

NSE Indices Limited

Report on adherence with International Organization of Securities Commission (IOSCO) Principles for Financial Benchmarks

As on June 01, 2020

IOSCO Compliance Release Letter

NSE Indices Limited (formerly known as India Index Services & Products Limited) ("NSE Indices") Management Statement of Adherence with the International Organization of Securities Commissions ("IOSCO") Principles for Financial Benchmarks

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MANAGEMENT REPORT ON COMPLIANCE





MANAGEMENT REPORT ON COMPLIANCE

November 19, 2020

We, as members of management of NSE Indices Limited, (the Company) are responsible for complying with the specified requirements of Principles for Financial Benchmarks issued by the International Organization of Securities Commission (IOSCO) (the "Criteria"), as of June 01, 2020.

We also are 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 June 01, 2020. Based on this evaluation, we assert that as of June 01, 2020, the Company complied with the following specified requirements of the Criteria.

List of compliance requirements (Principles for Financial Benchmarks):

- Principle 1: Overall Responsibility of the Administrator
- Principle 2: Oversight of Third Parties
- Principle 3: Conflicts of Interest for Administrators
- Principle 4: Control Framework for Administrators
- Principle 5: Internal Oversight
- Principle 6: Benchmark Design
- Principle 7: Data Sufficiency
- Principle 8: Hierarchy of Data Inputs
- Principle 9: Transparency of Benchmark Determinations

- Principle 10: Periodic Review
- Principle 11: Content of the Methodology
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- Principle 18: Audit Trail
- Principle 19: Co-operation with Regulatory Authorities

In this report, the Company sets out a description of how the underlying controls address each of the Principles for Financial Benchmarks (IOSCO Principles), operated as of June 01, 2020, and we confirm that:

- (a) The report fairly describes such underlying controls which were in place as of June 01, 2020; and
- (b) The procedures are suitably designed such that the intent of the applicable IOSCO Principles is complied with.

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REPORT OF INDEPENDENT ACCOUNTANTS



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REPORT OF INDEPENDENT ACCOUNTANTS

To the Management of NSE Indices Limited

Gurugram - 122002

Harvana, India

We have reviewed management of NSE Indices Limited's ("Company" or "NSE Indices") assertion that the Financial Benchmarking Process followed by NSE Indices ("subject matter") as of June 01, 2020, is presented in accordance with the requirements of Principles for Financial Benchmarks issued by the International Organization of Securities Commission (IOSCO). NSE Indices' management is responsible for its assertion. Our responsibility is to express a conclusion on the management's assertion based on our review.

Management's Responsibilities

NSE Indices' management is responsible for having a reasonable basis for its assertion. Management is also responsible for ensuring that the Financial Benchmarking Process is designed, implemented, and monitored in accordance with the requirements of Principles for Financial Benchmarks (IOSCO Principles).

Ernst & Young's responsibilities

Our responsibility is to undertake a limited assurance engagement and review the responses provided by NSE Indices on it's assessment (self-assessment) described under "IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests" section of this report as of June 01, 2020 in accordance with the IOSCO Principles. Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants (AICPA) (AT-C Sections 105 and 210) and International Standard on Assurance Engagements 3000 (ISAE 3000) 'Assurance Engagements Other than Audits or Reviews of Historical Financial Information', issued by the International Auditing and Assurance Standards Board (IAASB). Those standards require that we plan and perform the review to obtain limited assurance about whether any material modifications should be made to management's assertion in order for it to be fairly stated. A review is substantially less in scope than an examination, the objective of which is to obtain limited assurance about whether management's assertion is fairly stated, in all material respects, in order to express an opinion. Accordingly, we do not express such an opinion. We believe that our review provides a reasonable basis for our conclusion. We did not perform any procedures regarding the operating effectiveness of the underlying controls related to the subject matter and, accordingly, do not express an opinion thereon.

Our Independence and Quality Control

We are independent of NSE Indices in accordance with the independence and other ethical requirements set forth in Code of Ethics for Professional Accountants of the International Ethics Standards Board for Accountants (the IESBA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

We apply the International Standard on Quality Control 1 (ISQC 1) and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.



Limitations

Our engagement was limited to the presentation of information in line with the requirements of IOSCO Principles. Because of their nature and inherent limitations, the underlying controls may not prevent, or detect and correct, all misstatements that may be considered relevant. Furthermore, the projection of any evaluations of effectiveness of the subject matter to future periods, or conclusions about the suitability of the design of the controls to achieve the related requirements of IOSCO Principles, is subject to the risk that the underlying controls related to the subject matter may become inadequate because of changes in conditions or that the degree of compliance with such controls may deteriorate.

Opinion

Based on the results of our procedures, nothing has come to our attention to indicate that the control procedures described in NSE Indices' statement of compliance in "IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests" section that relate to the IOSCO Principles which were in place as of June 01, 2020 is not fairly stated, in all material respects. Accordingly, we are not aware of any material modifications that should be made to management of NSE Indices' assertion in order for it to be fairly stated.

Restricted use

This report is intended solely for the information and use of the Board of Directors and the management of NSE Indices is to be read in conjunction with the *IOSCO Compliance Release Letter* issued at the beginning of the report.

For Ernst & Young Associates LLP

Anuj Gupta Associate Partner – Consulting Gurgaon, Haryana November 23, 2020

DESCRIPTION OF NSE INDICES LIMITED'S SERVICES AS OF JUNE 01, 2020

Overview of NSE Indices Limited

NSE Indices Limited (NSE Indices), a subsidiary of the National Stock Exchange (NSE) of India, provides a variety of indices and index related services for capital markets. NSE equity indices comprise of broad-based benchmark indices, sectoral indices, strategy indices, thematic indices, and customized indices. NSE Indices also maintains fixed income indices based on Government of India securities, corporate bonds, money market instruments, and hybrid indices. Many investment products based on these indices have been developed in India and overseas. These include index based derivatives traded on NSE, Singapore Exchange Ltd. (SGX), NSE IFSC, and a number of index funds & exchange traded funds. NSE Indices owns and manages a portfolio of 174 indices under the NIFTY brand (including NIFTY 50). The flagship 'NIFTY 50' index is widely tracked and traded as the benchmark for Indian Capital Markets.

Products and Services

NSE Indices offers a wide range of products and services which are key support tools for equity markets. It provides reliable, accurate, and valuable data on indices and index related services to cater to the needs of various segments of users. The indices are based on Indian equity markets, which may be used for benchmarking, trading, or research.

Financial Products on NSE Indices

NSE Indices maintains, develops, compiles and disseminates entire gamut of equity and fixed income indices. These indices are useful for fund managers, corporates, trading members, and other enterprises connected with investments in the capital markets. The indices can be used for tracking the markets, understanding the performance of a company vis-a-vis the market, determining how an investor's portfolio is performing as compared to the market, trading derivative products, and development of index based funds by mutual funds.

Data Subscription Services

NSE Indices offers a range of index products that provide ongoing and historical data and information on individual securities in India. These data products are designed for clients who require consistent measures of capital market performances as well as the underlying data on component securities. Investors, asset managers, and financial institutions use data related to indices developed by the NSE Indices for their benchmarking and indexing purposes. Index constituent data includes company names, identifiers, market capitalization, weights, and prices.

Customized Indices

NSE Indices develops and maintains certain customized indices for clients to help track the performance of the client portfolio vis-à-vis objectively defined benchmarks, or for benchmarking net asset value (NAV) performance to customized indices. The customized indices can be sub-sets of an existing index or a completely new index. Customized indices serve as the basis for multiple types of investment products such as structured products, over-the-counter (OTC) options and notes, mutual funds, and Exchange Traded Funds (ETFs).

Index Licensing

Indices developed by the NSE Indices are used as part of wide range of financial instruments offered

by financial institutions, asset management companies, etc., to their investors. These include structured financial products, index funds, and ETFs. A license from NSE Indices is required for creating a product based on or linked to an index developed by the NSE Indices. NSE Indices also offers annual global licenses covering all index-linked financial instruments by an institution, as well as licenses for single transactions.

Investors, asset managers, and financial institutions may use these indices to track the performance of funds, or as benchmarks for their actively managed portfolios, in particular. If an institution is benchmarking the performance of its product to any of the index developed by the NSE Indices, prior approval is required from NSE Indices along with payment of fees, where applicable. If the Asset Management Company (AMC) or the financial institution uses the NSE Indices trademarks and the indices as an underlying for their products, then it is mandatory for these financial institutions to seek NSE Indices' prior approval and executing a license agreement with NSE Indices.

Financial Benchmarking

In July 2013, the Board of the International Organization of Securities Commissions (IOSCO) issued the "Principles for Financial Benchmarks" with an aim to promote reliability of benchmark determinations and address benchmark governance, quality, and accountability mechanisms. Although the principles set out uniform expectations, IOSCO does not expect a one-size-fits-all method of implementation to achieve them. The principles provide a framework of standards that Administrators should implement according to the specificities of each benchmark. In particular, the application and implementation of the principles should be proportional to the size and risks posed by each benchmark and/or Administrator and the benchmark-setting process. Moreover, nothing in these principles is intended to restrict an Administrator from adopting its own unique methodology or from adapting their methodologies to changing market conditions in order to meet the principles.

The principles for Financial Benchmarks can be broadly encapsulated within the following categories:

Governance



Figure 1: Principles related to Governance

These principles are intended to ensure that Administrators will have appropriate governance arrangements in place in order to protect the integrity of the benchmark determination process and to address conflicts of interest. Specifically, the principles address the following:

Overview of Benchmark Determination

The end to end benchmark determination process for various equity indices in the active market is managed by NSE Indices (Administrator).

