Corporate Debt Credit Risk Evaluation

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Methodology

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HR Ratings’ Corporate Methodology

This document details the methodology HR Ratings uses for the evaluation of corporate related debt. Our methodology is primarily based on the issuer’s historic, current and projected financial statements. HR Ratings’ credit risk analysis reflects our view of the issuer’s ability and willingness to make interest and principal payments promptly and in full. Our ratings do not reflect expected recoveries in the event of default, nor do they incorporate views about non-credit factors that may impact the trading price of the issuer’s bonds such as their liquidity or tax treatment.

- HR Ratings’ corporate methodology for corporate debt evaluates relative credit risk across different entities within a particular asset class.

- The rating process consists of two basic components. First, the determination of an Initial Rating (IR), which is quantitatively derived, based on the results of a forecast under base and stress case scenarios. Second, a qualitative process that may make multi-notch adjustments to the results of the IR by taking into account various qualitative factors that could have an impact on an entity’s credit risk.

- For each scenario and for each forecast time period four key metrics will be calculated: 1) debt service coverage ratio (DSCR), 2) debt service coverage ratio including cash (DSCR\(_C\)), 3) the number of years required to pay the debt, or the years of payment ratio (YPR) and 4) the marketable assets to liability coverage ratio (MALC).

- The core concept used to measure the first three metrics is Free Cash Flow (FCF), which differs from Operating Cash Flow due to its incorporation of the concept of maintenance capital expenditures.

- Within an asset class, the weights determined for each metric and year within the forecast period will not vary from one entity to another. However, the metrics themselves may have different weights relative to each other, although these differences will be maintained for each year in the forecast period. Furthermore, the relative importance of each year within the forecast period will also remain unchanged across all entities within an asset class.

- The values given to the forecast metrics will be normalized on a scale from 0 to 1 and then weighted in accordance with the weights determined as outlined above.

- The weighted sum of the normalized metric values for the two scenarios will determine the IR as converted to a letter grade using HR Ratings’ credit risk scale.
Introduction and General Considerations

HR Ratings’ corporate methodology for corporate debt evaluates relative credit risk across different entities within a particular asset class. The entities covered in this methodology are businesses of a largely non-financial nature. The nature of the business is defined by the type of activities in which they engage and the manner in which their financial statements are expressed.¹

For the purpose of this methodology, the underlying corporate rating (UCR) is an evaluation of the credit quality of an entity and its debt whose normal servicing is not given any “structured preference” relative to other forms of debt. However, the final credit ratings of specific debt obligations linked to the UCR may be adjusted based on preferences that it might enjoy in situations of distress. For its part, “preferred structure” debt will generally be serviced by all or part of a specific revenue stream and will have priority (via a cash “waterfall”) in the receipt of these funds. To insure the prioritization a trust or special purpose vehicle may be created.

As part of the credit risk evaluation process, the analysis committee may issue UCR based ratings distinguishing among preferred, non-preferred and subordinated sub-categories. The committee may also give different ratings to specific UCR debt that is strengthened by credit enhancement mechanisms (such as guarantees from financial institutions and development banks). It is worth noting that the base UCR takes into account all debt obligations: non-preferred UCR, preferred UCR and preferred structured debt. The rating of preferred structured debt will generally utilize the “future flows” methodology. The rating of preferred structured debt will also be notched up or down from the base UCR.

The credit rating process for UCR debt of an entity also takes into consideration related group obligations. This refers to the impact on an entity’s debt obligations of credit events on the debt of related parties. In these instances, UCR debt ratings may be negatively affected by the relationship of its debt to the debt of related parties with lower credit ratings. This extends to other liabilities that might be activated by credit events occurring in related entities. The degree of the potential impact on the credit rating of the affected entity varies depending on the nature of the relationship and the credit rating of the related entity. In those cases in which the debt of an affected entity would need to be immediately repaid in full were the debt of a related entity to enter into default, the credit rating of the former will be negatively impacted but will not necessarily be downgraded to the credit rating of the related party. As the probability of such a default increases, the degree of the downgrade also increases.

