



**Credit  
Rating  
Agency**

# Procedures and Methodologies

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**Exhibit 2**

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## **1. PROCEDURES**

### **Initiation of Credit Ratings**

The credit rating process begins following initial contact with the client with the sending of sales materials. HR Ratings then sends an economic proposal, engagement letter or proposed contract to the client.

Client is the issuer, entity to be rated, or whose offering or transaction will be subject to rating or the third party that requests a rating for an entity or issuer.

A service contract or the appropriate legal instrument is then finalized and sent to the client, together with the Code of Conduct. The issuer and the HR Ratings Director of Business Development executes the service contract or appropriate legal instrument, and the contractual legal relationship with the client is formalized.

HR Ratings may issue unsolicited ratings, for which HR Ratings will not receive any payment and may or not may sign a service contract, engagement letter or legal instrument. Unsolicited ratings will be prepared according to the same methodologies as requested ratings and will follow the same rating process, accordingly. The Agency is not obligated to monitor or follow-up on this type of rating and may withdraw an unsolicited rating at any time.

The Director of Business Development and client designate the individuals authorized to send and receive information throughout the course of the rating process. The initial contact information and update for client area sent to the Lead Analyst.

The HR Ratings internal control procedures determine the sufficiency of the information to be used to assign the rating. This information must be generated and provided by reliable sources for the client.

Public and private information from parties other than the issuer is also used as part of the credit rating process. Depending on the reliability of the source, HR Ratings reserves the right to evaluate third party information. Information derived from official governmental sources is presumed to be valid. HR Ratings uses all information available to it at the time of analysis, including available public information that is relevant to the specific rating, as well as non-public information, consistent with regulatory norms.

### **Rating Process**

HR Ratings' analysis begins with the assignment of the Credit Officer by the Chief Operating Officer. The Credit Officer then designates the Lead Analyst with primary responsibility for the project. The other analysts, who are secondarily responsible for the project, assist in the rating process. The Lead Analyst, together with any secondary analysts, comprise the "analysis team."

In some cases, the Chief Operating Officer may directly designate the Lead Analyst, and the Lead Analyst designates the secondary support analysts. The person responsible for making these assignments take into account the log of potential conflicts of interest maintained on HR Ratings' internal electronic monitoring system.

The Lead Analyst, and any secondary analysts, are responsible for conducting the entire analysis, as well as the presentation to the Analysis Committee, including preparation of all supporting documents accompanying the presentation to be reviewed with the Credit Officer, such as the: analysis report (or press release when there is no analysis report), rating letter (if applicable), technical note, legal opinion, datasheet for the influencing rating (where applicable and updated to the date of the Credit Analysis Committee session), and minutes of the previous Credit Analysis Committee regarding the entity, issuer or operation in question. These documents are referred to jointly as the Credit Analysis Committee "packet."

When the rating takes into account influencing ratings assigned by other rating agencies, the analysis team monitor these

influencing ratings weekly. For the purposes of the above, each area of the Credit Analysis Department maintains the current datasheet corresponding to the information for the influencing rating in question by the last business day of each week.

In the event of any questions or issues regarding the operation of the analysis team, a meeting is arranged with the Chief Credit Officer, Chief Operating Officer, and Senior Analyst to clarify any questions before presentation of Committee Packet to the Credit Analysis Committee.

The Committee Package is then distributed to all committee members at least twelve (12) hours in advance of the Rating Committee review, and can be distributed, if necessary in a shorter period when so required by the analysis team.

The following specific methodology is followed for each rating by the assigned credit analyst(s):

1. The analyst receives the assignment to undertake the analysis process and proceeds to gather available public and private information on the issuer and/or offering;
2. The analyst sends the issuer an email request for information covering the following topics:
  - Financial information
  - Business, market and general relevant economic information
  - Institutional framework
  - Characteristics of the offering
3. The analyst schedules a visit with the people responsible for the issuer's finances to understand, together with the entity's other officers, the specific characteristics of the issuer and/or offering, as well as its investment projects, to compare these with other similar entities and specifically analyzes:
  - Budget items
  - Operations
  - Expense control
  - Planning
  - Execution and coordination

Because the aforementioned information explains only some of the items analyzed, the analyst may request further information depending on the complexity of the entity or project;

4. Based on this information and methodology, the analyst prepares an evaluation and analysis of the credit strengths and payment capacities of both the issuer and/or offering; and,
5. The analyst prepares the presentation for the Rating Committee including all supporting documents in the Committee Packet to be reviewed with the Credit Officer.

## **Rating Committee Structure and Voting Process**

### **Quorum**

The Committee will meet with a quorum of at least 4 members and two committees may meet simultaneously with different agendas.

### **Voting Process**

Decisions are taken by an absolute majority; in other words, by the vote in the same direction of half of the Rating Committee, plus one, present at the meeting.

The Lead Analyst has a “voice.” but no vote on the Analysis Committee.

In accordance with the HR Ratings Operating Manual, the Rating Committee will meet whenever:

- When a rating action is required;
- When any relevant event occurs that could impact a current rating;
- When an opinion is to be issued for any industry sector; or
- On a quarterly basis to review and discuss cases of concern that arise monthly, quarterly and biannual monitoring process and to make decisions deemed appropriate in each case, and which could result in a rating action.