NSE Indices retains primary responsibility for all aspects of the Benchmark determination process. This includes development, determination & dissemination, operations and governance. Detailed index methodology document is transparently published on the NSE Indices website (<u>www.nseindia.com</u> and <u>www.niftyindices.com</u>) [SA-1a].

The index methodology document encapsulates the following details:

- Definition of the benchmark;
- Benchmark methodologies (benchmark determination process) for numerous indices; and
- Sources of data considered for index computation.

Furthermore, there exists a 'Delegation of Authority (DOA)' matrix which substantiates the roles and responsibilities of individuals in order to establish credible and transparent governance,

oversight, and accountability for the development, issuance, and operation of the benchmarks.

New index methodologies and index compositions are carried out by NSE Indices as per the defined Standard Operating Procedures (SOPs). Such changes are approved in accordance with the defined DOA matrix. Changes to existing index methodologies and index compositions follow a similar process. Post approvals, the new/ modified index compositions and the resultant indices are documented and made available on the website in the form of press releases.

Independent committees (Index Advisory Committee (IAC) and Index Maintenance Sub-Committee (IMSC)) have been appointed. While the IAC provide its guidance on macro issues pertaining to indices, IMSC takes decision on replacement of stocks and other aspects related to index administration. Additionally, independent audit of index administration is carried out on quarterly basis to ensure adherence to stated procedures **[SA-1b]**.

Agreements with Third Parties

NSE Indices does not outsource operational activities (related to it's benchmark determination process) to third parties.

All the indices at NSE Indices are computed and maintained independently by the in-house full time staff personnel of NSE Indices. NSE Indices sources data on prices and corporate data from NSE which is a regulated stock exchange in India. Besides this, for computation of fixed income, NSE Indices source data from its group company (NSE Data & Analytics Ltd.) and other third party data aggregators (government sponsored agencies/ IOSCO compliant organizations). The real time calculation of NSE Indices is carried out by NSE with whom NSE Indices has a written arrangement. Real time indices are disseminated through NSE trading terminals, website and third party data aggregators. Further data on company fundamentals, list of Shariah compliant stocks, Environmental, Social, and Governance (ESG) score etc. is sourced from third party data aggregators through written arrangements (which define the roles and obligations of each third party and the type of data disseminated by them). These agreements are approved by authorized personnel in accordance with the DOA matrix.

The aggregators do not participate in index computation/ maintenance. NSE Indices has controls in place to cross-validate data (wherever applicable) sourced from third party data aggregators. NSE Indices has Business Continuity Plans in place to ensure seamless calculation and dissemination of the index values and underlying data [SA-2].

Conflicts of Interest

NSE Indices, a group company of the NSE (regulated stock exchange), is a separate legal entity involved in independent development, calculation and maintenance of over 200 indices. NSE Indices maintains arms-length relationship with its group companies. For every business transaction between NSE Indices and NSE & group companies, NSE Indices has entered into written arrangements.

All indices at NSE Indices are developed through a structured approach of research and market consultation through proper documentation that protects the integrity and independence of benchmark determination. Further, a review of all NSE Indices is carried out based on an objective pre-defined selection criteria.

NSE Indices has defined Code of Ethics policy for identification, disclosure, management, mitigation, and avoidance of potential conflicts of interest and addressing the risks associated with it.

There is a clear demarcation of business functions such as index operations and business development teams. Each team functions independently to ensure that there is no conflict of interest. Roles and responsibilities of various business functions of NSE Indices have been segregated to ensure no direct or indirect influences in benchmark determination process.

NSE Indices comprises of qualified and experienced staff personnel with sound knowledge of financial market. Supervision and approval mechanism at different levels is in place prior to releasing the benchmark to ensure its integrity and quality. Furthermore, each employee involved in the benchmark determination process is subject to declarations of code of ethics.

Remuneration of staff is not linked to the level of indices, directly or indirectly.

Initiatives related to awareness about Information Security, Business Continuity and Code of Ethics are conducted periodically at a group level.

As on June 01, 2020, there were no conflicts of interest raised during the last one year [SA-3].

NSE Indices has a number of controls in place to ensure integrity of the index construction and maintenance and to manage conflicts of interest **[SA-4a]**.

Whistle Blowing Mechanism

NSE Indices has prescribed a "Whistle blowing policy" [SA-4b]. The policy contains the following:

- Procedures and mechanism for whistle blowing are detailed within the policy.
- External reporting mechanism is available on the NSE Indices website.
- External reporting mechanism is available through e-mail at <u>indices@nse.co.in</u>.

Succession Planning and Skill Development

NSE Indices comprises of qualified and experienced staff personnel with sound knowledge of financial market. Supervision and approval mechanism at different levels is in place prior to releasing the benchmark to ensure its integrity and quality **[SA-4c]**.

Employees of NSE Indices who are responsible for the benchmark determination process are provided product related training for skill development on a periodic basis. Further, continuity and succession planning for personnel is carried out at an organizational level on a periodic basis [SA-4d].

NSE Indices does not compute indices based on submissions [SA-4e].

Internal Oversight

In order to review and provide challenge on all aspects of benchmark determination and index computation processed, NSE Indices' board has constituted the IAC to formulate policies governing equity and fixed income indices. The IAC does not participate in the periodic review of indices.

In addition to the IAC, the IMSC has been constituted. The IMSC is responsible for periodic review of equity and fixed income indices based on the policies/ guidelines governing respective indices.

Each of these committees is represented by the industry experts. Members of the respective committees are independent of each other (except the exchange representative(s) who coordinate between the IAC and the IMSC and do not represent more than one committee. The committees comprise of representatives from financial market such as asset management company, insurance company, rating agency etc. Terms of references of each committee is defined and approved by the board. In order to maintain transparency, the names of the committee members are publicly displayed on the website.

NSE Indices does not compute indices based on submissions [SA-5].



Quality of the Benchmark

Figure 2: Principles related to Quality of the Benchmark

These principles are intended to promote the quality and integrity of benchmark determinations through the application of design factors that result in a benchmark that reflects a credible market for an Interest measured by that benchmark. Specifically, the principles address the following:

Design of Indices

NSE Indices follows a defined "process map" (product development process framework) for designing accurate and reliable indices in order to meet the requirements of market participants.

Index designing at NSE Indices is based on a two-fold approach. Firstly, it is a result of internal assessment of potential interest and benefit of the market participants. Secondly, it is based upon the market feedback that NSE Indices receives during continuous interaction with the market participants.

Benchmarks are designed keeping target theme into consideration and are screened for various parameters such as size, liquidity, concentration, and dynamics of the target market, and the underlying market universe to suit the theme. Accordingly, the benchmarks at NSE Indices seek to achieve and result in reliable representation of the underlying index theme [SA-6].

Data Inputs from Third Party Data Aggregators

NSE Indices sources market data from third party data aggregators with whom it has written arrangements in place. NSE Indices sources data on prices, corporate data from NSE which is a regulated stock exchange in India. Besides this, for computation of fixed income, NSE Indices sources data from its group company (NSE Data & Analytics Ltd.) and other third party data aggregators (government sponsored agencies/ IOSCO compliant organizations). NSE Indices has controls in place to cross-validate data (wherever applicable) sourced from third party data aggregators [SA-7] [SA-8a].

NSE Indices does not compute indices based on submissions [SA-8b].

The data obtained from third party data aggregators is reconciled (as applicable) to the source data as part of a checker activity. The end-of-day index computation and production (which is performed based on data received) is monitored by NSE Indices for accuracy. Furthermore, NSE Indices' oversight function objectively reviews all indices based on the criteria defined within the Index Methodology document.

Transparency of the Benchmark

NSE Indices transparently publishes the benchmark determination process (documented within its index methodology documents) on the website. The documents detail the methodology for calculation of the indices, selection criteria for all its indices, size, liquidity, concentration, and dynamics of the target market. The documents also provide information about the data used (along with its sources) for index computation.

Changes to the index methodology (along with the rationale, wherever applicable) are communicated to market participants via a press release well before the effective date of proposed changes **[SA-9]**.

Periodic Review of Indices

Index compositions may either remain constant or may be subject to change depending on the need of market participants. Therefore, on a periodic basis, NSE Indices reviews the composition of it's indices.

The IMSC reviews the composition of all indices maintained by NSE Indices as per the set periodicity applicable for each index. Besides this periodic review, additional changes to the index composition are made on a need basis in case of corporate events such as amalgamation, demerger, delisting, etc.

Changes to the index composition (along with the rationale, wherever applicable) are announced via a press release. Updated fixed income index portfolios are published on the website. Further, an index reconstitution calendar is published on the website at beginning of every calendar year.

During the year, methodology review of indices was carried out and changes were announced via a press release published on the website **[SA-10]**.



