



OPTIMIZE YOUR ADVANTAGE

INDEX ADMINISTRATOR HANDBOOK

Business Unit Issuing Handbook: Risk Management

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Introduction

As a leading provider of mortgage rates in the U.S. residential mortgage market, Optimal Blue is committed to ensuring the integrity, reliability, and transparency of our data. Optimal Blue policies and procedures comply with applicable laws, regulations, and mandates while championing consistent corporate policy and standard management practices that meet business objectives and requirements across the Company.

Optimal Blue Mortgage Market Indices (OBMMI)

The Optimal Blue Mortgage Market Indices (OBMMI) provide comprehensive, accurate, and timely pricing analysis, reflecting the U.S. residential mortgage market. The OBMMI leverages rate lock data from market participants to deliver actionable information in an easy-to-read and user-friendly format. The OBMMI includes current and trending data for popular mortgage products, and specific borrower attributes to provide a clear and transparent trend of mortgage rates over time.

Optimal Blue serves as the Administrator for the following Financial Benchmark:

- 30-Year Fixed Rate Conforming Index

Handbook Scope

The Optimal Blue Index Administrator Handbook (herein referred to as "the Handbook") outlines the policies and procedures that govern the administration of the Optimal Blue 30-Year Fixed Rate Conforming Index (herein referred to as "the Index,") ensuring compliance with the Principles for Financial Benchmarks (herein referred to as "[Principles](#)") published by the International Organization of Securities Commissions (IOSCO). The Data Solutions team reviews the Handbook annually and it is posted to the [Optimal Blue 30-Year Fixed Rate Conforming Index webpage](#).

The requirements outlined in this Handbook apply to all Optimal Blue employees and non-employees associated with the Index.

The following table maps each IOSCO Principle to the Handbook section that outlines the corresponding Optimal Blue control activities and processes.

IOSCO Principle	Principle Title	Handbook Section
Principle 1	Overall Responsibility of the Administrator	Administrator
Principle 2	Oversight of Third Parties	Third-Party Oversight
Principle 3	Conflicts of Interest for Administrators	Conflicts of Interest



Principle 4	Control Framework for Administrators	Control Framework
Principle 5	Internal Oversight	Internal Oversight
Principle 6	Benchmark Design	Index Design
Principle 7	Data Sufficiency	Data Sufficiency
Principle 8	Hierarchy of Data Inputs	Hierarchy of Data Inputs
Principle 9	Transparency of Benchmark Determinations	Index Transparency
Principle 10	Periodic Review	Index Reviews
Principle 11	Content of the Methodology	Index Methodology
Principle 12	Changes to the Methodology	Index Changes
Principle 13	Transition	Index Cessation
Principle 14	Submitter Code of Conduct	Code of Conduct
Principle 15	Internal Controls over Data Collection	Data Collection
Principle 16	Complaints Procedures	Complaint Resolution
Principle 17	Audits	Audits
Principle 18	Audit Trails	Audit Trails
Principle 19	Cooperation with Regulatory Authorities	Regulatory Responsibilities



References and Related Documentation

The documents listed below are referenced within the Handbook.

30-Year Fixed Rate Conforming Index Change Log

30-Year Fixed Rate Conforming Index Complaint Register

30-Year Fixed Rate Conforming Index Conflicts of Interest Identification Log

30-Year Fixed Rate Conforming Index Methodology

Administrator

As the sole entity responsible for the Index's development, determination, dissemination, and day-to-day management, Optimal Blue considers the administration of the Index a critical business process within the Company. To ensure the protection of the data used to determine the Index, Optimal Blue reinforces that the requirements stipulated in its policies also apply to all aspects of the Index process including determining, managing, and publication/distribution of the Index. These policies include Business Continuity, Change Management, Enterprise Risk, Incident Response, Information Security, Software Development Lifecycle, and Third-Party Risk Management.

As the Index administrator, Optimal Blue has policies and processes in place to ensure the Index's accuracy, integrity, and reliability. The [Optimal Blue 30-Year Fixed Rate Conforming Index webpage](#) includes a comprehensive guide on how Optimal Blue calculates the Index, a historical view of the 30-Year Conforming Fixed Rate Index, Index change notifications, an Index Conflict of Interest Log, and this Handbook. Optimal Blue encourages Index Subscribers and Stakeholders to review these materials and have robust fallback provisions in place to mitigate Index-related risks.

