

Corporate Credit Risk Evaluation for Mexican Companies



Credit
Rating
Agency

Corporates
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*A NRSRO Rating



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This methodology describes the process used to assess the ability and willingness to meet corporate debt payment obligations in a timely manner and as originally agreed upon by Mexican companies, including real estate companies and dependent future debt. The process consists of a quantitative analysis based on four financial metrics and an analysis allowing for qualitative adjustments.

The corporate methodology generally involves the creation of financial models based on HR Ratings relevant historical performance and projections. The projections are made under a Base and Stress scenario, both incorporating the relevant historical data, and a formal rating period of five years. The four metrics used in this analysis are: (i) debt service coverage; (ii) debt service coverage including available cash (iii) years to payment, which measures the ratio between net debt and annual free cash flow; and (iv) the ratio between a market value estimate of corporate assets and its total liabilities.

For both the Base and Stress scenarios the annual weighted average of each metric value is calculated. These annual averages are then converted into a numerical rating scale, which is the same for each rating metric. Subsequently, and for each scenario, the weighted average of the metric numerical ratings is calculated. The final quantitative score is the weighted average of the two scenarios. If historical information is available and considered relevant, this process generally considers two reported and three projected years. However, the methodology considers the possibility of using different rating or time periods, with fewer reported years if required

For transactions involving Commercial Real Estate (CRE) the analysis is similar as the one described above except for the fourth metric being replaced by the Loan to Value ratio (LTV) and the use of a seven-year rating period.

The rating obtained through any of the quantitative analyses can be adjusted positively or negatively by applying qualitative notches, which are divided into two categories: those related to Environmental, Social and Governance (ESG) factors and General Adjustments. General adjustments refer to other factors that also could affect the validity of the quantitative rating, especially when HR Ratings concludes that these factors cannot be adequately incorporated into the quantitative models.

The credit rating of dependent structured debt will be used when the cashflows assigned for debt payment are dependent on the continued operation of the corporate entity. This credit rating will be tied to the rating for the issuing corporate entity.



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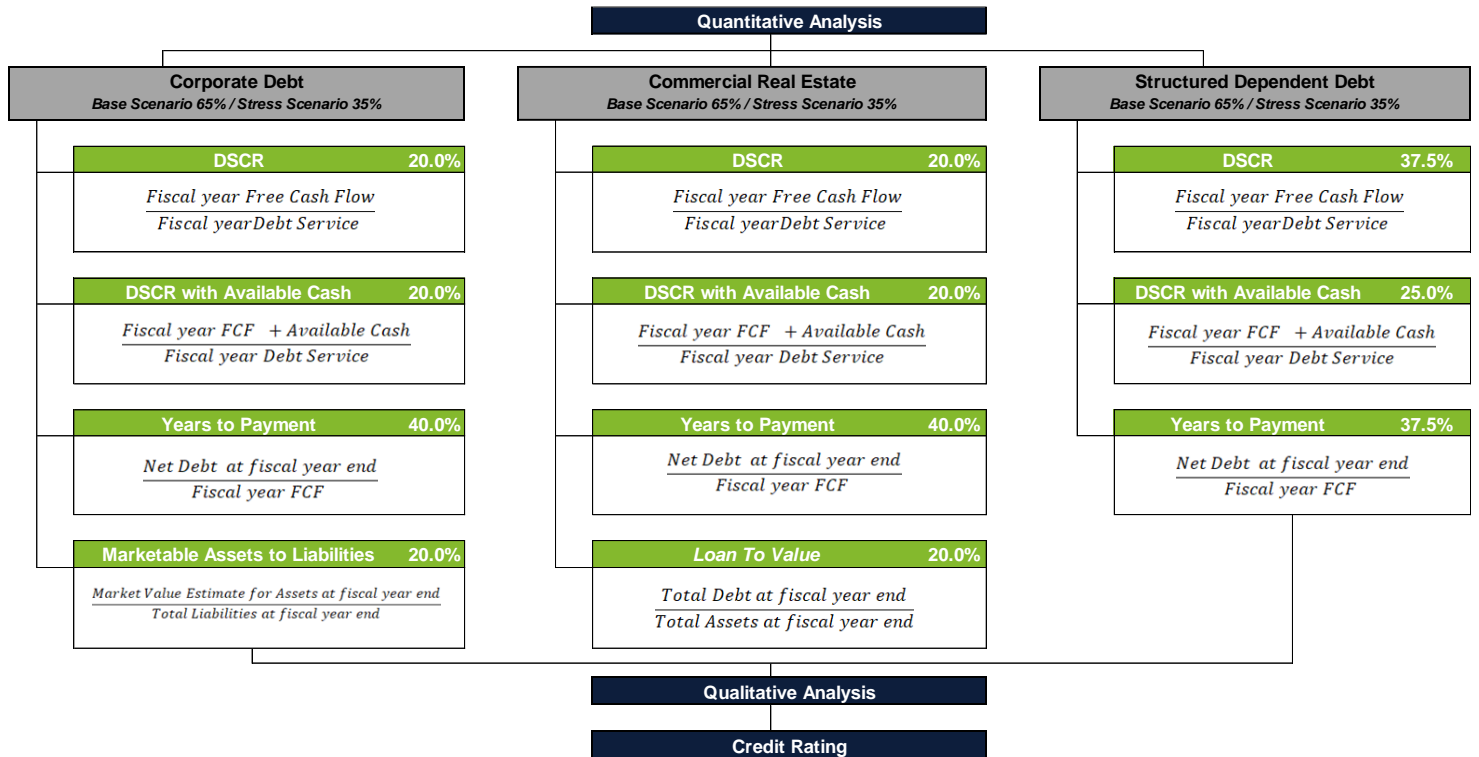


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Figure 1. General Structure for the Methodology



Source: HR Ratings.

1. Quantitative Corporate Evaluation

HR Ratings analyzes a company's historical information and forecasted financial performance, including their balance sheet, income statement, and cash flow. Any other relevant information provided by the company, or the party soliciting the rating, is also considered. Historical information and forecasts are used to develop a Base and Stress scenario. The process for determining a quantitative rating follows these steps:

1. Annual figures are computed for the metrics that determine the quantitative rating in both forecast scenarios¹.
2. A weighted average is determined for each metric using some combination of the annual weights set forth in this methodology.
3. The weighted average of each metric is converted using its corresponding rating scale to produce a numerical rating between 1 and 19.
4. The weighted average of these numerical ratings is then calculated based on the weights for each metric as described in this methodology. This process is done for both the Base and Stress scenarios.
5. The final quantitative outcome is determined by weighing the results of the Base and Stress scenarios in accordance with the weights established in this methodology.

This methodology allows for the assessment of the credit rating of entities that borrow funds for projects that will generate free cash flow sometime in the future with new operations. In these cases, the rating time horizons as detailed in section 1.3. below will be used. The Base Scenario includes historical data (when available or considered relevant) and forecasted data that reflect

¹ Annual figures are generally based on quarterly data.



the anticipated changes in the relevant macroeconomic and company/industry specific variables. The Stress scenario incorporates the same historical data incorporated in the Base scenario, while making forecasts that reflect a stressed macroeconomic environment as well as less favorable financial and operational performances. The creation of both scenarios relies on the unique context of each company for selecting variables to project and trends to consider.

It is important to note that HR Ratings periodically prepares, and updates macroeconomic scenarios utilized in creating rating scenarios. These scenarios involve assumptions concerning different variables such as economic growth, exchange rate dynamics, inflation, and interest rates.

1.1. Quantitative Metrics

The quantitative analysis is based on four financial metrics. These metrics analyze the cash flow and liquidity that the entity can utilize to fulfill its periodic debt obligations, the ability of current cash flow to cover net debt, and an estimated market value of assets compared to the entity's liabilities.

1.1.a. Debt Service Coverage Ratio (DSCR)

(20.0% of the quantitative credit rating)

Debt service coverage ratio (DSCR) reflects the capacity of a company's annual free cash flow (FCF), as estimated by HR Ratings, to cover debt payment obligations in the same year. The following formula shows the calculation of the DSCR:

$$DSCR_t = \frac{\text{Fiscal year Free Cash Flow}^2}{\text{Fiscal year Debt Service}}$$

Figure 2 shows the rating range related to each numerical result for this metric:

Figure 2. Rating Ranges for DSCR

HR AAA	HR AA	HR A	HR BBB	HR BB	HR B	HR C
[2.29x, 2.06x]	(2.06x, 1.47x]	(1.47x, 0.98x]	(0.98x, 0.62x]	(0.62x, 0.37x]	(0.37x, 0.23x]	(0.23x, 0x]

Source: HR Ratings.

It is important to mention that the maximum value considered in this curve is 2.29x, such that any result above this will be modified to uphold this upper limit. The treatment of negative FCF values is discussed below in section 1.2.

