2% of China's GDP), and the US deficit, almost five times more in absolute terms, amounted to US\$790 billion (6.5% of US GDP)⁽¹⁾.

As Michael Goujon and Samuel Guerineau argued recently, a greater appreciation of the yuan would however only have a modest effect on the Chinese trade surplus and on the US deficit.⁽²⁾ The current "bashing" of Chinese monetary policy is better interpreted as a protectionist strategy to hide domestic imbalances in the United States. The large

American deficit reflects the possibility for the United States to consume more than they produce thanks to an unlimited international line of credit in their own currency.⁽³⁾

Hence the cautious stance of the Chinese authorities who look steadfast in their refusal to compromise. The following statement of Wen Jiabao last September 2006 in Singapore, when the G7 and the IMF called for China to step-up the pace of currency reform, confirms it: "The floating band will be gradually expanded. So there will be no more surprise adjustments in the renminbi exchange rate".

1. Source: International Financial Statistics.
2. See Michael Goujon and Samuel Guerineau (2006), "The Modification of the Chinese Exchange Rate Policy : Its Rationale, Extent and Recent Developments", *China Perspectives* n°. 64, March-April, p. 34. As a matter of fact, first the Chinese export sector mostly assembles inputs imported from other Asian countries (50% of Chinese imports are linked to exports). An evaluated yuan would hence make imports cheaper, implying that imports would decrease alongside exports and the trade surplus would not reduce. Second, thanks to notorious low wage costs, the Chinese export sector has room to reduce its margin in order to adjust prices after an evaluation (it is what economists call pricing to market). From the Western viewpoint, an evaluation would carry increasing price effects on US and European imports. The expected optimal behaviour in the Western import sectors would consist of switching sourcing to lower cost bases such as Vietnam or other underdeveloped parts of Southeast Asia.
3. This possibility is only offered to the United States and highlight an intrinsic imbalance of the current international monetary system, in which the United States are the only country having an unlimited international line of credit in their own currency.

The surprise he mentioned, referred to the announcement on July 21st 2005 to reform the exchange rate regime towards a “managed floating exchange rate regime based on market supply and demand”⁽⁴⁾.

It is worth having a look at the data. The following chart displays a steady appreciation of the dollar-yuan exchange rate by 4% since 2005: it fell from 8.11 in July 2005 below the sensitive point of 8 yuan for a dollar in June 2006 and continued falling. The total appreciation is then twice as much as the amount officially allowed in July 2005.

This appreciation, yet limited, probably results from the introduction of other currencies in the reference basket announced in the exchange regime reform in 2005: with the Euro having appreciated about 2% against the US dollar in 2005, the yuan followed the trend. In addition, the People’s Bank of China (PBC) broadened lightly the band of fluctuations around the central parity (300 to 365 points) along the year (as Wen Jiabao mentioned in the statement above). However, while it continued its slow appreciation against the US dollar, it depreciated together with the dollar against other currencies. China’s nominal trade-weighted exchange rate as calculated by the IMF has weakened by more than 2% since the end of 2005.

The appreciation of the yuan against the dollar is thus a bit faster than the one announced last year but its fluctuations remain very limited against a broader basket of currencies. Since the beginning of the controversy about its monetary policy, China has faced speculative pressure from the financial markets on the prospect of an appreciation of the yuan against the US dollar. This was based on the common perception that the yuan is undervalued and on the feeling that the authorities would be forced to give in to international pressure. Speculators gamble on the future appreciation of the yuan, borrow dollars despite capital controls hoping to exchange them against more expensive yuan in the future. Some restrictive measures however have curbed short-term capital since 2005, which has been reflected in a reduction of the capital surplus. In the meantime, however, the trade surplus has peaked and dynamic exports have then largely compensated the reduction of short-term capital inflows.

As a result, as mentioned at the beginning of the introduction, it results in a record amount of exchange reserves. This recent surge is the motivation behind this analysis of arguments developed in academic works since the beginning of the controversy⁽⁵⁾. This paper aims to examine the economic mechanisms at stake behind this huge accumulation of reserves. It analyses the speculation on the yuan, describing

the nature of the resulting short-term capital, as well as the way in which the authorities have dealt with it. It shows how and how much the accumulation of reserves has fuelled the money supply. As a matter fact, the key-issue of accumulating reserves has regard to monetary effects: beside inflation, which we will see is not a serious concern in China, abundant liquidity results in distortions such as overheating in some industries, a boom in real-estate, and failures in the banking sector as well as in the implementation of monetary policy.