To ensure credible and transparent governance, oversight, and accountability procedures for the Index, Optimal Blue has an Index Oversight Committee (IOC) that oversees material aspects of the determination and development of the Index, including the methodology. The IOC also oversees conflicts of interest, the complaint process, and the control framework.

Third-Party Oversight

Optimal Blue adheres to the requirements outlined in the Optimal Blue Third-Party Risk Management Policy for all third-party engagements. Although Optimal Blue relies on third-party software to collect data needed to calculate the Index, no third parties are involved in determining the Index calculation, methodology, or distribution. Optimal Blue reevaluates the Index process annually to determine if any new third parties are used to ensure proper oversight is enforced.



Conflicts of Interest

To protect the integrity and independence of Index determination, Optimal Blue identifies and evaluates all conflicts of interest. All potential and known conflicts are evaluated and mitigated appropriately. Material conflicts of interest are immediately reported to the appropriate regulatory authorities if applicable.

Optimal Blue considers all current and future processes across the Company, including those not related to the Index, to ensure there are no conflicts of interest impacting the provision of the Index. If conflicts are present, they are mitigated and disclosed.

Code of Conduct

To provide assurance of ethical conduct across all Company areas, including the administration of the Index, all Optimal Blue employees must adhere to the requirements outlined in Optimal Blue's Code of Conduct (herein referred to as the "Code"). Optimal Blue reviews the Code periodically to capture changes in the law, regulatory requirements, and any changes in Optimal Blue's potential business and geographical reach. The Code sets out Optimal Blue's commitment to conducting business professionally and ethically and specifically addresses the following:

- Compliance with laws, including financial reporting, insider trading, protection of personal information, and anti-bribery and anti-corruption
- Conflicts of Interest
- Use of Company Property
- Fair Competition
- Reporting Violations of the Code
- Disciplinary Action Related to the Code

Optimal Blue requires all employees to acknowledge compliance with the Code.

All employees who know of a potential, suspected, or known violation of the Code are obligated to report this information. They can do so directly to Optimal Blue's Senior Leadership Team (SLT), Human Resources Manager, or through our Whistleblower service. Optimal Blue does not permit retaliation against good faith reports of violations or other illegal or unethical conduct.

Conflict Identification

- All individuals associated with the Index (Optimal Blue employees and IOC Members) must disclose any potential conflicts of interest, including any personal or professional relationships that could influence their judgment regarding the Index.



Conflict Management

- Upon receiving notification of a potential conflict of interest, Optimal Blue evaluates the information and determines whether a conflict of interest exists.
- If there is a confirmed conflict of interest, the individual associated with the Index is immediately removed from the Index process.

Conflict Documentation

- Optimal Blue maintains an Index Conflict-of-Interest Identification Log to document any suspected and confirmed conflicts of interest related to the Index.
- The Conflict-of-Interest Identification Log includes information related to reported conflicts of interest, details on the investigation, and outcomes.
- The Conflict-of-Interest Identification Log is reviewed annually and is available upon request.

Prohibited Activities

- Optimal Blue employees and IOC Members involved in the Index process are prohibited from engaging in activities that could compromise its integrity, such as knowingly trading in the Index and using confidential information for personal gain.
- Optimal Blue must not reward or incentivize either directly or indirectly, any Optimal Blue employee responsible for determining, calculating, or maintaining the Index based on the performance of the Index.
- Optimal Blue employees must not receive compensation, bonuses, or incentives for recommending or selecting Optimal Blue's Index on behalf of **hedging clients** when other options are available that better meet the hedging clients' needs.
- Software Engineering Team employees who are responsible for developing and maintaining the code used to collect and report on Index data, and Product Management Team employees who are responsible for managing Index changes must not:
 - Share non-public Index-related information with Hedging and Trading Client Services Team employees responsible for conducting trades on behalf of Optimal Blue hedging clients, including pre-release Index data, methodology changes under consideration, confidential data associated with the Index, testing results, and upcoming product launches.
 - Implement any Index changes outside of Optimal Blue's current change management processes.
 - Be a member of the IOC.
- Hedging and Trading Client Services Team employees who are responsible for conducting trades on behalf of Optimal Blue hedging clients must not:



- Encourage or attempt to influence clients to trade in Optimal Blue's Index solely for Optimal Blue's benefit.
- Request non-public Index-related information from Software Engineering Team employees who are responsible for developing and maintaining the code used to collect and report on Index data, and Product Management Team employees who are responsible for managing Index changes, including pre-release Index data, methodology changes under consideration, confidential data associated with the Index, testing results, and upcoming product launches.
- Participate in any meetings where Index-related processes and methodology changes are discussed.
- Be a member of the IOC.

