China Onshore Credit Bond Monthly

A new way to trade the ~US$100bn distressed bond market

Credit Analysis

09 April 2019

Global Emerging Markets | Corporate Credit
Asia | China

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"Distressed Bond Anonymous Auctions", a new way to trade onshore distressed and defaulted bonds

In view of the rapid increase of onshore bond defaults, there has been growing interest from both onshore and offshore investors in getting involved in the onshore distressed bond market. By our estimate, the size of onshore distressed bonds stood at RMB625bn/US$100bn at end of March, accounting for 3.8% of the total credit bond market. Its growth pace and share ratio are in line with the results of our onshore default tracker. To encourage more secondary trading transactions, the China Foreign Exchange Trade System (CFETS) introduced an "Anonymous Auction for Distressed Domestic Bonds" system that enables various interested parties to trade high yield distressed/default bonds listed on the interbank market within a short period of time with stronger confidentiality and greater efficiency. So far, the auction has been held three times with successful transactions and is expected to expand from the current scale in terms of security coverage and eligible investor base. We believe such a mechanism should help to facilitate some trading of the distressed bonds. But in our view, the ultimate solution should lie on further diversification of the investor base and more testing of China's bankruptcy regime.

March bond supply rebounded; credit spreads widened

We saw a solid recovery in March total fixed income supply +86% MoM/+11% YoY to RMB4.6tn, in line with expectations given the monetary policy loosening and February weakness temporarily affected by the Chinese New Year (CNY) holiday. Strong issuance was observed across all types of bonds, with credit bonds (+183% MoM to RMB1.3tn from RMB458bn) bouncing back stronger than government bonds (+43% MoM to Rmb1.2tr from Rmb819bn). Net March credit bonds also rebounded strongly to RMB506bn vs RMB136bn in February, supported by AAA-rated bonds accounting for 88% of March net supply. Note that AA and below net supply remained dismal though the shortfall has narrowed to -RMB0.3bn from -RMB22.6bn. By sector, local government funding vehicles (LGFVs) saw higher overall net supply in March while property developers continued to suffer from funding shortages with net supply worsening to -RMB3.3bn from RMB8.6bn last month. In March, credit spreads widened as rates declined on equity risk-on and stronger than expected PMI data.

Default amount up in March; default rate rose to 1.21%

March monthly defaults rebounded to RMB10.8bn after declining in the first two months of the year. March default cases came from eight private issuers of which five were first time defaulters. Note that YTD defaults were dominated by private companies. As a result, the last 12m default rate rose further to 1.21% in March from 1.16% in February.

Offshore RV weakened on strong offshore performance

In March, the relative value (RV) of offshore bonds over onshore further narrowed as offshore continued to outperform onshore. On a currency-hedged basis, both offshore IG and HY still traded cheaper to their onshore peers. Offshore IG yield pickup over onshore IG declined 13bps to 0.8% in March vs 0.9% in February, while US$ HY offered about a 4.9% yield pickup after hedging, declining by 103bps vs 6% in February. Bond-to-bond comparison showed on average, the pickup in yield for CNY over USD after hedging was -0.3% for SOE, -0.7% for LGFV, -1.7% for property sector, and -0.8% for financials.

Refer to important disclosures on page 16 to 18.

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Timestamp: 09 April 2019 05:45AM EDT

Special topic of the month

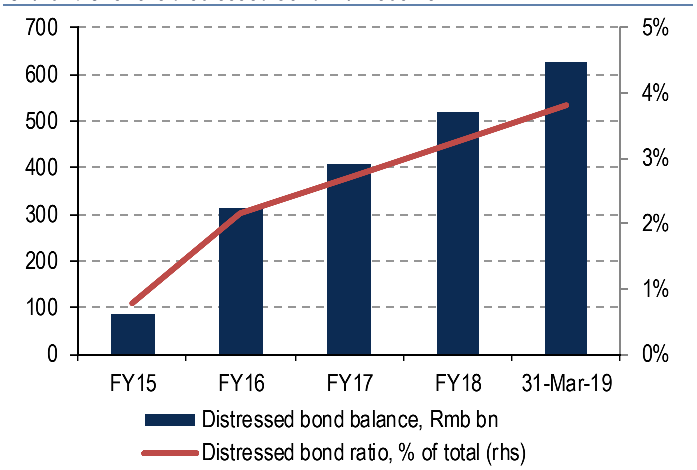
A new way to trade the ~US$100bn distressed bond market

This month, we review the development of the new yet rapidly growing ~US$100bn distressed bond market in China, with particular focus on the "Anonymous Bond Auction for distressed debts" mechanism introduced by the regulator to boost secondary trading activities of distressed bonds.

Distressed bonds grew substantially on the back of default spike

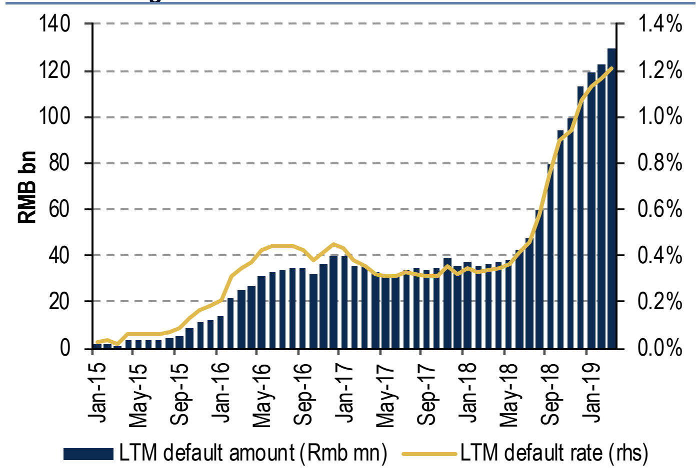
Amid a rising credit default trend, we estimate that the onshore distressed bond market size grew rapidly to RMB625bn (US$100bn) by end of March, up +20% from RMB522bn at FY18, while the distressed bond ratio as a percentage of the total rose to 3.8% by end-March from 3.3% by FY18. While there are no common criteria on how to define a "distressed bond", our estimate is based on the assumption that bonds trading at or below 80 should be classified as distressed. Given overall weaker liquidity in the onshore secondary market, for bond pricing to drop to below 80, it has to be triggered by some major negative credit events. Table 1 lists various segment sizes of credit bonds trading <=90, <=80, <=70, <=60 and <=50 respectively. The most distressed group <=50 totaled RMB213bn. If we assume over half of those have already gone into default, it is roughly in line with what our onshore default tracker suggests (Chart 2).

Chart 1: Onshore distressed bond market size



Source: WIND

Chart 2: Trailing 12-month onshore default amount and rate



Source: WIND

Table 1: Onshore distressed bond market size estimate

	Onshore bond market size, RMB bn	Bond price trading at <=90	<=80	<=70	<=60	<=50
RMB bn						
31-Mar-19	16,324	806	625	469	246	213
FY18	15,976	743	522	415	191	172
FY17	15,011	868	408	359	192	165
FY16	14,427	584	314	250	68	26
FY15	11,062	339	87	35	29	19
% of total						
31-Mar-19		4.9%	3.8%	2.9%	1.5%	1.3%
FY18		4.7%	3.3%	2.6%	1.2%	1.1%
FY17		5.8%	2.7%	2.4%	1.3%	1.1%
FY16		4.0%	2.2%	1.7%	0.5%	0.2%
FY15		3.1%	0.8%	0.3%	0.3%	0.2%

Universe: Corporate bonds, enterprise bonds, medium term notes and private placement notes

Source: WIND

Some may argue that the ratio of onshore distressed bonds as a percentage of the total credit bond market (3.8% for bonds trading <=80 and 1.3% for <=50) seems low compared to international standards. We think the lower numbers are reasonable given China's distressed debt business is only in its infancy.

Note the credit bond universe we consider consists of exchange corporate bonds, enterprise bonds, medium-term notes and private placement notes. Commercial papers, financial bonds and asset-backed securities were excluded from our analysis as a large chunk of these three groups is made up of AAA-rated issuers/bonds, which are less relevant to the distressed bond trading discussion.

