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Clearing inter-firm arrears: The key to rejuvenating China's economy

Lessons from China's 1990s triangular debt campaign and Japan's 2002 Takenaka Plan might offer a roadmap for policymakers.

- The property downturn that began in mid-2021 has lasted longer and hit the economy harder than expected. Three major drivers explain this miscalculation: fiscal distress, wealth destruction and a severe credit crunch across financial markets and trade credit. While most factors are well analyzed, the surge in inter-firm arrears remains largely overlooked.
- Overlooked official data show that payables of construction firms alone doubled to RMB12trn over the five years to 2024, while we estimate that total developers' payables to upstream and downstream firms reached roughly RMB25trn in 2025. Based on bond default and extension records, about RMB7.8trn of these payables qualify as arrears, which is more than double the funding needed to resolve overdue deliveries of presold homes.
- Beijing has tackled similar issues before. The current inter-firm arrears mirror the "triangular debt" problem of the 1990s, which Vice Premier Zhu Rongji resolved through a decisive campaign. Policymakers can also learn from Japan's 2002 Takenaka Plan. Finally, rebuilding fiscal federalism is needed to help local governments transition away from land-sale dependency.

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See Appendix A-1 for analyst certification, important disclosures and the status of non-US analysts.

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Executive summary

China's property bust has persisted since mid-2021, with new home sales among the top 100 developers plunging by 75% and average home prices plummeting by 40%. This real estate crash has dealt a heavy blow to China's economy, particularly the fiscal system and household wealth, which in turn have dragged down fixed-asset investment and consumption. The bursting of the housing bubble and widespread bankruptcies by highly leveraged developers have also triggered a credit crunch across both financial markets and trade credit channels. This has resulted in increasingly risk-averse markets, steadily weighing on credit growth and making China's sovereign bond yields among the lowest in the world.

While most of these macroeconomic factors have been well-researched, trade credit remains largely overlooked. To be sure, Beijing did address one specific type of trade credit – *presale payments* – due to pressing concerns over social stability. Back in 2022, we discussed the *mortgage boycott*, driven by the delayed delivery of presold homes, and in 2023, we were the first on the Street to *estimate an RMB3.0trn funding gap required to complete these unfinished projects*. However, inter-firm arrears, which could be on a much larger scale, have been neither well-covered by markets nor earnestly handled by Beijing.

In our view, the property slump has severely clogged trade credit channels, fuelling a surge in inter-enterprise arrears among developers, construction firms, local government funding vehicles (LGFVs), raw material producers and other corporates. This is rapidly converting a sector-specific real estate bust into a broader macroeconomic challenge. Unlike most other economies, financing for Chinese developers depended heavily on presale payments and inter-firm arrears; according to a rare disclosure by the PBoC, these two sources accounted for 32% and 30%, respectively, of developer liabilities in 2022. Therefore, to understand China's current challenges and formulate solutions, we must look far beyond standard bank loans and Aggregate Financing data.

Estimating inter-firm arrears is a daunting, if not impossible, task. Because inter-firm debt is deeply intertwined, we focus our analysis on trade credit involving developers, who sit at the center of this complicated debt network. We calculate that Chinese developers' total payables to upstream and downstream firms stand at around RMB25trn, leaving the supply chain heavily exposed to the ongoing property bust. Based on developers' bond default and extension data, we conservatively estimate that roughly 31% of this total (RMB7.8trn) could currently be classified as in arrears, or "problem trade credit".

Beijing is not unfamiliar with this phenomenon. Inter-firm arrears were vividly dubbed "triangular debt" in the early 1990s, when a massive web of non-performing payables choked state-owned, collective and private enterprises alike. In July 1991, Vice Premier Zhu Rongji took personal charge of a debt-resolution campaign that achieved major success, laying the groundwork for China's subsequent structural reforms and rapid growth. We also believe Beijing can draw valuable insights from Japan's experience, specifically the 2002 "Takenaka Plan", which successfully resolved Japan's lingering banking crisis and massive non-performing loan (NPL) burden.

Given the unique systemic importance of trade credit and the severity of current inter-firm arrears, we strongly believe that cleaning up these arrears is the prerequisite for a genuine recovery in China's domestic demand and the stabilization of the property sector. Furthermore, because local governments, via their LGFVs, have played a key role in the surge of unpaid bills, Beijing must simultaneously restructure local government finances. This requires rebuilding municipal public finance away from a reliance on land sales and toward more sustainable, broad-based revenue foundations.

Cleaning up inter-firm arrears is the key to ending the property bust

China's property bust, which started in mid-2021, has lasted much longer and afftected China's economy much more than most people had expected. At the beginning of each year since 2023, markets predicted either a stabilization or recovery of the property sector, but each year they were disappointed. Despite some occasional hyperbolic news of luxury new homes snapped up on the first day of their launch, we have seen no signs of a near-term stabilization at the national level. In the first eight months this year, new home sales (by value) dropped by 13.0% y-o-y, worsening from the 12.6% decline in 2025.

Factors behind the lasting property bust: Public finance, wealth, credit

We see three major factors driving the longer-than-expected correction. First, the bursting of the property bubble severely hit China's fiscal system, as local governments used to obtain close to 40% of their revenue from the property sector. This deteriorating fiscal situation has, in turn, led to *tighter tax administration and asset grabbing*, as well as a worsening of the business environment. Second, the housing bust has resulted in significant wealth destruction, with property values declining by around 40% and property accounting for around 60% of total wealth before the crash. Third, these plummeting property values have led to a credit crunch across both financial markets and inter-enterprise trade credit. The falling value of collateral, such as land and property, together with plummeting new home sales and rising financial stress among developers, has resulted in a credit squeeze and a rapid rise of non-performing inter-firm arrears, which has in turn made corporates increasingly reluctant to extend trade credit to their business partners.

Inter-enterprise arrears: The missing link

All of the above factors have been well researched over the past several years, except for inter-enterprise arrears, which were once vividly called "triangular debt" in China in 1990s. In our view, the post-2021 property crash has clogged these trade credit channels among non-bank entities, converting the real estate bust into a broader macroeconomic challenge. Before the property collapse in mid-2021, the combination of the real estate expansion in low-tier cities, buoyed by direct funding from the central bank, developers' reliance on presale cash and extensive trade credit, created a web of financial obligations that bypassed formal commercial bank balance sheets. When the property sector crash began, the resulting non-performing debt manifested not primarily as immediate commercial bank defaults, but as distressed presale home deliveries, cascading inter-firm trade arrears and municipal local government funding vehicles (LGFV) payment delays. To fully examine the fallout from China's property bust and understand why the property slump lasted so long, we need to lock onto the missing link: inter-enterprise arrears.

We organized this report as follows: We start with a literature review of trade credit and a review of China's unique history in cleaning up inter-firm arrears in the 1990s under former Vice Premier Zhu Rongji. We then discuss the property collapse and other related background information behind the resurgence of trade credit and inter-firm arrears. We will especially compile data on trade credit, especially those linked to the property sector. We conclude the report with a discussion of Japan's experience in restructuring non-performing loans with an eye to potential policy solutions to cleaning inter-enterprise arrears in China and unclogging its other credit channels.

A review of trade credit: The often-ignored credit channel

The transmission mechanism of monetary policy is a central topic of modern macroeconomics. While early Keynesian and monetarist paradigms focused primarily on price signals (interest rates) or money aggregates (*M1/M2*), contemporary literature has increasingly emphasized the credit channel (see *Appendix IV: Literature on credit channels via financial institutions* for a detailed literature review). The path-breaking research by Bernanke and Mishkin diagnosed high credit intermediation costs and asymmetric information within commercial banks (requiring bank recapitalization, credit easing and collateral backstops), while our Nomura colleague, Richard Koo, identified the collapse in private credit demand in Japan as driven by balance-sheet debt minimization, which requires direct fiscal expansion to boost aggregate demand and prevent a downward spiral.

Traditional credit literature primarily treats formal financial institutions as the dominant, if not sole, engines of credit creation, often overlooking the trade credit channel, where non-financial corporations function as shadow financial intermediaries through instruments like accounts receivable/payable, commercial paper and construction advance financing. In the real world, however, as monetary and credit flow from central banks, they split between formal bank channels and these non-financial supply-chain credit networks, both ultimately driving real economic activity. While the formal channels usually assume the major role in credit transmission, the trade credit channel plays a vital role too, although it appears to have been insufficiently discussed, or even ignored, by markets and policymakers.

A brief literature review of trade credit

Still, some economists have done insightful research on trade credit. Under the redistribution and substitution hypothesis (Meltzer, 1960; Biais & Gollier, 1997), trade credit serves as a vital macroeconomic shock absorber during bank credit contractions. Large, credit-unconstrained firms leverage their superior capital market access to borrow on behalf of constrained partners, passing liquidity downstream. In doing so, suppliers exploit distinct microeconomic advantages over commercial banks, including deeper informational insights from daily commercial interactions, superior physical collateral repossession capabilities and potent operational enforcement via the threat of halting essential input deliveries.

Conversely, trade credit can deteriorate into severe systemic risk vectors, as demonstrated by Kiyotaki and Moore's (1997) model of inter-firm credit chains. When a major anchor debtor such as a large property developer or state entity suffers a liquidity crisis and defaults on its trade payables, the shock propagates downstream through multi-tiered supply networks, creating a systemic inter-enterprise arrears trap. In this distressed state, trade credit transitions from an economic buffer into an unhedged shock amplifier: incoming receivables freeze, broad money velocity slumps, and non-financial firms are forced into defensive cash hoarding or emergency bank borrowing to survive.

Repairing trade credit as a policy solution: China's experience in the 1990s

Most research on credit transmission channels, including those on trade credit, point to one policy implication: Lowering benchmark interest rates is an insufficient remedy when structural bottlenecks arise; unblocking credit transmission requires a coordinated policy mix that repairs bank balance sheets, deploys fiscal capacity to clear non-financial trade arrears and lets the government play the role of borrower and spender of last resort to directly bolster aggregate demand. In this regard, China offered a perfect case of cleaning up non-performing trade credit more than three decades ago.

In the early 1990s, China faced a severe macroeconomic challenge driven by "triangular debt" (inter-firm trade arrears), a massive web of non-performing payables among SOEs, township and village collectives, and some private enterprises. Following the monetary tightening in 1988-1989 to curb inflation, bank credit to state enterprises was sharply restricted. Instead of scaling back operations, local governments and SOEs initiated unfunded fixed-asset investment projects, forcing construction firms to front project costs. When project owners defaulted on milestone invoices, debt cascaded down supply chains to machinery makers, raw material suppliers and utilities. By mid-1991, gross trade arrears reached over RMB300bn, equal to roughly half of all commercial bank credit, freezing working capital and collapsing money velocity.

In July 1991, Vice Premier Zhu Rongji took personal charge of the resolution campaign, rejecting broad money creation to avoid hyperinflation and executing a targeted strategy focused on the root cause. Audits revealed that over 70% of arrears stemmed from unfunded fixed-asset investment projects, prompting the central government to pool RMB50bn in specialized "seed loans" disbursed strictly to complete near-finished, high-priority national capital construction projects, rather than bailing out intermediate corporate debtors. To receive 1 RMB of central seed capital, local owners were required to clear at least 3 to 4 RMB of downstream trade payables, with bank officers physically monitoring branch accounts to enforce immediate automated transfers to suppliers. Furthermore, Zhu established long-term institutional rules, including the "No Funds, No Start" policy that banned capital projects lacking verified upfront cash, prohibited contractor advance funding and systematically forced unviable state-owned enterprises into structural reorganization.

