

NSE Data & Analytics Limited (“NDAL”) Management Statement of Adherence with International Organization of Securities Commissions (“IOSCO”) Principles for Financial Benchmarks

Notice

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- VI. It was not prepared for providing any services to any third party. The description of the relevant activities on the control processes defined in relation to governance, quality and accountability activities as date 31st October 2024 and thus DDA’s assurance report is based on historical information. Any projection of such information or DDA’s opinion thereon to future periods is subject to the risk that changes may occur after the Report is issued and the description of controls may no longer accurately portray the control processes.
- VII. For these reasons, such projection of information to future periods would be inappropriate.
- VIII. DDA will be entitled to the benefit of and to enforce these terms; and
- IX. These terms and any dispute with DDA arising from them, whether contractual or non- contractual, are subject to Indian laws and the exclusive jurisdiction of courts in Mumbai, India.

NSE DATA & ANALYTICS LIMITED

IOSCO Assessment

October 2022 – October 2024

PREPARED BY
DALAL DOCTOR AND ASSOCIATES
Chartered Accountants

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1. About NSE Data & Analytics Limited

NSE Data & Analytics Limited (“NDAL”) (formerly known as DotEx International Limited), a step down 100% subsidiary of National Stock Exchange of India Limited, provides data and information vending services and products for various market segments and is a professional set-up dedicated solely for this purpose. It also offers daily security level valuations for various fixed income securities.

NDAL offers daily security level valuations for over 10,000 fixed income securities. These include corporate bonds, commercial papers, certificate of deposits, government securities and state development loans. The valuation universe includes investment grade, subinvestment grade and default securities. The valuation approach is objective, well-defined and independent, incorporating all important security level features. It maintains rich database term sheets, bond cash flows and daily tracking of rating changes.



2. Management's Statement of Adherence to IOSCO Compliance

Management Report on Compliance

Date: January 22, 2025

We, as members of NSE Data & Analytics Limited, (the Company) are responsible for complying with the specified requirements of the Principles of Financial Benchmarks issued by the International Organization of Securities Commission (IOSCO) (the "Criteria") as on 31st October, 2024.

We are also responsible for establishing and maintaining effective internal control over compliance with the requirements of the Criteria. We have performed an evaluation of the Company's compliance with the specified requirements of the Criteria, including those described below, as of 31st October 2024. Based on this evaluation, we assert that as of 31st October 2024, the Company complied with the following specified requirements of the Criteria.

List of compliance requirement (Principles of Financial Benchmarks):

1. Principle 1: Overall Responsibility of the Administrator
2. Principle 2: Oversight of Third Parties
3. Principle 3: Conflicts of Interest for Administrators
4. Principle 4: Control Framework for Administrators
5. Principle 5: Internal Oversight
6. Principle 6: Benchmark Design
7. Principle 7: Data Sufficiency
8. Principle 8: Hierarchy of Data Inputs
9. Principle 9: Transparency of Benchmark Determinations
10. Principle 10: Periodic Review
11. Principle 11: Content of the Methodology
12. Principle 12: Changes to the Methodology
13. Principle 13: Transition
14. Principle 14: Submitter Code of Conduct
15. Principle 15: Internal Controls over Data Collection
16. Principle 16: Complaints procedures
17. Principle 17: Audits
18. Principle 18: Audit Trail
19. Principle 19: Cooperation with Regulatory Authorities

In this report the company sets out a description of how the underlying controls address each of the Principles of Financial Benchmarks (IOSCO Principles), operated as of 31st October 2024 and we confirm that:

- a) The report fairly describes such underlying controls which were in place as of 31st October 2024; and
- b) The procedures are suitably designed such that the intent of the applicable IOSCO Principles is complied with.



Mukesh Agarwal
Managing Director

3. INDEPENDENT AUDITOR'S REPORT

To the Board of Directors of NSE Data & Analytics Limited,

We have reviewed NSE Data & Analytics Ltd. ("NDAL") response to the principles for Financial Benchmarks published by the International Organization of Securities Commissions ("IOSCO Principles") described in the accompanying statement of NDAL assessment described in the accompanying section of "Principles and Statements" as on 31st October 2024

NDAL's Responsibilities

NDAL's management is responsible for ensuring that the Company designs, implements and monitors compliance with policies and procedures that adhere with the IOSCO Principles. NDAL has provided a statement of its assessment titled "Management's Statement of Adherence to IOSCO" and supported by detailed responses described under "Principles and Statements" section of this report.

Independent Auditor's Responsibility

Our responsibility is to undertake a limited assurance engagement and review the responses provided by NDAL on its assessment described under "Principles and Statements" section of this report as on 31st October 2024, in accordance with the IOSCO Principles. We conducted our review in accordance with International Standard on Assurance Engagements (ISAE) 3000 "Assurance Engagements Other than Audits or Reviews of Historical Financial Information", issued by the International Auditing and Assurance Standards Board. The Standard requires such limited assurance engagements, to obtain appropriate evidence as we consider sufficient to enable us to obtain moderate assurance as to whether Principles and Statements is free of material misstatement, basis our adopted procedures, and the responses as provided under principles and Statements in relation to governance, quality and accountability activities placed in operation for NDAL as on 31st October 2024. Our review is limited to inquiries of NDAL personnel and review of procedures applied for IOSCO Principles and thus provides less assurance than an audit. We have not performed an audit and, accordingly, we do not express an audit opinion. Our procedures included examination of evidence, on a test basis to assess NDAL Principles and Statements responses to the IOSCO principles. Our procedures were not sufficient to enable us to conclude on the design effectiveness or operation of policies or controls in place to address the Principles and, accordingly, we do not express an opinion thereon. The assessment was done based on the discussions with management, the report is issued post discussion with the management.

Inherent Limitations

Controls and control procedures may not always function effectively to satisfy the requirements of the IOSCO Principles due to their nature and inherent limitations. Furthermore, there is a risk that controls and control procedures may fail or become ineffective when evaluating how fairly the description was presented in the future or when drawing conclusions about the suitability of the design or operational effectiveness of the controls and control procedures described there in to meet the requirements of the IOSCO Principles.

Further, our report does not purport to be an opinion, expert or otherwise. It merely represents our understanding of the facts and possible interpretations of law. The information has been obtained directly from the NDAL the accuracy of our report is dependent on the correct information provided by NDAL.



Restriction to use

Our report has been prepared to enable NDAL to meet the requirements of adherence with the IOSCO Principles. Our report is intended solely for the information use of the Board of Directors and the Management of NDAL and is to be read in conjunction with the Notice issued at the beginning of this Report.

Dalal Doctor & Associates

Chartered Accountants

FRN: 120833W



Amol Khanolkar

(Partner)

M. No. 116765

Mumbai

Date: 22nd January 2025

UDIN: 25116765BMKNAB3062

4. IOSCO Principles and Statements

4. Principles and Statements

A. Governance (Principle 1 to Principle 5)

1. Overall Responsibility of the Administrator

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, Dalal Doctor & Associates (DDA) – Aspects verified and Tests Performed, Test Results/Observation

Overall Responsibility of the Administrator:

The Administrator should retain primary responsibility for all aspects of the Benchmark determination process. For example, this includes:

- Development: The definition of the Benchmark and Benchmark Methodology;
- Determination and Dissemination: Accurate and timely compilation and publication and distribution of the Benchmark;
- Operation: Ensuring appropriate transparency over significant decisions affecting the compilation of the Benchmark and any related determination process, including contingency measures in the event of absence of or insufficient inputs, market stress or disruption, failure of critical infrastructure, or other relevant factors; and
- Governance: Establishing credible and transparent governance, oversight and accountability procedures for the Benchmark determination process, including an identifiable oversight function accountable for the development, issuance and operation of the Benchmark.