The following people sit in the Analysis Committee, given in voting order:

- Senior Analysts
- Associate Directors
- Senior Associate Directors
- Chief Operating Officer (COO)
- Chief Credit Officer (CCO)

Prior to each Credit Analysis Committee meeting, the members of the Committee will certify, through the Company's internal control and surveillance system, that they have no conflict of interest with the entity or issuer. The internal control and surveillance system will also copy the Compliance Officer if there is a conflict of interest reported on the system.

The Credit Analysis Committee reviews and discusses whether rating proposed is consistent with other HR Ratings' ratings for specific types of assets, taking into account the principle that the rating reflects a position of relative strength or degree of risk within the same rating scale. The above standard is not applicable for structured, servicer, or indenture trustee ratings, or for other types of assets.

Upon reaching a conclusion, the Credit Analysis Committee issues a rating and once the rating has been given, the Lead Analyst notifies the issuer of the decision reached by the Rating Committee, the same day as the rating was adopted. Under no circumstance will the client receive any prior notice as to the possible outcome of the rating process. Rather, the client will receive notification only when the Rating Committee has issued its official opinion.

If the issuer agrees, then HR Ratings proceeds with the publication of the rating. In the event of a disagreement, the issuer has up to two (2) business days following the day it receives the rating to submit additional information to be analyzed and evaluated by the Rating Committee. If there is no response from the issuer within these two (2) business days, HR Ratings will publish the rating the next business day.

That during this time, the client may indicate whether the rating will be held private or made public; informing the client that all ratings on securities registered or intended to be registered in the National Securities Register in Mexico will always be made public, as well as any modifications, ratifications or withdrawals of these ratings.

## **Rotation policy for the participants in the rating procedures and Rating Committee.**

The Lead Analyst responsible for the development and, where appropriate, monitoring of the rating process, cannot be involved with a client or companies within the group to which that client belongs, for more than a four (4) year period since its first participation in the initial rating or monitoring with respect to that client. Such analysts may resume these functions only after a minimum one (1) year period. A substitute analyst will be used, if necessary, in the third year.

Moreover, the analyst responsible for the development and, where appropriate, monitoring of the rating process, cannot be involved with a client or companies within the group to which that client belongs, for more than a five (5) year period, since its

first participation in the initial rating or monitoring with respect to that client. Such analysts may resume these functions only after a minimum one (1) year period.

In the case of the analysis committee responsible for the approval of the credit rating with respect to a client or companies within the group to which that client belongs, such committee should at least on a seven (7) year basis. To this end, HR Ratings rotates at least half of the members of each committee during this timeframe.

## Surveillance and Monitoring

Once the initial rating is issued, HR Ratings assumes the responsibility to carefully evaluate the performance of the issuer and/or offering.

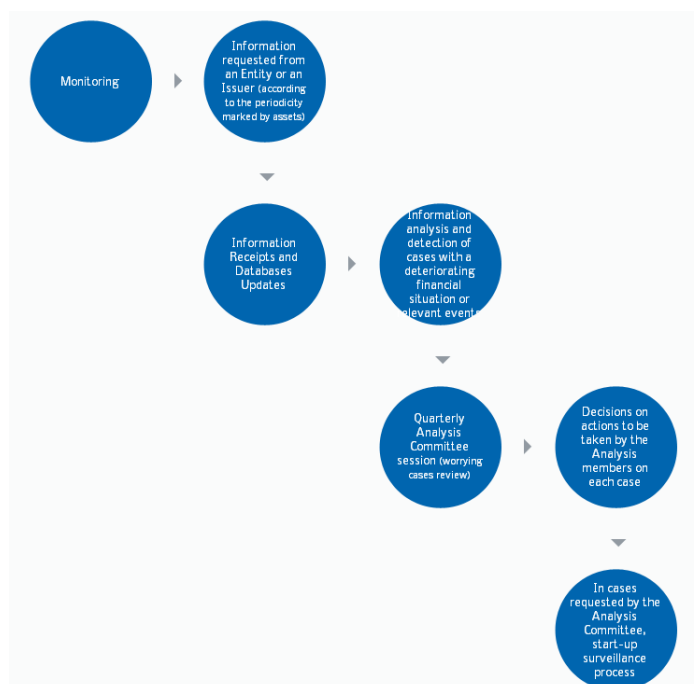
Monitoring refers to periodical internal rating reviews, depending on the entity, issuer, operation, or instrument that may or may not result in a rating action. The monitoring review will be monthly, quarterly or semi-annually depending upon the availability of information, or any other frequency required by HR.

Surveillance refers to the periodical annual review HR performs on all ratings, independent of internal monitoring, the results of which are reported to the public through a rating action.

It is important to note that HR Ratings makes no difference regarding the qualitative and quantitative factors under the initial or surveillance rating. Thus, an initial and a surveillance rating take into account the same weight for each of the factors given.

HR Ratings adheres to the view that surveillance ratings can be even more important than the initial rating during the life of the issue until maturity. For this reason, the surveillance for tracking and monitoring all of the ratings assigned by HR Ratings is a vital ongoing activity.

