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S&P Global
China Ratings

Weak LGFVs Not Yet a Lethal Risk for China's Banking Industry, But Certain City Banks Face Serious Challenges

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In our view, LGFV credit quality is set to see further differentiation in 2023, due to changes in the financing environment, regional land markets and debt maturity pressure. Weak LGFVs will come under growing liquidity pressure, as credit events such as non-standard debt defaults and bank loan restructures increase.

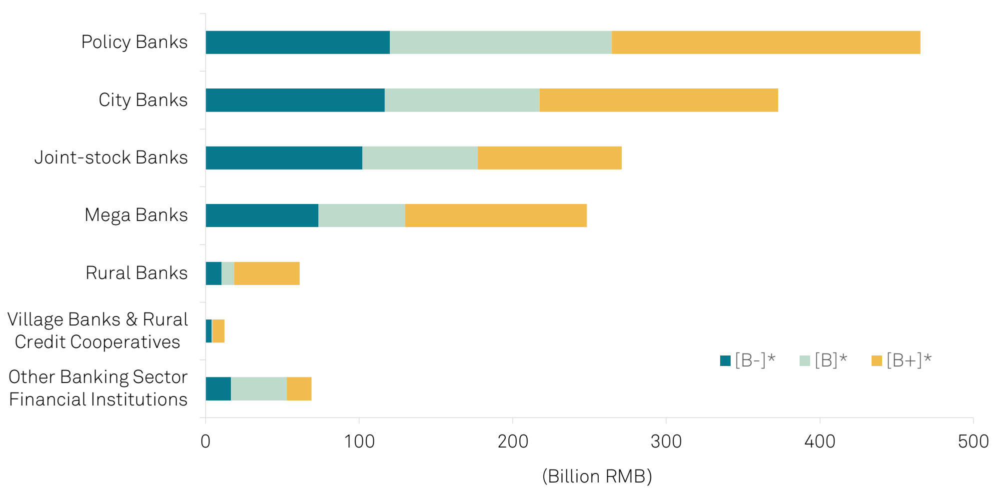
Against this backdrop, we assessed the banking sector's exposure to weak LGFVs, and potential impact on capital. We don't see LGFV risks posing a significant threat to banks' overall capital adequacy, with capital pressure largely concentrated among certain city banks.

The banking sector's credit exposure to weak LGFVs is small, and the impact of a major LGFV credit event would be controllable. Around 6% of 3,000 LGFVs that we tested are in [B_{spc}] category. We view LGFVs in [B_{spc}] category as vulnerable and dependent upon favorable conditions to meet their financial commitments. According to our preliminary assessment, financial institution loans to LGFVs in [B_{spc}] category amount to around 1.5 trillion RMB. This is only 0.8% of the banking sector's total loan book and 5.1% of banking institutions' net assets.

Our initial estimates show that credit exposure to LGFVs in [B_{spc}] category is split 31% to policy banks, 66% commercial banks and 3% trust companies, leasing companies and other financial institutions. Commercial banks' loan exposure to LGFVs in [B_{spc}] category is about 1 trillion RMB. 25% of this exposure is among the six mega banks, 27% joint-stock banks, 38% city banks and 6% rural banks. Guizhou, Gansu, Shandong, Guangxi, Jilin and Tianjin are the regions with the biggest credit exposures to weak LGFVs.

Chart 1

Distribution of Various Banks' Credit Exposures to [B_{spc}] LGFVs



Note: *The indicative issuer credit quality distributions expressed in this report are only S&P China's indicative views of credit quality derived from a desktop analysis based on public information without interactive review with any particular entity or the full credit rating process such as a rating committee (except for institutions for which a public rating has been published). The opinions expressed herein are not and should not be represented as a credit rating and should not be taken as an indication of a final credit rating on any particular entity

Source: S&P Global (China) Ratings.

Compared to other banks, city banks have higher exposure to high-risk LGFVs. Our initial analysis found that credit exposure to LGFVs in [B_{spc}] category accounts for about 0.3% of the six mega banks' total loans, 0.7% of the 12 joint-stock banks' total loans and 1.8% of major rural banks' total loans. For major city banks, the exposure is around 2.5%.