Anonymous Auction for Distressed Domestic Bonds

In May 2018, the China Foreign Exchange Trade System (CFETS) published detailed rules and guidance for the "Anonymous Auction for Distressed Domestic Bonds". The system serves as a platform for Chinese financial institutions (FIs) to trade high-yield distressed notes and defaulted bonds listing in the onshore interbank market.

The purpose of an anonymous bond auction is to encourage more secondary market trading in the onshore HY/distressed bonds by boosting market liquidity. In China, the most widely traded bonds are AAA-rated (i.e. investment grade/IG) and many would avoid non-AAA rated bond securities (perceived as high yield/HY), especially those issued by private enterprises given rapid accumulation of private sector default cases in recent years. This explains the poor trading liquidity of onshore HY bonds. It is not unusual to see some HY bonds with zero trading activity after issuance. In the long run, this should help to foster development of China's onshore bond market as well as the distressed asset market.

Prior to CFETS's Anonymous Bond Auction program launch, investors could only tap distressed assets through the provincial Financial Assets Exchanges. The first exchanges were established in Beijing and Tianjin in mid-2010 – they facilitated trading of security products ranging from credit to equity stakes. Now, there are dozens of provincial financial asset exchanges in operation. In 2017, Shenzhen-based Qianhai Financial Asset Exchange became the first to begin selling onshore non-performing loans (NPL) directly to foreign investors.

So far, Anonymous Bond Auction held three times

Since inauguration in June last year, the anonymous auction has been conducted three times. The first was launched in July last year, targeting only HY distressed bonds; one bond was traded in the end. The second auction was held in September last year, also only including HY distressed bonds though there is limited information on results. The third time was recently conducted in February this year. The potential bond target list contained 22 distressed and defaulted bonds. This was the first time already defaulted bonds were included. 43 FIs filed two-ways pricing of which 25 FIs participated in auction bidding. Executed trades covered several medium-term notes issued in 2017 by KangMei Pharmaceutical (101754066.IB), YingKou Port (101767005.IB), Kangde Xin Materials (101759003.IB) and Wintime Energy (101778004.IB). The first two were previously trading at distressed levels while the last two were declared default. Local media reported that some trades were executed with deep discounts of over 70%.

Anonymous bond auction mechanism

Judging by the previous three auctions, there appears to be no fixed schedule for the auction. Firstly, the interested FIs notify CFETS about their trading plans via phone or email. First-time participants are required to submit a risk guarantee document to CFETS. On the auction date, the bid-and-ask auction process starts at 2pm where participating FIs can submit two-way quotations. This will be followed by a call auction at 2:35pm where participants can quote the price range determined by the previous bidding stage and a trading counterparty is determined. For bids that do not find a matching counterparty, an anonymous chat window will be opened for one-on-one anonymous negotiations. Successful deals will be on T+1 day. To enhance risk control, investors are prohibited from making an opposite trade with the same counterparty within five days of a transaction; they must provide the exchange an explanation if they need to do so.

Pros: better protection for both buyer and sellers

Investors may ask how an anonymous bond auction can help boost HY trading liquidity more than the traditional broker price quotation services. Firstly, an anonymous bond auction enables potential buyers and sellers to agree on a settlement price more quickly within a short time with better protection for both parties. Under this system, large funds with holdings of distressed/defaulted bonds can sell without the risk of letting the market know about the trades. Previously, some funds were reluctant to participate in distressed bond trading activities as if the information was leaked, it might stir unnecessary panic and trigger fund redemption by fund investors. In addition, an anonymous auction reduces the chance of buyers giving out signals to other market participants as trading via broker OTC sometimes may result in inadvertent information leakage to other market participants, causing a bond price spike ahead of execution.

Outlook: Growing area but will take time to catch up to international standards

Given the growth of the onshore credit bond market and normalizing default practice, we expect the size of the distressed bond market to expand accordingly with stronger support from the government. On rapid accumulation in the corporate bond default trend, there has been growing interest from both onshore and foreign investors to tap the onshore distressed debt market. The future auction may include credit default swaps and subordinated tranches of asset-back securities, and potentially allow participation from eligible foreign institutional investors.

Previously, many foreign investors often complained about opaque information disclosures by Chinese corporates making it difficult to conduct due diligence. We believe this concern should be somewhat alleviated by the recent opening up of market access to foreign rating agencies (so far, S&P has gained regulatory approval). Another widely discussed consideration is China's legal infrastructure. While the China Bankruptcy Law is in the early stages of being tested and challenged amid the recent surge in corporate defaults, confidence should grow over time.

Recent global bond index inclusion has attracted continual capital inflow into the onshore bond market since last year. Ultimately, we believe having higher foreign participation should help to build a more diversified investor base mix, bolster secondary bond trading activity and deepen development of the domestic financial market.

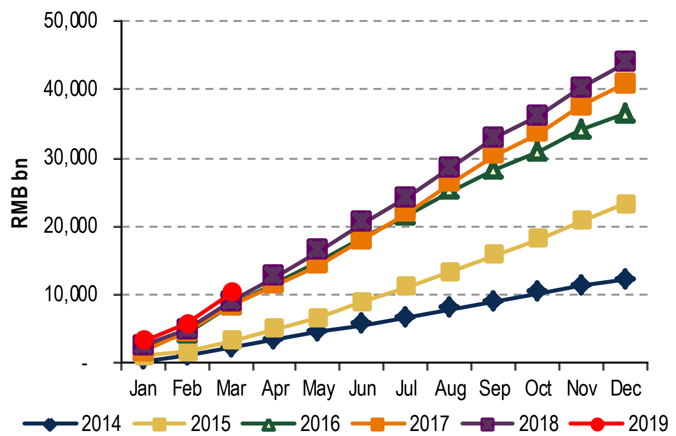
Supply

March gross and net supply rebounded strongly

In March, the onshore total fixed-income supply saw a sharp rebound to RMB4.6tn +86% MoM/+11% YoY, bringing YTD total issuance to RMB10.3tn (+15% YoY). This was in line with expectations given the monetary policy loosening and Feb weakness being temporarily distorted by the CNY holiday. Strong issuance was seen across all types of bond securities with credit bonds (+183% MoM to RMB1.3tn from RMB458bn) bouncing back stronger than government bonds (+43% MoM to RMB1.2tn from RMB819bn).

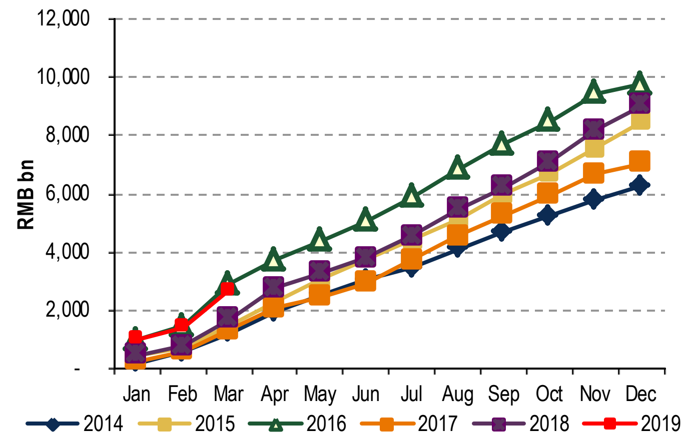
Note that “credit bonds” here includes financial bonds, exchange corporate bonds, enterprises bonds, medium-term notes (MTN), private placement notes (PPN) and commercial papers (CP), unless otherwise specified.

