STANDARD & POOR'S

# S&P NATIONAL MUNICIPAL BOND INDEX

## INDEX METHODOLOGY

September 2007

# Table of Contents

# Introduction

The S&P National Municipal Bond Index is a broad, comprehensive, market value-weighted index designed to measure the performance of the investment-grade U.S. municipal bond market. As of September 4, 2007, the Index consisted of 3,069 bonds, with a total market value of US$ 305.4 billion. Constituents of the S&P National Municipal Bond Index are derived from Standard & Poor's/Investortools Municipal Bond Index.

**Highlights**

Index returns and other statistics are calculated daily, as described in Appendix II, *Index Calculation*. The S&P National Municipal Bond Index constituents undergo a review and rebalancing once a month, in order to ensure that the Index remains current, while avoiding excessive turnover.

The Index is rules based, although the S&P National Municipal Bond Index Committee reserves the right to exercise discretion, when necessary. The hallmark of a rules-based index is transparency and, broadly speaking, predictability. As an aide to transparency, this document sets out the rules by which the Index is governed, index calculation and management procedures, and the various formulae used to calculate index returns and other statistics.

**Index Family**

The S&P National Municipal Bond Index consists of a broad-based national index, as well as state level municipal bond sub-indices. At this time the state level indices are:

- The S&P California Municipal Bond Index
- The S&P New York Municipal Bond Index

*Please refer to Appendix I for a list of defined terms used throughout this document.*

# Eligibility Criteria

**Eligibility Factors**

A bond must meet all of the following criteria on the rebalancing date in order to be classified as an Eligible Bond.

**Issuer**. The bond issuer is a state (including the Commonwealth of Puerto Rico and US territories such as the U.S. Virgin Islands and Guam) or local government or agency such that interest on the bond is exempt from U.S. federal income taxes.

**Investment grade.** The bond must have a rating of at least BBB- by Standard & Poor's, Baa3 by Moody's, or BBB- by Fitch. A bond must be rated by at least one of the three rating agencies in order to qualify for the index. For the avoidance of doubt, the lowest rating will be used in determining if a bond is investment grade.

**Issuance.** The bond must be denominated in U.S. dollars.

For clarity, the following bond types are specifically excluded:

- Bonds subject to the alternative minimum tax (AMT)
- Commercial paper
- Derivative securities (inverse floaters, forwards, swaps)
- Housing bonds
- Insured conduit bonds where the obligor is a for-profit institution
- Non-insured conduit bonds
- Non-rated bonds
- Notes
- Taxable municipals
- Tobacco bonds
- Variable rate debt

**Minimum Par Amount.** The amount outstanding, or Par Amount, is used to determine the weight of the bond in the Index. The bond must have a minimum Par Amount of US$ 50 million to be eligible for inclusion. To remain in the Index, bonds must maintain a minimum Par Amount greater than or equal to US$ 50 million as of the next Rebalancing Date.

**Minimum Term.** As of the next Rebalancing Date, the bond must have a minimum term to maturity and/or call date greater than or equal to one calendar month.

**Constituent Concentration Requirements.** At each monthly rebalancing, no index constituent can represents more than 30% of the weight of the index, and the five highest weighted index constituents do not account for more than 65% of the weight of the index in aggregate.

**State Level Indices.** For state level sub-indices, the bond is, first, a member of the National index and, second, identified as issued in the relevant sub-index state.

**Deletions**

Bonds will be deleted from the Index at the rebalancing for the following reasons:

- Bonds that are completely called or tendered during the course of the month.
- Bonds that are scheduled to be completely called or redeemed, during the course of the calendar month following the Rebalancing Date, will be removed on the Rebalancing Date.
- Bonds where calls have reduced the known outstanding amount to less than US$ 50 million during the course of the month.
- Any Bond that is downgraded below investment grade between Rebalancing Dates.

# Index Construction

**Approaches**

Standard & Poor’s National Municipal Bond Index is designed to measure the investment grade segment of the U.S. municipal bond market.

