

GROWTH WITHOUT PROFITS: HOW WILL 'INVOLUTION' IN CHINA END?

ALICIA GARCÍA-HERRERO AND JIANWEI XU

This paper analyses China's economic 'involution', a phenomenon characterised by intense competition in overcrowded markets such as electric vehicles (EVs), price wars, declining profit margins and ongoing resource misallocation via 'zombie firms'. Using data from Chinese listed companies, we decompose firm profits and find that, while firm-level total factor productivity (TFP) has risen since 2020, markups are falling. More granularly, firms across the productivity spectrum are compressing their profit margins to compete for market share. The fact that even companies without productivity gains are lowering prices has contributed to a growing share of loss-making zombie firms, which survive on the back of bank support or government subsidies, hindering consolidation. China's policy efforts emphasise anti-involution measures including regulation of predatory pricing and promotion of orderly exits, but they have not yet solved the fundamental problem, as unproductive firms continue to operate.

For Europe, this has heightened the concern that China's involution-driven growth model is fuelling export expansion through persistent low-price competition, increasing the likelihood that the EU will strengthen its trade-defence measures, alongside efforts to raise its own productivity.

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1 Introduction

To survive as their profit margins contract, Chinese companies are leveraging extreme cost control and price advantages in order to compete abroad, even as their profit margins shrink and loss-making Chinese companies proliferate – a process dubbed ‘involution’. The impact on global markets is already tangible: Europe witnessed a surge of more than 40 percent in imports from China between 2019 and 2025. Europe is not alone. China’s rising export capacity places unprecedented pressure on other economies as well, particularly those with higher production costs, triggering new trade frictions. This is clearly the case for the United States, which only escalated its tariffs on China in 2025. The European Union has followed a similar, though more targeted path through tariffs on Chinese electric vehicles¹. Understanding the nature of China’s involution is crucial not only for China, but for the world.

This paper first examines China’s corporate economic data to define and trace this phenomenon of ‘involution’ and its consequences, including how strong economic data masks the persistent spiral of contracting corporate profits. We then investigate the evolution of corporate markups to measure the pricing power and profitability of firms. By tracking the dynamics of markup rates, we quantify the intensity of price competition and distinguish – to the extent possible – how much the reduction in profitability is driven by supply versus demand, touching on the complications of the current geopolitical environment. We then investigate the relationship between markup and firm-level productivity to disentangle whether declining markups are a symptom of healthy efficiency gains or a destructive race to the bottom. Finally, we look at China’s policy responses.

2 Tracing the evolution of involution in China

‘Involution’ (*neijuan*) is a term originally coined to describe the intensification of agrarian effort without commensurate gains (Geertz, 1963) and now used in China as shorthand for economically destructive, zero-sum competition. In this framing, firms respond to weak demand and crowded markets not by exiting the market, but by expanding capacity and cutting prices in a race to the bottom. In China’s overcrowded electric vehicle market, for example, hundreds of firms have engaged in cutthroat price wars, selling cars at or below production costs to retain their market share.

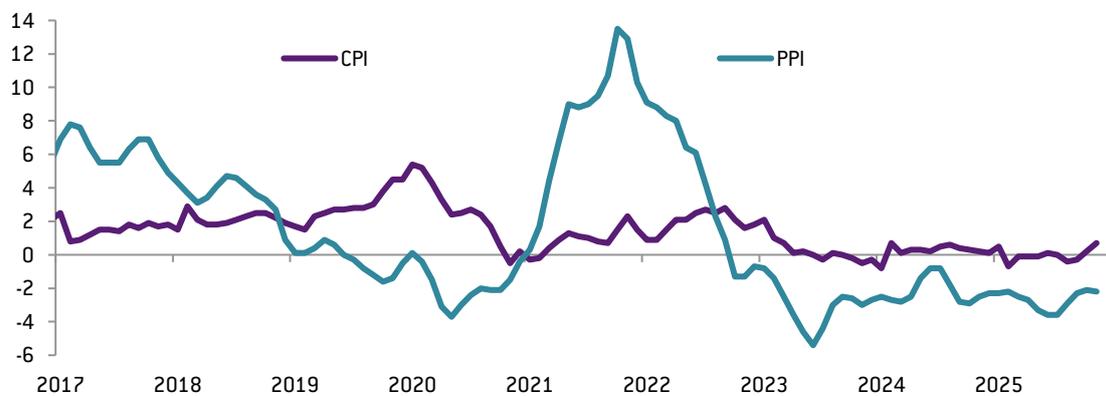
In a classical economic setting, this would lead to mass bankruptcies and the phenomenon would be short-lived. However, the situation instead persists in China, thanks to financial support from local governments and state or local-government owned banks. The result is systemic resource misallocation, with capital remaining trapped in low-productivity activities rather than flowing to more efficient uses (Hsieh and Klenow, 2009; Brandt *et al*, 2013). Consequently, aggregate output may appear resilient even as producer prices and profits deteriorate. This dynamic is often exacerbated by