Quality of the Methodology

Figure 3: Principles related to Quality of the Methodology

These principles are intended to promote the quality and integrity of methodologies by setting out minimum information that should be addressed within a methodology, which should be published or made available so that stakeholders may understand and make their own judgments concerning the overall credibility of a benchmark. The methodology should also address the need for procedures that control when material changes are planned, as a means of alerting stakeholders to these changes that might affect their positions, financial instruments, or contracts. The principles also establish that Administrators should have credible policies in case a benchmark ceases to exist or stakeholders need to transition to another benchmark. These policies are intended to encourage Administrators and stakeholders to plan prospectively for the possible cessation of a benchmark. Principles should also address vulnerabilities in the submission process (e.g., conflict of interest, improper communication between Submitters and Administrators, selective Submission of data) by outlining the responsibilities that should be undertaken by Submitters (i.e., a Submitter Code of Conduct). Further, the principles also make clear the Administrator's responsibilities to have internal controls over the collection of data from regulated sources. Specifically, the principles address the following:

Transparency of the Methodology

NSE Indices transparently publishes the benchmark determination process (documented within its index methodology documents) on the website. The documents detail the methodology for calculation of the indices, selection criteria for all its indices, size and liquidity of the target market, etc. The documents also provide information about the data used (along its sources) for index computation. NSE Indices does not compute indices based on submissions **[SA-11] [SA-14]**.

Review of Changes to the Methodology

NSE Indices on an on-going basis reviews the index methodology through internal research, tracking global trends, and interaction & consultation with the market participants. The reviews are conducted in accordance with a documented internal process map.

Any proposed change in the index methodology is deliberated upon before making a final decision, post which the changes are approved by authorized personnel in accordance with the DOA matrix. Changes to the index methodology (along with the rationale, wherever applicable) are communicated to market participants via a press release well before the effective date of proposed changes. The documents related to changes in the index methodology (detailing index calculation method) are simultaneously updated and made available to the market participants through the website.

During the year, methodology review of indices was carried out and changes were announced via a press release published on the website **[SA-12]**.

Cessation of Indices

There maybe a scenario wherein a published index may no longer be useful for market participants and therefore would have to be discontinued. In such a scenario, NSE Indices would follow it's procedures related to cessation of indices.

Cessation of indices is rare, therefore in case of cessation of any of it's indices, NSE Indices would review the implications of its decision regarding discontinuation of the index to its market participants. NSE Indices has prescribed "Guidelines for Cessation of Indices". The guidelines contain details such as identifying an alternative benchmark, time period for the benchmark to be maintained before transitioning to a new benchmark, procedures to be followed in case an alternate benchmark cannot be identified, and engaging stakeholders and taking their views prior to cessation.

Based on these guidelines, the review of the proposed cessation of the index is carried out. The review may broadly involve market consultation, interactions with clients to assess the need for this index with respect to any of the products outstanding linked to the index, need for providing alternate index, etc. NSE Indices provides reasonable prior communication to the market participants before discontinuation of the index.

As on June 01, 2020, none of the indices calculated by NSE Indices were discontinued during the last one year **[SA-13]**.

Collection of Data from External Sources

NSE Indices sources data on prices, corporate actions, shareholding pattern etc. from NSE which is a regulated stock exchange. Further, NSE Indices also sources data on company fundamentals, MIBOR rate, Transactions in the overnight triparty Repo Dealing and Settlement (TREPS), foreign currency exchange rate, prices of fixed income securities, list of Shariah compliant stocks, etc. from third party data aggregators who do not participate in the index computation/ maintenance. NSE Indices has controls in place to cross-validate data (wherever applicable) sourced from third party data aggregators [SA-15].



Accountability

Figure 4: Principles related to Accountability

These principles establish complaints processes, documentation standards, and audit reviews that are intended to provide evidence of compliance by the Administrator with its quality standards, as defined by these Principles and its own policies. The principles also address making the foregoing information available to relevant Market Authorities. Specifically, the principles address the following:

Complaints Procedures

In order to address complaints by market participants regarding any indices, NSE Indices has prescribed "Guidelines on Grievance Redressal" for redressal of grievances. As per the guidelines, NSE Indices invites complaints, queries, and feedback through a designated e-mail ID published on the website. Additionally, a mechanism for anonymous tip-offs has been provided on the website, where the identity of a person submitting a complaint/ feedback is not revealed. Feedback and queries are noted and responded to by the relevant teams of NSE Indices whereas

complaints are directed to the senior officials of NSE Indices. Redressal complaints involving incorrect calculations, data usage, bribery, unethical practice of employees, insider trading etc. are escalated to the Chief Executive Officer (CEO) of NSE Indices.

NSE Indices maintains documentation related to complaints and records of approval notes, for a period of at least five years.

As on June 01, 2020, there were no complaints in the last one year [SA-16].

Audits and Evidence Retention

In order to demonstrate its adherence to IOSCO principles, NSE Indices periodically undergoes audits to carry out a review of its activities related to Governance, Quality of the Benchmark, Quality of the Methodology, and Accountability.

NSE Indices has engaged Ernst & Young Associates LLP as an external auditor to carry out a review of its adherence to IOSCO's prescribed principles. Currently, the NSE Indices' board has mandated for such an assessment to be carried out once every two years. Additionally, NSE Indices voluntarily conducts periodic internal audits to review the benchmark determination process and the operational activities related to index operations/ index maintenance followed by it's business functions. The audit reports are presented to the board [SA-17].

NSE Indices maintains written records of approval notes, minutes of meeting of the board and committees, related to the review of indices and index methodologies, for a period of at least five years (which is as per the requirements set out by the regulatory authorities). NSE Indices sources market data from third party data aggregators with whom it has written arrangements in place. However, this data and records related to it are maintained by the respective third parties. Further, NSE Indices does not publish indices based on submissions **[SA-18]**.

Co-operation with Regulatory Authorities

NSE Indices co-operates with the regulatory authorities and upon request provides relevant information (such as documents and audit trails) that may be available with NSE Indices in order for them to carry out their regulatory and/or supervisory duties within the legal framework, as applicable. Documents and audit trails are readily available within the system and/or the website **[SA-19]**.

IOSCO PRINCIPLES, NSE INDICES SELF-ASSESSMENT, TEST PERFORMED BY EY, AND RESULTS OF TESTS

Principle 1: Overall Responsibility of the Administrator

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
 IOSCO Principle #1: The Administrator should retain primary responsibility for all aspecta. Development: The definition of the Benchmark and Benchmark Determination and Dissemination: Accurate and timely compile Operation: Ensuring appropriate transparency over significant determination process, including contingency measures in the end of critical infrastructure, or other relevant factors; and Governance: Establishing credible and transparent governance process, including an identifiable oversight function accountable 	k Methodology; ation and publication and distribution of the Benchm nt decisions affecting the compilation of the Benc event of absence of or insufficient inputs, market stra- events, oversight and accountability procedures for the Benc	nark; chmark and any related ess or disruption, failure enchmark determination
 SA-1a: NSE Indices retains primary responsibility for all aspects of the Benchmark determination process. This includes development, determination & dissemination, operations and governance. Detailed index methodology document is transparently published on the NSE Indices website (www.nseindia.com and www.niftyindices.com). SA-1b: Independent committees (Index Advisory Committee (IAC) and Index Maintenance Sub-Committee (IMSC)) have been appointed. While the IAC provide its guidance on macro issues pertaining to indices, IMSC takes decision on replacement of stocks and other aspects related to index administration. Additionally, independent audit of index administration is carried out on quarterly basis to ensure adherence to stated procedures. 	 For a sample index, we inspected the methodology document and noted the following: Definition of the benchmark and benchmark determination methodology was evidenced in the methodology document. The maintenance of the methodology document was the responsibility of NSE Indices and that the document was publicly available on the NSE Indices website. For a sample index and a sample change, we inspected the press release and noted that the change in the methodology document was publicly communicated prior to it's effective date. 	No deviations noted.

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
	Further, for the sampled index and the sampled change, we inspected the methodology document, minutes of meeting of the committees, and approval notes, and noted that the change to the index methodology was approved in accordance with the DOA matrix.	
	Additionally, for the sampled index and sampled change, we inspected the minutes of meeting of the committees, and noted that the change in composition of the index & index methodology and the release of the index was approved by the members of the committee.	
	Further, for the sampled index, we inspected the NSE Indices website and noted that the updated methodology document was publicly available on the same.	
	For a sample index, we inspected the relevant factsheet and noted that it contained the index methodology, characteristics of the index, sector representation, market statistics, fundamentals, etc.	
	Further, for the sampled index, we inspected the NSE Indices website and noted that the factsheet was publicly available on the same.	

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment Test Performed by EY Results of Test		
	 For a sample index, we inspected the methodology document, minutes of meeting of the board and committees, and approval notes, and noted the following: Significant decisions affecting determination of index composition are documented and are publicly communicated. Approved methodology was applied for determination of revised index composition and the change was appropriately uploaded in NSE Indices' system as on its effective date. Index methodology review was performed by authorized personnel in accordance with the DOA matrix and index composition review was performed by the IMSC. 	
	 We inspected NSE Indices' governance structure and verified that there exists an oversight function to review all aspects of the benchmark determination process. Further, we inspected the roles and responsibilities of the following committees, which were part of the oversight function: IAC IMSC We noted that the roles and responsibilities of the aforementioned committees included formulating 	

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
	policies governing equity and fixed income indices, oversight of indices, development, issuance, and operation of indices, and approving changes to benchmark methodologies.	

