

**STANDARD
& POOR'S**

**S&P/CITIC CHINA
BOND INDICES**
INDEX METHODOLOGY



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& POOR'S**

中信标普指数服务

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Introduction

The S&P/CITIC Bond Index family was introduced in 2000. The series consists of five distinct fixed income indices which track China's government, corporate, inter-bank and convertible bond markets. The S&P/CITIC Bond Indices are the well-accepted institutional benchmark for investing in the entire China bond market, as well as the broadest array of fixed income sub-strategies.

Highlights

The S&P/CITIC bond indices consist of the S&P/CITIC Government Bond Index, the S&P/CITIC Corporate Bond Index, and the S&P/CITIC Convertible Bond Index. All are calculated real-time. The series also includes the S&P/CITIC Inter-bank Bond Index and the S&P/CITIC Composite Bond Index, which are calculated at the end-of-day.

The S&P/CITIC Bond Index methodology is consistent with international practice and standards, applying the basic principles of index management, providing consistency, transparency and liquidity to the financial markets.

The S&P/CITIC Composite Bond Index includes floating-rate bonds, since they exist in bond investment portfolios. The benchmark, therefore, reflects the performance of the entire bond market.

A liquidity criteria based on value traded is used for each index rebalancing to ensure the high liquidity of the index. In May and November each year, the S&P/CITIC Composite Bond Index undergoes a review and rebalancing. The weights of exchange-traded bonds and inter-bank bonds, as well as the number of bonds allocated to fixed-rate and floating-rate bond sectors within the inter-bank bond market, are determined by each bond's corresponding value traded over the previous six months.

Due to differences in index eligibility criteria, constituents of the S&P/CITIC Composite Bond Index are not the simple combinations of the other indices. For example, at the beginning of each month, the constituents of the S&P/CITIC Inter-bank Bond Index are the 30 most actively quoted fixed-rate bonds during the prior month. Not all of these bonds, however, may be included in the S&P/CITIC Composite Bond Index, due to its unique eligibility criteria.

Only investment grade bonds are eligible for inclusion in the S&P/CITIC Bond Indices. All government bonds are regarded as investment grade. Financial bonds are regarded as investment grade, as well, due to the lack of a well-accepted China bond rating standard and the high creditability of financial bond issuers, such as policy banks. In the future, if a well-accepted bond rating standard is established in China, S&P/CITIC will apply a new standard to index inclusion and review.

Partnership

Standard & Poor's and CITIC Securities Co. Ltd. have formed a joint venture company called "S&P/CITIC Index Information Services" which has ownership of the S&P/CITIC Bond Index series and will maintain, market and license them on an ongoing basis.

Index Family

The S&P/CITIC Bond Index series belong to a suite of indices branded under the joint venture S&P/CITIC Index Information Services. The indices include the China A Share series -- the S&P/CITIC 50, the S&P/CITIC 300 and the S&P/CITIC Composite. The family also includes the S&P/CITIC China 30, which contains Chinese companies listed in markets other than the Chinese mainland.

Eligibility Criteria

S&P/CITIC Government Bond Index

Selection Criteria. Government bonds listed on the Shanghai Stock Exchange that meet all of the following criteria:

- **Term to Maturity:** No less than 1 year.
- **Fixed Coupon Rate:** Includes bonds that pay periodic coupons and bonds that delay the coupon payments until maturity.
- **Outstanding Par:** No less than RMB 100 million.

Additions and Deletions. Government bonds listed on the Shanghai Stock Exchange that meet the above selection criteria will be included in the index on the first trading day following its listing day. Bonds that mature in less than one year will be removed from the index.

S&P/CITIC Corporate Bond Index

Selection Criteria. Corporate bonds listed on the Shanghai or Shenzhen Stock Exchange that meet all of the following criteria:

- **Term to maturity:** No less than 1 year.
- **Fixed Coupon Rate:** Includes bonds that pay periodic coupons and bonds that delay the coupon payments until maturity.
- **Outstanding Par:** No less than RMB 100 million.
- **Minimum credit rating:** Investment grade.

Additions and Deletions. Corporate bonds that meet the above selection criteria will be included in the index on the first trading day following its listing day. Bonds that mature in less than one year will be removed from the index.

S&P/CITIC Convertible Bond Index

Selection Criteria. Convertible bonds listed on the Shanghai or Shenzhen Stock Exchange that meet all of the following criteria:

- **Term to maturity:** Must be in or before the conversion period.
- **Outstanding Par:** No less than RMB 30 million.
- **Minimum credit rating:** Investment grade.

