China's residential real estate market: developments and outlook

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Executive Summary

- Chinese corporates have accumulated a historic amount of debt since the onset of the Global Financial Crisis. As the economy has slowed in recent years, an increasing proportion has been funnelled to property and pushed premiums paid on land significantly above the historic growth trend.
- This comes at a time when developers are likely to see tighter financial conditions as mainland Chinese authorities step up scrutiny of both off-and-on balance sheet financing. Tier two cities are likely to experience higher levels of financial stress as data indicates higher levels of speculative activity than in other markets.
- Despite debt approaching critical levels, the possibility of a significant credit incident is still being discounted. Corporate debt will continue to drag economic activity lower, though recent data indicates that these are increasingly shifting to households similar to the situation in Japan in the 1990s.

Overview

Since the onset of the Global Financial Crisis, China has experienced a historic accumulation of debt. To mitigate the effects of the crisis, the Chinese government launched a four trillion-yuan fiscal stimulus package, roughly equivalent to 6% of GDP at that time.[1] Following the deployment of this package credit continued to be directed at the corporate sector to support economic growth. Bank for International Settlements data shows that corporate debt in China has grown from 114% of GDP in 2008 to 210% of GDP in 2016. Meanwhile, as shown in Chart 1, the real estate sector has absorbed an increasing portion of total lending.

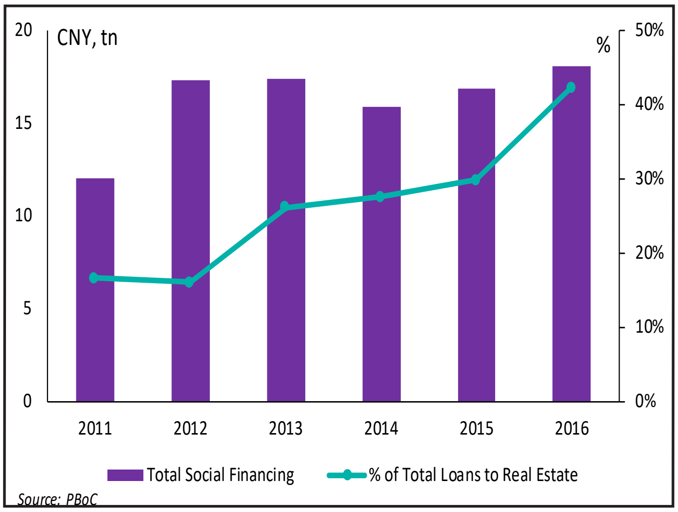
This easy access to credit, along with a buoyant housing market, has encouraged developers to push the price of land higher. The price of land being sold at auction has rapidly increased since the middle of 2016 and continued to do so during the first half of 2017.

At the same time, the Chinese government has introduced a plethora of macroprudential measures in order to cool the housing market. This has led some reports to question the solvency of these projects.[2]

The Chinese government, cognizant of the risks associated with a rapid increase in leverage, has indicated that it will begin to crack down on on-and-off balance-sheet financing. Although monetary conditions have so far remained accommodative, this will likely begin limiting developers' sources of financing. This will be particularly acute in several second-tier markets, where more speculative activity in the residential market has appeared to have occurred.

Given these factors, as well as the construction and pre-sale schedule faced by mainland Chinese developers, significant financial strains on developers are likely to begin to emerge in the last quarter of 2017 and persist throughout 2018.

Chart 1: Share of loans to real estate



1 The majority of the stimulus package was deployed in 2009-2010. For more details on the specifics of the package see McKissak and Xu (2011).

2 See Zhang and Li 2016a, 2016b

How China's government deals with this will carry significant repercussions which will be felt far beyond China's domestic property sector. It will impact not only global economic growth, but China's future growth trajectory for years to come.

This paper aims to contextualise the pending debt overhang on Chinese property developers with a focus on the residential sector.[3] It will look at the financing structure of mainland Chinese developers and highlight pressure points. It will also take a more holistic look to how developers fit in to the broader Chinese financial system, and potential resolutions to the current corporate debt burden on the mainland.

