鵬元國際 PENGYUAN

Chinese Local Government Rating Criteria

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Summary

These rating criteria describe Pengyuan's analytical approach to assigning issuer credit ratings (ICRs) and issuance credit ratings to local governments (LGs) in China. Pengyuan intends to use these criteria to provide markets and the participants with clarity on our fundamental analysis of credit risks of Chinese LGs and our ratings that reflect such risks. We recognize that these criteria cannot exhaust all rating factors that are driving creditworthiness of Chinese LGs in all circumstances and reflected in our ratings. However, it should enable readers to gain understanding on our approach to assessing LG credit risks.

These criteria will be effective immediately on the date of final publication. We intend to complete the review of all affected ratings, if any, within six months thereafter, and we expect no impact to our current rating portfolio.

Top-down Approach to Rating Chinese Local Government

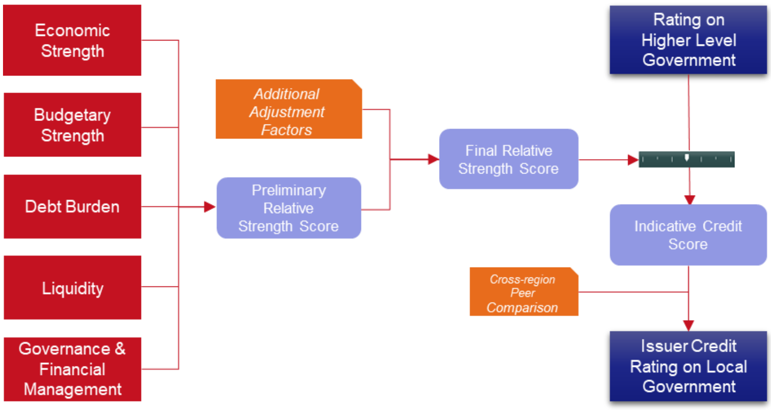
We assign rating to a Chinese LG by applying generally zero to four-notch downward adjustment to our rating on the immediate higher-level government (HLG) of the LG. The extent of the notching is based on our assessment of the LG's strength in relative to peers (namely, LGs reporting directly to the same HLG) regarding key rating factors, as well as our assessment on a few additional consideration factors relevant to the LG (chart 1).

Such top-down approach to rating Chinese LGs reflects our below observations and/or believes:

- An HLG in China would generally keep the creditworthiness of LGs in its jurisdiction within a close distance to its own creditworthiness, as the latter perform important economic, political and social functions for the former.
- On-lending from an HLG would be the key source of debt for sub-provincial LGs in at least the next several years under the amended Budget Law of China that entered into effect in 2015, which allows LGs to borrow only through issuing bond and allows only provincial governments to issue bond.
- The creditworthiness of a LG is generally lower than its HLG, mainly as a LG has typically much less power than its HLG to shape the intragovernmental relations, less state-owned assets and enterprises under its control and less capability to mobilize external financial resources.
- An HLG would tolerate differentiation in the creditworthiness of LGs and may even welcome market differentiation of LGs creditworthiness to help discipline LGs.

The top-down approach to assigning rating to Chinese LGs and our approach to assessing and scoring key rating factors (including but not limited to the weights of key rating factors and the choice of anchor indicators) also reflect our belief that such approaches provide practical and meaningful ways to capture creditworthiness of LGs in China, a country with no default case of LGs and limited availability of statistics about local public finance.

Chart 1: Framework of Chinese Local Government Rating



Assigning Issuer Credit Rating to Chinese Local Government

When we assign ICR to a Chinese LG, we start with determining the rating on its HLG based on the Chinese Local Government Rating Criteria or in the case of a provincial government Sovereign Rating Criteria. The rating on the HLG of a provincial government is equal to the sovereign rating.

Then we assess each key rating factor of the LG and assign to each of them a score in the range of "1" (weakest) to "3" (strongest) based on the LG's strength relative to peer LGs. The five key rating factors are: economic strength, budgetary strength, debt burden, liquidity and governance and management.

Thereafter, we determine a *preliminary relative strength score* (PRS) based on the weighted average of the scores on all key rating factors. Typical weights are 30% for economic strength, 15% for budgetary strength, 20% for debt burden, 20% for liquidity and 15% for governance and financial management. Rating committee has the discretion to apply different set of weights if the typical set of weights would understate or overstate the creditworthiness of the LG given the circumstances.