¹ Ignacio García Bercero, ‘EU duties on Chinese electric cars are a rule-respecting response to subsidies’, *First Glance*, 10 October 2024, Bruegel, <https://www.bruegel.org/first-glance/eu-duties-chinese-electric-cars-are-rule-respecting-response-subsidies>.

high exit barriers and the persistence of so-called ‘zombie firms’, which sustain production levels despite financial losses, thereby intensifying market congestion (Tan *et al*, 2016).

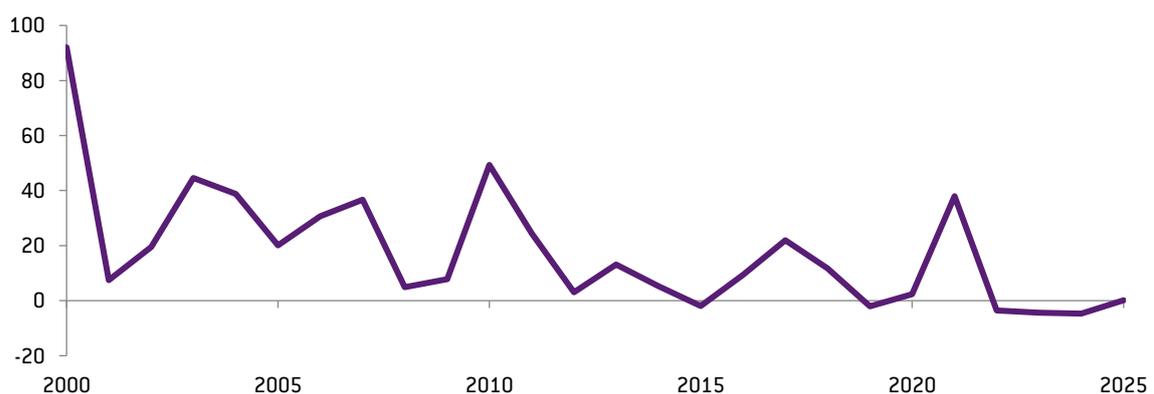
Recent observations of Chinese manufacturing reinforce this pattern of ‘involution-style competition’. For example, macro data shows persistent deflation, especially when it comes to producer prices (Figure 1) and repressed corporate profits (Figure 2). As a result, corporate profit margins have been continuously narrowing. The persistent decline in profitability within the industrial sector indicates that a growing number of firms are facing a profit crisis, even if the economy’s real GDP grows. This is possible partly because of local government support through subsidised credit, which prioritises maintaining of employment levels over immediate corporate profitability.

Figure 1: Chinese consumer and producer price indices (year-over-year, percent)



Source: Bruegel based on Natixis, China National Bureau of Statistics, CEIC. Note: data as of November 2025.

Figure 2: Chinese industrial enterprise profit YTD November (year-over-year, percent)