Chart 3: Cumulative fixed income supply



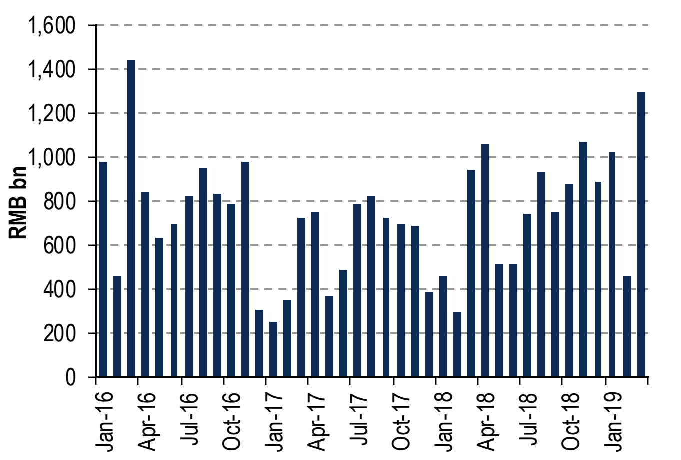
Source: WIND

Chart 4: Cumulative credit bond supply



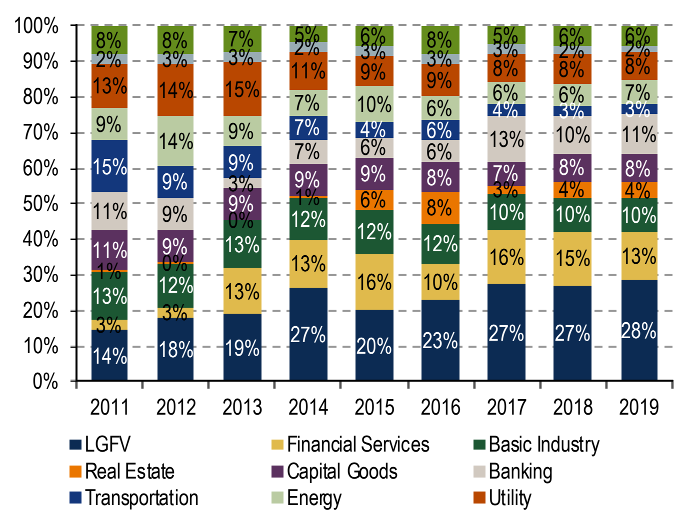
Source: WIND

Chart 5: Monthly credit supply trend



Source: Wind

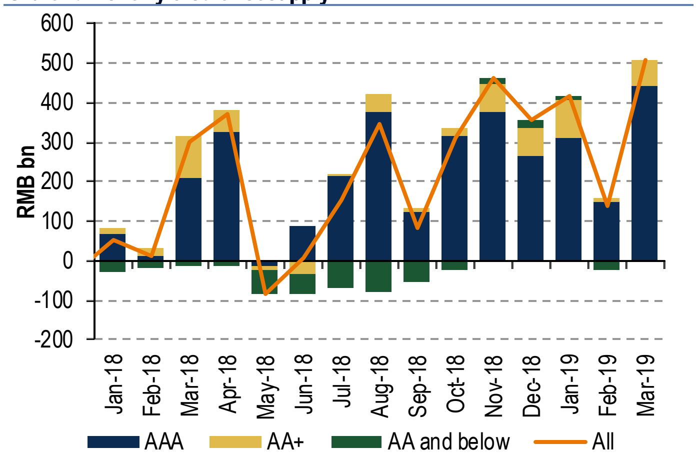
Chart 6: Credit supply by sector



Source: Wind

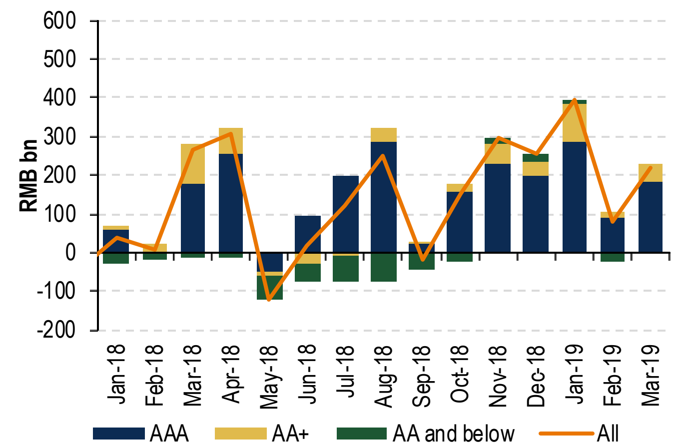
On a net basis, March credit bonds also rebounded strongly to RMB506bn vs RMB136bn in Feb, mainly supported by RMB443bn AAA-rated bonds accounting for 88% of March net supply. Note that AA and below net supply remained dismal though the shortfall has narrowed to -RMB0.3bn from -RMB22.6bn. By sector, LGFVs saw higher overall net supply in March (Chart 10) while the non-LGFV property developers continued to suffer from funding shortages with net supply worsening to -RMB3.3bn vs RMB8.6bn (Chart 9). This was the main reason behind the robust YTD offshore USD bond issuance by Chinese HY developers as they were unable to raise new funding in the onshore market.

Chart 7: Monthly credit net supply



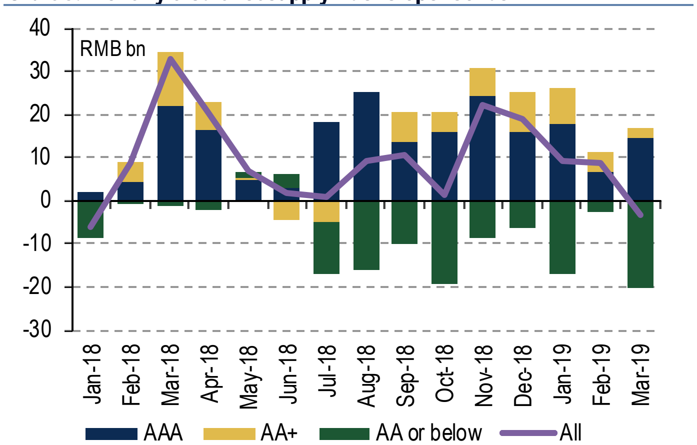
Source: WIND

Chart 8: Monthly credit net supply (excluding financial bonds)



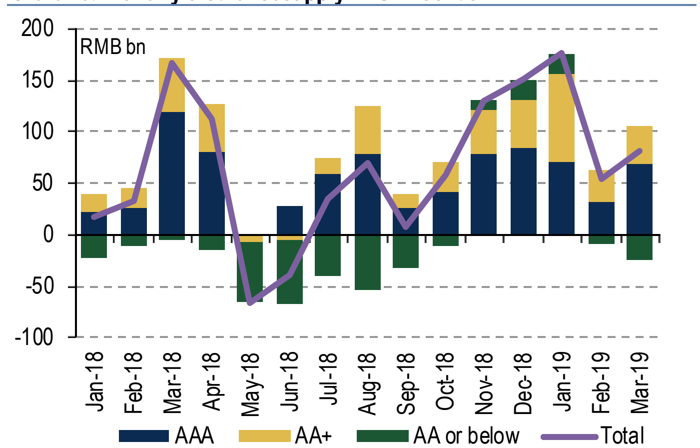
Source: WIND

Chart 9: Monthly credit net supply – developer bonds



Source: WIND

Chart 10: Monthly credit net supply – LGFV bonds



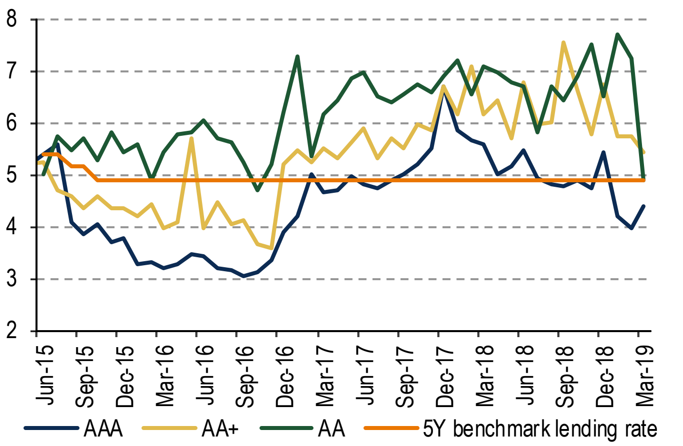
Source: WIND

Non-AAA new issuance costs declined, yet cancellation rate edged up in March

For both exchange corporate bonds and medium-term notes, March new issuance costs reaffirmed continual declining funding costs in the onshore market but it was more evident for the non-AAA rating issuers while the high-quality AAA-rating issuers saw a mild uptick in March new coupon rate.

