

IOSCO COMPLIANCE STATEMENT

GLOBAL INDEX RESEARCH GROUP

J.P. MORGAN SECURITIES LLC

IOSCO PRINCIPLES FOR FINANCIAL BENCHMARKS

COMPLIANCE STATEMENT IN RELATION TO J.P. MORGAN'S GLOBAL INDEX RESEARCH GROUP INDICES

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(in its capacity as Administrator for the Global Index Research Group (**GIRG**) indices specified below, **J.P. Morgan**)

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1. INTRODUCTION

J.P. Morgan acts as Administrator (within the meaning of the IOSCO Principles) of several GIRG financial indices that it has identified as **benchmarks** as defined by the International Organization of Securities Commissions (**IOSCO**) in its Principles for Financial Benchmarks (July 2013) (the **Principles** and each individual IOSCO principle, a **Principle**). This Compliance Statement is current as of the date shown above and relates solely to the GIRG's index business described in section 1.1 below. It does not apply to any other activity of JPMorgan Chase & Co. or any subsidiary (the **J.P. Morgan Group**), including, as an example, the Investable Index business. This Compliance Statement may be replaced by any subsequent Compliance Statement.

GIRG has developed a compliance framework for each GIRG Administered Index in its role as the Administrator of such GIRG Administered Index (as defined below) to support its compliance with the Principles.

As of the date shown above and subject to the provisions of this Compliance Statement the Administrator will comply with the objectives and functions of the Principles on a proportionate basis in respect of each index administered by GIRG as described in section 1.1 below (each, a **GIRG Administered Index** and collectively, the **GIRG Administered Indices**).

If stakeholders or subscribers have any questions in relation to this Compliance Statement they may contact their normal contact within GIRG or by emailing index.research@jpmorgan.com.

1.1 GIRG Administered Indices

This Compliance Statement applies to the GIRG Administered Indices that are benchmarks as defined in the Principles.

1.2 Application of the Principles

In each case, the Administrator has applied the Principles in a manner reflecting:

- the size and risks posed by this business;
- the rules-based nature of the GIRG Administered Indices; and
- the nature of the data inputs for the GIRG Administered Indices.

1.3 Documents available

Where this Compliance Statement provides that a document is available, the Administrator will, in each case and at a minimum, make the relevant document available upon request. Each relevant stakeholder, subscriber or regulatory authority (as applicable) may request the relevant document from their normal contact within GIRG or by emailing index.research@jpmorgan.com.

2. COMPLIANCE WITH INDIVIDUAL IOSCO PRINCIPLES

As permitted by IOSCO, there are several Principles where the Administrator has taken a proportionate view in relation to what is required for it to comply with the Principles. These individual instances are described in more detail below.

This Compliance Statement includes summary information on each Principle. This summary information is included to assist the reader's review of this Compliance Statement. However, this summary information should not be seen as limiting the scope of the Principles.

(A) Governance

2.1 Principle 1: Overall Responsibility of the Administrator

The Administrator's governance arrangements should ensure that the Administrator retains primary responsibility for all aspects of the benchmark determination process, such as the development and determination of a benchmark and establishing credible and transparent governance, oversight and accountability procedures. This Principle makes clear that, regardless of the particular process for benchmark determination and administration, the Administrator must have the overall responsibility for the integrity of the benchmark.

Administrator's assessment: full compliance, for the reasons explained below.

Application of proportionality: no.

The Administrator retains primary responsibility for all aspects of the GIRG Administered Indices determination process. The day-to-day responsibility for the creation, operation and management for each GIRG Administered Index lies with the Index Administration Committee (**IAC**). In addition, the Administrator has established a permanent and effective oversight function, the "Index Escalation Committee" (**IEC**), to oversee all aspects of the provision of such GIRG Administered Indices.

From an operational perspective the written rules and procedures for the determination of each GIRG Administered Index, referred to as the **methodology**, provide the core procedures for the determination of such GIRG Administered Index. The Administrator's governance arrangements are intended to achieve transparency in the operation of the GIRG Administered Indices.

2.2 Principle 2: Oversight of Third Parties

The Administrator's governance arrangements should cover appropriate oversight of third parties involved in the benchmark determination process. This Principle requires that any

outsourcing of functions should be subject to oversight by the Administrator. The Administrator is exempt from applying this oversight requirement where the third party in question is a regulated market or exchange.

Administrator's assessment: full compliance, for the reasons explained below.

Application of proportionality: no.