Section 1 will describe the evolution of the balance of payments and examine the interventions of the Chinese authorities. Section 2 will provide elements on the resulting increase in domestic liquidity in China. The subsequent distortions in the domestic economy are threefold and analysed in the following sections: bad resource allocations (section 3), the resilience of investments because of inefficient monetary policy (section 4), and collateral damage in the banking sector (section 5).

All-time surpluses

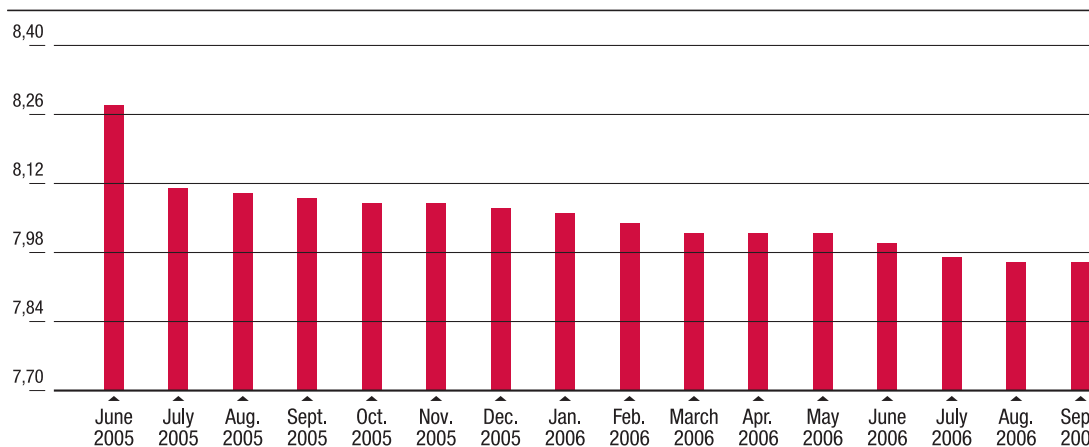
This section describes the evolution of the Chinese balance of payment which displays all-time surpluses both in trade and capital.

Surge in short-term capital

Dynamic growth in exports, the subsequent trade surplus and significant foreign direct investment (FDI) have been the cornerstones of Chinese growth since the nineties. The following table shows that both current and capital accounts have been in surplus since the 1990s. An exception is observed after the Asian crisis in 1997 when capital other than FDI flew out of the country resulting in a negative balance. It is interesting to note however that FDI was hardly affected by the Asian crisis and has dominated capital inflows along the decades. From a comparative perspective,

4. Public Announcement of the People’s Bank of China on Reforming the yuan Exchange Rate Regime. PBC website
5. See among others Goujon and Guerieau (2006), Goldstein Morris (2005), “Adjusting China’s exchange rate policy”, paper presented at the International Monetary Fund seminar on China’s Foreign Exchange System, China, May, Goldstein, Morris and Nicholas Lardy, (2004), “The Future of China’s Exchange Rate Regime”, Institute for International Economics, Washington, Ronald Mc Kinnon and Gunther Schnabl (2005), “China’s exchange rate and International Adjustment in Wages, Prices and Interest Rates: Japan Deja Vu?”, CESifo Working Paper, N 1720 and Green Stephen (2005), “Making monetary policy work in China : A report from the money market front line”, Stanford Center for International Development, Working Paper No. 245, July.

1. Yuan-dollar exchange rate. Value at the end of the period.



Sources: IMF-IFS and BPC

2. Balance of Payments (in US dollars, billions) ⁽⁷⁾.

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Current account balance	7,2	37,0	31,5	21,1	20,5	17,4	35,4	45,9	68,7	160,8
Capital and financial balance	40,0	21,0	-6,3	5,2	1,9	34,8	32,3	52,7	110,7	63,0
FDI, net	38,1	41,7	41,1	37,0	37,5	37,4	46,8	47,2	53,1	67,8
Portfolio, net	1,7	6,9	-3,7	-11,2	-4,0	-19,4	-10,3	11,4	19,7	-4,9
Other investments, net	0,2	-27,6	-43,7	-20,5	-31,5	16,9	-4,1	-5,9	37,9	-4,0
Net errors and omissions	-15,5	-22,1	-18,9	-17,6	-11,7	-4,7	7,5	18,0	26,8	16,4
Non FDI capital account balance (including errors and omissions)	-13,6	-42,8	-66,3	-49,4	-47,3	-7,3	-6,9	23,5	84,4	-25,4

