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Corporate Credit in China: Beyond Domestic Ratings

The market for Chinese corporate bonds is huge, and its profile makes it potentially very attractive for international investors. Nonetheless, it remains largely unknown as many still have limited awareness of the true characteristics and fundamental creditworthiness of China's corporate bond issuers, and they are also unfamiliar with the domestic credit rating agencies. Analysis by external parties indicates that the market prices China's corporate bonds as being less creditworthy than their ratings imply.

Using our proprietary creditworthiness model, we present our own ratings of the China onshore credit universe in accordance with international credit-rating norms, giving an overview of the credit quality of the China corporate bond universe that we believe is therefore comparable with other credit markets worldwide.

Executive Summary

- The China onshore credit market is worth more than $6 trillion and has a favorable risk profile relative to other risk assets, but it remains under-utilized by international investors due to difficulty of access and the challenges posed by domestic credit ratings.
- We apply our proprietary creditworthiness model to assess a universe of more than 2,000 Chinese corporate bonds that report their financial results and are not Local Government Financing Vehicles (LGFVs).
- We use the model results to categorize each of the bonds in accordance with international credit-rating norms.
- The results look quite different from what is implied by domestic ratings, which not only casts doubt on the validity of using those ratings exclusively, but also gives an overview of the credit quality of the China corporate bond universe that we believe is comparable with other credit markets worldwide.
- Over time, we believe that regulatory reform will improve capital allocation efficiency and increase the default risk in the China onshore credit market, while more involvement by international credit rating agencies will improve transparency and build trust among international investors.
- While our analysis suggests that the market pricing is more discerning than the domestic rating agencies' assessments, credit selection drawing upon independent research still has meaningful scope to add value.

China is becoming more and more interesting for international investors. Previously, China caught attention mainly due to its contribution to global economic growth, but now the size and growth of its local capital markets is becoming better known, and improved accessibility means that international participation is becoming mainstream. This is clear from the representation of Chinese equities and bonds in widely used benchmarks for institutional investors. The MSCI Emerging Markets Index already contains 33% exposure to China equities, and the representative Bloomberg Barclays benchmark for global bonds now contains 6% exposure to China.

The opening up of local markets for international investors is a direct consequence of the reform program pursued in China over several years, through which policymakers aim to achieve more market-based differentiation between credits and more efficient capital allocation in the economy. Among other things, this reform program allows for foreign ownership of banks, insurance companies, asset managers and credit rating agencies, and for direct participation in Chinese domestic equities and bonds. This process is now accelerating.

In fixed income, international investors have primarily held bonds issued by the Central Government and the three so-called Policy Banks (China Development Bank, Agricultural Bank of China and China Export-Import Bank). These are wholly government-owned entities, and the bonds are very liquid and don't have any meaningful credit risk. In addition, however, there is a huge and varied market in local currency corporate credit bonds, worth more than $6 trillion, that has hitherto been largely ignored outside China.

A Large—But Largely Undiscovered—Bond Market

Given this is such a huge market—for comparison, the Bloomberg Barclays U.S. Corporates Investment Grade Index represents $6.4 trillion of issuance and the U.S. High Yield Index $1.4 trillion—why has it flown under the radar of most investors?

One reason is the difficulty of accessing this market in the past. The broad opening up is a fairly recent phenomenon—and even after the notable launch of the Hong Kong Bond Connect channel, it remains operationally challenging to gain access. That means knowledge is still limited. The influence of the government on business and in markets is difficult to gauge and that may still put off some investors. Local credit rating agencies have a poor reputation and track record, and international institutional investors have been looking critically at the generally high leverage in corporate China. There are many reasons for skepticism, and for taking a very close look at how to judge corporates on their financial results and ability to repay debt.

At the same time, evidence points to China onshore corporate bonds being a very attractive investment category. Their return to risk ratio has been impressive, historically, as shown in figure 1. Volatility has been notably lower than the 4 – 5% exhibited by typical U.S. and European investment grade corporate bond indices over the same period. Correlation with most other risk assets has been close to zero.

This profile has been sustained even during the recent turbulence in the first quarter of 2020, when Chinese corporate bonds, as measured by the ChinaBond Credit Index in local currency, generated positive returns—in contrast to most international credit markets. Investors may choose to keep the local-currency risk open, given its relatively low volatility, but hedging it is also a viable option as the costs are modest relative to hedging other emerging markets currencies.

