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The magic mountain: China's public debt

One of the persistent concerns about China's recent boom is that it has been financed by excessive debt, and that this debt burden will trigger a fiscal or financial crisis. The concern is heightened because the complex and opaque structure of China's government borrowing makes it very hard to figure out the true scale of the state's liabilities. These are certainly far larger than the official figure for central government treasury debt, which is less than 20% of GDP.

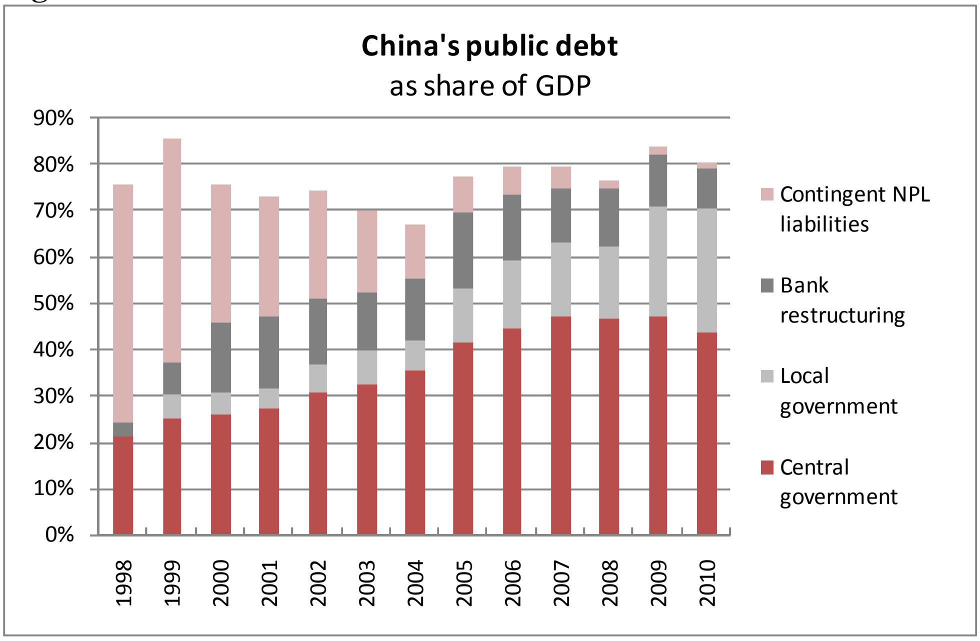
To address this concern, we have made a detailed analysis of government liabilities (to be followed later this year by deconstructions of household and corporate debts). Our basic conclusion is that China's public debt load is indeed big, but manageable. Specifically, we find that:

- Public debt has been roughly stable at 70-80% of GDP for the past decade.
- The big story about China's public debt is not that it has grown in size, but that its structure has changed, for the better. Public liabilities that were once extremely opaque and unaccountable, because they were hidden on bank balance sheets in the form of nonperforming loans, have become somewhat less opaque and a bit more accountable. Most of China's public debt is now the more or less explicit liability of some government agency.
- Less than one third of public debt (about 25% of GDP) must be serviced by interest payments from the government budget, and little of China's debt is owed to foreigners, so the risk of a conventional government debt crisis is quite low.
- There are two risks, both long-run concerns. First, the government might allow high inflation to help erode its large debt stock. Second (and in our view more likely), the debt mound could block financial liberalization, because managing debt is much easier if the government controls interest rates and prevents meaningful participation by foreign investors. A closed financial sector could ultimately lead to a decline in efficiency and thus economic growth.