In conversations with researchers, investors, and professionals in the property sector it appears that concerns over Chinese leverage have subsided. Mainly, the belief that the Chinese government has the capability to avoid a major credit event - a sort of 'this time is different' mentality - is widely held. Even official Chinese government newspapers have warned of 'gray rhinos," high-impact foreseeable risks that that investors fail to address.[4]

Reflecting on the 2008 crisis, the former chair of the United States Federal Reserve System, Ben Bernanke, noted "we did understand that there were problems with the subprime mortgage market and those sorts of things, but we did not see that it could turn into a broad-based panic... We didn't see that coming."[5]

The amount of leverage in the Chinese economy, despite all of its nuances, makes it difficult to discount the possibility of a major credit event. To quote the economist Charles Kindelberger, "For historians, each event is unique. Economics, however, maintains that forces in society and nature behave in repetitive ways. History is particular, economics is general."

The development schedule

Understanding the development schedule of Chinese residential development is a key factor to understanding the evolution of financing strains among developers. The development schedule can be broken down into five main areas:

1. The land bid
2. Preparing the land for construction
3. Construction
4. Pre-sales
5. Completion

Prior to the land bid, the government must prepare the land for the development. The land is then readied for development.[6]

Once the above process is completed a reserve price for the land auction will be set based on the appraised value of the land. The appraisal, in principle, is also carried out by an independent body.

Once a developer successfully acquires the land at auction, the land must be prepared for construction. This process generally takes around one year, and includes planning, securing regulatory approvals and assembling a crew for construction.

The construction of a major residential development will generally take approximately three years. Pre-sales tend to open roughly a year into construction. These tend to account for a greater portion of total sales in China than in western markets, and provide a vital cash flow for developers to offset construction costs.

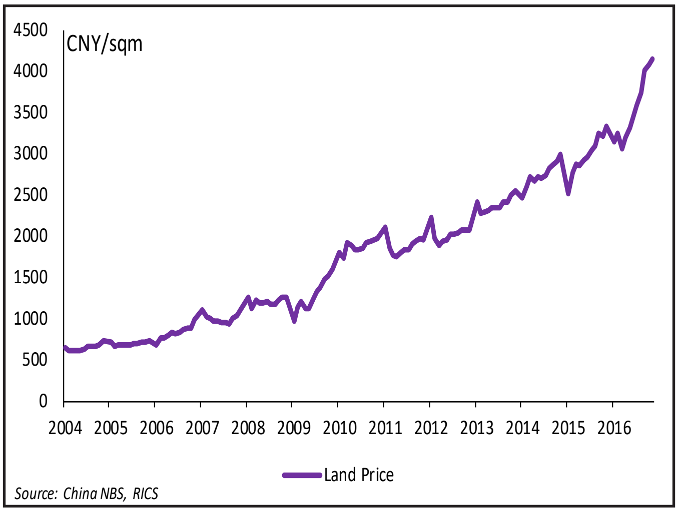
The development timeline is vital to understanding when and how developers will start to see their finances strained. Developers face a large initial cost (to pay for their land at auction) then face very few costs until construction begins on the projects approximately one year after the bid. Some of these costs will be offset by pre-sales which begin approximately two years following the acquisition of the land, one year into construction.

Thus, the dynamics of the land market foreshadow how developers will ultimately need to manage their balance sheets. And as we will discuss in the next section, premiums being paid on land at auction increased at the fastest pace on record, starting in the second half of 2016.

The cost of land

The public nature of China's land auctions means that China has one of the most comprehensive land price databases of any country. This has caused some scrutiny given the increases in land price premiums paid in the past year. Chart 2 shows that on a per-square-metre basis the price paid by developers for land at

Chart 2: Price of land at auction paid by mainland Chinese developers



Source: China NBS, RICS

3 The World Bank noted that similar to most Asian countries, the majority of real estate loans in China are directed towards residential rather than commercial loans. For more details see World Bank (2017).
4 See People's Daily (2017)
5 See Vanek Smith (2016)
6 Occasionally, the government will allow developers to bid on raw land. However, this is generally just confined to very large developers who have a close relationship with the government, and is a rare occurrence.

auction increased at even a faster pace than following the 2009 stimulus package.

