

Fidelity White Paper

September 2019



Defaults in China: No pain, no gain

- Chinese corporate bond defaults are on the increase, but they still represent a fraction of the total onshore market. In allowing them, the government is demonstrating its intent to move towards a more market-oriented system that should benefit investors and the Chinese economy over the long term.
- There are, however, three obstacles to realising those benefits: undeveloped bankruptcy law, falling risk sentiment and the high concentration of onshore credit ratings.
- Our proprietary research into recovery rates of bonds in default shows that recovery rates have fallen from 40 per cent in 2015 to just 0.5 per cent in 2018, so it's crucial for analysts to scrutinize company financials to mitigate the chances of holding bonds that go into default.
- China's corporate bond market is maturing rapidly but will always be unique, requiring investors to approach it differently. The high value authorities place on social harmony means that companies with high strategic or social worth have a lower chance of being left to default.

Contents

Executive summary	3
A unique bond market	4
The causes of onshore defaults: A slowing economy and tightening financial conditions	7
Defaults should benefit the wider economy	9
Obstacles: Slow bankruptcies, risk aversion and similar ratings	10
How bond ratings operate in China	12
Regulators are mindful of financial and social risks	14
Defaults case studies	15
Conclusion: The future of defaults	16

Executive summary

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China's domestic bond market, now the second largest in the world, is transforming as quickly as it is growing. One of the most significant developments has been the government giving tacit consent for companies to default on their debt payments. The first corporate bond default came in 2014, caused by slower growth and tighter liquidity conditions throughout the economy. Earnings and cashflows shrank just as financing became harder to come by. Since then the steady trickle of corporate defaults has grown.

In this paper we examine the rising number of defaults, look at where they are occurring and present our proprietary research into the recovery rates for bonds in default. We then examine the causes of defaults, their theoretical benefits to the broader economy and the obstacles preventing these benefits from being fully realised. Lastly, we consider the future of China's bond market and what this means for investors.

We believe that a manageable, proportionate level of defaults is wholly positive for the Chinese economy. Defaults help reduce moral hazard by introducing consequences for overly aggressive risk taking at companies and banks. This encourages credit to be priced more accurately, a critical requirement for capital to be allocated in the most efficient way. Simply put, poorly managed businesses should not be able to borrow at the same rate as well-managed competitors. Differentiated credit spreads also encourage investment by fairly compensating those who bear more risk.

Our research into recovery rates shows that bondholders should expect to receive very little after a default occurs. But the risks can be mitigated by examining each potential portfolio company in detail - financial performance often paints a compelling picture well before a default is announced.

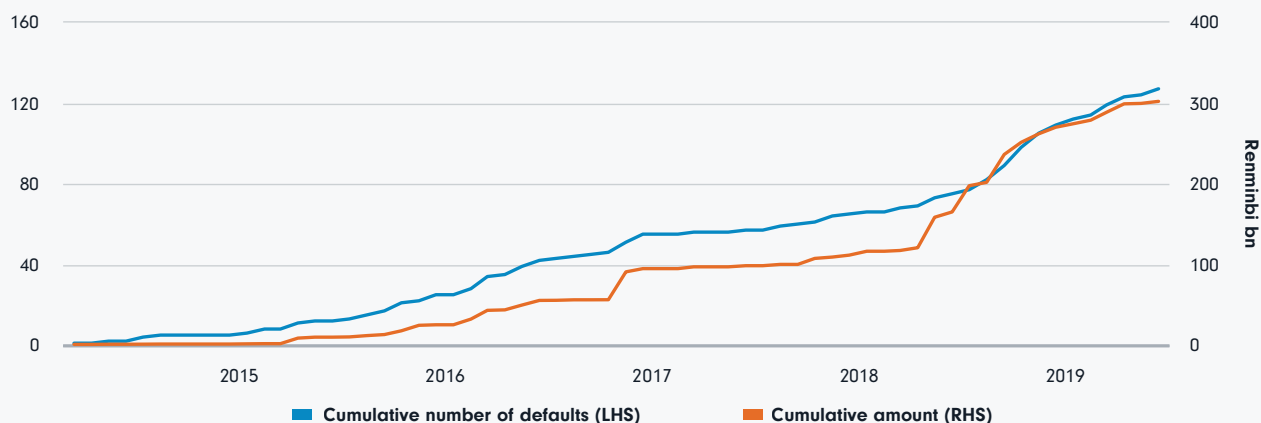
Data shows that China's bond market has indeed started to price credit more accurately since the first defaults were allowed. But the market has a long way to go. The positive theory of defaults has to contend with messy reality. We have identified three obstacles that are hampering market efficiencies as defaults increase: undeveloped bankruptcy law, falling risk sentiment and the lack of differentiation in credit ratings for onshore bonds.

However, the number of companies involved and the value of bonds in default is still relatively small. China's corporate bond default rate was 1.7 per cent in 2018, compared to a total global rate of 1 per cent and a global speculative rate of 2.1 per cent.¹ While the risks to bondholders rise in step with the default rate, it is starting from a very low base and will continue to be closely supervised by the authorities.

While China's bond market is maturing, it will always have unique elements that investors will have to contend with in the medium term. Some of these will make investors' lives more difficult but taking advantage of inefficiencies and incomplete information is how good fund managers earn their keep. And if China can embrace the idea of 'no pain, no gain' when it comes to defaults, then the subsequent improvements in risk pricing should help expand the opportunities available to investors, especially as the onshore bond market becomes ever more accessible.

¹China - Fidelity International calculation. Global - S&P Global.

Chart 1: Defaults are rising but the current numbers and value are still small



First time issuer defaults in mainland China. Source: WIND, Fidelity International, August 2019.

A unique bond market

It was not the first time that Shanghai Chaori Solar Energy Science & Technology Co. had found itself in financial trouble. Dogged by overcapacity in the solar industry due to cheap financing and enthusiastic government support for renewable energy, the Shanghai-based equipment supplier was forced to ask for local government help in 2013 to persuade creditors to defer claims on overdue loans. But the help proved too little too late. The stock market filing submitted by the company on 4 May 2014 citing “various uncontrollable factors” proved to be a watershed moment for China’s onshore bond market.