FIGURE 1. CHINA ONSHORE CREDIT HAS BEEN A LOW-VOLATILITY ASSET CLASS

ChinaBond New Composite Index & sector sub-indices, return and volatility (CNY)

Period Jan 2011 – May 2020	Annualized Return	Annualized Volatility	Risk-Return Ratio
New Composite Index	4.72%	2.18%	2.16
Government	4.49%	2.87%	1.56
Policy Banks	4.53%	2.74%	1.65
Credit (incl corp, CD/CP, MTN)	5.37%	2.12%	2.54
Corp AAA	5.41%	2.87%	1.89
Corp AA+	6.05%	2.52%	2.40
Corp AA	6.79%	2.74%	2.48
Corp AA-	7.23%	2.79%	2.59

Historic correlation with other asset classes (local currencies, unhedged)

Period Jan 2011 – May 2020	U.S. Agg.	Euro Agg.	U.S. HY	EMBI GD	S&P 500	China Credit
BB U.S. Agg. Corporate Index	1.00					
BB Euro Agg. Corporate Index	0.80	1.00				
BB U.S. High Yield Index	0.65	0.74	1.00			
JPM EMBI Global Diversified Index	0.75	0.71	0.80	1.00		
S&P 500 Index	0.35	0.53	0.78	0.55	1.00	
ChinaBond Credit Index	0.14	0.13	0.11	0.13	0.08	1.00

Source: China Central Depositary & Clearing Co (CCDC), Bloomberg, JPMorgan, Standard & Poor's.

Against this background of impressive historical performance combined with caution from investors, there is potentially much to be gained from a comprehensive analysis into the "real" credit quality of Chinese companies, with the depth and scale to enable international comparisons.

In this paper, we first discuss the quality of credit ratings assigned by domestic rating agencies before presenting the results of our own analyses, which we believe lay out the true vulnerabilities and strengths of corporate bond issuers in different sectors. Finally, we discuss the issues of liquidity, government ownership and sponsorship, and the market's default profile. Together, we think these insights can help investors make a better judgment on the risk and return opportunities in onshore China corporate credit.

How Informative Are Domestic Credit Ratings?

Although regulators are likely to move to registration and reporting-only requirements in the future, today a credit rating of at least AA- is needed to qualify for issuing bonds in the Chinese market. On the domestic scale, the Central Government is equivalent to AAA. But how informative are these credit ratings really?

While lower credit ratings indeed correlate with higher yields, suggesting broad consistency, the limited ratings scale allows for large differences of creditworthiness within and among rating categories, certainly in comparison to the more graduated international scale. Studies such as Livingston, Poon and Zhou, "Are Chinese Credit Ratings Relevant?" *Journal of Banking and Finance* (February 2018), suggest that one notch on the local scale is equivalent to about three notches on the international scale.

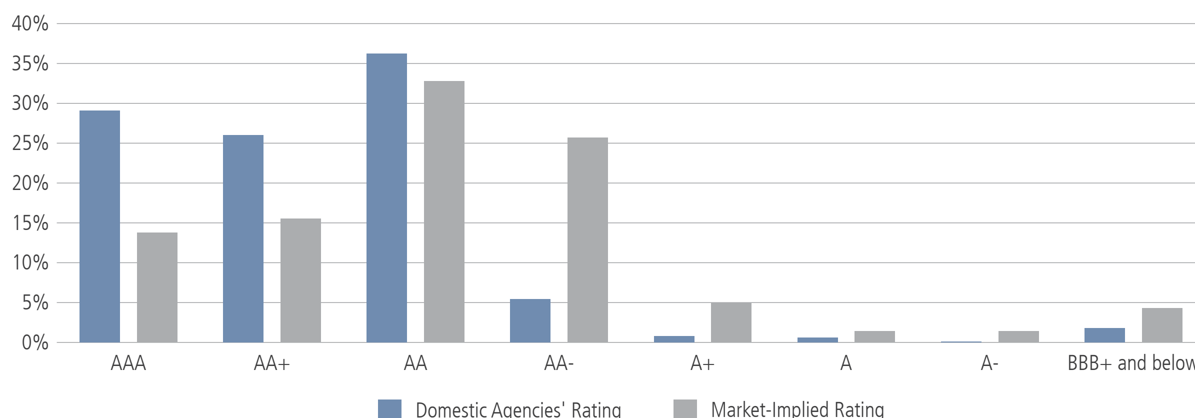
There are also questions about the reliability of these ratings. Credit rating agencies in China are paid by the issuer, whereas international rating agencies are generally paid by both issuers and investors. As a consequence, domestic rating agencies compete on their "promise" to deliver at least the AA- rating required for issuance to proceed, undermining the chance of a balanced credit review. To some degree this effect is mitigated by rating agencies' awareness of reputation risk, and this awareness appears most

acute among agencies with international alliances. The prohibition on foreign credit rating agencies taking a majority stake in domestic agencies was recently lifted, and we hope this will foster healthier competition and greater objectivity.