Table 1

S&P Global (China) Ratings' Preliminary Assessment of Banks' Exposures to Weak LGFVs

	[B_{spc}] LGFV credit exposure/total loans: WA value	[B_{spc}] LGFV credit exposure/total loans: highest value	[B_{spc}] LGFV credit exposure/total loans: lowest value
6 mega banks	0.29%	0.86%	0.06%
12 joint-stock banks	0.73%	1.66%	0.15%
70 major city banks	2.47%	22.46%	0.00%
30 major rural banks	1.76%	12.17%	0.00%

Note: *The indicative issuer credit quality distributions expressed in this report are only S&P China's indicative views of credit quality derived from a desktop analysis based on public information without interactive review with any particular entity or the full credit rating process such as a rating committee (except for institutions for which a public rating has been published). The opinions expressed herein are not and should not be represented as a credit rating and should not be taken as an indication of a final credit rating on any particular entity.

Source: S&P Global (China) Ratings.

We conducted stress testing on 100 major domestic banks to assess whether capital pressure would significantly increase if weak LGFVs' default risk expanded. Our analysis also looks to determine whether exposure to weak LGFVs is a lethal risk to the banking sector. Our testing also considers the potential impact on bank capital from risks around loan extensions to small and micro enterprises (SMEs) during COVID, as well as any impact from real estate industry volatility.

While disclosed data suggest most major banks can currently fully meet minimum regulatory capital adequacy requirements, capital resilience under our stress scenarios varies when considering risks accumulated during COVID, and exposures to real estate risks and LGFV risks. The mega banks have the most resilient capital, while city banks' capital positions are the weakest.

We found that the six mega banks' capital adequacy would not face significant negative impact from the abovementioned risks. They are large in scale, have good business diversification, strong capitalization and solid profitability. Furthermore, they have low exposure to risks around SME loan extensions, real estate and weak LGFVs.

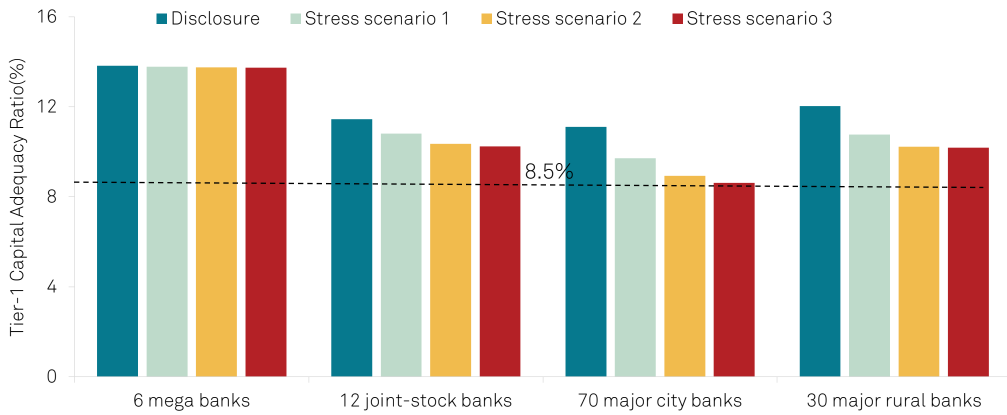
Joint-stock banks' reserves are, on average, lower than the mega banks. Certain joint-stock banks have large exposures to real estate, so our stress testing showed their capital to be less resilient than the mega banks. We also note that joint-stock banks' exposures to LGFV risk is generally controllable, and their largest source of capital pressure is from existing SML/stage-II assets and real estate exposure, rather than LGFVs.

For city banks, our analysis found that exposure to SME loan extensions, real estate risk and LGFV risk would all have a significant impact on capital. 61% of the 70 city banks tested had tier-1 capital adequacy ratios below 8.5% under severe stress, due to a combination of the above three risk factors. Under severe stress, the 70 city banks' weighted average tier-1 capital adequacy ratio drops to about 8.6%.

In contrast, large and medium-sized rural banks have better capital resilience than city banks. Only 20% of the 30 rural banks we tested would have tier-1 capital adequacy ratios below 8.5% under severe stress.

Chart 2

Overview of Stress Scenarios' Impact on Banks' WA Disclosed Tier-1 Capital Adequacy Ratios



Note 1: Stress scenario 1 (mild stress): 100% of the bank's special-mention loans (SMLs) migrate to NPLs; 100% of the stage-II loans migrate to stage-III; 30%-50% of forbearance and extended loans migrate to NPLs; The LGD on the above NPLs is between 70-90%. The bank has not seen any significant increase in bad loans to the real estate and construction sectors compared with recent disclosures. There is no significant increase in bad LGFV debt.

