RBC Global Asset Management

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HIGHLIGHTS

- Chinese credit has probably grown too quickly over the past five years.
- The booming shadow-finance sector is set to slow materially as policymakers clamp down on wealth management product excesses.
- Local-government debt loads continue to bulge as infrastructure projects are undertaken, but new bank lending limits should slow this progress.
- The housing market is not as overcooked as it looks, but must nonetheless cool.
- China has shown an uncanny ability to avoid potholes, but the credit-related downside risks it faces over the coming year are not trivial.
- Going forward, less electric credit growth should dim economic growth.

WHAT LOOMS AFTER CHINA'S CREDIT BOOM

China's economy demonstrated enviable resilience throughout the global financial crisis, outperforming the rest of the world (Exhibit 1). This outcome has fed the argument that China's unique form of state capitalism is somehow more robust than the free-market capitalism employed in the West. In our view, this is an overly simplistic explanation.[1] We believe two other factors contributed much more importantly to China's relative success.

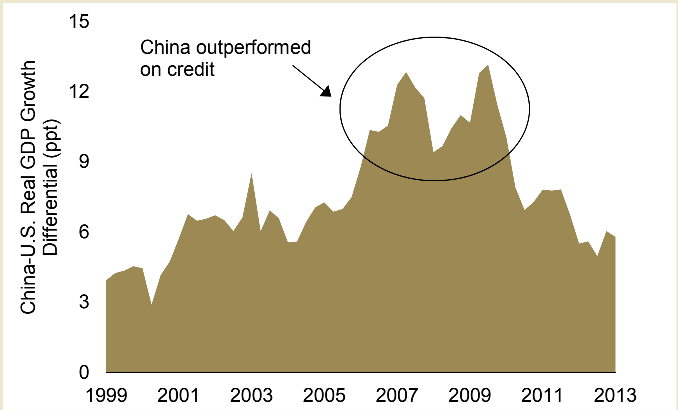
First, China has been lucky that its financial system is still in adolescence. When the global financial system froze in late 2008, China was less affected than most countries because its financial system is relatively smaller, less sophisticated and less globally integrated. What's more, its banks had already been successfully restructured before the global crisis began.

Second, China compensated for the global crisis by deploying a veritable tidal wave of credit. It is extremely speculative to gauge the impact of this action, but we figure that without it, the Chinese economy might have expanded by as little as 2% in 2009, rather than the 7% growth actually achieved (Exhibit 2).

In this report, we examine the reverberations that loom after China's credit boom. This involves an initial look at China's overall credit load, then a more detailed examination of China's housing market, its shadow-finance sector, local-government debt and central-government debt.

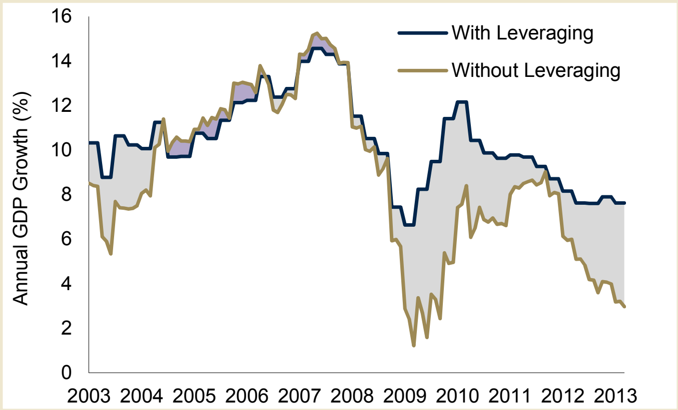
Our most striking finding is that the state of Chinese credit is surprisingly nuanced. It is harder than we expected to proclaim that China has extended too much credit, that housing is overcooked, that wealth-management products are a bad idea or that local governments are on

Exhibit 1: China's Stellar Outperformance



Note: Measured as the difference between the annual real GDP growth of China and U.S. Source: CNBS, BEA, Haver Analytics, RBC GAM

Exhibit 2: Chinese Growth Would Be Weaker Without Leveraging



Note: GDP growth without leveraging is calculated based on the presumption that every percentage point increase in the credit-to-GDP ratio adds one-quarter of a percentage point to GDP growth. Source: Haver Analytics, RBC GAM

[1] State capitalism offers the advantage of many policy levers, but can be difficult to sustain as a country grows wealthier.

the cusp of default. There are real problems with each, but to a lesser extent than popularly imagined. Moreover, to their enormous credit, Chinese policymakers are now cracking down on the excesses that do exist.

Of course, this crackdown has in itself elevated the risk of a hard landing over the next year. While the hard landing can likely be avoided, it is not a trivial concern. Either way, less electric credit growth thereafter strongly hints of dimmer economic growth in the future.

Chinese private credit

We begin this journey with a quick snapshot of overall Chinese credit in the private sector. This is no simple task: the data is hard to come by, inconveniently sliced and imperfectly compatible with other nations.

Data from the Bank of International Settlements (BIS)[2] suggests that China's private credit load has now clambered all the way up to that of the developed world – a worrying sign given that poorer countries are usually much less leveraged (Exhibit 3). At 161% of GDP, this measure of Chinese leverage is now well past that of its Asian peers and worryingly similar to the 1997 excesses that helped trigger the Asian financial crisis.[3]

A more expansive definition of private credit is what China calls "total social financing." Loosely, this metric adds shadow finance (including equities) to the prior definition of private credit.[4] According to this measure, China's total social financing is 183% of GDP. While this is higher than the first definition, it actually looks quite tame versus other countries such as the U.S. and the U.K. that register figures twice as large (Exhibit 4). Additionally, it is reassuring that China's total social financing figure is lower than that recorded by Japan during its own economic takeoff.

Some part of the contradiction between the two series may be due to China's relatively smaller stock market, which obliges the country to do more financing via debt. This trait makes China look comparatively worse in the BIS measure; however, the country looks more normal once the full spectrum of financing sources is included in total social financing.

Growth, not stock

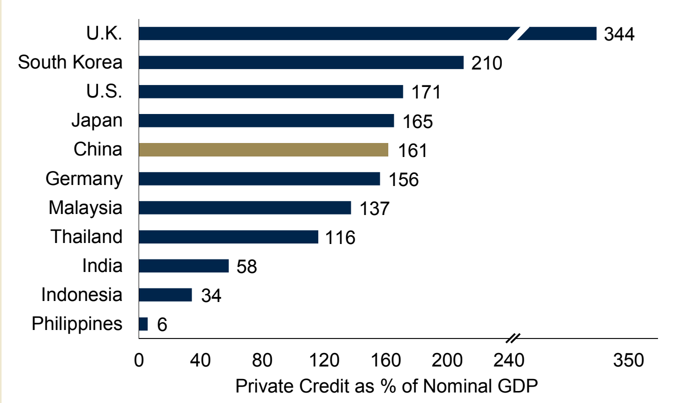
Regardless, the two credit measures converge on one crucial point: China has experienced tremendous credit growth since the financial crisis. Credit has surged by between 47% and 70% of GDP over the past five years

[2] Calculated as corporate bonds outstanding plus loans to households and non-financial corporations.

[3] That said, China lacks other key triggers, such as significant foreign borrowing or heavy reliance on wholesale funding for its banks.

