**JANUARY 2015** 

# IOSCO AUDIT REPORT AS OF DEC. 31, 2014





INNOVATIVE. GLOBAL. INDICES.

# INTRODUCTION

On Jul. 31, 2014, STOXX Limited announced its compliance with the International Organization of Securities Commission's (IOSCO) Principles for Financial Benchmarks for STOXX-branded indices.

The objective of the IOSCO Principles for Financial Benchmarks ("IOSCO Principles") is to create an overarching regulatory framework for benchmarks used in global financial markets. The internationally valid guidelines focus on the methodology, transparency and overall quality of benchmarks as well as the overall governance arrangements and accountability for index providers and other relevant bodies.

Having completed a thorough assessment and updated its governance structure, policies and control framework, STOXX ensures the administration of the STOXX-branded indices in compliance with the recommendations and in line with the principle of proportionality set forth in the IOSCO principles.

STOXX has engaged PwC to conduct an independent audit of STOXX's compliance with IOSCO Principles in accordance with Principle 17 as of Dec. 31, 2014.

The presented IOSCO compliance report includes STOXX's responses to individual IOSCO Principles and the outcome of PwC's audit. It is structured as follows:

- » Section I contains an overview provided by STOXX of its organization, company history, business and description of major families of index products related to STOXX indices.
- » Section II sets out the independent auditor's report issued by PwC.
- » Section III sets out the management's statement of compliance with the IOSCO Principles.
- » Section IV includes responses by STOXX to individual IOSCO Principles and the procedures performed by PwC.

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## 1. SECTION I. STOXX ORGANIZATION AND BUSINESS

## 1.1. OVERVIEW OF BUSINESS AND OPERATIONS

## 1.1.1. COMPANY HISTORY

STOXX AG. is an established and leading global index specialist. The launch of the first STOXX<sup>®</sup> indices in 1998, including the EURO STOXX 50<sup>®</sup> Index, marked the beginning of a unique success story based on the company's neutrality and independence.

Since then, STOXX has been at the forefront of market developments and has continuously expanded its portfolio of innovative indices, with STOXX's global indices surpassing industry standards. In 2011 STOXX expanded its index range by adding a consistent global index family for global regions and countries as well as advanced indices for regions such as the Americas and Asia and for emerging markets.

The product portfolio includes a wide variety of useful tools, ranging from broad indices to bluechip to strategy to style and smart-beta indices. The historical development of STOXX is outlined on the next page.

STOXX indices are licensed to more than 500 companies, which include the world's largest financial products issuers, capital owners and asset managers. STOXX indices are used not only as underlying for financial products, such as ETFs, futures and options and structured products but also for risk and performance measurement.

STOXX AG. is owned by Deutsche Boerse AG and SIX AG and also functions as the marketing agent for DAX $^{\circ}$  and SMI $^{\circ}$  indices.

1997	STOXX Limited is formed.
1998	The first STOXX indices are launched.
2000	STOXX is the first index provider to implement free-float market cap in all STOXX indices.
2001-2009	STOXX expands its index offering with innovative index concepts.
2009 December	Deutsche Boerse AG and SIX AG become sole shareholders of STOXX after Dow Jones & Company exits the joint venture.
2010 March	STOXX renames all indices by removing the "DJ/Dow Jones" prefix.
2010 July	STOXX becomes the marketing agent for Deutsche Boerse and SIX Swiss Exchange indices, among them the DAX and SMI indices.
2010 November	STOXX extends its worldwide equity index offering by adding indices for global regions and emerging markets.
2011 February	STOXX expands its index universe with a broad range of global indices.
2011 February	STOXX relaunches its brand.
2012 March	STOXX introduces a market classification model and emerging markets indices.
2013 February	STOXX celebrates 15 years of innovation.
2013 April	STOXX launches the GC Pooling Index family in cooperation with Eurex.
2013 September	STOXX launches its first dividend index for the ASEAN region.
2013 October	STOXX and Eurex Repo extend the GC Pooling Index family to cover the full money market yield curve.
2014 May	STOXX introduces a Chinese version of its name.
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## 1.1.2. BUSINESS AND CORPORATE STRUCTURE

## Corporate Structure

The management of STOXX Limited consists of two teams: the Board of Directors and the Management Board.

#### **Board of Directors**



**Dr. Holger Wohlenberg** Chairman

Dr. Stefan Mäder

Member



**Dr. Christian A. Katz** Vice Chairman



**Management Board** 



**Dr. Hartmut Graf** Chief Executive Officer





Member

Andreas Rötheli

Patrick Valovic Chief Financial Officer

STOXX is headquartered in Zurich, Switzerland, and operates offices in Frankfurt, London, Madrid, New York and Hong Kong.

STOXX consists of the following teams, which report into the Management Board:

- 1. Sales
- 2. Business Development (PD, MD & Research)
- 3. Operations & IT
- 4. Public Relations & Marketing
- 5. Legal and Regulations
- 6. Finance & Business Processing
- 7. Human Resources (The human resources administration is provided by the shareholders in Eschborn [DBAG] and Zurich [SIX] and by STOXX in all other regions.)

Their functions include the following:

1) Sales

Sell licenses and data subscriptions for the use of STOXX, DAX and SMI indices to buy- and sellside clients globally. Be first point of contact for clients and prospects.

- 2) Business Development
  - a. Market Development

Market research, client-facing unit

b. Product Development

Index product development

c. Research

Economic research papers, index research

3) Operations & IT

Maintenance and determination of indices

Maintenance and development of IT infrastructure

4) Public Relations & Marketing

Media and client communications, marketing of index products

5) Legal and Regulations

Legal affairs, in particular related to the licensing of STOXX indices, and regulatory affairs

6) Finance & Business Processing

Accounts payable and receivable

## 1.1.3. DESCRIPTION OF MAJOR FAMILIES OF INDEX PRODUCTS RELATED TO STOXX INDICES

#### **FLAGSHIP**

#### Benchmark

STOXX benchmark indices cover and track the performance of global and regional markets. They are separated into fixed-component benchmark indices and variable-component indices.

#### Blue Chip

STOXX blue-chip indices are available for global and regional markets. They are also available for individual countries.

#### Size

STOXX Size indices provide a representation of large-, mid- and small-cap stocks for global and various regional markets.

#### Supersector

STOXX Supersector indices are available for global and regional markets. For these indices, companies are categorized according to their primary source of revenue based on Industry Classification Benchmark (ICB) nomenclature. There are four levels of classification, ranging from broad to very detailed: ten industries are broken into 19 supersectors, 41 sectors and 114 subsectors.

#### Sector

STOXX Sector indices are available for global and regional markets. For these indices, companies are categorized according to their primary source of revenue based on ICB nomenclature. There are four levels of classification, ranging from broad to very detailed: ten industries are broken into 19 supersectors, 41 sectors and 114 subsectors.

## FACTOR & STRATEGY

#### Dividend

STOXX offers two families of dividend indices with different methodologies catering to different client needs:

STOXX Select Dividend indices: these indices include the highest dividend-yielding stocks relative to their home markets and are available for global and regional markets. Companies are selected and weighted solely on the basis of historical dividend payments.

STOXX Maximum Dividend indices: these indices aim to maximize the dividend yield of the index portfolio on a short-term basis and are available for global and regional markets. They represent companies with the highest expected dividend yield, based on three-month dividend forecasts. Components are weighted according to their expected liquidity-adjusted dividend yield.

#### Optimised

STOXX Optimised indices offer investors a tool to invest in STOXX indices with a higher degree of liquidity. Stocks for these indices are selected by taking into account equity turnover. Components are weighted based on market cap and component-specific liquidity scaling factors to enhance the overall liquidity of the index.

The STOXX Optimised Country indices are designed to track the performance of companies in selected countries by focusing on a high degree of liquidity. Hence, components are selected according to their free-float market cap and liquidity. Two versions are available: the STOXX Optimised Country Local indices represent companies resident in the respective country and traded on their local stock exchange. The STOXX Optimised Country DR indices represent depository receipts of companies resident in the respective country but traded on one of the following exchanges: LSE, NYSE or NASDAQ.

#### **Minimum Variance**

STOXX Minimum Variance indices are designed to minimize risk by reducing the volatility of the underlying index. STOXX offers two versions – constrained and unconstrained – for global and regional markets and various countries. The constrained version optimizes the benchmark index with respect to volatility, offering investors an improvement over the benchmark. The unconstrained version provides a strategy index that is minimized for volatility but is not restricted to follow a specific benchmark too closely.

#### **Risk-Based**

STOXX offers many indices to mitigate risk for global and regional markets and for several countries. These include the STOXX Risk Control, the STOXX Equal Risk and the STOXX Low Risk Weighted index families.

#### Style

STOXX offers different style concepts, classifying companies by growth and value characteristics. These indices are available for global and regional markets and various countries.

#### Leveraged/Short

STOXX Leveraged indices replicate a leveraged investment strategy based on the relevant underlying STOXX index using static leverage factors. STOXX short indices replicate a short investment strategy on the underlying STOXX index. Both are available for global and regional markets and various countries.