In measuring the amount of debt, this methodology requires analysts to endeavor to adopt a relatively broad definition such as relevant off-balance

¹ The decision as to whether a “mixed” entity (i.e., one with financial and non-financial activities) is to be evaluated on the basis of this methodology is ultimately to be made by the Analysis Committee which has the option to approve a Technical Note to incorporate the treatment of issues that are raised by such businesses in the credit rating process.
sheet obligations or liabilities that may trigger a default. Where appropriate, the Methodology Committee will create more precise definitions tailored to a specific asset class.

Finally, as part of the ratings process, HR Ratings requires that analysts conduct an onsite visit with the issuer.

**General Characteristics of the Methodology**

The final UCR Rating, or Final Rating (FR), is based on the results derived from quantitative and qualitative components. The quantitative component is the result of the values of key metrics derived from our multi-year forecasts under both base and stress case scenarios. In our analysis, each year’s weight declines the further we move out into the future. The analysis focuses on four key metrics, with each metric having the same relative weight within each year across time. The first two metrics measure debt service coverage (DSCR). The third metric is years of payment ratio (YPR) and the fourth is a comprehensive measure of marketable asset to liability coverage (MALC).

The initial quantitative based rating, or IR, is then subject to multi-notch movements up or down depending upon the evaluation of the effect of a series of variables whose impact on the credit risk of the entity’s UCR debt is considered on a qualitative basis. These variables include those mentioned above such as the existence of senior and/or subordinate UCR debt, the existence of structured preferred debt and the presence of related group obligations. Additionally, other variables are considered such as the trend of the above-mentioned metrics over the forecast period, the amortization schedule of the debt, and different categories of credit risk. The latter include, but are not limited to, factors such as: industry, market, regulatory, and organizational risk. These are discussed in more detail below.

A formal rating is derived using this methodology even when taking into account future actions by an issuer such as an acquisition financed by the future issuance of debt, etc. If such future actions are not undertaken or if their conditions are significantly altered, the rating will need to be reviewed. Furthermore, this methodology permits the simultaneous issuance of formal ratings with and without credit enhancements attached to the contingent issuance of debt. A general outline of the rating process used in this methodology is found in Figure 1 below.
Quantitative phase and Initial Rating

Metrics derived from the case scenarios

The multi-year forecasts that form the core of the quantitative component of the rating process incorporate full financial statements: income or financial activities statements, balance sheets and cash flow statements. For the first two metrics the key variables are free cash flow (FCF) and debt service (DS). The concept of FCF and its measurement require some detailed analysis.

Operating and Free Cash Flow

For the purpose of this methodology we view FCF as being a measurement of operational activities and, in this sense, is in contradistinction to financial and investment activities. FCF also includes the notion of the enterprise as being a “going concern”. Cash flow, or more specifically, “operating cash flow” (OCF), in contrast, does not incorporate this concept, as is discussed below.

We define OCF as cash generated by after-tax income, including dividend and interest income but excluding interest expense (and other gains or losses related to debt instruments), and net of changes in working capital, or working capital requirements. The measurement of working capital requirements may present difficulties especially when involving accounts other than changes in inventories, receivables and payables. These
difficulties include high levels of volatility for these three “core” working capital concepts and other accounts. This methodology permits the averaging of annual changes in working capital and special adjustments (as justified by the analyst and approved by the analysis committee) to correct for what the analyst believes to be less relevant or abnormal movements. Despite these challenges, the methodology assumes that the benefits of incorporating working capital requirements (especially the core accounts) in terms of generating a more valid indicator of $OCF$ offsets the challenges of its calculation.

The difference between $OCF$ and $FCF$ is the incorporation by the latter of the concept of “maintenance capital expenditure” ($MCX$). With the incorporation of $MCX$, $FCF$ becomes a measure of an enterprise’s ability to remain, at least in operational terms, a going concern. The measurement of $MCX$ is not easily determined, as companies do not necessarily provide that information by distinguishing it from “growth capital expenditure”. In those cases in which entities do make the distinction, the analyst endeavors to evaluate its validity. In the absence of company guidance this methodology uses depreciation expenses as a default proxy for $MCX$, although the analyst has considerable latitude in deriving her own measurement as long as it is justified and approved by the analysis committee.