The Administrator maintains appropriate oversight of all third parties and affiliated service providers involved in the benchmark determination process. Such third parties and affiliated service providers include, but may not be limited to, calculation agents and input data providers for the GIRG Administered Indices.

The Administrator's procedures for the oversight of third parties and affiliated service providers provides for the roles, obligations and standards expected of such third parties and affiliated service providers, together with additional items, including, but not limited to, arrangements for the monitoring of third parties and affiliated service providers and contingency arrangements in relation to relevant areas of operational risk.

As of the date of this Compliance Statement, the only third parties and affiliated service providers used for the GIRG Administered Indices are all entities that are part of the J.P. Morgan Group. There are written arrangements in place between the Administrator and any such third party or affiliated service provider entity.

The Administrator will make available upon request to stakeholders and any relevant regulatory authority the identity and roles of such third parties and affiliated service providers that participate in a GIRG Administered Index determination process.

2.3 Principle 3: Conflicts of Interest for Administrators

The Administrator's governance arrangements should cover the documentation, implementation and enforcement of policies and procedures for the identification, disclosure, management, mitigation or avoidance of conflicts of interest, including the disclosure of any material conflicts of interest to users and any relevant regulatory authority. This framework should be appropriately tailored to the level of existing or potential conflicts of interest identified by the Administrator and should seek to mitigate existing or potential conflicts of interest created by the ownership or control structure or due to other interests arising from the Administrators' staff or wider group in relation to benchmark determinations. This Principle is intended to address issues that conflicts of interest may create for a benchmark.

Administrator's assessment: full compliance, for the reasons explained below.

Application of proportionality: no.

GIRG is part of Global Research within the Commercial and Investment Bank division of the J.P. Morgan Group. The J.P. Morgan Group has established and maintains a number of procedures, processes and controls for identifying and managing the conflicts of interest that arise in the course of its business, including the Administrator's business, which cover the requirements of this Principle. These controls include a global Conflicts of Interest Policy that requires the Administrator and employees to identify and manage actual, potential and perceived conflicts of interest, which includes overseeing, maintaining and

operating effective organisational, procedural and administrative arrangements and controls.

In addition, there is also an established information barriers policy that specifically applies to GIRG.

Conflicts of interest and potential conflicts of interest (including those arising from the ownership structure or the control of the Administrator) are disclosed or published to users here: <https://www.jpmorgan.com/country/US/en/jpmorgan/ib/girg>.

2.4 Principle 4: Control Framework for Administrators

The Administrator's governance arrangements should provide for an appropriate control framework at the Administrator for the process of determining and distributing the benchmark, which should be appropriately tailored to the materiality of the potential or existing conflicts of interest identified, and to the nature of benchmark inputs and outputs.

The control framework should address conflicts of interest in accordance with Principle 3, the integrity and quality of the benchmark determination, a whistleblowing mechanism and the expertise of the benchmark determination personnel (including training). Where a benchmark is based on submissions, the Administrator should promote the integrity of the inputs by ensuring as far as possible that submitters comprise an appropriately representative group of participants taking into account the underlying elements of the benchmark, employing a system of appropriate measures so that to the extent possible submitters comply with submission guidelines, specifying how frequently submissions should be made, and employing measures to effectively monitor and scrutinise inputs and submissions.

Administrator's assessment: partial compliance, for the reasons explained below.

Application of proportionality: yes, as specified and for the reasons set out below.

The Administrator has implemented a control framework for the process of determining and distributing the GIRG Administered Indices that, subject to the application of proportionality specified above, satisfies the requirements of this Principle. This control framework is contained in the Administrator's Benchmark Standards – Global Index Research Group (the **Standards**) which the Administrator will make available upon request to its relevant regulatory authorities, as well as in other documents made available in connection with this Compliance Statement. The Administrator has prepared a summary of the main features of the Standards which is available to stakeholders upon request.

All GIRG Administered Indices have rules-based "index rules" that are published or made available to stakeholders as set out below in relation to Principles 9 (*Transparency of Benchmark Determinations*) and 11 (*Content of Methodology*). The Administrator's complaints procedure is set out below in relation to Principle 16 (*Complaints Procedures*).

The calculation process for GIRG Administered Indices is fully automated and performed on software systems with audit trails, and managed by dedicated information technology (IT) teams. Material changes made to these software systems require a notification and approval from IT change management and operation risk teams. The IT teams have their own contingency and resiliency plans for disaster recovery. These measures help maintain the integrity and quality of the benchmark determination process.