Calculation of the numerator: Free Cash Flow (FCF)

In general terms, FCF is the cash produced by the company's ongoing operations that is available to service the debt. The following definition presents the components of the FCF prepared by HR Ratings.

$$FCF_t = EBITDA + \text{other income statement cash flow} - \text{working capital requirements} - \text{Maintenance Capex provision} \\ - \text{principal and interest payments from leases} - \text{paid taxes} + \text{dividend income} + \text{Special Adjustments}$$

² Where fiscal year refers to the time period used in the audited financial statements.



It is important to note that HR Ratings could reclassify the financial statement accounts of entities, including those that have been audited, to align them with the analysis structure utilized in this methodology. The concepts used are described in greater detail below.

EBITDA. In formal terms, this represents cash earnings before interest, taxes, depreciation and amortization. Operationally, it is calculated as operating income plus depreciation and amortization, or any other non-cash operating gain or loss at the operating income level. Cash inflows or outflows that HR Ratings consider to be non-operating or non-recurring are excluded. An example would be transaction costs which are not only not included within EBITDA but are also excluded from our calculation of FCF. Depending on their nature, HR Ratings would transfer these operations to financing or investing activities in the cash flow statement. Alternatively, its impact on the FCF can be eliminated through the Special Adjustments account. Where applicable accounting criteria require it, HR Ratings records cash principal and interest payments on financial leases to financing activities but still treat them as a charge to FCF. Consequently, finance lease cash costs would not count as a charge in the EBITDA calculation. However, cash costs related to operating leases, including imputed interest, are generally considered as cash costs reducing EBITDA

Other cash flow in income. Once EBITDA is measured, HR Ratings will analyze the income and cash flow statements to determine cash inflows/outflows recorded on the income statement that should be incorporated within our FCF estimate and thus eliminate virtual gains/charges. HR Ratings may apply the following considerations to the main items in this section:

1. Interest paid net of cash interest earned will form part of the debt service
2. Expenses related to debt operations, such as derivatives, are recorded as financing activities. If applicable, and to the extent possible to determine, they are added to the debt service calculation without affecting the FCF calculation. For their part, transactions costs related to debt operations are not part of FCF or debt service.
3. Expenses for investing activities, including those for acquisitions and contingent considerations, will be categorized as such and have no impact on the FCF calculation or debt servicing.

Considering the above, the "other cash flows to income" account refers to the gains/losses associated with cash inflows that occur after operating profit but before taxes and form part of FCF³. This account may incur expenses associated with hedging activities that safeguard the company from significant price fluctuations and ongoing gains/losses from regular operations. Non-recurring gains/losses and those related to debt and investment activities would be excluded.

Generally, a gain or loss on the sale of an asset would not be included in FCF if the transaction is considered non-recurring. Conversely, if it is part of the company's normal operation, then it would be considered as part of the FCF. Cash transactions affecting results that are not part of the FCF calculation can be treated in two ways. The first is to transfer its impact on cash to financing or investing activities, or the second option, is to eliminate its impact on calculating FCF in the "Special Adjustments" account.

³ Operationally, and on a cash flow statement basis, this would generally be the difference between cash flow from pre-tax income and EBITDA. However, it is necessary to classify non-virtual transaction costs, gains/losses related to foreign exchange, and derivative movements related to debt service as financing activities when performing this analysis. Gains/losses from derivatives aimed at hedging against price fluctuations of goods and services sold in transactions impact FCF and would form part of the "other cash flow from income" account.



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Working capital. Working capital requirements refer to cash related changes in assets and liabilities because of operating activities, especially those which affect non-cash elements in the revenue and cost accounts that produce the EBITDA measure. Without relevant information from the entity and for forecasts, they are generally calculated, in the case of assets, as $t_0 - t_1$ and for liabilities as $t_1 - t_0$. Normally only short-term assets and liabilities are considered, although there are cases where long-term accounts may be incorporated as well. Generally, the most important accounts are changes in accounts receivable, the changes in inventory and the changes in accounts payable, mainly those related to suppliers. For historical periods, changes would be made directly from company reported financials, preferably from audited financials. For the projected periods, working capital requirements would be calculated based on projected changes in assets and liabilities. Changes in operating leases may be considered as part of the change in the liability account. Alternatively, these may be classified as an outflow in financial activities.

However, when calculating the requirements based on the changes between years, especially in the absence of audited financial statements, it is important to consider that other factors may impact the calculation. Most notably changes in the levels of different asset and liability accounts may vary because of the consolidation of other companies. If possible, such consolidation effects should be excluded from the calculation of working capital requirements. For net accounts receivable, the change must be adjusted for the possible provisions for credit losses.

At times, working capital requirements can be impacted by a significant level of year-to-year volatility. In these cases, and to reduce the impact of this volatility on FCF, FCF may be measured based on a calculation of annual averages of working capital requirements.

Maintenance Capex⁴. The methodology incorporates the notion that the rated entity should be treated as a going concern. Thus, we consider the essential factors for the company's long-term sustainability, specifically its ability to sustain cash flow generation from its productive assets at their current levels. In contrast to the other components of FCF, maintenance capex is a provision and not a cash outlay.

To calculate the maintenance capex provision, we can use the depreciation of PP&E and, when deemed necessary, the amortization of intangible assets that need to be replenished (e.g., software licenses), adjusting based on specific circumstances. In general, maintenance capex should be based on the expected useful life of operating assets⁵. Depreciation would not be an appropriate proxy for maintenance capex if it is accelerated for tax purposes. Additionally, the company's reported maintenance related expenses can be considered to prevent double counting when calculating this provision. HR Ratings will decide whether to include some intangible amortization in the maintenance capex on a case-by-case basis.

Leases. Generally, lease agreements will not be considered as debt. Therefore, the amortization payment of a lease agreement and the related interest expense will be subtracted in the FCF calculation. Furthermore, it is typically expected that the value of the asset (right to use) and its associated liability will remain unchanged from one period to the next in projected periods. It is assumed that companies experiencing high growth or inflation will see an increase in their asset value and corresponding

⁴ A term that refers to capital expenditure, which by its nature is not included in the income statement.

⁵ New units will probably require a provision lower than the book depreciation while a unit reaching the end of its useful life may require a higher provision.



liabilities. The effect would be corresponding increases in operating expenses and/or principal and interest payments, in the case of operating and financial leases.

Dividends received. Although these items are not listed on the statement of profit and loss, they are regarded as part of the company's FCF.

Taxes paid. Deferred tax charges are not included in the FCF calculation.

Special adjustments. There may be cases where some gains/losses incorporated in the previous accounts should not be considered as a recurring part of the company's operation. Or, conversely, there may be cash inflows or outflows not accounted for in the previous accounts that our analysis concludes should be included in calculating FCF. Adjustments can also be used to standardize potential volatility in working capital requirements. These adjustments should be mentioned and justified in the analysis report. These special adjustments refer to accounting modifications to the financial statements and should not be confused with qualitative adjustments that directly affect the credit rating.

Denominator Calculation: Debt Service (DS)

Debt service (DS) is the sum of mandatory principal payments due at a previously agreed date, net of applicable refinancing, and plus interest expense net of interest income (which is thus not part of FCF)⁶. Payments of revolving short-term debt prior to maturity date (as opposed to the short-term portion of long-term debt) are excluded from the debt service calculation. Mandatory amortization will generally correspond to the value of short-term debt at the end of the previous fiscal year⁷. It may also include the cost of derivatives used to hedge various debt exposures, such as foreign exchange transactions.

The calculation of interest expense will exclude interest payments on financial lease obligations (which is part of FCF), the non-cash amortization of deferred financing costs and non-cash capitalized interest. Interest capitalized to debt is included in DS only when paid as part of a debt amortization. A second case is when cash interest payments are capitalized to an asset. In these cases, the payment may be recorded as part of working capital requirements and, therefore, represents a cash outflow when calculating FCF.

As the previous definition implies, voluntary prepayments are not included in the DS metric. Also, not included in the calculation of DS, are obligatory prepayments that are contingent upon meeting certain criteria such as cash flow levels (cash flow sweep).

Applicable refinancings

Operationally, the calculation of the amortization portion of the debt service metric is the result of subtracting from annual debt amortization, as shown in the cash flow statement, the sum of: 1) revolving short-term debt (as described above), 2) non-mandatory amortizations (voluntary and contingent prepayments as described above) and 3) "applicable refinancing". Applicable refinancing includes new debt or equity contributions meeting certain criteria. Absent either of these two components there is no applicable refinancing.

⁶ Net interest expense is calculated by subtracting interest received from interest expense.

⁷ This prevents short-term revolving debt from being counted multiple times in a year when calculating DS.



Generally, all debt refinancing during historic periods is considered as applicable. For the projected periods (including the fourth quarter of a three-quarter reporting fiscal year), an applicable refinancing would have to include, when HR Ratings' rating report is prepared, a refinancing agreement (or draft versions of legal documents), comparable to a committed line of credit. Absent such an agreement there is no applicable debt refinancing in forecast periods.