## Monitoring chart



## Procedures to Withdraw or Suspend the Maintenance of a Credit Rating

The withdrawals committee may withdraw the rating given to an entity, issuer, and/or operation on the occurrence of any of the following:

1. When the entity or issuer duly confirms to HR Ratings that the value of the instruments outstanding has been amortized in full and there is no extraordinary amount on the offering or operation pending rating;
2. When the entity or issuer duly confirms to HR Ratings that the rating assigned has not been used for a specific offering or loan and therefore there has been no mobilization of funds for said offering or loan, or for any extraordinary amount outstanding;
3. When HR Ratings receives the consent of all the holders of an offering to withdraw the rating, through the respective holders' meeting where all holders have approved the rating be withdrawn;
4. When the initial rating expires and funds have not been moved using the rating. Under such circumstance, the rating is withdrawn automatically;
5. When, at the end of the restructuring period, the characteristics for the instrument have drastically changed, provided there is another structure in place;
6. When the entity or issuer declares bankruptcy or the HR Ratings rating is no longer necessary;
7. When the absence of cooperation from the entity or issuer makes the assignment of a reliable rating impossible. In this case, the reasons for suspension will be made public for investors. However, before determining the suspension of the rating, HR Ratings will attempt to conduct the review based on the information published by the entity or issuer, and will also attempt to give the corresponding rating.
8. When the entity or issuer so requests of HR Ratings.

Additional information regarding the rating procedure can be found in HR Ratings' Internet website, at the following location:  
[https://www.hrratings.com/en/regulatory\\_disclosure#rating\\_monitoring\\_procedure](https://www.hrratings.com/en/regulatory_disclosure#rating_monitoring_procedure)

## Methodology Committee

HR Ratings has a Methodology Committee which is responsible for reviewing, discussing, and approving the Company's rating methodologies and any modifications thereof, and also the quantitative models incorporated into said methodologies and the criteria for their application, prior to submitting these to the Board of Directors for final approval.

The Methodology Committee meets at least once a year to review the process and terms established for each rating methodology, or when any of the circumstances established in the HR Ratings Code of Conduct are met.

In addition, the Methodology Committee will assess and validate the qualitative models to be incorporated into any rating methodology and any changes to these models. Similarly, the committee will conduct periodical reviews of the quantitative models incorporated into the rating methodologies.

The Methodology Committee meets on the date called to review, discuss and approve a new methodology or changes to a current methodology. In the event the modification of a methodology is agreed to, the Committee proceeds to analyze whether the ratings previously assigned under earlier methodology need to be reviewed. This analysis must be documented in the minutes of the corresponding Methodology Committee meeting.

When the Methodology Committee agrees to a rating methodology or changes to an already existing methodology, the Chief

Operating Officer takes the requisite actions so that, before the end of the next business day following the Committee meeting, the methodology or its modifications are uploaded to a page on the HR Ratings website for the consultation and comments of market participants. The term for receiving comments from the public will be at least ten (10) calendar days. HR Ratings will publicize during this time any comments received through its website and will take into account those deemed relevant.

At the end of the time given, the Chief Operating Officer will request the incorporation, when such is the case, of the relevant comments as soon as possible and once incorporated, they will ask the Compliance Officer to immediately take the actions necessary for said methodology or modification to be submitted for the formal approval of the Board of Directors.

The Compliance Officer will immediately send the methodology corresponding to the members of the Board of Directors for review, and will request the timely call for a meeting of the Board to formally approve the methodology or its modifications.

As soon as the methodology or its modifications are approved by the Board of Directors, HR Ratings will notify the Mexican Banking and Securities Commission of the methodology or its modification, to meet compliance with the obligation established in the General provisions applicable to rating agencies in Mexico. If no comments are received from the Commission within twenty (20) business days, HR Ratings will publish the methodology or its modification in a visible location on the HR Ratings website indicating the reasons for the modifications, when such is the case, immediately at the end of said time and the methodology will be sent to HR Ratings employees and website subscribers by email.

In the case of methodologies that only apply to ratings in the U.S., HR Ratings will publish the methodology or its modification the next business day after being formally approved by the Board of Directors, by the means indicated in the previous paragraph.

Rating methodologies and their modifications will take effect the same day as published. Once the modifications or additions to a methodology have been published, the Company will use the new methodology for subsequent ratings and, accordingly, will inform the public immediately of the possible effects on the ratings that could be impacted by the new methodology once these ratings have been reviewed.

Accordingly, HR Ratings will issue a new rating for the instruments in question, within six (6) months following the publication of the modification of a methodology.

Once a new NRSRO methodology has been published, HR Ratings will submit to the Securities and Exchange Commission an updated Form NRSRO. In addition, HR Ratings will submit an updated Form NRSRO when modifications are made to an NRSRO methodology. The Risk Officer will verify compliance with that established in this paragraph.

In addition, HR Ratings will publish through its website, notice of any significant error identified in any process or methodology that could result in any change to a current rating.

The Chief Operating Officer will report decisions made by the Methodology Committee to the Company's analysis team, with the corresponding documentation, the same day as said decisions take effect.

In addition, if considered appropriate, meetings will be held with the analysis team to explain the important decisions made by the Methodology Committee.