**Index Calculations**

The S&P National Municipal Bond Index is a market-value-weighted index.  Standard & Poor’s Securities Evaluations, Inc. (SPSE) reports the price of each bond in the index. The prices used in the index calculation will add the accrued interest for each bond to the price reported by Standard & Poor's.

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

*For further details regarding Index Calculations, please refer to Appendix II.*

# Index Maintenance

The Index is maintained in accordance with the following rules:

- Eligible Bonds approved by the Index Committee will be added to the Index on the next Rebalancing Date, subject to the schedule of the monthly rebalancing procedures.
- Any Index Bond that fails to meet any one of the Eligibility Factors, or that will have a term to maturity and/or call date less than or equal to 1 calendar month plus 1 calendar day as of the next Rebalancing Date, will be removed from the Index on that Rebalancing Date.
- Par Amounts of Index Bonds will be adjusted on the Rebalancing Date to reflect any changes that have occurred since the previous Rebalancing Date, due to partial calls, tenders, etc. However, where there is notification at any time during the month that a callable Index Bond will be called in its entirety, the relevant Index Bond will be removed from the Index on the next Rebalancing Date. Similarly, changes to Par Amounts due to mandatory sinking fund payments and scheduled amortization payments will be made effective after the Close on the payment date.
- Any Index Bond that is downgraded below investment grade between Rebalancing Dates will be removed at the next Rebalancing Date.
- Where an Index Bond is in default or misses an interest payment, the price reported by SPSE shall be 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.

**Rebalancing**

The Index is normally reviewed and rebalanced on a monthly basis. 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 monthly rebalancing are published, after the close of business, three business days prior to the last business day of the month (“the Announcement Date”). Publicly available information, up to and including the Close on the sixth Business Day preceding the Rebalancing Date, is considered in the rebalancing.

Index changes published in the announcement will not normally be subject to revision and will become effective after the Close on the last business day of the month ("the Rebalancing Date").

However, credit rating changes that occur on or before 12:00 p.m. Eastern Time on the day prior to the Rebalancing Date will be reflected in the rebalancing, where such changes would cause any one of the following:

- Deletion of an Index Bond because it no longer meets the minimum rating criterion
- Removal of a bond from the additions list because it is no longer an Eligible Bond
- Removal of an Index Bond from the deletions list because it is once again eligible

Users will be notified of these ratings-driven amendments to the rebalancing through the Amended Rebalancing Report published at the close of business on the day prior to the Rebalancing Date.

**Base Date**

The indices base dates are August 31, 2007. The base values on that date is 100.

# Index Governance

**Index Committee**

The S&P National Municipal Bond Index Committee maintains the Index. The Committee is comprised of employees or agents of Standard & Poor's. The Committee is chaired by the Managing Director and Index Committee Chairman at Standard & Poor's. Meetings are held monthly and, from time to time, as needed.

The Committee oversees the day-to-day management of the Index, including the monthly rebalancing, determinations of intra-rebalancing changes to the Index, and maintenance and inclusion policies, including additions or deletions of bonds and other matters affecting the maintenance and calculation of the Index.

In fulfilling its responsibilities, the 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 Committee may rely on any information or documentation submitted to it or gathered by it that the Committee believes to be accurate. The Committee reserves the right to reinterpret publicly available information and to make changes to the Index based on a new interpretation of that information at its sole discretion.

# Index Dissemination

### Tickers

| Index | Bloomberg | Reuters |
| --- | --- | --- |
| S&P National Municipal Bond Index, Price Return | SPMUNUS | .SPMUNUS |
| S&P National Municipal Bond Index, Total Return | SPMUNUST | .SPMUNUST |
| | | |
| S&P California Municipal Bond Index, Price Return | SPMUNCA | .SPMUNCA |
| S&P California Municipal Bond Index, Total Return | SPMUNCAT | .SPMUNCAT |
| | | |
| S&P New York Municipal Bond Index, Price Return | SPMUNNY | .SPMUNNY |
| S&P New York Municipal Bond Index, Total Return | SPMUNNYT | .SPMUNNYT |

# Appendix I

**Defined Terms**

**Announcement Date.** The date on which changes to the Index are published, as further described in the section on index maintenance.