Between 1991 and 1993, using just RMB52.8bn in total seed loans, the campaign successfully cleared over RMB307.7bn in trade debt, achieving a multiplier exceeding 1:5.8. This unblocked supply-chain liquidity, restored money velocity and laid the foundation for China's major 1994 banking and fiscal reforms (see *Appendix I* for more details).

The return of "triangular debt" amid the ongoing property bust

The collapse of China's property sector since mid-2021 represents one of the most significant shocks in modern economic history. For nearly two decades, since the end of last century, real estate has been the primary engine of China's economic growth, accounting directly and indirectly for roughly 25% of national GDP during the peak years spanning 2016 to 2021. However, since 2015, the housing market boom has transitioned from a traditional urban development phase into an extreme credit super-cycle.

In our view, there are three key features of the housing market that have together led to the credit boom and bust super-cycle: Pledged Supplemental Lending (PSL), which was effectively a massive QE program led by the PBoC, the presale system, which in its extreme form channelled more than RMB10trn in credit from home buyers to developers during the peak years spanning 2016 to 2020 (see *Box 1: The presales model and its associated risks*) and the lax regulatory setup in low-tier cities, for which Beijing aimed to orchestrate a property boom to lift China's economy out of the 2015 stock market turmoil.

PSL and the shantytown renovation program fueled developers' high leverage

The origin of the post-2015 property boom is the stock market crash in mid-2015 and Beijing's response, the ensuing economic slowdown and the housing inventory glut. Beijing at the time once again made efforts to stimulate the property sector, but as it was concerned about already elevated home prices in top-tier cities and the huge amount of unsold homes in low-tier cities, it enlisted the PBoC to deploy an unconventional monetary tool called Pledged Supplementary Lending (PSL).

Through the PSL facility, the central bank injected a total of RMB3.6trn in low-cost, long-term liquidity directly into state policy banks (primarily China Development Bank). These policy banks then disbursed policy loans to local governments to execute monetized shantytown resettlement. Instead of receiving replacement physical housing, millions of displaced residents were given direct cash compensation. Aided by their personal savings and mortgage loans from banks, households carried these cash payouts directly into local property markets, creating immediate demand that rapidly cleared housing inventory and drove real estate prices higher across lower-tier cities.

This state-engineered demand surge fundamentally transformed developer behavior. Private real estate conglomerates, such as China Evergrande Group, Country Garden and Sunac, interpreted the PSL as a clear signal of permanent state backstopping for lower-tier property markets. Developers adopted a hyper-aggressive "High Leverage, High Debt, High Turnover" operational model, which was facilitated by China's extreme form of presale in which homebuyers paid the entire price (i.e., 100%) upfront to developers for the promise of home deliveries, usually in two to three years. At its peak, close to 90% of new home sales were made in the form of presales. In theory, local governments were responsible for both setting the minimum thresholds of pre-sold homes and managing the funds from presales, but in reality, especially in those low-tier cities with little bargaining power against large national developers, those thresholds were usually surprisingly low and oversight of those funds was lax.

Relying on the surging new home sales (at around RMB15trn per year in 2016-20) and relatively easy access to financial markets, including dollar bond funding in Hong Kong, developers used minimal corporate equity to initiate vast, multi-city project portfolios. During this process, developers gained enormous bargaining power against contractors (especially construction firms) and, in effect, forced them to extend increasingly large amounts of credit. A perfect storm was in the making, as developers cycled these funds at maximum velocity: land was acquired, projects were launched within a couple of months, funds were collected quickly via advance presales shortly after construction began, trade credit was squeezed from contractors, and those proceeds were recycled to bid on even larger land parcels before ground was broken on earlier projects. For a full discussion of PSL, the massive property boom in low-tier cities, the distortion of the presale system and the rapid rise of developers' leverage, see our thematic reports published eight years ago (see *China: Helicopter money for low-tier cities*, 13 August 2018; *China's property sector: Winter is coming*, 15 November 2018).

Box 1: The presales model and its associated risks

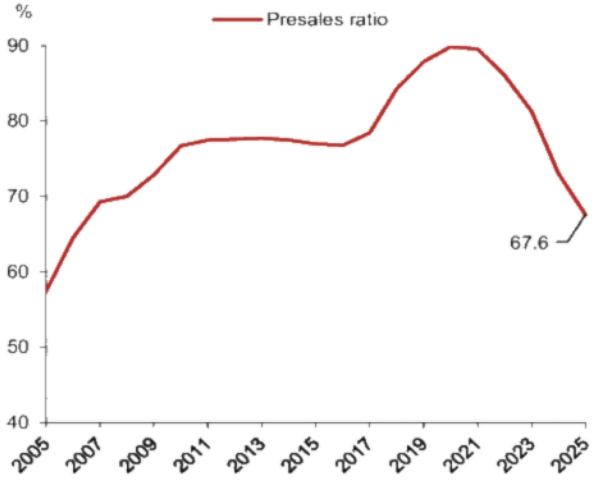
On 28 August 2026, Chinese authorities announced a comprehensive policy package *institutionalizing* the shift away from the presales model to a completed home sales model. While the presales model had the benefit of prompting a rapid urbanization in China, it also led to material leverage risks across developers and heightened home delivery risks for homebuyers (we have written extensively on the risks of China's presales system, see *2026*, *2025*, *2024*, *2023*, *2022*, *2021*, *2020*, *2019*, *2018* etc.). Under the new regime, presales will be largely dismantled, and commercial banks, capital markets and developers will take on more financial risk from homebuyers. However, in the near term, private developers might be too financially stretched to transition smoothly to the new model, and the economy still cannot organically resolve the colossal bad debt inherited from the presales model.

In the past, Chinese developers heavily relied on presales for construction funding. Under this model, buyers paid the full price upfront, via down payment and mortgages, for homes delivered years later, thus assuming almost all the risks. To protect buyers, a portion of presales proceeds were required to be kept in government-managed escrow accounts. However, weak enforcement, especially in small cities, allowed developers to illegally access these funds to buy more land and expand, leaving insufficient money for actual construction. The massive property stimulus deployed to fund the shantytown renovation program in small cities during 2015-18 (see *China: Helicopter money for low-tier cities*, 13 August 2018), backed by the PBoC's RMB3.6trn PSL, fueled a further reckless expansion.

In 2021, the "Five Red Lines" and tightened presales regulations significantly squeezed developer access to funding and led to numerous overdue housing projects. Homebuyers, seeing that developers were unable to complete the construction of their homes on time (Figure 2), threatened to stop paying mortgages, which led to waves of mortgage boycotts. To mitigate the heightened risks to the financial system, the PBoC was prompted to establish new funding programs to ensure the delivery of presold homes. However, due to a lack of confidence in financially stretched developers, homebuyers hesitated to buy new homes on lingering concerns over the risk of overdue delivery.

Despite the damage to confidence over the past few years, presales remain the dominant property business model in China (Figure 1), accounting for 68% of new home sales by floor space in 2025. From a funding perspective, developers' reliance on home sales for financing steadily rose to a peak of 52.9% in 2021 from 33.6% in 2008. By contrast, developers' dependence on loans from financial institutions dropped to 11.6% in 2021 from 19.2% in 2008. Although new home sales in the first eight months of 2026 have contracted by more than half from their peak, new home sales still accounted for 45% of developers' funding for property construction.

Fig. 1: The ratio of presales over total new home sales



Note: Presales only refer to presales of residential properties by floor space. Data after 2025 are no longer available.
Source: NBS, Wind, Nomura Global Economics.

Fig. 2: New residential properties: sales and completions



Source: NBS, Wind, Nomura Global Economics.

Developers' surging leverage and trade credit

During the boom years, especially 2015-18, developers enjoyed rapidly rising bargaining power over both their contractors to extend increasing amounts of trade credit, and the home buyers to buy homes still under construction with a 100% advance payment. From late 2017, driven by increasing concern over the overheated housing sector and rising

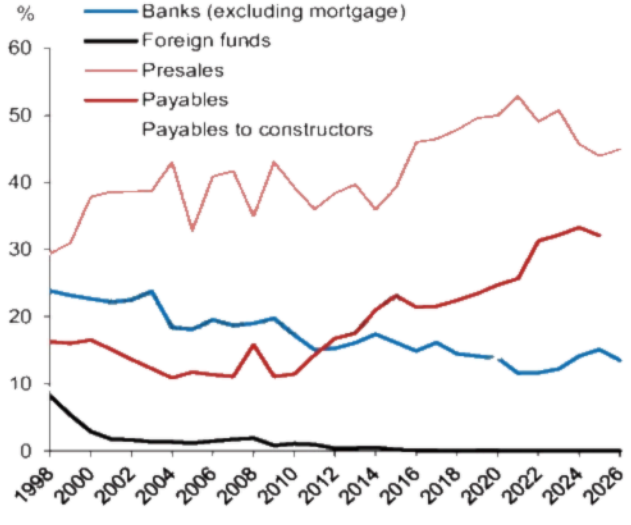
leverage, Beijing started capping bank loans and equity/bond financing to developers, forcing them to shift their financing away from formal funding channels toward inter-firm trade credit. Construction firms, material vendors and equipment suppliers became involuntary shadow bankers for the real estate industry.

China's NBS has released monthly data of developers' financing sources since 1997. Presales have consistently been the largest source of funding for developers, with its share of total funding rising to around 50% during the 2016-20 boom. We note that bank mortgage loans comprise part of the presales funding, which usually account for around 30% of presales (Figure 3). Bank loans directly to developers (excluding mortgage loans) made up around 15% during the previous boom. Trade credit contributed around 11% in years around 2010 and then rapidly rose to around 23% during the boom. About half of those developers' trade credit was from construction firms (Figure 4). Trade credit between developers and construction firms operated primarily through three mechanisms:

- Construction firm advance financing: Developers could mandate primary construction contractors (both state-owned construction giants and private builders) front 100% of the initial capital required for site preparation, machinery leasing, raw materials and labor wages. Developers delayed cash disbursements until projects reached advanced completion milestones.
- Commercial acceptance bills: In lieu of settling invoices with cash bank transfers, developers issued unbacked, short-term commercial paper. Contractors accepted these corporate IOUs and endorsed them downstream to subcontractors, steel mills, cement plants and glass manufacturers to settle their own operational payables.
- Stretched accounts payable: Developers extended formal invoice payment terms from standard 30-to-60-day windows to 180, 270 or even 360+ days, effectively using suppliers' working capital as an interest-free revolving credit facility (hereinafter, we use "payables" to reference all these inter-enterprise trade credit financing, including commercial acceptance bills).