Additions and Deletions. Convertible bonds that meet the above selection criteria will be added to the index on the first trading day following its listing day. Constituents that no longer meet the above criteria will be removed from the index.

S&P/CITIC Inter-bank Bond Index

Selection Criteria. Bonds traded in the Inter-bank markets that meet all of the following criteria:

- **Term to Maturity:** No less than 1 year
- **Fixed coupon rate:** Includes bonds that pay periodic coupons and bonds that delay the coupon payments until maturity.
- **Outstanding Par:** No less than RMB 100 million.
- **Minimum credit rating:** Investment grade.

Rebalancing Procedure. The Index Committee reviews inter-bank bonds at the end of each month for their eligibility and liquidity. The 30 most actively quoted bonds are included in the index until the next rebalancing date. Any constituent changes will be implemented at the end of the month, after the market close.

S&P/CITIC Composite Bond Index

Eligibility for Candidate Pool. Candidates for index inclusion must meet all of the following criteria:

- **Term to maturity:** No less than 1 year.
- **Outstanding Par:** No less than RMB 100 million.
- **Minimum credit rating:** Investment grade.

For a government bond listed on both the Shanghai and Shenzhen Stock Exchanges under different tickers, only the ticker on the Shanghai Stock Exchange stays in the candidate pool. The price from the Shanghai Stock Exchange and the total par amount issued for the bond (instead of the custodian amount at the Shanghai Stock Exchange) are used for index calculation.

For a government bond listed on both exchanges and in the inter-bank bond market under different tickers, only the ticker on the Shanghai Stock Exchange stays in the candidate pool. The price from Shanghai Stock Exchange and the total par amount issued for the bond (instead of the custodian amount at the exchanges) are used for index calculation.

Selection Rules

S&P/CITIC Composite Bond Index

In addition to the eligibility criteria listed in the prior section, candidate bonds listed on the exchanges or in the inter-bank market are reviewed separately based on the following rules.

1. All eligible candidate bonds listed on exchanges will be included in the S&P/CITIC Composite Bond Index.
2. The total number of bonds allocated to the inter-bank sector and the proportion of different types of bonds within the inter-bank sector (fixed versus floating rate bonds; financial bonds versus government bonds) are adjusted at the end of May and November, after the market close. The changes will take effect in June and December, respectively. For index rebalancings that take place in months other than May and November, the total number of bonds included in the inter-bank bond sector and the proportion of different types of bonds within the sector remain unchanged. Procedures to determine the above weights are as follow:

- a. The number of bonds allocated to the inter-bank bond sector:

- i. At the end of each May (November), after the market close, the cumulative value traded from the beginning of the prior November (May) to the end of April (October) is calculated for all exchange-listed government bonds (QJ) and inter-bank bonds (QY, including both government bonds and financial bonds).

Calculate:

$$Ratio_1 = \frac{QY}{QJ} \bullet 50\%$$

- ii. The total outstanding par value (denoted as TSJ and TSY, respectively) and the numbers of bonds (denoted as TNJ and TNY, respectively) for the exchange government bond market and the inter-bank market (including both government bonds and financial bonds) are calculated. The average outstanding par value per bond can then be derived for both markets as SJ and SY, respectively.

Calculate:

$$\begin{aligned} \text{Ratio}_2 &= \frac{SJ}{SY} \\ &= \frac{TSJ / TNJ}{TSY / TNY} \\ &= \frac{TSJ}{TSY} \cdot \frac{TNY}{TNJ} \end{aligned}$$

Assume the number of exchange-listed government bonds included in the index is N.

- iii. Determine the number of inter-bank bonds (including both government bonds and financial bonds) to include in the index by using the formula below, and substituting from above:

$$\begin{aligned} YN &= N \cdot \text{Ratio}_1 \cdot \text{Ratio}_2 \\ &= N \cdot \frac{(QY / SY)}{(QJ / SJ)} \cdot 50\% \\ &= N \cdot \frac{(QY / TSY)}{(QJ / TSJ)} \cdot \frac{TNY}{TNJ} \cdot 50\% \end{aligned}$$

- b. The weights of different types of bonds within the inter-bank sector, including fixed-rate bonds, floating-rate bonds, government bonds, and financial bonds.