Zhang and Li (2016a, 2016b) highlighted an interesting phenomenon around these land prices. In a sampling of 252 land auctions across ten cities, they found that despite residential property prices having already risen 23% y/y in their sample cities, a majority (based on value) of projects bid on required further increases in property prices to remain solvent. Even if prices were to rise 10%, around a third of these projects are estimated to be loss making.

Although this study only covered the July-August period, the price of land paid at auction continued to rise at a rapid pace into 2017, even as several cities introduces macroprudential measures to cool the property market were introduced and house price growth has moderated.[7]

Chart 3: Value of land sold at auction per square metre, detrended and standardized

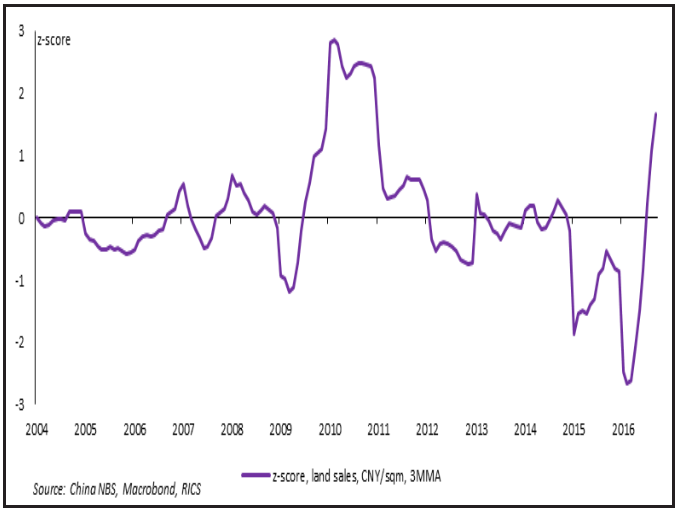


Chart 3 looks at the deviation in the value of land sales, on a per square metre basis, against its long-term growth trend. It shows that while land prices were high relative to the historical trend at the end of 2016, but still within two standard deviations of the long-term trend.[8]

This would still require below trend growth in land prices for a significant period to return to more normal levels. However, land prices have continued to increase at the beginning of 2017.[9][10]

The rising premiums paid on land likely mean that more loans need to be delivered early. Loans for developments are made based on the appraised value of the land ahead of the auction.[11] Given the low loan-to-value ratios on Chinese property loans (generally around 60%), it is likely that a bulk of the loans received by developers were deployed in the early stages of the project to help offset the cost of land.

Financing

Given that construction will begin approximately one year after the land bid is secured, construction should begin on projects which have seen a spike in land prices in the second half of 2017, and is likely to strain developers' finances.

Mainland Chinese developers secure financing from three main sources: bank loans, shadow financing and pre-sales. However, the current economic and political environment along with developments in the property sector suggest that these sources are set to tighten. This includes a reduction of banks' appetite for lending amid rising NPLs and deteriorating capital ratios, efforts by regulators to move shadow lending back onto bank and corporate balance sheets, and a normalization in pre-selling activity.

Bank loans

Similar to many Asian economies, bank loans remain the main source of funding in China. For the most part these loans are not made directly to developers, although the developer does end up holding most of the risk. This is a result of the structure which most residential developers use to manage projects.

Rather than manage projects directly developers set up a shell company to manage each individual development. Although these shell companies are responsible for securing financing for the development, the parent company generally acts as a guarantor, thereby holding a large share of the risk. This structure also allows developers to funnel cash between profits via the shadow banking sector using entrusted loans, which will be covered in more detail in subsequent sections.

Data also shows that more corporates are being offered discounts on loans. Chart 4 indicates that loans offered at a discount to the policy rate have been steadily increasing since 2014.

Furthermore, pressure on corporate Chinese balance sheets has appeared to increase along with leverage. When a bank makes a loan, it also essentially creates a deposit. Either the corporation will create a deposit by placing the funds from the loan in a bank, or it could use the funds to purchase some goods or services from another corporation, which will then take the cash as revenues and deposit them in a bank. However, if the borrower instead uses the loan to make interest

7 Some cities have announced multiple restrictions on home purchases and mortgage lending.

8 Note that per a Gaussian normal distribution, only 2.2% of data points would fall above two standard deviations from the long-term historic trend.