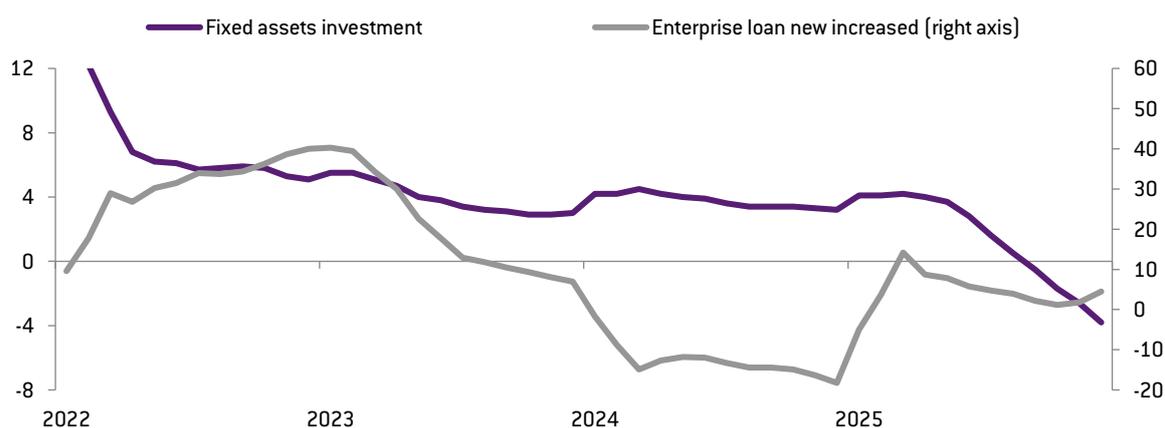


Source: Bruegel based on Natixis, China National Bureau of Statistics, CEIC. Note: data as of November 2025.

Domestically, the sustained contraction of profit margins is eroding the investment capacity of companies, evidenced by weakening fixed-asset investment (FAI), sluggish demand for bank loans and corporate balance sheets showing increasing signs of contraction (Figure 3). Even if revenues continue to grow, contracting profits are directly suppressing the appetite for expansion and financing.

While China's overall economic growth for the full year of 2025 remained near the target of five percent, industrial profits barely managed a 0.1 percent increase (up to November 2025). This failure to restore profitability creates the dynamic of 'profitless growth' (Figure 2). This suggests that growth is largely coming from debt-fuelled investment in infrastructure and manufacturing capacity, a good part of which is channelled overseas through massive exports. While GDP growth is supported, the drag on future growth momentum is real as waning profits push down wages and disposable income and therefore domestic demand.

Figure 3: Chinese fixed assets investments and enterprise loans (year-over-year, percent)



Source: Bruegel based on Natixis, CEIC. Note: data as of November 2025.

3 The trend of declining corporate markup power in China

We estimate cost markup rates using data from publicly listed companies in China. A limitation of this approach is that our sample is skewed towards larger firms. However, given that these corporations account for a substantial share of China's economic output² and often set industry-wide trends, their pricing behaviour serves as a strong proxy for the overall competitive environment. Specifically, we separate our calculation into two components: cost sensitivity (θ_{it}), where i and t represent company and year, respectively; and the marginal contribution of inputs to output, measured by the cost share (α_{it}): the ratio of operating costs to revenue. The formula is as follows:

$$\text{Markup}_{it} = \frac{\theta_{it}}{\alpha_{it}}$$

This formula shows that a company's pricing power is squeezed when its cost share rises or its input-output efficiency declines. The method follows the methodology of De Loecker and Warzynski (2012).