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified, and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> NSE Data & Analytics Ltd. (henceforth, called as “NDAL”) is accountable for all the primary facets of the fixed income valuation process, including development, determination, dissemination, operations, and governance. All the details of their methodology are transparently published on the NDAL website (https://www.nseindia.com/nse-data-and-analytics). The pre-defined waterfall approach is outlined in depth in the valuation methodology document, along with the exception policy and scenarios of non-availability of any data required for the valuation. Additionally, NDAL has instated business continuity plans to secure the smooth execution of valuations and the dissemination of the underlying data. 	<ul style="list-style-type: none"> ✓ Reviewed Methodology document available on the website, the same is publicly accessible. ✓ Reviewed the process of fixed income valuation done with the help of Bond Valuation Tool used by NDAL. ✓ Verified for sample class of asset that the process documented in methodology document is followed for fixed income valuation. ✓ Reviewed the Business Continuity Plan. 	<p>No deviation observed</p>



IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, Dalal Doctor & Associates (DDA) – Aspects verified and Tests Performed, Test Results/Observation

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| <ul style="list-style-type: none"> • NDAL has constituted two committees – The Bond Valuation Advisory Committee guides on macro issues pertaining to bond valuations and the Bond Valuation Oversight Committee, to oversee the operational guidelines for bond valuation, approve changes to the valuation criteria and any exceptions. | <ul style="list-style-type: none"> ✓ Review of the organizational structure of NDAL and verification of the function that oversees the benchmark determination procedure. ✓ Examination of the roles and accountability of the Bond Valuation Advisory Committee and Bond Valuation Oversight Committee, of which Bond Valuation Oversight Committee were elementally involved in the oversight function. ✓ Review of the delegation of authority approved by the Board. | |
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2. Oversight of Third Parties

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

Oversight of Third Parties:

Where activities relating to the Benchmark determination process are undertaken by third parties - for example collection of inputs, publication or where a third party acts as Calculation Agent - the Administrator should maintain appropriate oversight of such third parties. The Administrator (and its oversight function) should consider adopting policies and procedures that:

- a) Clearly define and substantiate through appropriate written arrangements the roles and obligations of third parties who participate in the Benchmark determination process, as well as the standards the Administrator expects these third parties to comply with;
- b) Monitor third parties' compliance with the standards set out by the Administrator;
- c) Make Available to Stakeholders and any relevant Regulatory Authority the identity and roles of third parties who participate in the Benchmark determination process; and
- d) Take reasonable steps, including contingency plans, to avoid undue operational risk related to the participation of third parties in the Benchmark determination process.

This Principle does not apply in relation to a third party from whom an Administrator sources data if that third party is a Regulated Market or Exchange.

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified, and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> • The Valuation process at NDAL is carried out independently by the in-house full-time staff personnel of NDAL. • Data pertaining to bond trades and primary issuances are sourced from NSE, which in itself is a licensed and regulated stock exchange in India, and other regulated entities which are considered as third parties. • In addition, NDAL may receive quotes from market participants, which may be utilized as one of many inputs for certain valuations which goes through maker checker process. • To ensure seamless calculation and dissemination of the fixed income valuations, NDAL has Business Continuity Plans in place. 	<ul style="list-style-type: none"> ✓ Review of the delegation authority of board. ✓ Verification of the input data source as mentioned in the methodology document for valuation of fixed income securities. ✓ Verification of the internal SOP for the fixed income valuation and verified the protocols for checking the accuracy of data obtained from third parties. 	<p style="color: green;">No deviation observed</p>



IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

	<ul style="list-style-type: none">✓ Obtained a confirmation from NDAL that none of its valuation-related activities are outsourced.✓ Live process review for cross-verification and validation of the source data.✓ Reviewed the Business Continuity Plan.	
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3. Conflict of Interest for Administrators

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

Conflict of Interest for Administrators:

To protect the integrity and independence of Benchmark determinations, Administrators should document, implement and enforce policies and procedures for the identification, disclosure, management, mitigation or avoidance of conflicts of interest. Administrators should review and update their policies and procedures as appropriate.

Administrators should disclose any material conflicts of interest to their users and any relevant Regulatory Authority, if any.

The framework should be appropriately tailored to the level of existing or potential conflicts of interest identified and the risks that the Benchmark poses and should seek to ensure:

- a) Existing or potential conflicts of interest do not inappropriately influence Benchmark determinations;
- b) Personal interests and connections or business connections do not compromise the Administrator's performance of its functions;
- c) Segregation of reporting lines within the Administrator, where appropriate, to clearly define responsibilities and prevent unnecessary or undisclosed conflicts of interest or the perception of such conflicts;
- d) Adequate supervision and sign-off by authorised or qualified employees prior to releasing Benchmark determinations;
- e) The confidentiality of data, information and other inputs submitted to, received by or produced by the Administrator, subject to the disclosure obligations of the Administrator;
- f) Effective procedures to control the exchange of information between staff engaged in activities involving a risk of conflicts of interest or between staff and third parties, where that information may reasonably affect any Benchmark determinations; and
- g) Adequate remuneration policies that ensure all staff who participate in the Benchmark determination are not directly or indirectly rewarded or incentivised by the levels of the Benchmark.

An Administrator's conflict of interest framework should seek to mitigate existing or potential conflicts created by its ownership structure or control, or due to other interests the Administrator's staff or wider group may have in relation to Benchmark determinations. To this end, the framework should:

- a) Include measures to avoid, mitigate or disclose conflicts of interest that may exist between its Benchmark determination business (including all staff who perform or otherwise participate in Benchmark production responsibilities), and any other business of the Administrator or any of its affiliates; and
- b) Provide that an Administrator discloses conflicts of interest arising from the ownership structure or the control of the Administrator to its Stakeholders and any relevant Regulatory Authority in a timely manner.



IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified, and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> • NDAL (a subsidiary of NSE) is a distinct legal company engaged in the independent calculation of valuations for various Indian debt instruments. NDAL steers clear of operations with the other NSE group entities. NDAL has written agreements for each business transaction it conducts with NSE and its related entities. • NDAL conducts valuations utilizing a pre-defined waterfall process and appropriate documentation to ensure the valuation's integrity and independence. Additionally, all valuations are carried out based on an objective pre-defined selection criteria and a maker-checker process. • NDAL, for the purpose of identification, disclosure, management, mitigation, and avoidance of potential conflicts of interest and for the denomination of the potential risks they pose, have established a defined "Code of Ethics" policy. • Business functions like valuation operations and business development teams are clearly demarcated from one another. To avoid any conflicts of interest, each team operates independently. To ensure that there are no direct or indirect influences in the valuation process, the roles and accountabilities of the various business functions of NDAL have been segregated. • The team at NDAL comprises of highly skilled and experienced individuals as they possess a thorough understanding of the financial markets. Prior to the valuations' release, multiple levels of supervision and approvals are put in place to guarantee 	<ul style="list-style-type: none"> ✓ Verified agreement entered with NSE and its related entities for data dissemination. ✓ Review of Code of Ethics Policy. ✓ Obtained list of KMPs/employees who are required to submit disclosure as per code of ethics policy. ✓ For selected employees who are responsible for working on valuations, we verified screenshot of HR portal reflecting submission of declarations/disclosures ✓ Review of Organizational Structure. ✓ Review of Conflicts of Interest Register. ✓ Review of induction training deck. ✓ Prerequisite compliance trainings for current staff personnel have been inspected for the sample employees and the topics that it covers. 	<p>No deviation observed.</p>



IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

<p>its integrity and quality of process. In addition, declarations of code of ethics policy are required from each employee, taking part in the benchmark determination process</p> <ul style="list-style-type: none"> • Compensation of staff personnel is not dependent, either directly or indirectly, with the level of valuations. • NDAL conducts periodic initiatives at a group level to increase employee awareness on process related to Information Security, Business Continuity and Code of Ethics. 	<ul style="list-style-type: none"> ✓ Verification of the appraisal programme to ensure employees participating in benchmark determination are not incentivized directly or indirectly by performance of the benchmark and its mechanism. ✓ Reviewing the logs or database of preclearance application. ✓ Verification of instances of non-compliance regarding submission of pre-clearance request and actions taken. 	
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4. Control Framework for Administrator

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

Control Framework for Administrators:

An Administrator should implement an appropriate control framework for the process of determining and distributing the Benchmark. The control framework should be appropriately tailored to the materiality of the potential or existing conflicts of interest identified, the extent of the use of discretion in the Benchmark setting process and to the nature of Benchmark inputs and outputs. The control framework should be documented and available to relevant Regulatory Authorities, if any. A summary of its main features should be Published or Made Available to Stakeholders. This control framework should be reviewed periodically and updated as appropriate.

The framework should address the following areas:

- a) Conflicts of interest in line with Principle 3 on conflicts of interests;
- b) Integrity and quality of Benchmark determination:
 - i. Arrangements to ensure that the quality and integrity of Benchmarks is maintained, in line with principles 6 to 15 on the quality of the Benchmark and Methodology;
 - ii. Arrangements to promote the integrity of Benchmark inputs, including adequate due diligence on input sources;
 - iii. Arrangements to ensure accountability and complaints mechanisms are effective, in line with principles 16 to 19; and
 - iv. Providing robust infrastructure, policies and procedures for the management of risk, including operational risk.
- c) Whistleblowing mechanism:

Administrators should establish an effective whistleblowing mechanism to facilitate early awareness of any potential misconduct or irregularities that may arise. This mechanism should allow for external reporting of such cases where appropriate.
- d) Expertise:
 - i. Ensuring Benchmark determinations are made by personnel who possess the relevant levels of expertise, with a process for periodic review of their competence; and
 - ii. Staff training, including ethics and conflicts of interest training, and continuity and succession planning for personnel.

Where a Benchmark is based on Submissions: Administrators should promote the integrity of inputs by:

- a) Ensuring as far as possible that the Submitters comprise an appropriately representative group of participants taking into consideration the underlying Interest measured by the Benchmark;
- b) Employing a system of appropriate measures so that, to the extent possible, Submitters comply with the Submission guidelines, as defined in the Submitter Code of Conduct and the Administrators' applicable quality and integrity standards for Submission;
- c) Specifying how frequently Submissions should be made and specifying that inputs or Submissions should be made for every Benchmark determination; and



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d) Establishing and employing measures to effectively monitor and scrutinise inputs or Submissions. This should include pre-compilation or pre-publication monitoring to identify and avoid errors in inputs or Submissions, as well as ex-post analysis of trends and outliers.

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified and Tests Performed	Test Results/Observation
<p>NDAL has a number of controls in place to manage conflicts of interest and to ensure integrity of daily valuations and disseminations.</p> <ul style="list-style-type: none"> • For response to item (a), please refer NDAL Response for Principle 3. • For response to item (b) (i) and (b) (ii), please refer NDAL Response present for Principle 6 to 15. • For response to item (b) (iii), please refer NDAL Response present for Principle 16 to 19. • For response to item (b) (iv), NDAL maintains a "Cyber Security and Cyber Resilience policy" that includes information on data security, data classification, prevention of data leakages, etc. in order to manage operational risk associated with the valuation process. • The information used for valuation is maintained in secure folders that are solely accessed by authorized personnel. • For item (c), NDAL maintains "Whistle blowing policy". • For item (d) (i), NDAL has skilled and competent employees with in-depth understanding of the financial markets. Prior to the valuations' release, many levels of supervision and approval are put in place to ensure integrity and quality of determination. • For item (d) (ii), Staff personnel at NDAL who are in charge of the valuation process receive periodic product-based training for skill development. Additionally, organizational planning for personnel continuity and succession is done on a regular basis. • NDAL does not receive valuations from submitters. It may receives quotes from market participants, which are utilized as one of many 	<ul style="list-style-type: none"> ✓ For item (a) refer principal 3 ✓ For item (b) (i) and (b) (ii), please refer to Tests Performed for Principles 6 to 15. ✓ For response to item (b) (iii), please refer to Tests Performed for Principles 16 to 19. ✓ For item (b) (iv), inspected the "Cyber Security and Cyber Resilience policy" and "Business Continuity Plans" ✓ For item (c), we inspected the "Whistle blowing policy". ✓ The "Whistle blowing Policy" covered the guidance to whistle blowing procedures and mechanism. ✓ Information about the NDAL external reporting mechanism can be found on the official NDAL website. ✓ The mechanism for external reporting is also made available 	<p>No deviation observed.</p>



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<p>inputs for certain valuations. Data maybe obtained from regulatory/government entities, exchanges, market participants. NDAL performs quality checks on such quotes using a maker checker process.</p>	<p>through email at fivaluations@nse.co.in</p> <ul style="list-style-type: none"> ✓ Obtained confirmation that there was no whistle blower for the period under assessment. ✓ For item d(i) Inspected list of employees involved in operations and development. ✓ For a sample staff personnel responsible for performing benchmark determination, inspected the KRAs on the NDAL's internal portal. ✓ Inspected the employee training plan. ✓ For item d(ii) It was explained that succession planning for business and key personnel is in place. ✓ Obtained confirmation that the organization has a succession plan for key personnels ✓ Obtained a confirmation that NDAL does not publish valuations based on submissions since any data inputs taken from regulated entities/exchanges/government entities/market participants, which are not categorized as data submitters and their inputs are not classified as submissions. 	
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5. Internal Oversight

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

Internal Oversight:

Administrators should establish an oversight function to review and provide challenge on all aspects of the Benchmark determination process. This should include consideration of the features and intended, expected or known usage of the Benchmark and the materiality of existing or potential conflicts of interest identified.

The oversight function should be carried out either by a separate committee, or other appropriate governance arrangements. The oversight function and its composition should be appropriate to provide effective scrutiny of the Administrator. Such oversight function could consider groups of Benchmarks by type or asset class, provided that it otherwise complies with this Principle.

An Administrator should develop and maintain robust procedures regarding its oversight function, which should be documented and available to relevant Regulatory Authorities, if any. The main features of the procedures should be Made Available to Stakeholders. These procedures should include:

- a) The terms of reference of the oversight function;
- b) Criteria to select members of the oversight function;
- c) The summary details of membership of any committee or arrangement charged with the oversight function, along with any declarations of conflicts of interest and processes for election, nomination or removal and replacement of committee members.