## 2. HR RATINGS' SCALES

### 2. HR Ratings' scales.

2.1	Long Term Local Rating Scale.	<a href="https://www.hrratings.com/en/rating_scales">https://www.hrratings.com/en/rating_scales</a>
2.2	Short Term Local Rating Scale.	<a href="https://www.hrratings.com/en/rating_scales">https://www.hrratings.com/en/rating_scales</a>
2.3	Long Term Global Rating Scale.	<a href="https://www.hrratings.com/en/rating_scales">https://www.hrratings.com/en/rating_scales</a>
2.4	Short Term Global Rating Scale.	<a href="https://www.hrratings.com/en/rating_scales">https://www.hrratings.com/en/rating_scales</a>
2.5	Structured Finance Rating Scale.	<a href="https://www.hrratings.com/en/rating_scales">https://www.hrratings.com/en/rating_scales</a>
2.6	Market Risk Rating Scale.	<a href="https://www.hrratings.com/en/rating_scales">https://www.hrratings.com/en/rating_scales</a>



## 2.1. Long Term Local Rating Scale

Symbol	Definition of the Rating
<b>HR AAA</b>	The issuer or issue with this rating is considered to have the highest credit quality, offering high safety for timely payment of debt obligations. Maintains minimum credit risk.
<b>HR AA</b>	The issuer or issue with this rating is considered to have high credit quality and offers high safety for timely payment of debt obligations. Maintains very low credit risk under adverse economic scenarios.
<b>HR A</b>	The issuer or issue with this rating offers acceptable safety for timely payment of debt obligations. Maintains low credit risk.
<b>HR BBB</b>	The issuer or issue with this rating provides moderate safety for timely payment of debt obligations. Maintains moderate credit risk, with weakness in the ability to pay in adverse economic scenarios.
<b>HR BB</b>	The issuer or issue with this rating provides inadequate safety for timely payment of debt obligations. Maintains high credit risk.
<b>HR B</b>	The issuer or issue with this rating provides low safety for timely payment of debt obligations and maintains a high credit risk. The issue or issuer is susceptible to falling into default.
<b>HR C</b>	The issuer or issue with this rating exhibits high probability of falling into default in debt obligation payments.
<b>HR D</b>	The issuer or issue with this rating has the lowest rating. The issue is already in, or is highly likely to fall into, default in the short term.

*\*Our ratings range from HR AAA to HR D, a plus or minus sign may be included in the range from HR AA to HR C, to indicate strength or weakness within a general rating category.*

## 2.2. Short Term Local Rating Scale

Symbol	Definition of the Rating
<b>HR1</b>	The issuer or issue with this rating exhibits high capacity for timely payment of debt obligations in the short term and maintains the lowest credit risk. Within this category, debt instruments and or issuers with features showing relative superiority in terms of credit characteristics may be rated as HR+1.
<b>HR2</b>	The issuer or issue with this rating exhibits an acceptable capacity for timely payment of debt obligations in the short term and maintains a higher credit risk compared with higher credit rating debt instruments.
<b>HR3</b>	The issuer or issue with this rating exhibits a moderate capacity for timely payment of debt obligations in the short term and maintains a higher credit risk compared with higher credit rating debt instruments.
<b>HR4</b>	The issuer or issue with this rating exhibits an insufficient capacity for timely payment of debt obligations in the short term and maintains a very high credit risk. These instruments are susceptible to falling into default.
<b>HR5</b>	The issuer or offering is highly probable they will fall into default on the payment of debt obligations.
<b>HR D</b>	The issuer or offering given this rating has the lowest credit rating and they are already in default.

## 2.3. Long Term Global Rating Scale

Symbol	Definition of the Rating
HR AAA (G)	The issuer or issue with this rating is considered to have the highest credit quality, offering high safety for timely payment of debt obligations. Maintains minimum credit risk on a global scale basis.
HR AA (G)	The issuer or issue with this rating is considered to have high credit quality and offers high safety for timely payment of debt obligations. Maintains very low credit risk on a global scale basis, under adverse economic scenarios.
HR A (G)	The issuer or issue with this rating offers acceptable safety for timely payment of debt obligations. Maintains low credit risk on a global scale basis.
HR BBB (G)	The issuer or issue with this rating provides moderate safety for timely payment of debt obligations. Maintains moderate credit risk on a global scale, with weakness in the ability to pay in adverse economic scenarios.
HR BB (G)	The issuer or issue with this rating provides inadequate safety for timely payment of debt obligations. Maintains high credit risk on a global scale basis.
HR B (G)	The issuer or issue with this rating provides low safety for timely payment of debt obligations and maintains a high credit risk on a global scale. The issue or issuer is susceptible to falling into default.
HR C (G)	The issuer or issue with this rating exhibits high probability of falling into default in debt obligation payments.
HR D (G)	The issuer or issue with this rating has the lowest rating on a global scale basis. The issue is already in, or is highly likely to fall into, default in the short term.