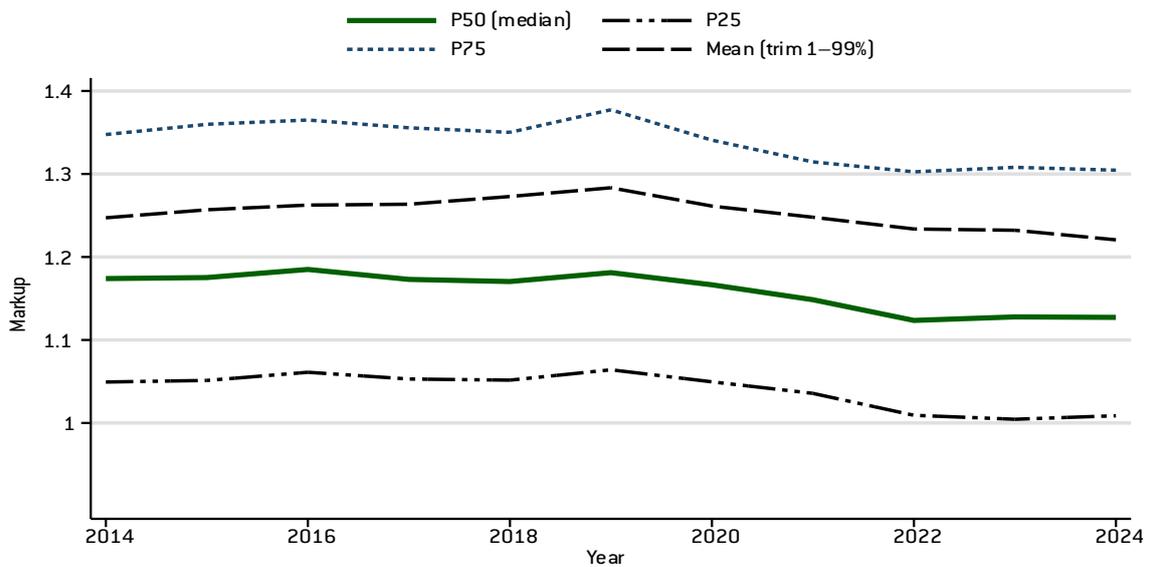
As shown in Figure 4, the markup rate for Chinese companies has undergone a shift from stability to decline since 2019. From 2014 to 2018, the median and mean markup rates remained stable, hovering between 1.17 and 1.19 – in other words, firms on average added a margin of around 17-19 percent above their costs, with this level of profitability remaining stable across those years. Beyond the overall averages, we also found notable differences between firms at different points in the distribution. The firms in the top 25 percent of markup rates had been largely stable with only slight rise in 2019, showing that some leading companies still had a strong ability to charge above cost.

However, this trend reversed in 2019-2020. A brief and moderate spike driven by the pandemic and policy stimulus quickly faded and the decline accelerated sharply from 2021 to 2022, then remained flat. Most concerning for firms in the bottom 25 percent was the situation in 2022-2024. Their markup rate fell close to 1.0, meaning that their selling prices were barely above their costs. In practice, this implies that about a quarter of all companies were operating with almost no profit margin, with their ability to generate profits reduced to nearly zero.

Two reasons explain the persistence of these struggling firms. First, these firms cling to the market in the hope of outlasting the leading competitors. The second, and probably more critical reason, is that their survival is enabled by implicit and distortive subsidies, particularly from local governments that prioritise short-term economic and employment stability. This support allows the least competitive firms to continue operating instead of being forced into bankruptcy by market pressures.

² The total operating revenue of all Chinese listed companies as a proportion of China's GDP exceeds 50 percent, making it a representative sample for us to gauge the Chinese economy.

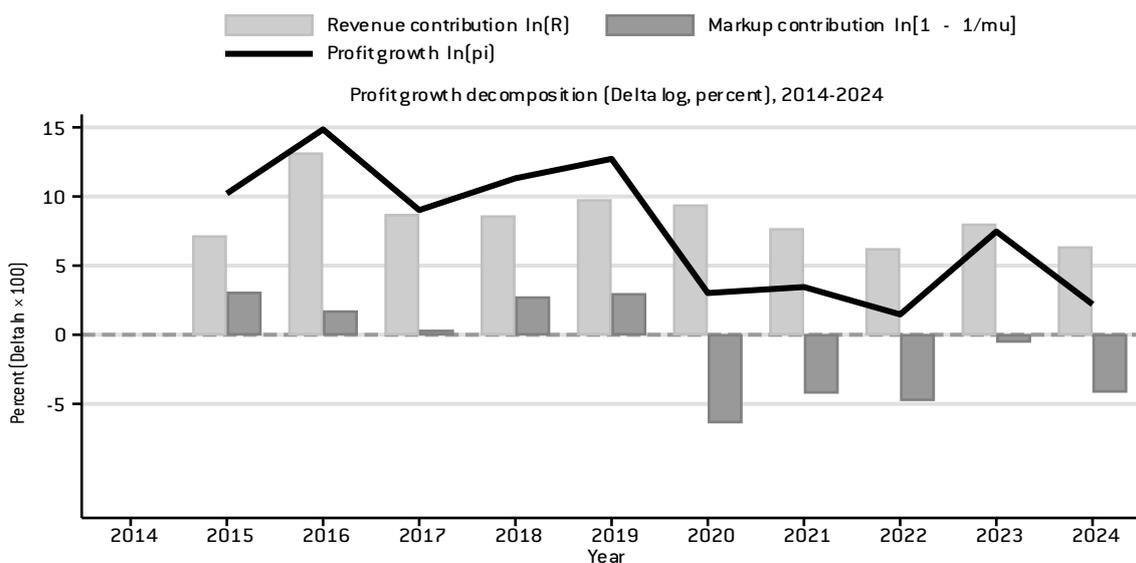
Figure 4: Cost markup rates for Chinese firms (year-over-year, markup rate)



Source: Natixis, WIND.