## THEME

#### Infrastructure

STOXX Infrastructure indices provide investors enhanced and diversified access to the global infrastructure sector by tracking the performance of infrastructure companies as well as suppliers.

#### ESG & Sustainability

The STOXX ESG and STOXX Sustainability index families provide access to companies that are leaders in terms of environmental, social and governance criteria. They are available for global and regional markets.

#### Christian

The STOXX Europe Christian index takes into account Christian values such as ethical, social, environmental and economic responsibility. Companies are screened according to procedures implemented by an independent committee.

#### Islamic

The STOXX Islamic indices represent companies that are compliant with Islamic values. The Shariah Supervisory Board certifies the STOXX Europe Islamic Index and its subindices as Shariah-compliant through the issue of a Fatwa (Shariah Supervisory Board opinion). These indices are available for Europe and the Eurozone.

#### **3D Printing**

The STOXX Global 3D Printing index family represents companies that generate part of their revenue from the growing and emerging 3D printing sector.

#### Sports

The STOXX Europe Football index covers all football clubs listed on a stock exchange in Europe or Eastern Europe, Turkey or the EU-Enlarged region. The index accurately represents the breadth and depth of the European football industry.

The STOXX Global Grand Prix index tracks the performance of the major players in the Formula 1 industry globally. The index covers engine manufacturers, tire suppliers, oil and fuel suppliers participating in Formula 1 as well as title sponsors.

#### **Other Themes**

STOXX also offers other theme indices that cover IPOs, the rare earths sector and emerging markets-exposed strategies.

### OTHER

#### **Calculation Products**

With Dividend Points (DVP), STOXX provides additional data linked to STOXX indices as an underlying for derivative products. Dividend Points provides pure dividend data of the respective indices and increases investors' ability to focus on fundamentals that determine equity values. The indices track gross cumulative cash dividends (i.e., the sum of the individual cash dividends) that are announced and paid by constituents of the respective indices during the annual period.

#### **Funding Rates**

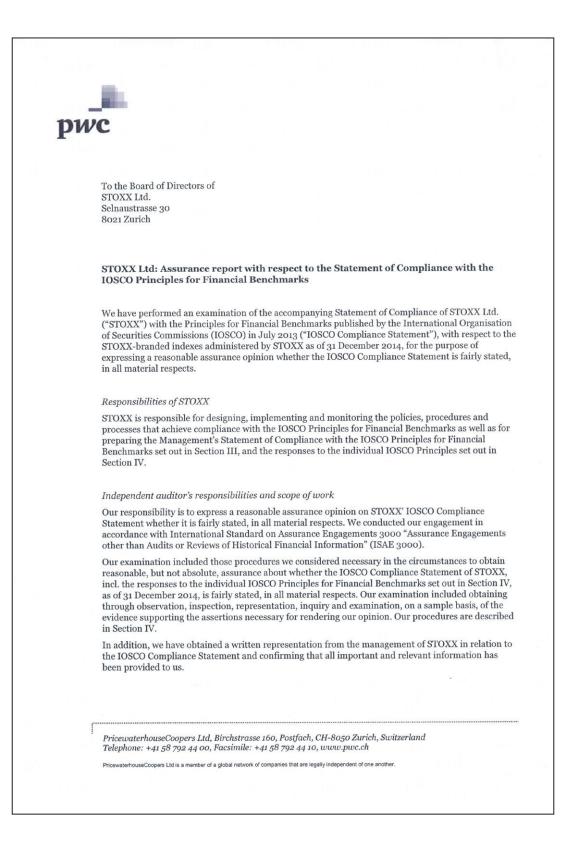
The STOXX GC Pooling index family is based on the Eurex Repo GC Pooling Market and offers a transparent, rules-based independent alternative to unsecured interbank benchmarks such as LIBOR and EURIBOR/EONIA.

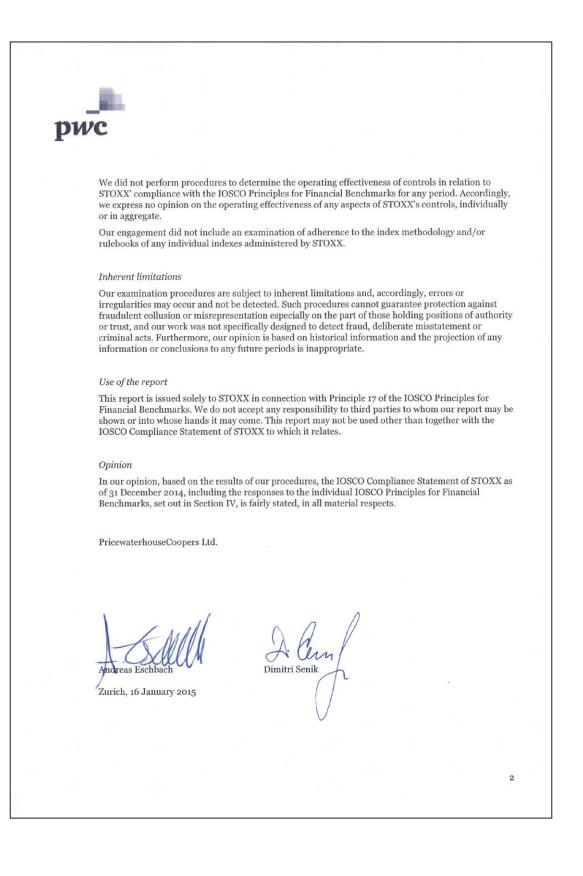
The indices represent secured euro lending transactions and binding quotations that take place on the Eurex Repo GC Pooling Market. The STOXX GC Pooling index family covers the full money market curve. Each index is available in three versions: volume-weighted average rate indices, current rate indices and total volume indices.

#### Hedged

STOXX Hedged indices measure the performance of an underlying index while also eliminating foreign currency fluctuations. The indices combine performance of the underlying STOXX index with a hypothetical, rolling investment into one-month foreign exchange forward contracts. Index values of the hedged indices are available only to license holders.

# 2. SECTION II. INDEPENDENT AUDITOR'S REPORT





# 3. SECTION III. MANAGEMENT'S STATEMENT OF COMPLIANCE

As Directors of STOXX Ltd ("STOXX"), we are responsible for ensuring that STOXX complies with the Principles for Financial Benchmarks published by the International Organization of Securities Commissions (IOSCO) in July, 2013 ("IOSCO Principles"). This includes responsibility for designing, implementing and monitoring compliance with policies and procedures that achieve compliance with the IOSCO Principles. We are also responsible for preparing a statement of compliance with the IOSCO Principles, including our responses to the individual IOSCO Principles, that is free of misstatement, whether due to fraud or error. It also includes selecting the criteria against which to measure the fair assertion of the statement of compliance.

We confirm that STOXX has designed and implemented specific activities to comply with the IOSCO Principles for all STOXX-branded indices.

We have evaluated the effectiveness of STOXX's governance and processes regarding the International Standard on Assurance Engagements 3000 "Assurance Engagements other than Audits or Reviews of Historical Information" (ISAE 3000) and the IOSCO Principles.

We have prepared the accompanying description in Section IV to set out the details of STOXX's compliance with the IOSCO Principles, together with the related activities in operation as of Dec. 31, 2014. Furthermore, if implementation of compliance with the IOSCO Principles in any way deviates from the recommendations of the IOSCO Principles, we have explained why we believe STOXX meets the objectives and functions of the IOSCO Principles, including the extent to which STOXX relies on the principle of proportionality set forth in the IOSCO Principles.

We confirm that to the best of our knowledge and belief the accompanying description in Section IV is fairly stated in that it presents the activities undertaken by STOXX to achieve compliance with the IOSCO Principles. The criteria we used in making this assertion were that the accompanying descripton:

- (a) Presents how STOXX's policies and processes with respect to its compliance with the IOSCO Principles were designed and implemented as of Dec. 31, 2014.
- (b) Does not omit or distort information relevant to the scope of STOXX's policies and processes being described as of Dec. 31, 2014, while acknowledging that the description is prepared to meet the common needs of a broad range of users and may not therefore include every aspect of STOXX's policies and processes that individual users may consider important in their own particular environment and circumstances.

Hartmut Graf, CEO

Patrick Valovic, CFO

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Anthony Da Costa, COO

Zurich, Jan. 16, 2015

IOSCO AUDIT REPORT AS OF DEC. 31, 2014

4. SECTION IV. STOXX'S STATEMENT OF COMPLIANCE WITH THE IOSCO PRINCIPLES FOR FINANCIAL BENCHMARKS: INDIVIDUAL PRINCIPLES AND RESPONSES

The table below sets out the response of STOXX in terms of how it meets the objectives and functions of the IOSCO Principles. The accompanying "Procedures performed by PwC" summarizes the work performed by PwC to validate that the relevant activities described in STOXX's response are fairly stated. This section supports the assurance opinion as documented in Section III of the report.