- i. Calculate the quantity of fixed-rate (QG) and floating-rate (QF) bonds that currently exist in the candidate pool. The number of fixed-rate inter-bank bonds (YGN) to include in the index can then be determined as:

$$YGN = \frac{YN}{(1 + QF / QG)}$$

The number of floating-rate inter-bank bonds to include in the index is:

$$YFN = YN - YGN$$

- ii. Calculate the quantity of fixed-rate government (QZG) and fixed-rate financial (QRG) bonds that currently exist in the candidate pool. Calculate the number of each category for inclusion as:

$$YGGN = \frac{YGN}{(1 + QRG / QZG)} \text{ and } YGJN = YGN - YGGN,$$

respectively.

- iii. Calculate the number of floating-rate government and floating-rate financial bonds that currently exist in the candidate pool as

QZF and QRF, respectively. Calculate the number of each category for inclusion as:

$$YFGN = \frac{YFN}{(1 + QRF / QZF)} \text{ and } YFJN = YFN - YFGN,$$

respectively.

Based on the above calculations, we can determine the numbers of different types of inter-bank bonds included in the composite index. This includes the total number of inter-bank bond constituents (YN), the number of fixed-rate inter-bank bonds (YGN), the number of floating-rate inter-bank bonds (YFN), the number of fixed-rate inter-bank government bonds (YGGN), the number of fixed-rate inter-bank financial bonds (YGJN), the number of floating-rate inter-bank government bonds (YFGN), and the number of floating-rate inter-bank financial bonds (YFJN).

3. Selection Rules for Inter-bank Fixed-rate Government Bonds

During the semi-annual reviews at the end of each May and November, the number and proportions of inter-bank bonds within various categories are adjusted as described in section 2, above. For the regular monthly review, other than May and November, the number of bonds for each category within the inter-bank bond sector remains unchanged.

Now that the number of bonds has been determined, the inter-bank fixed-rate government bonds are selected based on the following rules:

- a. At the end of every month, S&P/CITIC calculates the average bid price within the past month for each inter-bank fixed-rate government bond. The theoretical duration (X) of each bond is derived based on the average bid price. These bonds are classified into five duration groups:

$$0 < X \leq 1, \quad 1 < X \leq 3, \quad 3 < X \leq 7, \quad 7 < X \leq 10, \quad \text{and } X > 10.$$

The outstanding par value of every duration group ($t_i, i = 1, 2, \dots, 5$) is summed, and the weight of each group is calculated as

$$w_i = \frac{t_i}{\sum t_i}, \quad w_i, i = 1, 2, \dots, 5.$$

- b. To calculate the number of bonds (x) allocated to each group:

$$x_i = \text{Round}(YGGN \bullet w_i), i = 1, 2, \dots, 5, \text{ where } \text{Round}(\quad) \text{ is the rounding of decimals.}$$

- c. The bonds in each duration group are ranked in descending order by bid frequency in the past month, and the first x_i bonds are included in the composite index. The sum of included bonds for the five duration groups approximately equals YGGN, from section 2 above.

4. Selection Rules for Inter-bank Fixed-rate Financial Bonds

During the semi-annual reviews at the end of each May and November, the number and proportions of inter-bank bonds within various categories are adjusted as described in section 2, above. For the regular monthly reviews, other than May and November, the number of bonds for each category within the inter-bank bond sector remains unchanged.

Now that the number of bonds has been determined, the inter-bank fixed-rate financial bonds are selected based on the following rules:

- a. At the end of every month, S&P/CITIC calculates the average bid price within the past month for each inter-bank fixed-rate financial bond. The theoretical duration (X) of each bond is derived based on the average bid price. These bonds are classified into five duration groups:

$$0 < X \leq 1, \quad 1 < X \leq 3, \quad 3 < X \leq 7, \quad 7 < X \leq 10, \quad \text{and } X > 10.$$

The outstanding par value of every duration group ($t_i, i = 1, 2, \dots, 5$) is summed, and the weight of each group is calculated as

$$w_i = \frac{t_i}{\sum t_i} \quad w_i, i = 1, 2, \dots, 5.$$

- b. To calculate the number of bonds (x) allocated to each group as $x_i = \text{Round}(YGJN \cdot w_i), i = 1, 2, \dots, 5$, where $\text{Round}(\)$ is the rounding of decimals.
- c. The bonds in each duration group are ranked in descending order by bid frequency in the past month, and the first x_i bonds are included in the composite index. The sum of all included bonds for the five duration groups approximately equals YGJN, from section 2 above.

5. Selection Rules for Inter-bank Floating-rate Government Bonds

During the semi-annual reviews at the end of each May and November, the number of inter-bank floating-rate government bonds (YFGN) is calculated as described in section 2, above. For the regular monthly reviews, other than May and November, the number of bonds for each category within the inter-bank bond sector remains unchanged.