In addition, where required, employees of the Administrator (who are directly involved in the provision of a GIRG Administered Index) are registered with the local supervisory agency of their domicile (e.g., FINRA-registered in the case of US-based personnel).

For all GIRG Administered Indices, the Administrator defines "submissions" as input data that is provided by a submitter for use by the Administrator in the determination of one or more GIRG Administered Indices (excluding input data that is readily available to the Administrator) and "submitters" as any natural or legal person from whom the Administrator or a calculation agent receives input data, where such submitter provides the input data for the Administrator to use in the determination of one or more GIRG Administered Indices.

The Administrator does not exercise discretion in evaluating input data, and relies solely on professional (commercial) valuation providers for all input data needs. As of the date of this Compliance Statement, the Administrator uses a single submitter, PricingDirect and WM/Reuters, as providers of input data for the determination of the GIRG Administered Indices. WM/Reuters provide spot, forward and non-deliverable foreign exchange benchmark rates. PricingDirect, which is part of the J.P. Morgan Group, is a professional valuation vendor that provides high-quality valuation services for fixed income securities and derivatives for its clients. The Administrator has in place appropriate checks and balances to review the accuracy and data quality of the calculations provided by PricingDirect. Further information on how PricingDirect produces its valuation services is available here: <https://www.pricing-direct.com/pricingdirect/>.

Written arrangements, including a Code of Conduct, are in place between the Administrator and PricingDirect so that appropriate control procedures are adhered to in accordance with the Principles. Such written arrangements specify how frequently submissions should be or may be made and requires PricingDirect to provide the relevant submissions for every relevant determination of a GIRG Administered Index. Control procedures are in place to monitor and scrutinise input data provided by PricingDirect to the Administrator and to identify and avoid errors in submissions.

The Administrator is applying proportionality in relation to the requirement to ensure as far as possible that submitters comprise an appropriately representative group of participants. In the view of the Administrator, the nature and function of PricingDirect as submitter to the GIRG Administered Indices does not warrant a representative group of participants. This is because, to provide the input data to the Administrator, PricingDirect conducts an evaluation and assessment process based on its proprietary evaluation model that takes into account market intelligence for traded/quoted securities including, but not limited to, information from trading desks of the J.P. Morgan Group, third party electronic market data platforms and public information such as FINRA's Trade Reporting and Compliance Engine. PricingDirect's evaluation process is managed by a professional team of evaluators. In addition, the Administrator monitors and scrutinises input data as outlined above.

2.5 Principle 5: Internal Oversight

The Administrator's governance arrangements should include an oversight function to review and provide challenge on all aspects of the benchmark determination process and provide effective scrutiny of the Administrator. The oversight function 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. A separate

committee or other appropriate governance arrangements should carry out the oversight function. Specific requirements apply where a benchmark is based on submissions.

Administrator's assessment: partial compliance, for the reasons explained below.

Application of proportionality: yes, as specified and for the reasons set out below.

The Administrator has established the IAC to oversee all aspects of the GIRG Administered Indices determination process on a regular basis including, but not limited to, the operation, creation and management of the GIRG Administered Indices. In addition, the Administrator has established the IEC, to oversee all aspects of the provision of such GIRG Administered Indices. The IAC and IEC both have terms of reference setting out all relevant aspects of their procedures and both such terms of reference will be made available to the relevant regulatory authorities upon request and the main features of these procedures will be made available upon request to stakeholders.

Each GIRG Administered Index (either individually or collectively across the relevant index family) is reviewed at least annually to assess the functioning of the methodology and such review provides scrutiny and monitoring of submissions. Results of any periodic review are presented to the IAC and, where appropriate, the IEC.

The Administrator is applying proportionality in relation to the requirement for an oversight function with a range of stakeholder representation. This is only required where certain conflicts of interests may arise because of the ownership structure or controlling interests in the Administrator. In the view of the Administrator, such conflicts of interest, if any, are appropriately managed and are therefore not sufficient to warrant such stakeholder representation, and other conflict of interest management procedures of the Administrator and the J.P. Morgan Group are sufficiently robust. In addition, GIRG Administered Indices are algorithmic indices that operate on the basis of pre-determined rules. Finally, PricingDirect, which is part of the J.P. Morgan Group, is subject to its own information barriers policy, collates its prices from several available sources and is a professional valuation services provider to a wide variety of unaffiliated financial services clients globally.