Applicable refinancing will also include debt amortization financed by equity contributions occurring in a period concurrent with the payment obligation. However, equity contributions, concurrent with capital expenditures for the acquisition of other businesses or other significantly increased investment activity relative to the historical trend will not be considered as an applicable equity refinancing. For forecasted periods, an intended equity contribution may be regarded as applicable if HR Ratings considers it to be highly probable and unrelated to a business acquisition or other significant increases in investing activities. Nevertheless, a negative qualitative adjustment may be applied as there is no certainty that the contribution will be completed. Furthermore, subsequent ratings may be reduced if the contribution fails to materialize.

Projected applicable refinancing in the case of a credit commitment or intended equity contribution may represent all or part of the scheduled mandatory amortization. This projected refinancing would have to be justified and would be based on the expected macroeconomic environment, the company's history (including previous committed credit lines and equity contributions), projected FCF performance, asset base and other possible relevant factors such as corporate group relationships. It is this level of probability that would ultimately determine the inclusion of the applicable refinancing, either in whole or in part.

HR Ratings will incorporate (through qualitative adjustments) the impact that future amortizations could have on future ratings of the entity's credit assessment. These adjustments are explained in greater detail in another section of this methodology if there are significant future mandatory amortizations not covered by an applicable refinancing. The analysis applied to these future "majority" amortizations may include an applicable refinancing, either in whole or in part.

1.1.b. Debt Service Coverage with Available Cash (DSCR with Cash)
(20.0% of the credit rating)

For the calculation of this metric the cash available at the end of the previous period is added to the year's estimated FCF for the calculation of the DSCR for the fiscal year, as described in the previous section. This metric is particularly relevant for corporates with significant cash amounts. As always, periods are defined in terms of corporate fiscal years. This metric is calculated based on the following formula:

$$DSCR + Available\ Cash_t = \frac{Fiscal\ year\ FCF + Available\ Cash}{Fiscal\ year\ Debt\ Service}$$

Should the company need to create a cash reserve exclusively for debt service payments and this is not accounted for in cash on hand, HR Ratings will add the amount available in the reserve to the metric's numerator. However, it is necessary that the debt service for the period under analysis includes an amortization of the debt associated with the reserve.



For cases where the company's cash on hand is affected by seasonal intra-annual volatility of its capital requirements or other factors, this methodology allows an adjustment of the cash on hand to compensate for this volatility, utilizing a quarterly average of the cash account.

Figure 3 shows the rating range related to each numerical result for this metric:

Figure 3. Rating Ranges for DSCR + Cash

HR AAA	HR AA	HR A	HR BBB	HR BB	HR B	HR C
[4.25x, 3.83x]	(3.83x, 2.70x]	(2.70x, 1.80x]	(1.80x, 1.11x]	(1.11x, 0.64x]	(0.64x, 0.38x]	(0.38x, 0x]

Source: HR Ratings.

It is important to mention that the maximum value considered in this curve is 4.25x, so any result above this will be modified to maintain this upper limit.

1.1.c. Years to Payment Ratio

(40.0% of the credit rating)

Unlike the coverage metrics, the Years to Payment Ratio is a metric that tends to be relatively stable over time, as the metrics detailed above consider only the debt service for the period, which could vary significantly from year to year depending on amortization schedules. Conversely, the years to payment ratio identifies cases in which the long-term viability of the company is at risk, even though it may currently face low amortization payments. Conceptually, the years to payment metric is defined as Net debt to FCF. The following formula shows the more detailed calculation of this metric:

$$\text{Years to Payment}_t = \frac{\text{Gross debt} - \text{Assets available for debt service at fiscal year end}}{\text{Fiscal year FCF}}$$

The numerator is net debt and is defined as gross debt less cash at the end of the fiscal year. If there is a reserve exclusively for debt service obligations, other than cash, the reserve is also subtracted from gross debt.

It is important that the calculation of gross debt does not include any unamortized cost of issuing a debt instrument, particularly the OID (Original Issue Discount).

The cash adjustment in the case of intra-annual volatility as mentioned in the DSCR calculation above also applies for the calculation of net debt for this metric.

Figure 4 shows the rating range related to each numerical result for this metric:



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Figure 4. Ratings Ranges for Years to Payment Ratio

HR AAA	HR AA	HR A	HR BBB	HR BB	HR B	HR C
[0x, 2.35x]	(2.35x, 8.03x]	(8.03x, 12.61x]	(12.61x, 16.09x]	(16.09x, 18.47x]	(18.47x, 19.76x]	(19.76x, 21x]

Source: HR Ratings.

It is important to mention that the maximum value (i.e., the lowest rating) considered in this curve is 21x, so any result above this will be modified to respect this upper limit.

1.1.d. Marketable Assets to Total Liabilities (MALC)

(20.0% of the credit rating)

The numerator for this metric is the total estimated market value of the company's balance sheet assets, while the denominator is the total of balance sheet liabilities. The estimated market value of the assets will be measured as a discount on their book value. This metric is based on balance sheet accounts and not on cash flows. The following formula shows the calculation:

$$\text{Marketable Assets to Liabilities}_t = \frac{\text{Market Value Estimate for Assets at fiscal year end}}{\text{Total Liabilities at fiscal year end}}$$

The MALC metric has the advantage of offsetting the benefit to FCF arising from large increases in liabilities which has a positive impact in the change in working capital metric. In the calculation of MALC the large liability reduces the value of the metric.

This metric is relevant when analyzing company solvency, as well as its capacity to cover its liabilities with the sale of assets, which presumably would occur under stress conditions. Thus, to estimate the market value for assets for this metric it is necessary to apply a discount even in the Base scenario.⁸ The discount considered in the Stress Scenario could be higher depending on the analysis applied to each individual case. The discounts for both scenarios could be applied over the assets' book value or their market value whenever there is information available on them.

This analysis can be an important indicator of the terms that the company may receive when seeking refinancing or additional loans. It is important to note that HR Ratings does not include a possible recovery value in the event of default.

In our evaluation of the market value of the assets, HR Ratings will try to determine the origin and, therefore, the value of the goodwill account. Where information exists, we will attempt to estimate the amount of goodwill that might include productive assets that could be sold.

Figure 5 shows the rating range related to each numerical result for this metric:

⁸ Discounts will generally be applied to the carrying amount of the assets under consideration to produce an estimated market value. However, the discount may be applied to the current market value of assets when there is an adequate estimate from a reliable and updated information source.

Figure 5. Rating Ranges for Marketable Assets to Liabilities Ratio

HR AAA	HR AA	HR A	HR BBB	HR BB	HR B	HR C
[1.65x, 1.48x]	(1.48x, 1.03x]	(1.03x, 0.66x]	(0.66x, 0.38x]	(0.38x, 0.19x]	(0.19x, 0.08x]	(0.08x, 0x]

Source: HR Ratings.

It is important to mention that the maximum value considered in this curve is 1.65x, so any result above this will be modified to respect this upper limit.

1.2. Negative Metrics and Values

There are cases where the DSCR, DSCR with Cash and Years to Payment components have negative results. Metrics with negative components cannot be correctly interpreted financially and therefore, depending on each case, a corresponding result will be assigned a value equivalent to a rating of 19 (HR AAA) or a rating of 1 (HR C-).

For the DSCR, when debt service (DS) is negative (implying no debt and net interest income) and FCF is positive, a metric of 2.29x will be assigned, corresponding to a rating of 19. When DS is positive and free cash flow is negative, a 0 will be assigned corresponding to the minimum possible value within the rating curve. In situations in which both FCF and DS are negative, a metric of 0 will be assigned corresponding to the minimum possible value within the rating curve as the nature of this metric is primarily to evaluate FCF generation.

Similarly, for DSCR with Cash, a 4.25x will be assigned corresponding to a rating of 19 where the DS is negative and FCF is positive. If the DS is positive and the FCF is negative, a 0, again, will be assigned, regardless of the amount of cash at the end of the previous fiscal year, corresponding to the minimum possible value within the rating curve. When both FCF and DS are negative, a metric of 0 will be assigned.

Figure 6. Debt Service Coverage Ratios with negative components

FCF	Debt Service	Metric Value	Numerical Rating	Letter Rating
-	-	0	1	C-
-	+	0	1	C-
+	-	0	19	AAA

Source: HR Ratings.

For Years to Payment, when net debt is negative (implying cash is greater than debt), a result of 0x will be assigned, corresponding to a rating of 19, even if the FCF is negative as well. If net debt is positive and FCF is negative, a 21x will be assigned, representing the weakest outcome considered within the rating curve.



