Chinese Property Developer Criteria

Request for Comments

Purpose

Lianhe Rating Global Limited's ("Lianhe Global") Chinese property developer criteria is meant to supplement our general corporate criteria originally published on 16 July 2018. The framework of the criteria is similar to the general corporate criteria. The current proposed criteria primarily elaborates on the details of the factors and sub-factors that we consider when assigning ratings to Chinese property developers.

Lianhe Global invites market participants to provide comments and feedback on this proposed criteria by 31 March, 2021 by submitting their comments and feedback to info@lhratingsglobal.com.

No changes to our existing ratings are expected as a result of the adoption of the proposed criteria, as it primarily relates to further elaboration of the general corporate criteria published on 16 July 2018.

Scope of the Criteria

Lianhe Global applies the criteria to Chinese property developers that are primarily in the business of developing properties for sale. We apply the criteria to Chinese property developers due to their unique operating environment and exposure to factors that are indigenous to China.

The criteria does not represent a comprehensive coverage but only addresses key rating factors to form our credit opinions and will be reviewed periodically. Credit opinions tend to be forward-looking and include our views of issuers' future performance and development.

General Approach

Lianhe Global uses a top-down approach to analyse corporate entities. We examine macro factors like operating environment and recent market demand first before we drill down to analyse corporate entities. We strive to make a balance between applying qualitative and quantitative approaches when analysing corporate entities. We also use a combination of weighted average, matrix, and notching approaches to capture rating factors. In addition, our analysis encompasses forward-looking estimates and forecasts. First, we apply a scorecard using a weighted average approach to approximate a Chinese property developer's credit profile by assigning grades in lowercase letters to each key credit factor ranging from the strongest 'aaa' to the weakest 'ccc and below'. Secondly, the weighted average result is then combined with an industry risk analysis using a matrix to derive a Base Score (grade). Thirdly, the resultant Base Score (grade) is further adjusted by a notching approach concerning critical adjustment factors such as liquidity, corporate governance, etc. We believe each approach has its advantages and disadvantages. By combining all three approaches, we hope to capture most of the rating factors to paint a true credit picture of a rated Chinese property developer.

Overview

The criteria report comprises three segments: (1) operating environment of China, (2) industry analysis, and (3) corporate analysis which comprises of (a) qualitative business and

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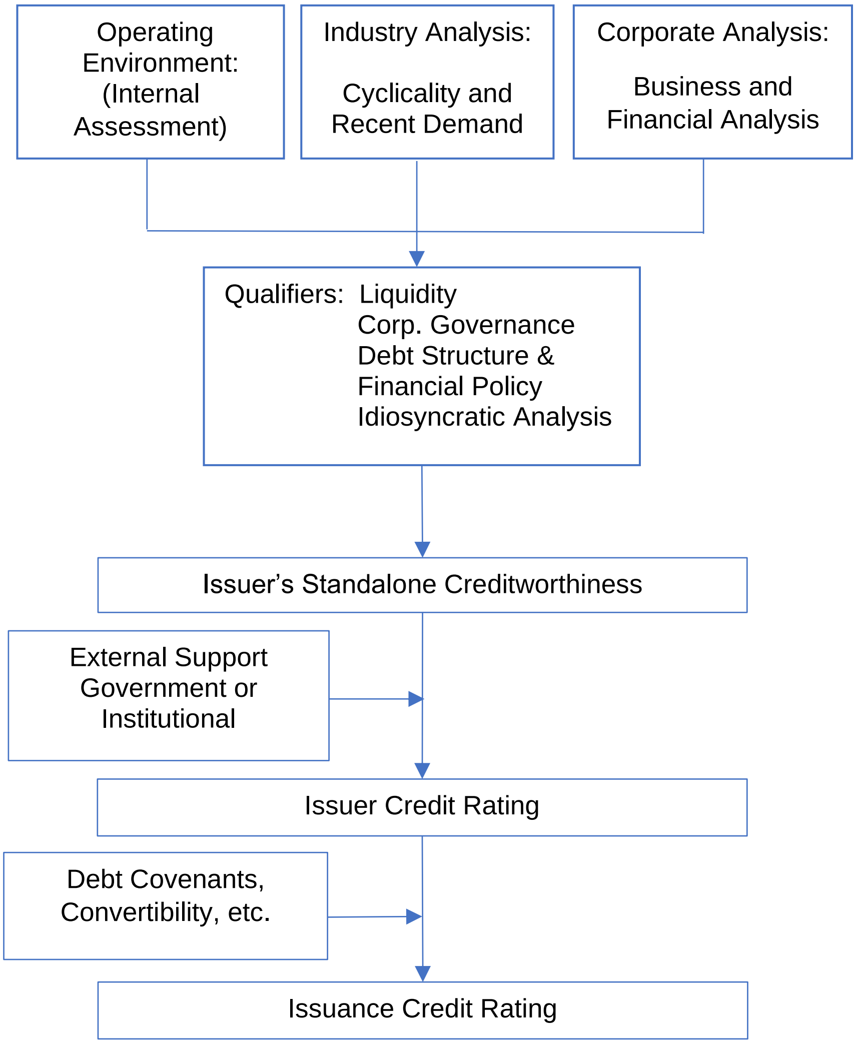
(b) quantitative financial analysis. We take a holistic view on a Chinese property developer balancing all-around political, economic, industrial, operational, and financial factors.