# 4.1. PRINCIPLE 1: OVERALL RESPONSIBILITY OF THE ADMINISTRATOR

#### **IOSCO Principle 1**

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

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

## STOXX's Response

STOXX assumes primary responsibility for all stages of index administration for all STOXX-labelled indices, such as:

- » Definition and maintenance of the index methodologies
- » Compilation, publication and distribution of indices
- Ensuring appropriate transparency over significant decisions affecting the compilation of indices and the related determination process
- Establishing appropriate governance, oversight and accountability procedures for the index determination process

#### Procedures performed by PwC

Reviewed STOXX's Policy "Determination and Dissemination" to validate that responsibility and accountability are allocated to the appropriate departments of STOXX.

Reviewed the operational procedures documents of STOXX, such as the Operational Handbook, and verified that the index determination tasks specified in STOXX's Policy "Determination and Dissemination" were appropriately reflected in those documents.

Inspected evidence that the index governance structure of STOXX had been placed in operation and that the escalation process according to Policy "Determination and Dissemination" had been complied with (the respective testing procedures are described under Principle 5).

For a sample of indices, inspected evidence that periodic index reviews with respect to index construction and methodology execution were performed in accordance with the STOXX policies.

Our procedures regarding the index determination process are described under Principle 9.

## 4.2. PRINCIPLE 2: OVERSIGHT OF THIRD PARTIES

#### IOSCO Principle 2

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

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

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

### STOXX's Response

- » STOXX may outsource certain activities of the index determination process to third parties. In particular, index calculation and index dissemination may be outsourced to group entities of Deutsche Boerse AG and SIX. In addition, for some indices, STOXX may outsource determination of index components to specialized thirdparty financial service providers. A list of outsourcing partners and their roles may be obtained on request from regulations@stoxx.com.
- » STOXX has clear written agreements in place with its outsourcing partners.
- » STOXX monitors the services provided by its outsourcing partners to ensure their compliance with the agreed service levels and standards.
- » STOXX ensures through its controls framework that operational risks arising from index administration are duly managed.
- » STOXX has outsourced index calculation and dissemination to Deutsche Boerse AG and SIX. Data centers are locally duplicated to form primary and secondary centers that act as backups of each other. Catastrophe scenarios regarding work space and staff unavailability are simulated on a yearly basis in close coordination with the third-party providers (Deutsche Boerse AG and SIX). Findings of each simulation are reported to STOXX and can be provided if requested.

#### Procedures performed by PwC

Reviewed STOXX's Policies "Outsourcing and Oversight of Outsourcing Partners" and "Business Contingency Management" and validated that they adequately addressed the recommendations of IOSCO Principle 2.

Obtained a full list of third-party providers of STOXX and enquired about their roles.

On a sample basis, inspected evidence of written arrangements between STOXX and third parties and that they included the elements defined in STOXX's Policy "Outsourcing and Oversight of Outsourcing Partners."

Verified that monitoring instruments, including their time schedule, were defined for all third parties. On a sample basis, inspected evidence that those monitoring measures that had already been scheduled to take place had effectively been performed.

Verified that STOXX had defined formal third-party selection requirements in its Policy "Outsourcing and Oversight of Outsourcing Partners." STOXX represented to us that no new outsourcing partners had been selected after the implementation of IOSCO compliance policies. Therefore, we were not able to inspect evidence that those selection requirements had effectively been applied.

Inspected evidence of internal reporting for one incident with a third-party provider in order to validate compliance with the internal reporting requirements as per STOXX Policy "Outsourcing and Oversight of Outsourcing Partners."

Inspected evidence of annual simulation of catastrophe scenarios as described in response d).

Inspected evidence of annual simulation of catastrophe scenarios in coordination with Deutsche Boerse and SIX and verified STOXX's participation in those simulations and adherence to the defined business continuity management measures.

# 4.3. PRINCIPLE 3: CONFLICTS OF INTEREST FOR ADMINISTRATORS

#### IOSCO Principle 3

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

Administrators should review and update their policies and procedures as appropriate. Administrators should disclose any material conflicts of interest to their users and any relevant Regulatory Authority, if any. The framework should be appropriately tailored to the level of existing or potential conflicts of interest identified and the risks that the Benchmark poses and should seek to ensure:

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

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

continued on next page

## STOXX's Response

- » STOXX has created a specific policy for conflicts of interest and is subject to the compliance policies of Deutsche Boerse Group, which identify, disclose, mitigate, avoid and manage potential and actual conflicts of interest in general. The STOXX policy on conflicts of interest is reviewed and approved annually. STOXX's staff certifies compliance with these policies upon joining and annually thereafter.
- » Members of the Executive Board disclose actual or potential conflicts of interest to the Chief Executive Officer (CEO).
- » STOXX's remuneration policies ensure that all staff who participate in index determination are not directly or indirectly rewarded or incentivized by the levels of the index.
- » STOXX does not issue, market, trade or clear securities or financial products on its indices. STOXX's revenue includes fees linked to financial products based on STOXX indices licensed to clients, among which is Eurex Exchange, owned by STOXX's majority shareholder Deutsche Boerse AG. However, Eurex Exchange provides only the trading infrastructure and does not hold any positions in the indices themselves. STOXX currently has not identified any further material conflicts of interest arising from its business relationships or ownership structure. STOXX is committed to disclose such material conflicts of interest should they arise.

#### Procedures performed by PwC

Reviewed STOXX's Policy 3 "Conflicts of Interest," DBAG's "Guideline on the Avoidance of Conflicts of Interest" (July, 2008) and DBAG's "Guideline on the Prevention of Insider Dealing" (July, 2008) and validated that these policies address the elements recommended by IOSCO Principle 3.

Obtained and reviewed the inventory of potential business conflicts of interest of STOXX and validated that the defined mitigating measures address the described conflicts of interest, as required by IOSCO Principle 3.

For a sample of STOXX employees, inspected evidence that remuneration-related objectives defined in the employees' development plans were not linked to index levels.

On a sample basis, inspected evidence of a formal confirmation of compliance with the above policies by new employees.

Verified that the process of annual declaration of conflicts of interest by STOXX's employees has been put in place.

Inspected evidence on the annual conflicts-of-interest declaration by the STOXX Executive Board members.

# 4.3. PRINCIPLE 3: CONFLICTS OF INTEREST FOR ADMINISTRATORS

#### **IOSCO Principle 3** continued from previous page

#### To this end, the framework should:

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

SECTION IV. STOXX'S STATEMENT OF COMPLIANCE WITH THE IOSCO PRINCIPLES FOR FINANCIAL BENCHMARKS: INDIVIDUAL PRINCIPLES AND RESPONSES

## 4.4. PRINCIPLE 4: CONTROL FRAMEWORK

#### IOSCO Principle 4

An Administrator should implement an appropriate control framework for the process of determining and distributing the Benchmark. The control framework should be appropriately tailored to the materiality of the potential or existing conflicts of interest identified, the extent of the use of discretion in the Benchmark setting process and to the nature of Benchmark inputs and outputs.

The control framework should be documented and available to relevant Regulatory Authorities, if any. A summary of its main features should be Published or Made Available to Stakeholders.

This control framework should be reviewed periodically and updated as appropriate. The framework should address the following areas:

- a) Conflicts of interest in line with Principle 3 on conflicts of interests;
- b) Integrity and quality of Benchmark determination:
  - Arrangements to ensure that the quality and integrity of Benchmarks is maintained, in line with principles 6 to 15 on the quality of the Benchmark and Methodology;
  - Arrangements to promote the integrity of Benchmark inputs, including adequate due diligence on input sources;
  - iii. Arrangements to ensure accountability and complaints mechanisms are effective, in line with principles 16 to 19; and
  - iv. Providing robust infrastructure, policies and procedures for the management of risk, including operational risk.
- c) Whistleblowing mechanism: Administrators should establish an effective whistleblowing mechanism to facilitate early awareness of any potential misconduct or irregularities that may arise. This mechanism should allow for external reporting of such cases where appropriate.

#### STOXX's Response

STOXX Ltd. has implemented a documented riskbased control framework in all areas of the benchmark administration process, such as index design, launch and decommissioning; index methodology updates; index review and adjustment; index monitoring; processing of input data and corporate actions and incident and unexpected event management. In addition, the controls framework covers monitoring controls with respect to third parties and outsourced activities and also IT general controls, such as controls over access rights, application change management and data security.

The control framework identifies potential risks in the respective business processes in the above areas, determines control objectives that address those risks and defines controls in place to meet those control objectives. The defined controls comprise a range of automated and manual checks and reporting mechanisms and are linked to STOXX's second-and third-level operational procedures.

The underlying input data for the STOXX indices are generally sourced through a variety of data providers. Where practicable, STOXX sources data from more than one provider in order to improve accuracy and reduce operational dependencies on single providers. STOXX sometimes also supplements vendor data with information sourced through publicly available sources. With respect to the indices' underlying data, STOXX has implemented various quality controls designed to identify abnormal or erroneous inputs for such data as securities prices, foreign exchange rates, fundamental data and corporate actions. If input data are identified as potentially deficient in any of these checks, they are investigated by Operations and are subject to the internal approval process.

Quality of performance of services provided by third parties who provide services to STOXX with respect to an essential element of operation and the index administration process (such as IT system and database maintenance, securities data research and processing, index calculation and index dissemination and their compliance with the contracts and standards set out by STOXX) is monitored by the respective business units.