Principle 2: Oversight of Third Parties

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
 IOSCO Principle #2: Where activities relating to the Benchmark determination process a or where a third party acts as Calculation Agent - the Administ Administrator (and its oversight function) should consider adopting e. Clearly define and substantiate through appropriate written am Benchmark determination process, as well as the standards the f. Monitor third parties' compliance with the standards set out by g. Make Available to Stakeholders and any relevant Regulatory Benchmark determination process; and h. Take reasonable steps, including contingency plans, to avoid Benchmark determination process. This Principle does not apply in relation to a third party from whon Exchange. 	strator should maintain appropriate oversight of s g policies and procedures that: rangements the roles and obligations of third partie Administrator expects these third parties to comply the Administrator; y Authority the identity and roles of third parties undue operational risk related to the participation	such third parties. The es who participate in the with; who participate in the n of third parties in the
SA-2: All the indices at NSE Indices are computed and maintained independently by the in-house full time staff personnel of NSE Indices. NSE Indices sources data on prices and corporate data from NSE which is a regulated stock exchange in India. Besides this, for computation of fixed income, NSE Indices source data from its group company (NSE Data & Analytics Ltd.) and other third party data aggregators (government sponsored agencies/IOSCO compliant organizations). The real time calculation of NSE Indices is carried out by NSE with whom NSE Indices has a written arrangement. Real time indices are disseminated through NSE trading terminals, website and third party data aggregators. Further data on company fundamentals, list of Shariah compliant	We obtained a confirmation from NSE Indices that it does not outsource any of its index operation related activities. For a sample third party data aggregator, we inspected the written agreement with NSE Indices and noted that it captured details related to sourcing of data for real-time index computation and that the agreement had defined within it the roles and obligations of the third party, the nature of data to be provided to NSE Indices and service delivery levels.	No deviations noted.

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
stocks, Environmental, Social, and Governance (ESG) score etc. is sourced from third party data aggregators through written arrangements (which define the roles and obligations of each third party and the type of data disseminated by them). These agreements are approved by authorized personnel in accordance with the DOA matrix. The aggregators do not participate in index computation/ maintenance. NSE Indices has controls in place to cross-validate data (wherever applicable) sourced from third party data aggregators. NSE Indices has Business Continuity Plans in place to ensure seamless calculation and dissemination of the index values and underlying data.	 Further, for the sampled third party data aggregator, we inspected the written agreement with NSE Indices and noted that it was approved by authorized personnel in accordance with the DOA matrix. We inspected the internal SOP related to the index calculation system and noted that it contained procedures related to checks over data sourced from third parties. Further, for a sample index, we inspected the relevant factsheet and noted that data inputs were reconciled to the source data as a part of checker activity. We inspected Business Continuity Plans and noted that contingency measures for seamless calculation and dissemination of the index values and underlying data were documented within the same. 	

Principle 3: Conflicts of Interest for Administrators

NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
IOSCO Principle #3:		
	hmark determinations, Administrators should document gement, mitigation or avoidance of conflicts of interest.	
Administrators should review and update their poli	icies and procedures as appropriate.	
Administrators should disclose any material conflic	cts 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 inter	rest identified and the risks that th
Benchmark poses and should seek to ensure:		
	t inappropriately influence Benchmark determinations;	
	connections do not compromise the administrator's per-	
	ninistrator, where appropriate, to clearly define response	sibilities and prevent unnecessary of
undisclosed conflicts of interest or the percepti		• • •
	ed or qualified employees prior to releasing Benchmark	
		ammistrator, subject to the disclosu
······································	er inputs submitted to, received by or produced by the A	
obligations of the Administrator;		lving a risk of conflicts of interest
obligations of the Administrator; f. Effective procedures to control the exchange of	of information between staff engaged in activities invol	
obligations of the Administrator;f. Effective procedures to control the exchange of between staff and third parties, where that information of the staff and third parties.	of information between staff engaged in activities invol rmation may reasonably affect any Benchmark determin	nations; and
obligations of the Administrator;f. Effective procedures to control the exchange of between staff and third parties, where that information of the staff and third parties.	of information between staff engaged in activities invol rmation may reasonably affect any Benchmark determin staff who participate in the Benchmark determination a	nations; and
obligations of the Administrator;f. Effective procedures to control the exchange of between staff and third parties, where that inforg. Adequate remuneration policies that ensure all or incentivised by the levels of the Benchmark.	of information between staff engaged in activities invol rmation may reasonably affect any Benchmark determin staff who participate in the Benchmark determination a	nations; and are not directly or indirectly rewarde
 obligations of the Administrator; f. Effective procedures to control the exchange of between staff and third parties, where that inforg. Adequate remuneration policies that ensure all or incentivised by the levels of the Benchmark. An Administrator's conflict of interest framework 	of information between staff engaged in activities invol rmation may reasonably affect any Benchmark determin staff who participate in the Benchmark determination a	nations; and are not directly or indirectly reward created by its ownership structure

NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
a. Include measures to avoid, mitigate or disclose conflicts of inte all staff who perform or otherwise participate in Benchmark pro of its affiliates; and		
Provide that an Administrator discloses conflicts of interest arisi	ing from the ownership structure or the control of	the Administrator to its
Stakeholders and any relevant Regulatory Authority in a timely ma	anner.	
SA-3: NSE Indices, a group company of the NSE (regulated stock exchange), is a separate legal entity involved in independent development, calculation and maintenance of over 200 indices. NSE Indices maintains arms-length relationship with its group companies. For every business transaction between NSE Indices and NSE & group companies, NSE Indices has entered into written arrangements.	We inspected the Code of Ethics policy maintained on the NSE Indices' internal portal and noted that there existed a framework for identification, disclosure, management, mitigation, and avoidance of potential conflicts of interest and addressing the risks associated with it.	No deviations noted.
All indices at NSE Indices are developed through a structured approach of research and market consultation through proper documentation that protects the integrity and independence of benchmark determination. Further, a review of all NSE Indices is carried out based on an objective pre-defined selection criteria. NSE Indices has defined Code of Ethics policy for identification, disclosure, management, mitigation, and avoidance of potential conflicts of interest and addressing the risks associated with it. There is a clear demarcation of business functions such as index operations and business development teams. Each team functions independently to ensure that there is no conflict of interest. Roles and responsibilities of various business functions	We inspected the organization structure of NSE Indices and noted that roles, responsibilities, and reporting lines were clearly defined. Additionally, we inspected the roles and responsibilities of the business functions of NSE Indices and noted that they had been segregated to avoid conflicts of interest. For a sample index and a sample change, we inspected the methodology document, minutes of meeting of the committees, and approval notes, and noted that the change to the index methodology was approved in accordance with the DOA matrix.	

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
of NSE Indices have been segregated to ensure no direct or indirect influences in benchmark determination process. NSE Indices comprises of qualified and experienced staff personnel with sound knowledge of financial market. Supervision and approval mechanism at different levels is in place prior to releasing the benchmark to ensure its integrity and quality. Furthermore, each employee involved in the benchmark determination process is subject to declarations of code of ethics. Remuneration of staff is not linked to the level of indices, directly or indirectly. Initiatives related to awareness about Information Security, Business Continuity and Code of Ethics are conducted periodically at a group level. As on June 01, 2020, there were no conflicts of interest raised during the last one year.	Additionally, for the sampled index and sampled change, we inspected the minutes of meeting of the committees and noted that the change in composition of the index & index methodology and the release of the index was approved by the members of the committee. For a sample employee responsible for performing benchmark determination, we inspected the Key Result Areas (KRAs) on the NSE Indices' internal portal to determine whether the employee had provided a declaration on code of ethics. Further, we obtained a management representation from the Human Resources (HR) Department stating that "Staff of NSE Indices who participate in benchmark determination are not rewarded through any incentive plan." We inspected the induction training deck for new joiners and noted that the compliance trainings covered topics such as Information Security, Business Continuity Awareness, and Code of Ethics Declarations. We obtained a confirmation from NSE Indices that as on June 01, 2020, there were no conflicts of interest raised during the last one year.	

Principle 4: Control Framework for Administrators

NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
IOSCO Principle #4:		
 An Administrator should implement an appropriate control framework should be appropriately tailored to the use of discretion in the Benchmark setting process documented and available to relevant Regulatory Author Stakeholders. This control framework should be r following areas: a. Conflicts of interest in line with Principle 3 on control. Integrity and quality of Benchmark determination: Arrangements to ensure that the quality and the Benchmark and Methodology; Arrangements to promote the integrity of Bill. Arrangements to ensure accountability and iv. Providing robust infrastructure, policies and context. 	the materiality of the potential or existing conflicts and to the nature of Benchmark inputs and outputs porities, if any. A summary of its main features show reviewed periodically and updated as appropriate.	s of interest identified, the extent . The control framework should l uld be Published or Made Availab The framework should address th n principles 6 to 15 on the quality on input sources; principles 16 to 19; and operational risk. to facilitate early awareness of an
i. Ensuring Benchmark determinations are ma review of their competence; and	ade by personnel who possess the relevant levels of e	
ii. Staff training, including ethics and conflict	s of interest training, and continuity and succession	planning for personnel.
Where a Benchmark is based on Submissions: Admini		
 Ensuring as far as possible that the Submitters com underlying Interest measured by the Benchmark; 	prise an appropriately representative group of partic	cipants taking into consideration t
b. Employing a system of appropriate measures so that in the Submitter Code of Conduct and the Adminis		

NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
 c. Specifying how frequently Submissions should be made and s determination; and Establishing and employing measures to effectively monitor and prepublication monitoring to identify and avoid errors in inputs or 	scrutinize inputs or Submissions. This should inc	elude pre-compilation o
SA-4a: NSE Indices has a number of controls in place to ensure integrity of the index construction and maintenance and to manage conflicts of interest.	For item (a), please refer Tests Performed for Principle 3.	No deviations noted.
For response to item (a), please refer NSE Indices Self-Assessment for Principle 3.	For item (b) (i), please refer Tests Performed for Principles 6 to 15.	
For response to item (b) (i), please refer NSE Indices Self-Assessment for Principals 6 to 15.	For response to item (b) (iii), please refer Tests Performed for Principles 16 to 19.	
For response to item (b) (iii), please refer NSE Indices Self-Assessment for Principals 16 to 19.	For item (c), we inspected the "Whistle blowing policy" and noted the following:Procedures and mechanism for whistle	
SA-4b: For item (c), NSE Indices has prescribed a "Whistle blowing policy".	 blowing are detailed within the policy. External reporting mechanism is available on the NSE Indices website. 	
SA-4c: For item (d) (i), NSE Indices comprises of qualified and experienced staff personnel with sound knowledge of financial	• External reporting mechanism is available through e-mail at indices@nse.co.in.	
market. Supervision and approval mechanism at different levels is in place prior to releasing the benchmark to ensure its integrity and quality.	For a sample employee responsible for performing benchmark determination, we inspected the KRAs on the NSE Indices' internal portal and noted that initial, mid-year, and annual	
For item (d) (ii), Employees of NSE Indices who are responsible for the benchmark determination process are provided product	portar and noted that initial, init-year, and annual	

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests			
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests	
related training for skill development on a periodic basis. Further, continuity and succession planning for personnel is carried out at an organizational level on a periodic basis. SA-4e: NSE Indices does not compute indices based on submissions.	 performance reviews were conducted and signed-off by reporting managers. For item (d), we inspected NSE Indices' succession plans and noted that succession plans were documented for the key personnel involved in the benchmark determination process. We inspected the employee training plan and noted that it covered the following trainings: Periodic trainings on functional subjects covering benchmark determination process, statistics, econometrics & simulation, advanced excel and product trainings. Information Security. Business Continuity Awareness. Code of Ethics. We obtained a confirmation from NSE Indices that it does not publish indices based on submissions. 		

Principle 5: Internal Oversight

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests

IOSCO Principle #5:

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 authorizing 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:
IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests NSE Indices Self-Assessment Results of Tests Test Performed by EY i. Overseeing the management and operation of the Benchmark, including activities related to Benchmark determination undertaken by a third party: 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 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.

SA-5: In order to review and provide challenge on all aspects of	We inspected NSE Indices' governance structure	No deviations noted.
benchmark determination and index computation processed, NSE	and verified that there exists an oversight function	
Indices' board has constituted the IAC to formulate policies	to review all aspects of the benchmark	
governing equity and fixed income indices. The IAC does not	determination process. Further, we inspected the	
participate in the periodic review of indices.	roles and responsibilities of the following	
	committees, which were part of the oversight	
In addition to the IAC, the IMSC has been constituted. The	function:	
IMSC is responsible for periodic review of equity and fixed	• IAC	
income indices based on the policies/ guidelines governing	• IMSC	
respective indices.		

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
Each of these committees is represented by the industry experts. Members of the respective committees are independent of each other (except the exchange representative(s) who coordinate between the IAC and the IMSC and do not represent more than one committee. The committees comprise of representatives from financial market such as asset management company, insurance company, rating agency etc. Terms of references of each committee is defined and approved by the board. In order to maintain transparency, the names of the committee members are publicly displayed on the website. NSE Indices does not compute indices based on submissions.	 We noted that the roles and responsibilities of the aforementioned committees included formulating policies governing equity and fixed income indices, oversight of indices, development, issuance, and operation of indices, and approving changes to benchmark methodologies. We inspected the DOA matrix and noted that it was approved by the board. We inspected the terms of reference of each committee and noted that they were approved by the board. We obtained a confirmation from NSE Indices that the constitution of each committee is approved by the board. Further, we inspected the NSE Indices website and noted that details of the committee members were publicly displayed on the website. For a sample index, we inspected the methodology document, minutes of meeting of the committees, and approval notes, and noted the following: The approved index methodology was applied to the system. 	

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	ISE Indices Self-Assessment Test Performed by EY Results of T	
	 Index methodology review (for a sample month) was performed by NSE Indices and the index constitution review was performed by the IMSC. Data inputs were reconciled to the source data as part of a checker activity. Re-performance of automated comparison for each day between the real-time and end of day equity indices to evidence differences. End-of-day index computation was triggered and monitored for completion by the Operations team of NSE Indices. End-of-day indices were distributed automatically via SFTP and/or secure HTTPS protocol on the website or via e-mail (as applicable). Further, we obtained a confirmation from NSE Indices that it does not publish indices based on submissions. 	

Principle 6: Benchmark Design

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
 IOSCO Principle #6: The design of the Benchmark should seek to achieve, and result Interest it seeks to measure, and eliminate factors that might re Benchmark design should take into account the following generic m 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 c. Relative size of the underlying market in relation to the volume d. The distribution of trading among Market Participants (market e. Market dynamics (e.g., to ensure that the Benchmark reflects c 	esult in a distortion of the price, rate, index or val nonexclusive features, and other factors should be cor there is sufficient trading to provide observable, tran e of trading in the market that references the Benchn concentration); and	lue of the Benchmark. nsidered, as appropriate
 SA-6: Index designing at NSE Indices is based on a two-fold approach. Firstly, it is a result of internal assessment of potential interest and benefit of the market participants. Secondly, it is based upon the market feedback that NSE Indices receives during continuous interaction with the market participants. Benchmarks are designed keeping target theme into consideration and are screened for various parameters such as size, liquidity, concentration, and dynamics of the target market, and the underlying market universe to suit the theme. Accordingly, the benchmarks at NSE Indices seek to achieve and result in reliable representation of the underlying index theme. 	 For a sample index, we inspected the methodology document, minutes of meeting of the committees, and approval notes, and noted the following: The index was developed based on a defined "process map" (product development process framework) and the index methodology document. The document included key information such as: Market sample considered Computational methodology which includes taking into account the size, liquidity, concentration, and dynamics of the target market 	No deviations noted.

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
	 Data sources used Instructions for dissemination (based on market feedback from participants) Rebalancing rules and frequency Procedure for dealing with error reports Frequency of internal reviews Circumstances where NSE Indices would consult stakeholders Limitations of benchmark The methodology was reviewed by authorized personnel in accordance with the DOA matrix. 	

Principle 7: Data Sufficiency

IOSCO Principles, NSE Indices Self-Assessment, Tes	t Performed by EY, and Results of Tests	
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
IOSCO Principle #7:		

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, Armlength 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.

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
SA-7: NSE Indices sources market data from third party data aggregators with whom it has written arrangements in place. NSE Indices sources data on prices, corporate data from NSE which is a regulated stock exchange in India. Besides this, for computation of fixed income, NSE Indices sources data from its group company (NSE Data & Analytics Ltd.) and other third	For a sample third party data aggregator, we inspected the written agreement with NSE Indices, and noted that it captured details related to sourcing of data for real-time index computation.	No deviations noted.
party data aggregators (government sponsored agencies/ IOSCO compliant organizations). NSE Indices has controls in place to cross-validate data (wherever applicable) sourced from third party data aggregators.	Further, for the sampled third party data aggregator, we inspected the written agreement and noted that the third party data aggregator from whom prices were sourced was a regulated exchange/ government sponsored agency/ IOSCO compliant organization.	
	For a sample index, we inspected the methodology document, minutes of meeting of the committees, and approval notes, and noted the following:	
	The approved index methodology was applied to the system.Index methodology review (for a sample	
	month) was performed by NSE Indices and the index constitution review was performed by the IMSC.	
	• Data inputs were reconciled to the source data as part of a checker activity.	
	• End-of-day index computation was triggered and monitored for completion by the Operations team of NSE Indices.	

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
	• End-of-day indices were distributed automatically via SFTP and/or secure HTTPS protocol on the website or via e-mail (as applicable).	

Principle 8: Hierarchy of Data Inputs

NSE Indices Self-Assessment Test Performed by EY Results of Tests IOSCO Principle #8: An Administrator should establish and Publish or Make Available clear guidelines regarding the hierarchy of data inputs and exercise of Exper 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 armlength 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, non transactional data such as bids and offers and extrapolations from prior transactions might predominate in a given Benchmark	IOSCO Principles, NSE Indices Self-Assessment, Test Perform	ed by EY, and Results of Tests	
 An Administrator should establish and Publish or Make Available clear guidelines regarding the hierarchy of data inputs and exercise of Exper 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 armlength 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 	NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
 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 armlength 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 	OSCO Principle #8:		
transactional data such as hids and otters and extrapolations from prior transactions might predominate in a given Renchmark	 An Administrator should establish and Publish or Make Available of Judgment used for the determination of Benchmarks. In general, tfa. Where a Benchmark is dependent upon Submissions, the Submerelated markets; b. Reported or observed concluded Arm's-length Transactions in c. Reported or observed concluded Arm's-length Transactions in d. Firm (executable) bids and offers; and e. Other market information or Expert Judgments. Provided that Principle is not intended to restrict an Administrator's flexibility quality, integrity, continuity and reliability of its Benchmark Administrator should retain flexibility to use the inputs it believe of its Benchmark. For example, certain Administrators may dewhen transactions may not be consistently available each day liquidity market) when a confirmed bid or offer might carry market. 	he hierarchy of data inputs should include: nitters' own concluded armlength transactions in the the underlying interest; related markets; at the Data Sufficiency Principle is met (i.e., an acti y to use inputs consistent with the Administrator's ap k determinations, as set out in the Administrator' res are appropriate under its Methodology to ensure the cide to rely upon Expert Judgment in an active albeit 7. IOSCO also recognizes that there might be circ more meaning than an outlier transaction. Under the	e underlying interest of ive market exists), this oproach to ensuring the 's Methodology. The he quality and integrity it low liquidity market umstances (e.g., a low se circumstances, non
	aggregators with whom it has written arrangements in place. NSE Indices sources data on prices, corporate data from NSE which is a regulated stock exchange in India. Besides this, for computation of fixed income, NSE Indices sources data from its group company (NSE Data & Analytics Ltd.) and other third	inspected the written agreement and noted that the third party data aggregator from whom prices were sourced was a regulated exchange/ government sponsored agency/ IOSCO compliant	

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
cross-validate data (wherever applicable) sourced from third party data aggregators. SA-8b: NSE Indices does not compute indices based on submissions.	Further, we obtained a confirmation from NSE Indices that it does not publish indices based on submissions.	