(B) Benchmark Design

2.6 Principle 6: Benchmark Design

The design of a benchmark should take into account design factors that seek to achieve and result in an accurate and a reliable representation of the economic realities of the underlying reference elements that the benchmark seeks to measure and to eliminate factors that might result in a distortion of the price, rate, index or value of that benchmark.

Administrator's assessment: full compliance, for the reasons explained below.

Application of proportionality: no.

The Administrator meets this Principle as its policies and procedures governing the design of the GIRG Administered Indices require these points to be taken into account.

In addition, the factors which, as appropriate, should be considered in the design of a GIRG Administered Index, are as follows:

- adequacy of the sample used to represent the underlying constituents referenced by the GIRG Administered Index and, where relevant, the market that it is intended to measure or the strategy it is intended to reflect;
- market depth and liquidity;
- accessibility of the constituents which the GIRG Administered Index seeks to represent; and
- usability by the users of the GIRG Administered Index.

In the view of the Administrator, the generic non-exclusive features set out in paragraphs (a) to (e) of this Principle are satisfied in relation to the GIRG Administered Indices on the basis that they use PricingDirect to collate its prices from a number of available sources, outlined in more detail above, in addition to the Administrator's GIRG Administered Index design and periodic review requirements.

The driving factors behind the existing methodologies for GIRG Administered Indices are replicability, accessibility, liquidity, and transparency. To reinforce this, the Administrator has established the “**Index Watch**” framework, which provides alerts and increased transparency surrounding topics under review, such as liquidity, for the GIRG Administered Indices. Similar in structure to the rating watch from credit rating agencies, the Index Watch monitors events which warrant closer scrutiny and reassessment of an entity's (i.e., country, issuer, bond) status in the GIRG Administered Indices. The Index Watch list is bound by the existing methodology for the respective GIRG Administered Index. The length of time an entity is on the Index Watch list will be determined by the IAC on a case by case basis. Details of the Index Watch list, together with results of the prior instances where it has been used, are published on J.P. Morgan Markets (**JPMM**).

2.7 Principle 7: Data Sufficiency

The data used to construct a benchmark determination should be based on prices, rates, indices or values for the constituents of each GIRG Administered Index that has been formed by the competitive forces of supply and demand and are anchored or underpinned by observable transactions entered into as arm's-length transactions between buyers and sellers in the market for the underlying reference elements the benchmark measures. This Principle does not mean that every individual benchmark determination must be constructed solely from transaction data.

Administrator's assessment: full compliance, for the reasons explained below.

Application of proportionality: no.

While not every individual benchmark determination for any GIRG Administered Index is required to be constructed solely from transaction data, typically data used to compute GIRG Administered Indices is, generally through the use of input data provided by PricingDirect and WM/Reuters, based on prices, rates, indices or values for each constituent of a GIRG Administered Index that, generally, directly reflect an active market and, accordingly, satisfies the Data Sufficiency Principle as set out in Principle 8.

2.8 Principle 8: Hierarchy of Data Inputs

The Administrator should establish and publish or make available clear guidelines regarding the hierarchy of data inputs and the exercise of expert judgement used for the determination of benchmarks. This Principle is intended to enhance the transparency of the manner in which data and expert judgement may be used for the construction of a benchmark. This Principle is not intended to restrict an Administrator's flexibility to use inputs consistent with the Administrator's approach to enhancing the quality, integrity, continuity and reliability of its benchmark determinations.

Administrator's assessment: full compliance, for the reasons explained below.

Application of proportionality: no.

As set out above, the input data for GIRG Administered Indices is sourced from PricingDirect and WM/Reuters. Therefore, there is only one provider for each source of input data and, accordingly, there is no defined hierarchy for input data. Certain circumstances may arise where such input data is unavailable. In such circumstances, the methodology for the applicable GIRG Administered Index may specify the steps that should be taken.

In the ordinary course the Administrator does not use expert judgment in respect of any GIRG Administered Index, and its operation of all GIRG Administered Indices is purely rule-based. However, under extraordinary circumstances such as market disruptions or other extraordinary events that may materially and/or adversely affect the operation of any GIRG Administered Index, the Administrator may exercise expert judgment to the extent necessary to ensure that such GIRG Administered Index continues to operate as intended.

Additionally, the Administrator may exercise discretion in the ordinary course of the Provision of Indices for quality assurance purposes and to maintain the integrity of the index and its underlying components, including reference data and analytics. Such discretion is exercised in accordance with the pre-determined rules-based Index Methodology and related procedures, which are designed to maintain the integrity and continuity of the index.