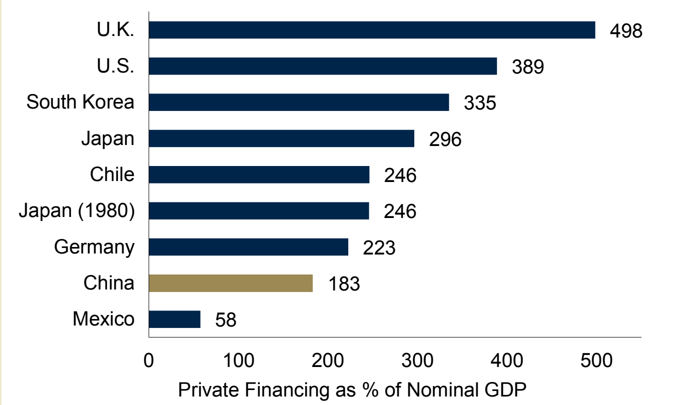
[4] For non-China countries, we calculate this based on OECD data.

Exhibit 3: Level of Private Credit in China Is High Versus Emerging Markets



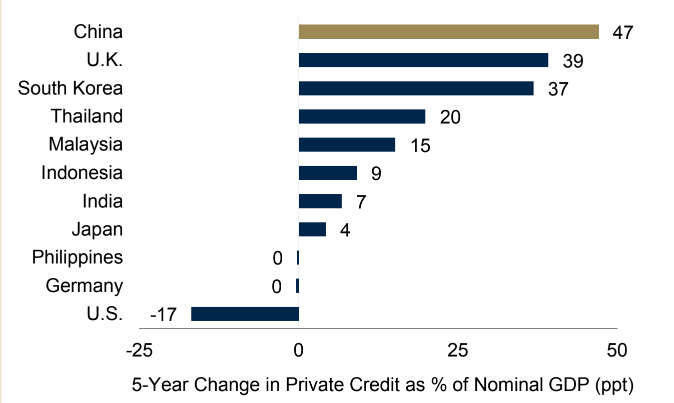
Note: Based on latest data available. Private credit includes loans provided to non-financial sector and debt securities issued by financial and non-financial sectors. Source: Haver Analytics, RBC GAM

Exhibit 4: Chinese Total Social Financing Not Obviously Excessive



Note: Private financing defined as borrowing by non-bank private sector via loans, bonds and equities. China data corresponds to Total Social Financing for March 2013. Others built from OECD data – 2009 for Mexico, 2011 for all others unless otherwise specified. Source: Haver Analytics, PBoC, OECD, RBC GAM

Exhibit 5: Chinese Private Credit Growth Is Out of Step



Note: Based on latest data available. Private credit includes loans provided to non-financial sector and debt securities issued by financial and non-financial sectors. Source: Haver Analytics, RBC GAM

(Exhibit 5 and Exhibit 6). This hurried pace is faster than any of the other countries we have examined.

This gusto is worrisome. Credit bubbles usually have less to do with the absolute level of credit than with the rate of credit accumulation. One useful rule of thumb flags a credit bubble when credit-to-GDP growth exceeds 40% of GDP over five years. China has accomplished this dubious feat according to both credit measures.

Credit's bad rap

To be clear, some modest leveraging – credit growth running a hair faster than economic growth – is normal. As nations become richer, they can generally sustain deeper financial markets and more credit. The causality may also extend in the opposite direction: more credit – within reason – is one way they become richer (Exhibit 7).

Moreover, credit must not be contemplated solely in the context of the burden it imposes on borrowers. Borrowers actively seek credit. And for every borrower, there is a diligent saver on the other side of the ledger. The credit market is a remarkable mechanism for matching savers and borrowers, providing a more productive home for surplus money.

China-specific counterpoints

There are also some important factors that reduce credit risk in China.

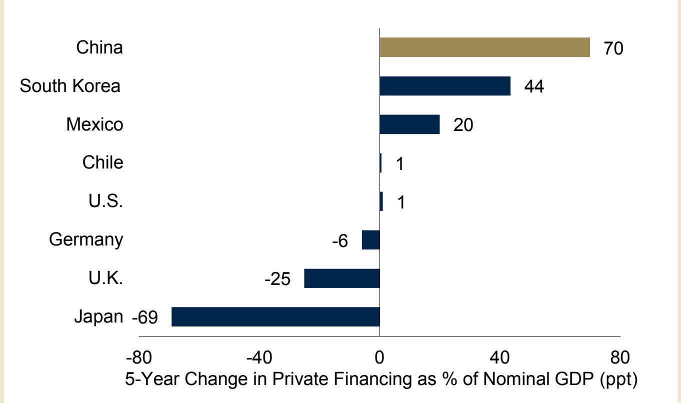
First, there are few signs of significant stress in Chinese credit markets. Non-performing bank loans have declined substantially over the very period the credit growth has accelerated (Exhibit 8). Banks' capital-adequacy ratios are generally improving (though they are still thin by global standards). Granted, a trickle of borrowers have lately defaulted on their corporate debt or wealth-management product obligations, a few banks have purportedly defaulted on loans and interbank lending rates have recently risen. But we do not anticipate an outright flood.

Second, due to strong capital controls, the great bulk of China's borrowing is in its own currency and is financed domestically. Consequently, China is less exposed than many emerging markets to the risk that global market jitters might prompt foreigners to stop lending and balloon the cost of foreign-denominated debt.

Third, China is a net saver, not a borrower. Years of current-account surpluses have accumulated a positive international investment position of US$1.8 trillion. For all of its excessive borrowing, China has been even more obsessed with saving (Exhibit 9), which provides a modicum of protection.

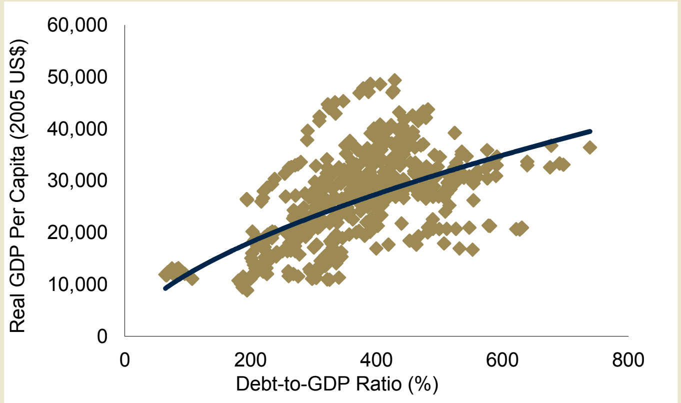
Fourth, Chinese banks and state-owned enterprises are extremely malleable. In the event of a sudden credit freeze,

Exhibit 6: Alarming Growth of Chinese Total Social Financing



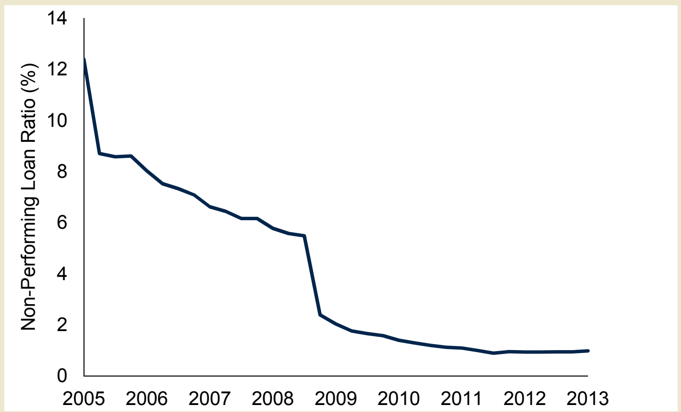
Note: Private financing defined as borrowing by non-bank private sector via loans, bonds and equities. China data corresponds to Total Social Financing for March 2013. Others built from OECD data – 2009 for Mexico, 2011 for all others unless otherwise specified. Source: Haver Analytics, PBoC, OECD, RBC GAM

Exhibit 7: Countries Can Increase Their Leverage as They Grow Wealthier



Note: Scatterplot of longitudinal data for 32 countries. Source: Haver Analytics, RBC GAM

Exhibit 8: Chinese Non-Performing Bank Loans Have Declined Substantially



Source: China Banking Regulatory Commission, Haver Analytics, RBC GAM the government could soften the jolt by ordering financial institutions to continue lending, reschedule debt and/or buy more government bonds.