### Debt Service

As for debt service ($DS$), this includes debt principal payments and interest expense. It may also include the cost of derivatives used to hedge the debt against, for example, currency movements. In those cases in which the company has extremely short-term debt that needs to be refinanced various times during the course of a year, the amortization component of the $DS$ metric (for the following fiscal year or four quarter period) will only consider the total value of short-term debt at the end of the previous fiscal year or, where appropriate, the last quarter prior to the following four quarter period. Having short-term debt involves substantial refinancing risk, especially for a company that otherwise has a weak credit profile. The methodology takes this into consideration by allowing for the initial rating to be adjusted downward one or more “notches”.

There are cases in which what otherwise might be considered an accrued interest expense paid but not charged to net income, is instead capitalized to some asset account. In these cases the methodology assumes that these payments form part of debt service.

### FCF with Cash

In addition to the simple $FCF$ based $DSCR$ ratio, this methodology will also include cash on hand ($DSCR_C$) at the end of the fiscal year or the relevant quarter. This combination of “flow” plus “stock” is especially relevant when a company happens to have substantial amounts of cash. Of course, its value must be limited by the fact that the cash can only be used once, until subsequent $OCF$ generation permits the buildup of new cash reserves.
For the purpose of elucidation, we offer the formal expressions for our first key ratios below:

\[
DSCR = \frac{FCF}{DS} \quad (1)
\]

\[
DSCR_C = \frac{FCF + \text{Available Cash}}{DS} \quad (2)
\]

In those cases where a company is required to set aside cash and restrict its use to the servicing of debt, the incorporation of the related account into our measures of FCF, DS and net debt will be based on the specifics of its operation. However, ideally we would want to dedicate a portion of the account to be disbursed to meet debt-servicing requirements as interest and debt payments arise, with the amount used to reduce DS.

**Years of Payment Ratio: Debt Service and Amortization Schedules**

The validity of the DSCR is limited by the fact that it can vary substantially as a function of the tenure of the debt and whether the debt is repaid through annual amortization payments or a final bullet payment. A DSCR might be low because amortization payments are small during the forecast period and can rise substantially in subsequent years. This limitation is corrected by the incorporation of the “years of payment” ratio (YPR), which is the amount of net debt divided by annual FCF. A high YPR suggests that a company’s long-term viability as a “going concern” may be at risk even though it currently appears to be benefitting from low amortization payments. Conversely, a company might have a low DSCR because debt needs to be repaid over a relatively short period of time, although the total level of net debt relative to its cash flow generation is very favorable. This implies that the company is in a relatively favorable position to refinance its debt under conditions of moderate and transient stress, assuming that overall the financial markets are not under stress. Of course, a highly indebted company with a long debt tenure can expect that inflation will reduce the relative size of its debt burden over time.

As is the case with the evaluation of refinancing risk for companies with short-term debt, the methodology also makes qualitative notch adjustments to the final rating depending upon the analysis committee’s evaluation of the implications of different debt amortization profiles.

**Marketable Assets to Liability Coverage**

The final key metric is the MALC. This is the ratio of the market value of assets to liabilities, and is comparable to the DSCR, but is more comprehensive as it includes all relevant assets and liabilities and is based entirely on stock variables rather than on flows (as is the case of the FCF metric). The DSCR metric rewards companies that have limited working capital requirements due to the accumulation of, for example, large
accounts payable and limited inventories and receivables. However, a high level of accounts payable can be a major disadvantage during a time of stress. Nevertheless, under a stress environment, it cannot be expected that the assets will be liquidated to pay off liabilities at their book value. Thus, in calculating the MALC metric the value of each asset class will be discounted in order to arrive at a more realistic evaluation of the valuation of assets vs. liabilities.