In the meantime, we observe that the market is apparently more discerning than the domestic rating agencies. Looking at the 144 issuers that have issued in both USD and the onshore RMB market, it appears that for this specific group there is a difference of up to eight or nine notches between the domestic rating and the international (USD) one; the market is a bit more lenient, discounting the equivalent of around six or seven notches, on average. For a fuller picture, the CCDC, as part of its ChinaBond indexing business, has developed a method to calculate a bond's implied credit rating on the domestic scale from market pricing, the results of which are shown in figure 2. This chart shows both the lack of differentiation in the domestic agencies' credit ratings (bonds rated below AA- were downgraded after issuance); and also the skepticism of the market, which clearly adjusts the agencies' generally high assessment of credit quality downward.

FIGURE 2. DO DOMESTIC CREDIT RATINGS TELL US MUCH?

Comparison of actual domestic credit ratings with market-implied ratings for 2,000+ corporate bonds



Source: CCDC, Wind. Data as of March 2020. "Market-Implied Rating" refers to the ChinaBond Implied Ratings methodology, which combines domestic creditworthiness per category with the corresponding interest rate curve as a reference for each issue.

How Can We Apply Independent and International Norms?

Investors will want to form their own independent views on the creditworthiness of an issuer. We already see that the market is more discerning than the rating agencies, but if the investor acts solely on the basis of market pricing, opportunities for outperformance are left behind. And we think there are many such opportunities.

We use our proprietary creditworthiness model to assess financial risk (non-financial and Environmental, Social and Governance risks are assessed separately). This model uses the financial ratios that have proven most important as predictors of creditworthiness and default risk in emerging markets corporates, such as leverage, profitability and liquidity, as well as individual company results data, assigning specific parameters for the financial sector and incorporating government ownership where it is a factor. The model generates an implied rating on a scale comparable to international credit rating methodologies.

In 2019 we adapted this model for the domestic Chinese market after testing the relationship between the degree of government ownership and returns. Normally government ownership improves creditworthiness, and Central Government ownership leads to a slightly larger upward adjustment than lower government ownership, which includes ownership by provincial governments, but also some large, independent cities such as Shanghai and Beijing.

We applied this adjusted model to a market of 4,200 corporate bond issuers with a total market value of around CNY 43.6 trillion (around $6.2 trillion). Corporate issuers that do not publish results and Lower Government Finance Vehicles (LGFV) were excluded. This left a group of 2,325 issuers, whose outstanding bonds have a total market value of around $4.8 trillion. Of those issuers, 272 were banks with a total market value of around $2.3 trillion and 2,053 were from other sectors with a total market value of around $2.5 trillion (figure 3). Most issuers have a listing on a stock exchange.

FIGURE 3. SECTOR BREAKDOWN OF OUR UNIVERSE OF 2,325 CORPORATE BOND ISSUERS

Sector	Listed	Not Listed
Consumer	251	25
Diversified	471	45
Industrial	234	33
Infrastructure	229	14
Metals & Mining	149	23
Oil & Gas	3	0
Real Estate	169	15
TMT	125	17
Transport	114	3
Utilities	124	9
Banks	195	77
Total	**2,064**	**261**

Source: Neuberger Berman.

The Outcomes: Financial Sector

We find that the banks, as part of the more broadly defined financial sector, display a wide dispersion of creditworthiness in our model—there are clearly some weak banks among the 272 we have assessed. If we look at the total amount of bank debt outstanding in each rating category, however, it is clear that bigger banks generally receive higher ratings. Indeed, many of them are not far from the A rating for China itself, suggesting mostly investment grade quality and very limited default risk (figure 4). This partly reflects the government's (majority) stakes in most of these banks, but is mostly due to their stand-alone strengths in capitalization and profitability.