Credit caution

In the end, it is surprisingly unclear whether China's private credit burden is too high, but it has certainly grown too quickly. Despite several factors that would cushion the blow of a credit slowdown, the downside risks are unusually large and the simple fact is that Chinese credit cannot continue to grow at the current pace.

To better understand these risks, we now investigate several of the larger elements of China's credit market.

Hot housing

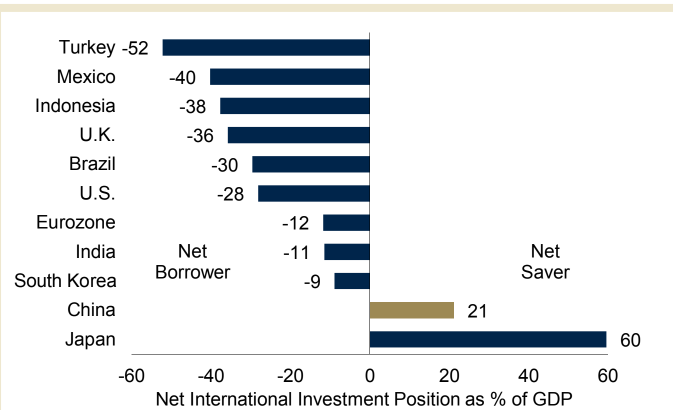
China's housing market has grown by leaps and bounds, contributing sizably to credit growth via the funding of builders and the furnishing of mortgages. A casual inspection suggests reason for concern. We estimate urban housing construction at around 20 million new units per year, which is well in excess of demographic demand in the range of 9 million to 16 million units (Exhibit 10). Construction[5] has grown significantly as a share of GDP. Home prices are again rising (Exhibit 11) and already run to 22 times annual household income in the most stretched city, as depicted in Exhibit 12. Tales abound of rampant speculation. However, there is important nuance to each of these excesses.

Justifying construction

For instance, while the number of new homes is indeed likely running above sustainable rates, we cannot assert this with total conviction. Mass private ownership of homes was introduced a mere 15 years ago. Before that, the housing stock

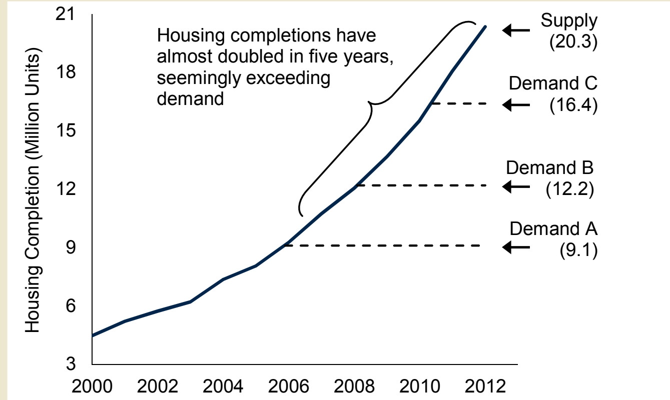
[5] Including both residential and non-residential construction.

Exhibit 9: Across Entire Economy, China Has Net Savings, Not Debts



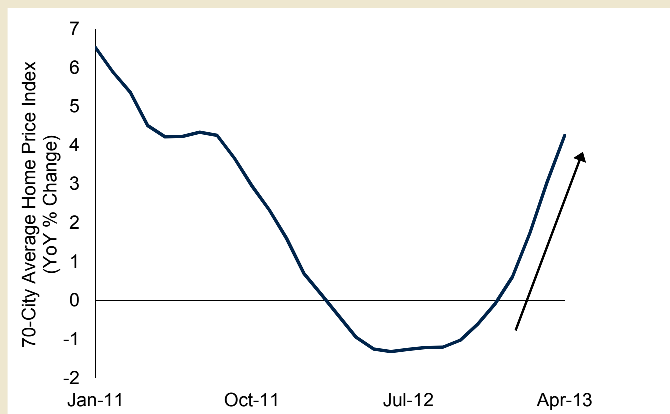
Note: Data based on latest available year. Source: Haver Analytics, IMF, RBC GAM

Exhibit 10: China's Urban Housing Supply



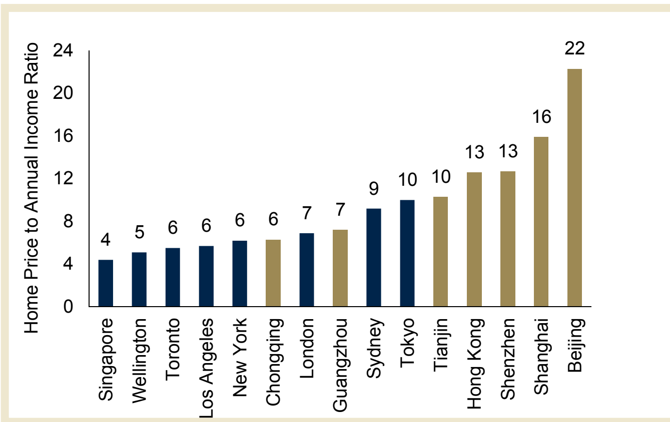
Note: "Demand A" calculated based on need for 5.6% growth in number of urban dwellings (assumes 3% urban population growth, 0.6% decline in household size, 2% teardown rate). "Demand B" calculated with same 5.6% growth rate, but assumes 1:1 ratio of new households to new dwellings (higher than current ratio). "Demand C" extends the prior approach by assuming that the existing mismatch between households and dwellings is alleviated over 20 years. Housing completion calculated based on assumption of 100 square metres per dwelling. Source: Haver Analytics, RBC GAM

Exhibit 11: Chinese Home Prices Rising Again



Note: Index derived by averaging property price changes of newly constructed residential buildings in 70 cities in China. Source: CNBS, Haver Analytics, RBC GAM

Exhibit 12: Chinese Home Price-to-Income Tops Charts



Note: Based on 2011 data. Source: IMF Global Financial Stability Report April 2012, RBC GAM was essentially stagnant for a generation, with residential construction lagging far behind marginal demand until about seven years ago. That is a lot of under-building to compensate for. Moreover, as the country grows wealthier, it is natural for Chinese households to upgrade the quality of their homes. Thus, whereas the annual teardown rate on homes in the developed world is only 0.3%, it could conceivably be higher than the 2% rate we have assumed for China.

