

# S&P/BMV CORPOTRAC Index Methodology

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# Introduction

## Highlights

The S&P/BMV CORPOTRAC Index is designed to measure the performance of investment grade Mexican corporate bonds while minimizing credit risk.

Valmer provides daily updated prices for the valuation of financial instruments, as well as comprehensive calculation, reporting, analysis, and risk management associated with these prices. Valmer, founded in 2000, is regulated and supervised by the National Banking and Securities Commission.

This methodology was created by S&P Dow Jones Indices to achieve the aforementioned objective of measuring the underlying interest of each index governed by this methodology document. Any changes to or deviations from this methodology are made in the sole judgment and discretion of S&P Dow Jones Indices so that the index continues to achieve its objective.

## Collaboration

Pursuant to an Index Operation And License Agreement dated May 14, 2015 (the “Agreement”) between S&P Dow Jones Indices LLC (“S&P DJI”) and Bolsa Mexicana de Valores, S.A.B. DE C.V. (“BMV”), as amended, S&P DJI and BMV have agreed to jointly publish and co-brand a family of indices (the “Indices”). The Indices will be co-branded with the S&P/BMV naming convention on November 1, 2016 in conjunction with S&P Dow Jones Indices’ assumption of index calculation and maintenance. Prior to November 1, 2016, the Indices were calculated and maintained by BMV.

# Eligibility Criteria

## Eligibility Factors

**Currency.** Bonds must be issued in Mexican pesos.

**Issuer.** Bonds must be corporate securities issued by Mexican companies.

**Market of Issue.** Eligible bonds include those issued in the Mexican market.

**Maturity.** Each bond must have a maturity greater than 360 days and less than 3600 days from the rebalancing reference date. No bonds mature in the index.

**Size.** A minimum market value of MXN 200 million at each rebalancing is required.

**Coupon Types.** The following coupon types are eligible:

- Fixed amortizing bonds
- Fixed rate bonds
- Floating rate notes
- Floating amortizing bonds

**Exclusions.** The following bond types are specifically excluded from the index:

- Zero coupon bonds
- Bank issuances (except for MBS)
- Inflation-linked bonds
- Securities which are placed into a trust (e.g. toll road-backed bonds or real estate trusts)

**Ratings.** Bonds must be rated by at least two ratings agencies (S&P, Moody's, Fitch, and/or H.R. Ratings). The minimum credit rating for index inclusion is A-/A3/A-/A-, with the lowest rating used for index eligibility purposes.

- **New Issues.** New issues are considered at the next rebalancing.
- **Non-rated and Defaulted Bonds.** Bonds that are no longer rated by at least two ratings agencies or have defaulted are removed at the next rebalancing.

*Please refer to Appendix I for each rating agency's credit rating scale.*

**Pricing.** Bid Prices provided by Valmer.

# Index Construction

## Index Calculations

The index is modified market value weighted.

The total return is calculated by aggregating the interest return, reflecting the return due to paid and accrued interest, and price return, reflecting the gains or losses due to changes in the end-of-day price and principal repayments.

*For further details regarding index calculations please refer to Appendix II and S&P Dow Jones Indices' Fixed Income Index Mathematics Methodology available at [www.spdji.com](http://www.spdji.com).*

## Constituent Weightings

At each rebalancing, the index is subject to the following weighting criteria:

- **Credit Weighting.** The index is weighted such that securities in a given ratings band make up the following percentages of the index:

Index Ratings Convention <sup>1</sup>	Index Weight
AAA	70%
AA	20%
A	10%

- **Issuer Weighting.** If an individual issuer exceeds 10% of the index weight, a 10% cap is applied for that issuer. The excess weight is redistributed to all uncapped bonds within the same index ratings band on a proportional basis. In the event that there are not enough eligible issuers per ratings band, the target index weight will be maintained and the 10% issuer cap will be relaxed.

In between index rebalancings, constituent weights fluctuate based on changes in market value.

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<sup>1</sup> Please refer to *Appendix I* for details on which credit ratings are included in a given ratings convention.

# Index Maintenance

## Rebalancing

The index is reviewed and rebalanced monthly as detailed in the table below.