Source : IFS, IMF databases

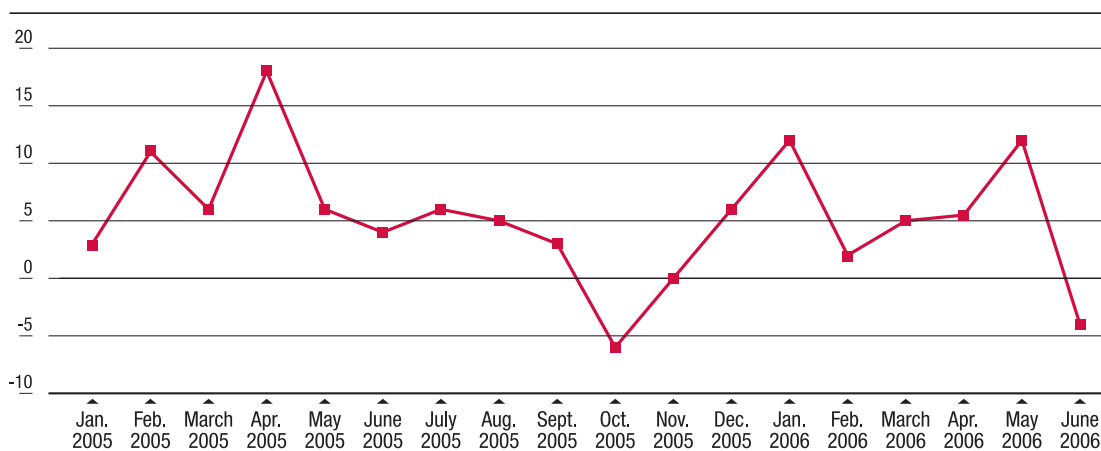
the share of FDI in total inflows is clearly the highest for China across emerging countries. This is very positive: FDI tend to be stable and associated with transfers of technological and managerial expertise. China's external debt and non-FDI private capital inflows have been very limited, until recently.

But a breakdown occurred in 2001: while the current account surpluses and FDI remained on a relatively steady path of growth, non-FDI inflows (last line of the table)

have soared since 2001 resulting in an all-time high capital surplus which peaked in 2004 ⁽⁶⁾. Non-FDI capital is also labelled "hot money", referring to its speculative nature in taking advantage of favourable financial conditions.

6. See Eswar Prasad and Shang-Jin Wei (2005), "The Chinese Approach to Capital Inflows: Patterns and Possible Explanations." IMF WP/05, April and Brad Setser and Casson Rosenblatt (2006), "RGE China Reserve Watch", available on the RGE website.

3. Non-FDI flows between January 2005 and June 2006 (in US dollars, billions).



Source : World Bank Update

Nature of short-term inflows

The main driver for these capital inflows has been the speculation on the yuan appreciation. The market perception of yuan undervaluation fed a common belief that the Chinese authorities will give in to American political pressure. In addition, the continuous depreciation of the US dollar vis-à-vis the Euro and other currencies led speculators to forecast that China would adjust its peg.

For Chinese entities, an easy way to take advantage of such a situation has consisted in borrowing dollars, converting them into yuan and hoping to be able to repay the loans once an evaluation occurs. Hence, the biggest source of foreign short-term capital for China has been in the category of loans, namely offshore US dollar borrowing by Chinese households, firms and banks. US dollars are converted to yuan on the mainland and will be repaid later in US dollars. Arbitrage profits are possible if the yuan appreciates in the meantime. Other assets make up the second category source of foreign short-term capital, corresponding, according to Eswar Prasad and Shang-Jin Wei, to withdrawal of overseas lending by Chinese banks "in order to meet rising domestic demand for foreign currency-denominated loans" ⁽⁸⁾.

In addition, institutional reforms regarding foreign capital in the Chinese stock exchange have contributed to increased short-term inflows of capital from abroad. As a matter of fact, in 2002 new rules allowed foreign capital to flow in under investment controls in the yuan-denominated A shares on the Shanghai and Shenzhen stock exchanges. Since

then, equity securities soared from US\$2.25 billion in 2002 to US\$20 billion in 2005.