The diagram below illustrates the topology of the criteria:



Operating Environment

Lianhe Global uses an internal assessment to gauge the operating environment.

Sovereign Rating Ceiling

For a country with a sovereign credit rating above A-, we do not apply any adjustment to a rated entity's credit rating in which it is domiciled. However, for any country with a sovereign credit rating below A category (or A-), we do apply an adjustment factor to the rated entity. In this case, we limit the rated Chinese property developer's credit rating to the same as the sovereign. Nevertheless, there are instances in which a rated Chinese property developer could receive a rating above the sovereign. The credit committee reviews these instances on a case-by-case basis.

When a Chinese property developer conducts cross-border businesses, we use a weighted average approach by weighing its EBITDA by country if there is no dominant country. Otherwise, if there is a dominant country, then we use the dominant country's sovereign rating as the determinant. If such EBITDA by country is not available, we then use revenue by country as weights.

Industry Analysis

China's property development market has been growing rapidly due to its below-average urbanization rate of 60.6%[1]compared to the G20 nations' average rate of 76.1% (or median rate of 80.2%) at end-2018. China's urbanization rate was ranked the third-lowest among the G20 nations and only above that of Indonesia at 55.3% and India at 34% in 2018. The ongoing urbanization process has been providing the impetus to drive China's property development market since the late 1990s, at the macroeconomic level. Furthermore, China is at a different stage of its development cycle in which it is still building infrastructures, fixed investments, and capital goods, and thus it should be treated separately from the developed nations in terms of industry cyclicality. China's investments in real estate were at 13.4% of its GDP, second only to that of Indonesia at 24% at end-2018. In addition, proceeds from land sales comprise approximately 20% of local governments' fiscal budgets. In general, local governments' fiscal budgets comprise of (1) fiscal revenue, (2) transfer payments, and (3) government-managed funds of which approximately 80% is from land sales proceeds. While it is relatively smaller in percentage, it provides a high degree of flexibility to local governments in which the first two segments cannot offer. Thus, property development is inevitably tied to the Chinese local governments' coffers. Because of the two reasons (in addition to industrywide high profitability which is discussed below), we have a sanguine view on the Chinese property developer industry.

Cyclicality Analysis

Our cyclicality analysis comprises of (i) historical industry cyclicality and (ii) China specific industry study on (1) barriers to entry, (2) industrywide profit, (3) growth potential, and (4) substitution risk.

We stipulate that the historical property developer industry cyclicality is 'bb'. Furthermore, we conduct an industry-specific study on the Chinese property developer industry given the difference in its development cycle.

The paragraphs below illustrate our analysis on the Chinese property developer industry:

(1) Barriers to entry: Low
In China, there are over thousands of property developers given the apparently low barriers to entry and a large population with a moderately low urbanization rate. However, as the Chinese property market cools, we expect the number of property developers to shrink. Polarization within the Chinese property developer industry is to become more pronounced. Nevertheless, it is an industry with low barriers to entry.

