



July 19, 2011

HIGHLIGHTS

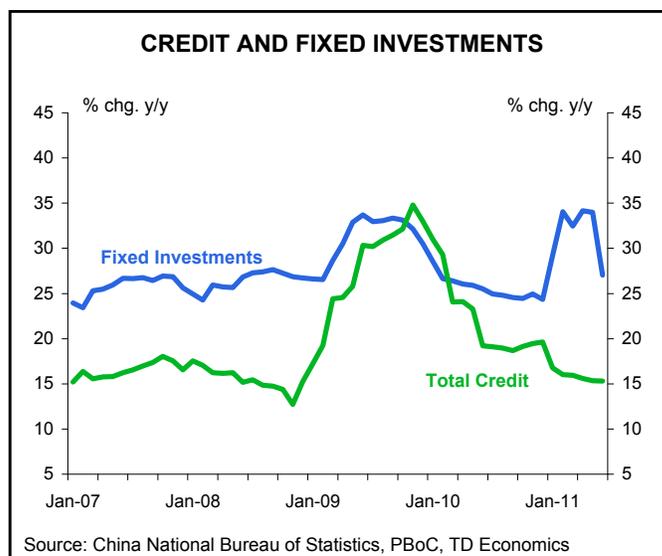
- **Massive credit expansions, combined with significant exposures to real estate and local governments' loans, have raised concerns about the quality of Chinese banks' assets.**
- **In the context of rising inflation, higher interest rates and further credit restrictions will likely slow down economic growth, leading to a rise in non-performing loans.**
- **Even in the face of a sharp increase in bad loans, the Chinese government has enough resources to prevent a credit crunch. This would forestall a decline in domestic economic activity.**
- **Therefore, the initial impact on the global economy would be limited; although it could lead to a deterioration in investors' confidence.**
- **In the medium term, to avoid the recurrence of these events, China will have to reform its banking system.**

A GLOBAL PERSPECTIVE ON A POTENTIAL CHINESE BANKING CRISIS

In the aftermath of the 2008 global financial crisis, the Chinese government prompted banks to ramp up credit to stimulate economic activity. As a result, credit soared during 2009, expanding by an amount equivalent to 31% of GDP. Feeling confident that it had avoided a sharp economic deceleration, and with new credit flowing too fast, the government set lower credit targets for 2010. However, by mid-year, credit was still ballooning, and fears of a credit-fuelled real estate bubble were mounting. To address this situation, the Chinese Banking Regulatory Commission (CBRC) introduced changes in regulation to curb lending activities. In the end, total credit expanded by a still high 21% of GDP in 2010. This massive credit spree, combined with significant exposures to real estate and local governments' loans, have raised concerns both locally and abroad about the quality of Chinese banks' assets.

In the context of rising inflation, higher interest rates and further credit restrictions will likely slow down economic growth, leading to a rise in non-performing loans. Should we fret about a Chinese banking crisis? If one were to occur, what would be its global consequences? To frame this discussion we first highlight some of the strengths of Chinese banks. We then describe the more glaring risks, and lastly we present the potential global ramifications of a Chinese banking crisis. Our main conclusion is that the direct global financial impact of such an event would be moderate, which in turn would constrain

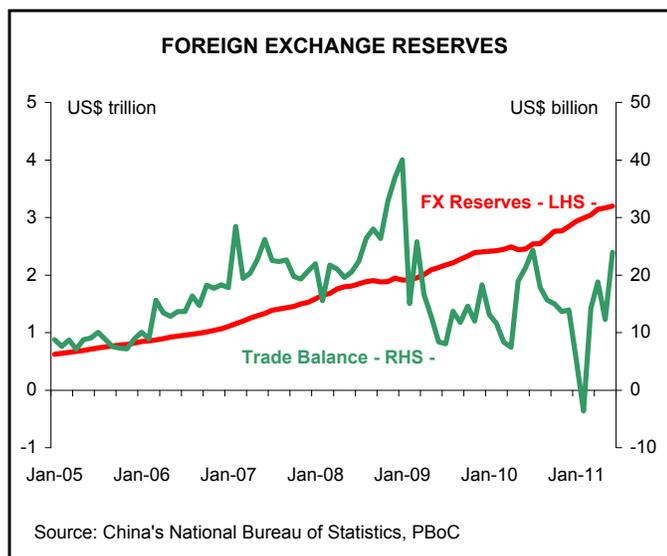
the impact on the real global economy. Of course, the caveat is that this event would not take place in isolation. The uncertain fall out of the European sovereign debt situation, a modest recovery across advanced economies, and risks of emerging markets' overheating do not leave much room to absorb the loss of confidence a Chinese banking crisis would generate.