*\*Our ratings range from HR AAA (G) to HR D (G), a plus or minus sign may be included in the range from HR AA (G) to HR C (G), to indicate strength or weakness within a general rating category.*

## 2.4. Short Term Global Rating Scale

Symbol	Definition of the Rating
<b>HR1 (G)</b>	The issuer or issue with this rating exhibits high capacity for timely payment of debt obligations in the short term and maintains the lowest credit risk on a global scale basis. Within this category, debt instruments and or issuers with features showing relative superiority in terms of credit characteristics may be rated as HR+1 (G).
<b>HR2 (G)</b>	The issuer or issue with this rating exhibits an acceptable capacity for timely payment of debt obligations in the short term and maintains a higher credit risk compared with higher credit rating debt instruments on a global scale basis.
<b>HR3 (G)</b>	The issuer or issue with this rating exhibits a moderate capacity for timely payment of debt obligations in the short term and maintains a higher credit risk compared with higher credit rating debt instruments on a global scale basis.
<b>HR4 (G)</b>	The issuer or issue with this rating exhibits an insufficient capacity for timely payment of debt obligations in the short term and maintains a very high credit risk on a global scale basis. These instruments are susceptible to falling into default.
<b>HR5 (G)</b>	The issuer or offering is highly probable they will fall into default on the payment of debt obligations.
<b>HR D (G)</b>	The issuer or offering given this rating has the lowest credit rating and they are already in default.

## 2.5. Structured Finance Rating Scale

Symbol	Definition of the Rating
<b>HR AAA (E)*</b>	The issue with this rating is considered to have the highest credit quality, offering high safety for timely payment of debt obligations. Maintains minimum credit risk.
<b>HR AA (E)*</b>	The issue with this rating is considered to have high credit quality and offers high safety for timely payment of debt obligations. Maintains very low credit risk under adverse economic scenarios.
<b>HR A (E)*</b>	The issue with this rating offers acceptable safety for timely payment of debt obligations. Maintains low credit risk.
<b>HR BBB (E)*</b>	The issue with this rating provides moderate safety for timely payment of debt obligations. Maintains moderate credit risk, with weakness in the ability to pay in adverse economic scenarios.
<b>HR BB (E)*</b>	The issue with this rating provides inadequate safety for timely payment of debt obligations. Maintains high credit risk.
<b>HR B (E)*</b>	The issue with this rating provides low safety for timely payment of debt obligations and maintains a high credit risk. The issue is susceptible to falling into default.
<b>HR C (E)*</b>	The issue with this rating exhibits high probability of falling into default in debt obligation payments.
<b>HR D (E)*</b>	The issue with this rating has the lowest rating. The issue is already in, or is highly likely to fall into, default in the short term.

(E)\* is a local rating

*\*\*Our ratings range from HR AAA (E) to HR D (E), a plus or minus sign may be included in the range from HR AA (E) to HR C (E), to indicate strength or weakness within a general rating category.*

## 2.6. Market Risk Rating Scale

Symbol	Definition of the Rating
1HR	The asset portfolio has extremely low sensitivity to changes in market conditions.
2HR	The asset portfolio has low sensitivity to changes in market conditions.
3HR	The asset portfolio has low to moderate sensitivity to changes in market conditions.
4HR	The asset portfolio is moderately sensitive to changes in market conditions.
5HR	The asset portfolio has moderate to high sensitivity to changes in market conditions.
6HR	The asset portfolio is highly sensitive to changes in market conditions.
7HR	The asset portfolio is extremely sensitive to changes in market conditions.

