

**Good Practices  
Relating to the Implementation of the  
IOSCO Principles for Exchange Traded Funds**

**Final Report**



**OICU-IOSCO**

**The Board  
OF THE  
INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS**

FR/07/23

MAY 2023

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## Section I – Executive Summary

### Background

As a product with distinct market structures, features and uses by investors, exchange traded funds (ETFs) are an increasingly popular investment vehicle among different types of market participants, offering investors exposure to underlying markets for stocks, bonds and other assets, portfolio diversification, and access to a wide range of investment strategies.

In 2013, IOSCO published its final report with [Principles for the Regulation of Exchange Traded Funds](#) (ETF Principles)<sup>1</sup>. The ETF Principles set out to cover a wide range of topics, including disclosure, portfolio transparency, costs, risks, strategies, structuring issues on counterparties and conflicts of interest. A full list of the ETF Principles is set out in **Appendix 1**.

### Review of the ETF Principles

Since publication of the ETF Principles, ETF markets globally have continued to evolve and exhibit sustained growth in assets under management (AUM). The ETF industry has continued to evolve through the launch of new products with exposures to less liquid and more novel asset classes and more complex investment strategies. In light of these developments, the IOSCO Board mandated the establishment of a dedicated workstream (ETF Workstream) under the stewardship of its Committee 5 on Investment Management to review a broad range of issues and new developments relating to ETFs and to identify any gaps in the ETF Principles.

In particular, exploratory work done has included (i) a review of recent academic literature; (ii) multiple surveys of both regulators and industry participants; (iii) engagement with industry stakeholders and academics through roundtables and other less formal outreach; (iv) engagement with other IOSCO standing committees;<sup>2</sup> (v) distilling lessons learned from major market events affecting ETFs, including the COVID-19-related market volatility in March and April 2020 (COVID-19 volatility); and (vi) IOSCO's engagement with the Financial Stability Board (FSB).

Drawing on the above work, IOSCO has concluded that the ETF Principles remain relevant and appropriate. No major gaps have been identified, and no major regulatory issues were reported by IOSCO members or industry participants. The ETF structure has generally remained resilient during historical stress events. Historical stresses related to ETFs have been idiosyncratic events or were precipitated by exogenous shocks to the sector. As of the date of this report, no structural issues related to ETFs have been identified that have had a bearing on financial stability.

IOSCO noted differences among jurisdictions in the way that ETFs operate, variance in the way they are regulated, and the markets in which they trade. With these differences in mind,

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<sup>1</sup> IOSCO (2013) Final Report on Principles for the Regulation of Exchange Traded Funds. Refer to <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD414.pdf>.

<sup>2</sup> The Committee on Investment Management also engaged with the Committee on the Regulation of Secondary Markets, the Committee on Retail Investors and the Committee on Emerging Risks.

IOSCO has concluded that the ETF Principles would benefit from being supported by a set of good practices identified in the course of the review, as examples of how a jurisdiction could implement the ETF Principles. These good practices draw on additional examples, experiences and practices gathered through the aforementioned exploratory work. They also highlight issues for consideration by regulators, responsible entities and/or trading venues as to how the ETF Principles and other relevant IOSCO standards and guidance can be put into practice. IOSCO encourages regulators, responsible entities and trading venues to review and adopt these good practices, where appropriate, within each jurisdiction's regulatory framework.

## Topics Covered in This Report

**Section II of this report provides an overview of ETFs**, including (i) their distinct market structures, features and uses by investors compared to unlisted open-ended funds (OEFs) and other exchange-traded products (ETPs); (ii) different jurisdictions' existing regulations and IOSCO guidance; and (iii) jurisdictional variance in regulatory frameworks and differences in local market structure.

- i. ***An ETF is a product with distinct product characteristics, market structures and uses by investors compared to unlisted OEFs and other ETPs.*** In particular, key differences between ETFs and unlisted OEFs include the availability of intraday liquidity in the secondary market, the Authorized Participant (AP) mechanism in the ETF primary market and the associated arbitrage mechanism. In addition, investors may use ETFs and unlisted OEFs in different ways. Investors can buy and hold shares of ETFs (as with unlisted OEF shares) or trade ETFs frequently as part of an active trading or hedging strategy. Across jurisdictions there also may be particular differences in the investor base as well as the broader markets in which ETFs operate.
- ii. ***ETFs and their trading activities are subject to robust regulatory frameworks across jurisdictions, supported by extensive IOSCO standards and guidance.*** ETFs are subject to jurisdictions' applicable collective investment scheme (CIS) regulatory framework, plus additional regulatory requirements due to their unique characteristics and rules governing their secondary market trading. In addition, market makers (MMs) of ETFs may be subject to market-making obligations under jurisdictions' applicable regulations or exchange rules.