China's current public debt burden is the result of two long-term processes, one basically positive and the other less so. The first is the restructuring of the commercial banking system, in which the government rightly assumed the burden of the bad loans it had forced banks to make during the 1980s and 1990s. Thanks to the magic of rapid economic growth, the government's liabilities for cleaning up the banking system have declined from 55% of GDP in 1998 to 10% in 2010. The second is the proliferation of fiefdoms within China's large public sector, each of which borrows money to finance its

China's overall sovereign debt ratio has stayed roughly constant at 70-80% of GDP since 1998, but the obligations have become more explicit

Figure 1.



ambitions. The debts of the central and local governments and their various agents rose from 20% of GDP in 1998 to 70% in 2010. But little of this new debt was actually issued by China's Ministry of Finance. The big players are other public sector entities like China Development Bank, the Ministry of Railways and the vast numbers of local government investment corporations (LICs). China is not unique in using off-balance-sheet public institutions to carry out official policy—Fannie Mae and Freddie Mac in the US are the obvious examples—but it probably does so more than most other countries.

There has been a proliferation of public sector entities issuing their own debt

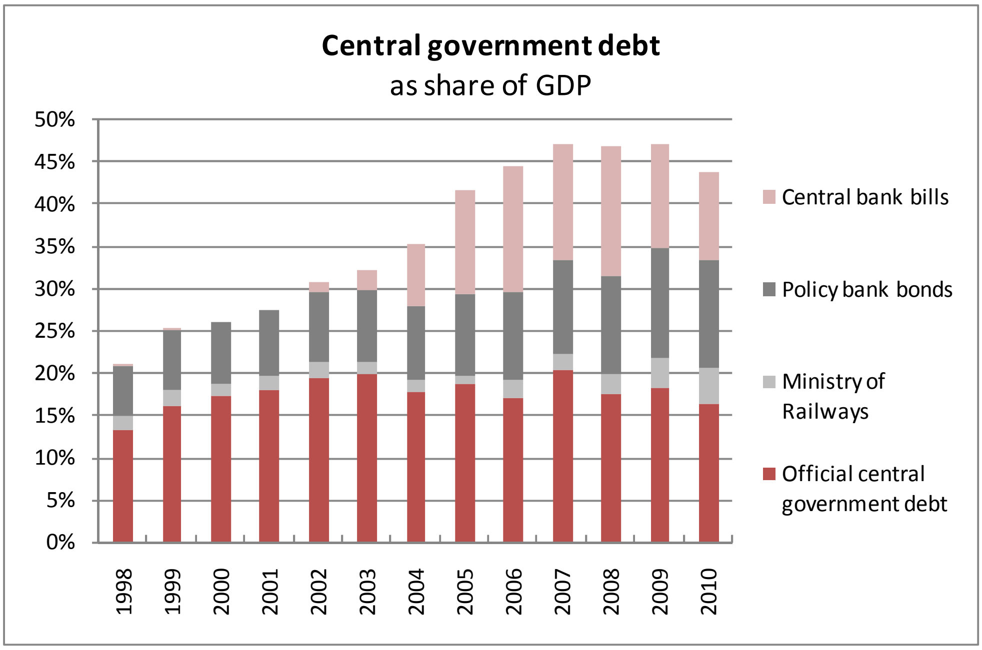
This fragmented structure, in which the government issues a limited amount of explicit debt but a far larger volume of implicit guarantees, makes it hard to come up with a clear definition of government debt. In this analysis we use a broad concept of *public debt*, which includes the debt of all central and local government bodies and their financial agents, but excludes the debt of non-financial state-owned enterprises. (We will scrutinize SOE liabilities later in our corporate debt analysis.) We believe this gives the most complete picture of the Chinese state's obligations. But it also means that our figures will not be directly comparable to the debt numbers usually reported by other countries, which are primarily formal government debt.

China's public debt falls into four broad categories, which we explore in detail below:

A broad concept of public debt best captures this complexity

1. **Central government debt**, comprising Ministry of Finance bonds, Ministry of Railways debt, bonds issued by the policy banks, and (perhaps controversially) sterilization bills issued by the People's Bank of China (PBC).
2. **Bank restructuring costs** incurred by the central government in various bail-outs of the big state owned banks.
3. **Local government debt**, comprising both bank loans and bonds.
4. **Contingent liabilities from non-performing loans** (NPLs) on the books of state-owned banks.

Figure 2.