Control Framework

Optimal Blue has implemented an Index Control Framework to ensure strong controls mitigate all risks associated with determining and distributing the Index.

Risk Management

Optimal Blue's Enterprise Risk Policy provides the risk framework to actively manage all risks inherent in business activities, including those associated with the Index. The framework comprises five components: risk identification, risk assessment, risk response and mitigation, risk monitoring and escalation, and risk reporting. Index-related risks are identified, evaluated, and mapped to each Principle to ensure adequate controls are in place to mitigate the risk to an acceptable level.

All new risks, control gaps, and relevant remediation activities are identified and tracked. Optimal Blue Policies and the Handbook are updated to reflect new Index-related controls and processes.

Optimal Blue's Risk Management team reviews the Enterprise Risk Policy annually to reflect current regulations, industry standards, and best practices.

Process Management

Optimal Blue leverages rate lock data from the Product and Pricing Engine (PPE) application to calculate the Index. This data includes all variables relevant for determining pricing and eligibility for a given loan scenario as well as loan product details such as interest rate, loan type, loan amount, credit score, and loan-to-value ratio. The Index is calculated and posted intraday.

Index Value Verification

To ensure the integrity and accuracy of the Index, a second Index calculation is performed daily to validate there are no errors with the primary Index calculation. If any discrepancies are identified between the two calculations, troubleshooting is



initiated and if necessary, a ticket is opened in Optimal Blue's issue/incident ticketing system for tracking and resolution.

Employee Training

On an annual basis, Optimal Blue provides Index training to all employees associated with the Index, including the Product Teams, Data Solutions Team, Hedging & Trading Team, Software Engineering Team, Risk Management Team, and designated members of Optimal Blue's SLT.

- Objectives of the training include:
 - Ensuring employees understand what OB's Index is.
 - Training employees on applicable regulations governing the creation and management of the Index, including adherence to IOSCO principles.
 - Educating employees on the importance of accurate data management, including data collection, validation, and error identification processes to ensure the integrity of the Index.
 - Defining roles and responsibilities of each team involved in the Index determination, calculation, validation, and reporting processes.
 - Reinforcing the ethical obligations related to maintaining the confidentiality of the Index-related data and immediately reporting any actual or potential conflicts of interest.
 - Reminding employees of existing Code of Conduct and Whistleblower policy requirements.

Internal Oversight

To uphold the Index process's integrity, transparency, and accountability, Optimal Blue relies on internal and external expertise. Optimal Blue's Data Solutions and Software Engineering Teams maintain primary responsibility for all aspects of the Index, including data collection and publication. In addition, an Index Oversight Committee (IOC) meets to provide oversight into the adherence to the Principles. Members of the IOC include Optimal Blue employees and industry experts outside of the Company. Additionally, Optimal Blue's SLT which consists of the Chief Executive Officer (CEO), Chief Operations Officer (COO), and other senior leaders, oversees critical aspects of the Index decision-making and approvals.

Data Solutions Team

The Data Solutions Team oversees all aspects of the Index and ensures the Index complies with all internal and external requirements. The Data Solutions Team includes members of Optimal Blue's SLT, Risk Management Team and the Data & Analytics Team.



Team Responsibilities

- Designs Index-related business requirements.
- Ensures the Index meets IOSCO requirements.
- Oversees the Index's development, design, issuance, and daily operation.
- Maintains the Handbook and Methodology documentation.
- Approves and manages all changes to the Index methodology.
- Designs and implements annual Index-related training.
- Identifies and evaluates existing and potential conflicts of interest within the Index process.
- Confirms adequate arrangements are in place for potential Code of Conduct violations and reports misconduct to the appropriate regulatory authority, if applicable.
- Identifies potential risks related to the integrity and reliability of the Index.
- Ensures Index complaints are escalated, investigated, and remediated promptly, and external regulators are notified as appropriate.
- Evaluates the results of internal and external audits and ensures appropriate remediation plans are in place.