Based on the number (YFGN) calculated, the inter-bank floating-rate government bonds are ranked in descending order by bid frequency in the past month, the first YFGN bonds are included in the composite index.

6. Selection Rules for Inter-bank Floating-rate Financial Bonds

During the semi-annual reviews at the end of each May and November, the number of inter-bank floating-rate financial bonds (YFJN) is calculated as described in section 2, above. For the regular monthly reviews, other than May and November, the number of bonds for each category within the inter-bank bond sector remains unchanged.

Based on the number (YFJN) calculated, the inter-bank floating-rate financial bonds are ranked in descending order by bid frequency in the past month, and the first YFJN bonds are included in the composite index.

Index Calculation

Index Prices

Indices only covering exchange-listed bonds, including the S&P/CITIC Government Bond Index, the S&P/CITIC Corporate Bond Index, and the S&P/CITIC Convertible Bond Index, are calculated real-time based on data from the exchanges.

The opening and closing index values are calculated using the opening and closing bond prices from the Shanghai and Shenzhen Stock Exchanges. The values of the S&P/CITIC real-time bond indices are updated every 15 seconds.

Indices covering both exchange-listed bonds and inter-bank bonds, including the S&P/CITIC Inter-bank Bond Index and the S&P/CITIC Composite Bond Index, are calculated daily, after the markets close. The average quoted bid price for each bond, within the day, is used for index calculation. For bonds that do not have quotes during the day, the last available average quoted bid prices are used.

Dirty prices are used for the S&P/CITIC bond index calculations. If only a clean price is available for a bond, it will be converted into a dirty price. The Dirty price is the sum of the clean price and accrued interest.

Index Weights

The S&P/CITIC bond indices are weighted by the outstanding par amounts of index constituents. Changes to par amounts due to redemptions, buy backs or the conversion of convertibles will be deducted from the previous outstanding par amounts. The review of the conversion of convertibles is currently done quarterly. Buy backs are usually followed by a delisting and, therefore, are treated promptly. Announcement of the changes will be made at least two days in advance. The outstanding par amounts of convertible bonds are determined based on the public release issued by the bond issuer.

Calculation Methodology

The Latest Index Value (BI) is calculated as:

$$BI = \frac{\sum_{i=1}^n P_i \times Q_i}{Base} \times 1000$$

Where *Base* is the latest index divisor.

The numerator in the equation is the latest market capitalization, $\sum_{i=1}^n P_i \times Q_i$, where Q_i is the Outstanding Par Amount and P_i is the Dirty Price.

The divisor of the base period is the Market Capitalization of base period:

$$Base = \sum_{i=1}^n P_i \times Q_i, \text{ at the base period date.}$$

Divisor Adjustment

Adjustments for the divisor are made whenever there are changes to the index, such as additions and deletions of constituents, or any actions other than trading factors that cause a change of the index market capitalization.

The latest divisor (Base*) is derived:

$$Base^* = Base \times \frac{\sum_{i=1}^{n^*} P_i^* \times Q_i^*}{\sum_{i=1}^n P_i \times Q_i}$$

Where Base is the previous divisor, $\sum_{i=1}^{n^*} P_i^* \times Q_i^*$ is the market capitalization after

adjustment, and $\sum_{i=1}^n P_i \times Q_i$ is the market capitalization before adjustment. The market capitalization after the adjustment equals the market capitalization before adjustment plus the change of market capitalization caused by the corporate actions.

Situations demanding a divisor adjustment are as follows:

1. Constituent additions and deletions.
2. Outstanding par amount changes due to reasons such as the conversion of convertibles.
3. When interest is paid, such that:

Latest Index Market Capitalization = Previous Market Capitalization - Interest Payments.

Recalculation Policy

S&P/CITIC Index Services Co., Ltd. attempts to avoid incorrect data affecting the indices on a best-efforts basis. Incorrect par amounts outstanding and corporate actions are corrected immediately. In circumstances where incorrect data was disseminated by the exchanges or as a result of data transmission failures, index adjustments may or may not be made subject to the data correction policy of the exchanges. Disseminated index values that have been issued will not be recalculated or altered.

Index Maintenance

Index Reviews and Maintenance

Indices covering exchange-listed bonds only, including the S&P/CITIC Government Bond Index, the S&P/CITIC Corporate Bond Index, and the S&P/CITIC Convertible Bond Index, are not rebalanced on a regular schedule. When a new listing is eligible for index inclusion, it will be added to the index on the first trading day following its listing day. A constituent will be removed from the index if it no longer meets the eligibility criteria.