## 3. METHODOLOGIES

### 3.1. Current versions of previously sent methodologies

3.1.1.	Methodology for the Evaluation of Charter School Debt ( <i>Long Term and Short Term Global Rating Scales</i> ).	<a href="https://www.hrratings.com/docs/metodologia/New%20Charter%20Schools%20Methodology%20R.pdf">https://www.hrratings.com/docs/metodologia/New%20Charter%20Schools%20Methodology%20R.pdf</a>
3.1.2.	General Methodological Criteria.	<a href="https://www.hrratings.com/docs/metodologia/General%20Methodology%20Criteria_Mar2016.pdf">https://www.hrratings.com/docs/metodologia/General%20Methodology%20Criteria_Mar2016.pdf</a>
3.1.3.	Methodology for Public Finances: Unsecured Debt Ratings for Mexican Municipalities Methodology Addendum ( <i>Long Term and Short Term Local Rating Scales</i> ).	<a href="https://www.hrratings.com/docs/metodologia/Adenda_Deuda_Quirografia_Municipios%20English%20Final.pdf">https://www.hrratings.com/docs/metodologia/Adenda_Deuda_Quirografia_Municipios%20English%20Final.pdf</a>
3.1.4.	HR Ratings' Corporate Debt Credit Risk Evaluation ( <i>Long Term and Short Term Local Rating Scales</i> )	<a href="https://www.hrratings.com/docs/metodologia/Corporate%20Debt%20Credit%20Risk%20Evaluation%20Final.pdf">https://www.hrratings.com/docs/metodologia/Corporate%20Debt%20Credit%20Risk%20Evaluation%20Final.pdf</a>
3.1.5.	Public Finance Methodology Unsecured Rating for Mexican States ( <i>Long Term and Short Term Local Rating Scales</i> ).	<a href="https://www.hrratings.com/docs/metodologia/Unsecured%20Rating%20for%20Mexican%20States.pdf">https://www.hrratings.com/docs/metodologia/Unsecured%20Rating%20for%20Mexican%20States.pdf</a>
3.1.6.	U.S. State Government General Obligations Methodology Addendum ( <i>Long Term and Short Term Global Rating Scales</i> ).	<a href="https://www.hrratings.com/docs/metodologia/General%20Obligation%20States%20Methodology%20March%202014_final.pdf">https://www.hrratings.com/docs/metodologia/General%20Obligation%20States%20Methodology%20March%202014_final.pdf</a>
3.1.7.	Revenue Sharing Obligations for Mexican States and Municipalities: Debt Backed by Sub-National Entities Own Revenues ( <i>Structured Finance Rating Scale</i> ).	<a href="https://www.hrratings.com/docs/metodologia/Debt%20backed%20by%20Sub-National%20Entities%20Own%20Revenues%20(Certified%20Translation).pdf">https://www.hrratings.com/docs/metodologia/Debt%20backed%20by%20Sub-National%20Entities%20Own%20Revenues%20(Certified%20Translation).pdf</a>
3.1.8.	Debt backed by Federal Transfers to the States ( <i>Structured Finance Rating Scale</i> ).	<a href="https://www.hrratings.com/docs/metodologia/Debt%20backed%20by%20Federal%20Transfers%20to%20the%20States%20(Certified%20Translation).pdf">https://www.hrratings.com/docs/metodologia/Debt%20backed%20by%20Federal%20Transfers%20to%20the%20States%20(Certified%20Translation).pdf</a>
3.1.9.	Debt backed by Federal Transfers to the Municipalities Addendum ( <i>Structured Finance Rating Scale</i> ).	<a href="https://www.hrratings.com/docs/metodologia/Debt%20backed%20by%20Federal%20Transfers%20to%20the%20Municipalities%20(Certified%20Translation).pdf">https://www.hrratings.com/docs/metodologia/Debt%20backed%20by%20Federal%20Transfers%20to%20the%20Municipalities%20(Certified%20Translation).pdf</a>
3.1.10.	Sovereign Debt Methodology ( <i>Long Term and Short Term Global Rating Scales</i> ).	<a href="https://www.hrratings.com/docs/metodologia/Sovereign%20Debt%20Methodologyfinal.pdf">https://www.hrratings.com/docs/metodologia/Sovereign%20Debt%20Methodologyfinal.pdf</a>
3.1.11.	U.S Local Government General Obligations Methodology ( <i>Long Term and Short Term Global Rating Scales</i> ).	<a href="https://www.hrratings.com/docs/metodologia/General%20Obligation%20Methodology%20Nov2013_final.pdf">https://www.hrratings.com/docs/metodologia/General%20Obligation%20Methodology%20Nov2013_final.pdf</a>
3.1.12.	Methodology for Infrastructure ( <i>Structured Finance Rating Scale</i> ).	<a href="https://www.hrratings.com/docs/metodologia/0Metodologia%20para%20Infraestructura%20(eng)%20limpio1.pdf">https://www.hrratings.com/docs/metodologia/0Metodologia%20para%20Infraestructura%20(eng)%20limpio1.pdf</a>
3.1.13.	Rating Methodology for Banks ( <i>Long Term and Short Term Local Rating Scales</i> ).	<a href="https://www.hrratings.com/docs/metodologia/3.2.1.%20Banks.pdf">https://www.hrratings.com/docs/metodologia/3.2.1.%20Banks.pdf</a>
3.1.14.	Addendum - Rating Methodology for Subordinated Debt ( <i>Long Term and Short Term Local Rating Scales</i> ).	<a href="https://www.hrratings.com/docs/metodologia/3.2.2.%20Rating%20Methodology%20for%20Subordinated%20Debt.pdf">https://www.hrratings.com/docs/metodologia/3.2.2.%20Rating%20Methodology%20for%20Subordinated%20Debt.pdf</a>
3.1.16.	Rating Methodology for Non-Bank Financial Institutions ( <i>Long Term and Short Term Local Rating Scales</i> ).	<a href="https://www.hrratings.com/docs/metodologia/3.2.3.%20Non%20Bank.pdf">https://www.hrratings.com/docs/metodologia/3.2.3.%20Non%20Bank.pdf</a>
3.1.17.	Addendum - Rating Methodology for Credit Unions	<a href="https://www.hrratings.com/docs/metodologia/3.2.4.%2520Rating%2520Methodology%2520for%2520Cre">https://www.hrratings.com/docs/metodologia/3.2.4.%2520Rating%2520Methodology%2520for%2520Cre</a>