Strengths of Chinese banks

Every time the stability of China's banking system is called into question, one hears a series of arguments pointing to the strengths of Chinese banks. The first of such arguments is that, despite the massive increase in lending, capital positions remain strong. The total capital adjusted ratio of Chinese commercial banks

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stood at 12.2% by end-2010, with a Tier 1 ratio of 10.1%. Secondly, low non-performing loans – 1.14% by end-2010 – provide a safe base to absorb a potential increase of bad loans. Third, a high reserve requirement ratio – currently at 21.5% for large banks – offers another layer of protection, should economic conditions deteriorate. In particular, high reserves boost public confidence in the resilience of banks to a liquidity squeeze.

Another important strength of Chinese banks is their high reliance on deposits rather than wholesale funding. According to the PBoC's 2009 Financial Stability Report, deposits accounted for roughly 80% of total banking liabilities. This deposit base is very stable, in large part due to capital controls, which would prevent deposits from suddenly leaving the country on a mass scale. So, if a run on a bank's deposits were to occur, the alternative would be to make a deposit in another bank or hoard the cash. Furthermore, foreign liabilities accounted for less than 1% of total banking liabilities. This gives Chinese banks strong funding positions, reducing risks associated to foreign exchange mismatches.

Lastly, perhaps the main underpinning of Chinese banks' stability stems from the implicit support from the Chinese government and its pool of US\$3.2 trillion foreign exchange reserves. In the past, Chinese authorities have not hesitated to recapitalize banks so they could write-off bad loans. As a reference point, as recently as Q1 2005, the ratio of non-performing loans was 12.4%. Then, the Chinese government helped its major banks clean-up their balance sheets in order to get them ready for their initial public offerings. Given the key role Chinese banks play in implementing fiscal and monetary policy, there is little reason to doubt the resolve of Beijing to support them once again.

In all, the combination of these elements lays a solid foundation for the financial stability of the Chinese banking sector. However, the risk factors we describe next raise some doubts regarding the systemic capacity to absorb shocks.

Off-Balance sheet vehicles pose serious risks to Chinese banks...

The first of such risks stems from their extended use of informal securitization. Chinese banks have engaged heavily in this practice to circumvent credit quotas and other lending restrictions imposed by central authorities. It allows them to push loans off their books, freeing up lending space. To do so, they re-package loans into credit-related wealth management products (CWMPs) and credit-related trust products (CTPs). These instruments are sold to investors seeking higher yields than those offered by term deposits. By end 2010, credit rating agency Fitch estimated 2.5 trillion renminbi (Rmb) had been re-packaged into CWMPs, and roughly half a trillion renminbi made their way into CTPs. As we learned from the 2008 financial crisis, placing loans off the books does not eliminate the counterparty risk from the system, it simply puts it somewhere else.

Another avenue to avoid regulatory limits has been the use of acceptances and discounted bills. When two firms enter into a transaction involving delivery of a product in the future, the producer requests an acceptance from the buyer. An acceptance is a commitment from the buyer's bank to pay the producer upon delivery of the product. A firm receiving an acceptance has three options: hold it and cash it at maturity; use it as collateral to get credit from his bank; or cash it immediately at a discount. If it chooses to do the latter, the bank cashing out the acceptance records it as a discounted bill on its loan portfolio. Meanwhile, the issuing bank holds the acceptance among its off-balance-sheet items.