PricingDirect may exercise expert judgment in the provision of input data to the Administrator. The existence of established guidelines and processes on the use of such expert judgment in contributing input data to the Administrator is confirmed in the Code of Conduct, that PricingDirect adheres to, and such Code of Conduct is available upon request to stakeholders.

2.9 Principle 9: Transparency of Benchmark Determinations

An Administrator should describe and publish with each benchmark determination, to the extent reasonable without delaying the Administrator's publication deadline, (a) a concise explanation of certain details of data considered in a benchmark determination and (b) the extent of expert judgement used, if any. Benchmarks that regularly publish their methodologies would satisfy this Principle when derived from data sourced from regulated markets or exchanges with mandatory post-trade transparency requirements. In addition, a benchmark that is based exclusively on executable quotes as contemplated by Principle 7 would not need to explain in each determination why it has been constructed with executable bids or offers, provided there is disclosure in the methodology.

Administrator's assessment: partial compliance, for the reasons explained below.

Application of proportionality: yes, as specified and for the reasons set out below.

The index rules for each GIRG Administered Index are published or made available to stakeholders and, upon request, provided to regulatory authorities. Such transparent index rules include, where applicable, details of sources of input data used in the determination of GIRG Administered Indices.

In the ordinary course the Administrator does not use expert judgment in respect of any GIRG Administered Index, and its operation of all GIRG Administered Indices is purely rule-based. However, under extraordinary circumstances such as market disruptions or other extraordinary events that may materially and/or adversely affect the operation of any GIRG Administered Index, the Administrator may exercise expert judgment to the extent necessary to ensure that such GIRG Administered Index continues to operate as intended.

Additionally, the Administrator may exercise discretion in the ordinary course of the Provision of Indices for quality assurance purposes and to maintain the integrity of the index and its underlying components, including reference data and analytics. Such discretion is exercised in accordance with the pre-determined rules-based Index Methodology and related procedures, which are designed to maintain the integrity and continuity of the index.

As set out in more detail above, the GIRG Administered Indices use market-based professional valuation services as the primary inputs to promote transparency around price sourcing, and the consistency and accuracy of constituents in such indices. However, the Administrator is partially compliant with this requirement because, as outlined above in relation to PricingDirect, the input data is not *solely* sourced, directly or indirectly, from regulated markets or exchanges or is not based *exclusively* on executable quotes. PricingDirect is a market-based professional valuation service and provides input data which is derived from a wide variety of sources, including from regulated markets or exchanges. Further information on how PricingDirect produces its valuation services is available here: <https://www.pricing-direct.com/pricingdirect/>.

2.10 Principle 10: Periodic Review

The Administrator should periodically review the conditions in the underlying reference elements which the benchmark measures to determine whether the underlying reference elements have undergone structural changes or diminished or ceased to function in a way that might require changes to the design of the methodology. The Administrator should publish or make available a summary of such reviews where material revisions are made to a GIRG Administered Index, including the rationale for the revisions.

Administrator's assessment: full compliance, for the reasons explained below.

Application of proportionality: no.

The Administrator continuously monitors each GIRG Administered Index in the context of daily calculations and periodic automated rebalancing and reconstitution cycles. In addition, as set out further in relation to Principle 12, the Administrator has implemented policies requiring the GIRG Administered Indices to be reviewed at least annually to consider the functioning of the methodology and any changes that may have occurred in

the underlying market. In addition, the Administrator may undertake any *ad-hoc* review of a GIRG Administered Index at any time for any reason. Each review may result in a range of outcomes, including that no action or change is required in relation to the methodology. The Administrator will make available upon request to stakeholders details of any material revisions that have been made to a GIRG Administered Index as a result of a review.

(C) Quality of the Methodology

2.11 Principle 11: Content of Methodology

The methodology of each benchmark needs to be published or made available and the Administrator should provide a rationale for the adoption of each methodology. The published information should allow stakeholders to understand how the benchmark is derived and to assess its representativeness, its relevance to them and its appropriateness as a reference for financial instruments. If a benchmark is based on submissions, criteria for the inclusion and exclusion of submitters should also be included.

Administrator's assessment: full compliance, for the reasons explained below.

Application of proportionality: no.