Tightening of capital controls

Liberalisation of the capital account in China is an "evolution rather than a revolution", taking place very progressively. Learning from the experiences of its Asian neighbours, China has put emphasis only on foreign capital likely to bring technical and marketing know-how thus on FDI. Foreign debt and portfolio investments, much more unstable by nature, have been discouraged through capital controls such as quotas on external debt.

However, it had only limited effect. The category "errors and omissions" which represent unrecorded capital flows into China (most often through Hong Kong), changed from a negative average in the 1998-2000 period to a positive average in the 2001-2004 period. It gives some indication of the existence of holes in the system and the possibility for Chinese abroad to repatriate money, albeit illegally.

While China is supposed to progressively ease its capital controls to comply with WTO negotiations, the authorities via the SAFE (State Administration of Foreign Exchange) have tightened back controls on inflows from 2005 in order to curb off-shore borrowing. Basically, quotas on external debt by foreign and Chinese banks were reduced and FX

7. This table is an update of the basic template provided in Eswar Prasad and Shang-Jin Wei' (2005).

8. Eswar Prasad and Shang-Jin Wei' (2005), p. 11.

4. Trade Balance (in US dollars, billions).

	2000	2001	2002	2003	2004	2005
Exports	249	266	326	438	593	762
Imports	-215	-232	-281	-394	-534	-628
TRADE BALANCE	34	34	44	45	59	134

Source: IMF-IFS

loan conversion and foreign residents' ownership of real estate were restricted⁽⁹⁾. And in parallel, in September 2006, restrictions on foreign capital inflows have been further eased in order to curb the influx of hot money by allowing more foreign capital long-term investment in China's securities markets⁽¹⁰⁾. Figures 2 and 3 give some evidence that these controls were fairly efficient for curbing short-term capital.

Since 2005, short-term capital has been more unstable: in 2005, the non-FDI capital account balance was negative due to a large swing just after the announcement of the PBC to let the yuan depreciate. Hot money flew out for a while motivated by profits realisations and peaked again in November 2005, reversing in June 2006, probably due to new controls on external debt just described. The following chart borrowed in a recent update by the World Bank⁽¹¹⁾ displays the swings of hot money in 2005 and 2006 and gives a good illustration of the typical reversals speculative capital are usually subject to.

However, since 2005 a soaring trade surplus has compensated the reduction in capital surplus.

Trade surplus has soared since 2005

The trade surplus hit new records in 2005 and 2006 because of particularly dynamic exports combined with a slow in imports growth. In 2006, China's trade surplus in the first nine months of this year was above US\$100 billion and is expected to be above the US\$134 billion surplus recorded for all of 2005. The fact that this surge in exports occurred at the same time as capital restrictions arouses doubts about the real nature of flows recorded as exports. We suspect, but have no evidence, that a part might be due to overbilling hiding capital inflows.

Large surpluses in both trade and capital balances have pushed China's foreign exchange reserves to records. The following looks at this situation and the subsequent liquidity effects.

5. Decomposition of the recent build-up of reserves (in US dollars, billions)⁽¹³⁾.

	Average 1998-2000	Average 2001-2005	Average 2001-2004
Increase in reserves (A+B+C)	8,6	130,5	111,3
Current account balance (A)	24,4	65,6	41,8
Capital account balance (B)	0,3	58,7	57,6
IDE	38,5	50,5	46,1
Errors and omissions, net (C)	-16,1	6,2	11,9
Non FDI capital account balance (including errors and omissions)	-54,3	13,7	23,4

Source: IFS, IMFdatabases

Effects on money supply

Large accumulation of reserves

Both trade and capital surplus were responsible for an outstanding accumulation of foreign currency reserves by the Central Bank. China's foreign exchange reserves reached US\$1 trillion, exceeding for the first time Japan's foreign reserves, up to now ranked first in the world.

The Chinese foreign exchange reserve position has grown continuously since 1998. But the first line of Figure 5 shows that accumulation picked up noticeably from 2001 and then soared from 2003 onward. An end to hot money outflows, together with ongoing FDI inflows, speeded up accumulation of reserves. At the end of 2005, China's reserves reached US\$880 billion and at end June 2006, foreign exchange reserves totalled US\$941 billion⁽¹²⁾.