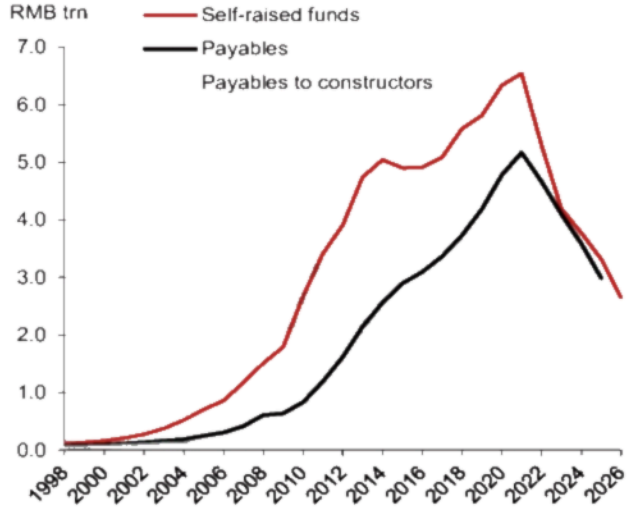
Because home prices had risen continuously for decades, suppliers and contractors widely accepted these harsh terms. They assumed that, even if a developer faced a short-term liquidity bottleneck, the underlying property land reserves could always be liquidated to honour trade payables. By 2020, top private developers carried hundreds of billions of yuan in trade payables and commercial paper off their official bank debt registers, leaving industrial supply chains dangerously exposed to developer solvency risk.

Fig. 3: The composition of developers' funding sources



Note: 2026 refers to estimates based on the data for January-August.
Source: NBS, Wind, Nomura Global Economics.

Fig. 4: Half of developers' trade credit is from constructors



Note: 2026 refers to estimates based on the data for January-August.
Source: NBS, Wind, Nomura Global Economics.

China's unprecedented property collapse

Since the spring of 2021, the property sector has entered an unprecedented bust.

Concerned about financial risks and endeavouring to divert financial resources to the hard tech sector to counteract extensive technology export controls by the US, Beijing initiated a campaign in late 2020 to strategically channel resources from the property sector to the high-tech sector, as well as derisk the financial system.

However, the campaign and its aftermath, which we dubbed *"China's Volcker Moment"*, went well beyond what Beijing and markets expected. This severe tightening soon triggered the property sector collapse, ultimately exposing a complex, deeply interconnected web of off-balance sheet debt, shadow trade credit and fiscal fragility. The "*Five Red Lines*" to rein in property financing, sweeping pandemic-led lockdowns, mortgage *boycotts* and a *confidence* setback have derailed property indicators to levels not seen in many years. From 2021 to 2026 (based on January-August data), new home sales by value, new home sales by floor space, housing starts and property investment have plummeted by 56.8%, 51.6%, 77.8% and 51.8%, respectively, according to the NBS data. Alternative data point to an even sharper decline in property sales. According to China Real Estate Information Corporation (CRIC), from the peak in 2020 to 2026 (based on January-August), contract sales of the top 100 developers plunged by 74.9% in value terms (Figure 5). Housing prices have dropped by an average of 40% from the peak in mid-2021, returning to levels a decade ago (see *Appendix II: China's prolonged property bust* for details on China's property crash).

The severe damage to credit channels

After regulatory constraints abruptly severed formal credit channels at the end of 2020, the property sector's heavy dependence on non-bank financing broke down too, triggering a setback that spread across developers (especially private ones), industrial supply chains (especially construction firms), home buyers and LGFVs. The resulting non-performing debt, rather than manifesting primarily as immediate commercial bank defaults, led to distressed presale home deliveries, cascading inter-firm trade arrears and LGFV payment delays.

The fragility of this highly leveraged ecosystem was first exposed in August 2020, when financial regulators enforced the "Three Red Lines" policy. The framework established strict limits on developers' liability-to-asset ratios, net debt-to-equity ratios and cash-to-short-term debt coverage as preconditions for obtaining new bank borrowing. By mid-2021, developers failing these criteria, led by China Evergrande Group, were abruptly cut off from much of their formal bank credit, loans from trust companies, domestic bond markets and international bond markets. Denied refinancing, developers could no longer rely on new pre-sales or debt rollovers to meet liquidity demands. The resulting defaults caused a wave of non-performing debt across the non-bank economy.

The presale setback: Arrears owed by stretched developers

As developer cash reserves dried up, construction stalled on millions of pre-sold residential apartments across the country. Frustrated home buyers, facing mortgage payments on unfinished properties that missed delivery deadlines, initiated coordinated mortgage payment boycotts in mid-2022. This shattered consumer trust in the presale model and depressed primary market sales. Then came the cascading trade credit contagion. The crash hit the non-financial supply chain through defaults on trade credit. Trillions of yuan in developer commercial acceptance bills turned into non-performing paper overnight. Primary contractors could not collect accounts receivable, leaving them unable to pay building material suppliers, equipment providers and migrant worker labor teams. Funding from trade credit sources surged to around 32% after 2021 (from 22% in previous boom) when the property market started plummeting, implying a rapid rise in inter-firm arrears.

This inter-firm payment freeze mirrored the "triangular debt" problem of earlier decades. Non-performing trade receivables paralyzed working capital across heavy manufacturing industries (steel, cement, glass, fixtures), forcing suppliers into defensive cash-hoarding, staff layoffs or bankruptcy, and dragging down broader credit growth.

LGFV's arrears amid the collapse of land finance

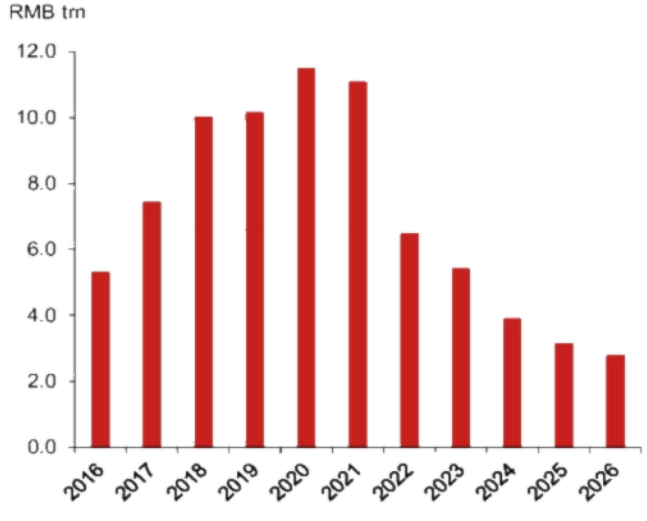
The property bust transmitted directly into municipal public finance, exposing the structural vulnerability of China's "Land Finance" model. For decades, local governments depended on land sales to balance their fiscal budgets. Municipalities acquired rural land, developed local infrastructure and auctioned long-term land-use rights to property developers. Revenues from land transfer fees accounted for around 40% of total local government public revenues for several years before 2021 (Figure 6), serving as the primary source of capital for municipal development, public services and infrastructure

debt service. When private developers fell into distress after mid-2021, land acquisitions ceased. Annual land auction revenues collapsed nationwide, leaving municipal governments with severe structural budget deficits. Localities were forced to implement strict spending cuts, trim civil service wages and reallocate scarce fiscal resources away from municipal investment toward basic operating overhead.

The slump in land revenues shocked LGFVs, which had heavily relied on appreciated land holdings as loan collateral and were heavily dependent on future land sale proceeds to service their bank loans and municipal corporate bonds. As land values declined and municipal transfers dried up, LGFVs faced severe debt-service bottlenecks. To avoid defaulting on public domestic bonds or formal bank loans, cash-strapped LGFVs and local government agencies shifted financial pressure onto non-financial entities. They delayed invoice payments owed to private contractors, engineering firms, medical equipment vendors and environmental services providers. Construction firms that executed municipal infrastructure projects found their receivables frozen on LGFV balance sheets. Private SMEs that served as subcontractors to LGFVs were drawn into an inter-firm arrears network.

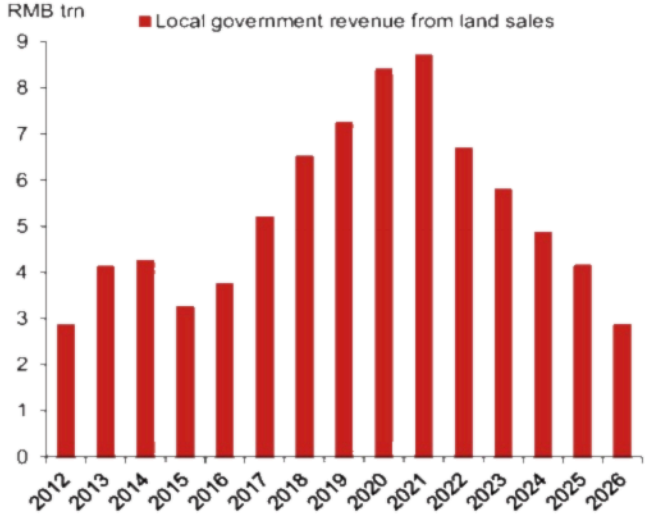
As local government debt pressures escalated, private enterprises in high-debt regions faced severe credit rationing from commercial banks, forcing them to rely further on stretched trade credit terms simply to maintain basic daily operations. This, in turn, forced them to delay payments to their business partners, triggering chain propagation of inter-firm arrears. Non-financial enterprises, unable to collect receivables from local state entities or property developers, suspended their own capital expenditures and investment plans, resulting in weaker aggregate demand and sustained deflation.

Fig. 5: Contract sales value for top 100 developers



Note: 2026 refers to estimates based on data for the first eight months.
Source: CRIC, Wind, Nomura Global Economic.

Fig. 6: Slumping land sales revenues to local governments



Note: The 2026 number is estimated based on its year-on-year growth in the first seven months of 2026.
Source: MoF, Wind, Nomura Global Economics.

Gauging inter-enterprise arrears

To gauge the scale of this new round of "triangular debt", or the inter-enterprise arrears, amid the ongoing property downturn, we begin with an estimate of developers' total payables. Based on the PBoC's data on developers' liability structure, we estimate outstanding payments owed by developers to upstream and downstream entities at around RMB25trn, which are heavily exposed to the sharp property sector correction. We then examine receivables and payables across various industries with a focus on constructors, which were gravely hit by the property crash. In one piece of evidence showing the resurgence in triangular debt, we see that the scale of payables in the construction sector doubled to RMB12trn in the five years from 2019 to 2024, based on data collected by us from a generally overlooked official statistical yearbook.

Developers: The ultimate source of surging corporate arrears

The task of estimating developers' total inter-firm arrears is daunting, as financial information for the property sector as a whole is not easily available and there is no clear definition of "arrears". While we could track the quarterly financial data of nearly 200 listed developers, together they account for only around 40% of national new home sales by floor space and 60% by value as of 2024, when there were 96,203 developers nationwide (The number of developers peaked at 105,434 in 2021; Figure 7).

One piece of data from the PBoC

In January 2023, the PBoC made a rare release on its survey of developers' liability structure in the previous year (Figure 9). Financial liabilities (debt to financial institutions and capital markets) account for 31% of the total: bank development loans for 14%, onshore and offshore bonds for 9% and non-standard financing for 8%. The rest consisted mainly of payables to upstream and downstream enterprises at 30%, presales funding from homebuyers at 32% and deferred taxes at 7%. These data suggest the scale of developers' inter-firm arrears was similar to their financial borrowings from banks, trust companies and bond markets (see *Box 2: The vital role of trade credit: The case of Evergrande* for the debt structure of a typical property developer).