(2) Industrywide profit: High
The Chinese property developer industry has been exhibiting the second-highest gross margin persistently among major industries since 2008. While the integrated oil & gas industry had higher gross margins, they were volatile in nature and subject to the global crude oil price gyration.

(3) Growth potential: Moderately High

[1] At-end 2019 for China , according to the National Bureau of Statistics of China

The Chinese property developer industry has been exhibiting moderately high growth rate (i.e. higher than its GDP growth rate, except in 2015, since 2001). Given China's moderate urbanization rate of approximately 60% at end-2018 which provides the impetus along with rising disposable income for future growth, we expect the Chinese property developer industry is likely to maintain its growth momentum exhibited in the past decade.

(4) Substitution risk: Very Low
We deem the Chinese property developer industry has a very low substitution risk due to the nature of real estate development business in which land cannot either be imported or replaced. Real estate is a local business not subject to obsolete or externalities like foreign imports. As a result, it has a very low substitution risk.

The table below summaries the China specific property developer industry cyclicality characteristics:

China Specific Property Developer Industry Cyclicality Characteristics:

Industry Cyclicality-Chinese Property Developers	Descriptive Range	Score
(1) **Barrier to Entry**	Low (many competitors)	6
(2) **Industrywide Profit**	High (second highest)	2
(3) **Growth Potential**	Moderately High (steady growth)	3
(4) **Substitution Risk**	Lowest (highest stability)	1
	Average Score	**3**

Score Description and Implied Letter Grade

Descriptive Range	Score	Implied Letter Grade
Highest	1	aaa
High	2	aa
Moderately High	**3**	**a**
Median/Average	4	bbb
Moderately Low	5	bb
Low	6	b
Lowest	7	ccc

(i) Historical industry (i.e. property developer) cyclicality: 'bb'
(ii) China specific property developer industry cyclicality: 'a'

The resulting cyclicality is 'bbb' in which we give equal weights to all factors.

Market Demand Analysis

On the aggregate demand side, China's property development market has been growing consistently above its GDP growth rate since 2008 (except in 2015).

The table below illustrates the benchmarks for aggregate demand (i.e. expected GDP growth rate) and industry demand (i.e. expected industry growth rate relative to that of the GDP). We believe only monopolistic entities would fall into the 'aaa' category while only countries in disarray would fall into the 'ccc' category. In the latter case, we believe the sovereign credit ratings would most likely to have an overwhelming adverse impact on the targeted corporate entities.

Market Demand	aaa	aa	a	bbb	bb	b	ccc
Benchmark Score	1	3	6	9	12	15	18
Macro Demand	n/a	GDP Growth% Btw 6% & 10%	GDP Growth% Btw 3% & 6%	GDP Growth% Btw 1% & 3%	GDP Growth% Btw 0% & 1%	GDP Growth% Less than 0%	n/a
Industry Demand	n/a	Substantially Faster than GDP Growth%	Moderately Faster than GDP Growth%	In-line with GDP Growth%	Moderately Slower than GDP Growth%	Substantially Slower than GDP Growth%	n/a

Business Analysis

Lianhe Global uses a combination of qualitative business and quantitative financial factors to conduct our analysis, respectively. We use a weighted average approach to capture and balance business and financial risks, as well as dominating factors that drives the credit rating of a Chinese property developer in the marketplace.

Business Analysis

This is the qualitative part of the analysis to gauge the viability of a Chinese property developer's business performance on a relative basis against that of its peers in China. While it is qualitative in nature, Lianhe Global uses various benchmarks to guide analysts.

Key Primary Factors:	Primary Factors with Weights:
(1) Market Position	15.0%
(2) Competitiveness	10.0%
(3) Diversity	8.0%
(4) Operating Efficiency	6.0%
(5) Profitability	6.0%
Sub-total	45.0%

(1) Market Position: Lianhe Global analyses the market position of a Chinese property developer by considering three key secondary factors: (1) contracted sales amount, (2) revenue size, and (3) market position. The former is the dominant factor which is supplemented by the latter two. We use China Real Estate Information Corporation ("CRIC")'s periodic publication of performance figures including (attributable) contracted sales, revenue, and land bank to gauge market position. We consider the market position in terms of regions of operating such as the Greater Bay Area, Pearl River Delta, Yangtze River Delta, Greater Fujian Area, Beijing-Tianjin-Hebei region, Chengdu-Chongqing cluster, etc. Additionally, Lianhe Global also takes revenue and contracted sales volatility into consideration when we assign benchmark scores. As mentioned previously, we may use our analytical judgements instead of assigning the pre-set benchmark scores, we could assign benchmark scores that are either one score above or below the pre-set ones.