The responsibilities of the oversight function include:

- a) Oversight of the Benchmark design:
 - i. Periodic review of the definition of the Benchmark and its Methodology;
 - ii. Taking measures to remain informed about issues and risks to the Benchmark, as well as commissioning external reviews of the Benchmark (as appropriate);
 - iii. Overseeing any changes to the Benchmark Methodology, including assessing whether the Methodology continues to appropriately measure the underlying Interest, reviewing proposed and implemented changes to the Methodology, and authorising or requesting the Administrator to undertake a consultation with Stakeholders where known or its Subscribers on such changes as per Principle 12; and
 - iv. Reviewing and approving procedures for termination of the Benchmark, including guidelines that set out how the Administrator should consult with Stakeholders about such cessation.
- b) Oversight of the integrity of Benchmark determination and control framework:
 - i. Overseeing the management and operation of the Benchmark, including activities related to Benchmark determination undertaken by a third party;



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- ii. Considering the results of internal and external audits, and following up on the implementation of remedial actions highlighted in the results of these audits; and
- iii. Overseeing any exercise of Expert Judgment by the Administrator and ensuring Published Methodologies have been followed.

Where conflicts of interests may arise in the Administrator due to its ownership structures or controlling interests, or due to other activities conducted by any entity owning or controlling the Administrator or by the Administrator or any of its affiliates: the Administrator should establish an independent oversight function which includes a balanced representation of a range of Stakeholders where known, Subscribers and Submitters, which is chosen to counterbalance the relevant conflict of interest.

Where a Benchmark is based on Submissions: the oversight function should provide suitable oversight and challenge of the Submissions by:

- a) Overseeing and challenging the scrutiny and monitoring of inputs or Submissions by the Administrator. This could include regular discussions of inputs or Submission patterns, defining parameters against which inputs or Submissions can be analysed, or querying the role of the Administrator in challenging or sampling unusual inputs or Submissions;
- b) Overseeing the Code of Conduct for Submitters;
- c) Establishing effective arrangements to address breaches of the Code of Conduct for Submitters; and
- d) Establishing measures to detect potential anomalous or suspicious Submissions and in case of suspicious activities, to report them, as well as any misconduct by Submitters of which it becomes aware to the relevant Regulatory Authorities, if any.

• NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> • NDAL has established two oversight committees, the Bond Valuation Advisory Committee and the Bond Valuation Oversight Committee. • The BVAC provides guidance on macro issues pertaining to fixed income valuations and is not involved in the routine operations of the valuation process, whilst the BVOC governs operational guidelines for valuations, reviews modifications to the valuation criteria & exceptions, and approves pertinent authorization. The BVOC is also responsible for periodically reviewing existing methodology documents for valuations. • The subject matter specialists from the relevant industries are present on each of these committees; Members of the individual 	<ul style="list-style-type: none"> ✓ Review of Organization Structure. ✓ Examined the duties and accountabilities of committees – BVAC and BVOC involved in the oversight process. ✓ The duties of various committees are as follows: <ul style="list-style-type: none"> • Bond Valuation Advisory Committee: To provide guidance on macro issues pertaining to fixed income valuations 	<p>No deviation observed.</p>



IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

<p>committees are independent of one another (with the exception of the exchange representative(s) who liaise between the BVAC and the BVOC) and do not represent more than one committee.</p> <ul style="list-style-type: none"> • Representatives from the financial markets, such as asset management firms and insurance companies, are included on the committees. The board defines and approves the terms of reference of each committee. The names of the committee members are publicly disclosed on the website in order to ensure transparency. • NDAL does not receive valuations from submitters. It may receive quotes from market participants, which may be utilized as one of the inputs for certain valuations. Data maybe obtained from regulatory/government entities, exchanges, market participants. • NDAL exercises quality checks on such quotes by following a maker-checker process and also reviews the quotes for identifying any outliers. 	<ul style="list-style-type: none"> • Bond Valuation Oversight Committee: To oversee the operational guidelines for bond valuation, approve changes to the valuation criteria and approve any exceptions. <ul style="list-style-type: none"> ✓ Verified the aforementioned committee's tasks and responsibilities. ✓ Reviewed the Composition of Committees from NDAL website. ✓ Obtained a confirmation from NDAL that the constitution of each committee is in accordance with the Board's approval. ✓ Obtained a confirmation that NDAL does not value bonds based on submissions as data inputs taken from regulated entities/exchanges/government entities/market participants are not categorized as data submitters and hence, their inputs are not classified as submissions. 	
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B. Quality of Benchmark (Principle 6 to Principle 10)

6. Benchmark Design

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

Benchmark Design:

The design of the Benchmark should seek to achieve, and result in an accurate and reliable representation of the economic realities of the Interest it seeks to measure and eliminate factors that might result in a distortion of the price, rate, index or value of the Benchmark.

Benchmark design should take into account the following generic non-exclusive features, and other factors should be considered, as appropriate to the particular Interest:

- a) Adequacy of the sample used to represent the Interest.
- b) Size and liquidity of the relevant market (for example whether there is sufficient trading to provide observable, transparent pricing).
- c) Relative size of the underlying market in relation to the volume of trading in the market that references the Benchmark.
- d) The distribution of trading among Market Participants (market concentration).
- e) Market dynamics (e.g., to ensure that the Benchmark reflects changes to the assets underpinning a Benchmark).

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> • The fixed income valuation process at NDAL is based on an internal assessment of valuation inputs and the market feedback that NDAL receives through interaction with market participants. • Valuations are independently performed by primary analysts in accordance with the pre-defined valuation methodology and then reviewed by secondary analysts. • There also exists a maker-checker process for data inputs received to validate the adequacy of valuations inputs and perform an independent analysis of the same. Accordingly, the valuations at NDAL seek to achieve and result in a reliable representation of the current market conditions. • The methodologies for valuations are documented, reviewed and approved. 	<ul style="list-style-type: none"> ✓ Reviewed the methodology document for comprehension of process followed for fixed income valuation. ✓ Verified that the valuation methods are determined based on valuation guidelines issued by SEBI. ✓ Verified for a sample class of asset that securities are valued in accordance with the waterfall approach as defined in methodology document. 	<p>No deviation observed.</p>



IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

	<p>✓ The following key information was defined in the methodology document:</p> <ul style="list-style-type: none">• Valuation Methodology to determine security level valuation – this includes the source of data, valuation technique, etc.• Exceptions Policy – Acceptable deviation in valuation approach• Committee Policy – Details of committees formulated to overview fixed income valuations.• Disclosure of changes to the methodology.• Procedure for dealing with error reports.	
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7. Data Sufficiency

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

Data Sufficiency:

The data used to construct a Benchmark determination should be sufficient to accurately and reliably represent the Interest measured by the Benchmark and should:

- a) Be based on prices, rates, indices or values that have been formed by the competitive forces of supply and demand in order to provide confidence that the price discovery system is reliable; and
- b) Be anchored by observable transactions entered into at arm's length between buyers and sellers in the market for the Interest the Benchmark measures in order for it to function as a credible indicator of prices, rates, indices or values.

This Principle requires that a Benchmark be based upon (i.e., anchored in) an active market having observable Bona Fide, Arms-Length Transactions. This does not mean that every individual Benchmark determination must be constructed solely of transaction data. Provided that an active market exists, conditions in the market on any given day might require the Administrator to rely on different forms of data tied to observable market data as an adjunct or supplement to transactions. Depending upon the Administrator's Methodology, this could result in an individual Benchmark determination being based predominantly, or exclusively, on bids and offers or extrapolations from prior transactions. This is further clarified in Principle 8.