Finally, equations (3) and (4) show the last two metrics derived from the case scenarios:

\[ YPR = \frac{Net \ Debt}{FCF} \]  
\[ MALC = \frac{Marketable \ Assets}{Liabilities} \]

Figure 2 below offers a hypothetical example of how these metrics are calculated once all the relevant information has been incorporated into the model. The example demonstrates how the metrics are derived for a single year. How HR Ratings performs its dynamic analysis will be described in the next section.²

<table>
<thead>
<tr>
<th>Operating Cash Flow</th>
<th>Interest Income</th>
<th>Maintenance Capital Expenditure</th>
<th>Free Cash Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>$12,854,963</td>
<td>$36,874</td>
<td>$4,258,741</td>
<td>$8,633,096</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Free Cash Flow</th>
<th>Interest Payment</th>
<th>Principal Amortization</th>
<th>Debt Service</th>
<th>Debt Service Coverage Ratio (DSCR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$8,633,096</td>
<td>$5,236,478</td>
<td>$2,896,523</td>
<td>$8,133,001</td>
<td>1.06</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Free Cash Flow</th>
<th>Available Cash</th>
<th>Free Cash Flow plus Available Cash</th>
<th>Debt Service</th>
<th>DSCR with Available Cash</th>
</tr>
</thead>
<tbody>
<tr>
<td>$8,633,096</td>
<td>$3,125,466</td>
<td>$11,758,552</td>
<td>$8,133,001</td>
<td>1.45</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Net Debt</th>
<th>Free Cash Flow</th>
<th>Years of Payment Ratio (YPR)</th>
<th>Marketable Assets</th>
<th>Total Liabilities</th>
<th>MALC</th>
</tr>
</thead>
<tbody>
<tr>
<td>$53,125,784</td>
<td>$8,633,096</td>
<td>6.15</td>
<td>$110,458,741</td>
<td>$97,357,456</td>
<td>1.13</td>
</tr>
</tbody>
</table>

Source: HR Ratings, hypothetical case

² The analysis committee is always permitted a certain degree of latitude to authorize adjustments to these formulas as justified by particular circumstances.
A Hypothetical Exercise

The process of determining the IR involves the evaluation of two sets of values for a base and a stress case scenario. For each scenario, the number of values is equal to the product of the number of metrics and the number of time periods over which metric values are determined. This evaluation requires that each measured metric value be normalized. The normalized value describes a relative position within the relevant asset class; hence, the measured value for every metric in its normalized form will have a value between zero and one.

\[
\text{Specific Measured Metric Value} = x \\
\text{Specific Metric}^N \text{ value} = y \\
0 \leq y \leq 1
\]

This range of normalized values is equivalent to the range of credit rating letter grades from the HR Ratings' scale. This concept is shown below:

\[
z = \text{A specific letter rating in HR Ratings' scale} \\
1 = \text{HR AAA} \\
0 = \text{HR C-} \\
\text{Where: 1 and 0 are possible values of } z
\]

The basis for the conversion of a measured metric value into a normalized metric value and the conversion of a normalized value into a letter credit rating will vary from one metric to another and may vary across asset classes. An asset class can be conceptualized as the space occupied by the entities in the same industry and within the same legal or national framework.

As the above expressions imply, the methodology makes it possible to conceptualize a metric value in terms of a partial credit rating. The IR itself is the weighted total value of the set of normalized metric values. The normalization process makes it possible to give the desired weight to each value within the set and derive the sum total.

Each year and each metric within a given asset class is awarded a specific weight, while each scenario is given it own relative weight.

Figure 3 below begins with a hypothetical case designed to allow the reader to conceptualize how the methodology transforms the individual measured metric values into an IR. That figure contains hypothetical values for each metric and for each year. Each cell contains the value calculated by the projection model for each metric and its normalized value between zero and one. For example, cell [1(row), 4(column)] shows a \(DSCR_{t=3} = 1.49\) and an equivalent \(DSCR^N_{t=3} = 0.75\). For its part, cell [3,1] shows a \(YPR_{t=0} = 6.19\) and a \(YPR^N_{t=0} = 0.47\).

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3 The conversion to a normalized scale does not necessarily need to be effected on a linear basis
4 In order to facilitate identification, the table is divided into cells that are numbered according to their row and their column, respectively.
Figure 4 shows the corresponding weight for each metric and each year that might be determined for the rating of entities within a given asset class. Each cell contains the weight that each normalized metric will receive within the overall scenario rating. For example, in cell [4,5] on Figure 3 we find a $MALC_{t=4} = 0.72$ that, according to Figure 4, will have a weight 3.75% of the overall scenario rating.