Chaori announced it was only able to muster 4 million of a 90 million renminbi (US \$14.6 million) interest payment due on its Chaori 11 Bond.² Government officials had decided not to intervene. The amount of money involved might have been small, but the event marked the first time a company in mainland China had defaulted on its bonds since corporate bonds were first introduced in 1983.

Analysts at Bank of America Merrill Lynch wondered if this might be China’s “Bear Sterns moment” that would trigger a chain reaction of further defaults. In the event, there was little alarm. The price of credit defaults swaps on Chinese government debt actually fell a few

basis points that day. But the Rubicon had been crossed. The days of implicit government guarantees for all firms were over.

Defaults rise as China’s bond market balloons

The growth of China’s bond market has been remarkable, from 20 trillion renminbi in 2010 to 90 trillion in 2019.³ The number of unique issuers coming to market each year has also risen sharply from 68 per year in 2007 to a peak of 1451 in 2016, before falling back to around 1000 in 2017 and 2018.⁴ And the inclusion of onshore bonds in global indices, such as the influential Bloomberg Barclays Global Aggregate in April 2019, marked another milestone in the market’s rapid development.

But as the bond market has grown, so too has the number of defaults. As of August 2019, 126 more issuers have defaulted for the first time since Chaori in 2014. Most - 84 per cent - are privately-owned enterprises (POEs).⁵ Initially, defaults arose mainly in ‘old economy’ sectors such as steel and coal that were suffering from chronic over supply. But since 2018, the proportion of ‘new economy’ firms unable to repay their debts has grown.

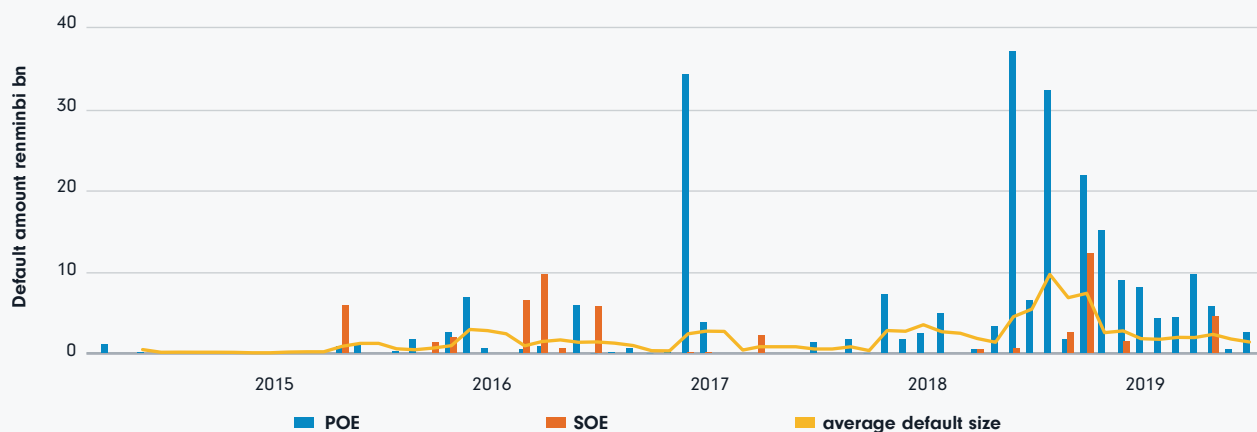
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²Based on historical exchange rates.

³WIND.

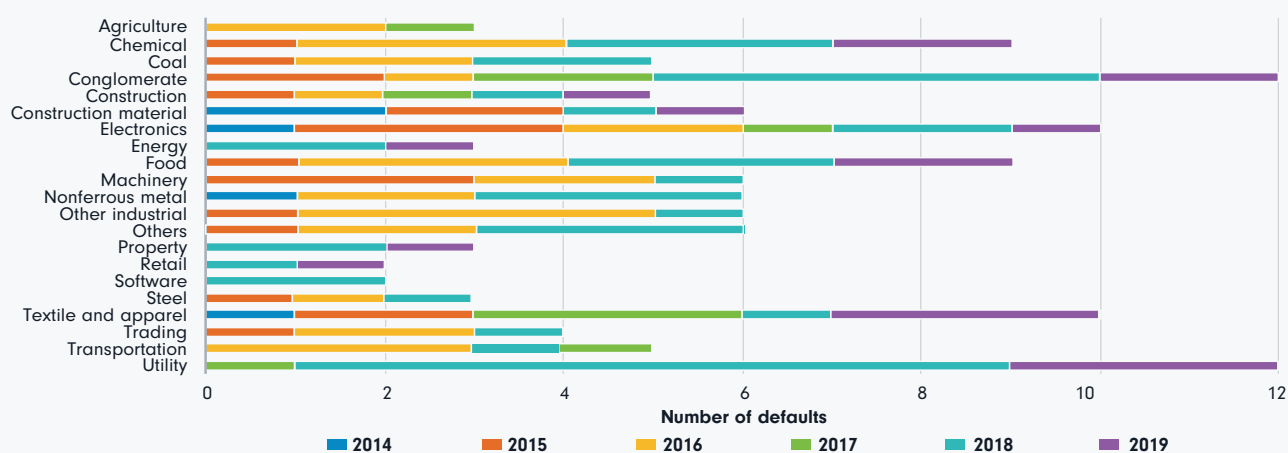
⁴Çelik, S., G. Demirtaş and M. Isaksson (2019), “Corporate Bond Markets in a Time of Unconventional Monetary Policy”, OECD Capital Market Series, Paris. www.oecd.org/corporate/Corporate-Bond-Markets-in-a-Time-of-Unconventional-Monetary-Policy.htm.

Chart 2: The value of defaults surged in 2018 due to falling risk sentiment and tighter financial conditions



First time issuer defaults in mainland China by ownership (POE - privately owned enterprise, SOE - state-owned enterprise). Source: WIND, Fidelity International, August 2019.

Chart 3: The proportion of defaults in 'new economy' sectors has risen



Source: WIND, Fidelity International, August 2019.

Despite the rise, the proportion of bonds in default is comparable to other markets. The current rate of defaults is manageable and in keeping with a broader transition towards a more mature debt market, which we view as a positive over the long term. Nevertheless, rising defaults even from a low base present an extra risk to bondholders and should be factored in by global investors looking to China's increasingly accessible bond markets to meet their income goals.

