

**Bloomberg Short
Term Bank Yield
(BSBY) 3M
Constant
Maturity Total
Return Index
Methodology**

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Introduction

This methodology (the "Methodology") has been made available by Bloomberg Index Services Limited ("BISL") and sets out the rules, criteria, risk factors and other information application to the Bloomberg Short Term Bank Yield (BSBY) 3M Constant Maturity Total Return Index (the "Index").

Capitalized terms used in this Methodology but not otherwise defined have the meanings set forth in Appendix I (Glossary).

Objectives and key features

This Index Methodology Handbook describes the calculation of the Bloomberg Short Term Bank Yield (BSBY) 3M Constant Maturity Total Return Index. The Index aims to replicate the performance of investing in a hypothetical daily rolling money market instrument at the prevailing BSBY 3-Month Rate.

Section 1: Calculation

Index level calculation

The Index Value on the Index Base Date shall be Index Base Value. Thereafter, the Index Value with respect to each Index Business Day shall be calculated by the Index Administrator in accordance with the following formula, subject to Section 1: Calculation ("Rounding"):

$$I_t = I_{t-1} \times (1 + TR_t) \quad (1)$$

Where:

t means an Index Business Day;

$t - 1$ means, with respect to Index Business Day t , the immediately preceding Index Business Day;

TR_t means, with respect to Index Business Day t , the Total Return as determined in accordance with the following formula:

$$TR_t = \frac{1 + \left(\frac{TD}{DC}\right) \times Rate_{t-1}}{1 + \left(\frac{TD - Days(t, t-1)}{DC}\right) \times Rate_t} - 1 \quad (2)$$

Where:

$Days(t, t - 1)$ means the number of Calendar Days from and including Index Business Day $t - 1$ to and excluding Index Business Day t ;

DC means Day Convention specified in Appendix II: Index Parameters;

$Rate_t$ and $Rate_{t-1}$ means the BSBY 3-Month Rate on Index Business Days t and $t - 1$ respectively;

TD means the Term Days specified in Appendix II: Index Parameters;

Interest return calculation

The Interest Return on the Index Base Date shall be 0.0000. Thereafter, the Interest Return with respect to each Index Business Day shall be calculated by the Index Administrator in accordance with the following formula, subject to Section 1: Calculation (“Rounding”):

$$IR_t = \frac{Days(t, t - 1)}{DC} \times Rate_{t-1} \quad (3)$$

Where:

$Days(t, t - 1)$ means the number of Calendar Days from and including Index Business Day $t - 1$ to and excluding Index Business Day t ;

DC means Day Convention specified in Appendix II: Index Parameters;

IR_t means, with respect to Index Business Day t , Interest Return;

$Rate_{t-1}$ means the BSBY 3-Month Rate on Index Business Days $t - 1$;

Price return calculation

The Price Return on the Index Base Date shall be 0.0000. Thereafter, the Price Return with respect to each Index Business Day shall be calculated by the Index Administrator in accordance with the following formula, subject to Section 1: Calculation (“Rounding”):

$$PR_t = TR_t - IR_t \quad (4)$$

Where:

IR_t means, with respect to Index Business Day t , Interest Return of the Index;

PR_t means, with respect to Index Business Day t , Price Return of the Index; and

TR_t means, with respect to Index Business Day t , the Total Return of the Index.

Rounding

The Index Values shall be calculated without rounding and published to 7 significant figures.

Section 2: Stakeholder engagement, risks, and limitations

Stakeholder engagement

BISL is in regular and ongoing engagement with its users through various channels, including via help desks, sales personnel, and direct communication with product personnel. To help ensure that the Index remains an accurate representation of the hypothetical money market returns defined in the methodology, BISL endeavors to meaningfully incorporate these engagements into improvements in processes and service. Prior to any change that might meaningfully impact users, BISL consults more broadly with stakeholders, where appropriate, before a recommendation is presented to the Product, Risk & Operations Committee (“PROC”) for approval. This concept of shared ownership enables BISL to produce the most relevant Index and helps ensure responsiveness to user needs.

Risks

The following is a summary of certain risks associated with the Index but is not meant to be an exhaustive list of all risks associated with the Index. Although the Index is designed to be representative of the markets it is measuring, it may not be representative of every use case. There is also inherent, though transparent, judgment in its construction, as outlined in this Methodology. The Index is designed for general applicability and not to address the individual circumstances and needs of users. BISL does not advise about the usefulness of the Index to a particular circumstance; users are therefore encouraged to seek their own counsel for such matters. This Methodology is subject to change, which may impact its usefulness to users. Although efforts will be made to alert users of any change, every individual user may not be aware of them. Such changes may also significantly impact the usefulness of the Index. BISL may also decide to cease publication of this Index. BISL maintains internal policies regarding user transitions, but no guarantee is given that an adequate alternative is available generally or for a particular use case. Money markets, as with all markets, can be volatile. As the Index is designed to measure this market, it could be materially impacted by market movements, thus significantly affecting the use or usefulness of the Index for some or all users. Also, even the most liquid markets may suffer periods of illiquidity. Illiquidity can have an impact on the quality or amount of data available to BISL for calculation and may cause the Index to produce unpredictable results.