9 World Bank (2017) noted "to cool the property market, local governments in more than 20 cities rolled out tightening measures during the fall of 2016. Policies have included raising mortgage down payments, tightening loan-to-value limit, and posting home purchase restrictions, especially for citizens without a local household registration. Several cities have also introduced measures to control land prices, including imposing caps on land auction prices."

10 The Beijing News and 21st Century Business Herald have both reported in April 2017 that prices of land at auction continue to rise, with the latter highlighting a recent major auction in Nanchang where land sold for a 62% premium above its listed floor price. It also highlighted the increased risk of a cash shortage at developers given high debt ratios as payment peaks in 2017 and 2018. See Global Times (2017).

11 Thus, if a developer pays a 50% premium on land at auction and secure a loan with a 50% LTV, the value of the would loan only account for a third of the true price paid for land.

payments on existing debt (known as evergreening), a deposit is destroyed.[12] Chart 5 indicates that there is a significant evidence of evergreening among Chinese firms. Deposits have not been able to keep up with the surge in lending in recent years, suggesting that more companies are using new loans to pay off old loans.

Meanwhile, Chart 6 shows that as debt-to-GDP has increased, so has corporates reliance on shadow funding. Between 2008 and 2016 corporate debt has risen from 125% of GDP to more than 200%, while non-bank lending has risen from ~10% of total lending to more than 50% of total lending. This is significant as non-bank lending typically carries less regulatory restrictions, is much more opaque than traditional bank lending and thus generally carries more risk.

Several Chinese government officials and agencies have discussed the need to reduce credit growth. However, data suggests that this has yet to occur, as monetary conditions have remained neutral. Chart 7 shows that China's money multiplier, the amount of money created by banks, has risen to an all-time high. This indicates that despite official rhetoric to reduce leverage, banks continue to create more loans for every dollar of reserves.

There is some evidence that this lending may not be going to corporates. Chart 8 shows that households have absorbed a majority of loans in 2016 and so far in 2017. Chart 9 provides further context; the surge in consumer lending to Chinese consumers in 2016 was broadly accounted for by increased medium and long term lending. This is generally indicative of an increase in mortgage lending - loans which are ultimately fed through to developers as an additional source of revenues.

However, this dynamic peaked at the end of 2016 when several cities introduced restrictions on mortgage lending, and there has been a significant increase in short-term lending to consumers at the beginning of 2017. Not only does this cut off a source of funds to developers, but it also suggests that more subdued wage growth in recent years may be taking its toll on the Chinese consumer.

The shift of debt obligations from corporations to consumers is an important indicator of how the

Chart 4: Proportion of Chinese loans being offered relative to benchmark lending rate, 3MMA