Guidance recently published by IOSCO have also covered ETFs. For instance, subsequent to the publication of the ETF Principles, in 2018 IOSCO published final recommendations designed to improve liquidity risk management practices of OEFs, including ETFs.<sup>3</sup> IOSCO also published recommendations to help trading venues manage extreme volatility and preserve orderly trading in secondary markets, including secondary trading in ETF shares ("VCM Recommendations").<sup>4</sup>

- iii. ***Jurisdictional variance among specific regulations and differences in local market structure may have a bearing on the way that ETFs operate.*** Differences in

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<sup>3</sup> IOSCO (2018) Final Report on Recommendations for Liquidity Risk Management for Collective Investment Schemes. Refer to <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD590.pdf>.

<sup>4</sup> IOSCO (2018) Mechanisms Used by Trading Venues to Manage Extreme Volatility and Preserve Orderly Trading. Refer to <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD607.pdf>.

local market structure for ETFs may include, for any given jurisdiction, the structure of relationships with APs, the principal types of investors that invest in ETFs, the size, liquidity and structure of the markets in which ETF shares and underlying assets trade, and other factors that can contribute to the effectiveness of the arbitrage mechanism. While the regulatory frameworks applied to ETFs in different jurisdictions typically have similar investor protection, market integrity and financial stability objectives, individual jurisdictions may address potential concerns raised in connection with ETFs in varying ways to achieve these regulatory objectives. In light of these variances, the good practices may not be applicable in all jurisdictions or in all circumstances, but they nonetheless provide good examples of how regulators could achieve these regulatory objectives.

***Section III of the report discusses the major themes and recent developments in ETF markets explored in the course of IOSCO's review of the ETF Principles***, including (i) the arbitrage mechanism; (ii) disclosure-related issues; (iii) ETF product structuring; (iv) volatility control mechanisms (VCMs); and (v) ETFs and financial stability. These themes underpin the determination that the ETF Principles would benefit from being supported by a set of good practices.

In particular, ETF liquidity and the potential impact of ETFs on underlying markets have been the subject of extensive consideration by regulators and international bodies, including IOSCO and the FSB. As discussed in greater detail below, IOSCO has concluded that overall, the ETF structure has remained relatively resilient, including in times of stress. Exploratory work undertaken by IOSCO and FSB did not observe significant information indicating that ETFs negatively impact underlying markets or that ETFs would significantly contribute to a liquidity shock or crisis. Market observers generally noted that ETFs have structural features and tools to mitigate potential liquidity risks. Market observers also have noted that the ETF structure itself can provide an additional layer of liquidity and some have also noted the relative liquidity of ETFs when compared to underlying markets and that ETFs can provide an additional source of pricing information for the underlying portfolio assets.

Nevertheless, during times of stress, and particularly during the COVID-19 volatility, some fixed income ETFs have displayed more significant or more persistent discounts and spreads. Some derivative-based ETPs/ETFs with more distinct features (e.g., investing in less diversified assets, such as commodity futures or volatility-based derivatives, and/or adopting a leveraged / inverse strategy), which collectively amount to only a small portion of the ETP/ETF market, have also experienced more significant volatility and operational challenges during times of stress.<sup>5</sup>

***Section IV of the report discusses in detail 11 good practices that regulators could consider and adopt for implementation of the ETF Principles***, with reference to different regulatory approaches towards ETFs and how ETFs operate in these jurisdictions. These measures centre on the distinctive features of ETFs, which are the trading of ETF shares in the secondary market and the associated arbitrage mechanism.

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<sup>5</sup> Depending on the jurisdiction, these products may be classified as ETPs instead of ETFs under the local regulation.