Provided that subparagraphs (a) and (b) above are met, Principle 7 does not preclude Benchmark Administrators from using executable bids or offers as a means to construct Benchmarks where anchored in an observable market consisting of Bona Fide, Arms-Length transactions.

This Principle also recognizes that various indices may be designed to measure or reflect the performance of a rule-based investment strategy, the volatility or behaviour of an index or market or other aspects of an active market. Principle 7 does not preclude the use of non-transactional data for such indices that are not designed to represent transactions and where the nature of the index is such that non-transactional data is used to reflect what the index is designed to measure. For example, certain volatility indices, which are designed to measure the expected volatility of an index of securities transactions, rely on non-transactional data, but the data is derived from and thus "anchored" in an actual functioning securities or options market.

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> • Data on bond trades and primary issuances are sourced from NSE, a licensed and regulated stock exchange in India, and other regulated third-party aggregator(s). 	<ul style="list-style-type: none"> ✓ We have verified website of NSE from where data is sourced ✓ Live process review for cross-verification and validation of the 	<p>No deviation observed.</p>



IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

<ul style="list-style-type: none"> • Additionally, NDAL obtains primary and secondary market data (along with market quotes) from market participants who are not engaged in the valuation process. • The information obtained is based on variables inside the active market, including current prices, rates, etc. • NDAL conducts an independent analysis of each data input for the valuation process, taking into consideration elements like integrity and materiality. • The valuation methodology also specifies the data usage for the valuation process (including preference to observable trades). • The valuation methodology document is available on the NDAL website in a transparent manner. 	<p>source data, and emails send for end-of-day valuation reports.</p> <ul style="list-style-type: none"> ✓ Inspected Methodology document from NDAL website ✓ Obtained a confirmation that NDAL does not value fixed income securities based on submissions since any data inputs taken from regulated entities/ exchanges/ government entities/ market participants, which are not categorized as data submitters and their inputs are not classified as submissions. 	
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8. Hierarchy of Data Inputs

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

Hierarchy of Data Inputs:

An Administrator should establish and Publish or Make Available clear guidelines regarding the hierarchy of data inputs and exercise of Expert Judgment used for the determination of Benchmarks. In general, the hierarchy of data inputs should include:

- a) Where a Benchmark is dependent upon Submissions, the Submitters' own concluded arms-length transactions in the underlying interest or related markets.
- b) Reported or observed concluded Arm's-length Transactions in the underlying interest.
- c) Reported or observed concluded Arm's-length Transactions in related markets.
- d) Firm (executable) bids and offers; and
- e) Other market information or Expert Judgments.

Provided that the Data Sufficiency Principle is met (i.e., an active market exists), this Principle is not intended to restrict an Administrator's flexibility to use inputs consistent with the Administrator's approach to ensuring the quality, integrity, continuity and reliability of its Benchmark determinations, as set out in the Administrator's Methodology. The Administrator should retain flexibility to use the inputs it believes are appropriate under its Methodology to ensure the quality and integrity of its Benchmark. For example, certain Administrators may decide to rely upon Expert Judgment in an active albeit low liquidity market, when transactions may not be consistently available each day. IOSCO also recognizes that there might be circumstances (e.g., a low liquidity market) when a confirmed bid or offer might carry more meaning than an outlier transaction. Under these circumstances, non-transactional data such as bids and offers and extrapolations from prior transactions might predominate in a given Benchmark determination.

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> • Data on bond trades and primary issuances are sourced from NSE, a licensed and & regulated stock exchange in India, and other regulated third-party aggregator(s). • Additionally, NDAL obtains primary and secondary market data (along with market quotes) from market participants who are not engaged in the valuation process. • The information obtained is based on variables inside the active market, including current prices, rates, etc. 	<ul style="list-style-type: none"> ✓ We have verified website of NSE from where data is sourced ✓ Obtained a confirmation that NDAL does not publish valuations based on submissions since any data inputs taken from regulated entities/ exchanges/ government entities/ market participants, which are not categorized as data 	<p>No deviation observed.</p>



IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

<ul style="list-style-type: none">• NDAL conducts an independent analysis of each data input for the valuation process, taking into consideration elements like integrity and materiality.• The valuation methodology also specifies the data usage for the valuation process (including preference to observable trades). The valuation methodology document is available on the NDAL website in a transparent manner.• For the cross validation and verification of data sourced from third-party data providers, NDAL has various controls in place (wherever applicable).• NDAL does not make valuations based on submissions. Data inputs maybe taken from regulated entities/ exchanges/ government entities/ market participants.	submitters and their inputs are not classified as submissions.	
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9. Transparency of Benchmark Determination:

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

Transparency of Benchmark Determination:

The Administrator should describe and publish with each Benchmark determination, to the extent reasonable without delaying an Administrator publication deadline:

- a) A concise explanation, sufficient to facilitate a Stakeholder's or Market Authority's ability to understand how the determination was developed, including, at a minimum, the size and liquidity of the market being assessed (meaning the number and volume of transactions submitted), the range and average volume and range and average of price, and indicative percentages of each type of market data that have been considered in a Benchmark determination; terms referring to the pricing Methodology should be included (i.e., transaction-based, spread-based or interpolated/extrapolated).
- b) A concise explanation of the extent to which and the basis upon which Expert Judgment if any, was used in establishing a Benchmark determination.

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> • The benchmark determination procedure (described in its valuation methodology documents) is publicly published on the NDAL website. The materials describe the valuation process methodology, the waterfall method, governance and exceptions processes, etc. • The materials provide details with regards to the waterfall approach, procedures for governance and exceptions, etc. The materials elaborate upon the type of data utilized and the data usage for the valuation process (including preference to observable trades). • Changes to valuation methodology (and, when appropriate, the justification) are communicated to relevant stakeholders via email before the effective date of proposed changes. Clients can access the valuations based on their subscriptions. The justification for each valuation, including the size and liquidity of the market, the data utilized for valuations, computation, etc., is documented and is available upon request to relevant stakeholders or regulatory bodies. 	<ul style="list-style-type: none"> ✓ Verification of the methodology document from NDAL website ✓ For changes in methodology effected during period under review, verified that such change was made in accordance with the guidelines issued by SEBI/ any other regulatory authorities. ✓ Verified that such change made to the methodology has been duly approved by BVOC and made available on the website. ✓ Verified emails sent to clients at day end for valuations subscribed by them. 	<p>No deviation observed.</p>



10. Periodic Review

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

Periodic Review:

The Administrator should periodically review the conditions in the underlying Interest that the Benchmark measures to determine whether the Interest has undergone structural changes that might require changes to the design of the Methodology. The Administrator also should periodically review whether the Interest has diminished or is non-functioning such that it can no longer function as the basis for a credible Benchmark.

The Administrator should Publish or Make Available a summary of such reviews where material revisions have been made to a Benchmark, including the rationale for the revisions.

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified, and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> • NDAL established the BVOC to oversee guidelines for valuations, examine modifications to the valuation criteria & exceptions, and provide necessary approvals. • Relevant stakeholders are notified via email of changes to the valuation methodology, if any. • Approvals for revisions to valuation methodology are recorded, and the revised methodology is made accessible to market participants via the website. • The valuation methodology review is conducted annually by the members of the BVOC. 	<ul style="list-style-type: none"> ✓ Verified that the changes to the methodology are duly approved by the members of the BVOC and reflected on the website ✓ Verified for sample class of asset that securities are valued in accordance with the waterfall approach as defined in methodology document. ✓ Verified email sent to relevant stakeholders for change in methodology. ✓ Verified email approvals received from member of BVOC for review of methodology document ✓ Obtained confirmation that the market participants are notified about changes to the methodology. 	<p style="color: green;">No deviation observed.</p>



C. Quality of Methodology (Principle 11 to Principle 15)

11. Content of the Methodology

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

Content of the Methodology:

The Administrator should document and Publish or Make Available the Methodology used to make Benchmark determinations. The Administrator should provide the rationale for adopting a particular Methodology. The Published Methodology should provide sufficient detail to allow Stakeholders to understand how the Benchmark is derived and to assess its representativeness, its relevance to particular Stakeholders, and its appropriateness as a reference for financial instruments.