Central government debt rose from 21% of GDP in 1998 to 45% today, due mostly to bonds issued by policy banks and the PBC

1 - Central government debt

Official central government debt. This is the most visible, and the most stable, component of China's public debt. We include domestic treasury bonds and the very small amount of foreign official debt, both of which are publicly disclosed. Before 1998, central government debt was only 6-7% of GDP, but then started rising as fiscal spending increased to counter the Asian financial crisis. Official debt increased again in 2009 and 2010 because of the stimulus policy, but only modestly. And as that fiscal stimulus is phased out, we expect the official debt to GDP ratio to decline in coming years.

Even with the stimulus, official debt has risen only modestly

Ministry of Railways. The last of China's old-style line ministries acts as an independent financial entity, though no one doubts its sovereign backing. The MOR builds and runs the nation's passenger and cargo rail network, giving it substantial revenues and assets. It is also an active player in China's corporate bond market, which means it must publish basic financial statements as part of a prospectus. We have used these reports to build up a picture of the ministry's debts, which are otherwise little discussed publicly. These debts were very modest for most of the last decade, but in 2008 the ministry's dreams of a nationwide high-speed rail network were made the centerpiece of the stimulus plan. MOR debts, including both bank loans and bonds, doubled from Rmb500 bn in 2007 to Rmb1.2 trn in 2009. Final figures for end-2010 are not yet available but we think the total debt burden will have risen to Rmb1.5 trn. As a share of GDP the increase is not quite so dramatic, but MOR debts have nonetheless doubled from 2% to 4% of GDP thanks to the high-speed rail rollout.

Railway debt has ballooned thanks to the high speed rail rollout

Policy banks. The main actor here is China Development Bank, which lends to "support the state's medium to long term development strategies and policies." As explained in *China Development Bank: the best bank in China?* CDB is a peculiar institution that has become central to both Chinese financial markets and the supply of public services. In partnership with local governments and with the full knowledge of the central government, CDB has financed much of the infrastructure built in China in the past decade. Because its lending is on near-commercial terms, CDB has helped ensure that infrastructure spending produces real economic returns, rather than a parade of white elephants. Arguably, partially financing infrastructure through CDB

Policy banks' debt is almost as large as that of the finance ministry

Central bank bills surged as China's trade surplus exploded

Bank NPLs were four times the size of government debt in 1998

loans is more efficient than simply issuing central government debt to cover the entire cost.

Along with two smaller policy banks, Agricultural Development Bank of China and Export-Import Bank of China, CDB is a major issuer of domestic debt. Outstanding policy bank debt was Rmb5.2 trn in 2010, or 13% of GDP, nearly as much as the finance ministry's own debts. These debts are not direct claims on government revenues, since the policy banks do earn income with which pay the interest, but are clearly a contingent liability of the sovereign.

People's Bank of China. Here we count the bills the PBC sells to sterilize its foreign currency intervention. After the trade surplus started to surge in 2003, the central bank had to buy ever larger amounts of foreign currency to keep the renminbi stable. To reduce the inflationary impact of all the new renminbi it was printing to buy that foreign currency, the PBC got banks to buy ever larger numbers of short-term bills. When the increase in forex reserves hit a record of US$478 bn (excluding valuation changes) in 2008, the amount of PBC bills outstanding also reached its peak of Rmb4.8 trn, or 15% of GDP. Lately the PBC has preferred to sterilize by raising banks' required reserve ratio instead of selling bills, and this type of debt has begun to decline. In 2010, PBC bills outstanding dropped to Rmb4.1 trn or 10% of GDP.

Including central bank bills in a calculation of public debt is unorthodox. Many central banks issue debt securities, and these are usually not counted as government debt, because they are not claims on government revenue: they can be repaid simply by printing money. But China is different. The PBC is not financially independent from the government, and more crucially the government must take the interest costs of PBC bills into account when setting policy. PBC bills are liabilities which are typically matched on the central bank balance sheet with low-yielding assets such as US Treasury bonds, and as such could well become a net cost to the central bank. That adds to the temptation to keep interest rates down to minimize the cost of this debt, which for us is the key point.