We would typically round up the weighted average score to the closest integer to arrive at PRS. However, when the weighted average score is close to the middle of two integers, we would pick one that better captures the creditworthiness of the LG in our belief as PRS. Moreover, if either economy or liquidity score is "1", the PRS will be capped at "1". If governance and financial management score is "1" and the liquidity score is less than "3", the PRS will be capped at "1" as well.

Then we make adjustment to PRS based on our assessment of two *additional adjustment factors* below to arrive at *final relative strength score* (FRS), which will be restricted in the range of "0" to "4":

- The importance of the LG to its HLG that is not correlated to and thus captured by the relative economic and fiscal strength of the LG: we could notch up the PRS by one (or two) points if the solvency of the LG is substantially more important (or highly more important) to HLG than peers. Particularly, if a LG is the government of the capital city of the region governed by the HLG, the FRS will be "4" to highlight the unique importance of the LG to its HLG.
- Track record of default and other signals of weaker willingness to pay compared to peers would lead to one to two-point downward adjustment to PRS.

Thereafter, we arrive at an indicative credit score (ICS) based on below formula:

ICS on LG = **ICR on HLG** minus **(4 – FRS) notches**

The ICR on the LG would be equal to the ICS, unless we believe the ICR should be one-notch lower or higher than the ICS based on *cross-region peer comparison* (namely, comparing credit profile of the LG with those of similarly-rated local governments in China out of the jurisdiction of HLG above the LG).

Foreign-currency ICR on LG would be derived from notching down foreign-currency ICR on HLG. Local-currency ICR on LG would be derived from notching down local-currency ICR on HLG.

Key Rating Factors

We explain in this section how we assess and score key rating factors.

For most key rating factors, we assign a preliminary score based on weighted average of sub-scores, which are in turn based on key indicators. Then we notch up (or down) if applicable the preliminary score based on additional considerations to obtain the final score.

The weights of sub-scores in preliminary score listed in relevant tables are typical weights we use. Rating committee has the discretion to apply different set of weights if the typical set of weights would understate or overstate the creditworthiness of the LG given the circumstances.

When the value of such indicator falls on or very close to a threshold between two different notching outcomes or two different scores, we will choose the one which in our judgement better captures the credit risk.

The notching to preliminary score on each key rating factors are accumulative. However, the final score would be restricted in the range of “1” to “3”.

Economic Strength

We believe economic strength is the most useful barometer and an important driver of relative credit strength of a Chinese LG compared to peers. Strong economy provides a LG with greater revenue base, greater influence to shape intergovernmental arrangement with HLG, stronger capacity to mobilize financial sector resources and less contingent liabilities from loss-making *entities related to the government* (GREs, typically state-owned enterprises which in broad sense include local government financing vehicles).

We assign preliminary economic score (PES) based on two sub-factors: the stage of economic development and growth performance (table 1). We determine the stage of economic development pertaining to a LG primarily based on local GDP per capita.

Table 1: Assigning Preliminary Economic Score

Sub-factor	Indicator	Weight in PES	Score		
			1	2	3
Stage of Economic Development	GDP per capita[1] ($)	50%	Below average	Average	Above average
Growth Performance	Real growth rate of gross local product[2] (“local GDP”)	50%	Below average	Average	Above average

Note: 1. Local GDP divided by total number of residents, $year_{t-1}$, with $year_t$ being the current year. 2. Five-year average ($year_{t-2}$ to $year_{t+2}$).

Main Additional Consideration

- **Investment-driven growth**: We would notch down the PES by one to two points if the dependence of the economy on investment is high (typically capital formation accounts for 2/3 of local GDP) or extremely high (typically capital formation accounts for about 100% or more of local GDP), especially when a substantial portion of the investment involves the local public sector (LG and local state-owned enterprises). Investment in such scale is likely to be unsustainable and may contain sizable low-productivity portion or even loss-making projects, which dampens the prospect of sustainable growth of local economy and fiscal health of the LG.
- **Economic concentration**: We would notch down the PES by one to two points if the local economy has high or extremely high dependence on a single volatile industry or economic segment, unless the industry or segment appear to be close to the bottom of the medium to long term cycle and the downside risk is limited.