Note 2: Stress scenario 2 (moderate stress): 100% of the bank's SMLs migrate to NPLs; 100% of the stage-II loans migrate to stage-III; 30%-50% of forbearance and extended loans migrate to NPLs; The LGD on the above NPLs is between 70-90%. 30% of real estate and construction loans are non-performing; the LGD on these bad debts is 70%. There is no significant increase in bad LGFV debt.

Note 3: Stress scenario 3 (severe stress): 100% of the bank's SMLs migrate to NPLs; 100% of the stage-II loans migrate to stage-III; 30%-50% of forbearance and extended loans migrate to NPLs; The LGD on the above NPLs is between 70-90%. 30% of real estate and construction loans are non-performing; the LGD on these bad debts is 70%. 50% of loans to [B_{spc}] category LGFVs are bad; the LGD on these bad debts is 50%.

Note 4: Disclosed data as of 2021.

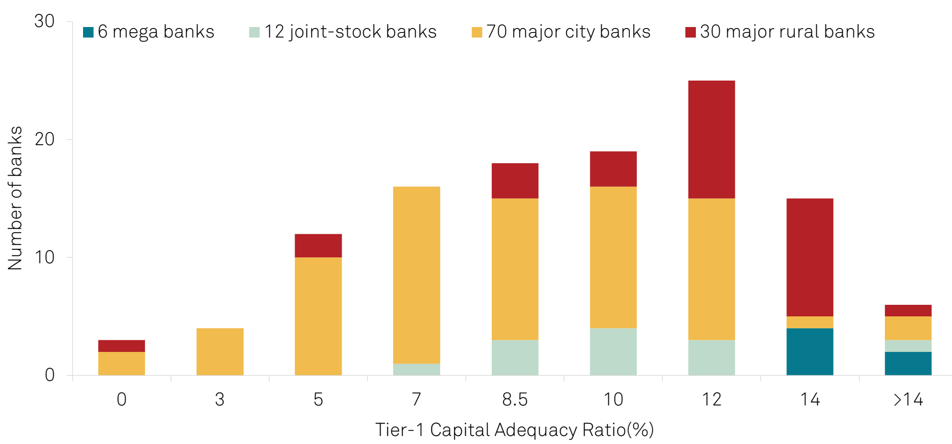
Note 5: Please see Appendix 1 for detailed results of each stress scenario.

Note 6: Above data are weighted average according to asset risk weightings applied by each bank.

Source: S&P Global (China) Ratings.

Chart 3

Overview of Impact of Severe Stress Scenario on Major Banks' Tier-1 Capital Adequacy Ratios



Note: Severe stress scenario: 100% of the bank's SMLs migrate to NPLs; 100% of the stage-II loans migrate to stage-III; 30%-50% of forbearance and extended loans migrate to NPLs; The LGD on the above NPLs is between 70-90%. 30% of real estate and construction loans are non-performing; the LGD on these bad debts is 70%. 50% of loans to [B_{spc}] category LGFVs are bad; the LGD on these bad debts is 50%.

Source: S&P Global (China) Ratings.

The table below shows results from our sensitivity analysis. The impact of weak LGFVs on city banks' average capitalization is small. Serious risks are mainly concentrated among specific city banks in certain regions. If we assume that 50% of loans to LGFVs in [B_{spc}] category is bad and the loss given default(LGD) on this bad debt is 50%, the WA tier-1 capital adequacy ratio of the 70 city banks may decrease by 0.31 percentage points.

We believe the biggest headwind for city banks' capital resilience is their outstanding SMLs loans, forbearance and extended loans, as well as exposure to property developers. If risks around SMEs falls significantly in 2023 and the real estate sector sees a major improvement in its ability to make repayments, city banks' capital resilience should see a significant improvement.