Broad central government debt. Adding up these four components—the Ministry of Finance, the Ministry of Railways, the policy banks and the central bank—gives us a broad picture of the debt of the agencies of the central government. This combined figure has been roughly steady around 45% of GDP for the past five years or so, though it is significantly larger than the 21% of GDP in 1998. The main reasons for the increase are the rise of the policy banks, which now have ten times as much debt outstanding as they did in 1998, and the surge in PBC bill sales since 2003.

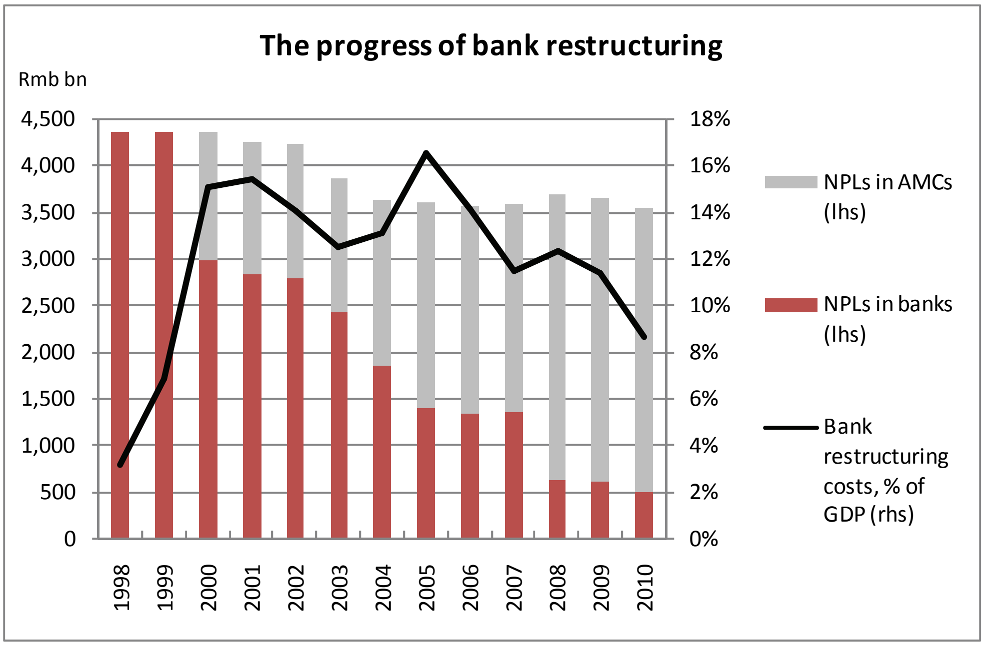
2 - Bank restructuring costs

Another major chunk of central government debt is that assumed in the decade-long process of restructuring the state-owned banks. This cleared up the debts accumulated in the 1990s when bank loans were essentially disguised fiscal spending. NPLs outstanding in all banks were around Rmb4.4 trn in 1999, over 50% of GDP at the time. This was an enormous figure, four times the official central government debt which was then only 12% of GDP.

The government gradually removed these bad assets from the balance sheets of commercial banks, usually parking them in newly created asset management companies (AMCs). It paid the banks for the NPLs by issuing debt securities. But few of these instruments were declared as official sovereign debt, and even fewer have been disclosed publicly—except in footnotes to the listed banks' financial statements. (For details on this history see *The magic debt-shrinking machine*.)

Bank restructuring costs fell from 17% of GDP in 2005 to 9% today

Figure 3.



The stock of such bank restructuring debt has been regularly added to over the years, and is now about Rmb3.4 trn. But rapid growth has steadily reduced the size of this debt relative to the economy. What was a burden of 17% of GDP in 2000 is now about 9% of GDP. The accounting dodges that kept these debts off the government's official books were not transparent, but they were successful. They allowed to China to avoid paying a large cost to recapitalize the banks at a time when it could not easily afford it, and instead pay a smaller cost at a later time when it can be more easily borne. Though a chunk of this debt was paid off in 2010 (see *Settling the tab after a bad debt binge*), China is likely to delay paying it off in full until future economic growth has reduced its relative size even further.