The NBS's data on developers' total liabilities

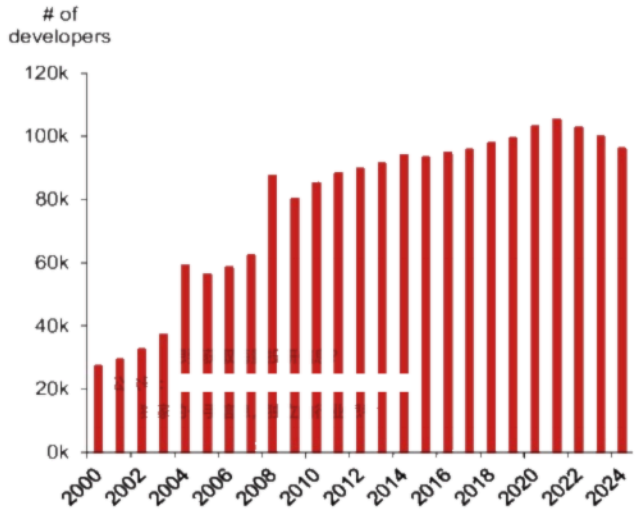
According to the latest available China Real Estate *Statistical Yearbook of the Property Sector* which was compiled by the NBS, developer liabilities totaled RMB83trn in 2024 (Figure 8), down RMB8trn from the 2021 peak of RMB91trn. Assuming deleveraging continued in 2025, total liabilities could drop to around RMB78trn based on the current trend. Considering developers' financial stress since 2011 and the rise of share of payables to 32.1% in 2025 from the 24.7% in 2020, we believe outstanding trade credit financing could account for more than 32% of developer liabilities. We thus estimate total developer payables to up/downstream firms at around RMB25trn, all of which is heavily exposed to the ongoing property bust.

Estimating developers' total inter-firm arrears

Even considering the property crash over the past five years, the estimated RMB25trn of developers' trade credit surely cannot all be in arrears (overdue payment). While it is almost impossible to estimate the total size of developers' arrears to other corporates, we can still make an educated guess. Since 2021, a total of 78 developers experienced defaults or extensions on their onshore public bonds and offshore USD bonds. The combined contract sales of these 78 distressed developers accounted for 33% of China's total contract sales in 2021. Their total liabilities represented approximately 17% of the aggregate liabilities of all developers. Among the 78 developers, the total liabilities of the 61 distressed developers that made it into the Top 100 developers accounted for roughly 45% of the aggregate liabilities of all top-100 developers as of end-2021.

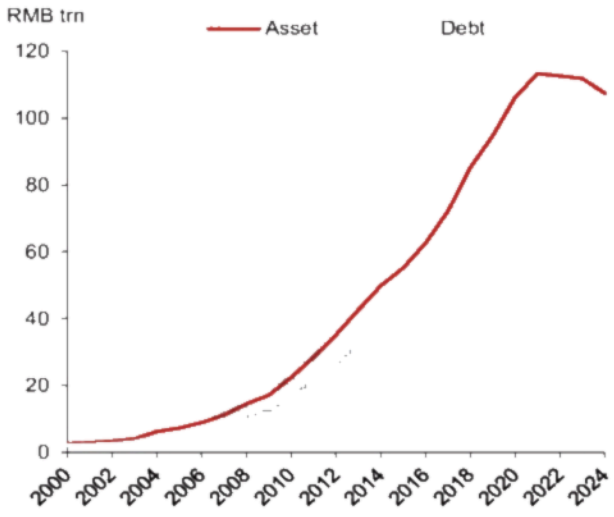
The above data might tell us that somewhere between 17% and 45% of Chinese developers' total RMB25trn trade credit could be non-performing to some extent. If we take the mid-point at 31%, which is very close to the 33% ratio of these distressed developers' contract sales to China's total contract sales in 2021, then we could conclude that developers' non-performing inter-firm arrears are around RMB7.8trn.

Fig. 7: There are still around 100,000 developers in China



Source: NBS, Wind, Nomura Global Economics.

Fig. 8: Total asset and debt of property developers

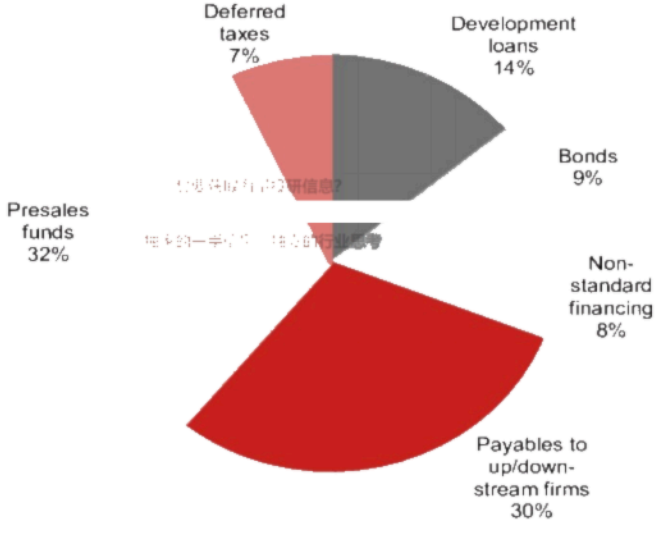


Source: NBS, Wind, Nomura Global Economics.

Box 2: The vital role of trade credit: The case of Evergrande

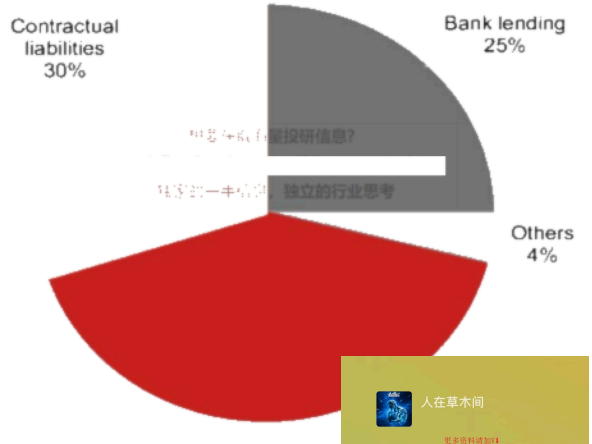
We can also look at data from some major developers. For a few years, Evergrande was the largest developer based on balance sheet size, and it was known to be at the forefront of ramping up leverage during those boom years. Evergrande's most recent complete annual financial statement covers fiscal year 2022. At end-2022, its total liabilities reached RMB2.44trn, including contractual liabilities of RMB721bn, bank lending of RMB613bn, trade credit and other payables of RMB1,002bn, and other liabilities of RMB102bn (Figure 10). This breakdown highlights that its three largest creditor groups are: 30% from homebuyers who paid for homes that have not yet been delivered, 25% from banks and 41% in the form of trade credit from its suppliers. Clearly, trade credits stood out as the largest component of Evergrande's overall liabilities, as payables for construction and materials reached RMB596bn at end-2022. Evergrande also disclosed that its overdue onshore commercial bills totaled RMB326bn at end-2022, and these were primarily owed to its suppliers and had surely become non-performing debt.

Fig. 9: The structure of all developers' liabilities in 2022



Note: The data was released by the PBoC in January 2023.
Source: PBoC, Nomura Global Economics.

Fig. 10: The structure of Evergrande's liabilities in 2022



Source: Evergrande's financial statements, Nomura G

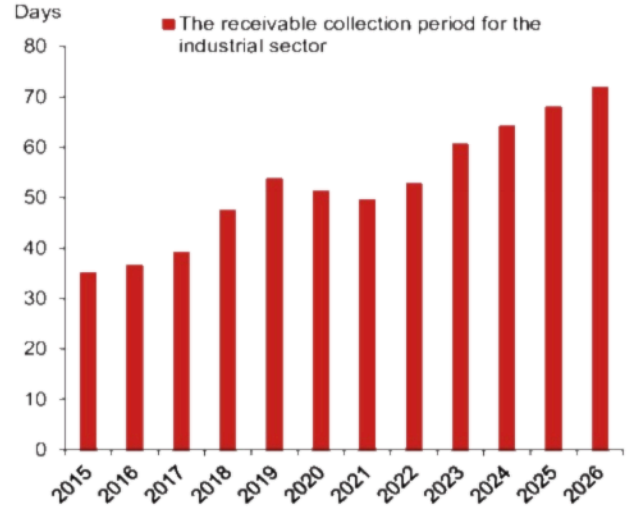
Lengthening collection periods for receivables

To assess the risk of overdue corporate payments, we start with industrial companies, for which the NBS regularly releases financial figures. We look at the receivable collection period, which is calculated by multiplying the ratio of account receivables to revenues by 360. A shorter period means a company collects cash quickly, ensuring stable cash flows. A longer period means a company has to wait to get paid, which increases the risk of a cash shortage. The longer it takes for a company to collect its receivables, the higher the probability that customers will be unable to pay or will default, creating a greater risk of bad debts.

The supply side of China's economy has demonstrated remarkable resilience over the past few years. Industrial production (IP) grew at a 5.9% annual rate over 2021-25 and has risen by 5.3% y-o-y in January-August 2026. The resilience is real, thanks largely to booming exports, but cash collection is clearly not keeping pace. Accounts receivables of industrial firms have grown by 9.3% per year over 2021-25, far above the 5.7% growth in revenues. In January-July 2026, receivables rose by 8.5% y-o-y, again above the 6.5% revenue growth and on course to reach an annual scale of RMB30trn in 2026.

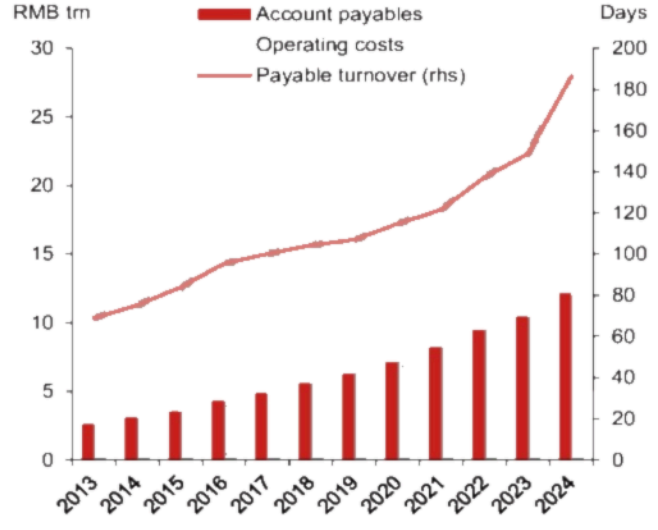
With receivables consistently outpacing revenues, the time for industrial firms to collect back their receivables, which is defined as the ratio of receivables over revenues multiplied by 360, has steadily risen over the past several years. The average receivable collection period jumped to 61 days in 2023 from an average of 52 days over 2019-22 and has risen every year since. In the first seven months of 2026, it reached a record high of 72 days (Figure 11), 20 days longer than in 2022. Simply put, while the whole industry is producing more, it takes longer for them to get paid, leading to a higher risk of bad debts.

Fig. 11: The receivable collection period has continued to lengthen in the industrial sector



Note: 2026 refers to estimates based on data for the first seven months.
Source: NBS, Wind, Nomura Global Economics.

Fig. 12: The worsening payables of constructors



Note: Payable turnover days, which is defined as multiplying the ratio of payables over operating costs by 360.
Source: China Statistical Yearbook on Construction, NBS, Nomura Global Economics.