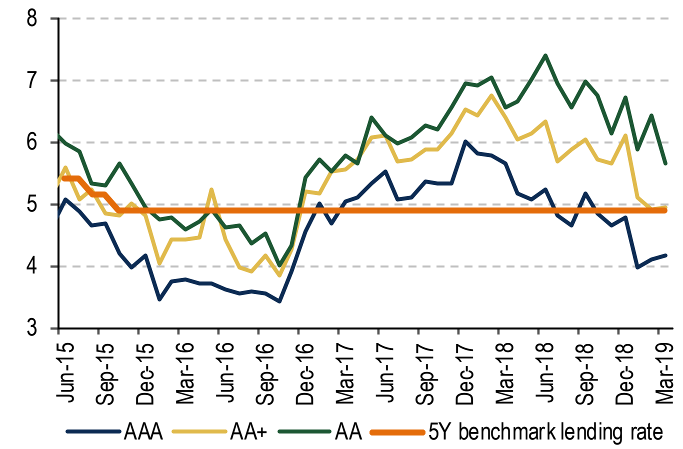
Meanwhile, the new issuance cancellation rate remained low at 7% in March (vs 6% in Feb and 7% in Jan), suggesting improving investor sentiment.

Chart 11: New issue coupon rate (%) – Exchange corporate bonds



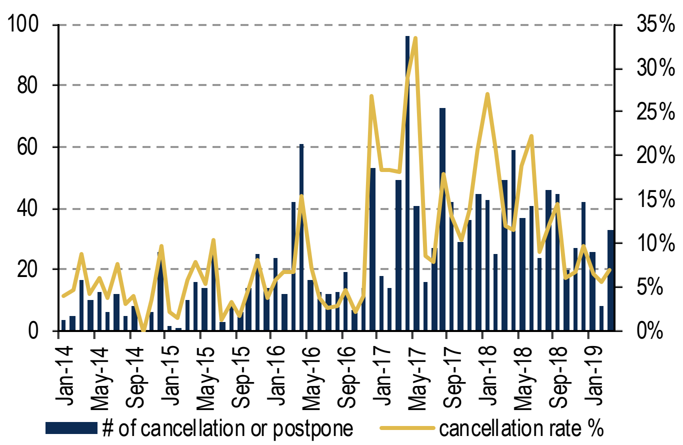
Source: WIND

Chart 12: New issue coupon rate (%) – Medium term notes/MTNs



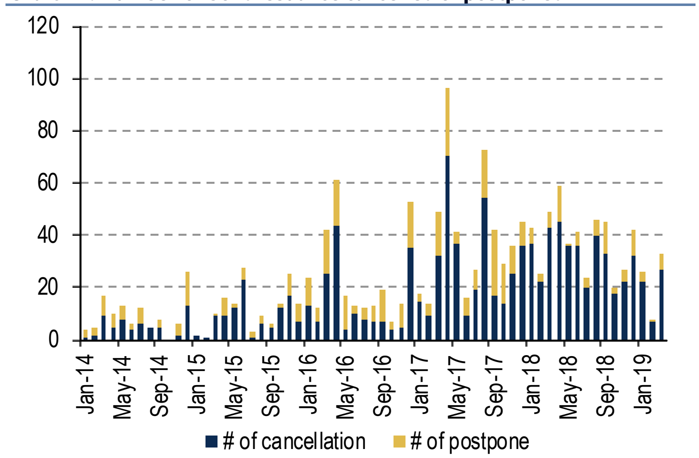
Source: WIND

Chart 13: New issuance cancellation trend



Note coverage includes MTN, enterprise bonds and corporate bonds
Source: WIND

Chart 14: Number of bond issuance cancelled or postponed



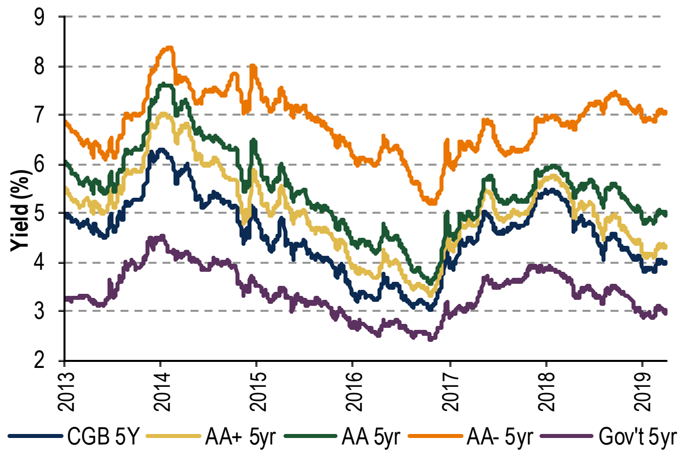
Note coverage includes MTN, enterprise bonds and corporate bonds
Source: WIND

Yields and spreads

March credit spreads widened on lower rates

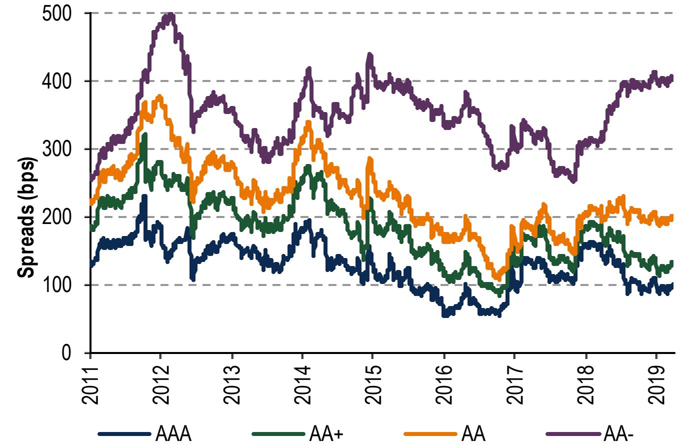
In March, the 5Y government bond yield (CGB) went from 2.96% to 3.05%, up by 9bps as risk-on and stronger than expected March PMI data points drove further equity market outperformance while enterprise bond yields were little changed MoM. As a result, credit spreads have widened across all rating categories, with AAA up by 9bps, AA+ up by 10bps and AA and AA- both up 8bps MoM.

Chart 15: Five-year government and enterprise bond yields



Source: WIND

Chart 16: Five-year enterprise bond spread



Source: WIND

Table 2: Five year enterprise bond yield

	Gov't	AAA	AA+	AA	AA-	A+	A
Mar-18	3.66	5.09	5.37	5.59	6.75	8.60	10.45
Apr-18	3.27	4.76	5.03	5.41	6.83	8.68	10.53
May-18	3.44	4.75	5.11	5.56	7.10	8.95	10.80
Jun-18	3.35	4.66	5.08	5.64	7.20	9.05	10.90
Jul-18	3.22	4.28	4.66	5.26	7.18	9.10	10.97
Aug-18	3.35	4.44	4.83	5.47	7.36	9.35	11.22
Sep-18	3.46	4.47	4.89	5.53	7.41	9.40	11.27
Oct-18	3.31	4.25	4.63	5.27	7.26	9.25	11.12
Nov-18	3.14	4.09	4.43	5.09	7.10	9.09	10.97
Dec-18	2.97	4.06	4.36	5.04	7.11	9.10	10.98
Jan-19	2.89	3.88	4.17	4.87	6.94	8.93	10.89
Feb-19	3.05	3.96	4.27	4.97	7.02	9.01	10.97
Mar-19	2.96	3.96	4.28	4.96	7.01	9.00	10.98
Mar yield change (bps)	-9	0	1	-1	-1	-1	1

Source: Wind

Table 3: Five year enterprise bond spread

	AAA	AA+	AA	AA-	A+	A
Mar-18	143	171	193	309	494	679
Apr-18	149	176	214	356	541	726
May-18	131	167	212	366	551	736
Jun-18	131	173	229	385	570	755
Jul-18	106	144	204	396	588	775
Aug-18	109	148	212	401	600	787
Sep-18	101	143	207	395	594	781
Oct-18	94	132	196	395	594	781
Nov-18	95	129	195	396	595	783
Dec-18	109	139	207	414	613	801
Jan-19	98	127	197	404	603	799
Feb-19	92	123	193	398	597	793
Mar-19	101	133	201	406	605	803
Mar spread change (bps)	9	10	8	8	8	10