What our research into recovery rates shows

China's bond market is still in its infancy as far as defaults go. But our analysis of the default cases up to June 2019 reveals several themes for bondholders.

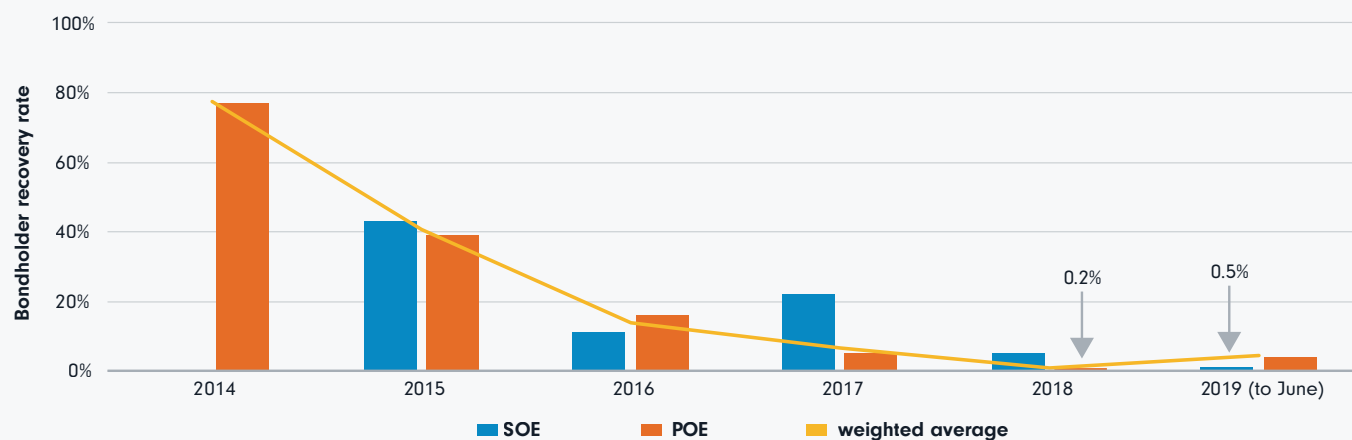
First, as chart 4 clearly shows, recovery rates are trending downwards. In 2015, the weighted average recovery rate bondholders could expect was 40 per cent. In 2018 that figure fell to just 1 per cent and so far this year it is little better. While some of the most recent defaults may yet see bondholders recompensed to some degree, our analysis shows that 80 per cent of defaults have been resolved in under six months, meaning that the majority of cases currently unresolved will conclude with bondholders receiving nothing.

China defaults map (March 2014 - June 2019)



Sector		
Agriculture	<div><div></div><div></div><div></div></div>	Electronics <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
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Construction material	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Construction <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Chemical	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Trading <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
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Others	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	Software <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Energy	<div><div></div><div></div><div></div><div></div><div></div></div>	Retail <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Property	<div><div></div><div></div><div></div></div>	

Chart 4: Recovery rates have dropped as authorities have become less concerned with market panics



Source: Fidelity International, August 2019.

A new pattern in Chinese bond markets is beginning to emerge as investors and authorities adjust to this new paradigm. Initially, the resolution of defaults was treated as a priority by local governments worried about public perception. Recovery rates were high as officials sought to keep investors calm and limit any market jitters. State-owned banks were often last in line behind retail investors and bondholders despite the seniority of the debt they might hold. However, now that defaults are more common, authorities treat them with less urgency. Retail investors are still generally repaid first, but institutional bondholders are finding a positive resolution more difficult. Officials have judged the market has become more accepting of defaults and that more sophisticated investors can handle taking a hit without precipitating social unrest.

Second, while the average default rate over the entire period is 8 per cent, the distribution is largely binary - of the 124 issuers we analysed, bondholders received nothing in 75 per cent of cases and were fully reimbursed in 15 per cent.

Third, the weighted average recovery rate for SOE bonds in default is 16 per cent, but only 6 per cent for POE bonds. This is mainly due to a dramatic weakening in collection rates since 2018. In contrast, there was no difference between the recovery rates of the two ownership types before 2018.

Lastly, there is now little difference between the recovery rates of listed and unlisted companies. Before 2018, bondholders of listed companies enjoyed higher recovery rates. This difference has now disappeared as more listed companies have fallen into default - among listed companies in default since the beginning of 2018, only one issuer has fully repaid bondholders, another has made some progress while the remaining 21 are still unresolved, leaving bondholders with nothing.

The falling recovery rates that our research reveals suggests that investors should be even more cautious of buying distressed bonds and be fully prepared to receive nothing in the event of a default. Thorough company analysis is paramount because the majority of defaults are preceded by deteriorating financial performance, which can be identified in advance.

Investors should be equally wary of buying distressed bonds issued by private or state-owned companies. While the recovery rates for SOE bonds are higher than that of POE bonds, the figure is still low. In addition, the price of bonds issued by POEs usually falls in advance of a default announcement, but the same is not true of SOE bonds in many cases despite worsening financials, due to market expectations of state support. So in the relatively rare event that an SOEs does default, bonds prices can fall dramatically.

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The causes of onshore defaults: A slowing economy and tightening financial conditions

The increase in the number of defaults since 2014 has two main drivers: China's slowing economy and the government's drive to reduce leverage. Both have restricted the ability of companies to secure financing and honour existing debts.

Macro slowdown hits 'paybackability'

China's GDP growth rate has been in steady decline for the past five years as the country transitions from a manufacturing to a consumer-led economy and the government manages the economic adjustment to more sustainable growth levels. Other measures of economic activity such as investment, industrial production and employment also indicate a softer climate for business.

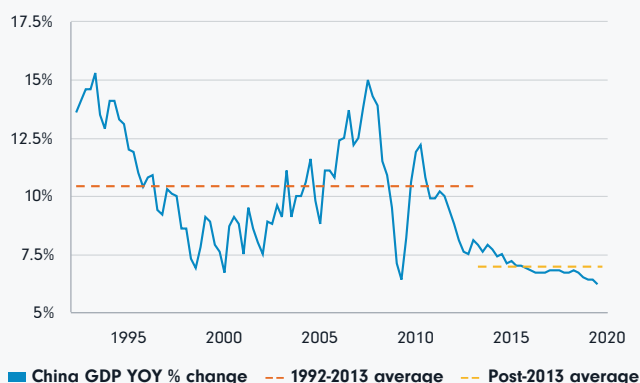
Profits and cashflows that had been supported by vigorous economic growth for years have declined in tandem and continue to deteriorate. In an environment where yearly growth of over

10 per cent was the norm for over 30 years, the slowdown caught some businesses unawares and caused the weaker ones to struggle to meet their debt obligations. Others faced simultaneous issues of chronic oversupply in their industries. 'Paybackability' dropped and defaults rose as a result.