Principle 9: Transparency of Benchmark Determinations

IOSCO Principles, NSE Indices Self-Assessment, Test Perform	ed by EY, and Results of Tests	
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
 IOSCO Principle #9: The Administrator should describe and publish with each Benchmar publication deadline: a. A concise explanation, sufficient to facilitate a Stakeholder's developed, including, at a minimum, the size and liquidity of t submitted), the range and average volume and range and average been considered in a Benchmark determination; terms referring spread-based or interpolated/extrapolated); and b. A concise explanation of the extent to which and the basis up determination. 	s or Market Authority's ability to understand how he market being assessed (meaning the number and ge of price, and indicative percentages of each type o ng to the pricing Methodology should be included (the determination was volume of transactions f market data that have (i.e., transaction based,
SA-9: NSE Indices transparently publishes the benchmark determination process (documented within its index methodology documents) on the website. The documents detail the methodology for calculation of the indices, selection criteria for all its indices, size, liquidity, concentration, and dynamics of the target market. The documents also provide information about the data used (along with its sources) for index computation. Changes to the index methodology (along with the rationale, wherever applicable) are communicated to market participants via a press release well before the effective date of proposed changes.	 For a sample index, we inspected the methodology document, minutes of meeting of the committees, and approval notes, and noted the following: The methodology was reviewed by authorized personnel in accordance with the DOA matrix. The methodology contained a rationale for adopting the particular methodology based on it's representativeness of the target theme of the underlying market and it's relevance to stakeholders. The document included key information such as: Market sample considered 	No deviations noted.

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
	 Computational methodology whi includes taking into account the siz liquidity, concentration, and dynami of the target market Data sources used Instructions for dissemination (base on market feedback from participant Rebalancing rules and frequency Procedure for dealing with err reports Frequency of internal reviews Circumstances where NSE Indic would consult stakeholders Limitations of benchmark 	ze, cs ed ts) ror
	Further, for the sampled index, we inspected to NSE Indices website and noted that to methodology document was publicly available the same.	he
	For a sample index and a sample change, we inspected the press release and noted that it change in the methodology document (along we rationale for the change) was public communicated prior to it's effective date.	he ith

Principle 10: Periodic Review

NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
IOSCO Principle #10: The Administrator should periodically review the conditions in the Interest has undergone structural changes that might require cha periodically review whether the Interest has diminished or is non- Benchmark. The Administrator should Publish or Make Available Benchmark, including the rationale for the revisions.	nges to the design of the Methodology. The Adr functioning such that it can no longer function as t	ninistrator also should the basis for a credible
SA-10: The IMSC reviews the composition of all indices maintained by NSE Indices as per the set periodicity applicable for each index. Besides this periodic review, additional changes to the index composition are made on a need basis in case of corporate events such as amalgamation, demerger, delisting, etc. Changes to the index composition (along with the rationale, wherever applicable) are announced via a press release. Updated fixed income index portfolios are published on the website. Further, an index reconstitution calendar is published on the website at beginning of every calendar year. During the year, methodology review of indices was carried out and changes were announced via a press release published on the website.	 For a sample index, we inspected the minutes of meeting of the committees and approval notes, and noted the following: For a sample month, inspected the minutes of meeting, and noted that review of the index's composition was carried out by the IMSC and documented within the index's factsheet. Further, noted that the factsheet was available on the website. Annual review of the index methodology was carried out by the NSE Indices product team. Further, for the sampled index and a sampled change, we inspected the press release and noted that the change in the methodology document (along with rationale for the change) was publicly communicated prior to it's effective date. 	No deviations noted.

Principle 11: Content of the Methodology

NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
IOSCO Principle #11:		
The Administrator should document and Publish or	Make Available the Methodology used to make	Benchmark determinations. The
Administrator should provide the rationale for adopting	ng a particular Methodology. The Published Meth	odology should provide sufficien
detail to allow Stakeholders to understand how the B	Benchmark is derived and to assess its representati	veness, its relevance to particula
Stakeholders, and its appropriateness as a reference for	financial instruments. At a minimum, the Methodo	ology should contain:
a. Definitions of key terms;		
b. All criteria and procedures used to develop the Ben	chmark, including input selection, the mix of inputs	used to derive the Benchmark, th
guidelines that control the exercise of Expert Judgm	nent by the Administrator, priority given to certain d	ata types, minimum data needed t
determine a Benchmark, and any models or extrapo		• •
c. Procedures and practices designed to promote const		Benchmark determinations;
d. The procedures which govern Benchmark determin	nation in periods of market stress or disruption, or p	periods where data sources may b
absent (e.g., theoretical estimation models);		•
e. The procedures for dealing with error reports, inclu	ding when a revision of a Benchmark would be app	licable;
f. Information regarding the frequency for interna		
Methodologies should also include information reg		
g. The circumstances and procedures under which the		
h. The identification of potential limitations of a Be	nchmark, including its operation in illiquid or frag	gmented markets and the possib
concentration of inputs. Where a Benchmark is ba	ased on Submissions, the additional Principle also	applies: The Administrator shou
-	g Submitters. The criteria should consider any issu	
Submitter, if in a different jurisdiction to the Admi	nistrator. These criteria should be available to any	relevant Regulatory Authorities,
	ers. Any provisions related to changes in compositi	u
be made clear.		6 1

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
SA-11: NSE Indices transparently publishes the benchmark determination process (documented within its index methodology documents) on the website. The documents detail the methodology for calculation of the indices, selection criteria for all its indices, size and liquidity of the target market, etc. The documents also provide information about the data used (along its sources) for index computation. NSE Indices does not compute indices based on submissions.	 For a sample index, we inspected the methodology document, minutes of meeting of the committees, and approval notes, and noted the following: The methodology was reviewed by authorized personnel in accordance with the DOA matrix. The methodology contained a rationale for adopting the particular methodology based on it's representativeness of the target theme of the underlying market and it's relevance to stakeholders. The document included key information such as: Definition of key terms Computational methodology (including criteria and size & liquidity of target market) Data sources used Instructions for dissemination (based on market feedback from participants) Rebalancing rules and frequency Procedure for dealing with error reports Frequency of internal reviews Circumstances where NSE Indices would consult stakeholders 	No deviations noted.

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
	Further, for the sampled index, we inspected the NSE Indices website and noted that the methodology document was publicly available on the same.	
	Additionally, we obtained a confirmation from NSE Indices that it does not publish indices based on submissions.	

Principle 12: Changes in the Methodology

NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
IOSCO Principle #12:		
 An Administrator should Publish or make Available the r making such changes. These procedures should clearly de or notifying Subscribers (and other Stakeholders where an changes. Those procedures should be consistent with the or Benchmark determinations. When changes are proposed, are intended to apply. The Administrator should specify he Administrator should develop Stakeholder consultation protoversight function, and that are appropriate and proport Stakeholders. Procedures should: a. Provide advance notice and a clear timeframe that gives proposed material changes, having regard to the Administrator b. Provide for Stakeholders' summary comments, and the all Stakeholders after any given consultation period, extended. 	efine what constitutes a material change, and the met ppropriate, taking into account the breadth and depu- overriding objective that an Administrator must ensur- the Administrator should specify exactly what these ow changes to the Methodology will be scrutinised, I ocedures in relation to changes to the Methodology the ionate to the breadth and depth of the Benchmark s Stakeholders sufficient opportunity to analyse and con- sistrator's assessment of the overall circumstances; a e Administrator's summary response to those comm	thod and timing for consulting th of the Benchmark's use) of re the continued integrity of its changes entail and when they by the oversight function. The hat are deemed material by the k's use and the nature of the comment on the impact of such and nents, to be made accessible to
SA-12: NSE Indices on an on-going basis reviews the		
methodology through internal research, tracking global tr		
and interaction & consultation with the market participants reviews are conducted in accordance with a documented in		
reviews are conducted in accordance with a documented in	publicity communicated prior to it's effectiv	e date.
process map		
process map.	Further, for the sampled index and the sa	umpled
	Further, for the sampled index and the sa change, we inspected the methodology doct	
Any proposed change in the index methodology is delibe	erated change, we inspected the methodology docu	ument,
Any proposed change in the index methodology is delibered upon before making a final decision, post which the changer approved by authorized personnel in accordance with the	eratedchange, we inspected the methodology docu- minutes of meeting of the committees approval notes, and noted the following:	ument, s, and
matrix. Changes to the index methodology (along wit	 change, we inspected the methodology doct es are minutes of meeting of the committees approval notes, and noted the following: The methodology was reviewed by auth 	ument, s, and horized
Any proposed change in the index methodology is delibered upon before making a final decision, post which the changer approved by authorized personnel in accordance with the	 change, we inspected the methodology doct minutes of meeting of the committees approval notes, and noted the following: The methodology was reviewed by auth personnel in accordance with the 	ument, s, and norized DOA

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
proposed changes. The documents related to changes in the index methodology (detailing index calculation method) are simultaneously updated and made available to the market participants through the website. During the year, methodology review of indices was carried out and changes were announced via a press release published on the website.	 index and it's methodology were approved by the IMSC. Further, the release of the index was approved by the members of the committee. The document included key information such as: Definition of key terms Computational methodology (including criteria and size & liquidity of target market) Data sources used Instructions for dissemination (based on market feedback from participants) Rebalancing rules and frequency Procedure for dealing with error reports Frequency of internal reviews Circumstances where NSE Indices would consult stakeholders Limitations of benchmark Additionally, for the sampled index, we inspected the NSE Indices website and noted that the updated methodology document was publicly available on the same. 	