Market Position	aaa	aa	a	bbb	bb	b	ccc
Benchmark Score	1	3	6	9	12	15	18
CRIC Ranking	N/A	N/A	N/A	Upper Percentile	Median Percentile	Lower Percentile	Ranked Below 100
Market Position	Global	Multi-nationals	Regional/ Cross-continental	Nationwide	Multi-states/Province	One or two State/Province	Local

(2) Competitiveness: Lianhe Global analyses the competitiveness of a Chinese property developer by considering three secondary factors: (1) quality of the overall attributable land bank in terms of city tiers, (2) compare the quality of revenue by city tier to that of properties under development and held-for-future development, and (3) land acquisition channels. The former two are the dominant factors which are supplemented by the latter one.

(i) Land Bank Quality by City Tier: The two key metrics to determine a city tier is GDP per capita and average home price. We review these key metrics of cities in a Chinese property developer's land bank portfolio (as well as other factors such as net migration) and compare them to the national average to ensure consistency and comparability with our designated city tier.

(ii) Comparative Analysis of (Attributable) Land Bank over Revenue and Contracted Sales: Lianhe Global compares the land bank quality of a Chinese property developer's revenue and contracted sales over its portfolio of attributable lank bank in terms of gross floor area ("GFA"). The purpose is to ensure a Chinese property developer's attributable land bank is of sufficient size and quality to support its future development, contracted sales, revenue, and credit metrics. The land bank is the most valuable of assets of a Chinese property developer and serves as a strong indicator for future profitability. If a Chinese property developer has strong revenue and contracted sales but an inferior land bank in terms of quality and size to support future development, then the Chinese property developer is likely not able to sustain its current revenue and contracted sales or it would have to allocate more capital expenditures for land purchases. We believe a minimum of 2 to 3 years of attributable land bank over the current pace of attributable contracted sales in terms of GFA is a reasonable metric. In general, Chinese property developers have been reporting a year-on-year contracted sales growth in the past decade but the pace of growth has been declining. Hence, we favour Chinese property developers with a sizeable attributable land bank to sustain their future growth. While we do not penalize a Chinese property developer for having a more attributable land bank (i.e. above 3 years), we do penalize a Chinese property developer for having an insufficient attributable land bank.

(iii) Land Acquisition Channel: Lianhe Global believes a diversified land acquisition strategy is conducive for a Chinese property developer to maintain a low-cost land bank, which we view favourably. Any over-reliance on a particular land acquisition channel may expose a Chinese property developer to market risks which may inadvertently increase its cost of land. In addition, we pay close attention to any redevelopment project that may take somewhere between 5 to 8 years to develop. While the gross margins of these redevelopment projects may be higher, their returns (i.e. IRR) may not be attractive when taking the time value of money and cost of capital into the equation. But this is the least important factor among the three secondary factors.

Competitiveness	**aaa**	**aa**	**a**	**bbb**	**bb**	**b**	**ccc**
Benchmark Score	1	3	6	9	12	15	18
Land Bank Quality	n/a	n/a	Primarily tier 1 or 2 cities (>75%)	Mostly tier 1 or 2 cities (>50%)	Primarily tier 2&3 cities	Primarily tier 3 or lower cities	n/a
Land Bank GFA over Contracted Sales GFA			At least 2 to 3 years of land bank of better quality than the current contracted sales	At least 2 to 3 years of land bank of matching quality with the current contracted sales	At least 2 to 3 years of land bank of inferior quality to the current contracted sales	At least 1 to 2 years of land bank	Less than 1 year of land bank
Land Acquisition Channel	n/a	n/a	n/a	Evenly distributed among auctions, M&A, and JVs	Rely primarily on 2 of the 3 channels	Rely primarily on 1 of the 3 channels	n/a