Figure 7. Years to Payment Ratio with negative components

FCF	Net Debt	Metric Value	Numerical Rating	Letter Rating
-	-	0	19	AAA
-	+	21	1	C-
+	-	0	19	AAA

Source: HR Ratings.

1.3. Rating Periods and Evaluation Process

The Rating Periods (or Rating Time Horizons) refer to the fiscal years comprising the relevant time horizon for determining the quantitative credit rating. The following figure presents different combinations of annual weights for different time horizons.

Figure 8. Time Horizons and Annual Weights

Weights per year							
Time Horizon	t ₋₁	t ₀	t ₁	t ₂	t ₃	t ₄	t ₅
1	13.0%	17.0%	35.0%	20.0%	15.0%	0.0%	0.0%
2	0.0%	13.0%	17.0%	35.0%	20.0%	15.0%	0.0%
3	0.0%	0.0%	13.0%	17.0%	35.0%	20.0%	15.0%
	t _n	t _{n+1}	t _{n+2}	t _{n+3}	t _{n+4}	t _{n+5}	t _{n+6}
4	13.0%	17.0%	35.0%	20.0%	15.0%	0.0%	0.0%
Weights per scenario							
Time Horizon	Reported	Forecast Scenarios					
		Base Scenario	Stress Scenario	Total			
1	30.0%	45.5%	24.5%	70.0%			
2	13.0%	56.6%	30.5%	87.0%			
3 & 4	0.0%	65.0%	35.0%	100.0%			

Source:HR Ratings.

For time horizons 1 through 3, “t₁” refers to the current fiscal year, when less than three quarters have been reported. When three quarters are reported the fiscal year is classified as a “reported” or historical period and becomes t₀. The Base and Stress scenarios will always receive the same weights of 65% for the base scenario and 35% for the stress scenario. However, Figure 6 shows the effects of considering a different number of historical periods in the analysis. Even if the relative importance of Base and Stress scenarios remain the same, the use of historical periods dilutes their effect since no difference can be applied to information already reported.

The rating time horizons shown in Figure 8 are subject to the following conditions:

- **Rating Time Horizon 1:** The entity has at least two full years of historical information. In this case, two historical and three projected periods are used for the quantitative evaluation. If the analysis reveals that the entity's historical information loses relevance due to a significant change in the company's conditions and/or prospects, an alternative Rating Time Horizon (2 or 3) may be used.
- **Rating Time Horizon 2:** The entity has only one full year of historical information. In this case, one historical period and four projected periods are used for quantitative evaluation. If the analysis reveals that the entity's historical information loses relevance due to a significant change in the company's conditions and/or prospects, an alternative Rating Time Horizon (3) may be used.



- **Rating Time Horizon 3:** The entity has less than one full year of historical information. In this case, five projected periods are used for quantitative evaluation. A qualitative negative adjustment(s) may be applied in these cases if the absence of historical or other information suggests that forecasts are subject to a significantly greater degree of risk than what would be the case for entities with some historical information.
- **Rating Time Horizon 4:** This time horizon is employed when an entity is not currently generating a relevant degree of revenue and is planning the creation or acquisition of assets that will not commence operations until a certain point in the future. When using time horizon 4, the first fiscal year considered in the rating time horizon (t_n) will be the year in which a significant portion of the assets are operating and/or generating revenue. When the Rating Time Horizon begins after the point in time in which interest or amortization payments are to be made, additional analysis will be applied to insure that the entity can comply with the required debt service through cash reserves, the option to capitalize interest or any other measure and source of liquidity that secures the fulfillment of obligations prior to revenue generation. If there is some uncertainty about the ability to comply with debt service obligations negative qualitative adjustments may be applied. Once what was to be a period t_n begins (i.e., once significant operations commence) the time horizon changes to Time Horizon 3 and then subsequently to horizons 2 and 1. Time Horizon 4 is not appropriate for an existing operating entity that plans a major expansion (either through acquisitions or construction). In these cases, time horizons 3 through 1 would be employed.

It is important to mention that Rating Time Horizon 1 will be the standard applied for most of the credit evaluations. Rating Time Horizons 2 to 4 are options used only for atypical cases where the minimum required information for Rating Time Horizon 1 is not available or deemed not representative of the current operation.

The quantitative evaluation process is summarized in the following elements:

1. The Base and Stress Scenarios are prepared based on historical information and the corresponding macroeconomic assumption and monetary forecasts.
2. Financial metrics are calculated for the years described in the rating time horizons of Figure 8 and weighed for each year to determine the time weighted result. This includes the evaluation of complementary rating periods with rolling five-year forecasts weighted as indicated in Time Horizon 1.
3. An integer value between 1 (worst) and 19 (best) is assigned according to the time weighted result of each metric and the ranges shown in the curve applicable to each one, reflecting the credit strength that each metric contributes to the entity in each scenario.
4. The integer value of each metric is weighted based on the applicable weights for each metric.
5. With this weighted average, another value (non-integer), also between 1 and 19, is calculated for each of the scenarios.
6. The value calculated for the Base Scenario is weighed 65.0%, while the value estimated for the Stress Scenario receives the remaining 35.0%; this results in the quantitative rating.
7. This result is rounded to generate an integer value corresponding to a rating range, as shown in Figure 9.



Figure 9. Rating Ranges

Rating Range	Numerical Value
HR AAA	19
HR AA	{16,17,18}
HR A	{13,14,15}
HR BBB	{10,11,12}
HR BB	{7,8,9}
HR B	{4,5,6}
HR C	{1,2,3}

Source: HR Ratings.

The *formal rating period* is the rating period used to determine the quantitative rating. In addition, this methodology considers the possibility of a complementary period after the end of the *formal rating period*. These additional periods are especially relevant when HR Ratings concludes that the formal period does not adequately measure the entity's credit risk. Thus, the additional periods help evaluate the appropriateness of applying qualitative adjustments or *notches* to the quantitative rating to determine the final credit rating. Complementary periods may be elaborated on an annual or quarterly basis as opposed to the formal periods which are generally based on quarterly information and forecasts.

Figure 10 shows how a quantitative rating is determined once the values of the four metrics have been calculated for each year within the formal rating period for both the Base Scenario and the Stress Scenario.

Figure 10. Example of an entity's rating using time horizon 1

Base Scenario	Weights	13.0%	17.0%	35.0%	20.0%	15.0%	W. Avg.	Rating Num. Value	Weight per Metric
		t-1	t0	t1	t2	t3			
DSCR		2.00x	1.90x	0.50x	1.25x	1.30x	1.20	14.00	20.0%
DSCR + Available Cash		4.25x	3.90x	0.80x	1.75x	1.55x	2.08	14.00	20.0%
Years to Payment Ratio		6.90	6.50	4.80	4.70	4.50	5.30	17.00	40.0%
Marketable Assets to Liabilities		0.92x	0.93x	0.99x	1.00x	1.25x	1.01	15.00	20.0%
Stress Scenario	Weights	13.0%	17.0%	35.0%	20.0%	15.0%	W. Avg.	Rating Num. Value	Weight per Metric
		t-1	t0	t1	t2	t3			
DSCR		2.00x	1.90x	0.35x	0.88x	0.85x	1.01	13.00	20.0%
DSCR + Available Cash		4.25x	3.90x	0.56x	1.14x	0.93x	1.78	12.00	20.0%
Years to Payment Ratio		6.90	6.50	6.24	6.35	6.30	6.40	16.00	40.0%
Marketable Assets to Liabilities		0.92x	0.93x	0.74x	0.75x	0.88x	0.82	14.00	20.0%
Scenario's Rating		Base Average		Stress Average		Base Weight		65.0%	Final Value
		15.40		14.20		Stress Weight		35.0%	

Source: HR Ratings.

In this example, the first row of each scenario shows the weights for each year while the values in the last column show the weights for each metric. In the last two rows we show the weighted results of each scenario, 15.40 and 14.20 for the Base and Stress scenarios respectively.

Figure 10 provides hypothetical values for each metric in each year for both scenarios. It should be noted that for years t-1 and t0 the values are identical for the two scenarios. This is because the values are based on historical information. For subsequent periods, relevant differences can be seen between the Base and Stress scenario values.



The *Weighted Average* (W. Avg.) column shows, as its name indicates, the weighted average of each metric and is based on the annual weights in the first row of each scenario. The period with the greatest weight is t_1 (the current fiscal year), with 35%. In contrast, t_{-1} has the lowest weight with 13%. For the Years to Payment metric, the weighted average is 5.30 in the Base Scenario and 6.40 in the Stress Scenario. For this metric, the higher the metric value the lower the rating.

The *Rating Numerical Value* column converts the average values of each metric to a rating based on the "curves" or parametrization corresponding to each metric. By doing so, the different values are expressed on the same scale and can therefore be compared. For example, the 1.2 for the DSCR in the Base scenario is equivalent to 14 which is lower than the 17 to Years to Payment whose value was 5.3 years. As for the letter rating, as is reflected in Figure 9, 14 is equivalent to an HR A while 17 is equivalent to an HR AA, a difference of three *notches*.