Additionally, demand remains artificially constrained. Chinese citizens are restricted in where they can choose to live or own property. Rural citizens are permitted to work in cities as migrant labourers, but are unable to put down roots, lacking the right to own a home and without access to public education, health care and other local social services. Consequently, roughly 125 million migrant workers live in company dorms. This may explain why there are 86 million more urban households than urban dwellings. Coming housing reforms could open the floodgates for more housing demand. Our most optimistic scenario in Exhibit 10 imagines that this imbalance will be rectified gradually over the next 20 years, but it is possible the absorption could come more quickly, or that the process of urbanization could accelerate, making our 3% urban population growth assumption too conservative.[6]

Regardless of demand, there is also a limit to how far the number of housing completions can fall. China's latest five-year plan envisions 36 million new affordable housing units between 2011 and 2015. There will have to be close to 10 million units of affordable housing built per year over the remainder of the period to achieve that target. This provides a powerful support for construction activity.

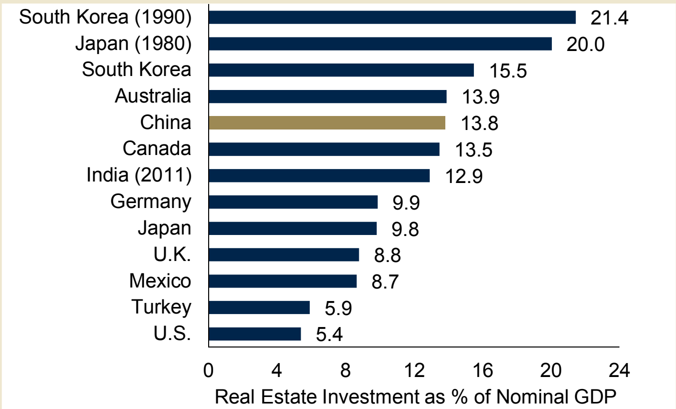
Finally, we take some solace from several further observations. First, the official Chinese vacancy figures are still quite tame on an absolute basis, taking some wind out of the argument that speculation is rampant and materially inflating demand (Exhibit 13). In fact, fewer than 10% of households at the bottom four-fifths of the income spectrum own more than one home, and only half of those in the top fifth do.

Second, construction's share of Chinese GDP is not obviously too high relative to other countries, nor when compared to the booms experienced in Japan and South Korea at a similar stage of development (Exhibit 14). There are certainly examples of wasteful construction projects: so-called "ghost towns", such as Ordos and Zhengzhou, have been gleefully chronicled in the Western press and starkly illustrate the peril of investing without market discipline. But these cities represent the exception, not the rule.

Exhibit 13: Housing Vacancy in China Rising Quickly, but Not High

Note: Housing stock and vacancy units calculated based on assumption of 100 square metres per dwelling. Source: Haver Analytics, RBC GAM

Exhibit 14: Real Estate Investment in China Not Unprecedented



Note: Based on 2012 data unless otherwise indicated. Real estate investment includes residential and non-residential investment. Source: Haver Analytics, RBC GAM

Third, China's banks seem to have manageable exposures to builders and mortgages at just 20% of the total loan book (Exhibit 15). This is only half the U.S. level, and significantly less than Thailand and Indonesia during the run-up to the Asian financial crisis.

Redeeming affordability

Housing affordability may also be less troubling than it looks. While home prices do run to many times the average income, this is a common and seemingly durable occurrence in emerging nations. One possible explanation is that when salaries are tripling every decade, the home price-to-income ratio is only elevated when the mortgage is initially secured and much lower later on.

Another explanation could revolve around the quality of the home price-to-income statistic. Many Chinese purchase and/or live in affordable housing, not the market-priced homes cited

[6] China recently targeted 250 million new urban citizens over the next 12 years, roughly equating to 125 million new households. This translates to 3.4% annual urban household growth per year, slightly higher than our 3% assumption.

in the official price statistics. Meanwhile, the income statistics may fail to embrace the fact that multiple families sometimes share a dwelling or that China's large pool of "informal employment" may result in underestimates of income.

Adding indirect support to this argument, actual Chinese dwelling costs constitute a small and shrinking share of personal income. And our own estimate of housing affordability – based on the carrying cost of a mortgage versus household income – argues that affordability has actually improved since the start of the construction boom (Exhibit 16).

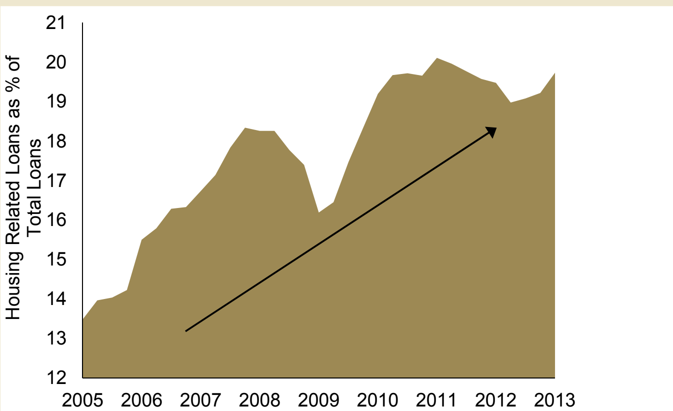
Evaluating housing

Thus, there are very much two sides to China's housing boom, and we are left deeply uncertain over the extent of any excess. Perhaps the safest thing to say is that real estate investment cannot continue to grow at its recent pace. It has gone from 2% of GDP in the 1980s to 14% today (Exhibit 17). The vacancy rate may be low, but it is clearly rising. The way that builders are financing themselves in the wealth management product market is not sustainable. Additionally, household debt – while still tame relative to GDP – is not much lower than the U.S. as a share of the more relevant metric: disposable income (Exhibit 18).

After the pain of China's 2007 stock market bust, housing has been a popular focus for Chinese investors. But as policymakers continue to crack down on housing excesses on a city-by-city basis by increasing the barriers to entry and discouraging speculation,[7] housing should cease to contribute so forcefully to economic growth and could begin to drag.

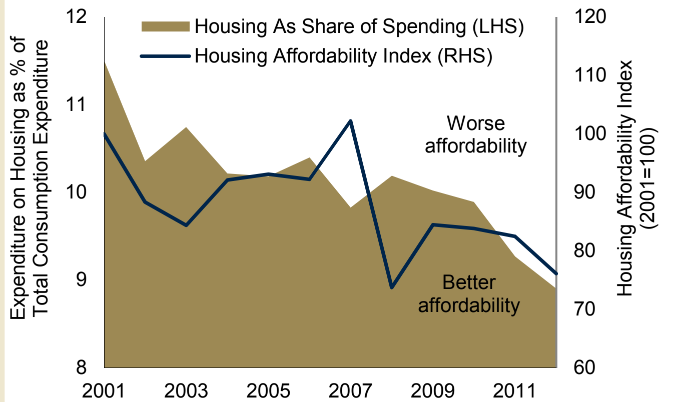
[7] Such as via strict mortgage limits on second properties, imposing property taxes that increase the cost of holding a dwelling and fees that increase the cost of flipping a dwelling.