**Business Day.** Any day that U.S. municipal bonds are traded, as determined by the Securities Industry and Financial Markets Association (SIFMA) and/or the New York Stock Exchange.

**Close.** The end of a calendar or Business Day for the purpose of calculating index values and other statistics, currently 04:00 PM Eastern Time.

**Eligible Bond.** A bond that meets all of the eligibility criteria, based on publicly available information as of the Close of the Business Day preceding the Announcement Date, but is not already an Index Bond.

**Index.** The S&P National Municipal Bond Index.

**Index Bond.** A bond that is included in the Index.

**Par Amount.** The total par or "face value" amount outstanding of an Index Bond or an Eligible Bond as determined by the Index Committee, net of partial calls, tenders and mandatory sinking fund payments.

**Rebalancing Date.** The last business day of each month, when the changes to the Index published on the Announcement Date become effective, as further described in the section on index maintenance.

# Appendix II

**Calculation of Index Bond Market Values and Relative Weights**

A market value is calculated for each Index Bond as of the Close on each calendar day.

The market value of an Index Bond on day *t* is calculated as follows:

$$MV_t = PAR_t * \frac{(P_t + A_t)}{100} \qquad (1)$$

where:

| | | |
|---|---|---|
| $MV_t$ | = | Market value of Index Bond on day *t* |
| $PAR_t$ | = | Par Amount of Index Bond as of the last monthly rebalancing, adjusted for principal repayments and mandatory sinking fund payments up to and including day *t*. |
| $P_t$ | = | Standard & Poor's Price of Index Bond on day *t* |
| $A_t$ | = | Accrued interest[1] on Index Bond to day *t* |

If the valuation date is not a Business Day, the market value will be based on the price as of the immediate prior Business Day, plus interest accrued to the valuation date.

The relative weight of an Index Bond is defined as the market value of that bond expressed as a percentage of the aggregate market value of all Index Bonds in the Index portfolio, as follows:

$$weight_k = \frac{MV_k}{\sum_k MV_k} \qquad (2)$$

[1] $A_t$ in (1) is calculated on a calendar date basis and uses the conventions for calculating settlement accrued. Accordingly, accrued interest will be zero on a coupon payment date.

### Calculation of Index Bond Returns

Daily returns are calculated for all Index Bonds on every calendar day.

### Total Return

The total return, TR, of an Index Bond from day *t-1* to day *t* is:

$$TR_t = \frac{MV_t + Int_t + Prin_t - MV_{t-1}}{MV_{t-1}} \tag{3}$$

where:

| | | |
|---|---|---|
| $TR_t$ | = | Total return from day *t-1* to day *t*. |
| $MV_t$ | = | Market Value on day *t* |
| $Int_t$ | = | Interest payments on day *t* |
| $Prin_t$ | = | Regularly scheduled principal repayments or mandatory sinking fund payments on day *t* |
| $MV_{t-1}$ | = | Market Value on day *t-1* |

The total return formula in (3) can be split into two components: Interest Return, reflecting the return due to accrued and paid interest, and Price Return, reflecting the capital gains or losses due to changes in bond prices and to principal repayments.

### Interest Return

The formula for the interest return on an individual Index Bond from day *t-1* to day *t* is as follows:

$$IR_t = \frac{PAR_t * \frac{A_t}{100} - PAR_{t-1} * \frac{A_{t-1}}{100} + Int_t}{MV_{t-1}} \tag{4}$$

where:

| | | |
|---|---|---|
| $IR_t$ | = | Interest return on day *t* |
| $PAR_t$ | = | Par Amount of Index Bond as of the last monthly rebalancing, adjusted for principal repayments and mandatory sinking fund payments up to and including day *t* |
| $A_t$ | = | Accrued interest to day *t* |
| $PAR_{t-1}$ | = | Par Amount of Index Bond as of the last monthly rebalancing, adjusted for principal repayments and mandatory sinking fund payments up to and including day *t-1* |
| $Int_t$ | = | Interest payment on day *t* |
| $MV_{t-1}$ | = | Market value on day *t-1* |