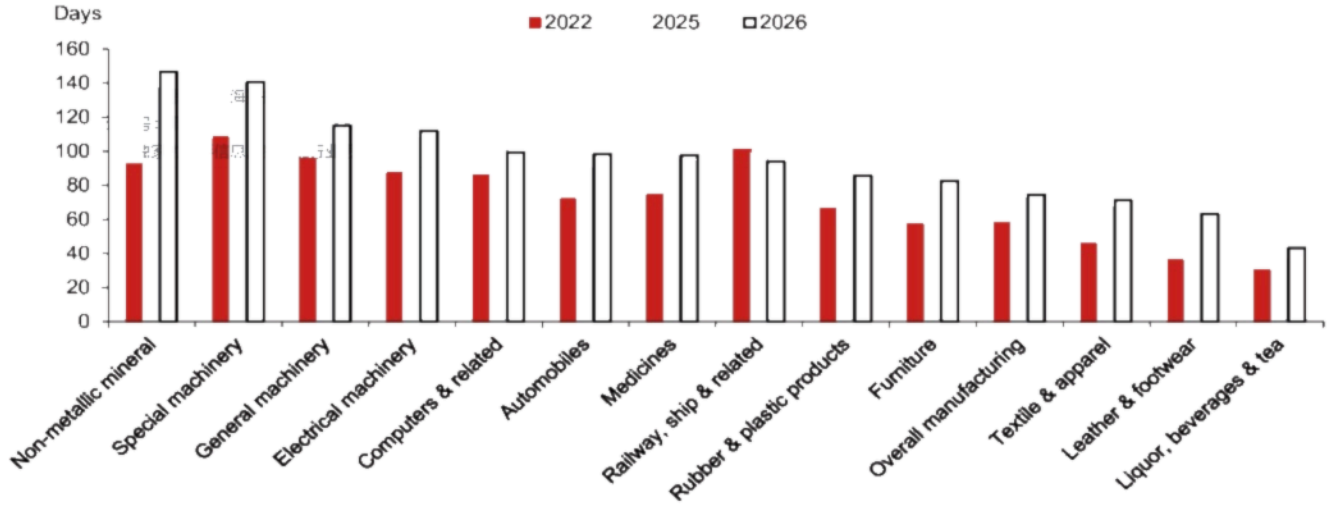
Construction materials: The worst-hit receivables industrial sector

Within manufacturing, the rises in receivable collection periods are broad-based but uneven. The collection periods increased most for manufacturers of construction materials, labor intensive products and renewable products. Sectors with notable increases in collection periods include the following:

- The collection period for non-metallic mineral products, including cement and glass, increased the most, rising by 54 days (from 92 days in 2022 to 146 days in 2026), the longest within the manufacturing sector (Figure 13). This is unsurprising, given the severe property downturn.
- Furniture, which is also closely linked to the property market, also rose markedly (+28 days).

- Collection times of some labor-intensive sectors were also stretched notably, including textiles (+27 days), and leather and footwear (+28 days).
- Collection times for the auto and electrical machinery sectors, which have experienced overinvestment and excess capacity, rose by 24 days.
- Thanks to the global AI supercycle and export boom, the collection period for electronic products shortened to 99 days in 2026 from 102 days in 2025.

Fig. 13: Receivable collection periods: manufacturing and its subsectors



Note: 2026 refers to estimates based on data for the first seven months.
Source: NBS, Wind, Nomura Global Economics.

Triangular debt: Ballooned payables for construction companies

Opposite receivables are payables. The rapid rise in the receivables of construction raw materials suppliers is reflected in surging payables of construction firms. According to the latest construction statistical yearbook, construction payables have risen rapidly in recent years, reaching RMB12.1trn in 2024 and almost doubling from 2019 levels (Figure 12). They accounted for more than 50% of operating costs in 2024, meaning over half of production costs are unpaid obligations.

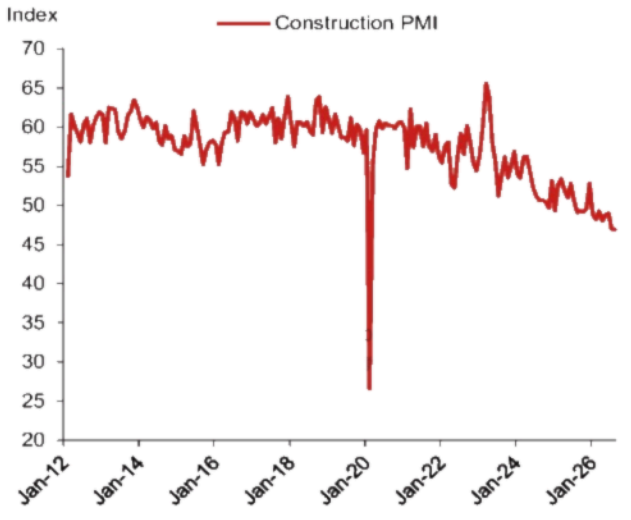
Another indicator, payable turnover days, is determined by multiplying the ratio of payables over operating costs by 360 and measures how long firms take on average to pay suppliers. More days normally suggest a stronger supply-chain position, with firms able to use upstream suppliers' funds for longer. However, excessively long periods can also signal tight cash flows for debtors and rising late-payment risk. In 2024, payable turnover clearly exceeded 180 days, which means suppliers are financing more than half a year of the construction sector's costs.

The data for 2025 are not published yet, but our estimates from listed construction firms' financial statements suggest the payable problem worsened further in 2025. We estimate that the 157 listed construction firms, including the eight central state-owned contractors, held RMB5.4trn of payables in 2025, up from RMB4.9trn in 2024 and RMB4.4trn in 2023.

If construction firms were prospering, a long payables period in principle could reflect strong bargaining power and a strong supply-chain position, but this is not the case here. Over the past few years, construction activity has continued to decline amid the property downturn and tighter local-government finances.

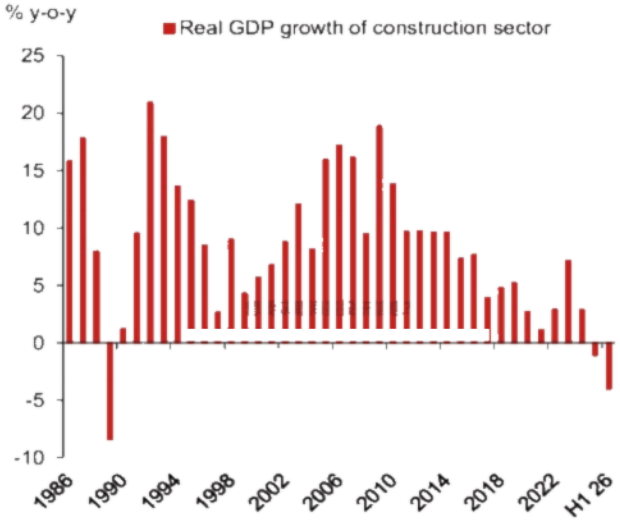
- The construction PMI was above 54 for most of the period in the decade through 2024, before the downtrend commenced. Its monthly average fell to 52.7 in 2024, 51.0 in 2025,and 48.3 in the first seven months of 2026, with the July-August average at 47.0 (Figure 14).
- The value-added of the construction sector fell by 1.1% in real terms in 2025, the first annual contraction since 1989, followed by a worse contraction of 4.0% y-o-y in H1 2026 (Figure 15).

Fig. 14: A prolonged construction downturn



Source: NBS, Wind, Nomura Global Economics.

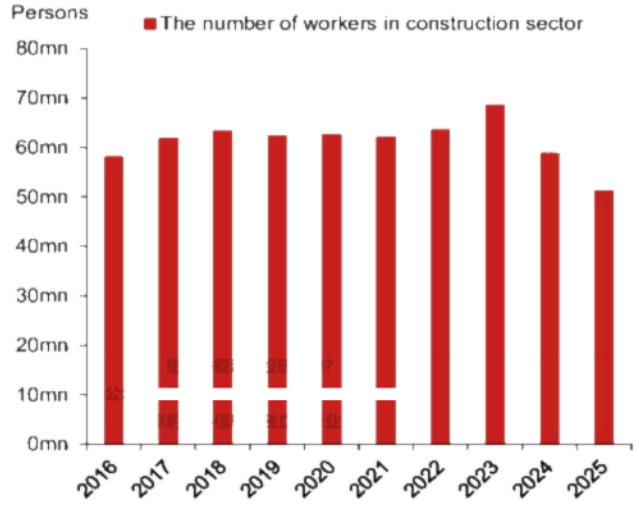
Fig. 15: An evident contraction in construction GDP



Source: NBS, Wind, Nomura Global Economics.

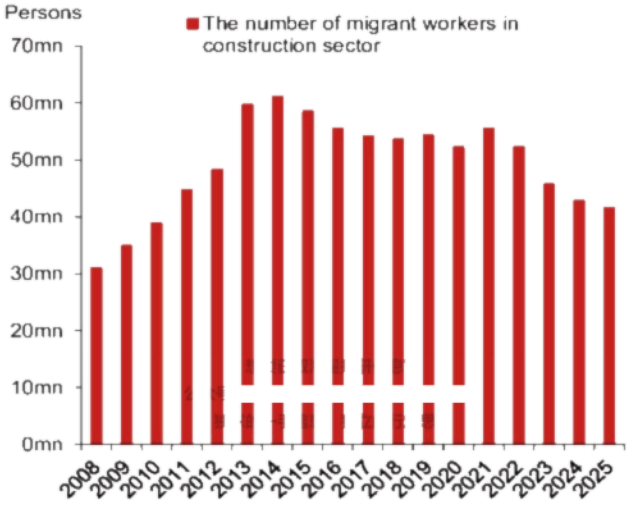
The downturn has hit construction employment hard. The average number of people directly working in construction has fallen for two consecutive years, to 51mn in 2025 from 68mn in 2023 (Figure 16), exerting significant pressure on China's labour markets. The number migrant workers in the construction sector, which is most sensitive to the sector, also fell markedly in recent years, to 42mn in 2025 (Figure 17), a staggering 20mn below the peak a decade ago. For context, total urban new jobs in 2025 were only 12.67mn. The longer payment periods therefore reflect falling repayment capacity, and bad-debt risk for upstream building-material suppliers is clearly rising.

Fig. 16: The number of workers in construction sector shrank by ~17mn from the peak



Source: China Construction Industry Association, Nomura Global Economics.

Fig. 17: The number of migrant workers in construction sector shrank by ~20mn from the peak



Source: NBS, Wind, Nomura Global Economics.

Cleaning up inter-enterprise arrears

Over the past couple of years, Beijing has realized that traditional monetary and fiscal policies could be of little help in stemming the decline of the property sector. Back in late 2024, Beijing took a few non-conventional steps to arrest the worsening growth slowdown and declining asset prices. Policymakers did deliver some conventional policies, such as a 50bp RRR cut and 20bp interest rate cut, but the focus was on something else. First, they deployed RMB800bn funded by the central bank to set up two special facilities to directly support stock markets. Second, they introduced the RMB10trn debt swap package to alleviate the debt burden of local governments (see *Appendix III: The RMB10trn debt swap program in 2024-28*). The debt swap's focus was to replace local governments' bank loans, LGFV bonds and some shadow banking debt. Some inter-firm arrears were swapped, but this was not the focus, and the scale so far should have been quite small.