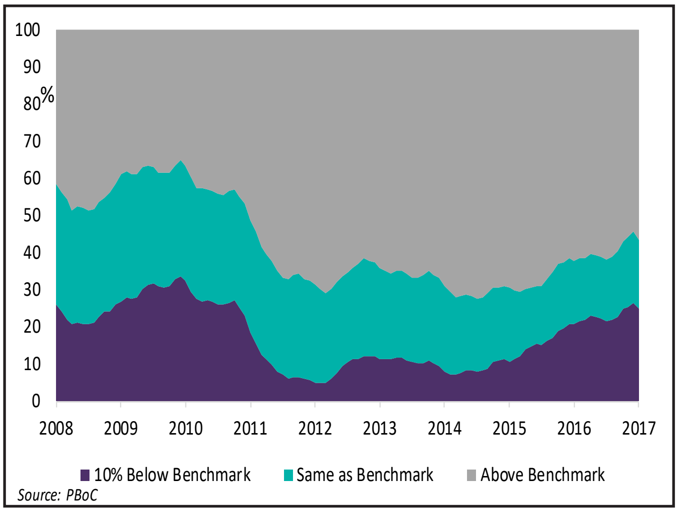


Chart 6: Chinese non-financial debt/GDP and gap between bank debt and total debt

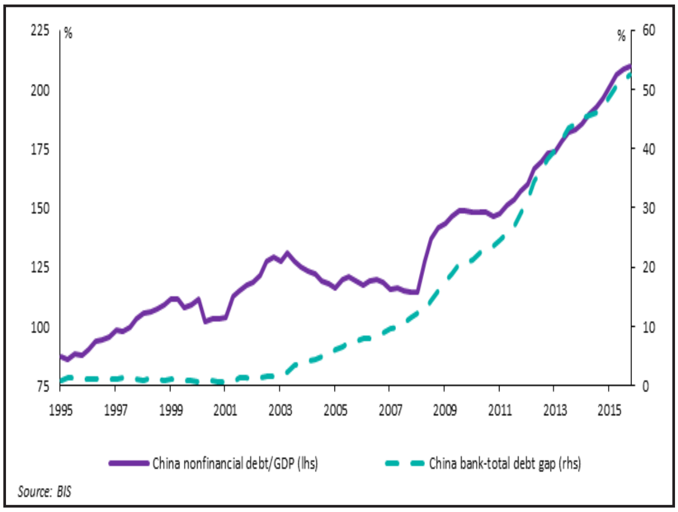


Chart 5: China corporate loan-deposit gap

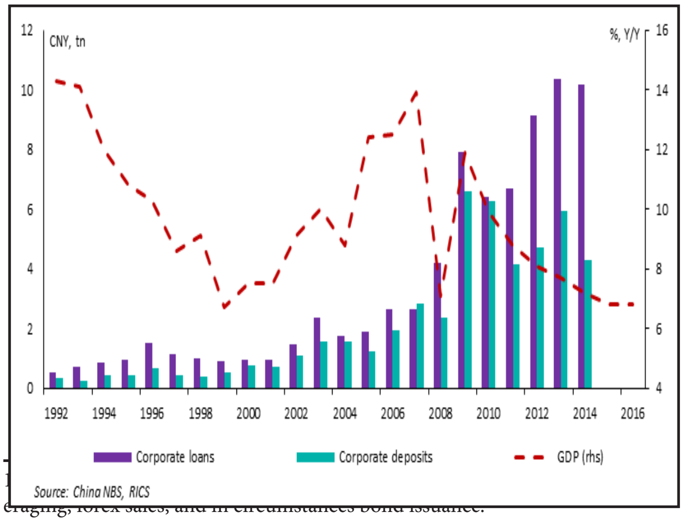
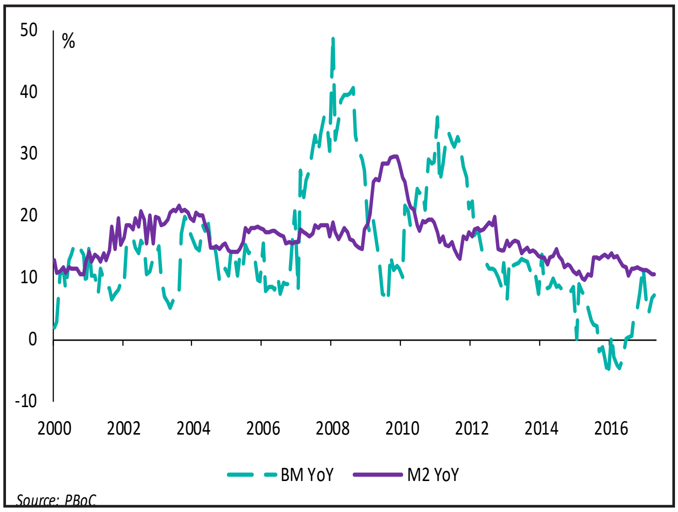
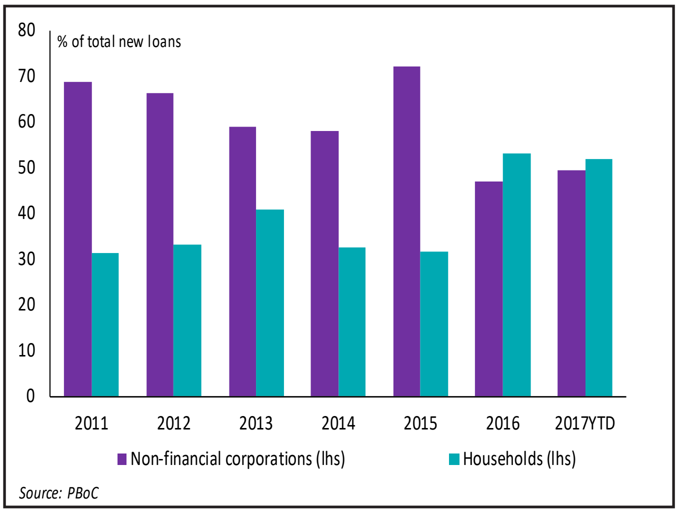