FIGURE 4. MODEL CREDIT RATINGS FOR BANK SECTOR ISSUERS

Number of banks in each rating category

Rating	Number	Share
A	**5**	**1.80%**
A-	**6**	**2.20%**
BBB+	**11**	**4.00%**
BBB	**25**	**9.20%**
BBB-	**55**	**20.20%**
BB+	45	16.50%
BB	67	24.60%
BB-	52	19.10%
B+	5	1.80%
B	1	0.40%
Total	**272**	**100%**

Total bank debt outstanding in each rating category

Rating	Market cap in CNY 100m	Share
A	**36,128.70**	**23.95%**
A-	**30,862.30**	**20.46%**
BBB+	**30,414.30**	**20.16%**
BBB	**25,444.70**	**16.86%**
BBB-	**21,021.50**	**13.93%**
BB+	5,506.80	3.65%
BB	1,287.70	0.85%
BB-	199.6	0.13%
B+	8.5	0.01%
B	1	0.00%
Total	**150,875.30**	**100%**

Source: Wind, Neuberger Berman. The numbers in bold reflect investment grade.

This outcome is consistent with our experience of a Chinese banking system that is stable and well capitalized relative to, say, that of India. The well-flagged problems and defaults in China's banking system over recent years have occurred at smaller entities that represented concentrated risk, such as Baoshang Bank, Bank of Jinzhou and Hengfeng Bank. This is an important issue for investors as a country's shock-absorbing capacity is heavily dependent on the strength of its banking system.

The Outcomes: Other Sectors

We find the majority of non-financial sector names in the BB and BBB categories. Just under 44% are the equivalent of investment grade and just over half are high yield—an important distinction that directly informs the investment mandates of most institutional investors. Within the high yield-equivalent segment, bonds with a creditworthiness modelled as equivalent to a BB rating predominate: within U.S. or European high yield markets, that segment attracts a lot of interest as it is seen as an acceptable risk level for many institutional investors. Unlike with the banking sector, the market capitalization within each rating category reveals no discernible pattern.

FIGURE 5. MODEL CREDIT RATINGS FOR NON-FINANCIAL SECTOR ISSUERS

Other sectors

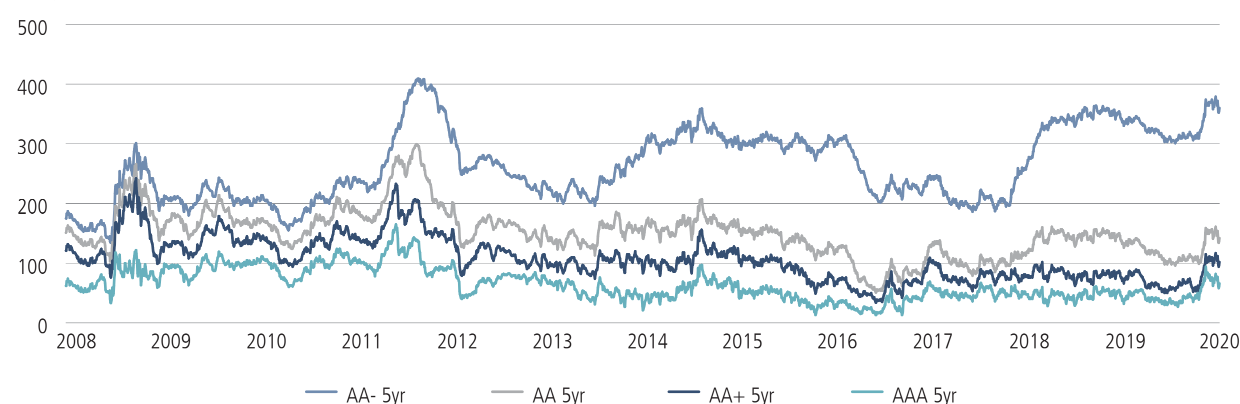
Rating	Number	Share
A+	**11**	**0.5%**
A	**24**	**1.2%**
A-	**125**	**6.1%**
BBB+	**128**	**6.2%**
BBB	**329**	**16.0%**
BBB-	**280**	**13.6%**
BB+	247	12.0%
BB	267	13.0%
BB-	268	13.1%
B+	215	10.5%
B	113	5.5%
B-	25	1.2%
CCC+	2	0.1%
CCC	10	0.5%
CCC-	2	0.1%
D	7	0.3%
Total	**2,053**	**100%**

Source: Neuberger Berman. The numbers in bold reflect investment grade.