In the next phase of the evaluation process, the weighted average of the numerical ratings shown in the next to last column is calculated, according to the weights shown in the last column. For the Base Scenario's historical and projected values, the average of the numerical ratings is 15.40, equivalent to an HR A+. The Stress Scenario has an average of 14.20 or HR A. The weighted average is 14.98, which would be rounded to 15 and is equivalent to HR A+.

This ends the quantitative evaluation process. It is followed by the application of positive or negative qualitative adjustments to determine the final credit rating.

1.4. Environmental, Social and Corporate Governance (ESG) Qualitative Adjustments

The purpose of this section is to include in the corporate entity's rating the impact that environmental, social, and corporate governance (ESG) factors may have on its ability to fully and timely meet its debt payment obligations. For this evaluation, the cases are most influenced by corporate governance factors. The corporate governance evaluation focuses on the policies that promote transparency and best market practices, the formal tools that the corporate entity must identify, mitigate, and resolve risks derived from multiple sources will also be evaluated. Some examples of the concepts reviewed are the administrative practices, the quality and availability of audited financial statements, composition of the board of directors, internal compliance controls, systems available for managing operational and technological risks, transparency in the reports generated, among others.

For the environmental analysis, HR Ratings assesses how a corporate entity's environmental impact, including related regulations, may affect its financial performance and thus its credit rating. This includes mitigation efforts and the possible impact in the short-term of natural phenomenon.

The analysis of social factors involves how an entity's social impact will impact its financial performance. This includes the impact on communities, regulations and mitigation efforts. Additional factors to consider are the assessment of policies for attracting, retaining, and developing human capital as well as inclusiveness policies.



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1.5. General Qualitative Adjustments

This section outlines general qualitative adjustments. As the name suggests, these can arise from a variety of factors and considerations. Although the *notches* are "qualitative" this does not mean that they are not based on a quantitative evaluation. The term qualitative is used to distinguish this phase of the process from the quantitative analysis described in the sections above. A quantitative evaluation can be used to support the decision of whether to apply for a qualitative adjustment (see points vii and viii below).

General qualitative adjustments based on different factors can be assigned under the methodology. Among those factors are the following:

1. By belonging to a business group, the entity could receive financial support, which could justify one or more positive adjustments⁹;
2. Senior or subordinated debt may result in positive or negative adjustments to the entity's rating and to differential ratings to specific debt instruments. Here a quantitative analysis may be used to determine if a qualitative adjustment is appropriate (see section 1.9. below).
3. The debt of a holding company with consolidated subsidiaries and with substantial minority equity interest in any one of them may be qualitatively penalized because the entity would not necessarily have access to the entirety consolidated FCF¹⁰;
4. A company with a high concentration of customers and/or suppliers could receive a negative adjustment due to the risk of losing one or more of them
5. A company's market position could justify a positive or negative adjustment,
6. Risk factors related to the industry in which an entity operates, either currently or in the longer-term future.
7. Insufficient information provided by the Company or a relevant third party as guidance for current or future acquisitions.
8. The identification of rating metric trends that could result over time in a different quantitative rating and therefore affect the stability of the quantitative credit rating as reflected in the formal rating period. To determine if a qualitative adjustment is appropriate, quantitative ratings will be determined for subsequent complementary five-year rating periods. The initiation of the first complementary period will be the fiscal year following the first year of the formal rating period. The result could either be a positive or negative adjustment.
9. The identification of a substantial amortization either in the last two years of the formal rating period, when these periods have a relatively minor weight; or in a future period that is completely outside the formal rating period. Due to the frequent occurrence of such situations, a subsequent section explains in detail how this methodology evaluates the risk that such amortizations may represent to its rating. This process applies to quantitative analysis to support a potential negative qualitative adjustment.

⁹ Or, if applicable, this relationship may be incorporated in the refinancing analysis to reduce the estimated obligatory debt amortization.

¹⁰ The holding company may likely only have access to its share in dividends that the subsidiary chooses to pay to its shareholders. Otherwise, this risk may be incorporated into the projections by subtracting an estimation of the FCF generated by the subsidiary from the consolidated FCF and adding a projection of the dividend that the holding company receives.



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1.6. Quantitative ratings in complementary rating periods

Points 8 and 9 above are instances in which possible qualitative adjustments are based on a quantitative based rating in a complementary rating period. Given the fact that the application of qualitative notches remains optional, although it needs to be justified in the rating report, the procedures used to generate the complementary quantitative rating may differ from those used to generate a quantitative rating for the formal rating period. Specifically, annual forecasts may be used vs. quarterly forecasts that are preferred for the formal rating period. In constructing the stress scenario for these complementary periods, the analysis team has the option of constructing it using the same variables as employed in the base scenario or using imputed stress values. In these cases, a Stress valuation may be obtained by inputting a discount to the Base result that is comparable to the discount in the formal quantitative rating, adjusting for possible differences in the effective participation of the stress scenario.

1.7. Debt with Majority Amortizations in Future Periods

It is often necessary to rate an entity with medium and large-term loans whose amortization schedule involves relatively small annual payments and a large or full amortization at maturity. This balloon payment structure produces substantial instability in our DSCR metrics. Years with reduced amortizations would necessarily have low debt service amounts (with positive effects on the quantitative rating through higher DSCR metrics) followed by high debt service in the final year (with very negative effects on the quantitative through low DSCR metrics).

Consequently, a balloon or bullet payment structure may produce rating volatility and distort the creditworthiness evaluation if the balloon or bullet payment occurs in the final years of the rating period, which have a lower weight, or up to three years after the end of the formal rating period. Without applicable refinancing of the amortization, the rating could deteriorate significantly over time. The purpose of the following analysis is to show how this methodology anticipates possible rating deterioration and provides improved rating stability.

After the quantitative evaluation for the formal rating period is completed, an additional analysis will be implemented to determine the potential for a negative rating adjustment. This analysis has the following steps:

1. Identify a year with an amortization, net of an applicable refinancing, of more than 50% of the gross debt at the end of the previous period. The year with a "majority amortization" will be the period with the highest weighting in a five-year complementary analysis process. The result of this complementary exercise would be the basis for determining a possible negative qualitative adjustment. This analysis is to be performed only if the majority amortization occurs up to five fiscal years after t_1 . Thus, if t_1 is 2026 then the complementary period exercise would be elaborated for any majority amortization through 2031.
2. The new annual projections necessary to complete the new time horizon of the corresponding complementary rating period will be prepared on a Base scenario and, optionally, on a Stress scenario. The year with the majority amortization would have the highest weighting. The numerical rating will be calculated as the result of the complementary exercise. Projections will include the accounts considered necessary to perform the exercise.
3. The difference between the ordinary numerical rating and the complementary exercise rating will be multiplied by a "percentage modifier" determined according to the distance between the current year (t_1) in the formal time horizon and the year of the majority payment. The result is the modified difference.



- The modified difference will determine the applicable negative adjustment. Figure 9 shows the modifiers usually considered.

This methodology will take the result of the complementary exercise as a reference for possibly applying one or more negative notches. The exercise may not be used to apply positive notches. In Figure 9 below we assume the use of Rating Time Horizon 1 and that the last reported fiscal year (FY) was 2025. In this case, the t_1 , the first-year forecast, would be FY26. The formal rating period would end in FY28. For any majority amortization that would fall in FY28 (t_3 in Figure 11) the multiplier would be 80%. If the majority amortization were to fall in FY30 the multiplier would be 60%.

Figure 11. Modifiers per period

Fiscal Year	Period with Bullet Payment	Modifier
2026	t_1	n.a.
2027	t_2	90%
2028	t_3	80%
2029	t_4	70%
2030	t_5	60%
2031	t_6	50%

Source: HR Ratings.