Exhibit 15: Bank Exposure to Real Estate Growing, but Still Tame



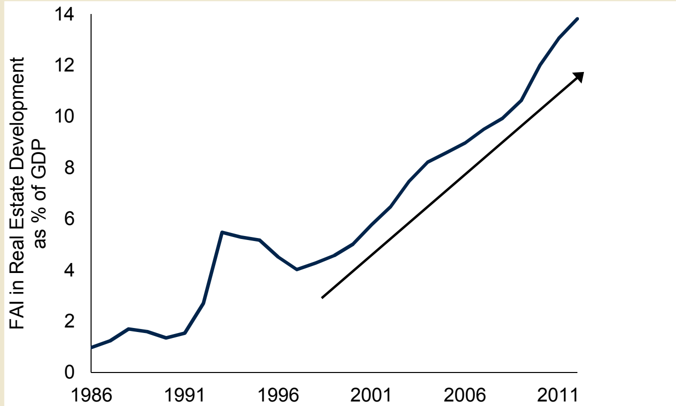
Note: Housing related loans include loans to real estate developers and mortgages. Source: Haver Analytics, RBC GAM

Exhibit 16: Chinese Housing Affordability Getting Better, Not Worse



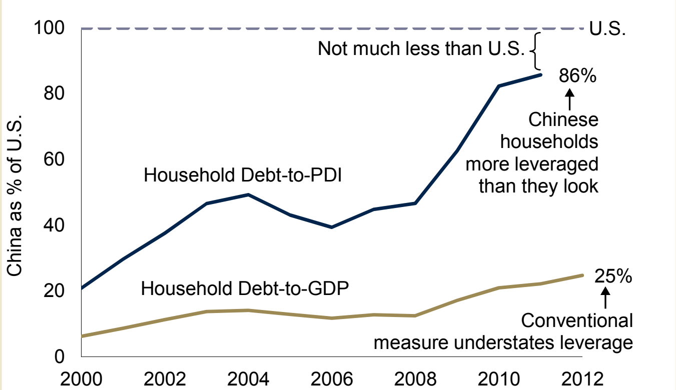
Note: Expenditure based on per capita data. Affordability index calculated as fraction of average household disposable income required to service the mortgage on an average house, assuming a 20-year mortgage with 30% downpayment. Source: Haver Analytics, RBC GAM

Exhibit 17: Real Estate Investment Has Risen Steadily



Note: FAI refers to fixed asset investment. Source: CNBS, Haver Analytics, RBC GAM

Exhibit 18: Chinese Households Are Heavily Leveraged



Note: Comparison of China and U.S. household debt-to-personal disposable income (PDI) and household debt-to-GDP ratios. China's ratio expressed as % of U.S. corresponding ratio. Source: Haver Analytics, RBC GAM

What lurks in the shadows

China's shadow-finance industry has sprung up practically overnight, providing a huge and rapidly growing source of financing for the economy (Exhibit 19). Conservatively, shadow finance has grown to a colossal 23 trillion yuan (US$3.8 trillion), which is equivalent to 43% of China's GDP. A more expansive definition[8] pegs it as high as 63% of GDP. From a standing start only a few years ago, shadow finance now represents around a third of total private credit and over half of the recent flow (Exhibit 20). This relentless growth has understandably raised eyebrows.

The virtues of shadow finance

Despite its ominous title, there are actually several positive aspects to shadow finance.

Much of the allure of shadow finance is rooted in a basic mismatch within China's restrictive financial system. Inflows and outflows of foreign capital are limited, bank lending is controlled through a combination of quotas and reserve requirements, interest rates are suppressed at unnaturally low levels and the bulk of publicly traded companies are majority-owned by the state.

Two key sources of tension emerge from these arrangements. First, investors are dissatisfied with the dearth of investment opportunities (70% of household assets are in deposits and cash) and with the low level of prescribed interest rates available on their bank deposits (Exhibit 21).

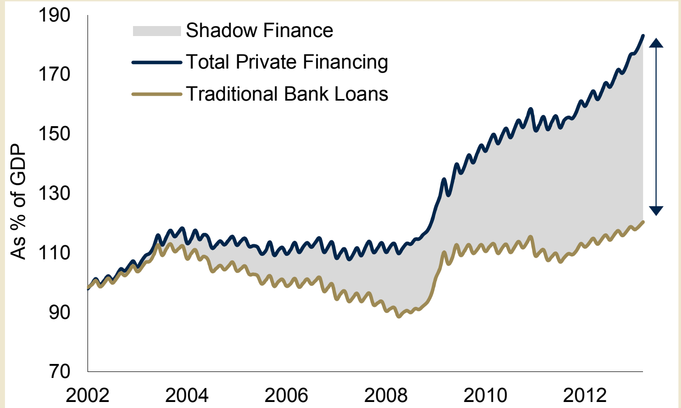
Second, private companies are starved of credit. Bank credit is hard to come by, since banks are restricted in the amount of credit they can provide and by the interest rates they can charge. Given these constraints, financial institutions naturally prefer the safety and political favour that comes from lending to government and state-owned borrowers. Meanwhile, equity and bond markets – while growing – remain closed to most companies seeking to raise money.[9]

Inevitably, the profit motive seeks a way around artificial impediments such as these. Unfulfilled depositors and spurned borrowers have made natural bedfellows, meeting in the realm of shadow finance. The former are willing to loan their money in exchange for a higher rate of return (a standard wealth management product might offer a 4% to 8% yield). The latter are willing to pay that higher borrowing rate in exchange for access to credit.

[8] The main difference is the inclusion of equities.

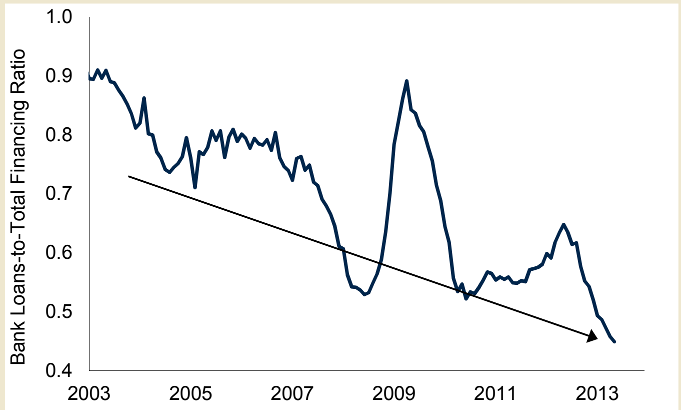
[9] Fully 98% of Chinese bonds outstanding are issued by the government or state-owned enterprises.

Exhibit 19: Chinese Shadow Financing Expanding Rapidly



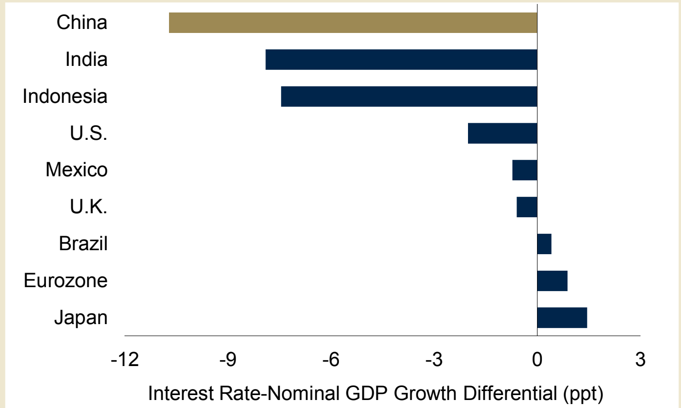
Note: Total private financing is aligned with "Total Social Financing," which includes bank loans and an expansive definition of shadow finance that includes equities. Source: CNBS, PBoC, Haver Analytics, RBC GAM

Exhibit 20: Borrowers Have Turned to Alternative Financing Channels



Note: Measured as new RMB loans as share of Total Social Financing created. Source: PBoC, Haver Analytics, RBC GAM

Exhibit 21: Chinese Interest Rates Especially Repressed



Note: Based on latest data available. Differential defined as 5-year average central bank benchmark interest rate minus 5-year average nominal GDP growth rate. Source: Haver Analytics, RBC GAM

As an added bonus, shadow finance also arguably provides a more efficient system for the allocation of capital. Unlike in the traditional banking system, market forces primarily determine where shadow finance will be allocated. And because the private sector is the disproportionate recipient of these funds, we can say that the capital is probably deployed more efficiently (Exhibit 22).