The overall weight explained above for cell [4,5] results from multiplying the weight for the fifth year ($t_4$ that weights 0.15) and the weight for the marketable assets to liabilities ratio (0.25).

Figure 4 shows how the weight assigned to a particular year declines the further out it is on the forecast time horizon, as expression (6) below shows:

$$
\xi_{t=0} \geq \xi_{t=1} \geq \cdots \geq \xi_{t=i} \geq \cdots \geq \xi_{t=n}
$$
The weights described in this section will remain the same for both the base case scenario and the stress case scenario; the differences and similarities of both scenarios will be discussed later.

Lastly, Figure 5 displays in each cell the result from multiplying the values shown in the same cells in Figures 3 (i.e., the normalized values) and 4 (the cell’s individual weight). The summation of all the values between [1,1] and [4,5] represent the scenario’s total, which is then transformed, combined (and weighted) with the other scenario, into an HR IR.

The values found in column six in Figure 5 (metric value) are the results of the horizontal sum of each row. Similarly, the results of the vertical sum of the values shown in each column are found in row 5 (year value). The base case scenario total (0.58395) found in cell [7,8] is a result of either adding cells [5,1] through [5,5] or cells [1,6] through [4,6]. This weighted normalized total is then converted (after being combined with the corresponding value for the other case scenario) into an HR Rating letter grade, and becomes the IR.

The additional information found in row seven and column eight (in bold) reflects the flexibility of the methodology’s design. The values in column eight (metric specific total, weighted average) show, on a converted normalized basis, an implicit credit rating for each metric where the metric’s annual normalized score has a lower weight the further out in the forecast time horizon it is measured. Alternatively, in column seven (metric specific total, average) the annual normalized values for a given metric are merely averaged (without the application of weights, each year counting equally). Similarly, the values in row seven (year specific total, weighted average) show an implicit credit rating for a particular year. These represent an implicit partial credit rating for each year with each metric receiving a different weight.

Theoretically it is also possible to evaluate each year’s implicit credit rating, giving equal weight to each metric. These values are shown in Table 5 above in the sixth row.

5 Theoretically it is also possible to evaluate each year’s implicit credit rating, giving equal weight to each metric. These values are shown in Table 5 above in the sixth row.
Equation (7) below shows, in formal algebraic terms, the process in determining the rating for a specific year (metric weighted basis), according to the normalized values found in Figure 3 and the metrics’ weights found in Figure 4:

$$ R_t = \alpha (DS\text{C}\text{R}_t^N) + \beta (DS\text{C}\text{R}_t^C) + \gamma (YP\text{R}_t^N) + \delta (MAL\text{C}_t^N) $$

(7)

Where:

$ R_t $: Represents the rating for the year $ t $, when $ t = 1, 2, 3, ..., N $.

$ DS\text{C}\text{R}_t^N $: Represents the normalized value for the $ DS\text{C}\text{R} $ metric in year $ t $.

$ \alpha $: Represents the weight for the $ DS\text{C}\text{R} $, this value remains constant for every $ t $.

$ DS\text{C}\text{R}_t^C $: Represents the normalized value for the cash infused $ DS\text{C}\text{R} $ in year $ t $.

$ \beta $: Represents the weight for the cash infused $ DS\text{C}\text{R} $, this value remains constant for every $ t $.

$ YP\text{R}_t^N $: Represents the normalized value for the years of payment ratio in year $ t $.

$ \gamma $: Represents the weight for the $ YP\text{R} $, this value remains constant for every $ t $.

$ MAL\text{C}_t^N $: Represents the normalized value for the marketable assets to liabilities coverage in year $ t $.

$ \delta $: Represents the weight for the marketable assets to liabilities coverage, this value remains constant for every $ t $.

Equation (7) implies that, for example:

$$ R_{t=1} = 0.5247 = (0.40 \times 0.54) + (0.20 \times 0.52) + (0.15 \times 0.48) + (0.25 \times 0.53) $$

$ R_{t=1} $ can be found in Figure 5, cell [7,2]. The weights for each metric (the first values within each parenthesis) are found in Figure 4 while the normalized values for each metric in year 1 may be observed in column two of Figure 3 (bottom value).