Chart 7: China money multiplier



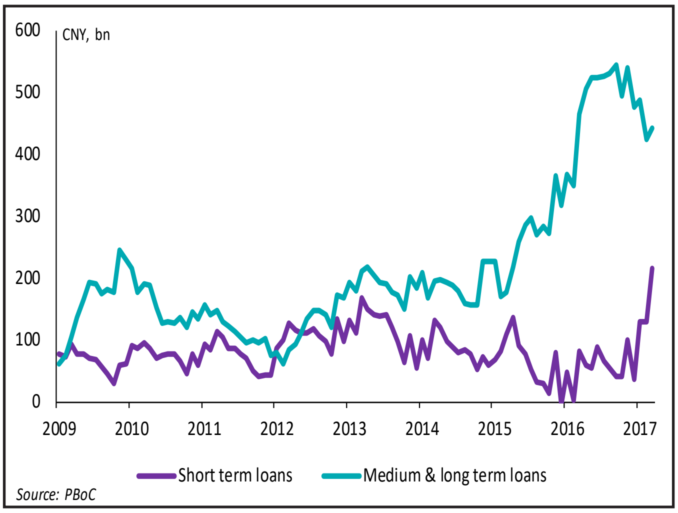
eraging, forex sales, and in circumstances bond issuance.

Chart 8: Proportion of lending to households vs corporates



Source: PBoC

Chart 9: Short vs medium, long term loans to Chinese households, 3MMA



Source: PBoC

deleveraging process is being handled. Rather than reduce the amount of leverage in the financial system, debt is just being shifted from corporations to consumers.

A similar dynamic was seen in Japan following the burst of the asset price bubble in the 1990s, with debt shifting from corporates to consumers before ultimately ending up on the government's balance sheet.[13]

Shadow financing

China's shadow banking sector has received a lot of attention as a potential downside risk to the broader economy. Shadow banking assets currently top more than $28 trillion in China, and regulation is not always clearly defined.

Financing through the shadow banking sector is generally done through one of the following channels: corporate bond issuance, entrusted loans, trust loans, equity financing, banks' acceptance bills, as well as various forms of P2P financing. The most significant forms of financing in recent years have been from corporate bonds, entrusted loans, and trust loans.

Corporate bond issuance has also increased in recent years and become a key source of funds for developers. This has been encouraged by policymakers via an accommodative monetary policy and a regulatory system which allows very few defaults, putting downward pressure on yields, which decreases the price of corporate borrowing.

However, the risk premium on Chinese corporate bonds is beginning to be repriced. Yields have been rising in 2017 the spread between corporate and government bonds of the same maturities have risen to the highest level in more than two years. This has added an additional 100 basis points of risk premium to corporate bonds, and has been cited as a catalyst for the record CNY184 billion worth of bond issuances that were cancelled in the first quarter of 2017, as per a Bloomberg News report. This also come as short-term borrowing costs have been raised slightly and the sovereign yield curve inverted for the first time on record in 2017.