This is illustrated by Chart 6, which provides a summary of the health of the 1,000 largest Chinese non-financial companies that reported net debt and EBITDA (earnings before interest, tax, depreciation and amortisation) figures in 2008 and 2018. As earnings have slowed and borrowing has increased since 2008, a greater proportion of those firms are now either reporting negative earnings or have net debt greater than five times their earnings.

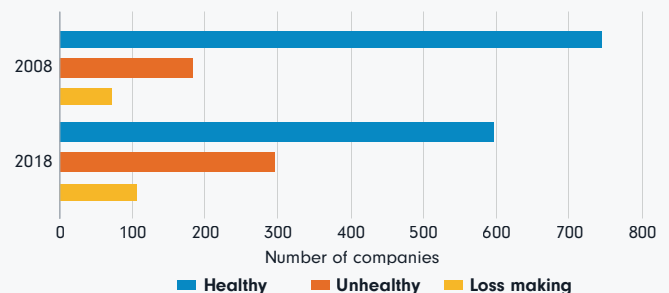
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Chart 5: Lower GDP growth has made it harder for struggling companies to repay their debts



Source: Refinitiv, August 2019.

Chart 6: The macro slowdown has pushed more Chinese companies to unhealthy levels of debt



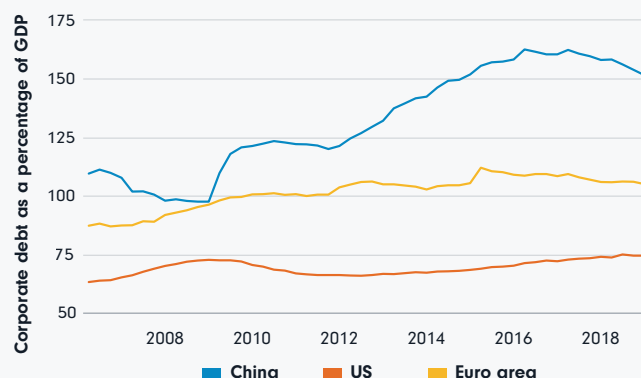
Universe represents the largest non-financial companies listed at headquartered in mainland China that reported EBITDA and net-debt in 2008 and 2018. Chart shows the 1000 largest companies that reported non-negative net debt in both 2008 and 2018. Loss making is an EBITDA less than zero, healthy is a net debt to EBITDA ratio of 1-5 and unhealthy is a net debt to EBITDA ratio of over 5. Source: Refinitiv, Fidelity International, August 2019.

Chart 7: The government has successfully reduced leverage since 2016



Source: Refinitiv, August 2019.

Chart 8: Tighter liquidity since 2016 has contributed to the rising number of defaults



Credit to non-financial corporations from all sectors at market value. Source: BIS, Fidelity International,

Deleveraging reduces liquidity

The second trigger for the increase in defaults was the government campaign to reduce risk in the economy from 2016 onwards. Macro leverage had ballooned in China following the stimulus introduced in the wake of the financial crisis. And deregulation in the previous two years had emboldened small financial institutions to grow their balance sheets aggressively. Worried about the potential for systemic crises, the government cracked down on shadow financing, tightened loan classifications and enhanced market discipline for financial institutions. The deleveraging campaign is widely regarded as effective, as shown by the significant fall in money supply growth between 2016 and 2018 shown in Chart 6.

The deleveraging campaign started to pinch in 2017. Liquidity tightened, making it more difficult for firms to secure funding and causing some of those with the worst finances to default. The situation was exacerbated by new rules

preventing wealth management products (WMPs) and asset managers from holding lower rated bonds, further drying up funding for certain firms.

An irony here is that state-owned enterprises (SOEs) and property developers typically have the highest leverage. Yet these firms are considered safer than privately-owned enterprises and typically have higher credit ratings and better access to funding.⁶ So while the deleveraging campaign has been successful, it has had the adverse effect of hurting those companies with the least leverage to start with. We explore the topic in greater detail later in this report.

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⁶SOEs are seen as safer issuers because of their implicit state backing, and property developers because they have a high proportion of real assets.

Defaults should benefit the wider economy

The downsides of defaults are clear: capital gets tied up in inefficient businesses waiting for restructuring or bankruptcy resolution, workers are laid off, supply chains are disrupted and creditors lose their money. However, in the long run, the potential benefits of allowing a manageable number of defaults to occur far outweigh the downsides.

Moral hazard is reduced

First, the possibility of bankruptcy reduces moral hazard throughout the financial system. Company managers who previously assumed there would be a helping hand in times of difficulty now have greater incentive to invest prudently in longer-term projects or risk ruin. Banks too have a greater obligation to lend carefully and put more work into assessing the risk of potential debtors. Investors become more discerning about the bonds they buy. Without defaults, companies, banks and investors can become complacent, even reckless. A lack of consequence invites indiscipline.

Risk is priced more accurately

Second, the accurate pricing of credit risk is an integral part of an efficient capital market. Allowing defaults encourages credit risk to be priced more efficiently. Companies that are poorly run should not be able to borrow money at the same rate as those that are managed prudently. Variability in financing costs improves the allocation of capital, gives investors fair reward for the risks they take and ultimately improves efficiency in the entire economy. This mechanism is interrupted when there is no differentiation in the price of risk.

The emergence of a default cycle will also help to improve investors' analysis of risk pricing. Without numerous precedents of defaults, it is much harder for investors and lenders to estimate what they can expect to get back through bankruptcy proceedings.

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Obstacles: Slow bankruptcies, risk aversion and similar ratings

That is the theory at least: a controlled increase in the default rate as part of a wider deleveraging exercise will prevent a larger, systemic crisis in the future. Of course, the reality is always messier. Investors and markets have reacted swiftly to the rising number of onshore defaults. Lower-rated bond yields have spiked and long-dated credit spreads have widened. There is evidence that bond prices are starting to reflect risks more accurately. But three obstacles are preventing the longer-term benefits of defaults from being realised.