	<i>(Long Term and Short Term Local Rating Scales).</i>	dit%2520Unions.pdf
3.1.18	Addendum - Rating Methodology for Leasing Agents <i>(Long Term and Short Term Local Rating Scales).</i>	<a href="https://www.hrratings.com/docs/metodologia/3.2.5.%20Leasing%20Agents.pdf">https://www.hrratings.com/docs/metodologia/3.2.5.%20Leasing%20Agents.pdf</a>
3.1.19	Rating Methodology for Brokerage Firms <i>(Long Term and Short Term Local Rating Scales).</i>	<a href="https://www.hrratings.com/docs/metodologia/3.2.6.%2520Brokerage%2520Firms.pdf">https://www.hrratings.com/docs/metodologia/3.2.6.%2520Brokerage%2520Firms.pdf</a>
3.1.20	Rating Methodology for Mutual Funds <i>(Long Term and Short Term Local Rating Scales; Market Risk Rating Scale).</i>	<a href="https://www.hrratings.com/docs/metodologia/2.%20ADDENDUM%20-%20Rating%20Methodology%20for%20Mutual%20Funds.pdf">https://www.hrratings.com/docs/metodologia/2.%20ADDENDUM%20-%20Rating%20Methodology%20for%20Mutual%20Funds.pdf</a>
3.1.21	Addendum – Rating Methodology for Bonded Warehouses <i>(Long Term and Short Term Local Rating Scales)</i>	<a href="https://www.hrratings.com/docs/metodologia/HR290816NP%208.%20Adendum%20AGD3%20(eng).pdf">https://www.hrratings.com/docs/metodologia/HR290816NP%208.%20Adendum%20AGD3%20(eng).pdf</a>

## 3.2 Current versions of qualitative and quantitative Models

### a) Banks / SOFIPOS / SOCAPS Model

*Version: 1*

*Effective Date: October 2016.*

*Methodology: Methodology for Rating Banks, May 2009.*

*Approved by HR: December 15, 2016.*

*Developed by: HR*

**Description:** The model identifies the principal risk indicators within each category of credit risk affecting the entity evaluated; both those that are inherit to the entity and those arising from external factors. Regarding the ability to pay, the principal sources of risk are identified that could cause delay and even default on the settlement of any liability.

### b) IFNBs / Credit Unions / Leasing Companies Model

*Version: 1*

*Effective Date: May, 2009.*

*Methodology: Rating Methodology for Non-Bank Financial Institutions, May 2009. Rating Methodology for Financial Leasing Agents and Pure Leasing Agents, January 2010. Rating Methodology for Bonded Warehouses, March 2010. Rating Methodology for Credit Unions, August 2011.*

*Approved by HR: December 15, 2016.*

*Developed by: HR*

**Description:** The model explains the principal risk factors present in these entities. Starting from the business model. Its purpose is to justify and give a different weighting to the qualitative and quantitative risk factors for the assignment of the rating by HR Ratings. Among the most important quantitative factors to consider are the historic and projected financial statements and the analysis of the operating efficiency.

### c) Brokerage Firms Model

*Version: 1*

*Effective Date: June 2009.*

*Methodology: Rating Methodology for Brokerage Firms, June 2009.*

*Approved by HR: December 15, 2016.*

*Developed by: HR*



**Description:** The model identifies the principal risk indicators within each category of credit risk affecting the firm evaluated; both those that are inherent to the entity and those arising from external factors. Regarding the ability to pay, the principal sources of risk are identified that could cause delay and even default on the settlement of any liability.

**d) Mutual Funds Model – SIID.**

*Version:* 1

*Effective Date:* May 2013.

*Methodology:* Rating Methodology for Mutual Funds, December 2008.

*Approved by HR:* December 15, 2016.

*Developed by:* HR

**Description:** This model has two principal aspects: Credit Risk and Market Risk. Credit Risk is based on the credit quality of the assets that form the portfolio of the mutual fund, while Market Risk measures movements in the valuation of the fund because of changes in market interest rates and other variables, such as the exchange rate, inflation, and market volatility. The methodology incorporates a secondary aspect, the evaluation of the Management Quality of the fund for both ratings.

**e) Pure Leasing Companies Model**

*Version:* 1

*Effective Date:* January 2010.

*Methodology:* Rating Methodology for Financial Leasing Agents and Pure Leasing Agents, January 2010.

*Approved by HR:* December 15, 2016.

*Developed by:* HR

**Description:** The model is based upon quantitative and qualitative factors that evaluates credit risks such as the possibility that the entity will be unable to collect future rents or leasing contracts and the lessor will not be able to recover the asset in a timely manner. So it analyses the tools and processes used to collect the financial income earned and recover the leased product.

**f) Models used for Sovereign Debt**

*Version:* 1

*Effective Date:* October 2016.

*Methodology:* Sovereign Debt Methodology, September 18, 2012.

*Approved by HR:* December 15, 2016.

*Developed by:* HR

**Description:** The model is based upon the interaction of four analytic dimensions that represent economic growth, fiscal accounts, monetary policy and external accounts. The model also accounts for metrics that evaluate the institutional quality of the sovereign. The model uses HR Ratings forecasts for both a base and a stress model. It also incorporates data from the IMF, the World Bank and the UN.

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## g) Models used for Mexican General Obligation ratings

- **States**

*Version:* 1

*Effective Date:* July 31, 2014.

*Methodology:* Rating Methodology for Unsecured Risk for Mexican States, July 31, 2014.

*Approved by HR:* June 11, 2015.

*Developed by:* HR

**Description:** The model accounts for fiscal metrics, debt metrics and debt servicing metrics. Most of them as a percent of unrestricted revenues, that discounts transfers to the municipalities and revenue sharing obligations compromised for structured debt servicing. The methodology also accounts for qualitative factors such as contingent liabilities, credit history, liquidity and former willingness to pay.