Equation (8), below, shows the formal process in determining the rating for a specific metric (giving differential weights to each time period), according to the normalized values found in Figure 3 and the year’s weights found in Figure 4:

$$ R_m = \sum_{t=0}^{n} \xi_t (m_t^N) $$

(8)

Where:

$ R_m $: Represents the rating for the metric $ m $ across time.

$ m_t^N $: Represents the normalized value of the metric $ m $ for the year $ t $, where $ m \in \{DS\text{C}\text{R}, DS\text{C}\text{R}_C, YP\text{R}, MAL\text{C}\} $.

$ \xi_t $: Represents the weight for the year $ t $, this value holds for every $ m $. 
Equation (8) implies that, for example:

\[ R_{m=DSR} = 0.6295 = (0.25 \times 0.45) + (0.22 \times 0.54) + (0.20 \times 0.71) + (0.18 \times 0.75) + (0.15 \times 0.82) \]

The value for \( R_{m=DSR} \) can be found in Figure 5, cell [1,8]. The weights for each year are shown in Figure 4, while the normalized values for each year for the DSCR are presented in row one of Figure 3.

The next section will further elaborate on the determination of the time frame for the forecast period as well as certain characteristics that should hold between both scenarios.

**Time Frames and Scenario Descriptions**

Ideally, this methodology assumes the existence of five years of historical data to serve as the basis for making projections. However, in the absence of such history, the analysis committee will decide whether, within the context of each entity or asset class, the information available is minimally acceptable in order to proceed with a rating. In intermediate cases (less than five years and more than minimally acceptable) adjustments to the initial quantitative rating may be made in order to incorporate the increased credit risk arising from the absence of historical information. This adjustment is made in the qualitative component of the rating process. The adjustment may also be made when the analysis committee determines that the quality of the information is insufficient.

The existence of credible and timely received quarterly information, in addition to annual audited reports, is a relevant qualitative factor whose importance may vary depending upon the asset class.

The evaluation of the quality of the information, both annual audited reports and intra-annual financial statements, is subsumed within the Accounting Risk factor listed below.

The base case scenario represents HR Ratings’ estimate of the most likely evolution over time of the entity’s financial position. It considers guidance provided by an issuer’s management team, but in no way does it necessarily incorporate that guidance as a given. The stress case scenario assumes a less favorable mix of assumptions compared to those utilized in the base case scenario.

To the degree possible, stress case assumptions are determined in relations to those of the base case (e.g., x% reduction in the growth rate of sales) and are standardized for the asset class in question. The stress case scenario may also incorporate different assumptions that are unique to a specific entity. For example, the stress case may consider less favorable outcomes of a major acquisition, or a significant increase in debt burden after embarking on a sizeable project that could severely affect an entity’s financial position.
Determination of the Initial Rating

Figures 3 through 5 presented a practical example of how HR Ratings determines a rating under base or stress case scenarios. The following equation (9) formalizes the concept explained above:

\[
\text{Scenario Rating} = \sum_{t=0}^{n} \xi_t (R_t)
\]  

(9)

The above formula adds the product of each metric and its respective weight for each year in the forecast period. Once this process has been completed for both the base and stress case scenarios, the IR may be determined by considering each scenario's weight, as equation (10) illustrates:

\[
\text{Initial Rating} = \sum \phi^{i} \left[ \sum_{t=0}^{n} \xi_t (R_{t}^{i}) \right]
\]  

(10)

Equation 10 simply builds on equation 9, incorporating more than one scenario,

Where:

\(R_{t}^{i}\): Represents the rating for scenario \(i\) for year \(t\) where \(i = \{\text{Base scenario}, \text{stress scenario}\}\), as shown in Figure 5, cell [7,8].

\(\phi^{i}\): Represents the weight for each case scenario.

Although each year has its own weight, it will remain the same in both scenarios; the qualitative component permits rewarding or penalizing the final rating by incorporating the trends observed over time in the evolution of the relevant metrics.

Qualitative Component and Final Rating

Once the IR is determined, based on the methodology's quantitative component, the methodology then evaluates the adjustments that might be needed based on the incorporation of a variety of additional qualitative factors. The final adjustment may be multi-notch, either raising or lowering the IR. It is not possible to give a predetermined individual relative weight to any qualitative factor. The analysis committee will determine each factor's impact as neutral, positive or negative.