A statistical decomposition of Chinese corporates' profit growth in revenue and markup contribution (Figure 5), further reveals that over the past decade, the real drag on profits has been the negative contribution of declining markup rates, a factor that became particularly prominent after the 2020 pandemic shock and throughout the 2022-2025 period. On the other hand, the demand factor (measured by corporate revenue) remained relatively stable, declining only slightly compared to the pre-2021 period. That said, this decomposition of profits needs to be treated with caution due to endogeneity issues: demand could have remained stable thanks to the lower prices.

Figure 5: Decomposition of profit growth

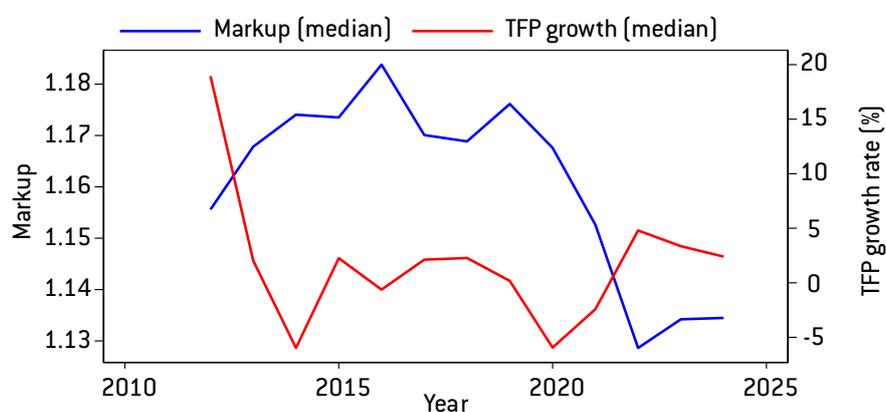


Source: Natixis, Wind.

4 Company productivity and markups

It is also necessary to understand whether the heightened competition between companies could be justified, as it might reflect increases in firm-level productivity. To determine this, we estimate firm-level total factor productivity (TFP) based on the same sample of listed companies, using an approach based on De Loecker and Warzynski (2012) and Akerberg *et al* (2015)³. The results are plotted in Figure 6. Overall, they show a divergence between company-level pricing power (ie their mark-up) and company productivity dynamics, as both indicators tend to move in opposite directions for much of the examined time period. Following the short-lived boom after China's four-trillion-yuan stimulus plan in 2008, firms' TFP growth declined sharply and remained low between 2014 and 2017. Yet, during this period, companies managed to sustain relatively high markups, suggesting that pricing power persisted even as productivity gains weakened.

Figure 6: Chinese companies' growth in total factor productivity (TFP) and changes to their markups



Source: Bruegel based on Natixis, Wind.

The COVID-19 pandemic in 2020 marked a clear turning point: both markup and TFP growth dropped sharply, reflecting a simultaneous erosion of efficiency and market power. TFP growth gradually recovered, indicating a partial rebound in production efficiency, but markups remained depressed.