Source: Wind

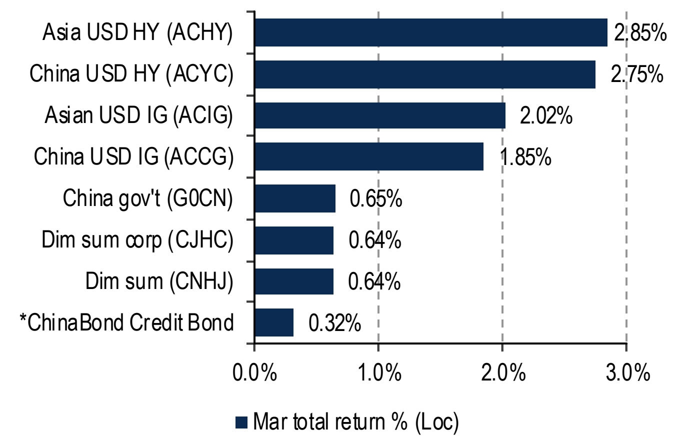
Returns

Offshore continued to outperform onshore in March

Similar to last month, onshore credit (ChinaBond Credit Bond) and CGB both lagged its offshore USD peers in March as the latter posted a strong price rally for the third straight month bolstered by healthy earnings growth, supportive countercyclical macro policy and diminishing trade war risks with the US.

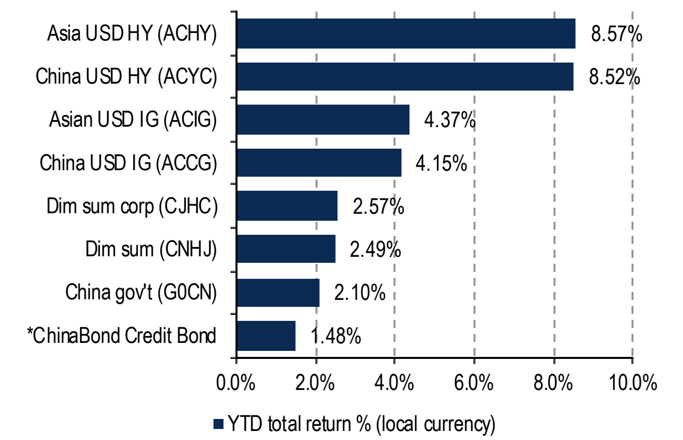
In March and YTD, Asia USD HY (Mar +2.9% and YTD +8.6%) led total returns followed closely by China USD HY (+2.8% and 8.5%), then followed by Asia USD IG (+2% and +4.4%) and China USD IG (+1.9% and +4.2%). Contrary to last year's outperformance, CGB (+0.6% and +2.1%) and onshore credit were the weakest (+0.3% and 1.5%).

Chart 17: March returns summary



Source: Wind, ICE Data indices, LLC

Chart 18: YTD returns summary



Source: Wind, ICE Data indices, LLC

Onshore vs offshore valuations

Offshore RV lessened on better offshore performance

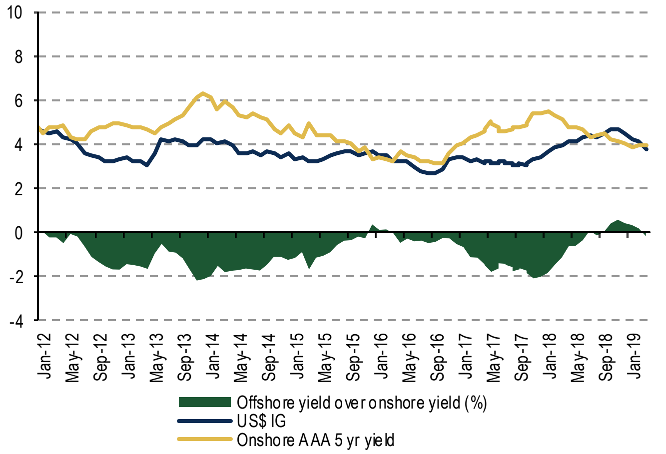
In March, both IG and HY offshore yield declined for the fourth straight month. In the onshore market, IG yield was stable while HY edged up. As a result, the relative values of US$ IG over onshore AAA decreased from 18bps to -17bps, reversing the past six months' trend of offshore trading cheaper than onshore. Meanwhile, March pickup of US$ HY bonds over onshore AA bonds also lessened further to 4.17% from 5.36% last month.

However, on a currency-hedged basis, offshore RV remained in place in March for both IG and HY though the attractiveness has narrowed MoM. For IG, offshore pickup over onshore declined 13bps to 0.79% in March (vs 0.92% in Feb), while US$ HY provided about 4.9% yield pickup after hedging, declining by 103bps MoM (vs 5.97% in Feb).

Bond-to-bond comparison: Offshore shows relative values

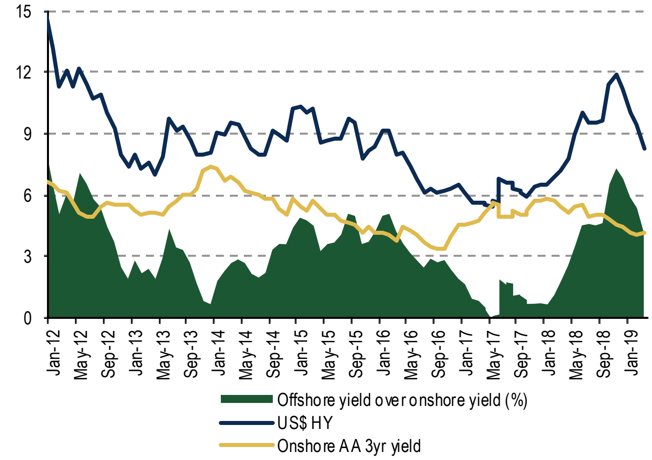
On a bond-to-bond basis, we compare onshore bond yields with corresponding USD bond yields having similar maturities, after factoring in hedging costs from major issuers of SOE, LGFV, property and financial sectors. Consistent with what we see on an aggregate basis, after hedging, USD bonds are cheaper than CNY bonds. Currently, on average, the pickup in yield for CNY bonds over USD bonds after hedging is -0.3% for SOE, -0.7% for LGFV, -1.7% for the property sector, and -0.8% for financials. See Appendix: Relative value analysis for the details.

Chart 19: China onshore AAA yield vs. USD IG yield (unhedged)



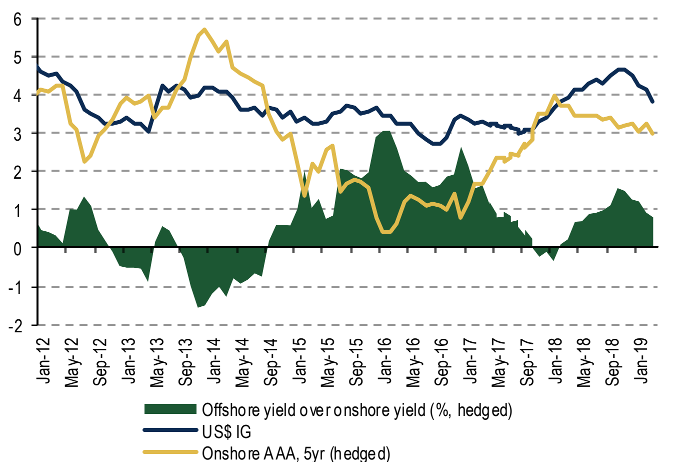
Source: BofA Merrill Lynch Global Research, Bloomberg, WIND

Chart 20: China onshore AA yield vs. USD HY yield (unhedged)