When we compare our results with those of the domestic credit rating agencies, we conclude that the dividing line between what we consider investment grade and high yield corresponds roughly with AA for the domestic agencies. With the necessary caveat that the reliability of these ratings at the level of the individual company is relatively low, this finding concurs with and make sense of the marked difference in credit-spread behavior between bonds rated AAA, AA+ and AA by the domestic agencies, and those rated AA- (figure 6). We should also keep in mind that most corporate bonds have puts for the investor, and the option-adjusted spreads would be higher than the spreads to maturity shown here—especially compared to the USD market, in which a call for the issuer is the norm.

FIGURE 6. A MARKED DIFFERENCE BETWEEN AA AND AA- CREDIT SPREADS

Five-year credit spread over China Development Bank Bonds (basis points)



Source: CCDC spreads derived from ChinaBond commercial paper and notes curves, as of May 2020.

Liquidity

As in all fixed income markets, liquidity is an important consideration in onshore China corporate bonds. Unfortunately, there is not yet any historical data on bid-offer spreads. We can, however, make some important observations.

Generally, the lower the credit quality, the smaller the issuer and the smaller the outstanding amount in any particular bond, the lower the liquidity is in that bond. A very active and extremely liquid money market, in bonds with maturities out to one year, means strong bids are likely for instruments that have come within this tenor. And Chinese companies with a listing are more transparent, with a higher degree of analyst coverage of analysts, and therefore tend to be more liquid, as are bonds quoted on the 'interbank' market relative to the more retail-oriented exchange-traded issues. Also, experience teaches us that liquidity is markedly lower in down markets compared to up markets.

These characteristics are common across most credit markets. However, there are some important differences between the Chinese market and developed credit markets. For example, the maturities of the bonds issued in China are much shorter, typically three or five years, making the investment horizon shorter and relatively more predictable. In addition, as we mentioned already, most corporate bonds have a put for the investor whereas in the USD market most have a call—a big relative advantage for investors in the Chinese market. The put can typically be exercised after three years on a five-year bond and after one year on a three-year bond. The value of the put aside, this option enhances the liquidity options for the investor—although once puts have been exercised, the remaining notional diminishes and therefore the remaining liquidity may also diminish.

Lastly, we would stress that the People's Bank of China (PBOC) has proven ready to support proper market functioning in the past, and in times of stress will actively provide liquidity—the central bank acting as "lender of last resort" for the CNY market. Such liquidity injections preserved a well-functioning market in early 2020. The authorities can more easily influence market conditions in the domestic market than in the international markets, as we saw earlier this year when the same issuers' bonds traded at much higher premiums in the USD market versus the onshore market.

Experience with Defaults and Government Ownership

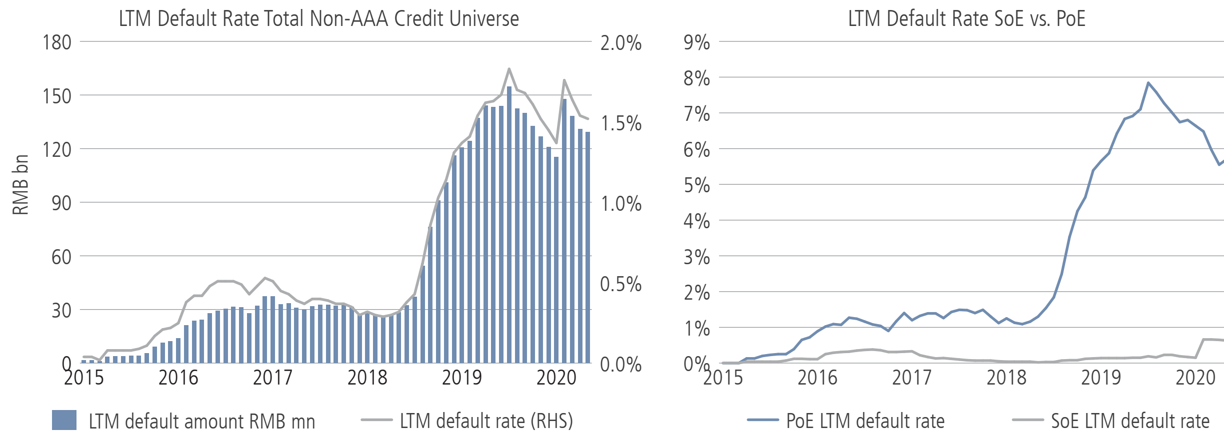
In general, outside so-called "private funds," there is a marked tendency amongst domestic Chinese investors in corporate bonds to avoid names and categories that have default risk—even when that risk is limited. Moreover, before 2018 the domestic bond market witnessed hardly any defaults, while in 2018 – 19 this increased to about 1.5% of the non-AAA universe.