Date	After The Market Close
Rebalancing Date	Last business day of the month ( <i>T</i> )
Announcement Date	<i>T</i> – 3 business days
Reference Date	<i>T</i> – 4 business days

The Index Committee, nevertheless, reserves the right to make adjustments to the index at any time that it believes appropriate.

Additions, deletions and other changes to the index arising from the rebalancing are made provided the security's reference information and pricing are available by designated pricing and data providers on the rebalancing reference date. Changes to the index are published on the announcement date and become effective on the rebalancing date. Information related to the rebalance is obtained and disseminated after the market close.

## Ongoing Maintenance

The index is also reviewed on an ongoing basis to account for the following:

- When an index bond is in default or misses an interest payment, the price reported by the pricing source is used. However, the Index Committee may determine that the bond be removed from the index at a different price and may specify a price of 0.00. The decision of the Index Committee is final.
- If an index bond is no longer priced by the pricing source, the last available price is used. However, the Index Committee may determine that a different price be used. The decision of the Index Committee is final. For clarity, index bonds that are no longer priced by the pricing source fail to meet the pricing eligibility factors and are removed at the next rebalancing date. If the bond is priced for at least one of the five business days prior to the rebalancing reference date, the bond remains in the index. Otherwise, it is removed from the index at the subsequent rebalancing date.

## Currency of Calculation

The index is calculated in Mexican pesos.

## Base Dates and History Availability

Index history availability, base date and base value are shown in the table below.

Index	Launch Date	First Value Date	Base Date	Base Value
S&P/BMV CORPOTRAC Index	04/02/2009	12/31/2003	12/31/2003	100

# Index Governance

## **Index Committee**

The S&P/BMV Fixed Income Index Committee maintains the index. Committee members are full-time professionals at S&P Dow Jones Indices and Valmer. Meetings are held semi-annually, but interim meetings may be held whenever deemed appropriate.

The Index Committee oversees the management of the index, including determinations of intra-rebalancing changes to the index, maintenance and inclusion policies, and other matters affecting the maintenance and calculation of the index.

In fulfilling its responsibilities, the Index Committee has full and complete discretion to (i) amend, apply, or exempt the application of index rules and policies as circumstances may require and (ii) add, remove, or by-pass any bond in determining the composition of the index.

The Index Committee may rely on any information or documentation submitted to it or gathered by it that the Index Committee believes to be accurate. The Index Committee reserves the right to reinterpret publicly available information and to make changes to an index based on a new interpretation of that information at its sole discretion. All Index Committee discussions are confidential.

*For information on Quality Assurance and Internal Reviews of Methodology, please refer to S&P Dow Jones Indices' Fixed Income Policies & Practices document located on our Web site, [www.spdji.com](http://www.spdji.com).*



# Index Policy

## **Announcements**

Announcements of any relevant information pertaining to the index are made at approximately 05:30 PM New York Time. Press releases are posted on S&P Dow Jones Indices' Web site at [www.spdji.com](http://www.spdji.com).

## **Holiday Schedule**

The index is calculated when the Mexican fixed income markets are open.

*A complete holiday schedule for the year is available at [www.spdji.com](http://www.spdji.com).*

## **End-of-Day Calculation**

Index levels are calculated at the end of each business day, at approximately 07:00 PM Mexico City Time, via S&P Dow Jones Indices' Web site. This may be subject to change.

## **Recalculation Policy**

*For more information on the recalculation policy please refer to S&P Dow Jones Indices' Fixed Income Policies & Practices document located on our Web site, [www.spdji.com](http://www.spdji.com).*

*For information on Calculations and Pricing Disruptions, Expert Judgment and Data Hierarchy, please refer to S&P Dow Jones Indices' Fixed Income Policies & Practices document located on our Web site, [www.spdji.com](http://www.spdji.com).*

# Index Dissemination

Index levels are available through S&P Dow Jones Indices' website at [www.spdji.com](http://www.spdji.com), major quote vendors (see codes below), numerous investment-oriented websites, and various print and electronic media.

## Tickers

Total Return Index	Ticker
S&P/BMV CORPOTRAC Index	SPVCORT

## FTP

Daily index levels and index data are available via FTP subscription.