(3) Diversification: Lianhe Global analyses the diversification of a Chinese property developer by considering two key secondary factors: (1) relative geographic concentration and (2) exposure to commercial property sales. The former is the dominant factor which is supplemented by the latter one. We consider a relative geographic concentration in terms of economic diversity, as well as the number of property development projects. Given China's policy-driven economy and the presence of moratoriums on home (a) purchases, (b) sales, (c) prices, and (d) mortgage applications, we must take policy risk into consideration. We believe the larger the operating scale and the number of property projects, the lesser the exposure to policy risks targeting a region or a few cities. At the time of this publication, there are at least 100 cities that have been placed under moratoriums of various forms. This is also one of the reasons Lianhe Global has published property developer criteria specifically for the Chinese property market.

Moreover, we measure geographic concentration not on an absolute basis but on a relative basis, that is relative to a region's economic structure and stage of development in China. For instance, we favour a smaller region where there are more private enterprises with high-value-added productions over a larger region where there are more state-owned enterprises in the sunset industries or industries with production restrictions. One of the key determinants is internal migration. We favour regions where there are immigrations over emigrations.

On a secondary basis, we measure a Chinese property developer's exposure to sales of commercial properties in terms of revenue contribution. Commercial properties are more susceptible to economic gyration than residential properties. Hence, we view any exposure to sales of commercial properties less favourably. The larger the exposure to sales of commercial properties is, the higher the risk in terms of revenue and profitability volatility is.

Diversity	**aaa**	**aa**	**a**	**bbb**	**bb**	**b**	**ccc**
Benchmark Score	1	3	6	9	12	15	18
Geographic Diversification	Global	Multi-national	Regional/ Cross-continental	Nationwide	Multi-Provinces	1 or 2 Provinces	Local
Commercial Exposure	n/a	n/a	n/a	Commercial property sales account for <20%	Commercial property sales account for 20%-50%	Commercial property sales account for >50%	Substantial exposure to commercial property sales

(4) Operating Efficiency: Lianhe Global analyses the operating efficiency of a Chinese property developer primarily by means of cash flow proficiency on projects at an aggregated level given the various presale rules set by different city governments making granular project-level analysis not always feasible. In general, we measure how quickly (i.e. in terms of number of months) will a Chinese property developer (i) commence construction after the land purchase, (ii) start presale, (iii) meet presale target and (iv) turn cash flow positive on projects. We also examine a Chinese property developer's prior project management and execution track records such as sell-through rate, cash collection rate, and inventory management (i.e. completed but unsold units) to gauge future performance. We measure the latter three metrics on a secondary basis level due to the uncertainty of moratorium policies on purchases, sales, home prices and mortgages through administrative measures which may have a profound impact on cash collection rate and cash flow proficiency. As a result, we have purposely left a gap between the 'bbb' and 'bb' category in terms of cash flow proficiency of '12-to-18 months' and 'after-24-months', respectively, allowing some degrees of flexibility to counter any adverse impact from unexpected moratorium policies. We estimate it will take some time for a Chinese property developer to take measures to counter any moratorium policy. We also notice that many large Chinese property developers tend to deploy a quick asset turnover strategy to maintain cash flow proficiency while other small-to-medium sized niche Chinese property developers in regions of high or rising property values use a slow-turnover strategy to maximize profits. Furthermore, we also examine the cash collection rate to gauge the Chinese property developer's execution capability. We make analytical adjustments to strike a balance between the two while taking into consideration other factors such as gross margin, cash collection rate, etc. On a secondary basis, we also examine selling, general and administrative expenses.

Operating Efficiency	**aaa**	**aa**	**a**	**bbb**	**bb**	**b**	**ccc**
Benchmark Score	1	3	6	9	12	15	18
Project Management & Execution and Inventory Management			Projects turn cash flow positive in less than 12 months with <5% unsold units	Projects turn cash flow positive in 12 to 18 months with 5% to 10% unsold units	Projects turn cash flow positive after 24 months with 10% to 20% unsold units	Projects turn cash flow positive after 36 months with 20% to 30% unsold units	Projects generate cash flow after price reduction with >30% unsold units

(5) Profitability: Lianhe Global analyses the profitability of a Chinese property developer by considering its gross margins and their variability. In addition, we compare a Chinese property developer's gross margins on its financial statements against its most recent reported contracted sales gross margin. We apply gross margins instead of EBITDA margins to measure profitability given their readily availability. Due to the variability of projects in different cities, gross margins may vary. However, an established Chinese property developer with a defined strategy and strong execution capability such as targeting first-time home buyers, first-time upgraders, premium-upgraders or investors etc., along with pre-construction/execution cost analyses, is able to maintain its gross margin within a reasonable range which we view favourably. We also apply EBITDA margins to supplement our analysis.