- **Business environments**: We would notch down (or up) the PES by one point if we believe the local business environment is greatly below (or above) the average of peers. This adjustment would apply to outliers only, thus would be limited to no more than a very few LGs under an HLG.
- **Demographic profile**: We would notch down (or up) the PES by one point if the local demographic profile is greatly worse (or better) than the average of peers. Large and prolonged net outflows of population, substantial drainage of talent and high share of dependent population dampen growth prospect of local economy and increase fiscal pressure in stress scenarios. In contrast, young population and substantial inflows of talents could help local economic growth. This adjustment would apply to outliers only, thus would be limited to no more than a very few LGs under an HLG.
- **Quality of economic statistics**: we would notch down the PES by one to two points if there is evidence that the quality of economic statistics of the LG is much weaker or greatly weaker than peers. This adjustment would apply to outliers only, thus would be limited to no more than a very few LGs under an HLG.

Budgetary Strength

We assign preliminary budgetary score (PBS) based on three components of budgetary performance (table 2) while treating budgetary flexibility as an additional consideration factor, as simple indicators don't carry much information about budgetary flexibility of LGs in China.

Budgetary strength—consisting of budgetary performance and budgetary flexibility—is a key aspect of LG creditworthiness. Budgetary performance (typically measured by budgetary balance) drives the LG's building up of debt or fiscal reserve, while budgetary flexibility (the capability to raise additional revenue or cut expenditure) helps a LG to manage stress scenarios.

However, we attach relatively low weight to budgetary strength in PRS and assess more than budgetary balance in scoring budgetary performance in China's circumstances. We understand that the headline budgetary data and information may not provide a clear and full picture of budgetary condition and strength of many Chinese LGs due to limited disclosure of revenue and spending details, evolving public accounting standards and practices and in some cases poor quality of budgetary numbers. Besides, we believe that budgetary strength of Chinese LGs is largely correlated with their economic strength and would have thereby been partly captured by our economic score on the LGs.

Our assessment of budgetary strength focuses on the aggregate *general budget* and *government fund budget* of all subnational governments within the LG's jurisdiction (including those lower level LGs not reporting directly to the LG), partly as a LG is directly responsible for the payment of debt on-lent to those subnational governments.

In contrast, we consider potential funding gap of *social insurance fund budget* (SIFB) of LGs in our assessment on debt and contingent liabilities, mainly because the limited availability of data—especially that about transfers from other budgets to SIFB—may make an aggregate balance of SIFB and other budgets misleading of underlying budget performance.

While LGs have also a separate *operating budget of state-owned assets* (OBSOA), the size of revenue and expenditure of the budget are typically very small compared to that of the general budget and government fund budget and are normally balanced. Thus, OBSOA has typical no material impact on the creditworthiness of a Chinese LG relative to peers.

Table 2 Assigning Preliminary Budgetary Score

Sub-factor	Indicator	Weight in PBS	Score		
			1	2	3
Budgetary Balance	Average budgetary balance[1]	50%	Below average	Average	Above average
Revenue Strength	Revenue per capita[2]	25%	Below average	Average	Above average
Revenue Growth	Average revenue growth[1]	25%	Below average	Average	Above average

Note: 1. The sum of general budgetary balance and government fund budget balance, exclusive of carry-forward revenues and expenditures; five-year average (year$_{t-2}$ to year$_{t+2}$). 2. The sum of general budgetary revenue and government fund revenue divided by total number of residents; data of year$_{t-1}$.

In region where lack of data makes it impractical to calculate meaningful budgetary balance for peer comparison, we would replace assessment on budgetary balance with assessment on the difference between growth rate of budgetary revenue and growth rate of budgetary expenditure.

Main Additional Consideration

- **Budgetary flexibility**: We would notch down (or up) the PBS by one point if we believe budgetary flexibility of a LG is greatly weaker (or stronger) than the average of peers. This adjustment would apply to outliers only, thus would be limited to no more than a very few LGs under an HLG.

  Our assessment on budgetary flexibility consists of assessment on revenue flexibility and expenditure flexibility. In China's tax-sharing system, LGs have generally low flexibility in modifying tax revenue. Some LGs could have significant capacity to modify non-tax revenues, including through raising land premium. However, such capacity may be limited in stress scenarios except for a very few LGs. On expenditure sides, while non-discretionary spending accounts for most expenditure of some LGs, some LGs appear able to cut capital spending that is high in the first place.