## Good Practices to Support the ETF Principles

This Report is intended to offer a set of good practices for the consideration of regulators, responsible entities and/or trading venues. While the Good Practices do not comprise either standards or recommendations as per IOSCO's taxonomy, they are designed to support the ETF Principles and other relevant IOSCO standards and guidance by providing examples of their implementation. IOSCO encourages regulators, responsible entities and trading venues to review and adopt the good practices, where appropriate within each jurisdiction's regulatory framework.

### **1. Effective Product Structuring**

*Relevant ETF Principles #4, 7, 8 & 9*

- |                  |   |
|------------------|---|
| <b>Measure 1</b> | Regulators and responsible entities are encouraged to consider the range of asset classes and investment strategies that may be appropriate for the ETF structure, taking into account their nature, novelty, and complexity, the effectiveness of the arbitrage mechanism for such assets and strategies.  |
| <b>Measure 2</b> | Regulators are encouraged to consider requirements regarding the transparency of an ETF's portfolio and/or other appropriate information provided to market participants so as to facilitate effective arbitrage.   |
| <b>Measure 3</b> | For jurisdictions that mandate the provision of iNAV, regulators and/or trading venues are encouraged to consider means to enhance the accuracy and usefulness of iNAV.   |
| <b>Measure 4</b> | Responsible entities are encouraged to: <ul style="list-style-type: none"><li>(i) conduct due diligence on APs and MMs when onboarding them to the ETF, with a view towards having those that are capable of facilitating an effective arbitrage mechanism and providing liquidity;</li><li>(ii) conduct ongoing monitoring on APs and MMs for the ETF regarding, amongst others, the functioning of the arbitrage mechanism and liquidity provision; and</li><li>(iii) avoid exclusive arrangements with APs and MMs if they may unduly affect the effectiveness of the arbitrage mechanism.</li></ul> |
| <b>Measure 5</b> | Responsible entities are encouraged to put in place appropriate arrangements to facilitate an effective arbitrage mechanism, including contingency plans to address the circumstances where the arbitrage mechanism of the ETF is impaired.   |

**Measure 6** Regulators are encouraged to consider whether the securities laws and applicable rules of securities exchanges within their remit and jurisdictions appropriately address potential conflicts of interests raised by ETFs.

## **2. Disclosure**

*Relevant ETF Principles #1, 2, 5, 6 & 7*

**Measure 7** For ETFs, in particular those that invest in more complex or novel asset classes, or use more complex investment strategies, regulators are encouraged to consider appropriate requirements for the adequacy and appropriateness of the disclosures regarding ETF-specific aspects, including whether certain disclosures are presented in an understandable manner and whether they address the nature of risks associated with the ETFs' strategies.

**Measure 8** Regulators are encouraged to consider appropriate requirements for the disclosures of fees and expenses for investing in ETFs (including secondary market trading costs) in a way that allows investors to make informed decisions about whether they wish to invest in an ETF and thereby accept a particular level of costs.

**Measure 9** Regulators and responsible entities are encouraged to consider appropriate disclosure requirements or disclosures to help investors to clearly differentiate ETFs from other ETPs / CIS, as well as appropriate disclosures for index-based and non-index-based ETFs.

## **3. Liquidity Provision**

*Relevant ETF Principle #9*

**Measure 10** Regulators and/or trading venues, where applicable, are encouraged to monitor secondary market trading and market-making activities of ETFs and have rules governing the orderly trading of ETF shares.

## **4. Volatility Control Mechanisms**

*Relevant VCM Recommendations #2 & 8*

**Measure 11** Regulators and/or trading venues, where applicable, are encouraged to appropriately calibrate VCMs applicable to ETFs, considering factors including their liquidity profile and volatility profile. Where an ETF is listed or traded on a number of trading venues, those trading venues are encouraged to consider communicating with one another as appropriate when VCMs are triggered.



## Section II – Product Overview of ETFs

ETFs are an increasingly popular investment vehicle, which offer investors exposure to underlying markets for stocks, bonds and other assets; portfolio diversification; and access to a wide range of investment strategies.<sup>6</sup> ETFs are a unique type of collective investment scheme.<sup>7</sup> They have characteristics of both traditional open-end CIS (or OEFs), which issue redeemable securities, and closed-end CIS, which generally issue securities that are traded on a securities exchange and are not redeemable. This combination of characteristics also distinguishes ETFs from unlisted OEFs and closed-end CIS models.