Principle 13: Transition

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests

IOSCO Principle #13:

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

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
e. The process by which the Administrator will engage Stakehol process for selecting and moving towards an alternative Bench tenors of the financial instruments referencing the Benchmarks	mark, including the timeframe for any such action of and the adequacy of notice that will be provided to	commensurate with the Stakeholders.
 SA-13: Cessation of indices is rare, therefore in case of cessation of any of it's indices, NSE Indices would review the implications of its decision regarding discontinuation of the index to its market participants. NSE Indices has prescribed "Guidelines for Cessation of Indices". The guidelines contain details such as identifying an alternative benchmark, time period for the benchmark to be maintained before transitioning to a new benchmark, procedures to be followed in case an alternate benchmark cannot be identified, and engaging stakeholders and taking their views prior to cessation. Based on these guidelines, the review of the proposed cessation of the index is carried out. The review may broadly involve market consultation, interactions with clients to assess the need for this index with respect to any of the products outstanding linked to the index, need for providing alternate index, etc. NSE Indices provides reasonable prior communication to the market participants before discontinuation of the index. As on June 01, 2020, none of the indices calculated by NSE Indices were discontinued during the last one year. 	 We inspected the "Guidelines for Cessation of Indices" and noted the following: The guidelines detailed procedures followed by NSE Indices in the event of cessation of a benchmark. The guidelines further contained details related to identification of an alternative benchmark, time period for the benchmark to be maintained before transitioning to a new benchmark, procedures to be followed in case an alternate benchmark cannot be identified, and engaging stakeholders and taking their views prior to cessation. The guidelines detailed procedures related to discussions in the form of Voice of Customer (VOC) undertaken as market feedback. The guidelines further detailed that an internal analysis based on market feedback and need for cessation undertaken prior to cessation of the benchmark was to be conducted. We obtained a confirmation from NSE Indices that as on June 01, 2020, no indices were discontinued during the last one year. 	No deviations noted.

Principle 14: Submitter Code of Conduct

NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
OSCO Principle #14:		
Where a Benchmark is based on Submissions, the following ac		
For Submitters ("Submitter Code of Conduct"), which should		
Made Available to Stakeholders. The Administrator should on		
of Conduct and the Administrator should appropriately monited		
Submitters to confirm adherence to the Submitter Code of Cor		
occurred. The Administrator's oversight function should be r	esponsible for the continuing review and o	oversight of the Submitter Code
Conduct. The Submitter Code of Conduct should address:		
a. The selection of inputs;		
b. Who may submit data and information to the Administrator		
e. Quality control procedures to verify the identity of a Submi		no report(s) data or information and
the authorization of such person(s) to report market data on		
1. Criteria applied to employees of a Submitter who are permit		ninistrator on behalf of a Submitte
e. Policies to discourage the interim withdrawal of Submitters		
Policies to encourage Submitters to submit all relevant data		
g. The Submitters' internal systems and controls, which should		
i. Procedures for submitting inputs, including Methodo	plogies to determine the type of eligible inp	uts, in line with the Administrator
Methodologies;		
ii. Procedures to detect and evaluate suspicious inputs nature of such inputs, where appropriate;	or transactions, including intergroup transa	ctions, and to ensure the Bona Fie
iii. Policies guiding and detailing the use of Expert Judg	gment, including documentation requirement	nts;
iv. Record keeping policies;		
v. Pre-Submission validation of inputs, and procedures	1 · ·	▲ ·
vi. Training, including training with respect to any relevant	vant regulation (covering Benchmark regul	ation or any market abuse regime
vii. Suspicious Submission reporting;		
viii. Roles and responsibilities of key personnel and a		
ix. Internal sign off procedures by management for sub-	mitting inputs.	

NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
 x. Whistle blowing policies (in line with Principle 4); and xi. Conflicts of interest procedures and policies, including the Administrator is satisfied that there are adequate Submissions of data to an Administrator (including sa paragraphs (v) and (ix) above), the physical separation how to identify, disclose, manage, mitigate and avoid inputs (whether or not in order to influence the Benchma policies and by effectively addressing conflicts of interes all staff who perform or otherwise participate in Benchma or of any of its affiliates or any of their respective client 	prohibitions on the Submission of data from Front of internal oversight and verification procedures for feguards and supervision to address possible conf- of employees and reporting lines where appropria existing or potential incentives to manipulate or of ark levels), including, without limitation, through ap st which may exist between the Submitter's Submissi- mark Submission responsibilities), and any other bu	Front Office Function licts of interests as per- te, the consideration of therwise influence date propriate remuneration ion activities (includin
SA-14: NSE Indices transparently publishes the benchmark determination process (documented within its index methodology documents) on the website. The documents detail the methodology for calculation of the indices, selection criteria for all its indices, size and liquidity of the target market, etc. The documents also provide information about the data used (along its	We obtained a confirmation from NSE Indices that it does not publish indices based on submissions.	No deviations noted.

Principle 15: Internal Controls over Data Collection

NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
IOSCO Principle #15:		
When an Administrator collects data from any external source the	Administrator should ensure that there are appropriat	e internal controls over
its data collection and transmission processes. These controls sh	· · ·	-
protecting the integrity and confidentiality of the data. Where Ad	ministrators receive data from employees of the Fro	nt Office Function, the
Administrator should seek corroborating data from other sources.		
SA-15: NSE Indices sources data on prices, corporate actions,	For a sample third party data aggregator, we	No deviations noted.
shareholding pattern etc. from NSE which is a regulated stock	inspected the written agreement with NSE	
exchange. Further, NSE Indices also sources data on company	Indices, and noted that it captured details related	
fundamentals, MIBOR rate, Transactions in the overnight	to sourcing of data for real-time index	
triparty Repo Dealing and Settlement (TREPS), foreign currency	computation.	
exchange rate, prices of fixed income securities, list of Shariah	For a completindex we increated the	
compliant stocks, etc. from third party data aggregators who do not participate in the index computation/ maintenance. NSE	For a sample index, we inspected the methodology document, minutes of meeting of	
Indices has controls in place to cross-validate data (wherever	the committees, and approval notes, and noted the	
applicable) sourced from third party data aggregators.	following:	
	• The approved index methodology was	
	applied to the system.	
	• Index methodology review (for a sample	
	month) was performed by NSE Indices and	
	the index constitution review was performed	
	by the IMSC.Data inputs were reconciled to the source data	
	• Data inputs were reconciled to the source data as part of a checker activity.	

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
	 End-of-day index computation was triggered and monitored for completion by the Operations team of NSE Indices. End-of-day indices were distributed automatically via SFTP and/or secure HTTPS protocol on the website or via e-mail (as applicable). 	