Delaying the reckoning for NPLs has reduced their ultimate cost to the government

3 - Local government debt

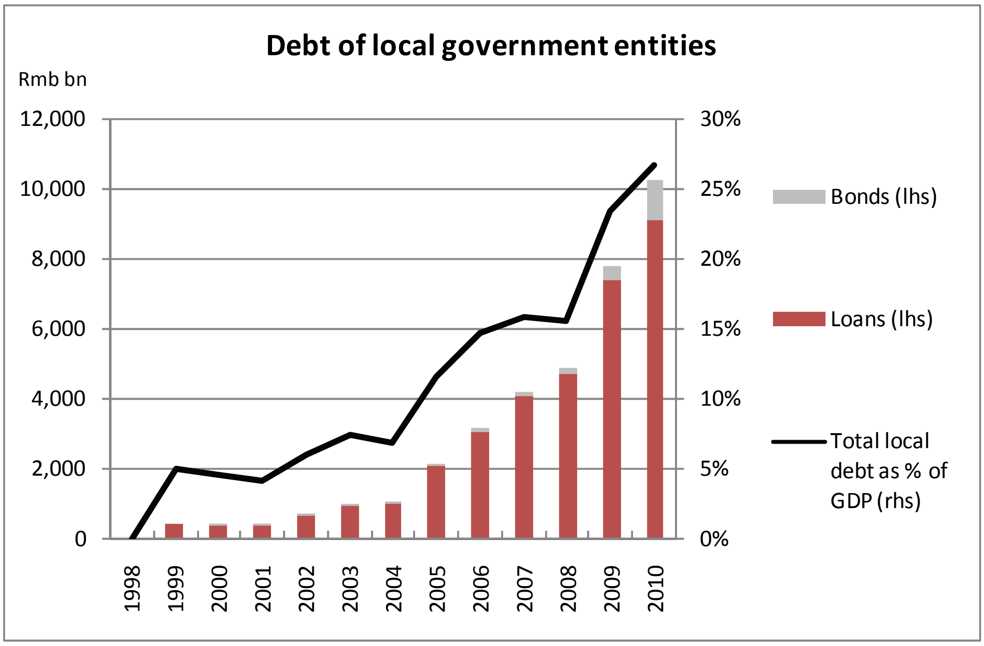
As is now well known, the central players in the credit binge of the past two years were local government investment corporations (LICs), sometimes known as local government financing platforms or urban development and investment corporations. These are state-owned enterprises charged with developing infrastructure and the local economy, who operate with government support in the form of capital or land but are outside the formal budget. LICs have been a feature of the Chinese financial landscape for years, but used the stimulus as an opportunity to load up on bank debt to an unprecedented degree. The existence of these entities is not itself evidence of a nefarious plan to hide government debts. But there is no denying a real transparency problem: there are as yet no public, official estimates of LIC debts. To come up with our estimate, we have used the figures for LIC debt that bank regulators leaked to the Chinese press, and made estimates of their increasingly large sales of corporate bonds. The small amount of official local government debt, issued by the finance ministry "on behalf of" local governments, is also included here.

Local authorities loaded up on debt during the 2008-10 credit boom

On our figures, the outstanding amount of local government debts more than doubled during the 2008-10 stimulus plan to nearly Rmb11 trn. LIC debts had been roughly stable around 14% of GDP from 2005-08, but are now about 27% of GDP – more than the formal debts of the central government. This is where the real cost of the Chinese stimulus plan shows up.

Local government debt rose from 5% of GDP in 2000 to over 25% today

Figure 4.