At a minimum, the Methodology should contain:

- a) Definitions of key terms;
- b) All criteria and procedures used to develop the Benchmark, including input selection, the mix of inputs used to derive the Benchmark, the guidelines that control the exercise of Expert Judgment by the Administrator, priority given to certain data types, minimum data needed to determine a Benchmark, and any models or extrapolation methods;
- c) Procedures and practices designed to promote consistency in the exercise of Expert Judgment between Benchmark determinations;
- d) The procedures which govern Benchmark determination in periods of market stress or disruption, or periods where data sources may be absent (e.g., theoretical estimation models);
- e) The procedures for dealing with error reports, including when a revision of a Benchmark would be applicable;
- f) Information regarding the frequency for internal reviews and approvals of the Methodology. Where applicable, the Published Methodologies should also include information regarding the procedures and frequency for external review of the Methodology;
- g) The circumstances and procedures under which the Administrator will consult with Stakeholders, as appropriate; and
- h) The identification of potential limitations of a Benchmark, including its operation in illiquid or fragmented markets and the possible concentration of inputs.

Where a Benchmark is based on Submissions, the additional Principle also applies:

The Administrator should clearly establish criteria for including and excluding Submitters. The criteria should consider any issues arising from the location of the Submitter, if in a different jurisdiction to the Administrator. These criteria should be available to any relevant Regulatory Authorities, if any, and Published or Made Available to Stakeholders. Any provisions related to changes in composition, including notice periods should be made clear.

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IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

<ul style="list-style-type: none"> • The benchmark determination process (documented within its valuation methodology documents) is transparently published on the website by NDAL. • The document sets forth the valuation methodology process in detail, the waterfall method, governance processes and exemptions, etc. The document also provides information about the data used for valuations. • NDAL does not receive valuations from submitters. It may receive quotes from market participants, which may be utilized as one of the inputs for certain valuations. Data may be obtained from regulatory/government entities, exchanges, market participants.. • NDAL exercises quality checks on such quotes by following a maker-checker process and also reviews the quotes for identifying any outliers. 	<ul style="list-style-type: none"> ✓ Reviewed the methodology document for comprehension of process followed for fixed income valuation ✓ The following key information was defined in the methodology document: <ul style="list-style-type: none"> • Valuation Methodology to determine security level valuation – this includes the source of data, valuation technique, etc. • Exceptions Policy – Acceptable deviation in valuation approach • Committee Policy – Details of committees formulated to overview fixed income valuations. • Disclosure of changes to the methodology. • Procedure for dealing with error reports. ✓ For sample class of asset, we verified the fixed income valuation process as outlined in the methodology document. ✓ Obtained a confirmation that NDAL does not publish valuations 	<p>No deviation observed.</p>
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IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

	based on submissions since any data inputs taken from regulated entities/ exchanges/ government entities/ market participants are not categorized as data submitters and their inputs are not classified as submissions.	
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12. Changes to the Methodology

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Changes to the Methodology:

An Administrator should Publish or Make Available the rationale of any proposed material change in its Methodology, and procedures for making such changes. These procedures should clearly define what constitutes a material change, and the method and timing for consulting or notifying Subscribers (and other Stakeholders where appropriate, taking into account the breadth and depth of the Benchmark's use) of changes.

Those procedures should be consistent with the overriding objective that an Administrator must ensure the continued integrity of its Benchmark determinations. When changes are proposed, the Administrator should specify exactly what these changes entail and when they are intended to apply. The Administrator should specify how changes to the Methodology will be scrutinised, by the oversight function. The Administrator should develop Stakeholder consultation procedures in relation to changes to the Methodology that are deemed material by the oversight function, and that are appropriate and proportionate to the breadth and depth of the Benchmark's use and the nature of the Stakeholders. Procedures should:

- a) Provide advance notice and a clear timeframe that gives Stakeholders sufficient opportunity to analyse and comment on the impact of such proposed material changes, having regard to the Administrator's assessment of the overall circumstances; and
- b) Provide for Stakeholders' summary comments, and the Administrator's summary response to those comments, to be made accessible to all Stakeholders after any given consultation period, except where the commenter has requested confidentiality.

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> • The valuation methodology is reviewed, on an ongoing basis, in accordance with the current market trends and/or any regulatory changes. Any proposed alterations within the valuation technique is examined and deliberated upon before making a final decision. • The BVOC has been established to regulate operational procedures, examine modifications (if any) to the valuation criteria and exclusions, and provide necessary approvals. Prior to the proposed modifications taking effect, relevant stakeholders are notified by email of changes to the valuation methodology (along with the justification, when necessary). The revised valuation technique is made available to the relevant stakeholders through the website, and approvals for modifications to the methodology are documented. 	<ul style="list-style-type: none"> ✓ We examined that the change in methodology document is in accordance with regulatory requirements. ✓ Verified that the changes made to the methodology have been noted by the BVOC and duly approved. ✓ NDAL website was inspected to ensure that the necessary details are publicly available. 	<p>No deviation observed</p>



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<ul style="list-style-type: none">• During the period under review, valuation methodologies were reviewed, and the required adjustments were documented and suitably approved.		
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13. Transition

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

Transition:

Administrators should have clear written policies and procedures, to address the need for possible cessation of a Benchmark, due to market structure change, product definition change, or any other condition which makes the Benchmark no longer representative of its intended Interest. These policies and procedures should be proportionate to the estimated breadth and depth of contracts and financial instruments that reference a Benchmark and the economic and financial stability impact that might result from the cessation of the Benchmark. The Administrator should take into account the views of Stakeholders and any relevant Regulatory and National Authorities in determining what policies and procedures are appropriate for a particular Benchmark. These written policies and procedures should be Published or Made Available to all Stakeholders.

Administrators should encourage Subscribers and other Stakeholders who have financial instruments that reference a Benchmark to take steps to make sure that:

- a) Contracts or other financial instruments that reference a Benchmark, have robust fall-back provisions in the event of material changes to, or cessation of, the referenced Benchmark; and
- b) Stakeholders are aware of the possibility that various factors, including external factors beyond the control of the Administrator, might necessitate material changes to a Benchmark.