The same table provides a decomposition of the recent build-up of reserves until 2005. It confirms the change in the shape of the balance of payments and the surge in capital balance after 2001 due to non-FDI capital. Restriction measures on external debt appear to have successfully

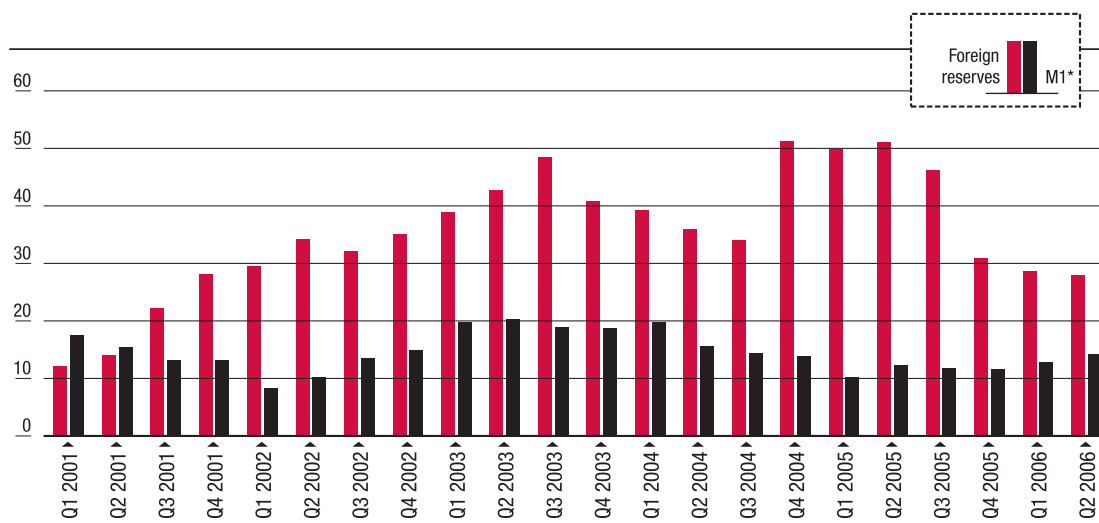
9. AFP news, May 2005.

10. "China chases foreign capital", John Ng, Asia Times online, August 29th 2006.

11. China Quarterly Update, August 2006, World Bank.

12. Source: World Bank update.

6. Foreign exchange reserves and M1 (in annual growth)



Source : IMF-IFS

* Seasonally adjusted

curbed short-term capital. But as mentioned before, reserves continued to soar in 2005 due to a record trade surplus and FDI and these trends have been confirmed during 2006.

Partial sterilisation

Sterilisation operations are commonly operated by central banks when there are large capital flows in an economy because the resulting additional money supply has potential inflationary effect. These operations refer to mechanisms aimed at anticipating foreign inflows and keeping them from entering the domestic economy.

In the late 1990s, the PBC attempted to stimulate the economy and boost domestic credit growth, which then declined until 2002 when the opposite challenge resulted from the large capital inflows. To curb liquidity, the Chinese authorities implemented a contractionary monetary policy through open market operations, an increase in reserve requirements and administrative controls in the banking sector. As Figure 6 shows, the growth of money supply tightened significantly between in 2005 and 2006.

Generally speaking, the amount of capital inflows sterilised by a central bank is a controversial value because a central bank has different methods to achieve this at its disposal, and not always transparent. Public bill issuance by a central bank, which transforms liquidity into non-liquid assets, is the most obvious and the easiest to estimate. But in China, regarding the public presence in the banking sector, the

Central Bank can issue bonds outside the market directly to state banks without announcement⁽¹⁴⁾. The amount and conditions being confidential, estimations become tricky, which explains why there is not one single value in the literature. Green estimated that the PBC sterilised CNY812.6bn (US\$98.3bn), equivalent to 47.5% of foreign inflows in 2004⁽¹⁵⁾. More optimistic estimations refer to 70% or 80%. To have a rough idea of the impact of the foreign inflows on China's domestic liquidity, we can examine the correlation between the growth of foreign reserves and the growth of M1 (money in circulation plus deposits in the banking system). According to the following chart, both variables seem correlated between 2002 and end-2004, which corresponds also to the peak of short-term capital inflows. This gives some indication of the impact on the large capital inflows on domestic liquidity. In 2005, as already mentioned, the authorities lowered quotas for external debt and adopted parallel measures to curb domestic liquidity. These measures had apparent effects both on short-term inflows (see previous figures) and money growth (see the chart below). Yet monetary growth rose again in 2006. Theoretically, the acceleration of monetary growth is expected to bring about