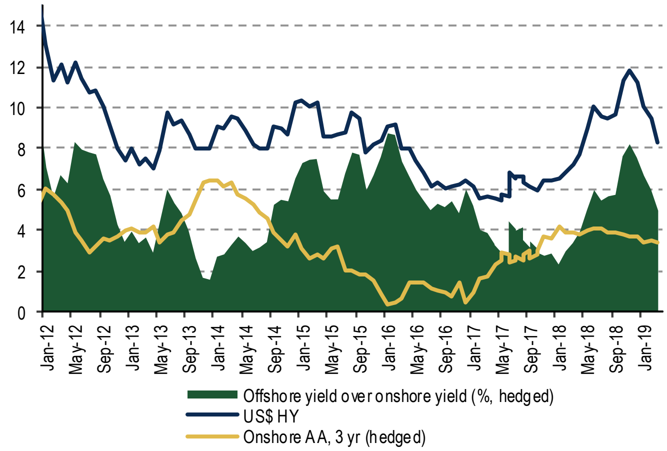
Source: BofA Merrill Lynch Global Research, Bloomberg, WIND

Chart 21: China onshore AAA yield vs. USD IG yield (hedged)



Source: BofA Merrill Lynch Global Research, Bloomberg, WIND

Chart 22: China onshore AA yield vs. USD HY yield (hedged)



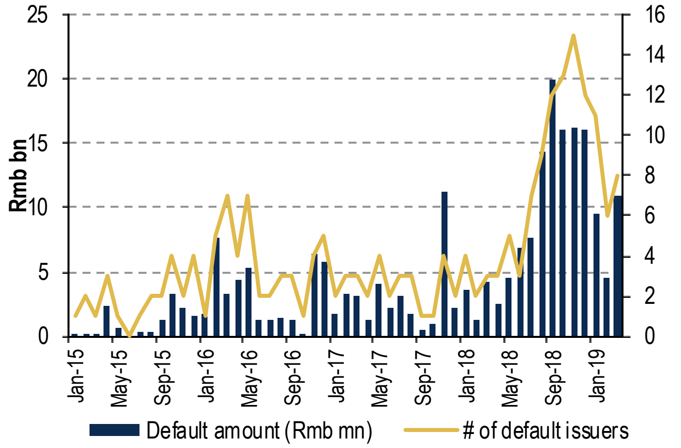
Source: BofA Merrill Lynch Global Research, Bloomberg, WIND

Default and credit events

March default rate rose to 1.21%

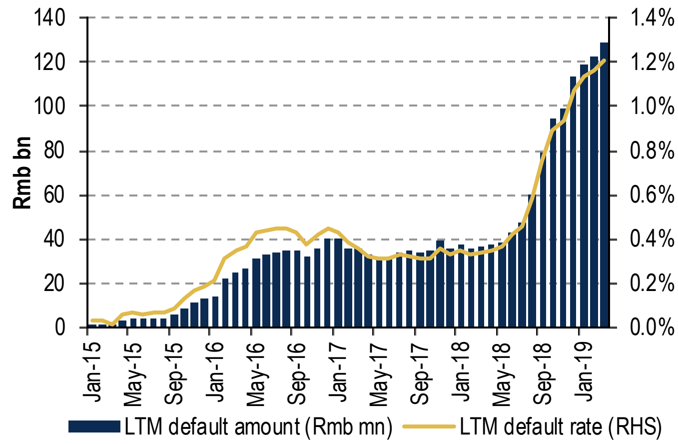
March onshore default amount rebounded to RMB10.8bn after declining in the first two months of the year. March default cases came from eight private sector issuers of which five were first-time defaulting companies. Note that YTD defaults had been dominated by private enterprises. As a result, the last 12m default rate rose further to 1.21% in March from 1.16% in February.

Chart 23: China onshore default rate



Source: WIND

Chart 24: Trailing 12-month default amount/rate



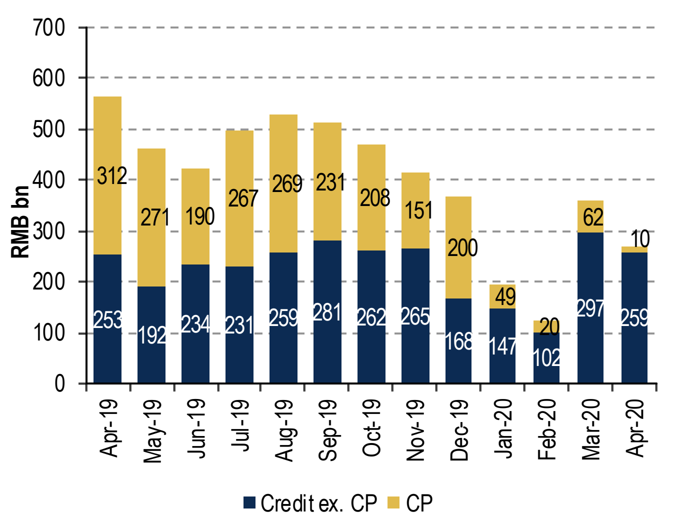
Source: WIND

Maturity and Put profile

RMB565bn to mature and RMB175bn puttable in April

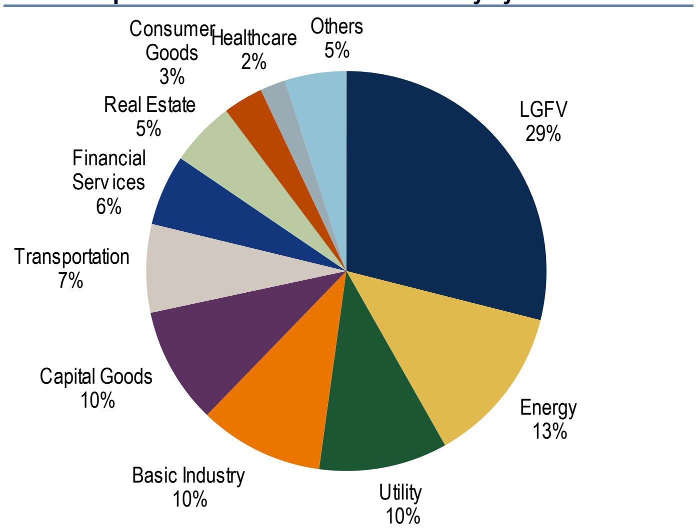
We expect RMB565bn credits (excluding financials) redemptions (including RMB312bn from CP) in April, about 10% down from last month's peak of RMB631bn. A breakdown by sector showed that LGFV (29%), energy (13%), utilities (10%) and basic industry (10%) are the major sectors coming due.

Chart 25: Non-financial credit bonds maturity schedule



Source: Wind

Chart 26: April Non-financial credit bonds maturity by sector



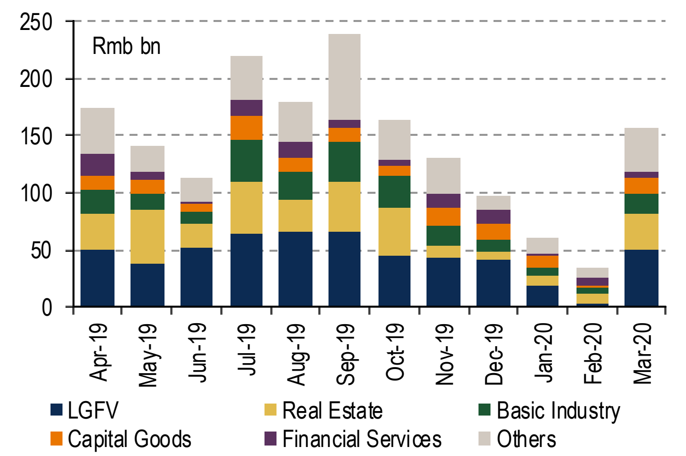
Source: WIND

41% of puttable amount was put back in March

The amounts of bonds becoming puttable will increase to RMB175bn in April from RMB117bn in March. For April puttable bonds, LGFV will account for 30% of the total puttable amount, followed by real estate (19%) and basic industry (13%).