Bankruptcy proceedings are too slow and opaque

The first is bankruptcy law. As you might expect in a country where the first modern default was only in 2014, the legal framework for corporate insolvency in China is underdeveloped and relatively untested. Debtors and creditors are often unsure what to expect, proceedings can be opaque, and cases can drag on for years without resolution. The government's primary concern is social stability, meaning individual investors often get paid first in the event of a default, then bondholders and lastly banks, even though banks often hold the highest seniority credit.

In the onshore credit market, around 70 per cent of funding comes from banks with the other 30 per cent financed through bonds. But around 70 per cent of those bonds are owned by banks, so the majority of credit is owned by banks and most banks are state-owned. During the recovery process, therefore, creditor banks are

less likely to push for liquidation, even when it is the optimal outcome from a bondholders' perspective. Rather they will yield to the power of central and local government, who have an incentive to keep strategically and socially important companies going. Direct write-offs of bank loans are still taboo, but debt-to-equity swaps are common, and in practice function in a similar way.

While there is a high-level policy to reduce funding to these 'zombie companies', it is proving difficult to implement due to the competing interests at stake. Furthermore, there are no signs yet that the Chinese government is working to streamline bankruptcy proceedings, something that would further improve the benefits of defaults.

Risk aversion disproportionately hurts smaller banks and private firms

The second, potentially more serious, obstacle is the decline in risk sentiment. The rise in defaults, alongside slower economic growth and tighter financial conditions, has caused investors and lenders to become more risk averse. The fall in confidence has hit small banks and lower-rated firms especially hard.

Thanks to previously loose regulations, financial institutions grew their balance sheets rapidly, buying assets over the globe. China Minsheng Investment Group was one such company. Between its inception in 2014 and 2018, the firm bought around US\$50 billion worth of assets

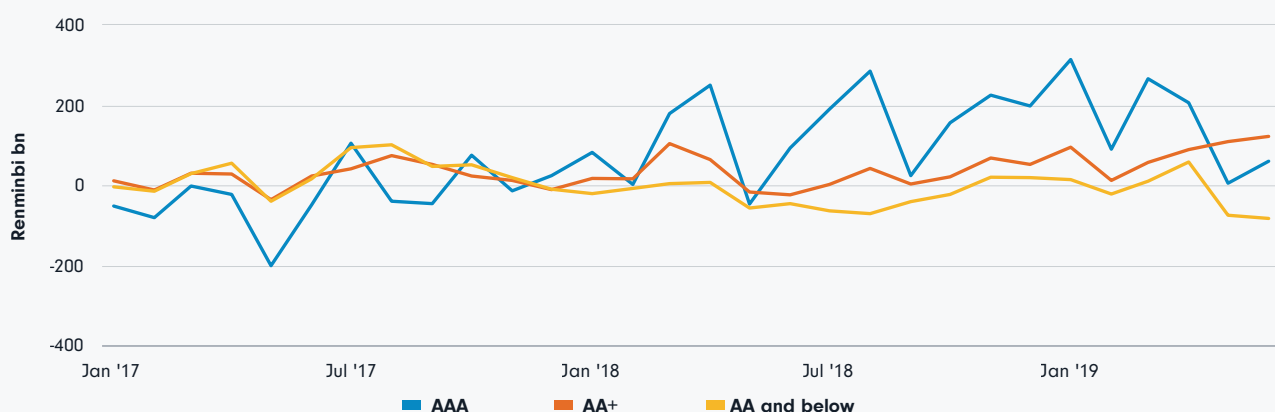
including an insurance company in Bermuda, 60 per cent of a property developer listed in Hong Kong, and the London headquarters of the French investment bank Société Générale.

But while the financial sector might have taken more time to react to the climate of deleveraging, but the reality of tighter financial regulations is now starting to bite. China Minsheng defaulted on one of its bonds early in 2019 and now our financial analysts are the ones flagging defaults today, while last year it was analysts covering other sectors who noted the majority.

Lower-rated bond yields have spiked and long-dated credit spreads have widened. There is evidence that bond prices are starting to reflect risks more accurately.

When a non-financial firm defaults, assets and debts can be spread to other companies relatively easily without much fuss. But due to their systemic nature, when a bank defaults market participants become much more nervous.

Chart 9: Investors shy away from lower rated firms as risk sentiment falls



Corporate bond onshore net financing. Source: WIND, Fidelity International, August 2019.

The cost of borrowing rises for smaller banks

Regional banks receive most of their funding from larger banks via the wholesale market as well as individual savers. Both parties are understandably more alert to whom they lend money in the wake of defaults in the financial sector. This has raised the cost of borrowing for small banks. Before Baoshang Bank ran into difficulty in May 2019, the cost of funding at weaker banks was only 20 basis points higher than that at well-capitalised banks. By July the spread had climbed to around 100 basis points. Considering the net interest spread for Chinese banks is around 200 basis points, this represents a significant increase in costs. We expect to see more financial institutions struggling in the short term as a result.

the closest links to government, allowing them better access to cheaper funding based on the presumption of an implicit state guarantee, but they also benefit from the risk aversion that prompts a flight to perceived quality.

In allowing some defaults, the government has reduced the expectation of support for companies, but primarily private ones.

Onshore bond ratings lack differentiation

The third real-world impediment to realising the advantages of defaults is the lack of differentiation in mainland credit ratings. For regulators to achieve their goals of closer alignment of the onshore bond market with international norms and more efficient capital allocation, some evolution of domestic ratings agencies will be necessary. To be useful to investors, ratings should reflect the default probability of the bond in question. As the onshore corporate credit market has continued to grow and defaults to rise, investors now urgently require ratings that more accurately represent the risks of ownership.