13. This table is an update of the basic template provided in Eswar Prasad and Shang-Jin Wei' (2005), *op. cit.*

14. See the issue in 2004 to capitalise four state banks.

15. See Stephen Green (2005). Green estimated the amount of sterilisation to be the change in bond liabilities announced by the Central Bank.

inflation. However the inflation rate in China remained low and stable (2.6% in the last quarter of 2003, 3.5% in Q4 2004, and back to 1.3% in Q4 2005). This is no surprise however: China's abundant labour force means null inflationary pressure despite strong economic growth. The standard factors being the low wage costs and overcapacity in the industry putting downward pressure on unit costs.

Management of its foreign exchange portfolio provides income to the PBC (see the box below), does not bring about inflation, while money supply can be controlled through contractionary measures. This being the case, what is there to worry about?

In fact, investments have not decreased and subsequent overheating risks are pointed out by many experts. The following sections will review the different distortions presented in the literature.

The cost... and benefits of defending the peg.

Usually, sterilisation costs the interest paid on bills issued by the Central Bank to stabilise the foreign capital inflows. China is however currently enjoying abnormal rate conditions consisting in a positive spread between rates in the United States and in China's money markets: as underlined by Green, PBC bills are priced at 2.82% while the equivalent US instrument is at 3.83%. The spread is expected to continue to widen as high liquidity in China puts downward pressure on domestic interest rates while the Federal Reserve continues to tighten monetary conditions in the United States. Based on that reasoning, Green estimated that the PBC received net incomes from its investments made with the foreign reserves.

Bad resource allocation

There have been increasing concerns about overheating pressures in China. The volume of abundant and cheap money generated a boom in bank lending in 2003? credit growth was 20% in 2003? which boosted both industrial production and fixed asset investment (spending on plant, equipment, roads and other infrastructure), to more than 30% a year.

As mentioned above, monetary tightening and administrative measures had affected to some degree monetary aggregates and financing of investments by credit, but had only a limited effect on investment itself. Investment in fixed assets decreased from 30% a year in the last quarter of 2003 to 25% in the last quarter of 2004, and returned to 27.5% in the second quarter of 2006.

Investment was particularly strong in industry (up 35% growth in the first semester), especially in manufacturing and mining. In the same period, the economy expanded 11.3% year on year in real terms, the strongest pace since 1995. After a significant decrease in the growth of M1 in 2004 and 2005, the pace picked up again in 2006 with 14% annual growth in the second quarter of 2006.

Real estate

With consumer and producer price indexes growth at 1.3% and 2.7% respectively, the risk of inflation seems to be under control. But resources have proved to be misallocated in some areas resulting in relative price changes (although not an overall price index increase as theory would predict). As in many other countries, asset prices have risen rapidly, a result of abundant liquidity in the corporate and financial sectors, which boosted investment and prices. Prices in the rest of the economy have not adjusted in this way due to counterbalancing downward pressure from low wages and high unemployment.

Real estate development in urban areas represented 20% of total investment before 2003 and grew to 30% from then. Urban fixed asset investment growth is 30% in 2006. Prices of private-owned houses increased by 9% at the national level in the same year, compared to 2% for the general index inflation rate. The trend is particularly pronounced in the big cities: for example, in Shanghai the sale price for houses increased by 21% between 2000 and 2003, compared to 3.6% on average in urban areas.

In the first half of 2006, real estate price increased by 5.6% on a year-on-year basis, with residential real estate prices continuing to rise faster than commercial real estate prices. Administrative controls have been implemented in the property sectors at national level, implying that in Shanghai, for example, prices increased by an amount just below the national average? by 5% in 2004. In Beijing however price rises were higher than the national average.

Construction and auto industries, export sector

A direct effect of the real estate boom were major investments in construction industries, which sky-rocked at 50% growth in the first half of 2006. There is evidence of excessive investment in industries such as steel, aluminium and cement which displayed annual growth by 90%, 90% and

120% respectively. Over-capacity, a direct consequence of rapid economic growth, does not help efficiency. An example of misallocation driving low efficiency can be found in the auto industry where competitors continually expand their production capacity: China's total annual auto-making capacity will reach 15 million units by 2007, while annual demand is expected to be around 7 million units according to the National Development and Reform Commission.