### Intraday Liquidity In Secondary Market

Investors in unlisted OEFs subscribe and redeem shares directly from the fund at net asset value (NAV) per share. Unlike unlisted OEFs, however, shares of ETFs are traded on a secondary market. ETFs do not sell or redeem individual shares except with authorized participants (APs) (as described below). Most investors therefore purchase and sell ETF shares at market-determined prices on the secondary market (securities exchanges or over-the-counter (OTC)) throughout the trading day. Accordingly, unlike investors in unlisted OEFs, ETF investors that purchase or sell ETF shares in the secondary market with intraday liquidity may transact at a higher (premium) or lower (discount) price than the ETF's computed NAV per share. In addition, ETF investors trading on the secondary market bear relevant trading costs, which include bid-ask spreads.

### Primary Creation/Redemption by APs Only; Arbitrage Mechanism

Generally, only market participants that have arrangements with an ETF (i.e., APs) can create and redeem shares directly from an ETF at the NAV per share (these transactions are referred to as occurring in the “primary market”).<sup>8</sup> APs create and redeem ETF shares in large blocks, called creation units, and do so either for their own account or as agents for clients. In general, an AP that purchases a creation unit of ETF shares directly from an ETF transfers to the ETF a pre-defined “basket” of securities, cash and/or other assets,<sup>9</sup> and then receives the creation unit of ETF shares (and where applicable, a cash balancing amount) in return for those assets.<sup>10</sup>

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<sup>6</sup> Global ETF AUM increased from about USD 200 billion at the end of 2003 to about USD 9 trillion at the end of 2022. Source: ETFGI.

<sup>7</sup> ETFs are constituted and regulated as open-end CIS in most jurisdictions.

<sup>8</sup> Exceptions include, for example, direct redemption mechanism required for UCITS ETFs in EU jurisdictions (*see Box 5*) and for certain ETFs in Australia.

<sup>9</sup> Prior to the opening of trading, an ETF will publish a portfolio composition file (PCF). This will, in general, set out the amount of securities and cash to (a) be delivered by the AP to the ETF in return for a creation unit (in the case of a creation) (a creation basket) or (b) to be received by the ETF from the AP in the case of redemption (a redemption basket). Where the ETF deals on an in-kind basis it will contain a pre-defined basket of shares in addition to a sum of cash. Where the ETF deals on a cash basis the PCF will contain an amount of cash only equivalent to the value of the basket.

<sup>10</sup> There are sometimes minor differences between the value of the creation unit and the value of the basket. In these cases, the AP and the ETF will exchange a true-up payment. A redemption basket may include cash to the extent that the ETF's portfolio includes cash or to substitute for a portfolio position that is not eligible to be transferred in

After acquiring a creation unit, the AP may hold the individual ETF shares, or sell some or all of them in secondary market transactions. Investors then purchase individual ETF shares on the secondary market.

The redemption process works in reverse: the AP redeems a creation unit of ETF shares and receives in return the basket of securities and/or cash from the ETF. After redemption, the AP may hold the securities received in the basket or sell some or all of them on the secondary market.

The creation and redemption mechanisms together with secondary market trading in ETF shares offer arbitrage opportunities, which help keep the market price of ETF shares from diverging significantly from the value of the ETFs underlying portfolio. For example, if ETF shares are trading on a securities exchange at a discount, an AP can purchase ETF shares on secondary markets and, after acquiring enough ETF shares to comprise a creation unit, redeem them with the ETF in exchange for the more valuable securities in the ETF's redemption basket. An AP's purchase of an ETF's shares on the secondary market, combined with the sale of the ETF's basket assets, may create upward pressure on the price of the ETF shares, downward pressure on the price of the basket assets, or both, bringing the market price of ETF shares and the value of the ETF's portfolio holdings closer together. Alternatively, if ETF shares are trading at a premium, the transactions in the arbitrage process are reversed and, when arbitrage is working effectively, keep the market price of the ETF's shares close to its NAV.<sup>11</sup>

MMs and other liquidity providers that are not APs (collectively, LPs) can also engage in arbitrage activities through the AP, as agent, or by hedging in the secondary market, without using the creation or redemption process.<sup>12</sup> Investors expect that an ETF's market price will generally maintain a close tie to the ETF's NAV per share, although the two may not necessarily always align.

### **Other Characteristics**

While the majority of ETFs globally are index tracking<sup>13</sup>, an increasing number of ETFs offer actively managed strategies.<sup>14</sup> Globally, the number and total AUM of actively managed ETFs

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kind (e.g., a derivative instrument that, pursuant to contract, is not transferrable).