If this were the only transaction involving the discounted bill, there would be no impact on the system. The lending capacity freed up at the bank issuing the acceptance would be forfeited by the bank discounting the bill. However, one of the issues concerning Chinese authorities has been the widespread practice of discounting banks selling acceptances to regional banks. The latter offer the acceptances as collateral in repo transactions, and do not record them as loans. This causes the acceptances to escape regulatory oversight and frees up lending capacity within the banking system.

Fitch ratings estimates total off-balance sheet credit (e.g. CWMPs, CTPs, acceptances, discounted bills, etc.) is currently in the range of 3.5 – 4.0 trillion Rmb (US\$ 620 bil-

lion). This figure is equivalent to 7.4% of on-balance-sheet loans. From a systemic perspective, this level of off-balance sheet lending undermines the shock-absorbing capacity of the banking system. Naturally, once off-balance sheet loans are factored in, the capital ratio of the system as a whole is lower than that computed taking only on-balance sheet loans into consideration.

...ditto for the high exposure to local governments debt

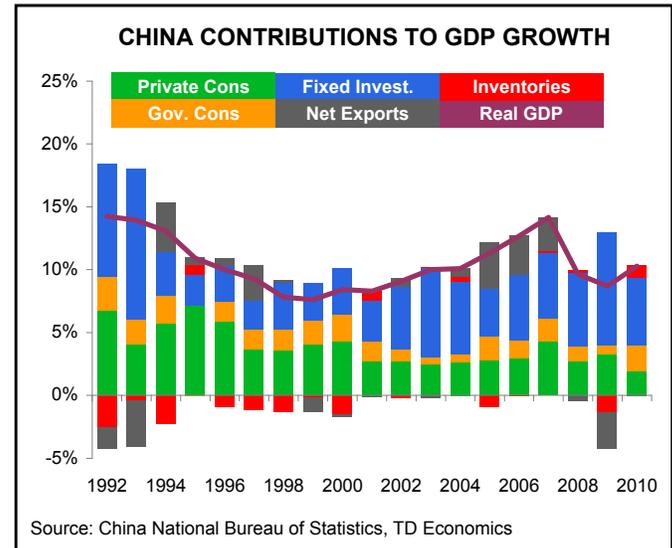
Another risky spot for Chinese banks are their loans to local governments through local government investment vehicles (LGIVs). LGIVs are special purpose vehicles set up to evade legal limits on local governments' debt issuance. Since 2009, Chinese banks have lent heavily to LGIVs to fund infrastructure projects, some of which have questionable repayment capacity.

China's National Audit Office (NAO) recently stated local governments owed 10.7 trillion Rmb at the end of 2010. From that total, 4.97 trillion Rmb correspond to LGIVs. The latter is significantly lower than previous estimates by the CBRC and the People's Bank of China (PBoC). For instance, CBRC estimated 9.1 trillion Rmb in LGIVs' loans were outstanding by end-November 2010. Therefore, combining LGIVs debt estimates from the CBRC with non-LGIVs local government liabilities estimated by NAO, brings total local government debt to 14.8 trillion Rmb, roughly 37% of GDP.

Furthermore, according to media reports, the CBRC expected a quarter of LGIV loans to default outright, and half of them to require assistance to repay. Only the remaining quarter would generate enough cash flows to repay in full. Except for the latter, the CBRC has mandated banks to increase the risk weighting assigned to LGIV loans when calculating capital adequacy ratios and to provision accordingly. However, implementation of these regulatory changes does not always go smoothly.

Compounding these risks is the fact that about one-third of total loans made by Chinese banks are collateralized with real estate properties. Even a sizeable portion of LGIV loans are guaranteed by local governments land rights, which in many cases are mispriced. This renders banks vulnerable to a dreaded downturn in the real estate market.

Overall, the doubling of outstanding credit over the last four years, the extensive use of off-balance sheet instruments, and concentrated exposures to both local governments and real estate could set the stage for a sizeable increase in non-performing loans, should economic conditions deteriorate.



How would rising non-performing loans impact the Chinese economy?