Despite all these efforts since September 2024, China's credit growth had steadily declined further. Aggregate financing (AF) and bank loans slowed to 7.2% and 4.9% y-o-y, respectively, in August 2026 from 8.0% and 8.1% in September 2024. During this period, financing has increasingly relied on government bonds, pointing to an evident credit squeeze in the private sector. The debt swap artificially slowed headline loan growth, so we could adjust loan growth higher in July 2026 to 5.6% from 5.1%, but this is still a far cry from the 8.1% pace in September 2024, when Beijing implemented enormous measures to reboot the economy.

Some moderate steps in clearing inter-firm arrears

We believe Beijing has gradually realized that the rapid rise of inter-firm arrears is a major factor behind the worrying slowdown of credit growth. Policymakers have taken steps to address this issue, though progress has been timid so far.

At the State Council meeting on 21 August, Premier Li Qiang called for faster and stronger actions to clear inter-firm arrears and his cabinet issued more specific guidelines. He called on local governments to make better use of funding from special bonds, arrears should be cleaned up in a coordinated manner, and new arrears must be prevented. He also urged greater efforts to clear delayed payments to SMEs by large enterprises, strengthen supervision of large firms' payment behavior, set reasonable industry-specific payment terms and conditions, and call for better regulation of non-cash payment instruments.

As a follow-up, the State Council on 10 September issued a more detailed notice to step up policy efforts to clear inter-firm arrears. Over the past few years, the State Council has already issued several policy documents to address such issues, including the March 2025 ordinance. The latest notice represents an upgrade. Compared with the ordinance last year, the notice reiterates the requirement that large firms should pay SMEs within 60 days of delivery. What's truly new in the notice is that it explicitly calls for a higher share of cash payments. It specifically instructed central government owned SOEs to pay SMEs entirely in cash, and indicated government procurement projects should be fully paid in cash. In addition, the notice explicitly prohibits banks and other financial institutions from providing financing via discounting those commercial papers with payment terms longer than six months. Also, large enterprises that have made notable progress in cutting their account payables will receive more funding support through loans, bond issuance and other channels to replace their account payables.

Japan's experience in cleaning up non-performing loans

When real estate and financial bubbles burst, the resultant credit losses impair the balance sheets of critical market participants, severing credit transmission and dragging the economy into an extended balance sheet recession. Japan endured over a decade of economic paralysis – the "Lost Decade" – following the 1990 collapse of its property and equity bubbles due to prolonged regulatory forbearance. The impasse was only broken in late 2002 through the implementation of a radical, state-mandated cleanup known as the Takenaka Plan. As China navigates its own multi-year property downturn, Japan's 2002 turnaround offers valuable insights into resolving credit distress.

Japan's 2002 Takenaka Plan: Background, content and impact

Following the bursting of its asset bubble in 1990-1991, Japan's Ministry of Finance and commercial banks adopted a strategy of regulatory forbearance. Expecting an organic economic recovery, regulators permitted banks to defer write-offs, manipulate accounting

standards and roll over non-viable loans. This strategy institutionalized the "zombie company" phenomenon, locking up capital in unproductive entities and creating credit gridlock. By late 2002, a stock market crash, credit rating downgrades and the international "Japan Premium" penalty pushed the financial system to the brink of collapse. Prime Minister Junichiro Koizumi bypassed traditional bureaucratic resistance and appointed academic economist Heizo Takenaka as the minister of state for financial services to execute structural "shock therapy".

The content of Japan's Takenaka Plan

Unveiled in October 2002, the Program for Financial Revival (Takenaka Plan) set an explicit mandate: halve the non-performing loan (NPL) ratio of major banks from peak levels (~8.4%) to around 4% by the end of fiscal year 2004. The strategy relied on four structural pillars:

- Rigorous asset audits: Financial Services Agency (FSA) inspectors conducted unannounced audits, forcing banks to discard subjective collateral valuations and adopt Discounted Cash Flow (DCF) modelling for distressed borrowers, instantly exposing hidden NPLs.
- The "50%/80% rule": Banks were legally mandated to offload 50% of targeted NPLs within one year and 80% within two years, forcing real off-balance-sheet removal rather than simple provisioning.
- Deferred Tax Asset (DTA) restrictions: Takenaka strictly limited how much DTA (future tax credits) banks could count toward core Tier-1 capital, threatening undercapitalized banks with legal insolvency unless bad loans were addressed.
- A credible threat of nationalization: Under Article 102 of the Deposit Insurance Act, the state established a clear legal pathway to nationalize banks that failed capital requirements due to honest NPL reporting, replacing management while protecting depositors (exemplified by the 2003 nationalization of Resona Bank with a JPY1.96trn public fund injection).

The results and impact of the Takenaka Plan

The Takenaka Plan achieved its targets ahead of schedule. Major banks' NPL ratios fell from 8.4% in March 2002 to 2.9% by March 2005 (Figure 18), clearing the rot from banking balance sheets. This restored global confidence, eliminated the "Japan Premium", and catalysed the consolidation of fragmented City Banks into three healthy megabanks (MUFG, SMBC, Mizuho). Unblocking credit transmission fueled the "Izanami Recovery", a 73-month economic expansion from 2002 to 2008. However, it also came at a structural cost: transferring private losses to the public balance sheet pushed Japan's sovereign debt-to-GDP ratio past 200%, while corporate cost-cutting accelerated the rise of non-regular employment.

The difference between Japan and China on nonperforming debt

When comparing China's property downturn since 2021 to Japan's 1990s crash, the underlying balance sheet recessions, such as household wealth destruction and a shift toward debt reduction, appear remarkably similar. However, a fundamental structural difference lies in where and how the non-performing credit distress manifests within the economic architecture. In Japan, credit was mediated primarily through traditional commercial bank channels. Commercial banks extended direct loans backed by real estate collateral to developers and speculators. Consequently, when land values crashed by up to 80%, the toxic debt crystallized directly as formal non-performing loans on commercial bank balance sheets. The primary bottleneck was bank capital impairment.

In China, the property sector's slump did not primarily manifest as an immediate wave of default disclosures on the balance sheets of those commercial banks, or major state-owned banks for that matter. The NPL ratios of China's banks have been constantly below 2% since 2008 (Figure 19), according to the official data. Instead, due to the unique structure of Chinese real estate financing and municipal fiscal structures, the non-performing debt manifested across three areas:

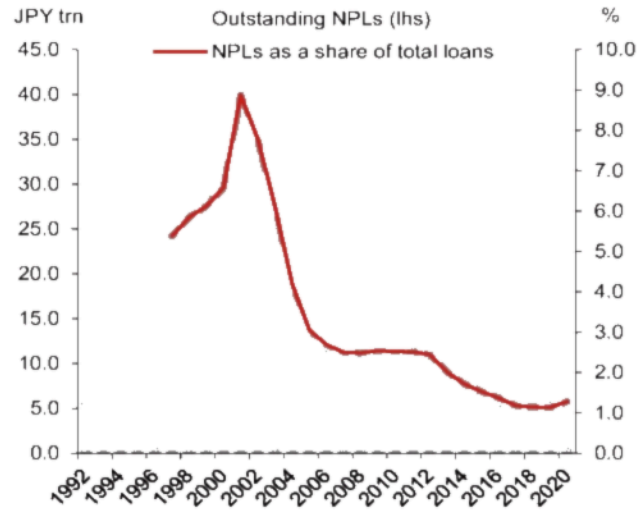
- Distressed presale home deliveries: Chinese real estate relied heavily on a presale model in which developers funded construction via advance payments from homebuyers. Developer insolvencies resulted in stalled housing construction, transforming credit distress into a consumer property rights problem and household balance sheet strain. For a detailed calculation in this regard, please see *our report*

published in 2023.

- Cascading inter-firm arrears: Developers financed massive scale through commercial paper, supply-chain financing and delayed payments to contractors, architects and material suppliers. When developers defaulted, the distress propagated horizontally across the real economy as widespread inter-firm trade arrears.
- Municipal LGFV payment delays: Chinese local governments depended on land auction sales for up to 40% of public revenue. To finance infrastructure, municipalities utilized LGFVs, borrowing heavily from regional banks and shadow channels using expected land appreciation as implicit collateral. The property slump wiped out land revenues, transferring the real estate setback into an acute municipal LGFV debt service problem that threatens regional commercial banks.

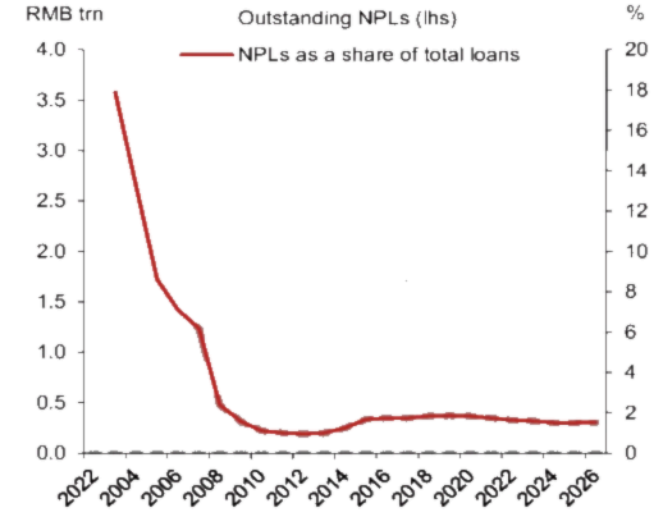
Since mid-2022 when homebuyers took to the street requesting the delivery of their homes, Beijing has treated the completion and delivery of presold homes as the top priority on concerns of social stability. Beijing claimed it has pretty much finished this task, and this largely tracks with our on-the-ground checks. However, inter-firm arrears (including those owed by LGFVs) are far from being cleared. Beijing needs to claim another victory by cleaning up inter-firm arrears, and the task could be much more challenging than the delivery of presold homes. Back in 2023 we estimated there was funding gap of about *RMB3.0trn for completing those unfinished presold homes*. The amount for cleaning up the inter-enterprise arrears could be double to triple that amount.

Fig. 18: The NPL ratio of Japan's commercial banks



Source: Financial Services Agency of Japan, Nomura Global Economics.

Fig. 19: The NPL ratio of China's commercial banks



Note: 2026 refers to the data for H1 2026.
Source: National Financial Regulatory Administration, Nomura Global Economics.

What can China learn from the Takenaka Plan?

In our view, despite these structural differences in how bad debt is distributed, China can derive vital lessons from Japan's 2002 experience. The primary takeaway is that time alone does not heal balance sheet impairment, as regulatory forbearance merely misallocates capital, prolongs deflationary mindsets and institutionalizes zombie entities. To achieve a sustainable macroeconomic recovery in general, and a stabilization of the property market in particular, a decisive clean-up of non-performing debt is indispensable. By combining its ongoing high-tech industrial strategy with a decisive, Takenaka-style resolution of underlying credit overhangs, China can unblock part of its credit transmission mechanism, restore household balance sheets and escape the shadow of a prolonged credit stress. We especially believe Beijing can do the following after learning from Japan's Takenaka Plan:

- Recognition of non-performing debt: China's targeted mechanisms, such as project "whitelists" and targeted relending for home completions, have effectively ring-fenced immediate panic. However, unviable developer corporate debt and implicit LGFV

liabilities continue to accumulate quietly. China ultimately needs a comprehensive, state-level audit to accurately price and crystallize bad debts, separating viable assets from zombie balance sheets.