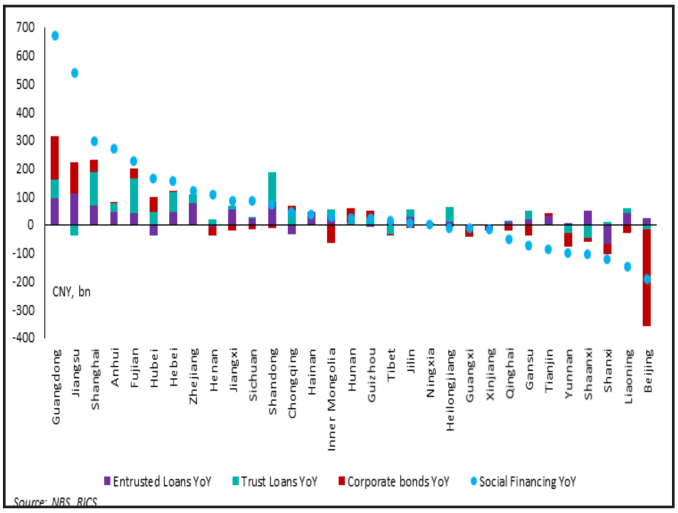
13 For a more detailed discussion on how the current situation in China compares to that in Japan in the 1980s see Baba et al (2016a, 2016b, 2016c).

Entrusted loans are funds lent from one corporate to another, using a bank as an intermediary so that risks ultimately lie with corporations. Chinese real estate developers take advantage of this form of financing by using shell companies to manage developments. This allows developers to shuffle cash between individual developments to plug financing holes.

Trust loans are one of the riskier forms of shadow financing. These are sourced from off-balance sheet funding from commercial banks or wealth management funds, and are packaged and lent by trust companies.

Shadow financing accounted for a large proportion of the increase in lending in 2016, as shown in Chart 10.[14] This is a result of both tighter government controls and banks moving lending activities off-balance sheet to reduce stress. However, this could change as Chinese regulators begin to move these forms of funding back onto balance sheets.

Chart 10: Breakdown in sources of funding growth among Chinese provinces in 2016



Source: NBS, RICS

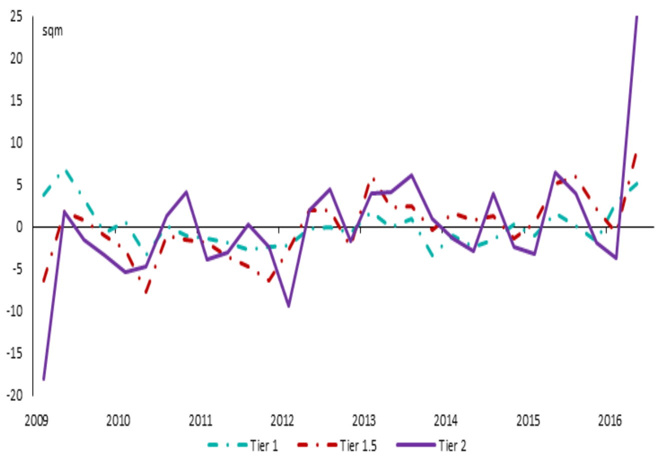
14 Although many Chinese banks are near or have exceeded regulatory limits on non-performing loan provisions, companies still need to meet funding requirements and banks need to lend to maintain profitability amid deteriorating net interest margins. One way to do this is move lending off-balance sheets, which both satisfy corporate borrowing needs and allow banks to charge a premium to support profitability.

Pre-sales

As in many Asian economies, pre-sales are a significant source of funds for developers. As pre-sales begin one year into construction, they also allow for construction costs to be offset as the initial loan to pay for the value of land is exhausted.

In 2016, pre-sales increased across most major cities, but saw the most significant increase in Tier 2 cities. Chart 11 looks at pre-sales as a deviation from the long-term trend, and shows that pre-sales in Tier 2 markets saw a substantial surge.

Chart 11: Chinese pre-sales by city tier, deviation from long-term trend



Source: SouFun-CREIS, Macrobond, RICS

Measures taken by regulators to cool the housing market will undoubtedly result in a normalization in pre-sales across tier 1 and 2 cities. Although a pullback in tier 1 and 1.5 cities is unlikely to significantly disrupt financing for developers active in these markets, tier 2 cities including Heifei, Changsha, Jinan, Zhengzhou and Xi'an are likely to see substantial financial tightening from pre-sales normalization.

These five cities account for approximately a third of the population and 40% of the GDP of tier one cities, but had ~60% more pre-sales than tier one cities in the first half of 2016.[14] As this cash-flow dries up, smaller developers with a high degree of exposure to these markets could see pressure increase elsewhere on their balance sheet, including repaying trust loans and corporate bonds.