To assess the potential global implications of a Chinese banking crisis, we need to characterize the latter by making assumptions on its probable dimensions. So, let's assume 50% of loans to local governments default within two years. Further, assume that the NPL ratio on the remaining loans rises to 15%. This would push the NPL ratio for the Chinese banking system as a whole to 25%. This is arguably a very severe, yet low-probability scenario. However, given our previous discussions of risks, it is within the realm of possibility. As a reference point, it is worth mentioning that in the early 1990s, following a similar credit expansion, the non-performing loan ratio reached 35%. Moreover, both Moody's and Fitch see the NPL ratio reaching 18% and 30% under their respective worst-case scenarios.

If in addition to the 25% NPL ratio we also assume full losses on the defaulted loans, the impact would be equivalent to 29% of projected 2011 GDP. This is an alarming figure. However, the key question is whether a sharp increase in NPLs would cause credit flows to contract in China as it did in other previous banking crisis. The most likely answer is no. This is where the strengths of the Chinese banking system, among other mitigating factors, play a big role.

First, we highlight that those losses would take time to materialize. This would allow authorities to react, reducing the actual economic impact. For instance, being the main shareholder in many of the country's banks, the central government could delay dividend payments to build cash buffers. Second, as bad loans start to mount, the central government could simply swap defaulted local government loans with Chinese sovereign debt, immediately reducing

NPL ratios. Third, recapitalization could take place after the latter and other measures were taken to improve banks' balance sheet. Indeed, even under the extreme scenario, total losses would amount to 63% of total Chinese foreign exchange reserves. Those reserves and the discretionary power of central authorities would greatly facilitate the crisis resolution. Lastly, this implicit government support and the lack of alternatives, make a run on deposits unlikely, even in the face of rising NPLs.

Therefore, the fact that the government has enough levers to prevent a credit crunch greatly reduces the likelihood of a negative feedback loop between rising NPLs and worsening economic activity. Hence, it is unlikely that over the next two years, the expected deterioration in assets quality would lead to a sharp reduction in Chinese economic growth.

What are the risks for the global economy from a Chinese banking crisis?

In terms of the global ramifications of a rise in Chinese NPLs, a few key characteristics of the Chinese economy would limit the financial spill-over effects. Broadly speaking, Chinese financial integration into global markets is low compared to the relative size of China's economy in the global context. Capital controls, shallow renminbi-denominated debt markets and the minor role the Chinese currency still plays in the global foreign exchange market limit the potential transmission of a domestic crisis.

Let's be clear, this is not to say that worsening financial conditions in China would have negligible financial repercussions abroad. Rather, it means that on their own right, they would not trigger a global financial crisis. Admittedly, the most dangerous financial impact would be the hit to global investors' confidence resulting from a less favour-

able Chinese economic growth outlook. This is particularly relevant in the current global environment. Amidst the European sovereign debt crisis, a modest recovery across many advanced economies, and the need to contain high inflation in emerging markets, the last thing the global economy needs is a shock coming out of China.

Concluding Remarks

A massive credit expansion, the extensive use of off-balance sheet instruments, and high exposures to both local governments' debt and real estate projects provide fertile ground for a material deterioration of assets' quality across Chinese banks. In a context of rising inflation, higher interest rates and weaker economic growth would exacerbate the risk of a potentially dangerous escalation of non-performing loans. However, ample resources and discretionary power give Chinese authorities a good chance of dealing with this situation effectively.

Furthermore, China's relatively low integration into global financial markets would moderate the financial spill-over effects of a potential Chinese banking crisis. On the other hand, if such event were to occur, the impact on the real economy through weaker trade would be material, but most likely, it would lack on its own right the dimension to throw the global economy back into recession.

Lastly, the arguments in this note do not imply that China does not need to reform the way in which its banking system operates. Neither do we intend to downplay the need to rebalance its growth model, reducing the emphasis on fixed investments as growth driver. Actually, [we have addressed these topics in the past](#), arguing precisely to the contrary. In the medium term, that will be the real test for the Chinese economy.