Administrators' written policies and procedures to address the possibility of Benchmark cessation could include the following factors, if determined to be reasonable and appropriate by the Administrator:

- a) Criteria to guide the selection of a credible, alternative Benchmark such as, but not limited to, criteria that seek to match to the extent practicable the existing Benchmark's characteristics (e.g., credit quality, maturities and liquidity of the alternative market), differentials between Benchmarks, the extent to which an alternative Benchmark meets the asset/liability needs of Stakeholders, whether the revised Benchmark is investable, the availability of transparent transaction data, the impact on Stakeholders and impact of existing legislation;
- b) The practicality of maintaining parallel Benchmarks (e.g., where feasible, maintain the existing Benchmark for a defined period of time to permit existing contracts and financial instruments to mature and publish a new Benchmark) in order to accommodate an orderly transition to a new Benchmark;
- c) The procedures that the Administrator would follow in the event that a suitable alternative cannot be identified;
- d) In the case of a Benchmark or a tenor of a Benchmark that will be discontinued completely, the policy defining the period of time in which the Benchmark will continue to be produced in order to permit existing contracts to migrate to an alternative Benchmark if necessary; and
- e) The process by which the Administrator will engage Stakeholders and relevant Market and National Authorities, as appropriate, in the process for selecting and moving towards an alternative Benchmark, including the timeframe for any such action commensurate with the tenors of the financial instruments referencing the Benchmarks and the adequacy of notice that will be provided to Stakeholders



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<ul style="list-style-type: none"> • Valuations cease only when financial instruments are redeemed by the respective issuers. • This does not arise with reference to the valuations provided by NDAL to its market participants as the bonds that reach their maturity date cease to exist following that date. 	✓ Obtained confirmation that during the period under assessment, no valuation methods adopted by NDAL were discontinued.	No deviation observed



14. Submitter Code of Conduct

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Submitter Code of Conduct:

Where a Benchmark is based on Submissions, the following additional Principle also applies: The Administrator should develop guidelines for Submitters (“Submitter Code of Conduct”), which should be available to any relevant Regulatory Authorities, if any and Published or Made Available to Stakeholders. The Administrator should only use inputs or Submissions from entities which adhere to the Submitter Code of Conduct and the Administrator should appropriately monitor and record adherence from Submitters. The Administrator should require Submitters to confirm adherence to the Submitter Code of Conduct annually and whenever a change to the Submitter Code of Conduct has occurred.

The Administrator’s oversight function should be responsible for the continuing review and oversight of the Submitter Code of Conduct.

The Submitter Code of Conduct should address:

- a) The selection of inputs;
- b) Who may submit data and information to the Administrator;
- c) Quality control procedures to verify the identity of a Submitter and any employee(s) of a Submitter who report(s) data or information and the authorization of such person(s) to report market data on behalf of a Submitter;
- d) Criteria applied to employees of a Submitter who are permitted to submit data or information to an Administrator on behalf of a Submitter;
- e) Policies to discourage the interim withdrawal of Submitters from surveys or Panels;
- f) Policies to encourage Submitters to submit all relevant data; and
- g) The Submitters’ internal systems and controls, which should include:
 - i. Procedures for submitting inputs, including Methodologies to determine the type of eligible inputs, in line with the Administrator’s Methodologies;
 - ii. Procedures to detect and evaluate suspicious inputs or transactions, including intergroup transactions, and to ensure the Bona Fide nature of such inputs, where appropriate;
 - iii. Policies guiding and detailing the use of Expert Judgment, including documentation requirements;
 - iv. Record keeping policies;
 - v. Pre-Submission validation of inputs, and procedures for multiple reviews by senior staff to check inputs;
 - vi. Training, including training with respect to any relevant regulation (covering Benchmark regulation or any market abuse regime)
 - vii. Suspicious Submission reporting;
 - viii. Roles and responsibilities of key personnel and accountability lines;
 - ix. Internal sign off procedures by management for submitting inputs;
 - x. Whistle blowing policies (in line with Principle 4); and



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- xi. Conflicts of interest procedures and policies, including prohibitions on the Submission of data from Front Office Functions unless the Administrator is satisfied that there are adequate internal oversight and verification procedures for Front Office Function Submissions of data to an Administrator (including safeguards and supervision to address possible conflicts of interests as per paragraphs (v) and (ix) above), the physical separation of employees and reporting lines where appropriate, the consideration of how to identify, disclose, manage, mitigate and avoid existing or potential incentives to manipulate or otherwise influence data inputs (whether or not in order to influence the Benchmark levels), including, without limitation, through appropriate remuneration policies and by effectively addressing conflicts of interest which may exist between the Submitter’s Submission activities (including all staff who perform or otherwise participate in Benchmark Submission responsibilities), and any other business of the Submitter or of any of its affiliates or any of their respective clients or customers.

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> • The benchmark determination process (documented within its valuation methodology documents) is transparently published on the website by NDAL. • The document sets forth the valuation methodology process in detail, the waterfall method, governance processes and exemptions, etc. The document also provides information about the data used for valuations. • NDAL does not receive valuations from submitters. It may receive quotes from market participants, which may be utilized as one of the inputs for certain valuations. Data may be obtained from regulatory/government entities, exchanges, market participants.. • NDAL exercises quality checks on such quotes by following a maker-checker process and also reviews the quotes for identifying any outliers. 	<p>✓ Obtained a confirmation that NDAL does not publish valuations based on submissions since any data inputs taken from regulated entities/ exchanges/ government entities /market participants are not categorized as data submitters and their inputs are not classified as submissions.</p>	<p>Not Applicable.</p>



15. Internal Controls Over Data Collection

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

Internal Control Over Data Collection:

When an Administrator collects data from any external source the Administrator should ensure that there are appropriate internal controls over its data collection and transmission processes. These controls should address the process for selecting the source, collecting the data and protecting the integrity and confidentiality of the data. Where Administrators receive data from employees of the Front Office Function, the Administrator should seek corroborating data from other sources.

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> • Data on bond trades and primary issuances are sourced from NSE, a licensed and regulated stock exchange in India, and other regulated third-party aggregator(s). • Additionally, NDAL obtains primary and secondary market data (along with market quotes) from market participants who are not engaged in the valuation process. • For the cross validation and verification of data sourced from third-party data providers, NDAL has various controls in place (wherever applicable). • Furthermore, a maker-checker process exists for data received to validate the adequacy of valuation inputs and conduct an independent analysis of the same. • Additionally, all information required for valuation is kept in secured folders that are only accessible to the authorized personnel. 	<ul style="list-style-type: none"> ✓ For a sample class of asset, reviewed the methodology document, SOPs, and approval notes/emails and noted the following: <ul style="list-style-type: none"> • The methodology document and SOPs contained details related to the type of data received and how the data would be used for the valuations process • Data inputs were reconciled to the source data as part of a maker-checker activity to review the data being used for valuation ✓ Data sourced from NSE, was inspected from NSE website for sample class of assets. ✓ Verified that the maker-checker process is in place and followed diligently. 	<p>No deviation observed</p>



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	<ul style="list-style-type: none">✓ Reviewed live valuation process on 'Bond Valuation Tool', developed in-house by NDAL team✓ Reviewed the "Information Security Policy" and the same is followed by NDAL personnel.	
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D. Accountability (Principle 16 to Principle 19)

16. Complaints Procedures

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Complaints Procedures:

The Administrator should establish and Publish or Make Available a written complaints procedures policy, by which Stakeholders may submit complaints including concerning whether a specific Benchmark determination is representative of the underlying Interest it seeks to measure, applications of the Methodology in relation to a specific Benchmark determination(s) and other Administrator decisions in relation to a Benchmark determination.

The complaints procedures policy should:

- a) Permit complaints to be submitted through a user-friendly complaints process such as an electronic Submission process;
- b) Contain procedures for receiving and investigating a complaint made about the Administrator’s Benchmark determination process on a timely and fair basis by personnel who are independent of any personnel who may be or may have been involved in the subject of the complaint, advising the complainant and other relevant parties of the outcome of its investigation within a reasonable period and retaining all records concerning complaints;
- c) Contain a process for escalating complaints, as appropriate, to the Administrator’s governance body; and
- d) Require all documents relating to a complaint, including those submitted by the complainant as well as the Administrator’s own record, to be retained for a minimum of five years, subject to applicable national legal or regulatory requirements.