- Deploying a significantly larger central government debt-swap programs to unblock trade payables owed to private contractors and suppliers.
- Deployment of central fiscal balance sheets: Just as Japan utilized the DICJ, RCC and IRCJ backed by central state guarantees to absorb toxic assets at fair market value, China must leverage its central fiscal balance sheet. Given local governments and regional banks are fiscally exhausted, the central government needs to issue long-term sovereign debt to recapitalize vulnerable regional banks and fund state resolution vehicles to buy up distressed developer inventory at market-clearing prices.
- Restructuring to unblock economic demand: Japan's IRCJ proved that targeted public capital can successfully restructure systemic entities by buying out secondary creditors and wiping out equity holders. China can apply similar mechanisms to restructure debt across the real estate supply chain, clearing inter-firm arrears and restoring corporate confidence.

Given the special role of local governments in the surge of inter-firm arrears, Beijing also needs to restructure local government finance, rebuild municipal public finance away from land sales toward sustainable, broad-based revenue foundations.

A reform of China's fiscal system is also needed

In early September 2024, just weeks before the "*924 policy pivot*", we published a special report extensively discussing the fundamental shift of China's local governments to "grabbing hands" from "helping hands" amid the property bust and the breakdown of China's fiscal federalism (see *Asia Special Report - China: The second wave of shocks*, 5 September 2024). In that report, we argued that reforms to China's fiscal system were urgently needed and proposed some necessary directions for restructuring the system. Here, we repeat our proposals.

Over the medium to long term, Beijing will have to carry out major fiscal reforms to rebuild fiscal federalism, as land sales may be no longer a major source of local government revenues. Beijing has vowed to *adjust the consumption tax to give local governments a larger share*, but the size of the consumption tax is too small to fill this gap, and reforming the consumption tax system could take years. On the expenditure side, Beijing may need to streamline local governments and reduce some of the unnecessary fiscal burden, especially on public security. While allocating a larger share of various taxes to local governments, it may simultaneously cap the size of fiscal transfers in order to re-introduce fiscal discipline and some decentralization. We also believe Beijing should introduce a better market-based mechanism to allocate urban land quota, so cities can grow as people naturally migrate to more productive and promising regions. Some fiscal transfers to local governments could be linked to an increase of residents and school children to encourage urbanization. Lastly, keeping local governments from becoming "grabbing hands" requires better maintenance of the rule of law.

Appendix I: China's repair of its damaged trade credit in the 1990s

In the late 1980s and early 1990s, China encountered its first major systemic credit transmission problem in the form of "triangular debt" ("三角债", or inter-firm trade arrears): a massive, circular web of non-performing inter-firm trade payables that severely crippled supply chains, especially for state-owned enterprises (SOEs). Following the central bank's aggressive monetary tightening in 1988-1989 to curb runaway inflation, formal bank credit to SOEs was sharply curtailed. Facing a sudden, severe liquidity squeeze, local governments and SOE managers did not halt production or scale back capital expenditure; instead, they turned to unbacked, off-balance-sheet trade credit as an informal financing mechanism to sustain operations.

The primary driver of this escalating debt overhang was unfunded fixed asset investment (FAI). Driven by local development imperatives, local governments and state-enterprise managers routinely launched large infrastructure, commercial and industrial expansion projects without securing full upfront financing. Instead, they relied heavily on contractor advance financing (where construction firms fronted 100% of initial capital, labour and building materials). When project owners predictably ran out of cash mid-construction, they defaulted on progress invoices owed to builders. These contractors, unable to collect their accounts receivable, defaulted on heavy equipment manufacturers and building material suppliers, who in turn defaulted on upstream raw material producers (such as steel, coal and cement makers) and state utilities.

By mid-1991, gross triangular debt had expanded to over RMB300bn, representing roughly half of all commercial bank credit and over one-third of China's annual industrial output. This inter-enterprise credit chain created a severe liquidity trap: money velocity dropped, enterprise working capital froze, and non-financial firms became involuntary shadow lenders to one another, threatening the stability of the entire industrial economy.

Zhu Rongji's surgical strategy: Seed capital and hard budget constraints

When Vice Premier Zhu Rongji assumed leadership of the Leading Group for Clearing Triangular Debt in July 1991, he rejected broad central bank liquidity expansion to prevent hyperinflation (a mistake Russia made in 1992 during its own inter-enterprise debt crisis). Recognizing that triangular debt was a structural failure rooted in soft budget constraints of SOEs and local governments, Zhu implemented a targeted, three-pillar resolution strategy:

- Diagnostic isolation and "seed capital": National audits ordered by Zhu revealed that over 70% of the arrears originated directly in unfunded FAI projects. Rather than distributing liquidity to intermediate corporate debtors, who would likely hoard cash, Zhu deployed a strategy termed "Injecting at the Source, Clearing to the Tail". The PBoC and state commercial banks pooled RMB50bn in specialized "seed loans", disbursed strictly to complete near-finished, high-priority construction projects that were stalled mid-construction due to unpaid invoices.
- Mandatory multipliers and counter supervision: To receive 1 RMB of central seed capital, local project owners were legally required to clear at least 3 to 4 RMB of downstream trade payables. Bank officers were stationed directly at branch counters to physically monitor transactions, executing immediate, automated wire transfers to downstream suppliers as soon as cash hit project accounts to prevent local diversion or cash hoarding.
- Institutional reforms and the "No Funds, No Start" rule: To stop new arrears from accumulating, Zhu instituted strict administrative and legal boundaries. He established the "No Funds, No Start" rule, making it illegal to approve capital projects without verified upfront cash budgets and banning contractor advance funding. Chronic "zombie" SOEs that continued to generate trade debt despite receiving clearing relief were systematically stripped of state bailouts and pushed into bankruptcy or privatization under the "Grasp the Large, Let Go of the Small" reform era.

Structural impact and long-term legacy of Zhu's campaign

Between 1991 and 1993, Zhu's campaign successfully cleared over RMB308bn in triangular debt using just RMB53bn in total seed loans, achieving a nationwide clearing multiplier exceeding *1:5.8* and unblocking supply-chain liquidity across the country. Zhu's resolution campaign extended far beyond short-term debt liquidation, leaving a profound,

lasting impact on China's economy and financial sectors.

- Restoration of money velocity and commercial normalcy: By systematically clearing trade payables down the supply chain, the campaign restored cash flow velocity, allowing enterprises to resume normal operations, pay delayed worker wages and restore corporate liquidity without triggering runaway price inflation.
- Hardening of budget constraints: The campaign marked a decisive shift away from soft budget constraints for SOEs. By enforcing strict project budget verification and eliminating mandatory bank bailouts for chronic debtors, it established the principle that commercial contracts carried enforceable legal financial liabilities.
- Foundational banking and macroeconomic reforms: Clearing non-performing corporate IOUs from supply chains was a vital prerequisite for the major 1994 economic reforms. This paved the way for transforming the PBoC into a modern central bank, separating policy lending from commercial banking, introducing a unified foreign exchange system and establishing the modern commercial paper regime, laying the groundwork for China's rapid, market-driven economic growth over the subsequent two decades.

Appendix II: China's prolonged property bust

China's property market has entered its sixth year of correction. Since 2021, the property sector, which was China's largest sector, has contracted by more than half. Housing prices have already dropped by an average of 40% from their peaks in mid-2021. The collapse of property markets severely impacted China's economy by reducing demand, shrinking household wealth, slashing fiscal income, adding to mounting debt burdens of developers and local governments, indirectly creating massive overcapacity in some green sectors and finally causing deflationary pressures. Despite recent green shoots in some "smart" cities, boosted by the global AI boom, we expect property distress across most of China to linger. Unlike in the past, we see limited positive spillovers from the green shoots in top-tier cities to the rest of the country, as the AI boom siphons resources from legacy cities to smart cities, leading to a large housing market divide.

China's unprecedented property collapse

Since the spring of 2021, the property sector has entered an unprecedented bust. The "*Five Red Lines*" to rein in property financing, the sweeping pandemic-led lockdowns, mortgage *boycotts* and a *confidence* setback have derailed property indicators to levels not seen in many years. From 2021 to 2026 (based on January-August data), new home sales by value, new home sales by floor space, housing starts and property investment have plummeted by 56.8%, 51.6%, 77.8% and 51.8%, respectively, according to the NBS data. Alternative data point to an even sharper decline in property sales. According to China Real Estate Information Corporation (CRIC), from the peak in 2020 until 2026 (based on January-August), contract sales of the top 100 developers plunged by 74.9% in value terms. Housing prices have dropped by an average of 40% from the peak in mid-2021, returning to levels a decade ago (Figure 20).

Impact on the economy

The collapse of property markets profoundly undermined the economy by stifling demand, eroding household wealth and depleting fiscal revenues, while simultaneously exacerbating the debt burdens of both developers and local governments. Furthermore, the property slump triggered a cycle of intertwined non-performing debt, widespread distrust, sluggish credit growth and falling bond yields, resulting in weak aggregate demand and persistent deflation.

Direct economic damage

At its peak in 2021, the property sector represented approximately 25% of national GDP. Despite the contraction observed since then, the sector still constitutes more than 10% of the national economy and continues to shrink at an annual rate of roughly 10%. As China's largest single industry, its collapse has severely curtailed investment activity and decimated the primary income sources for millions of jobs.

The negative wealth effect

Plummeting home prices have caused significant damage to the net worth of Chinese households. Prior to the setback, property accounted for around *60% of household wealth*; consequently, a 40% drop in property values resulted in a 24% reduction in total household assets.

Strained local government fiscal space

During the market peak, about 38% of fiscal revenues were generated by the property sector, primarily through land sales. Currently, two-thirds of that revenue stream has disappeared. The initial wave of the property collapse led to conventional cuts in fiscal spending. However, by mid-2024, *a second wave of shocks* began impacting the economy through more indirect channels. As land sale revenues evaporated while debt pressures mounted, an increasing number of local governments adopted predatory fiscal behaviors, such as charging exorbitant fees, imposing frequent fines and utilizing aggressive tax collection tactics to bridge budget gaps, which ultimately forced Beijing to announce a slew of *policy stimulus in September 2024*.

Demand-driven deflation and low yield environment

The fallout of the property sector suppressed aggregate demand and pulled the economy into a deflationary spiral. Stagnant credit growth and slowing economic momentum have led to a persistent decline in long-term bond yields. While the government attempted to pivot investment toward the "new three" industries to find new sources of growth, this massive influx of capital resulted in significant overcapacity, crashing prices and driving further financial losses. These deflationary pressures eventually prompted Beijing to

launch an *anti-involution campaign*. However, deflation itself only reached a *turning point in March* of this year, following the onset of the Iran war.