*For product information, please contact S&P Dow Jones Indices, [www.spdji.com/contact-us](http://www.spdji.com/contact-us).*

## Web site

*For further information, please refer to S&P Dow Jones Indices' Web site at [www.spdji.com](http://www.spdji.com).*

## Appendix I – Credit Ratings Scale

The table below shows each rating agency's credit ratings scale, applicable to the index.

<b>S&amp;P</b>	<b>Fitch Ratings</b>	<b>MOODY'S</b>	<b>HR Ratings</b>	<b>Convention</b>
mxAAA	AAA (mex)	Aaa.mx	HR AAA	AAA
mxAA+	AA+ (mex)	Aa1.mx	HR AA+	AA
mxAA	AA (mex)	Aa2.mx	HR AA	AA
mxAA-	AA- (mex)	Aa3.mx	HR AA-	AA
mxA+	A+ (mex)	A1.mx	HR A+	A
mxA	A (mex)	A2.mx	HR A	A
mxA-	A- (mex)	A3.mx	HR A-	A

# Appendix II – Index Calculations

## Constituent Return

The return on a single constituent,  $r_t$ , can be determined as follows:

$$r_t = \left( \frac{PL_t + ID_t + I_{[ID_t=0]}C_t}{PL_{t-1} + ID_{t-1}} \right) \quad (1)$$

where:

$PL_t$  = Clean price of the asset on day  $t$ .

$ID_t$  = Accrued interest on day  $t$ .

$I_t$  = An indicator where if equal to 1, refers to the coupon clipping; Otherwise it is zero.

$C_t$  = Coupon payment on day  $t$ .

## Market Value

The market value of an index security as of the close on day  $t$  is calculated as follows:

$$MV_t = PAR_t * \frac{(PL_t + ID_t)}{100} * FX_t \quad (2)$$

The adjusted market value is determined as follows:

$$AMV_t = AWF * MV_t \quad (3)$$

where:

$MV_t$  = Market value of the index security on day  $t$ .

$AMV_t$  = Adjusted market value of the index security on day  $t$ .

$PAR_t$  = Par amount of the index security as of the last rebalancing.

$FX_t$  = Foreign exchange rate used to convert to the target currency on day  $t$ .

$AWF$  = Additional Weight Factor (see below).

## Additional Weight Factor

The Additional Weight Factor (AWF) is used to tilt the original market value weight of a security within the index. It is calculated on the rebalancing reference date and is implemented on the rebalancing effective date. The AWF remains static until the subsequent rebalancing.

The AWF is calculated as follows:

$$AWF_i = \frac{CW_{i,t}}{W_{i,t}} \times BF_i \quad (4)$$

where:

$BF_i$  = Band Factor of security  $i$ .

$W_{i,t}$  = Uncapped weight of security  $i$  on rebalancing date  $t$  based on the market value of all index constituents.

$CW_{i,t}$  = Capped weight of security  $i$  on rebalancing date  $t$  as determined by the issuer capping rule after notch weighting has occurred.

And,

$$BF_i = BW_i \frac{\sum_1^N MV_t}{\sum_{Band_i} MV_t} \quad (5)$$

where:

$\sum_{Band_i} MV_t$  = Aggregate market value of the all securities in the band corresponding to security  $i$  on rebalancing date  $t$ .

$\sum_1^N MV_t$  = Aggregate market value of all  $N$  securities in the underlying index on rebalancing date  $t$ .

$BW_i$  = Band weight corresponding to security  $i$ .

### Index Total Return

The index total return can be calculated as:

$$R_t = \sum_{i \in Security} \left( \frac{AMV_{i,t-1}}{\sum_{i \in Security} (AMV_{i,t-1})} \times r_{i,t} \right) \quad (6)$$

where:

$r_{i,t}$  = Return of security  $i$  on day  $t$ .

$AMV_{i,t-1}$  = Adjusted Market Value of security  $i$  at the close of day  $t-1$ .

The accumulated return is then calculated as:

$$i_t = i_{t-1} \times (1 + r_t) \quad (7)$$

where:

$i_t$  = Index level at day  $t$ .

$i_{t-1}$  = Index level at day  $t-1$ .

$r_t$  = Daily index total return day  $t$ .

The initial index value is set to 100.

*For further details regarding index calculations please refer to S&P Dow Jones Indices' Fixed Income Index Mathematics Methodology available at [www.spdji.com](http://www.spdji.com).*

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