#### Procedures performed by PwC

Obtained the formal documentation of STOXX's Controls Framework and validated that it covered the relevant areas of the benchmark administration process, such as index design, launch and decommissioning; index methodology updates; index review and adjustment; index monitoring; processing of input data and corporate actions; incident and unexpected event management as well as monitoring controls with respect to third parties and outsourced activities and also IT general controls, such as controls over access rights, application change management and data security.

Validated that individual controls related to the control objectives defined in STOXX's Controls Framework were suitably designed in order to mitigate the business risks they relate to and were placed in operation.

Our procedures with respect to the index administration governance and oversight at STOXX are described under Principle 5.

Our procedures with respect to complaints management at STOXX are described under Principle 16.

Reviewed STOXX's Policy "Whistleblowing" and validated that it adequately addresses the recommendations of IOSCO Principle 4.

STOXX has represented to us that no whistleblowing cases occurred since the implementation of IOSCO compliance as of Jul. 31, 2014. Therefore, we were unable to validate whether whistleblowing cases had been handled in accordance with STOXX's policy.

Reviewed STOXX's Policy 4B "Qualification and Training" and on a sample basis inspected evidence that the policy had been adhered to in all material aspects.

On a sample basis, inspected evidence that a job-specific training plan was set up for a new employee, that a probation period evaluation was carried out and that the relevant records as required in the STOXX policy are maintained by the HR person responsible at STOXX.

On a sample basis, inspected evidence that an annual employee performance evaluation was conducted.

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## 4.4. PRINCIPLE 4: CONTROL FRAMEWORK

#### IOSCO Principle 4 continued from previous page

#### d) Expertise:

- Ensuring Benchmark determinations are made by personnel who possess the relevant levels of expertise, with a process for periodic review of their competence; and
- ii. Staff training, including ethics and conflicts of interest training, and continuity and succession planning for personnel.

Where a Benchmark is based on Submissions:

Administrators should promote the integrity of inputs by:

- a) Ensuring as far as possible that the Submitters comprise an appropriately representative group of participants taking into consideration the underlying Interest measured by the Benchmark;
- Employing a system of appropriate measures so that, to the extent possible, Submitters comply with the Submission guidelines, as defined in the Submitter Code of Conduct and the Administrators' applicable quality and integrity standards for Submission;
- c) Specifying how frequently Submissions should be made and specifying that inputs or Submissions should be made for every Benchmark determination; and
- d) Establishing and employing measures to effectively monitor and scrutinise inputs or Submissions. This should include pre-compilation or pre-publication monitoring to identify and avoid errors in inputs or Submissions, as well as ex-post analysis of trends and outliers.

#### STOXX's Response continued from previous page

The documented internal control framework details the adequacy of controls to maintain the integrity and quality of benchmark determination in line with STOXX responses to IOSCO principles and is under the responsibility of the STOXX Oversight Committee. It is also embedded in the governance and oversight structure of STOXX, as described under Principle 5, and delineates the internal reporting and escalation process.

The STOXX Oversight Committee is responsible for identifying risks in index administration, including conflicts of interest, operational issues and compliance aspects. It is also responsible for regularly reviewing the control framework in terms of its design and operating effectiveness.

The internal controls framework and dedicated organizational measures such as segregation of reporting lines, restricted access to certain information, etc., also aim to mitigate risk of conflicts of interest arising in the index administration process.

STOXX has implemented an internal whistleblowing policy and mechanism for reporting any potential misconduct or irregularities. STOXX staff members are made aware of this policy by means of the intranet and compliance training.

STOXX has implemented a dedicated complaints policy and a procedure that allows stakeholders to lodge their complaints in a user-friendly manner via the STOXX website or by email. All complaints must be duly investigated, and the complainant must receive a response. Complaints that may result in financial or reputational impact are escalated or subject to review by STOXX's Oversight Committee or Executive Board. Further details are available in the STOXX Complaints Policy.

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# 4.4. PRINCIPLE 4: CONTROL FRAMEWORK

#### STOXX's Response continued from previous page

STOXX has a dedicated human resource policy in place that addresses staff recruitment, onboarding, performance evaluation, training and deputy planning. STOXX business unit managers are responsible for the supervision and training of their staff and for adequate deputy and/or succession planning for all key staff members, with the clear focus of ensuring proper business continuity. STOXX employees are subject to mandatory compliance and conflicts-of-interestmanagement training. In addition, depending on their roles in the index administration process, staff members undergo external and internal technical training based on an individual training plan that is reviewed on an annual basis. A standardized comprehensive individual performance assessment takes place on an annual basis.

As described under Principle 14, STOXX currently excludes the administered submission-based index from IOSCO compliance.

## 4.5. PRINCIPLE 5: INTERNAL OVERSIGHT

#### 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;
  - Taking measures to remain informed about issues and risks to the Benchmark, as well as commissioning external reviews of the Benchmark (as appropriate);
  - iii. Overseeing any changes to the Benchmark Methodology, including assessing whether the Methodology continues to appropriately measure the underlying Interest, reviewing proposed and implemented changes to the Methodology, and authorising or requesting the Administrator to undertake a consultation with Stakeholders where known or its Subscribers on such changes as per Principle 12; and

continued on next page

#### STOXX's Response

STOXX has an appropriate governance structure that oversees all stages of the index administration process. The governance structure is composed of several committees, all of which are assigned specific tasks and which ultimately report to STOXX's senior management.

STOXX's index administration governance framework includes the following bodies:

- » Executive Board
- » Oversight Committee (OC)
- » Index Management Committee (IMC)
- » Index Operations Committee (IOC)

In addition, the Advisory Board – composed of external stakeholders – is consulted for specific matters.

The STOXX Executive Board Meetings (EBMs) take place weekly, and a summary of any high-severity incidents relating to index reviews and index management (including corporate actions processing) is reviewed at those meetings.

The purpose of the OC is to oversee all areas of the benchmark determination process and to take final decisions in case Operations, the IOC and the IMC are not capable or allowed to take decisions, unless a decision needs to be further escalated to the EBM because of the risk of substantial financial and/or reputational impact.

The purpose of the IMC is to oversee decisions made by the IOC and to decide in cases where the IOC has escalated a decision. The second purpose of the IMC is to monitor rules for existing indices and to decide on rule changes, the corresponding impact analysis, development of guidelines for the regular review of index methodologies and the oversight of the results of suitability conducted by Product Development and Operations. This includes a periodic review of the current index methodology and consideration to terminate.

#### Procedures performed by PwC

Reviewed the STOXX Index Administration Governance framework and the corresponding Terms of Reference of the individual governance and oversight committees and validated that they address the recommendations of IOSCO Principle 5.

Inspected evidence that all oversight committees within STOXX's Index Administration Governance framework had been set up and held meetings as scheduled.

For a sample of operational incidents, verified whether the incidents were handled in accordance with STOXX's incident management process and, with respect to escalation cases, reviewed the respective committee meeting minutes and validated that:

- » The committees acted in accordance with the defined trigger points for escalation.
- » The contents of the meetings covered the relevant matters according to their responsibilities/functions.
- » The committees acted in accordance with the Terms of Reference.

For one of the 96 selected operational incidents, we noted that it was handled and resolved in accordance with STOXX's Incident Management Process but was not escalated to the relevant governance committee as it should have been in accordance with the governance framework. No further exceptions were noted.

# 4.5. PRINCIPLE 5: INTERNAL OVERSIGHT

#### IOSCO Principle 5 continued from previous page

- iv. Reviewing and approving procedures for termination of the Benchmark, including guidelines that set out how the Administrator should consult with Stakeholders about such cessation.
- b) Oversight of the integrity of Benchmark determination and control framework:
  - i. Overseeing the management and operation of the Benchmark, including activities related to Benchmark determination undertaken by a third party;
  - ii. Considering the results of internal and external audits, and following up on the implementation of remedial actions highlighted in the results of these audits; and
  - iii. Overseeing any exercise of Expert Judgment by the Administrator and ensuring Published Methodologies have been followed.

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

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

## STOXX's Response continued from previous page

The purpose of the IOC is to oversee those areas of Operations that deal with daily questions, problems, or issues that arise as a result of the administration of indices. Hence, the overall objective of the IOC is to ensure that the benchmark administration process results in a correct and timely determination, calculation and dissemination of indices. Furthermore, the IOC must define and oversee measures that allow for mitigation of operational risks.

As described under Principle 14, STOXX currently excludes the administered submission-based index from IOSCO compliance.

# 4.6. PRINCIPLE 6: BENCHMARK DESIGN

#### IOSCO Principle 6

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

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

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

- » STOXX has established dedicated policies, and procedures are in place that regulate the index design process.
- » Internal controls with respect to benchmark design are integrated into the STOXX controls framework.
- The STOXX indices are constructed, calculated and maintained based on predefined rules. For new indices, the methodology must be designed in a way to ideally achieve synergies in terms of data, processes and procedures. Depending on the underlying interests of the index—for whom and which target group the index is designed—the methodology should also follow certain quality aspects, e.g., diversification of the index composition or restrictions on maximum weightings. During the index design process the simulated results for the index calculation must be tested against their ability to adequately measure the interest.
- » For each new index a detailed methodology and index objective are defined in the Rulebooks. In addition, new indices should be backtested or backcasted (in the case where only limited data are available) using historical data if economically and technically feasible. In the case of new raw data, a data analysis and cleansing must be conducted to ensure adequacy of the sample.
- The index methodology must contain rules to capture size, liquidity and the underlying market representation appropriate for the index, provided the respective Interest requires such rules. In the case of indices referring to lessliquid markets, the distribution of trading among market participants (market concentration) must be considered in the index design.
- To ensure that developments in the underlying reference markets are reflected in a timely fashion, the composition and index methodology are periodically reviewed and revised if necessary.