The Principles define "Methodology" as the written rules and procedures according to which information is collected and the benchmark is determined. The Administrator treats the methodology for each GIRG Administered Index as comprising an index rules document, which will be published or made available upon request to stakeholders, as well as the documents that are available upon request in relation to this Compliance Statement. Each such methodology satisfies the disclosure requirements under this Principle and provides sufficient detail to allow the stakeholders to understand how the relevant GIRG Administered Index is derived and to assess its representativeness, its relevance to the stakeholders and its appropriateness as a reference for financial instruments.

The predominant rationale for adopting each methodology is to create a GIRG Administered Index that is to be used for measuring the performance of portfolios/financial instruments and is made available to the relevant users, for this purpose.

In the ordinary course the Administrator does not use expert judgment in respect of any GIRG Administered Index, and its operation of all GIRG Administered Indices is purely rule-based. However, under extraordinary circumstances such as market disruptions or other extraordinary events that may materially and/or adversely affect the operation of any GIRG Administered Index, the Administrator may exercise expert judgment to the extent necessary to ensure that such GIRG Administered Index continues to operate as intended.

Additionally, the Administrator may exercise discretion in the ordinary course of the Provision of Indices for quality assurance purposes and to maintain the integrity of the index and its underlying components, including reference data and analytics. Such discretion is exercised in accordance with the pre-determined rules-based Index Methodology and related procedures, which are designed to maintain the integrity and continuity of the index.

As set out above, one of the types of input data for GIRG Administered Indices is a submission sourced from PricingDirect. There is currently only one submitter,

PricingDirect, for all GIRG Administered Indices. PricingDirect has adhered to a Code of Conduct and, for the reasons set out above in relation to Principle 4, the Administrator believes it is appropriate and proportionate to currently have a single submitter in relation to the GIRG Administered Indices. Any new submitters would go through the Administrator's robust onboarding and due diligence process including, but not limited to, such new submitter adhering to a Code of Conduct.

2.12 Principle 12: Changes to the Methodology

Any material changes to a methodology, the rationale for such changes and the procedures for making changes need to be made available or published. This includes defining what amounts to a material change and the method and timing for consultation or notification of the changes to stakeholders (including subscribers) if appropriate.

An Administrator should develop stakeholder consultation procedures for such changes, including scrutiny by the oversight function.

Administrator's assessment: partial compliance, for the reasons explained below.

Application of proportionality: yes, as specified and for the reasons set out below.

The Administrator has established an annual governance review process to solicit comments and feedback from users of the GIRG Administered Indices on various topics that can include potential changes related to methodologies, conventions, and overall governance of the GIRG Administered Indices. Such review process will include a rationale of any potential material changes to a methodology of a GIRG Administered Index.

The IAC, in consultation with IEC, where appropriate, will consider whether the proposed changes are material or non-material and may consider the following in making such determination:

- any impact on historical or future performance of the GIRG Administered Index (to the extent that the Administrator has actual knowledge of such information);
- the extent to which the change is consistent with the objective of the GIRG Administered Index; and
- any other information provided by the Administrator.

During the review process, feedback will be gathered by the IAC through solicited and unsolicited stakeholder, consultant, and other interested party conversations and written communications. The comments collected from these external parties will be considered by the IAC, who shall report a summary of the comments received during the consultation to the IEC for review and oversight prior to making any material changes to the Methodology being made.

Details of the annual governance review are published on JPMM. They are published simultaneously to internal and external stakeholders.

The Administrator is applying proportionally by choosing to decide, for any annual governance review, whether or not to publish a summary of stakeholders comments (if any) together with any responses provided by the Administrator to such comments.

Where the IAC decides (in consultation with the IEC, where appropriate) that a material change is required to the methodology of a GIRG Administered Index, the updated relevant methodology documents will be published on JPMM and distributed to all subscribers. The Administrator will aim to provide a reasonable lead time from the public announcement of the changes to the date when the modified methodology becomes effective taking into consideration with the scale of the changes and the magnitude of implications for subscribers of such GIRG Administered Index.

The Administrator may also conduct off-cycle *ad-hoc* reviews for material changes whereby the Administrator typically follows the same procedures outlined above.

The Administrator is, in addition to the above, solely in relation to *ad-hoc* reviews for material changes, applying proportionality as follows:

- it may not be reasonably practicable or proportionate to make available the rationale or to consult stakeholders when proposing to make changes to the GIRG Administered Indices' methodologies; and
- the Administrator will decide at the time of making a change to a methodology what constitutes a material change and the method and timing for consulting (if any) or notifying (if any) subscribers (and other stakeholders where appropriate and practicable, taking into account the breadth and depth of the GIRG Administered Index's use) in relation to changes.