In addition, the current low level of the exchange rate increases margins, leaving room for easy profits in the export sector which in turn attracts a large part of the total investment (more than 35%). This over-capacity combined with a low exchange rate is likely to reduce efficiency incentives in the export sector.

Yet, large fixed asset investment and concentration of investments in the export sector are contrary to one of the objectives highlighted in the Eleventh Five Year Plan for growth to be less driven by exports and capital accumulation. According to these objectives, China needs to reduce its dependence on its export sector and investment and should turn toward its domestic market to build a sustainable economic growth. But easy profits in the export sector and cheap money fuelling large investment are likely to delay the changes in the allocation of resources towards the domestic market⁽¹⁶⁾.

The next section analyses the reason why tightening the monetary policy has little effect on fixed asset investment.

Resilience of investments

There are different factors reducing the scope of monetary policy in China. Among them, many are related to the current abundant liquidity in the Chinese economy.

Self-financing

According to different surveys, the large majority of corporate investment is self-financed in China and bank loans play a marginal role as a financing source⁽¹⁷⁾. A survey realised in 1999 on a sample of Chinese private firms estimated that 90% of funds used to finance corporate private investments were self-financed and bank loans represented only 4% of the total. In 2004, another survey, realised by the OECD, confirmed that private firms, which account for 57% of value added in the non-farm business sector, received only 4% of total banking credit. A large part of banking credit is actually allocated to state-owned enterprises.

The higher the profits, the higher investment. The Chinese private sector is flourishing: total profits in industry rose by 28% year-on-year in the first half of 2006. This is due to different factors. On the one hand, it is still on a catching-up growth path and on the other hand, the dynamism of the export sector, boosted by a favourable real exchange rate, has spread to other sectors. In total, investments being financed through retained profits, entrepreneurs are not sensitive to measures impacting credit (interest rate rises, administrative restrictions...). It is then easy to understand the resilience of fixed asset investment in spite of a restrictive monetary stance from 2002.

Poorly developed financial sector

In addition to the credit channel, the monetary authorities have, theoretically, an impact through substitution effects. For example, when interest rates increase, agents transfer their cash to less liquid assets providing interest revenues. This reduces consumption and investment levels because households and firms postpone their spending. But in China, the financial market is poorly developed; banks offer few saving instruments and activity on the Shanghai and Shenzhen stock exchanges is still limited (the activity of both markets represent less than half of that of the Hong Kong stock exchange). It significantly reduces the scope of monetary changes and contributes to the already low sensitivity of private agents, households and firms, to monetary policy.

Loose liquidity in the banking sector

As mentioned in the first section, one part of capital inflows is made up of off-shore borrowing from Chinese banks. Yet, the banking sector enjoys limited lending opportunities (due to administrative controls), and a narrow array of financial instruments offered by the financial market. As a result, liquidity is loose in Chinese banks, which implies that most do not need to borrow money from the Central Bank to run their business. They are therefore not sensitive to the rediscount rates of the PBC, which is the price at which banks can borrow money from the Central Bank. It is however a fundamental tool of modern monetary policy: being sensitive

16. It is worth putting this in perspective with the objectives displayed by the Chinese authorities. The current situation is of course incomparably better than the system of allocation of resources during the socialist eighties.

17. See OECD (2005), China survey, Paris, OECD and Bert Hofman and Louis Kuijss (2006), "Profits Drive China's Boom", Far Eastern Economic Review, October, Vol. 169, no.8. This stylised fact is observed in many other emerging countries.

to the price of money, banks increase (decrease) lending when the rediscount rate decreases (increases). In US banks for example, the Federal Reserve manages to keep liquidity tight in order to optimise its policy.

In China, the banking sector is not sensitive to the price of money provided by the Central Bank because it is already very liquid and does not need to borrow. Monetary policy tightening through standard tools such as higher interest rates and the required reserves ratio is then awkward. To keep a control on monetary aggregates, the PBC uses direct regulations increasing the already high level of regulation in the banking sector. It contributes to delays in necessary reforms in this sector. Next section describes the spill-over effects of high liquidity on the banking sector.

Collateral damage in the banking sector

A vulnerable banking sector

It is worth reiterating that the Chinese banking sector is still a vulnerable economic sector⁽¹⁸⁾.