Local debts are not unmanageable, but are un-transparent

As we explained in *Exploding the local government debt myth*, we think the risk from LIC debts is manageable. The size of China's local debts is large, but is not unprecedented internationally. China has more local debt than the US or Brazil, where state and local government debts are around 16% and 12% of GDP respectively. But it is in the same ballpark as India, where local government debt is about 28% of GDP. China's main difference is transparency: it took us no more than 10 minutes to get the other countries' debt figures from the websites of their central banks, but days of jigsaw-puzzle assembly to put together the Chinese numbers. But just because China feels no obligation to explain its debts to outside investors does not mean that government officials are unaware of the risks.

The other key difference is that China's local debts are really contingent liabilities rather than direct claims on government revenues. The loans will only have to be repaid by the government if the returns from the projects they fund fall short. So the actual debt burden will certainly be lower than the gross figure we have calculated here. The China Banking Regulatory Commission has indicated that 31% of LIC loans, or Rmb2.8 trn, are essentially commercial and should be repayable.

4 - Nonperforming loans

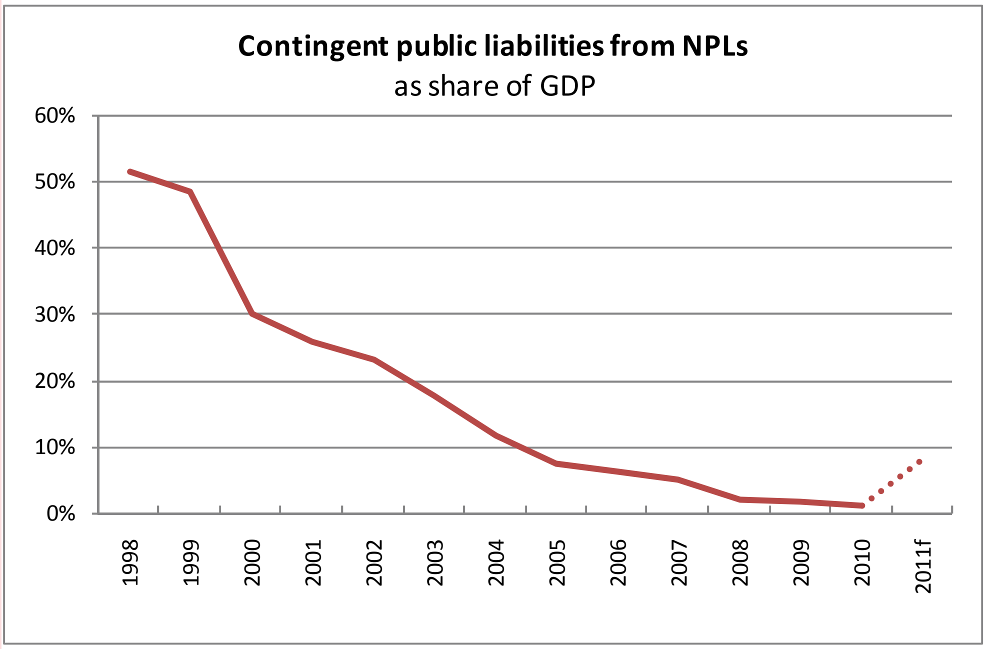
Throughout our debt accounting we have considered NPLs on the books of state-owned banks as contingent liabilities of the sovereign. One of China's major achievements over the past decade has been to clear up this overhang: current NPLs are now just under Rmb500 bn, or 1% of GDP. They are a trivial component of China's total public debt of 80% of GDP in 2010. But the credit explosion of the past two years will clearly result in more NPLs in the future, even if banks have not yet recognized them.

Future bank NPLs also need to be accounted for

We base our outlook for public finances on a projection that one-sixth to one-fifth of the loans issued during the two years of the stimulus plan turn bad. This would be about Rmb4 trn. This not so much a forecast as a "stress test" based on a pessimistic scenario. The assumption is particularly aggressive since Chinese banks will be able to digest some portion of bad loans themselves, by writing them off against profits. The ultimate cost to the government will be only those bad loans that exceed the banks' own absorptive capacity.