The rise in defaults over the past few years has occurred alongside a continued reform effort by regulators to reduce "moral hazard" and forge capital markets that don't always need to rely on the government in times of stress. This has been clearly articulated in the case of LGFVs, but the fact is that any form of government ownership matters a lot.

A government stake, even a 100% stake in the case of State-owned Enterprises or SoEs, is no guarantee of government support. Nonetheless, Privately owned Enterprises (PoEs), whose historic default rate in the mid-single digits has been in line with that of global high yield, have proven much more vulnerable than SoEs in times of stress, as figure 7 shows. The more important the SoE is for local employment and tax income, the more likely it is to receive state support, once the relative financial strength of the central, provincial, municipal or other state supporter is factored in—especially as most cases of market stress are due to liquidity rather than solvency problems. Currently, SoEs can also count more upon a continuation of credit lines from the major banks than PoEs, even if the PBOC or the government try to mitigate that effect.

SoEs currently comprise around 90% of the China onshore credit universe, and it is that dominance which results in the low overall default risk. That overall default risk would change should the state support factor diminish, but we don't anticipate a major shift in this regard for the foreseeable future given the role that SoEs play in policymaking.

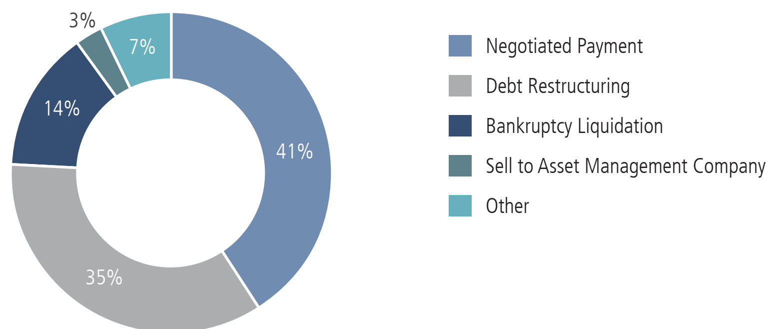
FIGURE 7. LOW OVERALL DEFAULTS, HISTORICALLY, BUT HIGHER AMONG PRIVATELY OWNED ENTERPRISES



Source: Bank of America Merrill Lynch, Wind. Data as of May 2020.

When a bond payment is missed, there are generally three possibilities for the parties concerned: a negotiated agreement, which is the optimal solution for issuer and investor and the route that most parties take most of the time (figure 8); a repayment lawsuit, which can be costly and time-consuming; or a bankruptcy filing, which is the least attractive scenario as it will normally lead to a debt restructuring and/or liquidation and will also be costly and time-consuming. The courts process is often unreliable, especially from an international perspective, but we have been positively surprised by the willingness of issuers to pay despite challenging times: many non-payment situations have been turned around and coupons paid within the "grace period," with government involvement tending to have a positive influence on the ultimate outcome.

FIGURE 8. HISTORICAL OUTCOMES IN CASE OF DEFAULT



Source: Wind, Ping An Securities. The data include all 151 cases of default recorded between 2014 and 2019, representing a default amount of $48bn.

Conclusion

The market for Chinese corporate bonds is huge, and its high Sharpe ratios and very low correlations to other credit markets and risk assets suggest that there are very attractive investment opportunities for international investors. Nonetheless, it remains largely unknown to international investors, many of whom are still skeptical about the fundamental creditworthiness of corporate China and the reliability of local credit ratings.

Our analysis shows there are indeed meaningful differences between the ratings that companies are assigned by domestic agencies and what we might expect from international norms, given market pricing. Over time, we believe more involvement of international credit rating agencies will bridge those differences, improve transparency and build trust among international investors.

Until then, independent research is clearly needed to differentiate between different credits. In addition, while our analysis suggests that the market is better informed about the "true" credit risk of certain issuers, and differentiates through its pricing with more discernment than the rating agencies, credit selection drawing upon independent research still has meaningful scope to add value.

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