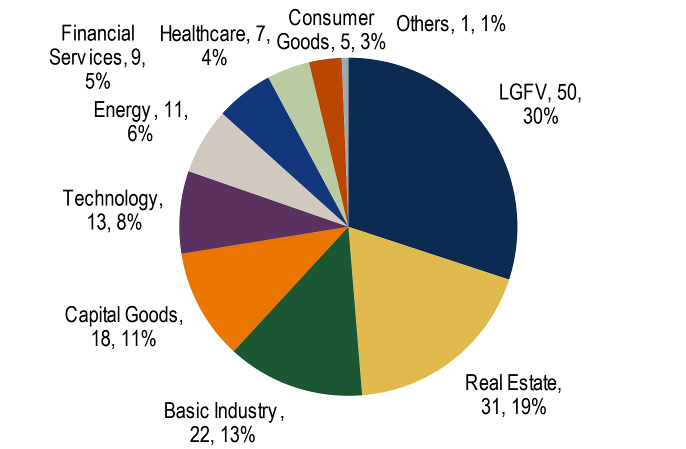
For March's puttable bonds, 41% of bonds by amount was put back, down from the previous month at 52%. The average coupon step-up rebounded back to 88bps in March (vs 47bp in February and 107bp in January). YTD the put ratio was 42% by amount.

Chart 27: Non-financial credit bonds monthly puttable schedule



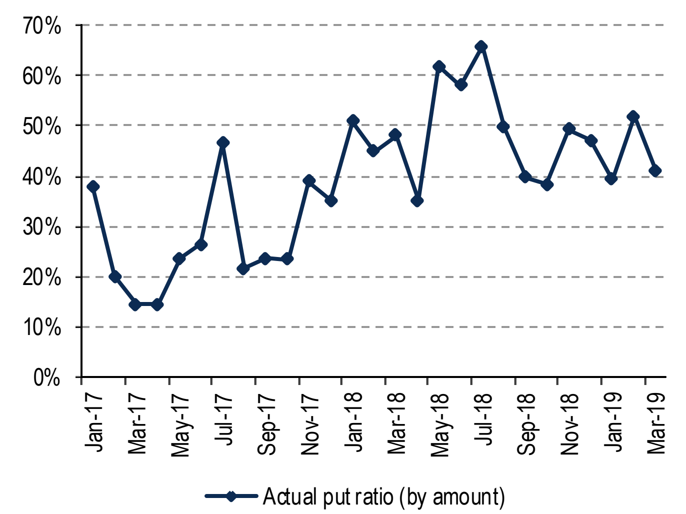
Source: Wind

Chart 28: Non-financial credit bonds April puttable by sector



Source: Wind

Chart 29: Historical actual put ratio



Source: Wind

Table 4: Puttable bond summary for March

	# of bond puttable	Amount puttable (CNY bn)	Put percentage (by amount)	Original Coupon (%)	Current Coupon (%)	Avg coupon change (bps)
LGFV	63	77.6	38%	5.0	6.1	114
Real Estate	34	62.3	28%	5.0	6.4	139
Basic Industry	29	36.5	39%	5.5	6.1	61
Capital Goods	18	16.8	62%	6.1	6.7	53
Financial Services	12	13.4	49%	5.8	5.9	4
Energy	10	14.0	13%	6.2	6.0	-28
Consumer Goods	8	5.4	62%	6.7	7.5	81
Healthcare	6	9.8	51%	3.9	6.5	257
Transportation	5	5.8	9%	4.0	4.4	41
Technology	4	16.3	83%	4.9	5.4	52
Services	3	4.1	58%	6.1	6.7	57
Retail	3	5.2	58%	5.2	6.4	117
Automotive	2	0.5	100%	4.7	4.7	0
Media	1	0.6	83%	7.2	7.2	0
Utility	1	1.0	100%	5.7	5.7	0
Grand Total	**199**	**269.2**	**41%**	**5.3**	**6.2**	**88**

Source: WIND

Appendix: Relative value analysis

We calculate the relative value of CNY bonds vs. USD bonds by converting the CNY yield to the USD equivalent yield and comparing the yield pickup.

Rules of thumb for converting CNY bonds to USD and back

- USD equivalent coupon = CNY-linked coupon + $IRS rate – (ND) CCS rate
- CNY linked coupon = USD coupon - $IRS rate + (ND) CCS rate

Table 5: Relative values of CNY vs. USD bonds for China SOE sector

CNY Bond	USD Bond	Price(CNY bond)	Price(USD bond)	Yield (CNY)	Yield (USD)	+ IRS - ND CCS USD equivalent yield	Assume 10 bps per year *Adj Yield (USD)	CNY over USD Yield difference
CHGRID 5.1 08/19/19	CHGRID 2 3/4 05/07/19	100.83	100.00	2.70	2.67	1.91	2.70	-0.79
CHGRID 5.14 12/08/21	CHGRID 2 1/8 05/18/21	104.40	98.09	3.38	3.07	2.54	3.13	-0.59
CHGRID 5.38 08/19/24	CHGRID 4 1/8 05/07/24	106.50	104.32	4.00	3.20	3.09	3.23	-0.13
CHGRID 5.24 12/08/26	CHGRID 2 7/8 05/18/26	107.08	96.27	4.14	3.47	2.75	3.53	-0.79
CNOOC 5 05/16/19	CNOOC 2 5/8 05/05/20	100.28	99.68	2.14	2.93	1.35	2.83	-1.48
CNPCCH 3.45 05/12/21	CNPCCH 4 1/2 04/28/21	99.99	102.69	3.45	3.13	2.68	3.13	-0.46
CNPCCH 4.9 11/22/22	CNPCCH 3.95 04/19/22	103.61	102.11	3.80	3.21	2.98	3.27	-0.29
CNPCCH 4.88 03/15/23	CNPCCH 3.4 04/16/23	91.69	100.42	7.38	3.29	6.56	3.28	3.28
SINOPC 4.9 06/01/22	SINOPC 3 1/8 04/24/23	104.00	99.22	3.53	3.33	2.68	3.24	-0.56
SINOPE 3.02 09/23/23	SINOPE 4 3/8 10/17/23	98.58	104.67	3.62	3.25	2.85	3.04	-0.19
SINOPE 3.3 09/23/26	SINOPE 3 1/2 05/03/26	91.55	99.69	4.66	3.55	3.32	3.59	-0.27
YANTZE 3.2 03/25/21	YANTZE 2.3 06/02/21	99.52	98.27	3.46	3.14	2.69	3.12	-0.43
YANTZE 4.88 03/19/25	YANTZE 3.7 06/10/25	104.07	101.93	4.09	3.35	2.75	3.33	-0.58
YANTZE 4.15 05/11/26	YANTZE 3.15 06/02/26	100.32	97.68	4.10	3.52	2.75	3.51	-0.76
							Average	**-0.29**

Source: BofA Merrill Lynch Global Research; Price, yield, IRS & (ND) CCS rate data sourced from Bloomberg and Wind. **Price based on Apr 5th 2019

Table 6: Relative values of CNY vs. USD bonds for China LGFV sector

CNY Bond	USD Bond	Price(CNY bond)	Price(USD bond)	Yield (CNY)	Yield (USD)	adjusted yield + IRS - ND CCS USD equivalent yield	Assume 10 bps per year *Adj Yield (USD)	CNY over USD Yield difference
BEIJII 4.9 PERP	BEIJHK 3 1/4 01/20/20	98.95	100.03	5.71	3.21	4.92	3.27	1.65
BINHCO 5.38 12/22/19	BINHCO 4 07/23/20	101.18	98.87	3.61	4.92	2.82	4.86	-2.03
BJSTAT 5.7 12/16/21	BJSTAT 3 05/26/20	105.43	99.39	3.54	3.55	2.70	3.71	-1.02
BJSTAT 5.9 06/25/24	BJSTAT 4 1/8 05/26/25	109.60	100.53	3.83	4.03	2.92	3.94	-1.02
CHDXCH 3.44 10/27/21	CHDXCH 3 1/4 11/29/21	98.09	95.57	4.24	5.07	3.40	5.06	-1.66
CQNANA 5.1 11/09/20	CQNANA 3 5/8 07/19/21	100.52	97.53	4.73	4.78	3.96	4.71	-0.75
GSHIAV 4.3 12/09/20	GSHIAV 3 11/18/19	100.15	99.41	4.19	3.99	3.42	4.10	-0.68
GUAMET 4.45 05/15/20	GUAMET 3 3/8 12/03/20	101.26	99.91	3.26	3.43	2.46	3.37	-0.90
GUAMET 4.45 05/15/20	GUAMET 2.317 06/01/19	101.26	99.88	3.26	3.18	2.46	3.28	-0.81
TJNCON 3.1 06/17/19	TJNCON 2 3/4 06/15/19	99.50	99.98	5.55	2.86	4.76	2.86	1.90
ZHJWCI 6.38 10/10/19	ZHJWCI 4.95 12/01/19	99.91	100.68	6.36	3.86	5.57	3.85	1.71
ZZCITY 6.78 06/20/19	ZZCITY 2.98 10/19/19	100.94	98.72	1.93	5.48	1.14	5.45	-4.31
							Average	**-0.66**