- **Potential change in intergovernmental arrangements**: we believe that China's generally taking a granulitic approach to reforming intergovernmental arrangements, thus the prospective change in such arrangements would typically have limited impact on the relative budgetary strength of LGs under an HLG. If in rare cases the potential change in intergovernmental arrangements may have great impact on the relative budgetary strength of LGs under an HLG, we could notch down the PBS of LG or LGs suffering greatly from the change by one point and notch up the PBS of LG or LGs benefiting greatly from the change by one point.

- **Quality of budgetary numbers**: we would notch down the PBS by one to two points if there is evidence that the quality of budgetary statistics of the LG is much weaker or greatly weaker than peers.

Debt Burden

Debt burden is a key factor to differentiate creditworthiness of LGs in China, as the direct motivation of central government to promote market differentiation of LG creditworthiness is to help contain the high and fast debt growth of some LGs.

We assign preliminary debt score (PDS) in this way:

- If the debt ratio of LG defined and determined its HLG breached the ceiling set by the HLG, the PDS is "1".

- Otherwise, PDS will be the weighted average of sub-scores on debt level and debt growth (table 3).

Table 3 Assigning Preliminary Debt Score

Sub-factor	Indicator	Weight in PDS	Score		
			1	2	3
Debt Level	Debt-to-revenue ratio[1]	60%	Worse than average	Average	Better than average
Debt Growth	Average change in debt ratio[2]	40%	Worse than average	Average	Better than average

Note: 1. Revenue = general budgetary revenue + government fund revenue, $year_{t-1}$. 2. Five-year average of yearly change in the debt ratio in percentage points, $year_{t-2}$ to $year_{t+2}$.

The debt includes debt of all subnational governments within the jurisdiction of the LG, plus all contingent liabilities of all these subnational governments that could be quantified with fair accuracy. Typical contingent liabilities include debt guaranteed by the LG, and urban facilities mandated by the LG and debt incurred by important entities related to the LG (local GREs) which are very likely not self-supporting. Contingent liabilities may also include debt incurred by GREs to invest in not-for-profit infrastructure and urban facilities and the potential spending gap of the local social insurance system (especially pension fund).

Main Additional Consideration

- **Revenue volatility**: If the revenue volatility of the LG is greatly higher than peers and there is significant downside risk to the revenue, we would notch down the PDS by one point. In such case, assessment based on the debt-to-revenue ratio of $year_{t-1}$ could understate the weakness of the LG in relative to peers in terms of debt burden.

- **Large hard-to-quantify contingent liabilities**: When the size of contingent liabilities cannot be pinned down in a number with fair accuracy but is very likely to be greatly higher than peer average, we would notch down the PDS by one point. For instance, if local state-owned enterprises (SOEs) are heavily indebted and have very weak financial profile, they could pose substantially greater contingent liabilities to a LG and justify the one-point downward adjustment to PDS.

- **Quality of debt statistics**: we would notch down the PDS by one to two points if there is evidence that the quality of debt statistics of the LG is much weaker or greatly weaker than peers.

Liquidity

We assign preliminary liquidity score (PLS) based on the coverage of a LG's internal liquid assets over its debt service in the next year (internal liquidity coverage ratio, table 4). All other things equal, the higher the internal liquidity coverage ratio of a LG, the lower the risk of default.

Typical internal liquid assets of a LG include the bank deposit corresponding to budget stabilization fund and carry-forward surplus under the general government budget and government fund budget, as well as the holding of stocks of listed SOEs which the LG is willing to sell to meet debt services.

The liquidity analysis focuses on the aggregate liquid assets and debt services of all subnational governments within the LG's jurisdiction.

Table 4 Assigning Preliminary Liquidity Score

Indicator	Score		
	1	2	3
Internal liquidity coverage ratio[1] (usable liquid assets/debt service[2])	Below average	Average	Above average

Note: 1. For rating action taking place in the first quarter of a year, liquidity coverage ratio of $year_t$; for rating action taking place in the last quarter of a year, liquidity coverage ratio of $year_{t+1}$; otherwise, average liquidity coverage ratio of $year_t$ and $year_{t+1}$. Liquidity coverage ratio ($year_t$)= Usable liquid assets (end of $year_{t-1}$) /debt service($year_t$). 2. Debt service related to direct debt and contingent liabilities that are very likely to materialize and move to the balance sheet of the LG in $year_t$.