Figure 12 shows an example of this exercise where a majority amortization is identified in the t_5 period:



Figure 12. Example for Bullet/Balloon Adjustment

Base Scenario	Weights	13.0%	17.0%	35.0%	20.0%	15.0%	Weighted Average	Rating Numerical Value	Weights per Metric
	Years	2024	2025	2026	2027	2028			
		t-1	t0	t1	t2	t3			
DSCR		2.00x	1.90x	0.50x	1.25x	1.30x	1.20	14.00	20.0%
DSCR + Cash		4.25x	3.90x	0.80x	1.75x	1.55x	2.08	14.00	20.0%
Years to Payment		6.90	6.50	4.80	4.70	4.50	5.30	17.00	40.0%
Marketable Assets / Liabilities		0.92x	0.93x	0.99x	1.00x	1.25x	1.01	15.00	20.0%
Stress Scenario	Weights	13.0%	17.0%	35.0%	20.0%	15.0%	Weighted Average	Rating Numerical Value	Weights per Metric
	Years	2024	2025	2026	2027	2028			
		t-1	t0	t1	t2	t3			
DSCR		2.00x	1.90x	0.35x	0.88x	0.85x	1.01	13.00	20.0%
DSCR + Cash		4.25x	3.90x	0.56x	1.14x	0.93x	1.78	12.00	20.0%
Years to Payment		6.90	6.50	6.24	6.35	6.30	6.40	16.00	40.0%
Marketable Assets / Liabilities		0.92x	0.93x	0.74x	0.75x	0.88x	0.82	14.00	20.0%
Scenario Rating	Avg. for Base Scenario			Avg. for Stress Scenario			Weight for Base Scenario	65.0%	Final V.
	15.40			14.20			Weight for Stress Scenario	35.0%	14.98
Complementary Process									
Base Scenario	Weights	13.0%	17.0%	35.0%	20.0%	15.0%	Weighted Average	Rating Numerical Value	Weights per Metric
	Years	2028	2029	2030	2031	2032			
		t3	t4	t5	t6	t7			
DSCR		1.30x	1.31x	0.53x	0.68x	0.70x	0.82	11.00	20.0%
DSCR + Cash		1.55x	1.57x	0.63x	0.81x	0.83x	0.97	9.00	20.0%
Years to Payment		4.50	4.55	3.64	4.14	4.22	4.09	18.00	40.0%
Marketable Assets / Liabilities		1.25x	1.26x	1.28x	1.15x	1.17x	1.23	17.00	20.0%
Stress Scenario	Weights	13.0%	17.0%	35.0%	20.0%	15.0%	Weighted Average	Rating Numerical Value	Weights per Metric
	Years	2028	2029	2030	2031	2032			
		t3	t4	t5	t6	t7			
DSCR		0.85x	0.92x	0.37x	0.48x	0.49x	0.56	9.00	20.0%
DSCR + Cash		0.93x	1.10x	0.44x	0.57x	0.58x	0.66	7.00	20.0%
Years to Payment		6.30	3.18	2.55	2.90	2.95	3.27	18.00	40.0%
Marketable Assets / Liabilities		0.88x	0.88x	0.89x	0.80x	0.82x	0.86	14.00	20.0%
Scenario Rating	Avg. for Base Scenario			Avg. for Stress Scenario			Weight for Base Scenario	65.0%	Final V.
	14.60			13.20			Weight for Stress Scenario	35.0%	14.11
Difference between Results	Formal Period Result			Complementary Period Result			Difference	0.87	Result
	14.98			14.11			Modifier	60%	Notches

Source: HR Ratings.

The result of the quantitative process for the formal rating period is 14.98 and the result of the complementary period exercise is 14.11. The metrics for the t₅ period have the highest weighting in the complementary time horizon (35%) as this is the year with the majority amortization. The last section of Figure 12 shows a difference of 0.87 between the result of the formal rating period and the complementary rating period. This difference is multiplied by the applicable modifier of 60%, according to the modifier table shown in Figure 11, resulting in 0.52. The last step of this exercise is to round the result of 0.52, which could determine the applicable qualitative adjustment of 1 notch below the quantitative rating.



1.8. Debt between related parties

When analyzing the debt structure of an operating company with an associated holding company and they present a differentiated debt structure. If the holding company's source of cash flow to meet its debt obligations is derived from the operating company being rated, the debt of the latter will, for metric purposes, include that of the former.

In cases, in which an entity being rated has debt obligations with a "related" party, HR Ratings will independently make its own evaluation as to whether such liabilities should be considered as constituting debt for the elaboration of rating metrics. Decisions to not incorporate such related party debt obligations into the calculation of rating metrics will be justified in the rating report. Factors that may be taken into consideration would be whether the related party creditor is part of the same business group to which the entity being rated belongs. If the related party creditor is a regulated banking institution more justification would be required to assume that the credit is not debt for the entity being rated.

1.9. Debt Instruments with Different Payment Priorities

For specific debt instruments being explicitly rated by HR Ratings, the possible strengths or vulnerabilities of these different debt instruments will be analyzed to determine if they should be given ratings different than the one assigned to the entity being evaluated. The conclusions of said analysis will be detailed in the rating report. The analysis begins with a contextual review of the terms of the specific debt instruments being explicitly rated. This contextual analysis usually refers to the following items:

1. The priority in terms of receiving cashflows for each debt instrument.¹¹
2. The existence of cross-defaults between different debt instruments that would negate the advantages otherwise derived from having a cash priority position in the cash flow waterfall for the servicing of debt obligations.
3. The proportion of total debt categorized as preferred or subordinated.
4. Any other concept that HR Ratings believes should be considered when analyzing the appropriateness of determining differential ratings across the explicitly rated debt instruments assumed by the entity.

In the case of debt instruments with a higher priority in the payment waterfall a determination will be made as to whether these instruments should be evaluated on an individual basis, and possibly given a different rating, or if they should be analyzed together with the rest of the company's debt to receive the same rating. If the determination is the former, then the preferred debt for will be analyzed as follows:

1. The preferred debt's metrics will be based on the totality of the company's FCF and the totality of the company's cash levels.
2. These metrics will be evaluated using the process and parameters mentioned in previous sections of the methodology.
3. The difference between the preferred debt's metrics and the metrics of the entity being rated, based on the totality of its debt, cash and FCF, would be the basis for determining whether a differential rating for the preferred debt is merited.

Importantly, and consistent with our General Criteria Methodology, any post-default protection, curing period, or subordination for the debt instruments will not be considered for this analysis. HR Ratings may make a negative adjustment to the company

¹¹ Cashflow priority in the cash waterfall is the only priority considered for the purposes of our rating process.



or to a specific debt instrument whenever it determines that the company or other relevant entity failed to deliver the information necessary to apply the analysis set forth in this section. If the company defaults on any debt instrument, HR Ratings will apply the terms specified in its *General Methodological Criteria*. It should be clarified that this analysis does not consider post-default benefits or disadvantages.

2. Commercial Real Estate

This section describes the process of assessing the financial risk of companies (or trusts, in particular) that primarily lease real estate. This methodology applies a different approach due to the nature of leased assets. Although the process for these companies is very similar to that described above for companies in general, there are important differences summarized below.

1. The rating period consists of seven years instead of the five years established for the possible time periods in Figure 6 and has different annual weightings.
2. LTV replaces Marketable Assets to Liabilities and has the same 20% weight.
3. The weightings used for the remaining metrics are the same as those used for a corporate risk assessment.
4. The rating curves are the same as those used in the corporate evaluation for the DSCRs and Years to Payment.
5. The FCF calculation does not include a provision for maintenance capex as this is included in operating expenses.
6. If the entity regularly reports the sales of assets, the profit (loss) obtained in these transactions could be considered part of FCF.
7. Given the likely financial strength of the underlying assets, including their likely revaluation, it is considered that the likelihood of getting an applicable refinancing is greater than for other types of corporates. However, the deterioration of the property will be monitored to determine how it could impact rent payments and the likelihood of being able to refinance under comparable conditions to the debt used to finance the acquisition and construction of the property.
8. In the case of Real Estate Investment Trusts (REITs), obligatory distributions are recognized as an outflow in the calculation of FCF.

2.1. Quantitative Metrics

2.1.a. Debt Service Coverage Ratio (DSCR)

(20.0% of the credit rating)

As in the case of corporate debt, DSCR is the first weighted metric in this quantitative evaluation. DSCR is calculated using the formula shown below:

$$DSCR_t = \frac{\text{Fiscal year FCF}}{\text{Fiscal year Debt Service}}$$

Figure 13 shows the rating range related to each numerical result for this metric:

Figure 13. Rating Ranges for DSCR

HR AAA	HR AA	HR A	HR BBB	HR BB	HR B	HR C
[2.29x, 2.06x]	(2.06x, 1.47x]	(1.47x, 0.98x]	(0.98x, 0.62x]	(0.62x, 0.37x]	(0.37x, 0.23x]	(0.23x, 0x]

Source: HR Ratings.



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In México, REITs are legally obliged to annually distribute a minimum of 95% of their net fiscal result which is considered a charge against FCF. Additionally, FCF does not incorporate a Maintenance Capex provision since, given the nature of the asset class, said account is considered as an operational expense.

2.1.b. Debt Service Coverage with Available Cash (DSCR with Cash)

(20.0% of the credit rating)

Cash available at the end of the previous year will be added to the estimated FCF. This metric is calculated using the following formula:

$$DSCR + Available\ Cash_t = \frac{Fiscal\ year\ FCF + Available\ Cash}{Fiscal\ year\ Debt\ Service}$$

As in the case of corporate risk evaluation, cash reserves in a separate account to be used exclusively for the payment of debt service will be added to the calculation of available cash.