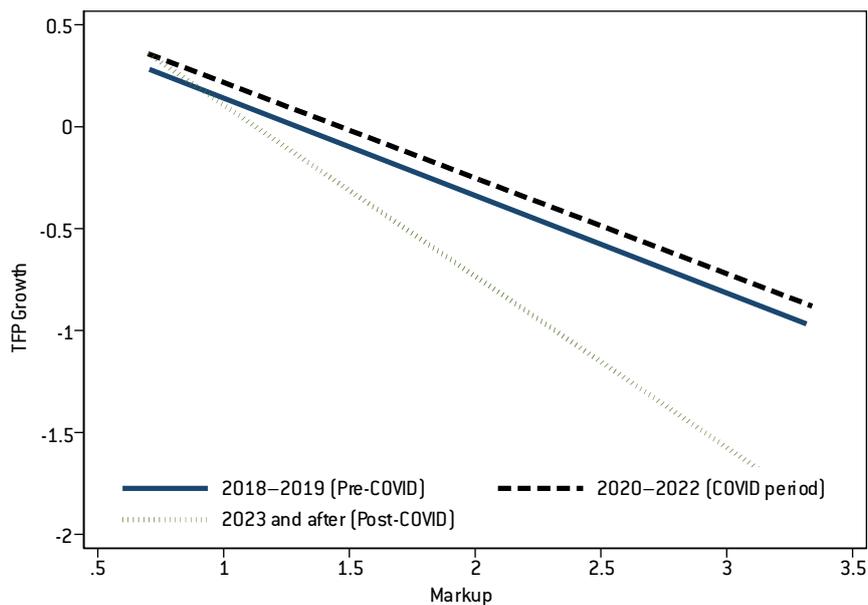
While this pattern aligns with China's deflationary environment, reflected in lower firm markups, it also reveals a reality that contrasts with the conventional view linking weak pricing power to low productivity. Chinese firms have experienced notable TFP growth in recent years, while their markups have remained subdued. Therefore, Chinese corporates may have entered a new era of 'growth without profit'.

³ Within each industry-year window, we obtain the production elasticities of labour, capital and intermediate inputs while controlling for unobserved productivity shocks that evolve over time. The firm-level TFP is computed as the unexplained component of output and its growth rate is derived from year-to-year changes. We also adopt rolling industry-year estimations to allow for consistent comparison of market power and productivity dynamics across sectors and periods. Next, we calculate the average level to examine TFP growth rates over time, then use regression analysis to gauge the correlation between markup and TFP growth rates.

Figure 7 shows a clear negative relationship between firms' markups and their productivity growth. Firms with higher markups tend to experience lower TFP growth, while those with weaker pricing power often display faster productivity improvements. Notably, this negative slope has become much steeper since the COVID-19 pandemic, suggesting that the intensified competition and lower markups observed in recent years have been driven mainly by highly productive firms. This is shaping the post-pandemic pattern of strong productivity recovery but subdued pricing power.

The COVID-19 lockdowns played a key role in accelerating China's involution. First, the pandemic fundamentally changed people's habits. Forced to stay home, the population rapidly adopted remote work and grew comfortable with digital tools, effectively tearing down the physical barriers that once limited competition. As a result, consumer choice expanded from local to nationwide. Also, with lower online entry barriers, a flood of new businesses emerged, often with similar products and services. Concurrently, China used this period to rapidly build out its digital infrastructure. Companies were able to leverage these new tools, which were further supercharged by the AI revolution, to slash costs and track efficiency with ruthless precision. Together, these factors pushed China's involution to new highs.

Figure 7: Relationship between firm markup and productivity growth



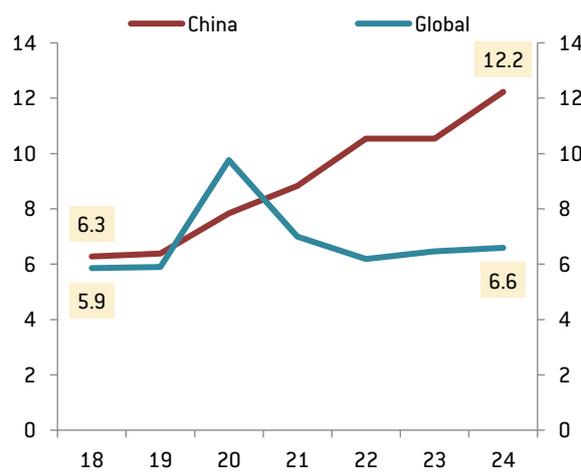
Source: Natixis, Wind.