Profitability	**aaa**	**aa**	**a**	**bbb**	**bb**	**b**	**ccc**
Benchmark Score	1	3	6	9	12	15	18
Gross Margin	≥ 60%	45% ≤ x < 60%	35% ≤ x < 45%	25% ≤ x < 35%	15% ≤ x < 25%	8% ≤ x < 15%	< 8%

Financial Analysis

This is the quantitative part of the analysis to gauge primarily the future financial metrics of a Chinese property developer on an absolute basis. While it is quantitative in nature, Lianhe Global allows marginal adjustments to account for the forward-looking nature of forecasts, as well as the quality of the balance sheet of a Chinese property developer.

We analyse over a period of 5 fiscal years, and we put more emphasis on the current fiscal year and the two succeeding years' forecasts but less on the two preceding fiscal years. We believe risks lie in the future but not in the past. We distribute the weights in favour of the two succeeding years which accounts for 50.0%. We assign a 35% to the current fiscal year while the two preceding fiscal years account for only 15% altogether.

The table below illustrates the weight distribution of the financial metrics over a period of 5 fiscal years:

Fiscal Year	Current Fiscal Year minus 2	Current Fiscal Year minus 1	Current Fiscal Year	Current Fiscal Year plus 1	Current Fiscal Year plus 2	Total
Weight	5.0%	10.0%	35.0%	30.0%	20.0%	100.0%

Static Quantitative Factors

Lianhe Global uses a set of static metrics to measure the financial strength of a Chinese property developer. We list the key financial factors in the table below:

Key Financial Factors:	Description of Key Financial Factors	Static Weight
(1) Debt over Land Bank	Gross Debt over Land Bank	15.0%
(2) EBITDA over Interest	EBITDA over Interest	12.0%
(3) Debt over Capitalization	Gross Debt over (Gross Debt + Equity + Deferred Tax Credit)	8.0%
(4) Liquidity Ratios	Quick Ratio, Current Ratio, and Cash Ratio	5.0%
Sub-total		40.0%

Lianhe Global uses a set of financial metrics and definitions. We believe (a) gross debt over land bank and (b) EBITDA over interest are the two most predictive factors of financial strength on a Chinese property developer. In general, we take a conservative approach by only accounting for interest expense (including capitalized interest) but not interest income, unless a Chinese property developer is able to demonstrate the recurrence nature of its interest income associated with its normal course of business.

We may use net debt (i.e. gross debt minus cash & cash equivalent) if we deem a Chinese property developer has demonstrated a strict cash policy with proven track records. We believe debt over land bank is a good yardstick to measure leverage as land bank is the most valuable asset of a Chinese property developer. The lower the number is, the lower the leverage becomes. While we believe debt over land bank is a good indicator, there are a few shortcomings. Thus, we employ cash flow metrics to supplement the shortcomings associated with this indicator. We use cash flow from operating activities before working capital changes and free cash flow as supplementary metrics and also checks and balances. We also use debt over EBITDA ratio to supplement our financial leverage analysis to stay relevant to other industries on a global scale.

We measure the land bank by including (1) properties under development, (2) land bank held for future development and (3) completed but unsold properties but excluding sold properties by means of contracted sales. We measure lank bank at cost and we also exclude investment properties as they often carry market value rather than at-cost-value. While we recognize the imperfection of using an at-cost-value land bank which may over-state a

Chinese property developer's leverage in regions of elevated home price/land value and at the same time under-state in regions of depressed home price/land value. We make analytical adjustments to strike a balance between the two scenarios.