#### Procedures performed by PwC

Reviewed STOXX's Policy "Benchmark Design" and validated that it addresses the recommendations of IOSCO Principle 6.

For a sample of newly launched STOXX indices, inspected evidence of compliance with the process and all elements defined in the STOXX policy in response to IOSCO Principle 6.

Inspected evidence on the timely reflection of developments in the underlying reference markets by verifying that the launched indices were subject to periodic index reviews. The procedures we performed on the index review process are described under Principle 10.

Our procedures with respect to the controls framework at STOXX are described under Principle 4.

# 4.7. PRINCIPLE 7: DATA SUFFICIENCY

#### 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, Arms-Length transactions. This Principle also recognizes that various indices may be designed to measure or reflect the performance of a rule-based investment strategy, the volatility or behavior 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.

STOXX has dedicated policies and procedures in place to ensure that the data quality used for index determination purposes is in compliance with IOSCO principles.

The respective data sufficiency provisions are also reflected in the methodology descriptions of specific indices in the index Rulebooks that are available online:

STOXX Rulebooks: http://www.stoxx.com/indices/rulebooks. html

In general, STOXX uses traded prices from regulated exchanges/markets (representing observable bona fide, armslength transactions) for all of its indices, wherever possible and reasonable.

For any deviations from this rule, such as the use of nontransactional data, a detailed rationale is provided as part of the published index Rulebooks.

In order to prove the accuracy and reliability of the data used in representing the interest measured for index determination, STOXX discloses the nature of the data in the Rulebooks.

In the case of incidents where it is not possible to obtain observable bona fide, arms-length transactions for a specific index (e.g., market disruptions), the hierarchy of data inputs applicable for an index disclosed in the Rulebooks must be followed.

If STOXX determines that transactional data to determine an index are not available or the application of the hierarchy of data inputs would not result in an accurate and reliable representation of the interest measured by the index, the relevant governance structure of STOXX is used.

Management of data sourced from third parties is covered in the response to IOSCO Principle 2.

#### Procedures performed by PwC

Reviewed STOXX's Policy "Data Sufficiency" and validated that it addresses the recommendations of IOSCO Principle 7.

For a sample of indices, inspected evidence that the corresponding index Rulebooks adequately address the provisions of the policy.

Verified the disclosure of the underlying data used for benchmark determination in the index Rulebooks and, where appropriate, a rationale for nontransaction-based input data as described in STOXX's policy.

On a sample basis, inspected evidence that missing transaction-based data were not substituted with nontransactional data and verified that there were no incidents where it was not possible to obtain observable bona fide, "at arms-length" transaction-based data for a specific index as per STOXX policy.

Obtained a written confirmation from STOXX that incidents with regard to missing transaction-based data were subject to a standardised process as defined by the policy.

On a sample of one index for one day, inspected evidence that underlying market prices are sourced in accordance to the Rulebooks.

On a sample basis, reviewed the price sources used for index calculation and tied them back to formal exchange prices in order to validate that underlying market prices were sourced in accordance to the Rulebooks.

According to STOXX policy, there are two index families that deviate from the general rule to use traded prices from regulated exchanges/markets. With respect to those two index families, we verified the use of the data sources as provided by the policy.

# 4.8. PRINCIPLE 8: HIERARCHY OF DATA INPUTS

#### IOSCO Principle 8

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

In general, the hierarchy of data inputs should include:

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

Provided that the Data Sufficiency Principle is met (i.e., an active market exists), this Principle is not intended to restrict an Administrator's flexibility to use inputs consistent with the Administrator's approach to ensuring the quality, integrity, continuity and reliability of its Benchmark determinations, as set out in the Administrator's Methodology.

The Administrator should retain flexibility to use the inputs it believes are appropriate under its Methodology to ensure the quality and integrity of its Benchmark. For example, certain Administrators may decide to rely upon Expert Judgment in an active albeit low liquidity market, when transactions may not be consistently available each day.

IOSCO also recognizes that there might be circumstances (e.g., a low liquidity market) when a confirmed bid or offer might carry more meaning than an outlier transaction. Under these circumstances, non-transactional data such as bids and offers and extrapolations from prior transactions might predominate in a given Benchmark determination.

STOXX has dedicated policies and procedures in place to ensure that the data hierarchy used for index determination purposes is in compliance with IOSCO principles.

The respective provisions regarding hierarchy of data inputs and exercise of expert judgment are reflected in the methodology descriptions of specific indices and in the index Rulebooks that are available online:

STOXX Rulebooks: http://www.stoxx.com/indices/rulebooks. html

STOXX defines expert judgment as any deviation from published index methodologies, the extrapolation of values from prior or related transactions, the adjustment of values for factors that might influence the quality of data such as market events or impairment of a buyer or seller's credit quality, or weighting firm bids or offers greater than a particular concluded transaction.

Data filter rules are not considered expert judgment. They are considered a part of the methodology of an index and must be disclosed in the Rulebooks.

With the exception of submission-based indices, all STOXX proprietary indices are based on data obtained from regulated markets (either executed transactions or observable bid/ask quotes), and no expert judgment is exercised with respect to data inputs.

As described under Principle 14, STOXX currently excludes the administered submission-based index from IOSCO compliance.

#### Procedures performed by PwC

Reviewed STOXX's Policy "Hierarchy of Data Inputs" and validated that it addresses the recommendations of IOSCO Principle 8.

For a sample of index Rulebooks verified that a clear description of the hierarchy of the data inputs is disclosed in the Rulebooks.

STOXX has represented to us that no significant discretionary expert judgment not otherwise defined in the Rulebooks is applied for the determination of STOXX's indices. For a sample of indices, we inspected evidence that no expert judgment was effectively applied with respect to input data. 4.9. PRINCIPLE 9: TRANSPARENCY OF BENCHMARK DETERMINATIONS

#### IOSCO Principle 9

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

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

The indices administered by STOXX are typically derived from data sourced from regulated markets or exchanges that have mandatory post-trade transparency requirements, and they typically do not involve significant expert judgment.

 The relevant details on index determination are described and disclosed in published Rulebooks of the respective indices. STOXX Rulebooks: http://www.stoxx.com/indices/ rulebooks.html

STOXX provides and publishes a number of documents that describe its benchmark determinations. The following data types provide sufficient transparency for STOXX's stakeholders to understand the process and data used to make determinations for each relevant benchmark:

- » Open quotations
- » Index settlement values
- » Intraday snapshots data
- » Closing data
- » Corporate action forecasts
- » Monthly reports and selection lists
- » Index review lists
- » Stoxx news and index data notifications

Private clients can have access to data files that are relevant to their own products to allow them to validate and determine the benchmark calculation.

b) For indices that may involve significant expert judgment, STOXX discloses the relevant information with each index determination.

Further information about expert judgment is provided in the response to IOSCO Principle 8.

#### Procedures performed by PwC

Reviewed STOXX's Policy "Determination and Dissemination" and validated that it addresses the recommendations of IOSCO Principle 9.

For a sample of indices, validated that the index Rulebooks include the relevant details on index determination and comply with the provisions of STOXX's Policy "Determination and Dissemination."

For a sample of indices, inspected evidence that STOXX prepared and distributed the information with respect to benchmark determinations as described in STOXX's response and defined in STOXX's Policy "Determination and Dissemination."

STOXX has represented to us that no significant discretionary expert judgement is applied for the determination of STOXX's indices. Our procedures in this respect are described under Principle 8.

# 4.10. PRINCIPLE 10: PERIODIC REVIEW

#### IOSCO Principle 10

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

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

- » STOXX has dedicated policies and procedures in place with respect to periodic review of index conditions and parameters.
- Internal controls with respect to index review are integrated into the STOXX controls framework.
- » All changes to existing index rules or amendments to index methodologies are updated in the Rulebooks and are published through appropriate communication channels, such as STOXX's website.
- » STOXX has implemented a governance structure with committees and policies to review index methodologies and when stakeholders are to be contacted.
- » STOXX constantly monitors the execution of the index calculation rules to ensure the validity of the index methodology. STOXX also conducts general methodology reviews on a periodic and ad-hoc basis to reflect economic and political changes and developments in the investment industry. As a result of these activities, STOXX introduces changes to the methodology books. Material changes are notified to subscribers and the media through the usual communication channels.

#### Procedures performed by PwC

Reviewed STOXX's Policy "Periodic Review" and validated that it addresses the recommendations of IOSCO Principle 10.

Inspected evidence that STOXX had set up a schedule with respect to a methodology review for index families and a standardized template to report the outcome of such reviews.