The coexistence of high productivity growth and low markups points to a transitional stage in China's industrial evolution in which highly productive firms strategically sacrifice short-term profits to secure or expand market share. In doing so, they aim to outlast weaker competitors and position themselves for dominance once market consolidation occurs. The question is whether these more productive firms will eventually dominate and expel the less productive ones. There are two possible scenarios. The optimistic, more typical scenario we call 'Darwinian victory': the most productive players survive and

gain more market share while the less productive disappear. The market then settles into a new equilibrium characterised by fewer firms with higher productivity and restored pricing power, where efficiency and profitability reinforce each other. The pessimistic scenario is that of ‘resource exhaustion’: weaker firms stay alive via subsidies from their local governments or other means. In this scenario, the entire industry is locked into a ‘low profit’ state, draining cash flows and crushing incentives for innovation.

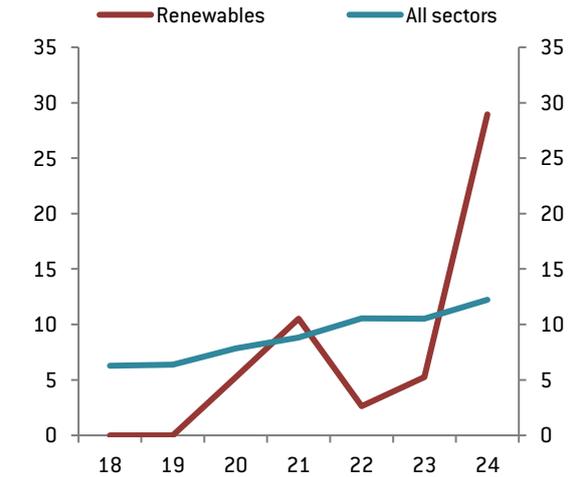
As of now, a scenario of resource exhaustion seems to be playing out, given the fast accumulation of zombie firms in China during the past few years. In fact, the average share of China’s zombie firms (defined as those whose revenue cannot cover interest payments) is more than double the global average for listed companies (Figure 8). The share of zombie firms is even higher in new sectors such as green tech (Figure 9) where nearly a third of the Chinese companies are zombies – a major indication of involution. For China to start moving toward Darwinian victory, a large number of companies would need to be allowed to fail and disappear.

Figure 8: Share of zombie firms (percent)



Source: Bruegel based on Natixis, Financial Statements, LSEG Refinitiv, WIND. Note: ‘zombie firms’ defined as firms with EBITDA-to-interest expense lower than one.

Figure 9: Chinese zombie firms (percent)



Source: Bruegel based on Natixis, Financial Statements, LSEG. Note: ‘zombie firms’ defined as firms with EBITDA-to-interest expense lower than one.

5 How is the Chinese government handling the involution problem?

The policy responses to tackle the two potential sources of involution vary, from focusing on domestic stimulus or seeking new export markets, to conducting follow-up analysis into whether the heightened supply is market-driven or a result of government distortion. Our analysis of China's involution problem leads to two conclusions. First, diminishing profit margins are driven more by the structural issue of heightened competition than by the cyclical problem of weak demand, so structural reform is necessary. Second, a sustainable solution requires unproductive firms to be allowed to exit the market, thereby allowing stronger competitors to grow, raise prices and increase profitability.

The Chinese government seems to be taking the first approach. Stimulus measures have been modest, particularly on the monetary front, suggesting that bolstering demand is not a primary objective. Official communication from the People's Bank of China (PBoC) throughout 2025 consistently avoided signalling a large-scale, unconditional stimulus. While the overall monetary stance has been relaxed, the language used in PBoC policy reports has been notably cautious, repeatedly emphasising a framework that is "*flexible, moderate, precise, and effective*"⁴. Perhaps more revealing is the re-emergence in 2025 of the phrase "*strengthening cross-cyclical adjustments*" in these reports. This wording points to a deliberate effort to look beyond near-term cyclical weakness and to avoid policy actions driven solely by current deflationary pressures. The resulting calibration has kept real interest rates broadly stable over the past few years.