Meanwhile, EBITDA over interest measures the margin of safety of a Chinese property developer to cover its interest obligation given its current and expected earning power (EBITDA). The higher this number is, the stronger the coverage for EBITDA over interest becomes. We believe these are the two most important financial ratios and thus we assign a weight of 15% and 12% to each, respectively.

Debt over capitalization measures the capital structure of a Chinese property developer. The higher the leverage is, the higher the return favours equity investors over bondholders. Different industries have different capital structures, and often time it is challenging to compare and contrast. Thus, we assign a lower weight (i.e. 8.0%) to this factor.

Last but not least, we measure the internally generated liquidity of a Chinese property developer by examining its quick ratio. We also take into account the cash ratio and current ratio as supplementary. We do not have a predetermined absolute scale for these two ratios given their variability. The table below illustrates the key financial metrics and their respective benchmarks that Lianhe Global uses.

As aforementioned, analysts could use their analytical judgments to assign scores based on the reliability of forecasts and the industry outlook. For instance, if a ratio falls closer to the upper bound of the benchmark, then an analyst could assign a score one point higher than the pre-set score.

Financial Metrics	**aaa**	**aa**	**a**	**bbb**	**bb**	**b**	**ccc**
Benchmark Score	1	3	6	9	12	15	18
*Debt/Land Bank	≤ 5%	5% < x ≤ 15%	15% < x ≤ 25%	25% < x ≤ 35%	35% < x ≤ 50%	50% < x ≤ 70%	> 70%
*EBITDA/Interest	≥ 20	12 ≤ x < 20	8 ≤ x < 12	5 ≤ x < 8	3 ≤ x < 5	1 ≤ x < 3	< 1
*Debt/Capitalization	≤ 20%	20% < x ≤ 30%	30% < x ≤ 40%	40% < x ≤ 50%	50% < x ≤ 60%	60% < x ≤ 70%	> 70%
Liquidity Ratios:							
Quick Ratio	≥ 2	1.5 ≤ x < 2	1.2 ≤ x < 1.5	1 ≤ x < 1.2	0.8 ≤ x < 1	0.5 ≤ x < 0.8	< 0.5

*Note: Adjusted by Lianhe Global

We may make adjustments to financial ratios if we have concerns over their quality and stability. Taking shareholders' equity as an example, we may adjust "Debt over Capitalization" if there is a high percentage of goodwill and/or valuation reserves on the balance sheet. Additionally, we may make adjustments to these financial ratios if we believe they have demonstrated volatility in the past or we expect them to deteriorate in the future.

Weighted Average Score

The weighted average score is the summation of benchmark scores in (1) Market Demand, (2) Business Analysis, and (3) Financial Analysis. We then translate the numeric value of the weighted average score into a letter grade according to the table below.

Credit Rating Scale (Base Score)	**Wtd. Avg. Score Min. Thresholds**	**Wtd. Avg. Score Max. Thresholds**
aaa	0.5	1.5
aa+	1.5	2.5
aa	2.5	3.5
aa-	3.5	4.5
a+	4.5	5.5
a	5.5	6.5
a-	6.5	7.5
bbb+	7.5	8.5
bbb	8.5	9.5
bbb-	9.5	10.5
bb+	10.5	11.5
bb	11.5	12.5

bb-	12.5	13.5
b+	13.5	14.5
b	14.5	15.5
b-	15.5	16.5
ccc	16.5	17.5
cc	17.5	18.5
c	18.5	19.5

I. Industry Risk and Base Score

We apply a matrix approach by combining the weighted average score (grade) with the industry cyclicality risk to derive a Base Score. As aforementioned, we have a 'BBB' industry cyclicality for the Chinese property developer industry.

II. Qualifiers

Lianhe Global also believes there are prevalent factors that are so critical that they deserve a category of their own and are worthy of applying notching rather than a weighted average approach.

The Base Score (grade) is further modified by 4 additional qualifiers, namely (1) Liquidity Test, (2) Corporate Governance, (3) Debt Maturity Profile and Financial Policy, and (4) Idiosyncratic Analysis, by a way of notching.