The overhang of non-performing debt links

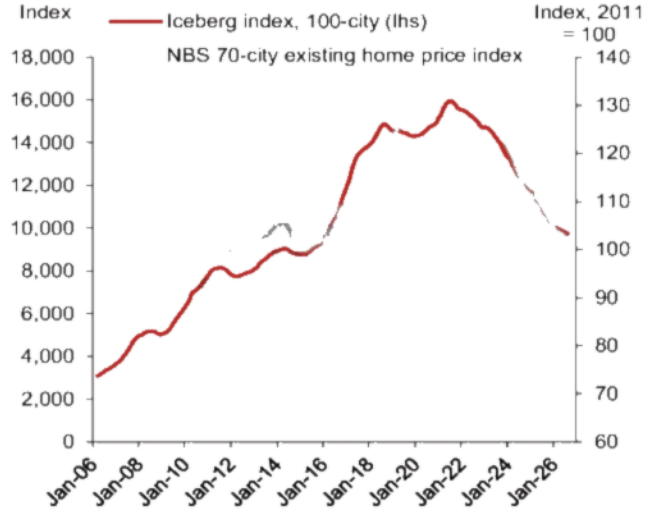
Prior to the collapse, China's property sector operated with excessive leverage, which is why regulators introduced the stern "Five Red Lines" to curb property financing and de-leverage the sector. As a systematically important sector, property's collapse resulted in intertwined non-performing debt links across various economic entities, including local governments, banks, households and contractors. To rein in heightened credit risks, a RMB10trn debt swap program was introduced to lower interest payments of local governments, while a total RMB800bn of ultra-long central government special bonds were arranged to recapitalize state banks. However, limited policy support has been provided for the household sector and the upstream/downstream enterprises.

As China's property sector still heavily relies on the presales model, homebuyers face lingering risks of developers failing to deliver presold homes on schedule. Suppliers such as construction firms and construction raw material producers may experience delayed payments from developers and severe cash flow pressures. According to data from the NBS, the overall debt of developers reached RMB83trn in 2024 (the latest data available), and we estimate developers' debt owed to upstream/downstream enterprises was around RMB25trn, based on the PBoC data. As the property fallout persists, a broad scope of the economy remains impacted by non-performing debt links, weighing on domestic consumption and investment.

A stark divide is emerging across different cities

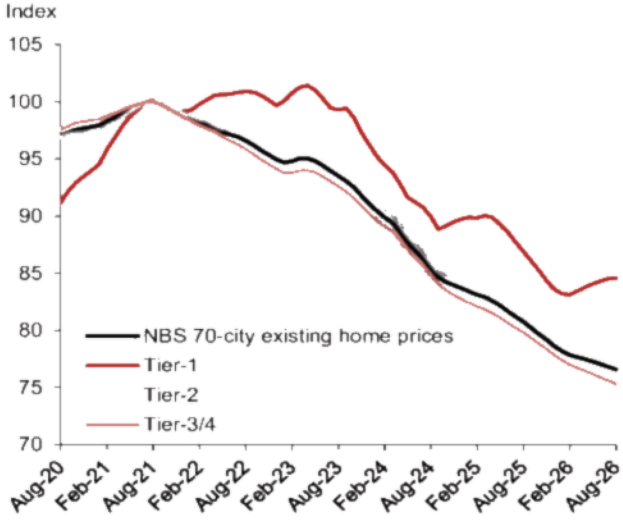
China's existing housing market is exhibiting signs of a cautious recovery, especially in some top-tier cities (Figure 21). Shanghai is under the spotlight, with its existing home sales volume reaching a five-year high and prices edging higher. We *believe* the latest local property easing measures, the uneven wealth effect of the stock market rally and stabilized income for financial professionals amid surging stock trading activity are the main reasons behind Shanghai's special recovery. Furthermore, the global AI boom has benefited a small circle of other elite hubs, primarily Beijing, Shenzhen, Hangzhou, Hefei, Wuhan and Suzhou, which could be called "smart cities", leaving "legacy cities" structurally sidelined. In the past, improving housing markets in top-tier cities might herald a broader recovery. However, this time might be different, as the AI boom siphons resources from legacy cities to smart cities, leading to a large divide. This erosion of wealth has impaired both the capability and the willingness of consumers to spend, creating a substantial drag on domestic consumption.

Fig. 20: The trend of iceberg index appears in line with the official existing home price index



Note: Iceberg index refers to the lowest listed prices for existing homes in the same residential compound.
Source: bingshanai.com, NBS, Wind, Nomura Global Economics.

Fig. 21: Existing home prices: K-shape in the making



Source: NBS, Wind, Nomura Global Economics.

Appendix III: The RMB10trn debt swap program in 2024-28

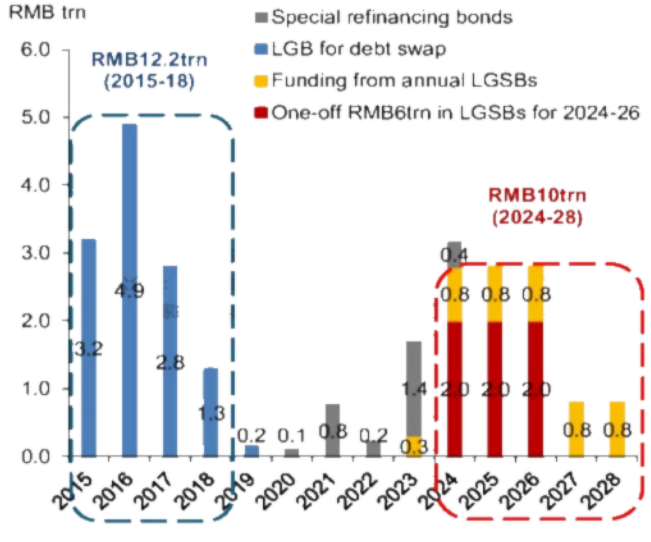
Beijing's local government debt swap programme, approved and announced by the NPC Standing Committee in November 2024, combined a one-off increase of RMB6trn in the local government debt ceiling, issued at RMB2trn a year between 2024 and 2026, with a further RMB4trn drawn from the RMB800bn annual new special local government bond (LGB) allocation between 2024 and 2028.

20 months into the programme, RMB7.5trn of bonds have been issued under the package. The largest single instrument is the dedicated hidden debt replacement bond, of which RMB2trn was issued in late 2024, with a second RMB2trn issued in 2025 and RMB1.63trn in H1 2026, equivalent to 81% of this year's allocation. This means the RMB6trn three-year quota is roughly 94% used, with two quarters still to run, so the instrument that has done most of the work is close to being exhausted. The second pillar, new special LGBs for debt resolution, contributed RMB133bn in the closing two months of 2024, RMB1.28trn in 2025 and RMB431bn in H1 2026, of which June alone accounted for RMB228bn, as issuance accelerated.

The two tranches of the debt-resolution package are defined quite differently in the official documents, and that difference governs what each of them can pay for. The RMB6trn of replacement bonds is confined to official hidden debt, meaning the borrowing by local governments outside of their budgets that is registered in the MoF monitoring system, a stock that sits overwhelmingly with the financing platforms and consists of bank loans, LGFV bonds and non-standard borrowing from trust and leasing companies. The RMB4trn of new special LGBs is drawn much more widely, as it is designated to "supplement local government fund budget resources" in support of both the resolution of existing debt risk and **the clearance of arrears** owed to corporates. Because arrears are not officially entered in the MoF monitoring system, they can be settled only from this RMB4trn allocation.

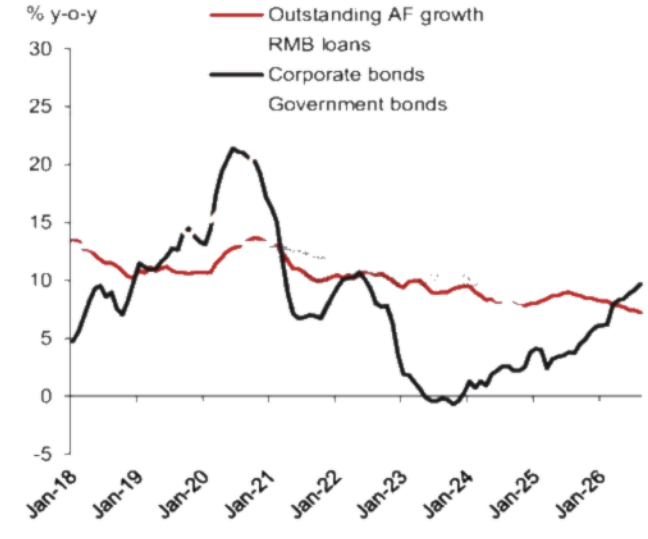
Of the RMB7.5trn issued by the end of June 2026, we estimate the swap program had removed approximately RMB3.7trn of loans from bank balance sheets by June 2026, or half of the funds deployed under the package. Around 13% of that RMB7.5trn fund was used to swap bonds. The remaining RMB2.8trn, or 37% of the total, was used to swap non-standard debt, the trust and leasing obligations that carry the highest interest costs, and inter-firm arrears.

Fig. 22: The RMB10trn debt swap program



Source: MOF, Wind, Nomura Global Economics.

Fig. 23: A rising reliance on government bonds



Source: PBoC, Wind, Nomura Global Economics.

Appendix IV: Literature on credit channels via financial institutions

The modern conceptualization of the credit channel originated with Ben Bernanke (1983), who re-evaluated the Great Depression. Moving beyond the monetarist focus on nominal money stock contraction (Friedman & Schwartz, 1963), Bernanke argued that the collapse of financial intermediation was the primary driver of the prolonged downturn. Bernanke introduced the concept of the Cost of Credit Intermediation, demonstrating that bank failures destroyed specialized, non-standardized "informational capital" regarding borrower creditworthiness. This breakdown in relationship banking sharply increased asymmetric information frictions, creating a credit crunch for bank-dependent borrowers. This framework was later formalized into the Financial Accelerator model (Bernanke, Gertler, & Gilchrist, 1999), which illustrates how endogenous changes in borrower net worth amplify macroeconomic shocks.

Frederic Mishkin (1995, 1996) expanded the credit channel framework by demonstrating that central bank policy transmits to the real economy primarily through credit market frictions caused by asymmetric information, specifically adverse selection and moral hazard, rather than mere policy rate adjustments. He divides credit transmission into three distinct sub-mechanisms: the Bank Lending Channel, where policy alters bank reserves and loan supply to bank-dependent small and medium-sized enterprises; the Balance Sheet Channel, where lower interest rates elevate asset values and borrower net worth, reducing the external finance premium and moral hazard; and the Household Balance Sheet Channel, where rising financial asset buffers lower perceived financial distress risks, prompting increased consumer spending on durables and real estate. By illustrating how information barriers govern credit availability, Mishkin's taxonomy provides a crucial diagnostic tool for financial crises. It explains that, when bank balance sheets suffer capital losses or when asset price collapses destroy borrower net worth, standard price-based monetary policy breaks down, requiring direct credit easing, collateral backstops and institutional recapitalization to restore the credit flow.

Demand-side credit collapses: Balance sheet recessions

While Bernanke and Mishkin emphasize supply-side bank impairments and information costs, Richard Koo (2003, 2011) introduced a fundamental demand-side critique through his Balance Sheet Recession (BSR) theory. Analysing post-1989 Japan and post-2008 Western economies, Koo demonstrated that, when a severe asset bubble bursts and causes asset prices to collapse while nominal liabilities remain fixed, solvent private-sector entities shift their primary financial objective from profit maximization to debt minimization, redirecting cash flows toward debt paydown rather than new capital investment. This widespread deleveraging creates a reinvestment void where the private sector actively refuses to borrow even at zero or negative interest rates, leaving central bank liquidity trapped in interbank reserves and rendering monetary policy completely impotent ("pushing on a string"). Consequently, Koo posits a fiscal imperative: when private credit demand vanishes, the central government must step in as the borrower of last resort to absorb excess private savings and sustain aggregate demand, preventing a catastrophic deflationary spiral.

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