The bifurcating fortunes of POEs and SOEs

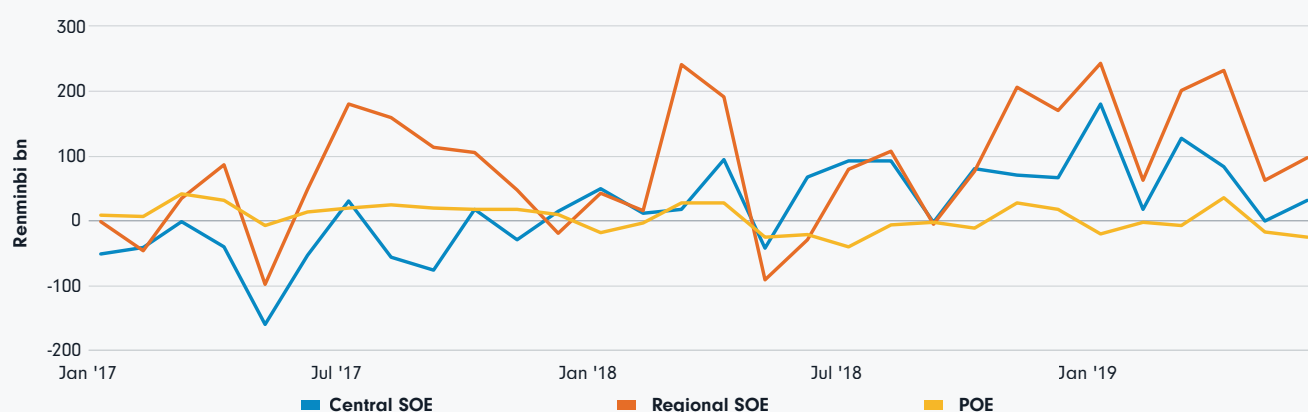
When local banks struggle to borrow they lend less to private companies - for whom they are the main source of financing. As defaults rise, risk sentiment continues to fall, drying up funding for the lowest-rated companies most in danger of default and thus perpetuating the negative loop. This vicious circle is responsible for the jump in defaults seen in 2018 and 2019.

Investors have reacted by moving down the risk spectrum, preferring the bonds of higher quality issuers. Thus an unintended consequence of allowing defaults to occur has been to hurt POEs and benefit SOEs. SOEs not only have

In allowing some defaults, the government has reduced the expectation of support for companies, but primarily private ones. Market participants evidently still believe that SOEs enjoy significant protection.

It is not yet clear how much further risk sentiment will fall and the government has taken steps to support financing to POEs. Last year authorities ordered banks sharply to increase funding to POEs and reintroduced credit risk mitigation warrants, which offer bond investors default insurance similar to credit default swaps. But these measures have yet to prove decisive in improving risk sentiment and we expect to see further POE defaults in the months to come.

Chart 10: Private firms are now struggling to find financing compared to SOEs



Corporate bond onshore net financing. Source: WIND, Fidelity International, August 2019.

How bond ratings operate in China

There are nine major ratings agencies in China; eight operate under an issuer-pays model and the remaining under an investor-pays model. However, the unreliability of the ratings provided by the domestic agencies is widely acknowledged by market participants. The problem has several causes.

Domestic ratings are highly concentrated

First, domestic ratings are too concentrated. International agencies have around 26 distinct rating categories while Chinese firms effectively use just three: AAA, AA+ and AA. For example, of the largest seven onshore corporate issuers covered by S&P, three are rated A+, two are rated A- and the remaining two are rated BBB+ and BB respectively. Despite this variation amongst them from an international agency all have a rating of AAA from a domestic agency.⁶

As we have shown, defaults are a recent phenomenon on the mainland and pre-2014 there was little need for a broader rating scale. However, the old market conventions have persisted and domestic agencies have reacted too slowly in reforming the system since 2014. And despite the default rate steadily climbing between 2014 and 2018, upgrades have outnumbered downgrades by a factor of 10.⁷

Domestic agencies also use very similar methodologies which adds to the ratings concentration, leaving investors with insufficient information about the risks of each bond.

Issuers may engage in 'rating shopping'

Second, the market dynamics of bond ratings are unhelpful. Regulators require bonds to be rated by only one agency, which combined with the issuer-pays model and limited differentiation between agencies, gives agencies a significant incentive to bestow a higher rating than an objective view might warrant so as to win business. This has allowed issuers to engage in 'rating shopping' to achieve the rating they prefer.

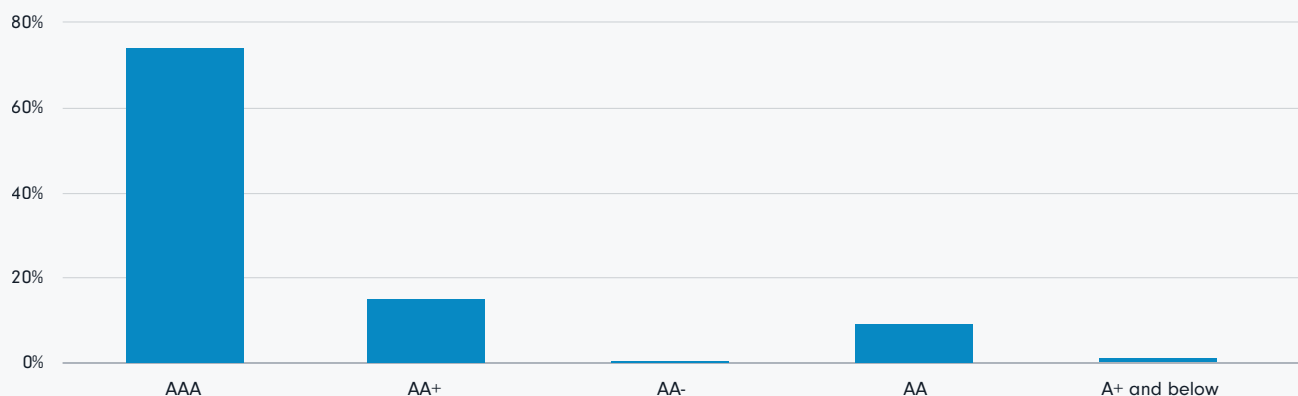
The situation is further distorted by restrictions prohibiting certain investment vehicles from purchasing bonds below a AAA rating. Firms considering issuing bonds may conclude it is not worth their while to get rated at all unless they secure the top rating, adding to the concentration at the higher end of the scale.

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⁶Amstad and He; Chinese Bond Market and Interbank Market, NBER Working Paper Series, February 2019.