(1) Liquidity Test: We modify our Base Score (grade) by examining the liquidity position of a Chinese property developer. Liquidity is the first and foremost important driver for any Chinese property developer. Usually, any sign of distress starts with a liquidity crunch. We measure liquidity by examining a Chinese property developer's (but not limited to) cash position, short-term liquid assets, committed bank credit lines, forecasted earnings, and projected proceeds from capital market financing activities against its maturing debt obligations, capital expenditures, and committed payments, over the next 12 months for non-investment grade category, and over the next 24 months for investment grade category. This is different from the liquidity ratios we examined under financial metrics which focus on internally generated liquidity. Under the liquidity test, we also take external liquidity such as bank credit facilities and qualitative factors such as access to capital markets and the relationship with banks into consideration. We test the liquidity strength of a Chinese property developer and determine if it can withstand the corresponding thresholds associated with the Base Score (grade). If it does pass or surpass the corresponding thresholds, then no notching will be applied. Otherwise, we apply notching by subtracting the necessary notches until it passes the corresponding thresholds. For instance, if a Chinese property developer has a Base Score of 'bbb', then it must pass the liquidity test thresholds for 'bbb'. If it fails to pass, then we would lower the thresholds until it passes. The difference between the Base Score (grade) and the liquidity test thresholds it passes, is the number of the notch(es) we would subtract. However, our credit committee has the final say on the outcome of the liquidity test. Based on our analysis, on average we take one notch deduction for most lowly rated entities to address their poor liquidity while there is no notch deduction for the most highly rated corporate entities.

(2) Corporate Governance plays the second fiddle in this case. We believe any corporate governance-related issue would likely to be first reflected in the liquidity of a Chinese property developer. We take a holistic view of corporate governance. Family-owned businesses are not necessarily a cause for concern. In general, we examine features (including but not limited to) such as the ownership and organizational structure, reporting hierarchy, independent non-executive directors on the board of directors, board committees, related-party transactions, material litigations, prior regulatory sanctions, etc. In general, we believe listed companies have timely disclosure and a higher level of transparency, as well as efficient corporate board management as

dictated by various listing rules. We focus primarily on a few key areas such as related-party transactions, key man risk, the tenure of senior management, relationship with the external auditor, and regulatory compliance. Based on our analysis, we are unlikely to consider notching for listed companies unless they have exhibited blatant disregard for rules. We would deduct at a maximum of 2 notches under this qualifier.

(3) Debt Maturity Profile and Financial Policy
Debt Structure and Financial Policy refers to debt maturity profile and management's attitude towards financing. In general, we favour long-term over short-term debt in which the former allows a Chinese property developer more time to generate and accumulate cash to repay its debt. Meanwhile, short-term debt obligations put pressure on a Chinese property developer to either refinance or repay its debt over a short period of time.

Other considerations:
If a Chinese property developer's revenue streams are from one currency while its debts are in another currency, we would take foreign exchange rate risk into consideration. Likewise, we also take interest rate term structure into consideration. Additionally, we take any hedge position into our analysis. While we do not include any off-balance sheet securitization transactions as debt, we do include any non-cancellable operating lease and third-party guarantees as debt.

(4) Idiosyncratic Analysis
Idiosyncratic Analysis is designed to be a "catch-it-all" factor. While we believe our analysis has captured most of the risk elements of a Chinese property developer, we admit that there are special circumstances in which our analysis may not have considered given the complexity of today's business world.

III. Standalone Credit

The resultant outcome from the qualifier notching adjustment analysis leads to the Standalone Credit, which reflects the creditworthiness of the subject property developer on a standalone basis.

IV. External Support

As a part of our analysis, we also examine if a Chinese property developer receives any external support from its parent or affiliated companies or government entities.

For a Chinese property developer to receive support either from its parent and/or affiliated companies, the supporting entity must demonstrate (a) the ability and willingness to support, (b) the resulting support would not adversely affect either the supporting entity or the combined entities. In general, we categorize two forms of support: (1) Top-down and (2) Bottom-up. To qualify for Top-down support, the subject property developer must demonstrate that it is an integral part of a larger corporate family and without its survival would cause irreversible damage to the larger corporate family in term of earnings, market position and/or reputation. We expect this scenario to be few and far between. Therefore, we expect many types of supports to be in the form of Bottom-up.

V. Final Credit Rating

The resultant outcome from the external support analysis leads to the Final Credit Rating of the subject property developer. It is also commonly known as an issuer credit rating.

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