Figure 14 shows the rating range related to each numerical result for this metric:

Figure 14. Rating Ranges for DSCR with Cash

HR AAA	HR AA	HR A	HR BBB	HR BB	HR B	HR C
[4.25x, 3.83x]	(3.83x, 2.70x]	(2.70x, 1.80x]	(1.80x, 1.11x]	(1.11x, 0.64x]	(0.64x, 0.38x]	(0.38x, 0x]

Source: HR Ratings.

2.1.c. Years to Payment Ratio

(40.0% of the credit rating)

This metric is calculated as the amount of net debt (including cash reserves) at the end of a fiscal year divided by the FCF for the same period, as shown in the formula below:

$$Years\ to\ Payment_t = \frac{Gross\ debt - Assets\ available\ at\ fiscal\ year\ end}{Fiscal\ year\ Free\ Cash\ Flow}$$

To estimate net debt, the total assets available to meet these obligations are subtracted from gross debt.

Figure 15. Rating Ranges for Years to Payment

HR AAA	HR AA	HR A	HR BBB	HR BB	HR B	HR C
[0x, 2.35x]	(2.35x, 8.03x]	(8.03x, 12.61x]	(12.61x, 16.09x]	(16.09x, 18.47x]	(18.47x, 19.76x]	(19.76x, 21x]

Source: HR Ratings.



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2.1.d. Loan to Value

(20.0% of the credit rating)

The metric is calculated using the following formula:

$$\text{Loan to Value}_t = \frac{\text{Total Debt at fiscal year end}}{\text{Total Assets at fiscal year end}}$$

Figure 16. Rating Ranges for Loan to Value

HR AAA	HR AA	HR A	HR BBB	HR BB	HR B	HR C
[0.00x, 0.25x]	(0.25x, 0.37x]	(0.37x, 0.50x]	(0.50x, 0.62x]	(0.62x, 0.74x]	(0.74x, 0.87x]	(0.87x, 0.99x]

Source: HR Ratings.

2.2. Time Periods and Annual Weightings

Another difference in the evaluation of this section and that of section 1 refers to time periods. Due to the long-term nature of the underlying assets, the time periods are seven years instead of five. As in the corporate evaluation, the methodology allows for the possibility of rating future projects, which would be evaluated based on Rating Time Horizon 4 as is the case for the evaluation of non-real-estate projects discussed above. This is especially relevant for possible debt payment obligations before the initiation of the formal rating period. Apart from the number of time periods and annual weights the same conditions apply for real estate operations as for general corporate risk evaluation detailed above.

Figure 17. Time Horizon Weights of Real Estate Companies

Weights per year									
Time Horizon	t ₋₁	t ₀	t ₁	t ₂	t ₃	t ₄	t ₅	t ₆	t ₇
1	10.0%	15.0%	25.0%	20.0%	15.0%	10.0%	5.0%	0.0%	0.0%
2	0.0%	10.0%	15.0%	25.0%	20.0%	15.0%	10.0%	5.0%	0.0%
3	0.0%	0.0%	10.0%	15.0%	25.0%	20.0%	15.0%	10.0%	5.0%
			t _n	t _{n+1}	t _{n+2}	t _{n+3}	t _{n+4}	t _{n+5}	t _{n+6}
4	n.a.	n.a.	10.0%	15.0%	25.0%	20.0%	15.0%	10.0%	5.0%
Weights per Scenario									
Time Horizon	Reported	Forecast Scenarios							
		Base Scenario	Stress Scenario	Total					
1	25.0%	48.8%	26.3%	75.0%					
2	10.0%	58.5%	31.5%	90.0%					
3 & 4	0.0%	65.0%	35.0%	100.0%					

Source: HR Ratings.

For time horizons 1 through 3, “t₁” refers to the current fiscal year, when less than three quarters have been reported. When three quarters are reported the fiscal year is classified as a “reported” or historical period and becomes t₀. The Base and Stress scenarios will always receive the same weights of 65% for the base scenario and 35% for the stress scenario. However, Figure 17 shows the effects of considering a different number of reported periods in the analysis. Even if the relative importance of Base and Stress scenarios remains the same, the use of reported periods dilutes their effect since no difference can be applied to information already reported.



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The rating time horizons shown in the figure are subject to the following conditions:

- **Rating Time Horizon 1:** The entity has at least two full years of historical information. In this case, two historical and five projected periods are used for quantitative evaluation. If the analysis reveals that the entity's historical information loses relevance due to a significant change in the company's conditions and/or prospects, an alternative Rating Time Horizon (2 or 3) may be used.
- **Rating Time Horizon 2:** The entity has only one full year of historical information. In this case, one historical period and six projected periods are used for quantitative evaluation. If the analysis reveals that the entity's historical information loses relevance due to a significant change in the company's conditions and/or prospects, an alternative Rating Time Horizon (3) may be used.
- **Rating Time Horizon 3:** The entity has less than one full year of historical information. In this case, seven projected periods are used for quantitative evaluation. A qualitative negative adjustment(s) may be applied in these cases if the absence of historical or other information suggests that forecasts are subject to a significantly greater degree of risk than what would be the case for entities with some historical information.
- **Rating Time Horizon 4:** The entity considers the construction or acquisition of assets that will not commence operations until a certain point in the future. When using time horizon 4, the first fiscal year considered in the rating time horizon (t_n) will be the year in which a significant portion of the assets are operating or generating revenue. When the Rating Time Horizon begins after the point in time in which interest or amortization payments are to be made, additional analysis will be applied to insure that the entity can comply with the required debt service through cash reserves, the option to capitalize interest or any other measure and source of liquidity that secures the fulfillment of obligations prior to revenue generation. If there is some uncertainty about the ability to comply with debt service obligations negative qualitative adjustments may be applied. Once what was to be a period t_n begins (i.e., once significant operations commence) the time horizon changes to Time Horizon 3 and then subsequently to horizons 2 and 1. Time Horizon 4 is not appropriate for an existing operating entity that plans a major expansion (either through acquisitions or construction). In these cases, time horizons 3 through 1 would be employed.

3. Quantitative Evaluation of Structured Debt with future cash flows generated by income or assets

This section describes the process to evaluate the creditworthiness of structured debt whose source of repayment is generated by future cash flows derived from income or any asset. This implies that the affected flows originate from operations, sales or transactions that have not yet been performed, but are expected to be performed in the future. It should be clarified that this section only describes the process for structures that are considered dependent, which implies that the assigned income is subject to the credit or operational risk of the entity that originates these future flows for debt payment.

This process is based on the development of the Base Scenario and the Stress Scenario, in which the affected cash flow will be projected to service the debt obligations and in which various macroeconomic assumptions will be included that will not only influence the cash flow itself, but also the expected debt service. In each scenario, three financial metrics will be prepared to measure the credit risk of each structured debt. The most significant difference among the processes described above is that the result of the quantitative evaluation of these structures may not exceed the issuer's credit rating by more than 26 five



notches. Issuers with ratings equal to or higher than "HR BBB-", while the result of the quantitative evaluation of the structured debt of issuers with a credit rating equal to or lower than "HR BB+", may not exceed the equivalent of the rating of "HR BBB-(E)".

It should be clarified that this process, after determining the result of the quantitative evaluation with the restrictions that have been outlined, may still assign qualitative adjustments based on the credit strength or weakness of the issuer and the structured debt itself, which will be explained in the rating report.

3.1. Projection Scenarios

The construction of the scenarios for the case of structured debt should incorporate the same macroeconomic and financial assumptions that have been incorporated in the evaluation of its corporate issuer. This implies that the FCF as well as the regular debt service amount of both scenarios should match the corporate evaluation; however, there is an additional consideration when performing the analysis of a structured debt.

Unlike the corporate evaluation, both the source of payment and the FCF could be projected for the life of the structured debt. This is to identify weaknesses in the structure that go beyond the issuer's projection period.

3.2. Quantitative Metrics

To construct these metrics, the historical and projected variables in the scenarios are used and, as mentioned above, the FCF used in this evaluation is constructed as outlined in the Quantitative Evaluation of Corporates section. In specific cases in which HR Ratings finds that the affected revenue is higher than the FCF, it may construct its metrics with the affected revenue. Debt service and debt itself refer only to the structured debt in the construction of these metrics.

3.2.a. Debt Service Coverage Ratio (DSCR)

(37.5% of the structure's quantitative rating)

The numerator of this metric uses the issuer's free cash flow, considering the income assigned to the trust. This process considers a case in which the issuer uses all of its resources to service the financial obligations of only the structure, or all of the structures issued. The formula for this metric is as follows:

$$DSCR_t = \frac{\text{Fiscal year FCF}}{\text{Fiscal year Debt Service}}$$

Figure 18. Rating Ranges for DSCR

HR AAA	HR AA	HR A	HR BBB	HR BB	HR B	HR C
(x ≥ 2.06x]	(2.06x, 1.47x]	(1.47x, 0.98x]	(0.98x, 0.62x]	(0.62x, 0.37x]	(0.37x, 0.23x]	(0.23x, 0x]

Source: HR Ratings.