Software Engineering Team

The Software Engineering Team executes on business requirements, provides quality assurance testing on new functionality, and supports Optimal Blue's business product line to help manage the Index. Optimal Blue hires experienced data analysts with strong analytical, statistical, and technology backgrounds and the business acumen needed to manage the daily responsibilities associated with the Index.

Team Responsibilities

- Implements business requirements and conducts testing based on the product roadmap.
- Complies with Optimal Blue's Software Development Lifecycle (SDLC) process.
- Completes annual Index-related training.
- Assists with all internal and external audits by providing the requested Index-related documentation.
- Reports issues associated with the Index through Optimal Blue's issue/incident ticketing system.



Index Oversight Committee (IOC)

Optimal Blue provides Members of the Index Oversight Committee a Terms of Reference document which defines the responsibilities, scope, and governance framework for the IOC, ensuring transparency and guiding Members in their duties.

Index Design

Optimal Blue's Index is calculated with a consistent and measured approach as outlined in the Optimal Blue 30-Year Fixed Rate Conforming Index Methodology document.

Data Sufficiency

As the provider of an industry-leading PPE, Optimal Blue is uniquely positioned to provide the market's most extensive and accurate view of the mortgage rates consumers are paying.

Optimal Blue's Index is based on the most popular type of mortgage, the 30-Year Conforming Fixed Rate, due to its stability and predictability. Optimal Blue periodically reevaluates the Index to ensure it accurately and reliably represents the mortgage market.

Hierarchy of Data Inputs

Optimal Blue's 30-Year Fixed Rate Conforming Index Methodology document contains information related to data inputs and the use of expert judgement.

Index Transparency

The Index is determined in accordance with the Optimal Blue 30-Year Fixed Rate Conforming Index Methodology document. The Optimal Blue 30-Year Fixed Rate Conforming Index Methodology document details the inputs used in the Index, the calculation procedures and methods, and the selection criteria of components used within the Index. The Optimal Blue 30-Year Fixed Rate Conforming Index Methodology document is available on the [Optimal Blue 30-Year Fixed Rate Conforming Index webpage](#).

Index Reviews

Optimal Blue periodically reviews its methodology to assess whether changing market conditions suggest the need for a change in the Index methodology.

Index Methodology

Optimal Blue makes the Optimal Blue 30-Year Fixed Rate Conforming Index Methodology document available to Index users and interested parties. The methodology is available on the [Optimal Blue 30-Year Fixed Rate Conforming Index webpage](#).

The Optimal Blue 30-Year Fixed Rate Conforming Index Methodology document contains:

- Definitions of key terms



- All criteria and procedures used to develop the Index
- Procedures and practices used to promote consistency in the Index calculations
- Procedures used if data used to determine the Index is not available
- Procedures used if previously reported Indices contain errors
- The circumstances and procedures under which Optimal Blue consults with the IOC
- The identification of potential limitations of the Index

Index Changes

To ensure that changes related to the Index methodology are transparent, justified, and communicated effectively to stakeholders, changes are evaluated by the Administrator and submitted to the IOC for advice and feedback.

Methodology Review

The methodology for the Index undergoes a comprehensive review annually or more frequently if needed. The review process evaluates the current design in the context of each of the Design factors described in the Methodology document. The Index Oversight Committee oversees the methodology review process.

Any material changes to the methodology are communicated via the Optimal Blue Website.

The Oversight Committee may direct Optimal Blue, the Index Administrator to consult on any changes to the methodology with Stakeholders and the wider market.

Stakeholder Consultation

Stakeholder engagement is a critical component of the index methodology and material changes to the methodology will be subject to a public consultation process overseen by the Index Oversight Committee

Optimal Blue will engage relevant stakeholders and end users on material changes to the methodology, if required in accordance with the IOSCO principles or where the Oversight Committee requests such consultation. Changes to the Methodology are deemed material on the basis of an assessment conducted by the Administrator and submitted to the Oversight Committee for advice and feedback.

Optimal Blue will encourage feedback via the Optimal Blue Website from stakeholders, including mortgage lenders, market makers, regulators, and investors, to ensure the Index remains relevant and reliable.