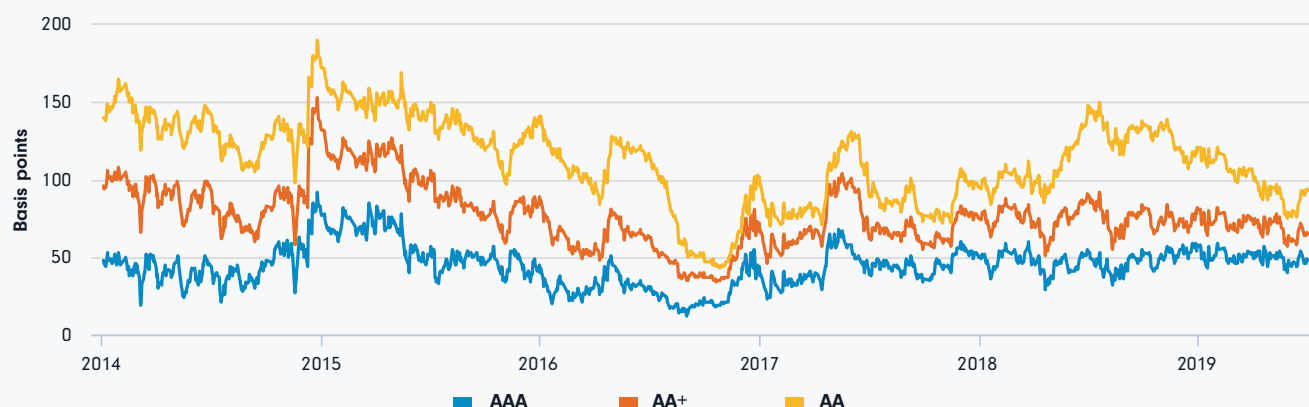
⁷Ibid.

Chart 11: Ratings concentration gives investors too little information in the new age of defaults



Corporate bonds outstanding by bond rating, not including unrated bonds. Unrated bonds (including directional insurance, quasi-sovereigns, international insurance bonds, ABS, convertible bonds and exchangeable bonds) make up 41 per cent of corporate issuance. Source: Wind, Fidelity International, August 2019.

Chart 12: Spreads do not accurately reflect the risks involved



Spreads for 3-year Chinese onshore bonds. Source: WIND, Fidelity International, August 2019.

Regulators are taking a keener interest in how defaults can occur even at companies with the highest credit ratings. We expect this attention and the competition from foreign agencies to prompt domestic providers to improve their ratings.

International influence should improve quality, but the change will be gradual

Until recently, international ratings agencies were only allowed to be minority shareholders in mainland subsidiaries and to give ratings to offshore but not onshore bonds. Despite this the 'big three' international agencies have had a presence in mainland China for some time. Moody's and Chengxin formed a joint venture in 2006 that is 49 per cent owned by the American partner. Lianhe Rating, established in 2007, is 49 per cent owned by Fitch. Standard and Poor's (now S&P Global) formed a technical partnership with Shanghai Brilliance in 2008.

But the rating methodologies used by international agencies are not yet deeply embedded in their mainland businesses and there is little difference between the ratings of the foreign partnership agencies and the domestically-owned agencies. Most market participants regard the international agencies' entry into the market primarily as a financial investment and they tend not to enjoy a reputational advantage over the domestic agencies.

However, in July 2017, the People's Bank of China announced it would allow foreign credit rating agencies to provide rating services in China's interbank bond market. And in 2019,

S&P Global became the first foreign agency to rate onshore issuers and bonds. Many foreign asset managers only invest in bonds rated by international agencies and the arrival of foreign agencies in China's onshore ratings market will help attract capital from overseas.

The move should also be a catalyst for positive change at domestic agencies. Regulators are taking a keener interest in how defaults can occur even at companies with the highest credit ratings. We expect this attention and the competition from foreign agencies to prompt domestic providers to improve their ratings.

Nonetheless it may remain hard to assess the credit risk of Chinese firms accurately. The unique financial system in China and the dominant role of the state mean that the standard models used by international agencies will be inadequate. Which companies are saved and which are left to fail is often a matter of politics rather than economics. And the lack of an historical default cycle in China means investors and ratings agencies have no precedent they can use to calibrate risks and limited evidence on expected recovery rates.

While we expect domestic ratings will eventually align more closely with their international counterparts, the process will be gradual and the two might operate in tandem for some time.

Regulators are mindful of financial and social risks

How the market develops will depend on the actions that regulators take, both in relation to ratings and in managing the level of defaults. That no defaults occurred before 2014 was due to state intervention rather than the absence of companies in financial difficulty. Since then the stance of authorities has shifted to remove the implicit guarantee. The aim of this is to improve the allocation of capital and encourage appropriate risk taking. Regulators have also sought to address the moral hazard at banks, encouraging them to lend more responsibly.

Allowing defaults is a step along the road towards a more mature market and closer alignment with international norms. But it marks a significant change in the perception of risk for onshore investors. Regulators are especially mindful of the potential dangers involved in this fundamental transition of belief frameworks, as highlighted by comments made by Yi Gang, Governor of the People's Bank of China, in a speech in December 2018 in which he spoke of "market panics resulting from corporate defaults" as a major risk that needed to be guarded against.

Defaults also increase the tension between local and central government. Local governments have more to lose when companies run aground because they are closer to the reputational damage and business strength is one of the performance metrics by which local officials are judged. As central government has increasingly declined to assist in potential default cases, so local governments have been forced into

difficult decisions about which companies to try and keep afloat.

Moreover, allowing companies to fail presents a complex political challenge both for local governments and Beijing. Workers have rarely had to deal with job losses through insolvency, as under China's old command economy SOEs were expected to provide life-long employment, retirement pensions, healthcare and other social welfare benefits for workers. Those days are gone, but widespread job losses still have the potential to precipitate social instability.

Concerns about civil instability are also behind robust protections for China's retail investors in the event of defaults. Individuals tend to walk away with full recovery and China has introduced a deposit insurance scheme covering up to 500,000 renminbi (US\$ 70,000). However, overall protection offered to investors is still relatively weak. Bondholder committees, trustee systems and cross-default protection are poorly defined and enforced, especially in the case of substantial defaults.

Defaults at their present level are unlikely to threaten social stability. But regulators have a fine line to walk. They need to control the pace of leverage in the economy, which has made them cautious of redeploying the broad stimulus measures seen after the global financial crisis and again in 2016. Instead, the government has opted for more targeted easing measures this year, although it is not yet clear how effective these will prove to be.