The varieties of shadow finance

The term "shadow finance" is a broadly cast net covering just about anything that is not a conventional bank loan (Exhibit 23). Thus, the definition includes quite pedestrian (though not riskless) instruments such as bankers' acceptances and corporate bonds. The broadest definition even includes equities. These products are commonplace around the world, reasonably well regulated and widely acknowledged as serving an important and uncontroversial function.

More exotic, more dangerous and more specific to China are a handful of other vehicles led by wealth management products (WMPs).[10] WMPs match a pool of investors with specific investment opportunities. Overwhelmingly, they offer a fixed rate of return and mature in less than a year. However, beyond these commonalities, WMPs vary to a staggering degree (Textbox A).

Ratings agency Fitch estimates that WMPs have now ballooned from virtually nothing at the start of 2009 to around 12 trillion yuan at the end of 2012, thus constituting a whopping half of the shadow financing now outstanding (Exhibit 24).

The dangers of WMPs

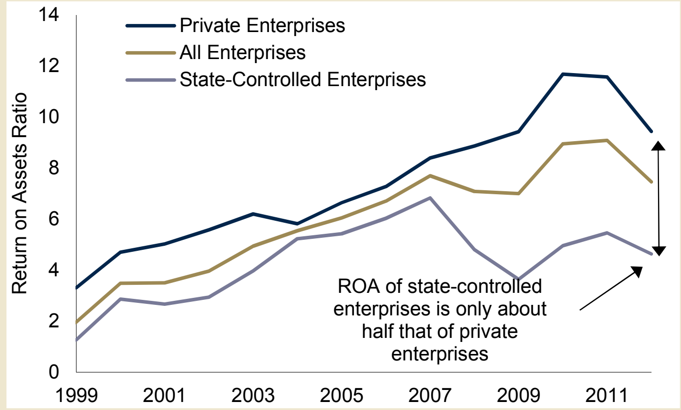
Here, the shadow-finance narrative slips to negative from positive. In late 2012, Xiao Gang, the then chairman of one of China's four largest banks, bluntly called WMPs "fundamentally a Ponzi scheme." Shortly thereafter, major losses by a WMP were publicly announced. Additional losses of this sort seem inevitable.

WMPs present several major problems:

- **Loan-quota circumvention:** WMPs (and for that matter, other forms of shadow finance) circumvent the government's efforts to control the flow of credit via loan quotas. This has flooded the economy with more credit than desired.
- **Opaqueness:** A recent Reuters analysis found that the ultimate investment destination of WMP funds was identifiable for only two of the 50 products investigated by the news service. There is a place for risky investments, but only if it is possible to evaluate the level of risk.

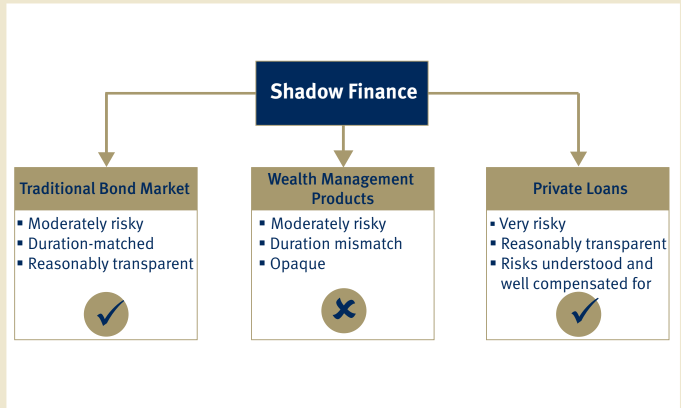
[10] Other examples include trust loans and informal lending.

Exhibit 22: Private Enterprises Deploy Capital More Efficiently



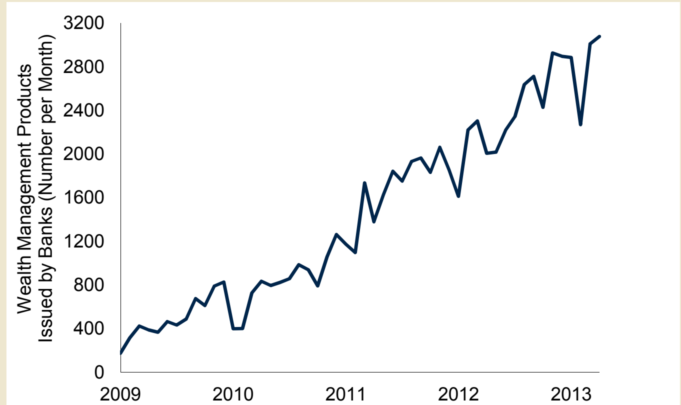
Note: Return on assets (ROA) of industrial enterprises in China calculated as ratio of profit to total assets. Source: Haver Analytics, RBC GAM

Exhibit 23: An Anatomy of Shadow Finance



Source: RBC GAM

Exhibit 24: Wealth Management Products Have Boomed in Recent Years



Source: CASS, Haver Analytics, RBC GAM

- **Ponzi scheme:** It has apparently been common practice for purveyors of WMPs to paper over earlier losses by issuing subsequent rounds of WMPs and using these infusions of new capital to pay off the old losses, rather than fund new investments. This practice is indeed nothing more than a Ponzi scheme.
- **Investor risk:** WMPs are not the "high-interest savings accounts" that many investors perceive them to be. The money is lent to companies for projects that are naturally at some risk of failure. Even among WMPs with principal guarantees, significant risk remains, as many of the backstops are furnished by investment-guarantee firms that are rumoured to be insufficiently capitalized to handle a cluster of losses.
- **Facilitator risk:** Some WMPs are explicitly guaranteed by the bank or trust that brokers them, rather than by an investment-guarantee firm. Potential losses could thus accrue to the facilitator in these cases. Even among those WMPs without a guarantee, there is the widespread perception of an implicit guarantee from the facilitator. Depending on how regulators respond, this could expose facilitators to unexpected losses.
- **Borrower risk:** WMPs suffer from a severe duration mismatch. The vast majority of WMPs mature in less than a year and yet are widely used to fund construction and infrastructure projects that will require decades to pay for themselves. If investors were to suddenly sour on WMPs, borrowers would face a liquidity crunch that could push many into insolvency, ricocheting back to hurt investors and facilitators as well.

The redemption of WMPs

Fortunately, most WMP flaws are fixable and indeed those flaws are mostly being addressed.

For instance, China is coming to recognize that loan quotas are no longer a fail-safe way to control the flow of credit, since bank loans are no longer the only credit game in town. Policy makers will have to rely more on the level at which they set interest rates if they are to influence both bank and non-bank lending channels.

More specifically, the severe under-regulation of WMPs is beginning to be addressed via a series of recent rule changes aimed at creating safer and more transparent products. Banks have been told to be prudent in the use of WMP money that they raise, and are now obliged to register all WMPs with the government. They must also now link each product to a specific underlying investment, rather than an undifferentiated pool. This requirement means that WMPs can no longer function as Ponzi schemes in disguise.