Procedures

An Index Change Log is maintained for all changes. The Index Change Log captures a summary of the change, approvals, and public feedback received.



Index Cessation

Before discontinuing the Index, Optimal Blue will evaluate the reasons for cessation and consult with the IOC on alternative options. If Optimal Blue and the IOC decide the Index needs to be discontinued, Optimal Blue will document a cessation plan that includes the steps necessary to cease it, its impacts, how it will be communicated, and its timeline.

Cessation Triggers

Optimal Blue may consider the cessation of the Index for several reasons, many of which may be outside of Optimal Blue's control, including but not limited to:

- Lack of market interest or relevance.
- Regulatory changes that make the Index non-viable.
- Significant methodological challenges that Optimal Blue cannot resolve.

Cessation Evaluation Process

Cessation of the Index requires IOC approval. Optimal Blue and the IOC will evaluate several factors before making a final decision to discontinue the Index, including:

- Index usage in financial contracts and products.
- The number of Index users.
- Availability of an alternative Index.
- Potential impact and timing of the cessation.

Cessation Communication

To ensure all impacts are thoroughly evaluated and Index users are aware of the plans to discontinue the Index, Optimal Blue will:

- Announce the plans to cease the Index on the [Optimal Blue 30-Year Fixed Rate Conforming Index webpage](#). The announcement will include the reasons for cessation and the timeline.
- Provide a sufficient notice period to facilitate an orderly cessation of the Index and Index users have time to determine an alternative Benchmark. However, circumstances beyond Optimal Blue's control may determine that an earlier cessation date may be necessary.
- Offer assistance to Index users with transitioning to alternative Benchmarks or Indices.

Code of Conduct

The Index is not based on submissions; therefore, the Submitter Code of Conduct Principle does not apply to Optimal Blue.



Data Collection

Optimal Blue does not rely on any external source for data collection related to the Index. If Optimal Blue begins using third parties to collect data for the Index, the sources will be subject to a due diligence review to ensure they provide timely and quality data.

Complaint Resolution

To promote the reliability of the Index determinations through Stakeholder input and alert Market Authorities to factors that might affect the reliability of determinations, Optimal Blue has a transparent and efficient process in place for handling complaints related to the Index.

Complaint Submissions

- Entities and individuals can submit complaints through an online form on the [Optimal Blue 30-Year Fixed Rate Conforming Index webpage](#).
- Optimal Blue must acknowledge all complaints.

Complaint Investigations

- Optimal Blue's Data Solutions Team is responsible for investigating complaints and ensuring impartiality and confidentiality.
- Investigations must be completed within thirty business days, with extensions communicated to the complainant.
- Optimal Blue must report any complaints received that indicate potential issues related to the integrity or governance of the Index to the appropriate regulator if applicable.

Complaint Resolutions

- Optimal Blue must provide a written response to the complainant detailing the findings and any actions taken.

Complaint Documentation

- Optimal Blue maintains a Complaint Register. All complaints are logged and tracked by the Data Solutions Team.
- The Complaint Register includes information related to reported complaints, details on the investigation, resolutions, and outcomes.
- The Data Solutions Team summarizes the information on the Complaint Register and provides it to the IOC.



Audits

Optimal Blue has appointed an independent external auditor to review and report on Optimal Blue's adherence with the IOSCO Principles. Results of the audit are available upon request.

Audit Trails

Record Retention Requirements

Optimal Blue retains all Index process-related documents for five years or longer, subject to applicable national legal or regulatory requirements. These documents include:

- IOC Meeting Minutes
- Conflict of Interest Identification Logs
- Complaint Registers
- Lock Data Transactions
- Methodology Updates

Regulatory Responsibilities

Optimal Blue is committed to fully complying with all applicable regulatory authorities governing the Index and agrees to make Index-related documentation readily available to auditors. Optimal Blue diligently adheres to the applicable laws, regulations, and guidelines to maintain the highest standards of integrity and accountability. Should an auditor or regulator identify a gap in compliance, Optimal Blue commits to investigating the cause of the control breakdown and swiftly remediating the issue.



Handbook Approvers

REDACTED for Confidentiality Reasons

Handbook Revision History

REDACTED for Confidentiality Reasons