'Anti-involution' measures aimed at curbing irrational competition have also proliferated. The most explicit and authoritative articulation of this came on 1 July 2025, at the sixth meeting of the Central Financial and Economic Affairs Commission (中央财经委员会)⁵. The meeting explicitly emphasised the need to "*govern enterprise low-price disorderly competition*" (治理企业低价无序竞争) and to "*promote the orderly exit of outdated capacity*" (推动落后产能有序退出). These themes were not new. The Central Economic Work Conference (中央经济工作会议) in December 2024 had already laid important policy groundwork by stressing the coordination between development and security and the prevention and resolution of risks in key areas, with insufficient demand identified as a central concern⁶. The Government Work Report (政府工作报告), delivered in March 2025, further clarified that the anti-involution agenda was not a temporary campaign, but a core element of China's medium-term economic strategy⁷.

⁴ Wang Shiyu, 'PBOC Vows to Optimize Policy Timing While Keeping Loose Stance', *Caixin Global*, 25 December 2025, <https://www.caixinglobal.com/2025-12-25/pboc-vows-to-optimize-policy-timing-while-keeping-loose-stance-102396910.html>.

⁵ Luna Sun, 'China's Xi Jinping puts domestic market at forefront in high-profile meeting', *SCMP*, 1 July 2025, <https://www.scmp.com/economy/china-economy/article/3316535/chinas-xi-jinping-puts-domestic-market-forefront-high-profile-meeting>.

⁶ *Xinhua*, 'China holds Central Economic Work Conference to make plans for 2025', 12 December 2024, https://english.www.gov.cn/news/202412/12/content_WS675ae633c6d0868f4e8ede69.html.

⁷ *Xinhua*, 'Full text: Report on the Work of the Government', 12 March 2025, https://english.www.gov.cn/news/202503/12/content_WS67d17f64c6d0868f4e8f0c10.html.

The regulatory framework has been tightened to address price-based competition more directly. On 24 July 2025, the National Development and Reform Commission and the State Administration for Market Regulation jointly released the Draft Amendment to the Price Law of China (for Public Comments) [《中华人民共和国价格法（修正草案）》]⁸. Alongside the proposed amendment, regulators have also made more assertive use of the existing Anti-Unfair Competition Law [《反不正当竞争法》], which already contains provisions targeting predatory pricing and other forms of disruptive competition⁹.

However, measures are still insufficient to achieve the crucial second step: letting market selection run its course. While China has begun to unwind specific subsidies for industries like electric vehicles, these measures are industry-specific, falling short of what is needed for the general economy. Without positive market restructuring, capital and talent will remain locked up in zombie firms, undermining long-term sustainable growth. The real question for 2026, then, is whether Chinese policymakers will finally accept the painful but necessary process of letting weak firms fail.

6 Conclusions and policy implications

The concept of involution, often used to describe increasingly fierce competition among firms, has become central to the discussion of China's economy. We confirm that companies' markups have been decreasing over time; not an inherently negative signal, if driven by innovation and productivity growth. However, it would be much more negative if firms struggle merely to survive, eroding profitability and discouraging long-term investment. The conclusion from our analysis is that, even if China's economic authorities introduce demand-driven policies, they might not be enough to address the involution problem. Additional measures to discourage heightened competition will be needed.

Our joint estimation of markups and firm-level productivity offers some respite, as productivity is increasing while markups fall. Yet this is true only on average; many companies are still reducing prices and seeing their markups and productivity fall simultaneously. The question is whether, after this transitional phase, competition is allowed to run its natural course for market forces to eliminate weaker firms (those cutting prices without being backed by productivity gains). This would allow the most productive players to consolidate market share, restore pricing power. This 'Darwinian victory', however, is yet to be seen as the number of zombie firms in China continues to grow.

China's policy response so far (the so-called anti-involution campaign) focuses on fostering a better competition environment by pushing the consolidation of companies, but it falls short of letting companies fail if they are loss-making, let alone fostering consumption structurally. Our analysis

⁸ Reuters, 'China releases draft law amendment to help curb price wars', 24 July 2025, <https://www.reuters.com/sustainability/boards-policy-regulation/china-releases-draft-law-amendment-help-curb-price-wars-2025-07-24/>.

⁹ Arendse Huld, 'Examining Enforcement of China's Anti-Unfair Competition Law – Insights from Typical Court Cases', *China Briefing*, 14 October 2025, <https://www.china-briefing.com/news/anti-unfair-competition-in-china-typical-cases/>.

points to the need to reverse China's involution problem through market forces, letting zombie firms exit the market so that productive companies can consolidate market share and return to profitability.

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