<sup>11</sup> As part of this arbitrage process, APs are likely to hedge their intraday risk. For example, when ETF shares are trading at a discount to an estimated intraday NAV per share of the ETF, an AP may short the securities comprising the ETF's redemption basket. After the AP redeems a creation unit of ETF shares to the ETF in exchange for the ETF's basket, the AP can then use the basket assets to cover its short positions.

<sup>12</sup> For example, if a market participant believes that an ETF is trading at a premium, the market participant may sell ETF shares short and buy the underlying assets, wait for the trading prices to move toward parity, and then close out the positions in both the ETF shares and the underlying or reference assets to realize a profit from the relative movement of their trading prices. Similarly, when a market participant believes that an ETF's shares are trading at a discount to the ETF's underlying or reference assets, the market participant could buy ETF shares and sell the underlying or reference assets short in an attempt to profit from the pricing differences.

<sup>13</sup> The proportion of index-tracking ETFs as a percentage of all ETFs was around 95% (in terms of assets) as of 23 February 2023. Source: Bloomberg.

<sup>14</sup> Historically, the first index tracking ETFs held portfolios of securities that replicated the component securities of

grew from 152 and USD 25 billion at end-2013 to 1,878 and USD 488 billion by August 2022 respectively.<sup>15</sup>

According to the composition of their underlying indices, most ETFs invest in or obtain exposure to a diversified portfolio, through physical or a synthetic investment strategy, and are non-leveraged. The majority of ETFs globally provide daily transparency of either the portfolio holdings, the portfolio composition files (PCFs) and/or the composition of their creation/redemption baskets.

Because certain costs are either absent in the ETF structure or are otherwise partially externalized, many ETFs have lower operating expenses than unlisted OEFs.<sup>16</sup> For example, in some jurisdictions, ETFs typically do not bear distribution or shareholder servicing fees, and have lower research costs than actively managed funds. In addition, ETFs that transact on an in-kind basis can save on transaction costs because they can execute changes in the ETF's portfolio without incurring trading fees and costs. Furthermore, ETFs (like other OEFs and CIS more generally) can engage in portfolio management techniques, such as securities lending, the revenue from which may be used to off-set the ETF's operating costs.

### **Key Differences between ETFs and Unlisted OEFs and Other ETPs: Investor Use of ETFs and Differences in Local Market Structure Between Jurisdictions**

Despite their similar characteristics, key differences between ETFs and unlisted OEFs include the price and the time at which most investors transact in fund shares and the AP mechanism in the ETF primary market. As discussed above, investors in an unlisted OEF transact directly with the CIS at NAV at defined points in the day, while most investors trade ETF shares continuously on the secondary market at market-determined prices during market-open hours. APs, which transact directly with ETFs in the primary market at NAV, only transact in creation units. In some jurisdictions, ETFs typically transact "in kind" in the primary market by exchanging a basket of securities (rather than cash) for ETF shares (see discussion above).

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broad-based domestic stock market indices. Nowadays, some ETFs, track more specialised indices, including international equity indices, fixed income indices, or indices focused on particular industry sectors. Some other ETFs seek to track highly customized or bespoke indices, while others seek to provide a level of leveraged or inverse exposure to an index over a predetermined period of time ("leveraged" and "inverse" ETFs).

<sup>15</sup> Data are sourced from ETFGI and include ETFs that are generally also referred to as ETPs in the local jurisdiction (e.g., Australia). See, <https://etfgi.com/news/press-releases/2023/01/etfgi-reports-actively-managed-etfs-listed-globally-gathered-net>.

<sup>16</sup> For example, in the US, the asset-weighted average expense ratios of actively managed equity mutual funds and actively managed bond mutual funds in 2021 were 0.68% and 0.46% respectively while the same metric for index equity ETFs and index bond ETFs were 0.16% and 0.12% respectively. Similarly, the average ongoing charges of actively managed equity UCITS and actively managed fixed-income UCITS in 2021 were 1.32% and 0.71% respectively while the same metric for equity UCITS ETFs and fixed-income UCITS ETFs were both at 0.23%.