Principle 16: Complaints Procedures

NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
OSCO Principle #16:		
The Administrator should establish and Publish or Make Available		
complaints including concerning whether a specific Benchmark de		
applications of the Methodology in relation to a specific Bench		cisions in relation to a
Benchmark determination. The complaints procedures policy sho		
. Permit complaints to be submitted through a user friendly com		
b. Contain procedures for receiving and investigating a complain timely and fair basis by personnel who are independent of an		
complaint, advising the complainant and other relevant parties	• • • •	•
all records concerning complaints;		perioa and retaining
. Contain a process for escalating complaints, as appropriate, to	the Administrator's governance body; and	
Demains all de avec entre un lating to a communicipation in the state of the sec		
I. Require all documents relating to a complaint, including those	submitted by the complainant as well as the Admini	strator's own record, t
be retained for a minimum of five years, subject to applicable	national legal or regulatory requirements. Disputes	about a Benchmarkin
be retained for a minimum of five years, subject to applicable determination, which are not formal complaints, should be	national legal or regulatory requirements. Disputes resolved by the Administrator by reference to it	about a Benchmarkin s standard appropriat
be retained for a minimum of five years, subject to applicable determination, which are not formal complaints, should be procedures. If a complaint results in a change in a Benchmark	national legal or regulatory requirements. Disputes resolved by the Administrator by reference to it determination, that should be Published or Made A	about a Benchmarkin s standard appropriat
be retained for a minimum of five years, subject to applicable determination, which are not formal complaints, should be	national legal or regulatory requirements. Disputes resolved by the Administrator by reference to it determination, that should be Published or Made A	about a Benchmarking s standard appropriat
be retained for a minimum of five years, subject to applicable determination, which are not formal complaints, should be procedures. If a complaint results in a change in a Benchmark and Published or Made Available to Stakeholders as soon as pe	national legal or regulatory requirements. Disputes resolved by the Administrator by reference to it determination, that should be Published or Made A	about a Benchmarkin s standard appropriat vailable to Subscriber
be retained for a minimum of five years, subject to applicable determination, which are not formal complaints, should be procedures. If a complaint results in a change in a Benchmark and Published or Made Available to Stakeholders as soon as performed. A-16: In order to address complaints by market participants egarding any indices, NSE Indices has prescribed "Guidelines	national legal or regulatory requirements. Disputes resolved by the Administrator by reference to it determination, that should be Published or Made A ossible as set out in the Methodology. For item (a), we inspected the NSE Indices website and noted that there existed a designated	about a Benchmarkin s standard appropria vailable to Subscriber
be retained for a minimum of five years, subject to applicable determination, which are not formal complaints, should be procedures. If a complaint results in a change in a Benchmark and Published or Made Available to Stakeholders as soon as performed and indices, NSE Indices has prescribed "Guidelines on Grievance Redressal" for redressal of grievances. As per the	national legal or regulatory requirements. Disputes resolved by the Administrator by reference to it determination, that should be Published or Made A ossible as set out in the Methodology. For item (a), we inspected the NSE Indices website and noted that there existed a designated e-mail ID (indices@nes.co.in), through which	about a Benchmarkin s standard appropria vailable to Subscribe
be retained for a minimum of five years, subject to applicable determination, which are not formal complaints, should be procedures. If a complaint results in a change in a Benchmark and Published or Made Available to Stakeholders as soon as per A-16: In order to address complaints by market participants egarding any indices, NSE Indices has prescribed "Guidelines n Grievance Redressal" for redressal of grievances. As per the uidelines, NSE Indices invites complaints, queries, and	national legal or regulatory requirements. Disputes resolved by the Administrator by reference to it determination, that should be Published or Made A ossible as set out in the Methodology. For item (a), we inspected the NSE Indices website and noted that there existed a designated e-mail ID (indices@nes.co.in), through which queries, feedback, and complaints could be	about a Benchmarkin s standard appropria vailable to Subscriber
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IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
 NSE Indices. Redressal complaints involving incorrect calculations, data usage, bribery, unethical practice of employees, insider trading etc. are escalated to the Chief Executive Officer (CEO) of NSE Indices. NSE Indices maintains documentation related to complaints and records of approval notes, for a period of at least five years. As on June 01, 2020, there were no complaints in the last one year. 	 For item (b), the guidelines detailed procedures for receiving, investigating, and advising the complainant and other relevant parties of the outcome of the complaint, along with timelines for resolution. The guidelines also contained details of personnel of NSE Indices who would be assigned complaints (based on the categorization) for investigation and review. For item (c), the guidelines included a categorization of complaints based on severity, along with points of contact in the event of an escalation. For item (d), the guidelines detailed that documentation related to complaints and records of approval notes were to be maintained for a period of at least five years. 	

Principle 17: Audits

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
IOSCO Principle #17: The Administrator should appoint an independent internal or extern and report on the Administrator's adherence to its stated criteria at the size and complexity of the Administrator's operations. Where a by the Administrator (except for Benchmarks that are otherwise Regulatory Authority), an Administrator should appoint an independence to to the size and complexity of the Administrator's Benchmark oper	nd with the Principles. The frequency of audits sho appropriate to the level of existing or potential conflic e regulated or supervised by a National Authority ependent external auditor with appropriate experi- o its stated Methodology. The frequency of audits s	uld be proportionate to cts of interest identified other than a relevant ence and capability to hould be proportionate
SA-17: NSE Indices has engaged Ernst & Young Associates LLP as an external auditor to carry out a review of its adherence to IOSCO's prescribed principles. Currently, the NSE Indices' board has mandated for such an assessment to be carried out once every two years. Additionally, NSE Indices voluntarily conducts periodic internal audits to review the benchmark determination process and the operational activities related to index operations/ index maintenance followed by it's business functions. The audit reports are presented to the board.	auditor, was engaged by NSE Indices, for the year 2020, to carry out a review of NSE Indices' activities and it's adherence to IOSCO's prescribed principles. We inspected the "Nifty Indices IOSCO Compliance Deloitte"	No deviations noted.

IOSCO Principles, NSE Indices Self-Assessment, Test Performed by EY, and Results of Tests		
NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
	report and noted that there were no instances of non-compliance within the report.	
	We obtained a confirmation from NSE Indices that currently the board has mandated for such an assessment to be carried out once every two years.	
	For a sample month, we inspected an internal audit report and noted that it covered compliance checks related to the benchmark determination processes and the operational activities related to index operations/ index maintenance followed by business functions.	
	Further, we inspected the internal audit report and noted that there were no instances of non- compliance within the report.	

Principle 18: Audit Trail

NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
IOSCO Principle #18:		
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 d	letermination;
b. The exercise of Expert Judgment made by the Admin	istrator in reaching a Benchmark determination;	
 Other changes in or deviations from standard proceed disruption; 	dures and Methodologies, including those made	during periods of market stress o
d. The identity of each person involved in producing a H	Benchmark determination; and	
e. Any queries and responses relating to data inputs. It	f these records are held by a Regulated Market of	r Exchange the Administrator ma
rely on these records for compliance with this Princip	ble, subject to appropriate written record sharing a	agreements.
When a Benchmark is based on Submissions, the follow	ing additional Principle also applies: Submitters	should retain records for five year
subject to applicable national legal or regulatory requirer	nents on:	
a. The procedures and Methodologies governing the Su	bmission of inputs;	
b. The identity of any other person who submitted or other	herwise generated any of the data or information	provided to the Administrator;
c. Names and roles of individuals responsible for Subm	ission and Submission oversight;	
d. Relevant communications between submitting parties	;;	
e. Any interaction with the Administrator;		
f. Any queries received regarding data or information p	rovided to the Administrator;	
g. Declaration of any conflicts of interests and aggregate	e exposures to Benchmark related instruments;	
h. Exposures of individual traders/desks to Benchmark	related instruments in order to facilitate audits and	d investigations; and
i. Findings of external/internal audits, when available,	related to Benchmark Submission remedial act	ions and progress in implementin
them.		

NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
SA-18: NSE Indices maintains written records of approval notes, minutes of meeting of the board and committees, related to the review of indices and index methodologies, for a period of at least five years (which is as per the requirements set out by the regulatory authorities). NSE Indices sources market data from third party data aggregators with whom it has written arrangements in place. However, this data and records related to it are maintained by the respective third parties. Further, NSE Indices does not publish indices based on submissions.	 For a sample index, we inspected the system and noted the following: Current data (such as minutes of meeting of the board and committees, approval notes, index methodology documents, press release related to change in index methodology etc.) was stored on the system. Erstwhile data (such as minutes of meeting of the board and committees, approval notes, index methodology documents, press release related to change in index methodology, etc.) was maintained within the system for a period of at least five years. For a sample third party data aggregator, we inspected the written agreement with NSE Indices, and noted that it captured details related to sourcing of data for real-time index computation. Further, we obtained a confirmation from NSE Indices that the market data was maintained by the respective third party data aggregators (who own their respective data). Additionally, we obtained a confirmation from NSE Indices based on submissions. 	No deviations noted.

Principle 19: Co-operation with Regulatory Authorities

NSE Indices Self-Assessment	Test Performed by EY	Results of Tests
IOSCO Principle #19:		
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 up	on request.
SA-19: NSE Indices co-operates with the regulatory authorities and upon request provides relevant information (such as documents and audit trails) that may be available with NSE Indices in order for them to carry out their regulatory and/or supervisory duties within the legal framework, as applicable. Documents and audit trails are readily available within the system and/or the website.	For a sample week, we inspected e-mail communication with Securities and Exchange Board of India (SEBI) and noted that NSE Indices provided weekly index data to SEBI, as per their requirement. Further, we obtained a confirmation from NSE Indices that it co-operates with regulatory authorities, as and when required, by providing the relevant information (such as documents and audit trails) to them. For a sample index, we inspected the system and noted that data (such as minutes of meeting of the board and committees and approval notes) was stored within the same. Further, for the sampled index, we inspected the NSE Indices website and noted that the methodology document was publicly available on the same.	No deviations noted

Terms and Abbreviations used in the Report

Acronym	Full Forms
AMC	Asset Management Company
CEO	Chief Executive Officer
DOA	Delegation of Authority
ESG	Environmental, Social, and Governance
ETFs	Exchange Traded Funds
HR	Human Resources
HTTPS	Hypertext Transfer Protocol Secure
IAC	Index Advisory Committee
IMSC	Index Maintenance Sub-Committee
IOSCO	International Organization of Securities Commission
KRAs	Key Result Areas
MIBOR	Mumbai Interbank Offered Rate
NAV	Net Asset Value
NSE	National Stock Exchange
OTC	Over-the-counter
SEBI	Securities and Exchange Board of India
SFTP	Secure File Transfer Protocol
SOP	Standard Operating Procedure
TREPS	Transactions in the overnight triparty Repo Dealing and Settlement
VOC	Voice of Customer

Disclaimer

The entire report including each of its sections (collectively, the "Report") has been prepared to reflect how NSE Indices has applied the IOSCO Principles for financial benchmarks across its relevant equity indices. EY has been selected as an independent assurance provider to fulfil the requirements of Principle 17 which requires an auditor "to periodically review and report on the Administrator's adherence to its stated criteria and with the Principles".

NSE Indices provides this report voluntarily to demonstrate its commitment to best practices in index design, maintenance, and calculation.

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