Indices covering inter-bank bonds, including the S&P/CITIC Inter-bank Bond Index and the S&P/CITIC Composite Bond Index undergo monthly rebalancings at the end of each month following index methodology rules. Any index constituent changes will be implemented on the first trading day of the following month and announced one-to-two days in advance

Rebalancing

The rebalancing of the S&P/CITIC Composite Bond Index consists of both prompt rebalancings and monthly rebalancings.

Prompt Rebalancing. Newly issued exchange government bonds and corporate bonds are included in the index on the first trading day following the listing day. For a bond listed on both exchanges under different tickers (more likely for government bonds), only the ticker on the Shanghai Stock Exchange is included, and the price from the Shanghai Stock Exchange is used for index calculation. Bond weights in the index are determined by the total par amount issued rather than the par amount under custodian at a certain exchange.

Monthly rebalancing. A monthly rebalancing is conducted mainly for inter-bank bonds, at the end of each month following the selection rules described in prior sections. For semi-annual reviews at the end of each May and November, the number and proportion of inter-bank bonds within various categories are calculated as described in selection rule (2), in the section titled Index Selection Rules. For regular monthly reviews other than May and November, the number of bonds for each category remains unchanged.

Additions, deletions and other changes made to the index at the monthly rebalancing are announced at the end of each month.

Base Date

S&P/CITIC Government & Corporate Bond Indices: 12/30/1999, 1000

S&P/CITIC Inter-Bank Bond Index: 5/31/2002, 1000

S&P/CITIC Composite Bond Index: 11/29/2002, 1000

S&P/CITIC Convertible Bond Index: 4/1/2003, 1000

Index Governance

Index Committee

The S&P/CITIC Bond Indices are governed by the S&P/CITIC Index Committee, comprised of five members representing both S&P/CITIC Index Information Services and Standard & Poor's. It is the sole responsibility of the Committee to decide on all matters relating to methodology, maintenance, constituent selections and index procedures. The Committee is chaired by a representative appointed by Standard & Poor's. Meetings are held on a quarterly basis, as well as on an as-needed basis should unusual corporate events warrant.

In constructing the indices, the Committee has the discretion to independently add or delete index constituents to the indices. All Committee discussions are kept strictly confidential. The Committee reviews the index methodology from time to time.

Index Policy

Index Announcements

Index announcements regarding changes to index constituents will generally be made one-to-two business days in advance of implementation of the anticipated change, whenever practical, bearing in mind that the timing of such events is occasionally uncertain.

Announcements of changes to the numbers of different types of bonds included in the S&P/CITIC Composite Bond Index, from the monthly reviews in May and November, will generally be made 10 business days ahead of the changes.

Market sensitive announcements, including the additions or deletions of bonds in the indices, are normally made when the markets are closed. In general, announcements regarding the S&P/CITIC Bond Indices are made at 3:45pm (Beijing time). The related news release are dispatched to all major media in China, issued to international news agencies, and posted to Standard & Poor's Web site, www.standardandpoors.com, and the S&P/CITIC Index Service Web site, www.spcitic.com.

For further details, please contact Standard & Poor's at +86.10.6535.2919, or the service support hotline of the S&P/CITIC Indices +86.10.6535.2950.

Holiday Schedule

The S&P/CITIC Bond Indices follow national holidays in China. The holiday schedules are published on the Web site of the Shanghai Stock Exchange (www.sse.com.cn) or www.chinamoney.com.cn.

Index Dissemination

Web site

Real-time and end-of-day S&P/CITIC Bond Index values and rebalancing announcements are disseminated via the S&P/CITIC Index Service Web site, www.spcitic.com.

Real-time data for the S&P/CITIC Bond Indices, including the S&P/CITIC Government Bond Index, the S&P/CITIC Corporate Bond Index, and the S&P/CITIC Convertible Bond Index, are distributed via Tianhui Satellite System of Shanghai Securities Information Company and the S&P/CITIC Index Service Web site.

End-of-day data for the S&P/CITIC Bond Indices, including the S&P/CITIC Inter-bank Bond Index, and the S&P/CITIC Composite Bond Index, are disseminated via CITIC Quantitative Analytical System, Wind system, Juyuan system, Tianxiang system, Northern Star, Bloomberg and the S&P/CITIC Index Service Web site.

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