Table 2

Sensitivity Analysis: Impact of [B_{spc}] Category LGFV Credit Losses on 70 Major City Banks' Tier-1 Capital Adequacy Ratios

Tier-1 capital adequacy ratio (%)		[B_{spc}] category LGFV Debt Exposures Becoming Non-Performing (%)									
		10	20	30	40	50	60	70	80	90	100
LGFV NPL final LGD (%)	10	8.91	8.90	8.89	8.88	8.87	8.85	8.84	8.83	8.82	8.81
	20	8.90	8.88	8.85	8.83	8.81	8.78	8.76	8.73	8.71	8.68
	30	8.89	8.85	8.82	8.78	8.74	8.71	8.67	8.63	8.59	8.55
	40	8.88	8.83	8.78	8.73	8.68	8.63	8.58	8.53	8.48	8.43
	50	8.87	8.81	8.74	8.68	8.62	8.55	8.49	8.43	8.36	8.30
	60	8.85	8.78	8.71	8.63	8.55	8.48	8.40	8.32	8.25	8.17
	70	8.84	8.76	8.67	8.58	8.49	8.40	8.31	8.22	8.13	8.04
	80	8.83	8.73	8.63	8.53	8.43	8.32	8.22	8.12	8.02	7.92
	90	8.82	8.71	8.59	8.48	8.36	8.25	8.13	8.02	7.90	7.79
	100	8.81	8.68	8.55	8.43	8.30	8.17	8.04	7.92	7.79	7.66

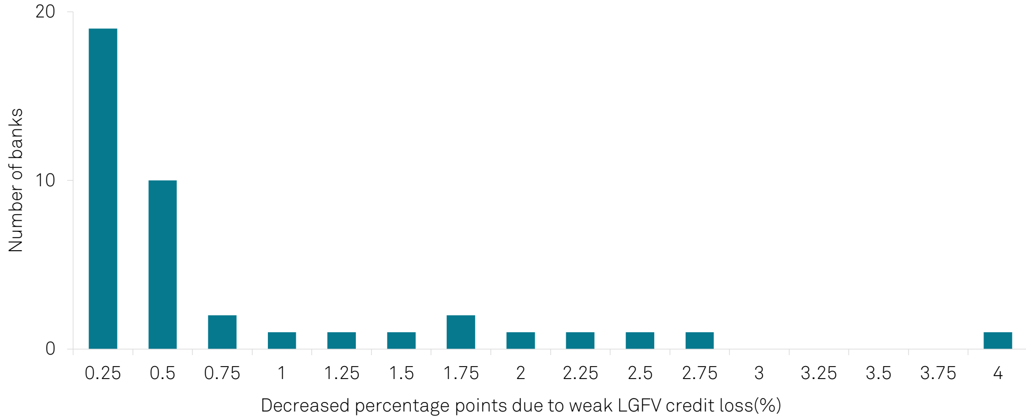
Note: Above stress scenario assumptions include: 100% of the bank's SMLs migrate to NPLs; 100% of the stage-II loans migrate to stage-III; 30%-50% of forbearance and extended loans migrate to NPLs; The LGD on the above NPLs is between 70-90%. 30% of real estate and construction loans are non-performing; the LGD on these bad debts is 70%.

Source: S&P Global (China) Ratings.

Our stress testing found that 41 of the 70 city banks tested would see their capital adequacy ratios decrease due to weak LGFV risk exposure. Among the affected banks, about 70% would see tier-1 capital adequacy fall by a maximum of 0.5 percentage points, indicating limited impact. However, exposures to weak LGFVs are relatively high in regions such as Guizhou, Guangxi and Shandong. In such regions, city banks' tier-1 capital adequacy ratios may fall by as much as 4 percentage points.

Chart 4

Severe Stress Scenario: Impact of LGFV Credit Losses on 70 City Banks' Tier-1 Capital Adequacy Ratios



Note: Above results based on scenario where 50% of loans to [B_{spc}] LGFVs are non-performing, and LGD on such loans is 50%.

Source: S&P Global (China) Ratings.

In our view, as long as the risk situation around LGFVs does not deteriorate further, the capital impact on banks can be controlled. An important assumption made in our above stress scenario is that there would be no significant change in the number of LGFVs in [B_{spc}] category. Should a large number of LGFVs in [BB_{spc}] or [BBB_{spc}] categories see their indicative issuer credit quality deteriorate to [B_{spc}], then the impact on bank capital would be greater than indicated by our test results.

We believe that differentiation of LGFV risk would have an impact on how urgently certain city banks seek capital support. Many banks would likely resolve their LGFV risk exposures by restructuring and extending bad debts, buying additional time. This would mean banks' disclosed non-performing loan and capital adequacy ratios show little major short-term impact. Given the current stable and loose monetary policy environment, sufficient market liquidity and government support for small and medium-sized banks, LGFV risks are unlikely to cause a liquidity crisis in the banking industry.