See, Investment Company Institute, ICI Research Perspective – Trends in the Expenses and Fees of Funds, 2021 (March 2022), available at [https://www.ici.org/system/files/2022-03/per28-02\\_2.pdf](https://www.ici.org/system/files/2022-03/per28-02_2.pdf)

Also see, Investment Company Institute, ICI Research Perspective – Ongoing Charges for UCITS in the European Union, 2021 (October 2022), available at <https://www.ici.org/system/files/2022-10/per28-08.pdf>

As a result, the ETF does not have to purchase assets for the portfolio or sell assets into the market to raise cash to meet redemptions; and the AP (or its client), rather than the ETF, bears the transaction costs of purchasing or redeeming shares. In other jurisdictions, ETFs typically sell or redeem creation units for cash.<sup>17</sup> In this case the ETF purchases underlying securities as described in the creation basket from the market (for a redemption it will do the reverse). The ETF will typically pass the costs of purchasing or selling portfolio assets to the AP. Similar to ETFs that deal on an “in kind” basis, the AP or its client, rather than the CIS, bears the transaction costs of purchasing or redeeming shares.

In addition to differences in the way ETFs and unlisted OEFs operate, investors may use them in different ways. Investors can buy and hold shares of ETFs (as with unlisted OEF shares) or trade ETFs frequently as part of an active trading or hedging strategy.<sup>18</sup> Institutional investors, for example, have found ETFs to be (i) a convenient tool to hedge against broad movements in the stock market; (ii) a temporary parking place when rebalancing their portfolios or transitioning management of a fund from one manager to another<sup>19</sup>; and (iii) a more liquid single instrument that can offer exposure to a wide variety of underlying assets, including emerging market equities, government bonds and corporate bonds. Across jurisdictions there also may be particular differences in the investor base as well as the broader markets in which ETFs operate. For example, in Europe, ETFs are mainly traded OTC or on multilateral trading facilities (MTFs) by institutional investors. In comparison, ETF trading generally takes place on exchanges in the US and Asia and there is greater retail participation in ETF trading in the US.<sup>20</sup>

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<sup>17</sup> A variation of dealing in cash is known as “directed cash” dealing. In this case, the AP subscribes the ETF units in cash and the ETF will use that cash to purchase securities from a particular party identified by the AP. The AP will still bear all dealing costs but by using this mechanism the costs of purchase of the securities comprising the creation basket will likely be less than the amount the AP would otherwise pay on the open market. This manner of dealing is common in Europe. See description in Central Bank of Ireland, *Discussion Paper 6 on Exchange Traded Funds* (May 2017), *supra* note 17.

<sup>18</sup> Chris Dieterich, Are You An ETF ‘Trader’ Or An ETF ‘Investor’?, *Barrons* (Aug. 8, 2016), *available at* <https://www.barrons.com/articles/are-you-an-etf-trader-or-an-etf-investor-1470673638>. ETFs have become an increasingly popular trading tool, making up a significant portion of secondary market equities trading. For example, on a daily basis, ETF trading volume accounted for an average of 26 percent of total stock market trading in the U.S. in 2020. ICI 2021 Factbook at 105, *available at* [https://www.ici.org/system/files/2021-05/2021\\_factbook.pdf](https://www.ici.org/system/files/2021-05/2021_factbook.pdf). During the COVID-induced market stress, however, trading volumes rose. See IOSCO Exchange Traded Funds Thematic Note - Findings and Observations during COVID-19 induced market stresses (August 2021), *available at* <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD682.pdf> (explaining that daily turnover of ETFs listed on U.S. exchanges increased approximately 100% in March 2020 when compared to February 2020 levels across equity, fixed income and other ETF categories).

<sup>19</sup> ICI Research Perspective, *Understanding Exchange Traded Funds: How ETFs Work* (Sept. 2014), at 3, *available at* <https://www.ici.org/system/files/attachments/per20-05.pdf>.

<sup>20</sup> See, SEC, *Exchange Traded Funds*, Release No. IC-33646 (Sept. 25, 2019) (“ETF rule adopting release”), *available at* <https://www.sec.gov/rules/final/2019/33-10695.pdf>, at section IV.B.3 (discussing ETF trading in the US ETF secondary market).

See, Central Bank of Ireland, *Discussion Paper 6 on Exchange Traded Funds* (May 2017), *available at* <https://www.centralbank.ie/docs/default-source/publications/discussion-papers>, at section 18 et seq. discussing secondary market trading of ETFs in Europe.