In fact, the policy of directed lending, as well as the mono-bank system, which does not separate commercial lending and central banking functions, and inefficient lending by state-owned commercial banks to state-owned enterprises have brought with them the large burden of non-performing loans (NPLs). Since the late 1990s, the Chinese government has taken a number of significant measures to clean bank balance sheets, restructure and recapitalise banks, and has successfully reduced the stock of NPLs in the banking system from 20% of total loans in 2002 to 10% in 2005⁽¹⁹⁾ (the total restructuring cost was estimated at 22% of GDP in 2005⁽²⁰⁾).

But changes in behaviour take time: the Chinese banking sector is still poor in credit assessment. As R. Podpiera has shown in a recent study, the pricing of credit risk remains undifferentiated, and bank lending continues to be driven by the availability of funds and does not appear to take enterprise profitability into account when making lending decisions. As mentioned above, the majority of loans are still allocated to state-owned enterprises. Thus, the Chinese banking sector is hardly playing its role of private savings intermediary.

In this context, macroeconomic adjustment policies restricting loans not only prove to have limited effect on investments, but also hamper the banking sector in developing its role of savings intermediary.

The interbank market is not developing as fast as it could be in a booming economy (it has been steady for a few years). There are two reasons for this.

First, the abundant liquidity combined with expectations of appreciation contribute to keeping the interest rate low. The interbank interest rate which is the only rate to have been liberalised so far, is actually very low?1.47% in March 2006?and has been decreasing since it was liberalised in 2002 (as a comparison, in the United States it is around 4.25%).

Second, the banking sector has some incentives to keep deposits in the Central Bank. First the level was raised in 2006 to address the issue of rapid M2 growth. Second because the PBC pays 0.99% interest on excess deposits to maintain the weak profitability of the sector (contrary to many countries where excess reserves do not receive interest revenues). The interest rate in the interbank market is not high enough to boost activity in it.

Informal financial market

Restrictive measures on credit expansion implied another side effect; that of the strengthening of the informal financial market against the banking sector. Informal financing has long existed in China. It is difficult to estimate the amount of financial flows circulating through the informal financial market, but it became with certainty a distinctive feature (compared to western models of economic growth) and a significant driving force in China's growth. Regular informal financing is not only based on kin or community relationships but entrepreneurs raise money through informal borrowing from firms and institutions.

A major reason to fight against the informal financial market and promote the development of a formal banking sector is its role in the transmission of monetary policy. When money circulates outside the banking sector, the Central Bank has no way to control it.

In all then, the Chinese banking sector is improving thanks to a process of reforms which has effectively reduced bad

18. Insightful presentations of the Chinese banking sector can be found in Richard Podpiera (2006), "Progress in China's Banking Sector Reform: Has Bank Behavior Changed?", International Monetary Fund Working Paper, WP/06/71, March and Wing Thye Woo (2003), "La réforme inachevée de l'économie chinoise. Une intermédiation financière efficace permettrait de mettre fin à la tendance inflationniste", *Perspectives Chinoises* n° 79, Sept-Oct, p.4.

19. Richard Podpiera, *op. cit.*

20. Guonan Ma (2006), "Who Pays China's Bank Restructuring Bill?", CEPII, Working Paper April.

practices. But its role as savings intermediary is not complete. Low interest rates and restrictive measures on lending are creating negative incentives to transform the sector. Yet the context of full liberalisation and access to foreign competitors makes it all the more a priority to assure the process of reforms.

Conclusion

Uncertainty due to external pressure to further appreciate the yuan has driven massive speculative capital inflows and boosted cheap money in China. Some controls on capital inflows reduced short-term capital in 2005 and 2006 but this has been compensated for by a surge in the trade surplus and in FDI. To maintain the parity of the yuan, China has accumulated foreign exchange reserves that hit a record high in 2006, a surge which has motivated an analysis of the issues raised as a consequence.

Restrictions on credit have been efficient in reducing M2 growth, but not investments. As a result, some resources have been misallocated, the banking sector abounds in liquidity and monetary policy is limited. Contradictory claims may all be true in part, though none show the full picture: there are inflationary pressures in specific areas, such as fixed assets, while deflationary pressures are reflected by particularly low interest rates due to high liquidity.

This analysis does not conclude in the necessary flexibilisation of the yuan. There are risks associated with a too rapid evaluation. The Chinese authorities seem fairly able to control monetary expansion through restrictive measures but particular attention has to be paid to spillover effects, especially with regard to monetary policy. A very interesting question, which goes far beyond the scope of this article is now: should the foreign exchange reserves be used? and to what end? •



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