**Price Return**

The formula for the price return for an Index Bond from day *t-1* to day *t* is as follows:

$$PR_t = \frac{PAR_t * \left(\frac{P_t - P_{t-1}}{100}\right) + Prin_t * \frac{100 - P_{t-1}}{100}}{MV_{t-1}} \qquad (5)$$

where:

| | | |
|---|---|---|
| $PR_t$ | = | Price return on day *t* |
| $PAR_t$ | = | Par Amount of Index Bond as of the last monthly rebalancing, adjusted for principal repayments and mandatory sinking fund payments up to and including day *t* |
| $P_t$ | = | End of day price on day *t* |
| $P_{t-1}$ | = | End of day Price on day *t-1* |
| $Prin_t$ | = | Regularly scheduled principal repayments or mandatory sinking fund payments on day *t* |
| $MV_{t-1}$ | = | Market value on day *t-1* |

Note that the formula for Price Return (5) itself has two components. The first term, in the numerator on the right side of (5), represents the unrealized capital gain or loss due to any change in the price, while the second term represents the realized capital gain or loss due to receiving a principal repayment at par rather than at the current end of day Price.

## Calculation of Index Returns and Levels

### Daily Index Returns

The individual Index Bonds returns are aggregated to calculate returns for the Index. Specifically, the total return, interest return and price return for the Index, on a given day, are equal to a weighted average of the returns of the Index Bonds that constitute the Index — with the weight of each Index Bond return being equal to the relative weight of that Index Bond in the Index as of the previous calendar day. The formula is as follows:

$$IndexTR_t \frac{\sum_i MV_{i,t-1} * TR_{i,t}}{\sum_i MV_{i,t-1}}$$

$$IndexIR_t \frac{\sum_i MV_{i,t-1} * IR_{i,t}}{\sum_i MV_{i,t-1}}$$

$$IndexPR_t \frac{\sum_i MV_{i,t-1} * PR_{i,t}}{\sum_i MV_{i,t-1}}$$

where:

| | | |
|---|---|---|
| $TR_t^i$ | = | Total return of the Index Bond *i* on day *t* |
| $IR_t^i$ | = | Interest return of the Index Bond *i* on day *t* |
| $PR_t^i$ | = | Price return of the Index Bond *i* on day *t* |
| $MV_{t-1}^i$ | = | Market value of the Index Bond *i* on day *t-1* |

**Daily Index Values**

Index values are calculated each day by applying the current day's Index return to the previous day's Index value, as follows:

$$TRIV_t = TRIV_{t-1} * (1 + TR_t))$$

$$PRIV_t = PRIV_{t-1} * (1 + PR_t))$$

$$IRIV_t = IRIV_{t-1} * (1 + IR_t))$$

where:

| | | |
|---|---|---|
| $TRIV_t$ | = | Total Return Index Value on day *t* |
| $PRIV_t$ | = | Price Return Index Value on day *t* |
| $IRIV_t$ | = | Interest Return Index Value on day *t* |

# S&P Contact Information

**Index Management**

David M. Blitzer, Ph.D. – Managing Director & Chairman of the Index Committee
david_blitzer@standardandpoors.com +1.212.438.3907
Mariah Alsati-Morad – Manager, Index Strategy
mariah_alsati-morad@standardandpoors.com +1.212.438.2308

**Media Relations**

David Guarino – Communications
dave_guarino@standardandpoors.com +1.212.438.1471

**Index Operations & Business Development**

**North America**
New York
Maureen O'Shea +1.212.438.2046
Wendy Chan +1.212.438.4080
Toronto
Tony North +1.416.507.3204
**Europe**
Paris
Christopher O'Brien +33.1.40.75.77.91
London
Susan Fagg +44.20.7176.8388
**Asia**
Tokyo
Seiichiro Uchi +813.3593.8568
Beijing
Andrew Webb +86.10.6535.2919
Sydney
Jason Hill +61.2.9255.9872

# Disclaimer



Analytic services and products provided by Standard & Poor's are the result of separate activities designed to preserve the independence and objectivity of each analytic process. Standard & Poor's has established policies and procedures to maintain the confidentiality of non-public information received during each analytic process.