Second tier housing markets are a key source of risk. There is a stable source of demand for first tier cities (similar to global cities such as London, New York, and San Francisco) which will provide some cushion to any downside risk in prices, and the housing market in third and fourth tier cities are much healthier as the price rally has allowed developers to shed excess stock. However, second tier markets have seen the bulk of speculative activity as it is difficult to justify price dynamics by market fundamentals.

Furthermore, developers overexposed to second tier markets tend to be smaller developers with less access to mainstream sources of financing, thereby more reliant on the shadow banking sector.

Conclusion

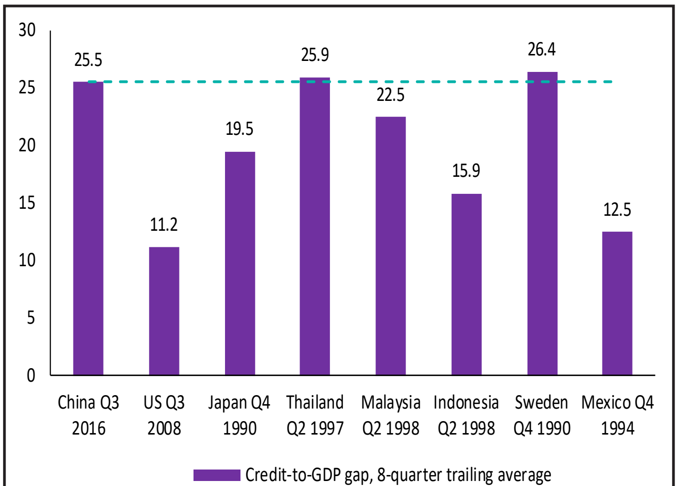
Although a systemic crisis is not the default scenario, the risks of financial contagion appear to be underestimated in the market. Given the degree of financial tightening developers are set to face this year and next, a string of loan or bond defaults is a plausible scenario.

The tipping point will depend on where the defaults occur with respect to who holds the risks. Banks do have some, albeit steadily eroding, ability to absorb losses. However, if wealth management products, which are widely held by retail rather than institutional investors, defaulted there would be a higher likelihood of panic ensuing. These products are assumed to have an implicit guarantee by the government, and many retail investors use them as a substitute for a savings account as they offer a higher yield. However, no actual guarantee exists and it isn't clear if the government would be capable of absorbing losses.

Leverage in China has reached historic levels by almost any way of measurement. A Bank for International Settlements measure of how much credit growth has deviated from its long-term trend shows that China is currently more levered than several economies leading up to financial crises, including the US and a number of Asian countries, as shown in Chart 12.

Looking at this metric alone, almost no country that has seen this large of a credit deviation (apart from small open financial centres such as Hong Kong and Singapore) have sustained this degree of leverage and not experienced a financial crisis.

Chart 12: BIS measure of credit growth deviation from long-term trend



Source: BIS, RICS

There appears to be two main path forwards for policymakers. Debt can be managed now via defaults of some developers. Although this could result in the failure of some wealth management products (which could result in investors pulling out of the asset class en masse and threaten financial stability) and would likely negatively impact economic activity (threatening the government's

14 Population data is a UNDESA estimate for 2015, while GDP is 2014 figures from China's National Bureau of Statistics. Data on pre-sales was taken from the SouFun-CREIS database.

growth targets), the broader economic consequences would likely be transitory and China would likely see robust, and much more healthy growth in the medium-to-long-term. Additionally, with the capital account not yet to fully open, capital outflows will be minimal and cash will stay in China.

The other path would be for debt to continue to be slowly moved from corporates to consumers. Akin to Japan's experience in the 1980/90s, this debt would eventually end up on the government's balance sheet, financed by large-scale sovereign bond issuance that would cause substantial long-term distortions to China's economy.

Policymakers must now walk a fine line to encourage corporate deleveraging. At the end of 2017 we will see China's Communist Party unveil its plan for the next five years. This will also be a time of reckoning for the property sector, as overleveraged developers will begin to see tighter finances weigh on their balance sheets. This is likely to be particularly acute in tier 2 cities, where the bulk of speculative activity has occurred. How the Chinese government navigates this issue will have a significant impact on its economic prospects through 2022 and beyond.

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