TEXTBOX A: WMP DETAILS

Type of investor: The investors are most often wealthy individuals. However, the minimum-investment threshold is regularly circumvented by pooling family or community resources, providing access to ordinary households. It is also not unusual for businesses, including large state-owned enterprises, to park excess cash in WMPs.

Investment destination: The money is invested in many different ways. A significant fraction goes to property developers and infrastructure projects, and the rest to a broad array of commercial enterprises. Some is even invested directly into stocks and bonds (akin to a mutual fund).

Guarantee: Some WMPs guarantee the investor's principal against losses, while others do not. Among those that are guaranteed, some are backed by the facilitating institution and others by a third-party investment guarantee firm.

Facilitator: Over half of WMP offerings are brokered and marketed by banks, the rest are managed by trust companies.

Banks have also been told to limit non-publicly traded investments to 35% of the total stock of WMP assets they issue, and to ensure that this portion sums to no more than 4% of bank assets. Financial institutions have also been instructed to avoid offering principal guarantees and may eventually be obliged to make provisions for possible losses. Notoriously opaque third-party sales may be banned, wherein a bank markets a WMP assembled by a third-party trust. Smaller banks may also be disqualified from issuing WMPs altogether, making the industry easier to regulate. These and additional proposed changes do not guarantee that all WMP investments will now be safe, but they should be safer than they were, and the additional transparency will allow for a more proper pricing of the remaining risk.

These regulatory changes are a work in progress, but there can be little doubt about the government's intentions. It seeks not to quash WMPs – they and their ilk serve too important a role in financing infrastructure and funding capital-starved private businesses – but rather to fix their more glaring flaws and to reduce the systemic risk that has sprung from them.

One major issue remains – the problem of mismatched duration. On the surface, there would seem to be a way to fix this: requiring issuers to extend the term of new WMPs so that they match up with the extended payoff of the underlying investment. But this isn't happening yet and such a course of action is harder to implement than it sounds.[11] Until this change occurs, a serious downside risk remains. If investors were to suffer a fright, the WMP industry could still be badly hurt, with major consequences for investors, facilitators and borrowers alike.[12]

The future of shadow finance

Many aspects of shadow finance can and will continue to blossom in China. There is nothing whatsoever wrong with a growing bond market or stock market, for instance.

But WMPs are like Dr. Jekyll and Mr. Hyde (Exhibit 25). On the plus side, they serve a crucial purpose in funnelling credit to the private sector and providing a reasonable rate of return for yield-starved Chinese investors. They are also a useful incubator of free-market capitalism within China's mainly state-oriented system.

But even as many of the problems begin to be addressed, the WMP industry faces its moment of maximum risk as existing, flawed WMPs mature and roll into the new regulatory regime. Additional WMP defaults are quite likely to be flushed out over the coming year.

If the WMP industry makes it past these hurdles, the sector may even continue to grow thereafter. But once investors, facilitators and borrowers alike better understand the risks, the white-hot appetite for the market should eventually cool to an orange glow, with investor appetite partially diverted to more appropriate destinations, like corporate bonds and mutual funds.

Local government leverage

Until quite recently, local governments were not allowed to issue debt, so it might seem strange that they have managed to accumulate so much of it. Local-government debt ratios have doubled over the past six years to a corpulent 30% to 40% of GDP (Exhibit 26). This is higher than the central government's own tally. But the main threat is not so much the current burden of debt – which is still fairly tame by a variety of metrics – as the fact that it continues to grow so quickly.

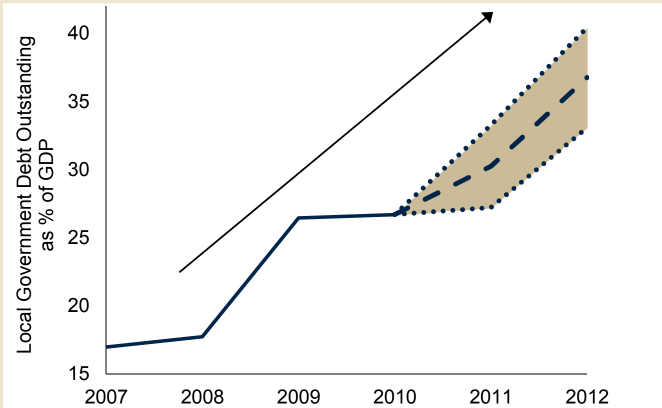
How have local governments managed this hapless feat? It is the product of a legal loophole, a festering structural mismatch and a central government edict.

Exhibit 25: Pros and Cons of Wealth Management Products

PROS	CONS
Channels credit to more efficient private sector	Potential for excess credit
Higher investor returns	Risk to investor, facilitator, borrower
Incubator for free-market capitalism	Opaque investments
Reduces importance of banks	Duration mismatch

Source: RBC GAM

Exhibit 26: China's Local Government Ratcheting Up Debt



Note: RBC projections after 2010. Shaded area represents the range of estimates.
Source: China National Audit Office, Haver Analytics, RBC GAM

A legal loophole allows local governments to create third-party corporations called local government financing vehicles (LGFVs). In turn, these LGFVs are able to borrow from banks, WMPs and the bond market.[13]

The festering mismatch is that local governments have structural spending obligations that far exceed their access to tax revenues. This has been partially addressed via large transfers from the central government amounting to almost half of local government revenue, but even this top-up has been insufficient. The remaining gap has been funded with debt.

Lastly, the central government, worried that Chinese economic output might collapse, undertook a giant stimulus program in 2008 by issuing an edict that banks lend to local governments and that local governments engage in massive infrastructure investments. The banks and

[11] A big part of the attraction of WMPs is that they are short-dated investments offering a high return. If they become long-dated investments offering a high return, they cease to be materially different than a corporate bond, which has attracted only limited appetite from Chinese investors.

[12] In fairness, China benefits from a closed capital account which limits the damage from a sharp correction in the WMP industry. Money cannot easily leave the country, so withdrawn WMP investments would eventually find their way back into the banking system, and the banks could be instructed to continue lending to jilted borrowers.

[13] Bank loans constituted 79% of local government debt in 2010, but the figure has likely fallen significantly since then.

local governments faithfully followed these directives. Spiking local government debt levels resulted.

The local government problem risks becoming even more acute as China's housing market wobbles. Of the limited revenue that local governments are able to generate for themselves, land sales and construction projects are a disproportionately large source. These boom times will not last forever.

Avoiding local government disaster

Fortunately, there are a few ways that local governments should be able to avoid disaster.

First, a massive amount of local-government debt that had been set to mature in late 2012 was forcibly refinanced at the central government's behest,[14] pushing its maturity back to at least 2016. At a minimum, this delays a messy reckoning and perhaps even cleans up some of the mess altogether as many of the new infrastructure projects should be generating income by then.

Second, it is moderately comforting that so much of the local government spending is on infrastructure.[15] At least infrastructure provides some sort of lasting, tangible benefit. And in a pinch, local governments could always reduce their spending on infrastructure or even sell some of it off.

Third, and most importantly, the central government implicitly backs local governments.[16] If local governments were to default en masse, China's banks would initially take it on the chin. But there is a long precedent for China's central government stepping in and bailing out banks when non-performing loans surge.[17] This precedent would be doubly strong given that the central government instructed the banks to make the loans and the local governments to commence their infrastructure projects.