However, overlapping factors (COVID, real estate and LGFV risks) have weighed heavily on some small and medium-sized banks' capital resilience. Pressure to supplement capital has increased significantly, with more capital support needed in the next two years to shore off potential credit losses.

Appendix 1: Banks' Tier-1 Capital Adequacy Stress Testing Results

Stress Scenario 1: Mild Stress	Stress Scenario 2: Moderate Stress	Stress Scenario 3: Severe Stress
Description of each scenario		
100% of the bank's special-mention loans (SMLs) migrate to NPLs; 100% of the stage-II loans migrate to stage-III; 30%-50% of forbearance and extended loans migrate to NPLs; The LGD on the above NPLs is between 70-90%.	100% of the bank's SMLs migrate to NPLs; 100% of the stage-II loans migrate to stage-III; 30%-50% of forbearance and extended loans migrate to NPLs; The LGD on the above NPLs is between 70-90%.	100% of the bank's SMLs migrate to NPLs; 100% of the stage-II loans migrate to stage-III; 30%-50% of forbearance and extended loans migrate to NPLs; The LGD on the above NPLs is between 70-90%.
The bank has not seen any significant increase in bad loans to the real estate and construction sectors compared with recent disclosures.	30% of real estate and construction loans are non-performing; The LGD on these bad debts is 70%.	30% of real estate and construction loans are non-performing; The LGD on these bad debts is 70%.
There is no significant increase in bad LGFV debt.	There is no significant increase in bad LGFV debt.	50% of loans to [B_{spc}] category LGFVs are bad; The LGD on these bad debts is 50%.
Main Conclusions From Each Scenario:		
One of the six mega banks' tier-1 capital adequacy ratios decreases, but is still significantly higher than the regulatory minimum requirements; the adequate reserves of the other five mega banks means their capital adequacy ratios are unchanged under this scenario.	One mega banks' tier-1 capital adequacy ratio is slightly lower than stress scenario 1, but is still significantly higher than the regulatory minimum requirement. The real estate exposure of the six mega banks is controllable, and real estate risk has no obvious negative impact on capital.	One mega banks' tier-1 capital adequacy ratio is slightly lower than stress scenario 2, but is still significantly higher than the regulatory minimum requirement. Exposure to LGFV risk has no obvious negative impact on capital.
9 of the 12 joint-stock banks' tier-1 capital adequacy ratios decrease. 11 joint-stock banks maintain tier-1 capital adequacy ratios of more than 8.5% under the stress scenario 1. One joint-stock bank's tier-1 capital adequacy ratio is between 7% and 8.5%. Overall capital shortfall is small.	10 of the 12 joint-stock banks have lower tier-1 capital adequacy ratios than under stress scenario 1. 8 joint-stock banks maintain tier-1 capital adequacy ratio above 8.5%; 3 joint-stock banks range from 7%-8.5%; 1 joint-stock bank is between 5%-7%. Certain joint-stock banks come under clear pressure from real estate risk due to high exposure to property developers.	10 of the 12 joint-stock banks have lower tier-1 capital adequacy ratios than under stress scenario 2. 8 joint-stock banks maintain tier-1 capital adequacy ratio above 8.5%; 3 joint-stock banks range from 7%-8.5%; 1 joint-stock bank is between 5%-7%. Joint-stock banks' exposure to weak LGFVs is small. High-risk LGFVs pose no obvious capital pressure.
51 of the 70 city banks tested see a decrease in their tier-1 capital adequacy ratios. Tier-1 capital adequacy remains above 8.5% for 41 city banks under this level of stress. 15 city banks range between 7%-8.5%; 10 are between 5%-7%; 4 are below 5%. Some city banks have a high proportion of SMLs and forbearance and extended loans, which significantly impacts their capital resilience under stress.	57 of the 70 city banks have a lower tier-1 capital adequacy ratio than under stress scenario 1. 30 city banks maintain tier-1 capital adequacy ratios above 8.5%; 13 range from 7%-8.5%; 13 range from 5%-7%; 14 are below 5%. Real estate risk has a significant impact on certain city banks' capital resilience.	41 of the 70 city banks have a lower tier-1 capital adequacy ratio than under stress scenario 2. 27 city banks maintain tier-1 capital adequacy ratios above 8.5%; 12 range from 7%-8.5%; 15 range from 5%-7%; 16 are below 5%. Risk from weak LGFVs has a significant impact on certain city banks' capital resilience.
15 of the 30 rural banks tested have lower tier-1 capital adequacy ratios under this level of stress. 25 rural banks maintain tier-1 capital adequacy ratios above 8.5%; 2 range from 7%-8.5%; 2 range from 5%-7%; 1 is below 5%. Some rural banks have a high proportion of SMLs and forbearance and extended loans, which significantly impacts their capital resilience.	9 of the 30 rural banks have lower tier-1 capital adequacy ratios than under stress scenario 1. 24 rural banks maintain tier-1 capital adequacy ratios above 8.5%; 3 range from 7%-8.5%; 3 are below 5%. Overall, rural banks' large exposure to real estate risk is limited, but certain rural banks' capital is still seriously affected by real estate risk.	5 of the 30 rural banks have lower tier-1 capital adequacy ratios than under stress scenario 2. 24 rural banks maintain tier-1 capital adequacy ratios above 8.5%; 3 range from 7%-8.5%; 3 are below 5%. Exposure to weak LGFVs is generally limited among rural banks. Only a few rural banks' capital resilience is significantly impacted by LGFV risks.