For a selected index family that had undergone a methodology review, inspected evidence that:

- » The periodic index methodology review was carried out by Product Development in accordance with STOXX's policy.
- » The decision to implement the revised methodology was handled by the competent governance committee.
- » Changes to index rules or amendments to index methodologies were updated in the Rulebooks and published through appropriate communication channels.

For the above sample, STOXX has represented to us that the governance committee decision with respect to the methodology review is still pending and no changes to index rules were implemented as of Dec. 31, 2014. Therefore, we were unable to verify that the proposed amendments to index methodologies were updated in the index Rulebooks and published through appropriate communication channels. However, we have inspected evidence that the respective measures are scheduled for the first half of 2015.

# 4.11. PRINCIPLE 11: CONTENT OF METHODOLOGY

#### 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 a particular Methodology. The Published Methodology should provide sufficient detail to allow Stakeholders to understand how the Benchmark is derived and to assess its representativeness, its relevance to particular Stakeholders, and its appropriateness as a reference for financial instruments. At a minimum, the Methodology should contain:

a) Definitions of key terms;

 All criteria and procedures used to develop the Benchmark, including input selection, the mix of inputs used to derive the Benchmark, the guidelines that control the exercise of Expert Judgment by the Administrator, priority given to certain data types, minimum data needed to determine a Benchmark, and any models or extrapolation methods;

STOXX publishes the methodology for all of its administered indices in the index Rulebooks on the STOXX website and ensures that the contents of the methodology meet the requirements of the IOSCO principles.

The index methodologies and the interest that each index seeks to measure are detailed in the STOXX Rulebooks. Each index family has a dedicated Rulebook and sections. The Rulebooks consist of the STOXX and iSTOXX Index Methodology Guides for equity-based indices, the STOXX ESG Index Guide for ESG equity-based indices, STOXX Strategy Index Guide for volatility and index-of-index strategies, the STOXX Reference Rate Guide for the GC Pooling Reference rates and the STOXX Calculation Guides for the overall calculations and application of corporate actions and the calculation of Dividend Value Points and statistics.

Stakeholders can access the above information under: http://www.stoxx.com/indices/rulebooks.html

STOXX key terms are defined in the STOXX index guide in Chapters 4 and 5 and the overall calculation formulae in the STOXX calculation guide.

The methodologies of STOXX indices outline the selection criteria, weighting scheme and calculation principles used for determination of the benchmarks. They provide sufficient detail to allow stakeholders to understand how an index is derived, to assess its representativeness, its relevance to particular stakeholders and its appropriateness as a reference for financial instruments.

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#### Procedures performed by PwC

For a sample of index Rulebooks, verified that the methodology descriptions in the index Rulebooks include the elements recommended by IOSCO Principle 11 and comply with STOXX's Policy "Content of Methodology."

In particular:

- a) Verified that the Rulebooks include the definition of key terms.
- b) Verified that the Rulebooks include selection criteria, weighting scheme and calculation principles used for determination of the benchmarks and provide sufficient detail to understand how an index is derived.

# 4.11. PRINCIPLE 11: CONTENT OF METHODOLOGY

## IOSCO Principle 11 continued from previous page

c) Procedures and practices designed to promote consistency in the exercise of Expert Judgment between Benchmark determinations;

- d) The procedures which govern Benchmark determination in periods of market stress or disruption, or periods where data sources may be absent (e.g., theoretical estimation models);
- e) The procedures for dealing with error reports, including when a revision of a Benchmark would be applicable;
- f) Information regarding the frequency for internal reviews and approvals of the Methodology. Where applicable, the Published Methodologies should also include information regarding the procedures and frequency for external review of the Methodology;
- g) The circumstances and procedures under which the Administrator will consult with Stakeholders, as appropriate; and

#### STOXX's Response continued from previous page

The index methodologies are designed to limit subjectivity and expert judgment.

STOXX is using traded prices from regulated markets and not submission-based data, which are typically prone to subjectivity and the need for expert judgment.

In the case of rules being silent or open for interpretation, STOXX has implemented a governance structure to review the individual cases, trigger market consultations and make rule adjustments.

Clients are made aware by email alerts of market disruptions. The handling of extreme market events is published in the Rulebooks and follows the established STOXX governance process.

Procedures are described in the STOXX calculation guide Chapter 9, and STOXX has established an incident management process.

STOXX has implemented a governance structure with committees and policies to review index methodologies and when stakeholders are to be contacted.

STOXX constantly monitors the execution of the index calculation rules to ensure the validity of the index methodology. STOXX also conducts general methodology reviews on a periodic and ad-hoc basis to reflect economic and political changes and developments in the investment industry. As result of these activities, STOXX introduces changes to the methodology books. Material changes are notified to subscribers and the media through the usual communication channels. Clarifications of the methodology are updated in the Rulebooks. All changes are tracked in the change log section of each Rulebook.

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## Procedures performed by PwC continued from previous page

c) STOXX has represented to us that no discretionary expert judgement is applied for the determination of STOXX's indices. Our procedures in this respect are described under Principle 8.

- d) Verified that the Rulebooks include clear provisions with respect to handling of extreme market events.
- e) Verified that procedures for dealing with error reports are disclosed in the Rulebooks and are subject to the incident management process.
- f) Verified that information regarding the frequency for internal reviews and approvals of the methodology are disclosed in the Rulebooks.
- g) Verified that circumstances and procedures under which STOXX will consult with stakeholders are disclosed in the Rulebooks.

# 4.11. PRINCIPLE 11: CONTENT OF METHODOLOGY

## IOSCO Principle 11 continued from previous page

 h) The identification of potential limitations of a Benchmark, including its operation in illiquid or fragmented markets and the possible concentration of inputs.

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

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

#### STOXX's Response continued from previous page

STOXX indices are constructed to serve as a basis for investment instruments. Clients requiring clarifications on index methodologies can contact the STOXX customer support function. Feedback received from market participants or through the STOXX complaints procedure regarding trading difficulties is evaluated by the internal committees. Any recommendation resulting in a methodology change needs to be approved by the STOXX oversight function.

As described under Principle 14, STOXX currently excludes the administered submission-based index from IOSCO compliance.

#### Procedures performed by PwC continued from previous page

h) Verified that the Rulebooks include the definition of key terms of the index, including potential limitations.

No procedures were performed because this item was excluded from the scope.

# 4.12. PRINCIPLE 12: CHANGES TO METHODOLOGY

#### IOSCO Principle 12

An Administrator should Publish or Make Available the rationale of any proposed material change in its Methodology, and procedures for making such changes. These procedures should clearly define what constitutes a material change, and the method and timing for consulting or notifying Subscribers (and other Stakeholders where appropriate, taking into account the breadth and depth of the Benchmark's use) of changes. Those procedures should be consistent with the overriding objective that an Administrator must ensure the continued integrity of its Benchmark determinations. When changes are proposed, the Administrator should specify exactly what these changes entail and when they are intended to apply.

The Administrator should specify how changes to the Methodology will be scrutinised, by the oversight function.

The Administrator should develop Stakeholder consultation procedures in relation to changes to the Methodology that are deemed material by the oversight function, and that are appropriate and proportionate to the breadth and depth of the Benchmark's use and the nature of the Stakeholders. Procedures should:

 Provide advance notice and a clear timeframe that gives Stakeholders sufficient opportunity to analyse and comment on the impact of such proposed material changes, having regard to the Administrator's assessment of the overall circumstances; and

- » Changes to the methodology of indices administered by STOXX are disclosed through the STOXX website.
- The internal control framework of STOXX ensures that changes to the index methodology follow the STOXX policies and are subject to the appropriate oversight and stakeholder consultation.
- » STOXX has implemented a governance structure with committees and policies to review index methodologies, when stakeholders are to be contacted and when and how to publish any changes. All changes need to be approved by the STOXX oversight function.
- » Clarifications of the methodology are updated in the Rulebooks. All changes are tracked in the change log section of each Rulebook.

#### Procedures performed by PwC

For a sample of two indices that had undergone a methodology change since implementation of IOSCO compliance by STOXX, inspected evidence that the methodology change management adhered to the process defined in STOXX's Policy "Changes to Methodology," including public consultation and that the methodology changes had been appropriately announced prior to implementation and disclosed in the Rulebooks.

All material methodology changes should generally be publicly announced three months prior to implementation, except for urgent or distressed situations where the timing of the announcement must be determined by the OC ad hoc or in situations where there is no stakeholder impact and where immediate communication is possible. All rule changes including changes in distress situations will require a minimum notice period of one full trading day. A public notice and email to subscribers must be issued, giving detailed information about the nature and rationale of the change as well as the implications and terms for the new methodology to enter into force.

continued on next page

For the above sample, inspected evidence that methodology changes had been publicly announced three months prior to implementation.

We noted that for one methodology change in our sample, the stakeholder consultation was effectively announced 82 days ahead of rule change implementation (instead of the required three months). No further exceptions were noted.