Contingent liabilities from bank NPLs plummeted from over 50% of GDP in 1998 to 1% today, though they will probably rise

Figure 5.



And it is important to note that some of those bad debts will be those of local government companies, which we have already counted as a government liability. So the true additional contingent liability from NPLs is only on loans to companies that are not LICs. Assuming our 20% default rate, this is about Rmb2.8 trn. Including the NPLs already on bank balance sheets at the end of 2010, the total contingent liability is 8% of GDP. This is less than half the cost of the 1998-2000 bank bailout as a share of GDP. In practice, the assumption of this liability would be spread out over a number of years, so its cost relative to GDP would be even lower as the economy keeps growing. China will not grow as fast in the future as it has in the past, so it will not be able digest bad debts quite so rapidly, but the additional burden of bad debts from its stimulus, while sizeable, is still manageable.

The cost of stimulus-related NPLs should be lower than previous bank bailouts

Conclusion: The walled garden

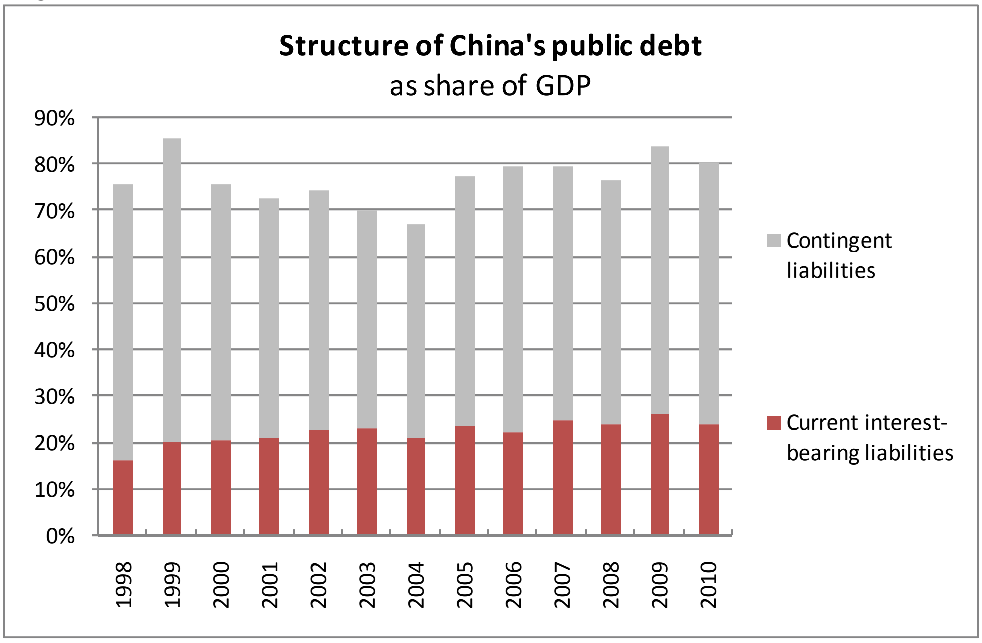
Carmen Reinhart and Kenneth Rogoff, the leading international scholars of government debt, argue that countries' growth starts to suffer once their debts exceed 90% of GDP. This argument would be more satisfying if there were a theory to explain why 90% is the trigger point, rather than 80% or 100%. But the broad point that government debts cannot expand without limit is hardly controversial. At some point, payments on past debt become so large that they crimp a government's ability to invest more for the future.

Most of China's public debt is a contingent liability rather than a direct drain on revenues

Including our projection of future bad debts, China's public debt load is now 89% of 2010 GDP. Using this figure to judge the sustainability of public finances is difficult, because much of the debt is not a direct claim on government revenues. The debt that does require interest payments from government revenue is a considerably more modest 24% of GDP (28% if railway debt is included). A very large proportion of China's debt has been used to construct assets such as infrastructure projects, which generate cash and improve the productive capacity of the economy. These debts will only become net government liabilities if the investment turns out to be unproductive. Many of the projects rushed through during the stimulus will of course prove to be duds. But the actual amount of debt that will have to be paid off by taxpayers will certainly be much lower than our grand total. In short, the servicing costs of the government's explicit liabilities are clearly manageable, and the likelihood of *all* contingent liabilities coming due is low.