Note 1: Bank is assumed to have 100% reserve coverage of irrecoverable NPLs.

Note 2: This stress test analysis includes 6 mega banks, 12 joint-stock banks, 70 city banks and 30 rural banks.

Source: S&P Global (China) Ratings.

Appendix 2: Examples of Small and Medium-Sized Banks that Maintained Tier-1 Capital Adequacy Ratios Above 8.5% Under Stress

Bank Name	Bank Name
Bank of Beijing Co., Ltd	Chongqing Rural Commercial Bank Co., Ltd
Bank of Shanghai Co., Ltd	Shanghai Rural Commercial Bank Co., Ltd
Bank of Jiangsu Co., Ltd	Beijing Rural Commercial Bank Co., Ltd
Bank of Ningbo Co., Ltd	Chengdu Rural Commercial Bank Co., Ltd
Bank of Nanjing Co., Ltd	Dongguan Rural Commercial Bank Co., Ltd
Bank of Hangzhou Co., Ltd	Shenzhen Rural Commercial Bank Co., Ltd
Huishang Bank Co., Ltd	Jiangsu Jiangnan Rural Commercial Bank Co., Ltd
Bank of Changsha Co., Ltd	Guangdong Shunde Rural Commercial Bank Co., Ltd
Bank of Chengdu Co., Ltd	Hangzhou United Rural Commercial Bank Co., Ltd
Bank of Chongqing Co., Ltd	Guangdong Nanhai Rural Commercial Bank Co., Ltd
Bank of Dongguan Co., Ltd	Jiangsu Changshu Rural Commercial Bank Co., Ltd
Bank of Suzhou Co., Ltd	Zhejiang Xiaoshan Rural Commercial Bank Co., Ltd
Qilu Bank Co., Ltd	Ningbo Yinzhou Rural Commercial Bank Co., Ltd
Bank of Xi'an Co., Ltd	Jiangsu Zijin Rural Commercial Bank Co., Ltd
Xiamen Bank Co., Ltd	Wuxi Rural Commercial Bank Co., Ltd
Bank of Taizhou Co., Ltd	Jiangsu Zhangjiagang Rural Commercial Bank Co., Ltd
China Resources Bank of Zhuhai Co.,Ltd.	Zhejiang Hangzhou Yuhang Rural Commercial Bank Co., Ltd
Sichuan Bank Co., Ltd	Jiangsu Suzhou Rural Commercial Bank Co., Ltd
Bank of Urumqi Co., Ltd	Jiangsu Jiangyin Rural Commercial Bank Co., Ltd
Ningbo Commerce Bank Co., Ltd	Jiangsu Kunshan Rural Commercial Bank Co., Ltd
Bank of Huzhou Co., Ltd	Hefei Science & Technology Rural Commercial Bank Co., Ltd
Xinjiang Bank Co., Ltd	Zhejiang Haining Rural Commercial Bank Co., Ltd

Note: Stress scenario assumptions include: 100% of the bank's SMLs migrate to NPLs; 100% of the stage-II loans migrate to stage-III; 30%-50% of forbearance and extended loans migrate to NPLs; The LGD on the above NPLs is between 70-90%. 30% of real estate and construction loans are non-performing; the LGD on these bad debts is 70%. 50% of loans to [B_{spc}] category LGFVs are bad; the LGD on these bad debts is 50%.

Source: S&P Global (China) Ratings.

This report does not constitute a rating action.