# 4.12. PRINCIPLE 12: CHANGES TO METHODOLOGY

## IOSCO Principle 12 continued from previous page

 b) Provide for Stakeholders' summary comments, and the Administrator's summary response to those comments, to be made accessible to all Stakeholders after any given consultation period, except where the commenter has requested confidentiality

#### STOXX's Response continued from previous page

The oversight function is responsible for evaluating the necessity for consulting the Advisory Board or any other external stakeholders. The timing and duration of the consultation period is determined by the OC and is dependent on the proposed change in methodology. A summary of the stakeholders' comments and STOXX's summary response to those comments is made available to all stakeholders after any given consultation period, except where the commenter has requested confidentiality.

## Procedures performed by PwC continued from previous page

For the above sample, inspected evidence that methodology changes had been approved by the Oversight Committee (OC) as defined in STOXX's policy.

## 4.13. PRINCIPLE 13: TRANSITION

#### 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

STOXX has put a dedicated policy in place that regulates transitions and cessations of indices administered by STOXX. This policy can be obtained from regulations@stoxx.com

STOXX has integrated into its Rulebooks an index termination process:

http://www.stoxx.com/indices/rulebooks.html

In general, any STOXX department can identify the need for decommissioning an index and submit a proposal to Product Development. If Product Development agrees with the need for a cessation according to the above criteria, the Product Approval Committee must be involved to formally request the cessation of an index. The decision to decommission an index is made by the OC in accordance with the terms of reference.

Before decommissioning an index, STOXX always determines whether there are any listed financial products issued on that index as the underlying. STOXX terminates indices only provided that:

- » All existing (to STOXX's knowledge) commercial customers have been consulted, and commercial relationships have been terminated or transitioned accordingly.
- » Consultations with stakeholders have not led to the decision to continue the index.

STOXX gives sufficient notice to ensure that all noncommercial stakeholders have sufficient time to adjust accordingly. STOXX is not responsible for determining or offering an alternative index to its subscribers or other stakeholders when an index is decommissioned.

Legal ensures that all contracts with third parties indicate that STOXX has the right to materially change or decommission an index at any time and that for such cases subscribers or other stakeholders who have financial instruments that refer to the index are responsible for implementing robust fallback provisions (e.g., early redemption of the financial instruments issued on the index).

#### Procedures performed by PwC

Reviewed STOXX's Policy "Index Transition" and validated that it addresses the recommendations of IOSCO Principle 13.

STOXX has represented to us that no indices had been transitioned or terminated since the implementation of IOSCO compliance by STOXX as of Jul. 31, 2014. Therefore, we were not able to inspect evidence that the index cessation process had been effectively followed as defined in STOXX's policy.

Reviewed STOXX's Policy "Index Transition" and validated that the process described in STOXX's response is in line with the provisions of the policy.

# 4.13. PRINCIPLE 13: TRANSITION

#### IOSCO Principle 13 continued from previous page

 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;

#### STOXX's Response continued from previous page

Subscriber or other stakeholders are informed about a cessation or transition of an index at least three months in advance. A press release and email to subscribers or other stakeholder is issued, giving detailed information about the nature and rationale of the cessation and transition as well as the date on which the index is to be decommissioned. The press release and email inform subscribers or other stakeholders that there will be no replacement of the index and whether STOXX suggests the use of alternative indices.

#### Procedures performed by PwC continued from previous page

Reviewed STOXX's Policy "Index Transition" and validated that the process described in STOXX's response is in line with the provisions of the policy.

For the transition of an index or index family, a market consultation with the involved subscribers and other stakeholders, as well as the Advisory Board, must be initiated by STOXX.

The duration of the consultation phase must be approved by the OC.

A summary of the stakeholders' comments and STOXX's summary response to those comments must be made available upon request to all stakeholders after any given consultation period, except where the commenter has requested confidentiality.

continued on next page

Reviewed STOXX's Policy "Index Transition" and validated that the process described in STOXX's response is in line with the provisions of the policy.

## 4.13. PRINCIPLE 13: TRANSITION

## IOSCO Principle 13 continued from previous page

c) The procedures that the Administrator would follow in the event that a suitable alternative cannot be identified;

d) In the case of a Benchmark or a tenor of a Benchmark that will be discontinued completely, the policy defining the period of time in which the Benchmark will continue to be produced in order to permit existing contracts to migrate to an alternative Benchmark if necessary; and

e) The process by which the Administrator will engage Stakeholders and relevant Market and National Authorities, as appropriate, in the process for selecting and moving towards an alternative Benchmark, including the timeframe for any such action commensurate with the tenors of the financial instruments referencing the Benchmarks and the adequacy of notice that will be provided to Stakeholders.

#### STOXX's Response continued from previous page

When it is discontinuing an index without launching a new one, STOXX considers whether to recommend using an alternative credible index. Criteria to be considered are matching characteristics of the discontinued index, differentials between indices, the extent to which an alternative index meets the needs of stakeholders, whether the alternative index is investable, availability of transparent transaction data, impact on stakeholders and impact of existing legislation.

STOXX is not responsible for determining or offering an alternative index to its subscribers or other stakeholders when an index is decommissioned.

Subscribers or other stakeholders are informed about a cessation or transition of an index at least three months in advance. A press release and email to subscribers or other stakeholders must be issued giving detailed information about the nature and rationale of the cessation and transition as well as the date on which the index is to be decommissioned. The press release and email must also inform subscribers or other stakeholders that there will be no replacement of the index and whether STOXX suggests the use of alternative indices.

For the transition of an index or index family, a market consultation with the involved subscribers and other stakeholders, as well as the Advisory Board, is initiated by STOXX.

The duration of the transition is approved by the OC.

A summary of the stakeholders' comments and STOXX's summary response to those comments must be made available upon request to all stakeholders after any given consultation period, except where the commenter has requested confidentiality.

## Procedures performed by PwC continued from previous page

Reviewed STOXX's Policy "Index Transition" and validated that the process described in STOXX's response is in line with the provisions of the policy.

Reviewed STOXX's Policy "Index Transition" and validated that the process described in STOXX's response is in line with the provisions of the policy.

Reviewed STOXX's Policy "Index Transition" and validated that the process described in STOXX's response is in line with the provisions of the policy.

# 4.14. PRINCIPLE 14: SUBMITTER CODE OF CONDUCT

#### IOSCO Principle 14

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

- a) The selection of inputs;
- b) Who may submit data and information to the Administrator;
- Quality control procedures to verify the identity of a Submitter and any employee(s) of a Submitter who report(s) data or information and the authorization of such person(s) to report market data on behalf of a Submitter;
- d) Criteria applied to employees of a Submitter who are permitted to submit data or information to an Administrator on behalf of a Submitter;
- e) Policies to discourage the interim withdrawal of Submitters from surveys or Panels;
- f) Policies to encourage Submitters to submit all relevant data; and
- g) The Submitters' internal systems and controls, which should include:
  - Procedures for submitting inputs, including Methodologies to determine the type of eligible inputs, in line with the Administrator's Methodologies;
  - Procedures to detect and evaluate suspicious inputs or transactions, including inter-group transactions, and to ensure the Bona Fide nature of such inputs, where appropriate;

- The indices administered by STOXX are based on data sourced from regulated markets or exchanges with mandatory post-trade transparency requirements, except for the iSTOXX® Efficient Capital® Managed Futures 20 index (based on submissions), according to the terms of the IOSCO Principles. That index is currently not being licensed to clients. Applying the proportionality principle of the IOSCO Principles, STOXX currently excludes this index from IOSCO compliance.
- » STOXX is committed to developing a Submitter Code of Conduct and to implementing specific monitoring controls with respect to potential submission-based indices that may become key indices going forward.

#### Procedures performed by PwC

No procedures were performed because this item was excluded from the scope.

# 4.14. PRINCIPLE 14: SUBMITTER CODE OF CONDUCT

#### IOSCO Principle 14 continued from previous page

- Policies guiding and detailing the use of Expert Judgment, including documentation requirements;
- iv. Record keeping policies;
- v. Pre-Submission validation of inputs, and procedures for multiple reviews by senior staff to check inputs;
- Vi. Training, including training with respect to any relevant regulation (covering Benchmark regulation or any market abuse regime);
- vii. Suspicious Submission reporting;
- viii. Roles and responsibilities of key personnel and accountability lines;
- ix. Internal sign off procedures by management for submitting inputs;
- x. Whistle blowing policies (in line with Principle 4); and
- xi. Conflicts of interest procedures and policies, including prohibitions on the Submission of data from Front Office Functions unless the Administrator is satisfied that there are adequate internal oversight and verification procedures for Front Office Function Submissions of data to an Administrator (including safeguards and supervision to address possible conflicts of interests as per paragraphs (v) and (ix) above), the physical separation of employees and reporting lines where appropriate, the consideration of how to identify, disclose, manage, mitigate and avoid existing or potential incentives to manipulate or otherwise influence data inputs (whether or not in order to influence the Benchmark levels), including, without limitation, through appropriate remuneration policies and by effectively addressing conflicts of interest which may exist between the Submitter's Submission activities (including all staff who perform or otherwise participate in Benchmark Submission responsibilities), and any other business of the Submitter or of any of its affiliates or any of their respective clients or customers.