As described in the Corporate Quantitative Evaluation section, debt service considers the regular payment of interest and amortization that must be covered. If the structured debt has a financial hedging instrument that is triggered, the effects will be incorporated in the amount of interest payable in each period.



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Contracts with excess cash flow recoveries (ECFS) are considered required. This means that, in the event of excess cash flow, the entity with the debt will be required to surrender all the excess cash flow or else default. Despite this, HR Ratings considers them voluntary payments for the purpose of calculating metrics.

3.2.b. Debt Service Coverage with Available Cash

(25.0% of the structure's quantitative rating)

In this case the numerator, in addition to considering the issuer's free cash flow, incorporates the issuer's available cash and any funds in a payment trust whose sole purpose is to service the structured debt in the event that the affected income or FCF is not sufficient in any period. The following formula is used:

$$DSCR + Available\ Cash_t = \frac{Fiscal\ year\ FCF + Available\ Cash}{Fiscal\ year\ Debt\ Service}$$

Figure 19. Rating Ranges for DSCR with Cash

HR AAA	HR AA	HR A	HR BBB	HR BB	HR B	HR C
(x ≥ 3.83x]	(3.83x, 2.70x]	(2.70x, 1.80x]	(1.80x, 1.11x]	(1.11x, 0.64x]	(0.64x, 0.38x]	(0.38x, 0x]

Source: HR Ratings.

3.2.c. Years to Payment Ratio

(37.5% of the structure's quantitative rating)

In the case of these structures, the debt incorporated in this metric considers only the outstanding balance of the structure; while the free cash flow will be that used in the previous metrics. The formula for this metric is as follows:

$$Years\ to\ Payment_t = \frac{Gross\ debt - Assets\ available\ at\ fiscal\ year\ end}{Fiscal\ year\ Free\ Cash\ Flow}$$

Figure 20. Rating Ranges for Years to Payment

HR AAA	HR AA	HR A	HR BBB	HR BB	HR B	HR C
(x ≤ 2.35x)	[2.35x, 8.03x)	[8.03x, 12.61x)	[12.61x, 16.09x)	[16.09x, 18.47x)	[18.47x, 19.76x)	[19.76x ≤ x]

Source: HR Ratings.

3.3. Rating Process

The first thing to consider is that the transaction must be legally structured so that future cash flows are transferred to an irrevocable trust that represents a vehicle for debt repayment and, later on, be transferred to the creditors. HR Ratings will conduct a legal analysis upholding the concepts presented in its General Methodological Criteria. This legal analysis constitutes an evaluation that determines whether the instrumentation ensures that funds earmarked for debt service are isolated from any other creditor or entity until they comply with the purposes established in the loan and/or trust agreement, this implies that the transaction is enforceable against third parties and that if the issuer goes bankrupt, the transaction will not be part of the bankruptcy or restructuring proceedings.



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In the event that the legal analysis identifies that this is not met, the evaluation of the structure will correspond to the issuer's credit rating. While in the case where the legal analysis finds the transaction to be valid, the rating process will include the following items:

1. The issuer's credit rating is determined using the process described in Section 1.
2. The Base and Stress Scenarios are prepared based on historical information and the corresponding macroeconomic and financial assumptions to the structured debt.
3. Financial metrics are constructed for the years provided in Figure 21 and weighted for each year to generate the between time period value. This weighting scheme takes into account the availability of structured debt information.¹²

Figure 21. Inter-temporal Weights

Weights by year							
Case	t ₋₁	t ₀	t ₁	t ₂	t ₃	t ₄	t ₅
At least two years with complete information	13.0%	17.0%	35.0%	20.0%	15.0%	0.0%	0.0%
At least one year with complete information	0.0%	13.0%	17.0%	35.0%	20.0%	15.0%	0.0%
There is no available information for a complete year	0.0%	0.0%	13.0%	17.0%	35.0%	20.0%	15.0%

Weights by year				
Case	Historic	Projections		Total
		Base Scenario	Stress Scenario	
At least two years with complete information	30.0%	45.5%	24.5%	70.0%
At least one year with complete information	13.0%	56.6%	30.5%	87.0%
There is no available information for a complete year	0.0%	65.0%	35.0%	100.0%

Source: HR Ratings.

An integer value between 1 (worst) and 19 (best) is assigned according to the between time period value of each metric and the rating ranges shown for each corresponding metric, reflecting the credit strength that each metric contributes to the scenario and to the instrument or asset.

1. The integer value of each metric is weighted according to the assigned weights.
2. With this weighted average, another value, also between 1 and 19, is calculated for each of the scenarios.
3. The value calculated for the Base Scenario receives a weight of 65.0%, while the value estimated for the Stress Scenario receives the remaining 35.0%; this results in the quantitative evaluation of these structured debts.
4. If the issuer has been assigned notches in favor or against following its qualitative analysis, HR Ratings will determine whether these also correspond to the structured debt issuances to determine its credit rating.
5. Additionally, qualitative adjustments may be assigned, in either direction, according to factors specific to each structured debt;
 - When HR Ratings identifies that the structured debt has an increasing amortization profile, principal payments that accumulate a significant percentage of the outstanding balance, incremental interest rates, or any other item that may have the effect of reducing the coverage metrics during the life of the structure, in these cases a negative adjustment may be assigned in terms of notches.¹³

¹² For cases in which, for example, the structured debt is no longer current in year t₃. HR Ratings could choose not to consider that year and redistribute its weight to the remain years in a proportional manner.

¹³ In order to identify strengths or weaknesses that are unique to the structured debt, HR Ratings will perform its analysis and projections throughout the life of the structure. This is independent of the periods considered in the quantitative assessment described in this section.



- In those cases in which HR Ratings finds that the legal documentation of the structured debt is related to the credit risk of the structure for some type of risk unrelated to the operation of the issuer or the structure itself, the potential impact on the credit quality of the structured debt will be evaluated. These risks are associated with the "Covenants To Do and Not Do" Clauses.
- HR Ratings takes into consideration cases in which the structure includes the assignment of the asset that produces the affected income for debt service.

6. Lastly, the credit rating of the structured debt will be restricted to the following conditions:

- If the issuer's credit rating is greater than or equal to "HR BBB-", the result of the quantitative evaluation of the structure may not be higher by 5 notches than the issuer's credit rating.
- If the issuer's credit rating is less than or equal to "HR BB+", the result of the quantitative evaluation of the structure may not be greater than a value equivalent to a credit rating of "HR BBB- (E)".

One aspect that should be emphasized about this process is that it represents an analysis in which the assumption is made that the structured debt of a corporate issuer, which is considered dependent, is serviced with the entire FCF. Therefore, if the issuer has multiple debt structures, the metrics to be constructed should consider all structured debt service and the entire outstanding balance.

Lastly, Figure 22 provides three examples in which a structured debt has resulted in a VE of 18 and to which a qualitative adjustment of one notch still applies. This exercise shows how the credit rating of this structured debt can vary based on the credit rating of the issuer:



Figure 22. Example

Case 1: The credit rating of the issuer is HR A+ (Numeric value of 15)					
	<i>Quantitative Result for the Structured Debt</i>		Qualitative Adjustment of the emitter	Credit Rating	
	Value between 1 and 19	With the emitter restriction		Value between 1 and 19	Rating Letter
Structure	18	18	1	19	HR AAA (E)
Case 2: The credit rating of the issuer is HR BBB (Numeric value of 11)					
	<i>Quantitative Result for the Structured Debt</i>		Qualitative Adjustment of the emitter	Credit Rating	
	Value between 1 and 19	With the emitter restriction		Value between 1 and 19	Rating Letter
Structure	18	16	1	17	HR AA (E)
Case 3: The credit rating of the issuer is HR BB+ (Numeric value of 8)					
	<i>Quantitative Result for the Structured Debt</i>		Qualitative Adjustment of the emitter	Credit Rating	
	Value between 1 and 19	With the emitter restriction		Value between 1 and 19	Rating Letter
Structure	18	10	1	11	HR BBB (E)

Source: HR Ratings.

In case one, the issuer's credit rating is "HR A+", so the credit rating of the structured debt is "HR AAA (E)". In this case, the restriction of the issuer's credit rating is not relevant. In case two, since the issuer's credit rating is "HR BBB", the credit rating of the structured debt would be "HR AA- (E)". This implies a difference of five notches associated with the quantitative strength of the structured debt and one more notch for the qualitative strength that corresponds to the issuer and is applicable to the structured debt. In the latter case, since the issuer's credit rating is "HR BB", the result of the quantitative evaluation is limited to an EV equivalent to a rating of "HR BBB- (E)"; when considering the qualitative adjustment corresponding to the issuer, the credit rating to be assigned would be "HR BBB (E)".



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