- **Municipalities**

*Version:* 1

*Effective Date:* July 31, 2015.

*Methodology:* Unsecured Risk Evaluation for Municipalities, July 31, 2015.

*Approved by HR:* June 11, 2015.

*Developed by:* HR

**Description:** The model accounts for fiscal metrics, debt metrics and debt servicing metrics. Most of them as a percent of unrestricted revenues, that discounts revenue sharing obligations compromised for structured debt servicing. The methodology also accounts for qualitative factors such as contingent liabilities, credit history, liquidity and former willingness to pay.

## h) Models used for Mexican Structured Credit ratings.

- **States and municipalities (Federal Income)**

*Version:* 1

*Effective Date:* February 14, 2013.

*Methodologies:* Methodology for Revenue Sharing Obligations for Mexican States and Municipalities: Debt backed by Federal Transfers to the States, January 24, 2013, and Methodology for Revenue Sharing Obligations for Mexican States and Municipalities: Debt backed by Federal Transfers to the Municipalities (Addendum to Methodology), February 14, 2013. *Approved by HR:* June 11, 2015.  
*Developed by:* HR

**Description:** The model is based upon the relationship of the Mexican economic growth and the revenue sharing obligations ("Ramo" 28) that the Federal Government transfers to the states and municipalities. Given an estimated income from said transfers, the minimum DSCR is determined along the debt structure. The revenues will be stressed through a TOE rate that will ultimately reduce the DSCR (always above one) in a critical period in such a way that the reserve funds can be reestablished in a previously determined post-critical period.

- **States and municipalities (Own income)**

*Version:* 1

*Effective Date:* March 22, 2013.

*Methodology:* Methodology for Revenue Sharing Obligations for Mexican States and Municipalities: Debt backed by Sub-National Entities Own Revenues (Addendum to Methodology), March 22, 2013.

*Approved by HR:* June 11, 2015.

*Developed by:* HR

**Description:** The model is also based upon the TOE rate and the capacity of the revenues to reestablish the reserve funds in the post-critical period. However, in this methodology, the ability to successfully isolate the source of revenue from the entity through a trust fund is of major importance.

- i) **Models used for U.S. General Obligations Ratings**

- **Local Governments**

*Version:* 1

*Effective Date:* November 27, 2013.

*Methodology:* U.S. Local Government General Obligations Methodology, November 27, 2013.

*Approved by HR:* December 15, 2016.

*Developed by:* HR

**Description:** The model is based upon the General Obligation Quantitative Risk Model which accounts for the financial balance, the primary balance, debt metrics and debt servicing metrics, all as share of total revenues or unrestricted revenues. These metrics are projected for both a base and a stress scenario. The qualitative considerations account for a liquidity analysis, a general fund analysis, pensions liabilities, state regulation and support, among others.

- **States**

*Version:* 1

*Effective Date:* March 28, 2014.

*Methodology:* U.S. State Government General Obligations Methodology (Addendum to Methodology), March 28, 2014.

*Approved by HR:* December 15, 2016.

*Developed by:* HR

**Description:** The model is based upon the General Obligation Quantitative Risk Model which accounts for the financial balance, the primary balance, debt metrics and debt servicing metrics, all as share of total revenues or unrestricted revenues. These metrics are projected for both a base and a stress scenario. The qualitative considerations account for a liquidity analysis, a general fund analysis, pensions liabilities, business type activities, among others.

- j) **Models used for Corporate Debt Ratings**

*Version:* 1

*Effective Date:* May 21, 2014.

*Methodology:* Corporate Debt Credit Risk Evaluation Methodology, May 21, 2014.

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*Approved by HR:* December 14, 2015.

*Developed by:* HR

**Description:** The model is based upon four metrics that are derived from the entity's financial statements. First the DSCR derived from the entity's period flows, then the same coefficient but adding the cash reserves to the numerator. The third measures the years required for the entity to serve its debt. And the last one measures the value of their marketable assets as a percent of the entity's total liabilities. Qualitative considerations are incorporated to account for industry risks.

**k) Models used for Charter Schools ratings**

*Version:* 1

*Effective Date:* February 13, 2015.

*Methodology:* Charter Schools Credit Risk Evaluation Methodology, February 13, 2015.

*Approved by HR:* June 11, 2015.

*Developed by:* HR

**Description:** The Charter Schools quantitative model is based upon the corporate debt methodology. However, the qualitative analysis accounts for the specific states laws regarding the permissions to operate and the ADA (Average Daily Attendance) and the WADA (Weighted Average Daily Attendance) upon which the state transfers are condition.

**l) Models used for Rating for Debt backed by the operation of highways, toll ways and bridges.**

*Version:* 1

*Effective Date:* November 6, 2015.

*Methodology:* Methodology for Infrastructure, November 6, 2015.

*Approved by HR:* December 15, 2016.

*Developed by:* HR

**Description:** The model is based upon the TEA rate which accounts for the stress the revenues from users' fees can withstand without the DSCR dropping below one throughout the debt structure. The methodology also incorporates demand risks derived from economic performance of the region around the project and for diverse risks that can affect maintenance cost.