2.13 Principle 13: Cessation of Benchmarks

The Administrator should develop clear written policies and procedures that address the need for possible cessation of a benchmark, due to market structure change, product definition changes, or any other condition, which makes the benchmark no longer representative of its intended underlying reference assets to which the GIRG Administered Index and the relevant strategy relate. 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. The Administrator should encourage third parties using the benchmark as a reference in financial products to have robust fall-back provisions in contracts or terms and conditions governing such products.

Administrator's assessment: partial compliance, for the reasons explained below.

Application of proportionality: yes, as specified and for the reasons set out below.

The Administrator has clear written policies and procedures to address the need for possible termination of a GIRG Administered Index and a summary is provided below. The Administrator has not included in such written policies and procedures the list of specific factors in this Principle because it considers it is not reasonable and appropriate to do so given the nature of the GIRG Administered Indices.

Any termination of a GIRG Administered Index must be approved by the IAC who may consult with the IEC. The IAC should consider how the relevant GIRG Administered Index is used and by whom, the potential impact on the economic and financial stability that might result from the termination of the calculation and publication of the GIRG Administered Index and the expected timing of, and rationale for, the proposed termination.

The Administrator applies proportionality in relation to the requirement to take into account the views of stakeholders for any potential cessation. However, while GIRG is under no obligation to continue the calculation, publication or dissemination of any GIRG Administered Index, the IAC will consider whether the Administrator should attempt a consultation with stakeholders of any proposed termination of a GIRG Administered Index.

A summary of any comments provided during any such consultation will be provided to the IEC for review prior to any potential termination of the relevant GIRG Administered Index.

The Administrator encourages external product providers to address relevant index fall-back provisions at the product level and make investors aware of the possibility that various factors, including external factors beyond the control of the Administrator, might necessitate material changes to a GIRG Administered Index.

2.14 Principle 14: Submitter Code of Conduct

The Administrator should develop and put in place guidelines for submitters, referred to as the Code of Conduct, which should be made available to relevant regulatory authorities and to stakeholders. Only inputs from submitters adhering to these guidelines should be used by the Administrator and the Administrator should monitor and record adherence. The guidelines should cover the selection of inputs, who acts as a submitter, quality control procedures, the selection of employees submitting inputs, policies about the interim withdrawal of submitters, submission of all relevant data and the submitters' internal system and controls. The Administrator's oversight function should be responsible for the continuing review and oversight of such guidelines.

Administrator's assessment: partial compliance, for the reasons explained below.

Application of proportionality: yes, as specified and for the reasons set out below.

PricingDirect is the submitter for GIRG Administered Indices and adheres to a Code of Conduct, as outlined in Principle 4 above, which addresses most applicable requirements of this Principle. In particular, PricingDirect is subject to their own specific information barriers policies that govern PricingDirect's communication with other businesses within the J.P. Morgan Group.

The Administrator applies proportionality, in relation to the pre-submission Code of Conduct requirements of this Principle, as follows:

- (i) multiple reviews by senior staff of PricingDirect; and
- (ii) an internal sign-off by the management of PricingDirect,

both on the basis that the submissions are largely automated and, where expert judgment is used, the submitter has its own established guidelines and processes to follow. In addition, the Administrator may challenge the submission, and, under certain circumstances, the submitter may conduct internal reviews on a pre-submission basis.

A copy of this Code of Conduct will be made available upon request to the relevant regulatory authorities and to stakeholders.

2.15 Principle 15: Internal Controls over Data Collection

The Administrator should have appropriate internal controls over its data collection and transmission processes. Where an Administrator receives Front Office Function data (as defined in the Principles), the Administrator should seek corroborating data from other sources.

Administrator's assessment: full compliance, for the reasons explained below.

Application of proportionality: no.

Where the operation of a GIRG Administered Index contemplates the collection of data from an external source, such as PricingDirect, the Administrator will institute and maintain appropriate internal controls over the data collection and transmission processes.

The Administrator does not receive data from employees of the Front Office Function.

(D) Accountability

2.16 Principle 16: Complaints Procedures

The Administrator should establish and publish a user-friendly stakeholder's complaints procedure. The procedure should address how the Administrator will receive and investigate complaints on a timely and fair basis with independent staff and include a complaints escalation procedure. It should also require records of all complaints to be kept for a minimum of five years subject to applicable national legal and regulatory requirements. This Principle is intended to promote the reliability of benchmark determinations.