Source: BofA Merrill Lynch Global Research; Price, yield, IRS & (ND) CCS rate data sourced from Bloomberg and Wind. **Price based on Apr 5th 2019

Table 7: Relative values of CNY vs. USD bonds for China property sector

CNY Bond	USD Bond	Price(CNY bond)	Price(USD bond)	Yield (CNY)	Yield (USD)	+ IRS - ND CCS USD equivalent yield	adjusted yield Assume 50 bps per year for HY 20 bps per year for IG *Adj Yield (USD)	CNY over USD Yield difference
LNGFOR 4.98 08/17/23	LNGFOR 3 7/8 07/13/22	101.50	100.15	4.28	3.82	3.45	4.04	-0.59
SINOCE 4.7 08/02/23	SINOCE 4.45 02/04/20	100.50	100.47	4.45	3.85	3.68	4.15	-0.47
VANKE 4.6 07/12/21	VNKRLE 2.95 10/14/21	102.06	99.87	3.62	3.00	2.85	2.94	-0.09
VANKE 4.05 08/09/23	VNKRLE 2.95 10/14/21	100.85	99.87	3.84	3.00	3.02	3.36	-0.35
BJCAPT 5.8 07/11/21	CPDEV 3 7/8 01/25/20	101.79	99.83	5.02	4.10	4.23	4.35	-0.12
BJCAPT 5.94 07/11/23	CPDEV 3 7/8 01/30/21	102.78	99.38	5.25	4.23	4.48	4.48	0.00
FTLNHD 7.97 08/20/21	FTLNHD 7 1/8 05/23/21	102.96	102.06	6.54	6.07	5.77	6.17	-0.40
GEMDAL 4.8 08/24/21	GEMDAL 6 09/06/21	102.15	101.67	3.82	5.25	3.05	5.25	-2.20
GEMDAL 5 07/18/23	GEMDAL 6 09/06/21	102.90	101.67	3.24	5.25	2.47	5.20	-2.73
AOYUAN 8 1/2 07/24/21	CAPG 7.95 09/07/21	100.83	103.50	8.05	6.35	7.27	6.30	0.97
AOYUAN 8 07/24/21	CAPG 7.95 09/07/21	100.11	103.50	7.90	6.35	7.13	6.30	0.83
YUKHU 5.46 08/09/21	CIFIHG 6 3/8 05/02/20	101.52	101.00	4.83	5.39	4.06	6.04	-1.98
GRNCH 4.73 08/10/23	GRNCH 5 7/8 08/11/20	101.80	101.17	3.89	4.95	3.07	6.45	-3.39
GZTIME 8.4 08/20/21	TPHL 6 1/4 01/17/21	101.08	100.06	7.90	6.21	7.10	6.01	1.10
FTHDGR 7.95 12/30/20	FTHDGR 8 3/8 03/08/21	99.99	94.97	7.90	11.37	7.13	11.27	-4.14
PWRLNG 6 03/07/21	PWRLNG 5.95 07/19/20	100.15	99.54	5.90	6.33	5.12	6.63	-1.50
FANHAI 8 1/2 08/29/23	FANHAI 7 3/4 07/27/20	90.27	89.33	10.88	17.27	10.10	17.82	-7.71
LGUANG 7 1/2 07/27/21	LGUANG 11 09/20/20	99.99	99.44	7.46	11.42	6.69	11.87	-5.18
TJSZD 7 1/2 08/28/21	SUNAC 7.35 07/19/21	96.16	101.66	9.32	6.55	8.55	6.60	1.95
SUNSHI 7 1/2 07/27/21	SUNSHI 7 1/2 11/16/20	100.60	98.21	6.96	8.72	6.17	8.57	-2.40
FJSUNS 7 1/2 08/24/21	YAINVE 9 7/8 04/19/21	100.14	96.89	7.40	13.22	6.62	13.92	-7.30
							IG Average	**-0.38**
							BB Average	**-1.09**
							Solid B	**-1.10**
							High beta B	**-3.69**
							Overall Average	**-1.70**

Source: BofA Merrill Lynch Global Research; Price, yield, IRS & (ND) CCS rate data sourced from Bloomberg and Wind. **Price based on Apr 5th 2019

Table 8: Relative values of CNY vs. USD bonds for China financial sector

CNY Bond	USD Bond	Price(CNY bond)	Price(USD bond)	Yield (CNY)	Yield (USD)	+ IRS - ND CCS USD equivalent yield	adjusted yield Assume 10 bps per year *Adj Yield (USD)	CNY over USD Yield difference
SDBC 3.99 12/21/21	SDBC 1 7/8 11/03/21	102.14	97.28	3.14	2.99	2.30	3.00	-0.70
SDBC 3.85 01/16/22	SDBC 2 5/8 01/24/22	101.97	99.17	3.09	2.94	2.25	2.94	-0.68
SDBC 3.81 02/05/25	SDBC 4.07 08/12/24	100.12	104.58	3.79	3.10	2.88	3.15	-0.27
SDBC 3.05 08/25/26	SDBC 3 06/01/26	94.07	97.40	3.95	3.41	2.61	3.43	-0.82
SDBC 3.65 12/13/26	SDBC 3 3/8 01/24/27	99.76	99.52	3.68	3.45	2.34	3.44	-1.09
BOCOM 5.8 08/19/24	BOCOM 4 1/2 10/03/24	101.17	100.20	2.46	4.07	1.67	4.06	-2.39
CCB 4.8 12/22/24	CCB 3 7/8 05/13/25	101.17	100.31	3.05	3.58	2.26	3.54	-1.28
ICBCAS 5.56 06/30/31	ICBCAS 4 7/8 09/21/25	99.97	105.42	5.48	3.92	4.14	4.00	0.15
CCAMCL 5.35 05/29/19	CCAMCL 4 05/14/19	100.40	100.09	2.27	2.99	1.48	2.99	-1.51
CCAMCL 4.3 05/22/20	CCAMCL 3 1/8 04/23/20	101.32	99.74	3.08	3.38	2.28	3.39	-1.10
CCAMCL 4.6 09/24/25	CCAMCL 4 1/4 04/23/25	98.46	101.69	4.88	3.93	3.54	3.97	-0.44
HRAM 3.35 11/22/19	HRAM 2 7/8 11/22/19	100.11	99.64	3.12	3.47	2.33	3.47	-1.14
HRAM 4.8 12/02/19	HRAM 3 3/8 01/24/20	101.08	99.97	3.04	3.41	2.25	3.40	-1.15
HRAM 4.21 07/30/20	HRAM 3 3/4 11/19/20	98.91	100.25	5.08	3.58	4.28	3.55	0.73
HRAM 3.39 03/04/21	HRAM 3 1/4 06/03/21	98.83	99.30	4.04	3.59	3.26	3.57	-0.31
HRAM 3.54 11/22/21	HRAM 3 5/8 11/22/21	99.00	100.12	3.94	3.58	3.10	3.58	-0.48
							Policy bank Average	**-0.71**
							Bank Average	**-1.17**
							AMC Average	**-0.67**
							Overall Average	**-0.78**

Source: BofA Merrill Lynch Global Research; Price, yield, IRS & (ND) CCS rate data sourced from Bloomberg and Wind. **Price based on Apr 5th 2019

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