Local outlook

To be clear, the local-government debt situation is troublesome and may eventually necessitate central government assistance as housing profits fade and loans mature. New systems to monitor local government debt and new bank lending limits to LGFVs are snapping into place. While these measures reduce the risks over the long run, they arguably increase them over the short run. Consequently, as with WMPs, this coming year is perhaps the moment of maximum danger. But disaster is hardly assured, and the key point is that the central government remains ready and willing to act.

Exhibit 27: China's Central Government Deleveraged After Financial Crisis

Source: Ministry of Finance of China, Haver Analytics, RBC GAM

Exhibit 28: China's General-Government Debt in 2012

	As % of GDP
Central-Government Debt	15
Local-Government Debt	37
Policy Financial Bonds Outstanding	15
China Railway Corporation Debt	5
Total	72

Note: Projection used where data is not available.
Source: Credit Suisse, Ministry of Finance, National Audit Office, National Bureau of Statistics, Haver Analytics, RBC GAM

Central government debt

China's saving grace amid all of these credit excesses is the financial position of its central government. While seemingly everyone else has been loading up on credit at the all-you-can-eat buffet, the central government has been prudently fasting, reaching a rock-bottom debt-to-GDP ratio of just 15% in 2012 (Exhibit 27). In fairness, a comprehensive accounting would include the local-government debt and a few other implicit guarantees (such as railway corporation debt and policy financial bonds), topping out at a much higher 72% of GDP (Exhibit 28).[18] This figure is still lower than most developed nations, but no longer truly low.

[14] China has a history of forcibly rolling maturing debt that might otherwise struggle to secure buyers. This is a tactic that could well be employed again in the future.

[15] It would be more difficult to cut back on government spending if the bulk were concentrated on social programs.

[16] Markets clearly believe local government debt is backed by the central government as the Shanghai 5-year bond yield is little different than that of the central government.

[17] The banks were bailed out in the early 1990s and then again in the early 2000s to the tune of $45 billion. More recently, in 2010, the central bank shifted about $400 billion in local government debt off local government balance sheets in an effort to lighten the load.

[18] Note that the IMF offers a much more generous estimate of gross governmental debt of just 21% of GDP.

Assets matter, too

On the other hand, most governments have few saleable assets to their name, whereas China is positively swimming in them. The Chinese government holds currency reserves worth around US$3 trillion – or 40% of GDP – enough to eliminate the entire stock of local-government debt if so desired.[19] Meanwhile, the central government has holdings in many state-owned enterprises that we very conservatively estimate to be worth almost US$5 trillion,[20] or another 55% of GDP.

Moreover, as mentioned earlier, China is minimally reliant on foreign investors, and domestic investors are not easily able to pull their money from China's closed system.

Acknowledging these nuances, the International Monetary Fund (IMF) puts China's fiscal vulnerability at "medium," whereas only two out of 33 countries score "low" and several major nations – including Japan and the U.S. – score "high." We concur, though we acknowledge that China's fiscal position is at risk of deteriorating somewhat as it sops up various messes.

Bottom line

The bottom line is that China's credit position is not as bad as it first looks and not as bad as we had feared. But it is not good, either. The Middle Kingdom has clearly been propelled to some degree by credit excesses in recent years. Now, as regulators clamp down and the tide accordingly goes out, we will learn – to paraphrase Warren Buffett – whether China has been swimming naked.

With regard to local-government debt and WMPs, the answer is likely "yes," but with attenuating factors. On the housing market, it is a more cautious "maybe."

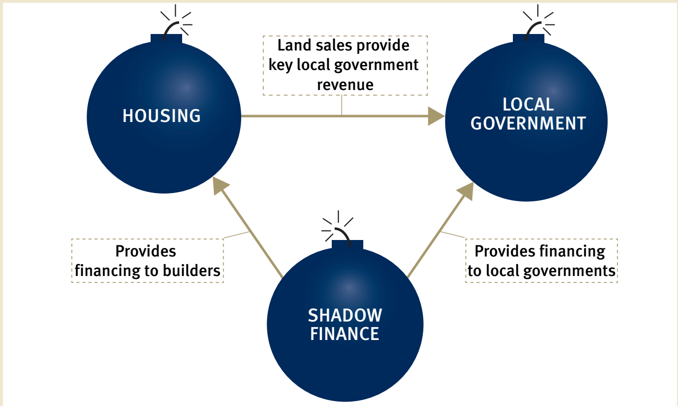
Local-government debt excesses are unlikely to vanish, but new loan limits may slow the growth and the sector should ultimately be bailed out by the central government.

WMP excesses should be tempered over the next year under a regulatory onslaught, but the period could be tumultuous and even then a duration mismatch will persist.

The housing market may have greater staying power than most would imagine, but it too must surely slow with time.

One of the reasons it is so difficult to forecast the precise outcome is that these problems are all intertwined (Exhibit 29). Home builders and local governments are reliant on WMPs for a significant source of their funding. Meanwhile, local-government revenues are heavily reliant on the housing market. If one problem were to flare, the others could also go off.

Exhibit 29: Interconnected Excesses



Source: RBC GAM

Despite this uncertainty, one safe conclusion is that the Chinese economy is unlikely to generate as much credit growth in the future. Already, the rate of credit growth has ebbed in recent months, and policymakers have made little effort to counteract this.

To date, China has shown an uncanny ability to avoid potholes. This must surely still be the default assumption. But China now has an unusually pothole-strewn road ahead of it. The rate of economic growth is already slowing, even as the rate of credit growth has accelerated. If credit growth were to fall back into line with GDP growth, the economy could shed as many as 4 percentage points of annual growth (refer again to Exhibit 2). This is hardly an extreme scenario, but it nonetheless generates an extreme economic outcome.

Accurate evaluation of this risk matters immensely, not just for China, but for the world. China is now the planet's second-largest economy, meaning that a significant slowdown there would reverberate globally. To this end, we continue to view China's credit excesses as the second-largest risk facing the world today, trailing only the fundamental instability of the Eurozone.

In the coming weeks, we will be publishing another report on China focused on the country's long-term growth potential.

[19]Currency reserves admittedly provide less protection than initial appearances. While they do provide an important source of liquid assets, they are largely funded through debt themselves.

[20] Very roughly estimated using an assumption of $12 trillion in state-owned enterprise asset value, 75% held by the government, of which 50% is the central government.

A Note on Forward-Looking Statements

This report may contain forward-looking statements about future performance, strategies or prospects, and possible future action. The words “may,” “could,” “should,” “would,” “suspect,” “outlook,” “believe,” “plan,” “anticipate,” “estimate,” “expect,” “intend,” “forecast,” “objective” and similar expressions are intended to identify forward-looking statements. Forward-looking statements are not guarantees of future performance. Forward-looking statements involve inherent risks and uncertainties about general economic factors, so it is possible that predictions, forecasts, projections and other forward-looking statements will not be achieved. We caution you not to place undue reliance on these statements as a number of important factors could cause actual events or results to differ materially from those expressed or implied in any forward-looking statement made. These factors include, but are not limited to, general economic, political and market factors in Canada, the United States and internationally, interest and foreign exchange rates, global equity and capital markets, business competition, technological changes, changes in laws and regulations, judicial or regulatory judgments, legal proceedings and catastrophic events. The above list of important factors that may affect future results is not exhaustive. Before making any investment decisions, we encourage you to consider these and other factors carefully. All opinions contained in forward-looking statements are subject to change without notice and are provided in good faith but without legal responsibility.

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