Administrator's assessment: full compliance, for the reasons explained below.

Application of proportionality: no.

The Administrator has established and made available details of its complaint handling on the following website: <https://www.jpmorgan.com/country/US/en/jpmorgan/ib/girg>.

Complaints may be submitted in a variety of ways including, but not limited to, by email. The Administrator will receive and investigate a complaint made about a GIRG Administered Index determination process on a timely and fair basis with personnel who are independent of any personnel who may be or may have been involved in the subject of the complaint, advising the complainant and other relevant parties of the outcome of its investigation within a reasonable period and retaining all records concerning complaints. Each complaint is entered on a complaints register and a report is made to the IAC, which for this purpose the Administrator treats as its governing body. The IAC, if appropriate, may escalate a complaint to the IEC. All documents relating to a complaint will be retained for a minimum of five years.

Disputes about a GIRG Administered Index determination that are not formal complaints will be resolved by the Administrator by reference to the Standards. If a complaint results in a change in a GIRG Administered Index, the revised level for the GIRG Administered Index will be published and an explanation of the revised determination may be made available to subscribers and stakeholders upon request.

2.17 Principle 17: Audits

The Administrator should appoint an independent internal or external auditor with appropriate experience and capability to periodically review and report on the Administrator's adherence to its stated criteria and the requirements of the Principles. The frequency of audits should be proportionate to the size and complexity of the Administrator's operations. Under certain circumstances (i.e., appropriate to the level of existing or potential conflicts of interest identified by the Administrator) an Administrator should appoint an independent external auditor.

Administrator's assessment: full compliance, for the reasons explained below.

Application of proportionality: no.

An independent internal audit will be carried out, with a frequency and of a type and complexity proportionate to the size and complexity of the Administrator's operations covering the Administrator's adherence to its stated criteria and the Principles. An external audit is not considered appropriate (whether for conflicts of interest or any other reasons) taking into account the criteria of this Principle.

2.18 Principle 18: Audit Trail

The Administrator should retain relevant written records for five years, subject to applicable legal or regulatory requirements. This Principle is intended to safeguard necessary documents for audits. Additional requirements apply for benchmarks based on submissions.

Administrator's assessment: partial compliance, for the reasons explained below.

Application of proportionality: yes, as specified and for the reasons set out below.

The record retention policies of the Administrator are fully compliant with this requirement based on the Administrator's approach that any queries and responses that are of a clarificatory or minor nature relating to data inputs are not subject to the five year written record requirement.

In the ordinary course the Administrator does not use expert judgment in respect of any GIRG Administered Index, and its operation of all GIRG Administered Indices is purely rule-based. However, under extraordinary circumstances such as market disruptions or other extraordinary events that may materially and/or adversely affect the operation of any GIRG Administered Index, the Administrator may exercise expert judgment to the extent necessary to ensure that such GIRG Administered Index continues to operate as intended.

Additionally, the Administrator may exercise discretion in the ordinary course of the Provision of Indices for quality assurance purposes and to maintain the integrity of the index and its underlying components, including reference data and analytics. Such discretion is exercised in accordance with the pre-determined rules-based Index Methodology and related procedures, which are designed to maintain the integrity and continuity of the index.

PricingDirect, as submitter for the GIRG Administered Indices, is required to maintain a record keeping policy in compliance with the Code of Conduct (see above at section 2.14).

However, the Administrator views many of the items in the additional Principle 18 for Submitters as inapplicable given the nature of the Administrator's business and the submissions, and has therefore applied and implemented this Principle 18 in a manner it believes to be proportionate to the risks posed by the GIRG Administered Indices.

2.19 Principle 19: Cooperation with Regulatory Authorities

Relevant documents, audit trails and other documents addressed by these Principles shall be made readily available by the relevant parties to relevant regulatory authorities in carrying out their regulatory or supervisory duties and handed over promptly upon request. This is intended to facilitate a regulatory authority's ability to access information that might be needed to determine the reliability of a given benchmark determination or to access information that might be needed to investigate misconduct.

Administrator's assessment: full compliance, for the reasons explained below.

Application of proportionality: no.

Where required in accordance with applicable law and regulation, the Administrator shall make all relevant documents readily available to the relevant regulatory authority, including handing these over if requested by the relevant regulatory authority.