Disputes about a Benchmarking determination, which are not formal complaints, should be resolved by the Administrator by reference to its standard appropriate procedures. If a complaint results in a change in a Benchmark determination, that should be Published or Made Available to Subscribers and Published or Made Available to Stakeholders as soon as possible as set out in the Methodology

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified, and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> • In order to address complaints by market participants regarding any valuations, NDAL has prescribed “Grievance Redressal Policy - NDAL” for redressal of grievances. • As per the policy, NDAL invites complaints, queries, and feedback through a designated e-mail ID (fivaluations@nse.co.in) published on the website. 	<ul style="list-style-type: none"> ✓ Inspected the NDAL website and noted the official email address (fivaluations@nse.co.in) where inquiries, feedback, and complaints could be submitted. ✓ Review of the Grievance Redressal Policy. 	<p>No deviation observed</p>



IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

<ul style="list-style-type: none"> • Feedback and queries are noted and responded to by the relevant teams of NDAL whereas complaints are directed to the senior officials of NDAL. • Redressal complaints involving incorrect calculations, data usage, bribery, unethical practice of employees, insider trading, etc. are escalated to the Managing Director (MD) of NDAL. • NDAL is required to maintain documentation related to complaints and records of approval notes, for a period of at least five years. • There were no complaints during the period under assessment. 	<p>✓ Obtained confirmation that no complaints are received during the period under assessment.</p>	
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17. Audits

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

Audits:

The Administrator should appoint an independent internal or external auditor with appropriate experience and capability to periodically review and report on the Administrator’s adherence to its stated criteria and with the principles. The frequency of audits should be proportionate to the size and complexity of the Administrator’s operations.

Where appropriate to the level of existing or potential conflicts of interest identified by the Administrator (except for Benchmarks that are otherwise regulated or supervised by a National Authority other than a relevant Regulatory Authority), an Administrator should appoint an independent external auditor with appropriate experience and capability to periodically review and report on the Administrator’s adherence to its stated Methodology. The frequency of audits should be proportionate to the size and complexity of the Administrator’s Benchmark operations and the breadth and depth of Benchmark use by Stakeholders.

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified, and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> The NDAL board currently mandates that such an evaluation be conducted once every two years, basis the same NDAL has been assessed to compliance with IOSCO Principles for period ended September 2020 and September 2022. In addition, NDAL voluntarily performs recurrent internal audits to examine the methodology used to determine the benchmarks and the operational procedures related to valuation methodology adopted by its business functions. The audit reports are presented to the Board. 	<ul style="list-style-type: none"> ✓ Review of the Scope assigned for Internal audit report. ✓ Reviewed internal audit report on sample basis to ensure that there were no observations which impacted the operations. ✓ Reviewed the Action Taken Report reflected in the Internal Audit report. ✓ Inspected email to verify that all the observations are resolved on timely basis. 	<p>No deviation observed</p>



18. Audit Trail

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

Audit Trail:

Written records should be retained by the Administrator for five years, subject to applicable national legal or regulatory requirements on:

- a) All market data, Submissions and any other data and information sources relied upon for Benchmark determination;
- b) The exercise of Expert Judgment made by the Administrator in reaching a Benchmark determination;
- c) Other changes in or deviations from standard procedures and Methodologies, including those made during periods of market stress or disruption;
- d) The identity of each person involved in producing a Benchmark determination; and
- e) Any queries and responses relating to data inputs.

If these records are held by a Regulated Market or Exchange the Administrator may rely on these records for compliance with this Principle, subject to appropriate written record sharing agreements.

When a Benchmark is based on Submissions, the following additional Principle also applies: Submitters should retain records for five years subject to applicable national legal or regulatory requirements on:

- a) The procedures and Methodologies governing the Submission of inputs;
- b) The identity of any other person who submitted or otherwise generated any of the data or information provided to the Administrator;
- c) Names and roles of individuals responsible for Submission and Submission oversight;
- d) Relevant communications between submitting parties;
- e) Any interaction with the Administrator;
- f) Any queries received regarding data or information provided to the Administrator;
- g) Declaration of any conflicts of interests and aggregate exposures to Benchmark related instruments;
- h) Exposures of individual traders/desks to Benchmark related instruments in order to facilitate audits and investigations; and
- i) Findings of external/internal audits, when available, related to Benchmark Submission remedial actions and progress in implementing them.

NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> • NDAL archives written records of approval notes, board and BVOC's minutes of the meeting related to the review of valuation methodologies (which is as per the requirements set out by the regulatory authorities) for at least 5 years. 	✓ Inspected the "NSE Data & Analytics Retention Policy" and noted that the policy mandates NDAL to retain written records of	No deviation observed



IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation

<ul style="list-style-type: none"> • The sourcing of market data by NDAL is leveraged through third party data aggregators for which it has controls in place. This data is maintained by the respective third parties and is publicly available on their websites. • NDAL does not receive valuations from submitters. It receives quotes from market participants, when needed, which may be utilized as one of the inputs for certain valuations. Data maybe obtained from regulatory/government entities, exchanges, market participants. NDAL performs quality checks on such quotes using a maker checker process. 	<p>approval notes, minutes of board and BVRC meetings, modifications to valuation methodology, queries concerning data inputs, etc. for at least five years.</p> <ul style="list-style-type: none"> ✓ For data for erstwhile period, we inspected the system to verify the data archived. ✓ We have verified website of NSE from where data is sourced ✓ Obtained a confirmation that NDAL does not publish valuations based on submissions since any data inputs taken from regulated entities/exchanges/government entities/market participants are not categorized as data submitters and their inputs are not classified as submissions. 	
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19. Cooperations with Regulatory Authorities

IOSCO Principle, NSE Data & Analytics Limited – Process and Self-Assessment, DDA – Aspects verified and Tests Performed, Test Results/Observation		
Cooperations with Regulatory Authorities:		
Relevant documents, Audit Trails and other documents subject to these Principles shall be made readily available by the relevant parties to the relevant Regulatory Authorities in carrying out their regulatory or supervisory duties and handed over promptly upon request		
NSE Data & Analytics Limited – Process and Self-Assessment	DDA – Aspects verified, and Tests Performed	Test Results/Observation
<ul style="list-style-type: none"> • NDAL fully co-operates with all regulatory authorities and provides all relevant information upon request (including but not limited to documents and audit trails) in order to carry out their regulatory and supervisory duties within the legal framework. • Documents and audit trails are readily available within the shared drive/portal and/or the website • As on October 31, 2024, there were no such information requests from the relevant regulatory authorities. 	<ul style="list-style-type: none"> ✓ Obtained confirmation from NDAL that there have been no such instances of communication with the regulatory body (SEBI) regarding any data requirements on Fixed Income valuations during the period under assessment 	No deviation observed



5. Glossary

Abbreviation	Details
NDAL	NSE Data & Analytics Limited
IOSCO	International Organization of Securities Commissions
BVOC	Bond Valuation Oversight Committee
BVAC	Bond Valuation Advisory Committee
SOP	Standard Operating Procedures
DDA	Dalal Doctor & Associates
NSE	NSE Limited
KMP	Key Managerial Personnel
HR	Human Resource
KRA	Key Responsibility Area
SEBI	Securities Exchange Board of India