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Defaults in practice

Chaori Solar

Chaori Solar, a solar cell and battery maker, announced it would be unable to meet interest payments on a bond in March 2014. Following Chaori's default, a restructuring plan was announced and approved by creditors in October that year. Under the plan, preferential creditors, including government debts and employee claims received full compensation. Bondholders were fully recompensed, while bank average recovery rates were reported to be around 20 per cent, despite bank loans carrying a higher seniority rating.

The Chaori case was unique not only because it was the first onshore company to default but also because it is one of the few occasions that resulted in an ownership change. In later incidents of default, it has become much less common to have such a clean change during restructuring, with incumbent owners staying in place throughout the bankruptcy process.

Chaori was eventually taken over by GCL System Integration Technology as part of the restructuring. The company has performed well since 2014, growing revenues from 2.7 billion renminbi that year to 11.1 billion in 2018. However, an interesting side note is that one of GCL's subsidiaries recently had liquidity issues of its own and is being assisted by the state-owned Huaneng Power.

Bohai Steel

Bohai steel, based in Tianjin in northeast China, announced it was going bankrupt in April 2016. Hampered by overexpansion and following a central government order to cut production by 70 per cent, the company was sinking under the weight of interest-bearing debt of over 200 billion renminbi. At the time Bohai, which is wholly owned by the Tianjin local government, was the fifth largest steel mill in China and had featured on the Fortune Global 500 list the previous year. The event marked one of the largest corporate defaults so far seen in mainland China and involved 105 creditors including commercial banks and trust companies.

Attempting to strike a balance between moral hazard on one hand and reputational and systemic risk on the other, local authorities helped Bohai service the coupons and redeem its offshore public bonds in 2017; but the company continued to restructure its onshore debt and entered into bankruptcy proceedings in August 2018.

In early 2019, three years after being set up by the Tianjin government, a creditors' committee finally agreed to a restructuring deal that set out plans for Bohai to sell some of its core assets to a private steel maker and sell non-core assets to China Cinda AMC, one of China's 'big four' asset management companies.

From the information that is currently available, offshore bondholders have been fully repaid, while domestic banks are still awaiting resolution.

Conclusion: The future of defaults

Defaults are still a very new phenomenon in China, so determining their impact on the economy and future trends is hard. The data is incipient and the market is still adapting to the new reality, but certain themes are emerging.

A manageable level of defaults is positive in the long run

First, we firmly believe that a manageable level of corporate defaults is a positive development for China's bond market in the long run; a natural step for a maturing market. Allowing defaults should encourage capital to flow towards better run companies, improving efficiency and raising output throughout the economy. Spreads with higher differentiation are good for active investors too - if everything is priced the same because there are no defaults then nothing is cheap.

Obstacles remain but regulators are likely to act

But ushering one element of an economy towards international market norms does not mean other, connected parts will keep up. Prevailing customs and systems take time to adapt. We have outlined three obstacles to realising the full benefits of defaults: bankruptcy law, the recent risk-off sentiment that has disproportionately punished POEs, and the domestic ratings system. We expect the rise in defaults will nudge regulators to improve bond ratings and bankruptcy laws in the future, another positive step for market infrastructure. There may be some short-term pain but the long-term benefits will be worth it.

The largest and most problematic obstacle for the near future is the decline in risk sentiment. The damage this has inadvertently caused POEs is a worry. A healthy economy needs innovative, riskier firms operating at the fringes to raise productivity and spur competition. Correcting this is a difficult task for regulators; they are attempting to tackle the problem, but they are struggling to persuade financial institutions to lend to POEs. Part of the problem is that most banks are state owned, meaning profits go to the government whereas the reputational risk of bad loans lies firmly on the bank managers. Playing it safe is often the sensible choice.

The default rate may rise further

In the meantime, defaults will probably continue to rise in the short term as the government and the economy grapple with this issue. The stigma around defaults has decreased and companies and local governments are fighting less hard to avoid them. Privately-owned companies in the industrial sector, where liquidity is poorest, and local government financing vehicles in underdeveloped regions look particularly vulnerable.

We also expect to see a greater divide in China in terms of risk appetites, property prices, credit allocation, fiscal capacity of local governments, and between SOEs and POEs. The mixed signals from the Chinese authorities are likely to continue, with some companies allowed to fail while others will be restructured through debt-for-equity swaps or given bailouts, as the scope of companies allowed to default gradually broadens. However, removing the implicit guarantee without causing some form of wider confidence crisis will be a difficult task and may require an incremental trial and error approach from the authorities. There is evidence of this in the fact that Baoshang Bank was allowed to default in May 2019, causing funding rates for smaller banks to jump, while three months later Bank of Jinzhou was bailed out.

Investors will have to think slightly differently

So far, international investors do not seem put off - and rightly so. The rising number of defaults might grab headlines but the issue is relatively contained and still small by international standards. While it is true that the perception of increased risk for bondholders as defaults rise may disrupt China's corporate bond market in the short term, deterring some foreign investors and increasing risk premiums, we doubt defaults will rise enough to make this a significant factor.

There are several ways in which China could evolve its onshore bond market from here. In bond markets like the US and UK, which occupy the more extreme end of shareholder capitalism, investors can predict with a high degree of certainty their expected recovery

rates in the event of bankruptcy and price bonds accordingly. This makes them relatively liquid and typically a core part of investor portfolios.

However, we would expect China to move closer to a model such as that seen in France. There the interests of a broader number of stakeholders are considered when working out who gets what after a default. This system will always be slightly less efficient because it is harder to ascribe value to different parts of the capital structure due to the added bureaucracy. But the system is less ruthless and can be beneficial to social harmony.

Nonetheless, China's corporate bond market will continue to operate with its own idiosyncrasies even as it matures, including which firms are allowed to default, which investors get recompensed and how debt is restructured. As social harmony is an important consideration for the government, company analysis will need to include more than just financial ratios. Debt seniority will not always be observed in resolution. Analysts must assume that firms making a significant contribution to local employment or occupying a strategically important spot in a supply chain are more likely to receive government support.

The uneven application of rules will make it harder to navigate the market with certainty and investors may have to build a higher discount rate into their models. The rewards are there for those with the ability to find them.

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