Main Additional Consideration

- **Importance to HLG**: If a LG is more important (or greatly more important) to its HLG than peers given the LG's unique status or role in meeting national economic, political or security objective, the HLG may provide much stronger liquidity support to the LG than that to the peers of the latter. In such cases we would notch up PLS by one to two points.
- **Debt and liquidity management**: If the debt and/or liquidity management of a LG are very weak, the risk of failing to making timely debt service could be significantly higher than that suggested by the liquidity coverage ratio. Thus, we would notch down the PLS by one point.
- **Capability to access external financial resources other than that from HLG**: If the local economy and SOE sector is greatly larger and stronger than peers, the LG may be in much stronger position than peers to mobilize external financial resources to meet its own debt obligation or to support GREs experiencing liquidity shortage. In such cases we would notch up the PLS by one point. This adjustment would apply to outliers only, thus would be limited to no more than a very few LGs under an HLG.
- **Quality of liquidity statistics**: we would notch down the PLS by one to two points if there is evidence that the quality of statistics about liquid assets of the LG is much weaker or greatly weaker than peers.

Governance and Financial Management

Governance and financial management are key factors driving the long-term economic and fiscal performance of a LG. However, given the generally weak disclosure of Chinese LGs in these regards, we attach relatively low weight to the governance and financial management score in PRS. Besides, we believe the level of governance and financial management of Chinese LGs is in general correlated with local economic strength and thereby has been partly captured by our economic score.

The governance and financial management score (GFS) is based on our assessment of four sub-factors: budgetary management, GRE management, transparency and accountability (table 5). We have covered debt and liquidity management and quality of statistics in previous sections of these criteria.

Table 5 Assigning Governance and Financial Management Score

Sub-factor	Weight in GFS	Score		
		1	2	3
Budgetary management	30%	Below average	Average	Above average
GRE management	30%	Below average	Average	Above average
Transparency	20%	Below average	Average	Above average
Accountability	20%	Below average	Average	Above average

Our assessment on budgetary management is focused on how well budget implementation meets with the budget plan and budgetary discipline; whether there is meaningful medium-term budget, including realistic/prudential capital spending budget.

Our assessment on GRE management is focused on the how well the division of roles of government and the roles of GREs (typically SOEs) in managing the strategy and operation of the latter is; whether the LG intervenes in the operation of SOEs with due respect of legal rights of creditors; whether the major local SOEs have reasonably well-defined business portfolio; and whether the LG appoints capable professionals to SOE management team.

Our assessment on transparency is focused on the coverage and timeliness of disclosure of key economic, financial and fiscal statistics and information about local economy and the LG.

Our assessment on accountability is focused on whether the breach of laws and regulations by officials regarding budgetary management, GRE management, debt and liquidity management and statistics and disclosure are properly disciplined.

Additional Adjustment Factors

- Importance of the LG to its HLG: we could notch up the PRS by one (or two) points if the solvency of a LG is substantially more important (or highly more important) to HLG than peers. Particularly, if a LG is the government of the capital city of a region, the FRS will be “4” to highlight the unique importance of the LG to its HLG. In any case, the FRS will be capped at “4”.
- Track record of default and other signals of weaker willingness to pay compared to peers would lead to one to two-point downward adjustment to PRS. In any case, the FRS will be no less than zero.

Assigning Issuance Rating

We equalize the issuance credit rating on a senior unsecured LG foreign-currency debt with the LG foreign-currency ICR, unless the debt is fully guaranteed on which we assign issuance rating based on our applicable criteria.

We equalize the issuance credit rating on a senior unsecured LG local-currency debt with the LG local-currency ICR, unless the debt is fully guaranteed on which we assign issuance rating based on our applicable criteria.

Related Criteria and Research

- Rating Symbols and Definitions, 7 May 2018
- General Principles of Credit Ratings, 21 November 2017
- Sovereign Rating Criteria, 30 May 2018

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