SECTION IV. STOXX'S STATEMENT OF COMPLIANCE WITH THE IOSCO PRINCIPLES FOR FINANCIAL BENCHMARKS: INDIVIDUAL PRINCIPLES AND RESPONSES

4.15. PRINCIPLE 15: INTERNAL CONTROLS OVER DATA COLLECTION

#### IOSCO Principle 15

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

STOXX collects underlying data from stock exchanges and a variety of market data vendors. Within its internal controls framework, STOXX has implemented appropriate internal control procedures with respect to the collection and processing of the underlying index data. For further details, see the response to Principle 4.

#### Procedures performed by PwC

Obtained the formal documentation of STOXX's Controls Framework and validated that it covers the relevant controls with respect to input data collection as well as monitoring controls over third-party data providers.

Validated that individual controls related to the control objectives defined in STOXX's Controls Framework with respect to input data collection were suitably designed in order to mitigate the business risks they relate to and were placed in operation.

Our procedures with respect to the internal controls framework of STOXX are described in detail under Principle 4.

# 4.16. PRINCIPLE 16: COMPLAINTS PROCEDURES

## IOSCO Principle 16

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

The complaints procedures policy should:

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

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

- a) The exercise of Expert Judgment made by the Administrator in reaching a Benchmark determination;
- b) Other changes in or deviations from standard procedures and Methodologies, including those made during periods of market stress or disruption;

STOXX has implemented a dedicated complaints policy and a procedure that allows stakeholders to lodge their complaints in a user-friendly manner via the STOXX website or by email. All complaints must be duly investigated and a response given to the complainant. Complaints that may result in financial or reputational impact are escalated or subject to review by the STOXX OC or Executive Board. Further details are available in the STOXX Complaints Policy.

As described under Principle 14, STOXX currently excludes the administered submission-based index from IOSCO compliance.

#### Procedures performed by PwC

Reviewed STOXX's Policy "Complaints Procedures" and validated that it addresses the recommendations of IOSCO Principle 16.

STOXX has represented to us that there had been no formal complaints received since the implementation of IOSCO compliance by STOXX as of Jul. 31, 2014. Therefore, we were not able to inspect evidence that the complaints management process had been effectively followed as defined in STOXX's policy.

# 4.16. PRINCIPLE 16: COMPLAINTS PROCEDURES

#### **IOSCO Principle 16** continued from previous page

- c) The identity of each person involved in producing a Benchmark determination; and
- d) Any queries and responses relating to data inputs.

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

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

Submitters should retain records for five years subject to applicable national legal or regulatory requirements on:

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

SECTION IV. STOXX'S STATEMENT OF COMPLIANCE WITH THE IOSCO PRINCIPLES FOR FINANCIAL BENCHMARKS: INDIVIDUAL PRINCIPLES AND RESPONSES

# 4.17. PRINCIPLE 17: AUDITS

#### IOSCO Principle 17

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

» STOXX has appointed PwC to perform an audit of compliance of STOXX with the IOSCO Principles. Given that STOXX's indices are designed to be replicated by clients, STOXX does not deem it necessary to undergo additional audits with respect to adherence to index methodologies.

## Procedures performed by PwC

We have been engaged to conduct an examination of STOXX's responses in relation to compliance with the IOSCO Principles for Financial Benchmarks and provide a reasonable assurance opinion on whether the relevant responses have been fairly stated.

# 4.18. PRINCIPLE 18: AUDIT TRAIL

#### IOSCO Principle 18

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

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

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

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

Submitters should retain records for five years subject to applicable national legal or regulatory requirements on:

- a) The procedures and Methodologies governing the Submission of inputs;
- b) The identity of any other person who submitted or otherwise generated any of the data or information provided to the Administrator;
- c) Names and roles of individuals responsible for Submission and Submission oversight;
- d) Relevant communications between submitting parties;
- e) Any interaction with the Administrator;
- f) Any queries received regarding data or information provided to the Administrator;
- g) Declaration of any conflicts of interests and aggregate exposures to Benchmark related instruments;

STOXX has implemented a dedicated policy with respect to storage and archiving of data and information that are used in the process of index administration. This policy complies with the regulatory requirements and the IOSCO Principles.

Written records are retained for at least five years with respect to the following data within STOXX or with the support of the shareholders' systems:

- All market data and any other data and information sources relied upon for index determination are kept for at least five years, in particular:
  - » End-of-day index values (ticks)
  - » End-of-day prices of index constituents
  - » Parameterization of in- and outbound filters
  - » End-of-day index configuration (weightings, etc.)

STOXX does not archive real-time input data because of the following factors:

- Stakeholders can typically obtain real-time/intraday data from the established information service providers.
- The headline indices of STOXX are replicated and monitored by a large range of market participants, ensuring the correctness of the indices instantaneously.
- » Applicable law does not impose an obligation on STOXX to archive real-time/intra-day data.
- b) In general, for STOXX proprietary indices, STOXX uses traded prices from regulated exchanges/markets (representing observable bona fide, arms-length transactions) for all of its indices wherever possible and reasonable. The decisionmaking process for the exercise of expert judgment made in reaching a benchmark determination is determined by the governance structure of STOXX. STOXX stores this information within the minutes of the relevant committee (IOC, IMC or OC).

#### Procedures performed by PwC

Reviewed Policy 18 "Audit Trail" and validated that it addresses the recommendations of IOSCO Principle 18.

Response a):

On a sample basis, inspected the availability of the data elements and information specified in STOXX's response and Policy "Audit Trail" ("a" through "e" of the STOXX policy) and verified that those data are stored for at least five years as defined by the policy.

We noted that for one index in our sample of 16 indices, the underlying constituents price data were not stored at STOXX but at the exchange on which the relevant constituents were traded. No formal record-sharing agreements exist between that exchange and STOXX. The exchange, which is a related party to STOXX, has confirmed to us that the relevant data are stored for at least five years and can be provided.

Responses b)-c):

Inspected evidence that the information described in STOXX's response is documented in the governance committee meeting minutes and that those minutes are retained.

Response d):

Reviewed STOXX's staff planning tool and checklists of controls and processes carried out during the index production process and validated that those records were retained as specified by the policy.

Response e):

For a sample of client emails, inspected evidence that they were retained as specified by the policy.

# 4.18. PRINCIPLE 18: AUDIT TRAIL

## IOSCO Principle 18 continued from previous page

- h) Exposures of individual traders/desks to Benchmark related instruments in order to facilitate audits and investigations; and
- i) Findings of external/internal audits, when available, related to Benchmark Submission remedial actions and progress in implementing them.

#### STOXX's Response continued from previous page

- c) The governance structure of STOXX is designed to deal with situations where STOXX's Rulebooks do not contain sufficient information or the rules are open to interpretation. In these cases, the IOC will be convened; in more complex cases, the IMC will be notified by the IOC. The details of any decisions are documented within the minutes of the relevant committee and are retained for at least five years.
- d) STOXX has a clear organizational and governance structure; the roles and responsibilities of each individual involved in the index administration process are defined and documented. The Index Operations teams have a dedicated shift program; within this, individuals are responsible for checklists for end-of day and real-time index production. The checklists and any appropriate authorizations are stored for at least five years.
- e) Any correspondence from customers or shareholders relating to data inputs is stored in a database or within the STOXX email system. These records are stored for at least five years.

As described under Principle 14, STOXX currently excludes the administered submission-based index from IOSCO compliance. 4.19. PRINCIPLE 19: COOPERATION WITH REGULATORY AUTHORITIES

## 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 upon request.

Currently, STOXX is not being supervised by any regulatory authority, and there is no legal basis for such supervision.

## Procedures performed by PwC

No procedures were performed because this item was excluded from the scope.

## ABOUT STOXX

STOXX AG. is a global index provider, currently calculating a global, comprehensive index family of over 7,000 strictly rules-based and transparent indices. Best known for the leading European equity indices EURO STOXX 50, STOXX Europe 50 and STOXX Europe 600, STOXX AG. maintains and calculates the STOXX Global Index family, which consists of total market, broad and blue-chip indices for the regions Americas, Europe, Asia and Pacific; the subregions Latin America and BRIC (Brazil, Russia, India and China) as well as global markets.

To provide market participants optimal transparency, STOXX indices are classified in three different categories. The regular "STOXX" indices include all standard, theme and strategy indices that are part of STOXX's integrated index family and that follow a strict rules-based methodology. The "iSTOXX" brand typically comprises less-standardized index concepts that are not integrated into the STOXX Global Index Family but are nevertheless strictly rules-based. While indices that are branded "STOXX" and "iSTOXX" are developed by STOXX for a broad range of market participants, the "STOXX Customized" brand covers indices that are specifically developed for clients and do not carry the STOXX brand in the index name.

STOXX indices are licensed to more than 500 companies around the world as underlyings for ETFs, futures and options, structured products and passively managed investment funds. Three of the top ETFs in Europe and 30% of all assets under management are based on STOXX indices. STOXX AG. holds Europe's number-one position and the world's number-three position in the derivatives segment.

In addition, STOXX AG. is the marketing agent for the indices of Deutsche Boerse AG and SIX AG, among them the DAX and the SMI indices.

STOXX AG. is part of Deutsche Boerse AG and SIX AG. www.stoxx.com

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