Less than one-third of China's public sector debt imposes an interest cost on government budgets

Figure 6.



China faces no real risk of a traditional debt crisis

Moreover, China's closed financial system makes a classic government debt crisis, like that of Greece, nearly impossible. The typical vicious cycle is a loss of confidence in government's ability to service the debt, which causes interest rates to rise, which makes it more difficult for the government to repay its debts, and so forth. But the market mechanisms that could trigger such a cycle in China do not exist. China has only about Rmb250 bn of foreign debt, less than 1% of GDP; foreign investors are not permitted to own significant quantities of domestic debt; and state-owned banks hold the majority of domestic bonds. So the only entities that could trigger a crisis of confidence in government debt are themselves owned by the government.

The main risk is economic policy that only manages debt without boosting productivity

There is thus little risk that the Chinese government will default on any of its debt, or suffer a fiscal or financial crisis. The true risk of China's high debt burden is that it pushes the government into bad economic policies that undermine long-run growth. This risk takes two forms. One is that Beijing will be tempted to allow higher inflation to eat away at the value of its debts. The other is that in order to foreclose the possibility of non-state investors losing confidence and triggering a financial crisis, the government will decide to keep the financial system closed and highly regulated. Eventually, this refusal to tackle financial liberalization would lead to a decline in the efficiency of investment and economic stagnation, as has arguably been the case in Japan over the past two decades.

Higher interest rates will show China is not being held hostage by its public debt

The key symptom for both of these policy maladies is interest rates that are kept low relative to inflation. Low real rates reduce the servicing cost of debt, and compensate for poor returns on investment. So a key test of China's willingness to reform the financial system – and ensure that its debt burden remains manageable in the long run as well in the short term – is not so much liberalizing interest rates as making sure they go up over time. Central bank governor Zhou Xiaochuan has said that real interest rates need to be positive in the medium term, even if inflation spikes mean they are negative for brief periods. Yet the current period is not so brief: the one-year deposit rate has been below the rate of CPI inflation since February 2010. The sustainability of China's debt will ultimately depend on a willingness to pay more for it.

Figure 7. Table of public debt by type

As % of GDP	Official domestic debt	Foreign debt	Central bank bills	Policy bank bonds	Ministry of Railways	Local gov't debts	Bank re-structuring costs	Contingent NPL liabilities	Total
1998	9%	4%	0%	6%	2%	0%	3%	52%	**76%**
1999	12%	4%	0%	7%	2%	5%	7%	49%	**86%**
2000	13%	4%	0%	7%	2%	5%	15%	30%	**76%**
2001	14%	4%	0%	8%	2%	4%	15%	26%	**73%**
2002	16%	3%	1%	8%	2%	6%	14%	23%	**74%**
2003	17%	3%	2%	9%	1%	7%	12%	18%	**70%**
2004	16%	2%	7%	9%	1%	7%	13%	12%	**67%**
2005	17%	1%	12%	10%	1%	12%	17%	8%	**77%**
2006	16%	1%	15%	11%	2%	15%	14%	6%	**80%**
2007	19%	1%	14%	11%	2%	16%	11%	5%	**80%**
2008	17%	1%	15%	12%	2%	16%	12%	2%	**77%**
2009	18%	1%	12%	13%	3%	23%	11%	2%	**84%**
2010	16%	1%	10%	13%	4%	27%	9%	1%	**80%**

Sources: Data in this table and all other charts in this report are our own estimates based on figures compiled from a wide variety of public sources. These include the CEIC database, published figures from the Ministry of Finance and the People's Bank of China, Chinabond.com.cn, bond prospectuses, bank annual reports, as well as Chinese-language media reports we believe to be reliable.