As was discussed above, the first series of factors to be considered are those that are relevant to the interrelationships across different debt instruments, special characteristics of the variables (most notably, trends), as seen in the quantitative component of the rating process, and the quality of the information provided to HR Ratings.
The analysis committee evaluates the impact of credit enhancements and preferred structures on the base UCR, and the credit risk of different types of UCR obligations, in relationship to the base rating. The committee also evaluates the trend in the evolution of the key metrics used in the quantitative component of the rating process. A positive evolution across time in the four key metrics is viewed as positive. Sharp principal increases in debt amortization schedules following the conclusion of the forecast period might be viewed as negative and in certain circumstances could justify a decision on the part of the analysis committee to extend the time horizon of the forecast period and recalibrate the relative weights for each year in the measurement of the metrics. Finally, the qualitative component takes into consideration the quality of the information provided and the penalization, if any, of a limited period of historical data.

The relevance of the above factors may vary significantly from one entity to another. However, there are other factors that are likely to be highly relevant to all entities, as detailed below.

• **Corporate Governance**: This includes factors such as the presence of independent members on the Board of Directors and procedures to provide adequate compliance with locally appropriate regulations regarding internal operations.

• **Liquidity and Credit Lines**: Although an entity may be structurally solvent, it could also have liquidity issues not entirely reflected in the DSCR measures. Alternatively, an entity could have access to credit lines that would provide it with liquidity and thus serve to compensate for what otherwise would appear to be low DSCR values. In evaluating credit lines it is important to incorporate the degree of commitment that a lending institution has to extending the credit even in times of financial stress. The recurrence in the use of short-term credit lines, the purposes for which they are used, and the credit rating of the lending institution are factors that are also taken into consideration.

• **Industry Risk**: This includes factors such as the industry’s future prospects, the pace of technological change, barriers to entry and cyclicality.

• **Company Market Position**: Here we consider whether an entity is a strong or weak participant within the industry, whether or not that position is changing or at risk of changing (e.g., technology, loss of patents), and whether or not a company depends upon a limited number of customers.

• **Regulatory Risk**: This includes such factors as whether the industry is highly regulated such that participants might face sanctions, and whether the regulation is subject to change such that it could harm or benefit the entity being rated. Political and labor relations risks are also considered here.
• **Accounting Risk:** Although this methodology generally assumes the accuracy of information audited by reputable accounting firms, the analysis committee has the prerogative to penalize a rating if it believes that the quality of the information is subpar.

• **Managerial Competence and Organizational Structure:** Here we consider questions such as: does evidence exist to suggest that the managerial team provides competitive advantages (or disadvantages) to the entity? Does evidence exist to suggest that the entity’s organizational structure gives it a competitive advantage or disadvantage? For example, is there adequate information flow; does the structure permit adaptation and the efficient implementation of decisions?

• **Long-term threats:** Here we consider questions such as: are there financial issues that might become more serious beyond the forecast period such as pension obligations, etc.?

• **Project and Financial Risk:** Under this factor we ask such questions as: is the company currently engaged in a new venture or acquisition? Is it exposed to exchange rate volatility? Does the entity have sufficient cash to cover operational requirements?

• **Group Risk:** This refers to factors apart from those included in the debt covenants. An entity might be linked to a powerful group of shareholders that can provide it with financial resources in times of stress. Or, it might be linked to businesses that are weakening and shareholders might decide to transfer resources (via dividends or inter-company loans) from the entity being rated to weaker elements of the group.

• **Property enhancements:** Debt may be backed by liens on assets held by the entity. The existence of such enhancements may have a positive impact on the final rating depending upon the legal nature of the lien, the valuation of the property, and the prospects of monetizing the asset.

• **Specific Asset Class Risk:** This refers to factors that might be particular to a specific asset class and that have not been adequately incorporated in other considerations

• **Specific Security Risk:** HR Ratings also reviews the specific terms of each obligation we rate. A specific issue may be subordinated or may hold preference over other bonds.

• **Other Risks:** This is included to provide the analysis committee with the necessary flexibility to incorporate other risk factors not specifically enumerated above.