Limitations of the index

Though the Index is designed to be representative of the markets it measures or otherwise aligns with its stated objective, it may not be representative in every case or achieve its stated objective in all instances. It is designed and calculated strictly to follow the rules of this Methodology, and any Index level or other output is limited in its usefulness to such design and calculation.

Markets can be volatile, including those market interests that the Index measures or upon which the Index is dependent to achieve its stated objective. For example, illiquidity can have an impact on the quality or amount of data available to the administrator for calculation and may cause the Index to produce unpredictable or unanticipated results.

In addition, market trends and changes to market structure may render the objective of the Index unachievable or to become impractical to replicate by investors.

In particular, the Index measures the performance of US money markets. As with all investing, the Index is exposed to market risk. The value of the BSBY 3-Month Rate used may fluctuate with the changes in economic forecasts, interest rate policies established by central banks and perceived geo-political risk. The Index does not take into account the cost of replication and as a result a tracking portfolio's returns will underperform the Index with all else equal. As the Index is designed to measure those markets, it could be materially impacted by market movements, thus significantly impacting the use or usefulness of the fixings for some or all users.

Section 3: Benchmark oversight and governance

Benchmark governance, audit, and review structure

BISL uses two primary committees to provide overall governance and effective oversight of its benchmark administration activities:

- The PROC provides direct governance and is responsible for the first line of controls over the creation, design, production and dissemination of benchmark indices, strategy indices and fixings administered by BISL, including the Index. The PROC is composed of the personnel with significant experience or relevant expertise in relation to financial benchmarks. Meetings are attended by Legal & Compliance personnel. Nominations and removals are subject to review by the BOC, discussed below.
- The oversight function is provided by BISL's Benchmark Oversight Committee ("BOC"). The BOC is independent of the PROC and is responsible for reviewing and challenging the activities carried out by the PROC. In carrying out its oversight duties, the BOC receives reports of management information from members of the PROC as well as Legal & Compliance members engaged in second level controls.
- In addition, the BISL board of directors is composed of senior executives a majority of which are independent of BISL and is empowered to set the strategy, objectives, and overall direction of BISL, and oversees and monitors BISL's decision-making.

On a quarterly basis, the PROC reports to the BOC on governance matters, including but not limited to client complaints, the launch of new benchmarks, operational incidents (including errors & restatements), major announcements and material changes concerning the benchmarks, the results of any reviews of the benchmarks (internal or external) and material stakeholder engagements.

Index and data reviews

BISL reviews the Methodology on a periodic basis, and at least annually, to determine whether it continues to:

- (i) be robust and reliable;
- (ii) have clear rules, including regarding discretion;
- (iii) be rigorous, continuous and capable of validation;
- (iv) be resilient and ensures the Index can be calculated in the widest range of possible circumstances, without compromising its integrity; and
- (v) be traceable and verifiable.

In doing so, BISL will assess whether the Index continues to represent the market that it is intended to measure. More frequent reviews may result from extreme market events and/or material changes to the underlying market. Non-exhaustive examples of extreme market events include trading events such as trading interruptions or unexpected market closures, resulting in unusual market illiquidity or market volatility; exchange closures, government interventions, a pandemic or a natural catastrophe resulting in exceptional periods of stress.

Criteria for data inputs include reliable delivery and active underlying markets. Whether an applicable market is active depends on whether there are sufficient numbers of transactions (or other indications of price, such as indicative quotes) in the applicable constituents (or similar underlying constituent elements) that a price (or other value, as applicable) may be supplied for such constituent(s).

Internal and external reviews

BISL's Index administration is also subject to its Legal & Compliance function, which periodically reviews various aspects of its businesses to determine whether it is adhering to applicable policies and procedures, and assess whether applicable controls

are functioning properly. In addition, BISL may from time to time appoint an independent external auditor with appropriate experience and capability to review adherence to benchmark regulation and the IOSCO Principles. The frequency of such external reviews depends on the size and complexity of the operations and the breadth and depth of Index use by stakeholders.

Expert judgement

The Index is rules-based, and its construction is designed to consistently produce values without the exercise of expert judgment or discretion. Nevertheless, BISL may use expert judgment or discretion with regards to the following:

- Index restatements
- Extraordinary circumstances during a market emergency
- Data interruptions, issues, and closures

When expert judgment or discretion is required, BISL undertakes to be consistent in its application, with recourse to written procedures outlined in this Methodology and internal procedures manuals. In certain circumstances exercises of expert judgment or discretion are reviewed by senior members of BISL management and Legal & Compliance teams, and are reported to the PROC, BISL's governance committee, which operates under the supervision of BISL's oversight function, the BOC. BISL also maintains and enforces a code of ethics to prevent conflicts of interest from inappropriately influencing index construction, production, and distribution, including the use of expert judgment or discretion.

Data providers and data extrapolation

The Index is rules-based, and its construction is designed to consistently produce Index levels without the exercise of discretion.

In addition, BISL seeks to avoid contributions of input data that may be subject to the discretion of the source of such data and instead seeks to use input data that is readily available and/or distributed for a number of non-index or benchmark creation purposes. Accordingly, the index requires no 'contributors' to produce and no codes of conduct with any such sources are required.

Conflicts of interest

The Index confers on BISL discretion in making certain determinations, calculations and corrections from time to time. In making those determinations, calculations and corrections, BISL has no obligation to take the needs of any product investor or any other party into consideration. BISL is committed to avoiding and, where necessary, managing actual or potential conflicts of interest in the BISL decision-making process and has established a Conflicts of Interest Policy to minimize or resolve actual or potential conflicts of interest. BISL does not create, trade or market products.

Restatement policy

BISL strives to provide accurate calculation of its indices. However, to the extent a material error in Index Values is uncovered following publication and dissemination, a public notification will be made alerting of such error and what course of action will be undertaken and when. In such situations, BISL may decide to:

- 1) Not correct until the next index review;
- 2) Apply a correction going forward with advance notification; or

3) Restate the historical indices

In some cases, BISL may apply discretion and determine that a restatement is required. The decision will take into consideration the following factors (not listed in order of importance):

- The relative importance of the data field impacted by the error
- Whether the indices were replicable
- When the error occurred and when it was discovered
- The number of indices and sub-indices affected
- Whether the impacted indices are linked to tradable products
- The magnitude of the error
- The burden of restatement on client re-processing relative to the impact of the error
- The impact of the restatement on analytical tools

A decision to restate any Index results in the restatement of all impacted Indices. Real-time indices are not considered for restatement, all real-time dissemination is considered indicative. Discrepancies discovered after 12 months will not be corrected.

Appendix I: Glossary

Affiliate	in relation to any entity, any other entity directly or indirectly controlling, controlled by, or under common control with, such entity
BSBY 3-Month Rate	with respect to an Index Business Day, the value of the Bloomberg 3-month Short-Term Bank Yield Index as determined by the Index Administrator, expressed as a percentage
Calendar Day	each day including weekends and holidays
Day-Count Convention or DC	with respect to an Index, the value specified in Appendix II: Index Parameters
Index Administrator	Bloomberg Index Services Limited (BISL)
Index Base Date	with respect to the Index, the value specified in the Appendix II: Index Parameters
Index Base Value	with respect to the Index, the value specified in the Appendix II: Index Parameters
Index Business Day	with respect to the Index, a business day on which the Index is scheduled to be calculated and published in accordance with the Index Business Day Calendar
Index Business Day Calendar	with respect to the Index, the value specified in Appendix II: Index Parameters
Index Parameters	with respect to an Index, the parameters specified in the relevant table in Appendix II: Index Parameters
Index Value	with respect to each Index Business Day, the value of the Index calculated in accordance with the Methodology described in Section 1: Calculation
Interest Return	with respect to each Index Business Day, the value of the Index calculated in accordance with the Methodology described in Section 1: Calculation
Price Return	with respect to each Index Business Day, the value of the Index calculated in accordance with the Methodology described in Section 1: Calculation
Total Return	with respect to each Index Business Day, the value of the Index calculated in accordance with the Methodology described in Section 1: Calculation
Term Days or TD	with respect to an Index and the BSBY 3-Month Rate, the value specified in the Appendix II: Index Parameters

Appendix II: Index Parameters

Index	Index Ticker	Index Business Days Calendar	Deposit Rate	Index Base Date	Index Base Value	Day Count Convention	Term Days	Index Commencement Date
Bloomberg Short Term Bank Yield (BSBY) 3M Constant Maturity Total Return Index	TRBY3M	US SIFMA	BSBY 3-Month Rate	06 January 2016	100	360	90	25 Aug 2022

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