ETFs are also one of a variety of exchange-traded products (ETPs). Other types of ETPs include pooled investment vehicles that are not primarily invested in securities and that invest in physical commodities, and other assets, including currencies, futures, swaps or certain crypto-assets (exchange-traded commodity pools, or ETCs). ETC shares are created and redeemed by APs and are traded on securities exchanges. Exchange-traded notes (ETNs) are senior, unsecured, unsubordinated debt securities that are linked to the performance of a market index and also trade on securities exchanges. However, ETCs and ETNs are generally not considered ETFs in most jurisdictions.<sup>21</sup> Non-CIS ETPs may not be subject to the diversification and other risk management rules that often apply to ETFs.

**An ETF is a product with distinct product characteristics, market structures and uses by investors compared to unlisted OEFs and other ETPs.**

### **Jurisdictional Regulations and Relevant IOSCO Work**

Like unlisted OEFs, ETFs are subject to jurisdictions' applicable CIS regulatory framework. This may include requirements relating to eligibility of assets, portfolio diversification, liquidity risk management and leverage. Because of their unique characteristics, ETFs generally are also subject to additional regulatory requirements under jurisdictions' CIS regulatory framework, most notably disclosure requirements relating to portfolio holdings or creation/redemption baskets. ETFs are also subject to exchange rules governing their secondary market trading (including applicable volatility control mechanisms), and MMs of these ETFs may be subject to market-making obligations under jurisdictions' applicable regulations or exchange rules.<sup>22</sup>

ETFs have also been the focus of international standard-setting work by IOSCO. In 2013, IOSCO published the ETF Principles.<sup>23</sup> The ETF Principles cover a wide range of topics, including disclosure, portfolio transparency, costs, risks, strategies, structuring issues on counterparties and conflicts of interest (see **Appendix 1**). Guidance that IOSCO has provided in other areas is also relevant to ETFs. For instance, in 2018, IOSCO published final recommendations designed to improve liquidity risk management practices of OEFs, including

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<sup>21</sup> For example, unlike ETFs, ETCs and ETNs are not registered or regulated under the U.S. Investment Company Act of 1940 (the "Investment Company Act"). More generally, we also note that an entity that may be deemed an ETF organized as a CIS in one IOSCO member jurisdiction may be deemed a non-CIS ETP in another. For the purposes of this Report, ETFs are understood in the U.S. to be those ETFs that are registered under the Investment Company Act.

<sup>22</sup> In general, MMs in major exchanges in the U.S., Europe and Asia have obligations under exchange rules, such as to provide bid/ask prices for minimum amounts and avoid prices, which exceed a maximum spread. In some jurisdictions (e.g., Europe and Switzerland), the exchanges, as required by exchange rules, employ at least one MM for each ETF. In some other jurisdictions (e.g., Hong Kong and India), the local regulatory authorities may put in place similar requirements.

<sup>23</sup> IOSCO (2013) Principles for the Regulation of Exchange Traded Funds. Refer to <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD414.pdf>.

ETFs.<sup>24</sup> IOSCO also published recommendations to help trading venues manage extreme volatility and preserve orderly trading in secondary markets in which ETF shares trade.<sup>25</sup>

### **Jurisdictional Variance in Regulatory Framework and Differences in Local Market Structure**

While the discussion above describes the basic structure and common characteristics of ETFs, the way that ETFs operate, and the markets in which ETF shares and underlying assets trade, may differ in some respects significantly across jurisdictions. Differences in local market - structure in which ETFs operate may include, for any given jurisdiction, the structure of relationships with APs, the principal types of investors (e.g., retail vs. institutional) that invest in ETFs, the size, liquidity and structure (e.g., on-exchange versus OTC trading) of the markets in which ETF shares and underlying assets trade, and other factors that can contribute to the effectiveness of the arbitrage mechanism (e.g., the difference of in-kind versus in-cash primary market transactions, and the mix of market participants). Variance in regulatory choices and approaches to ETFs may also create operational differences among them. These differences in turn may affect a regulator's view of particular issues and the extent to which they may raise concerns in the particular jurisdiction. As a result, while the regulatory frameworks applied to ETFs in different jurisdictions typically have similar investor protection, market integrity and financial stability objectives, individual jurisdictions may address potential concerns raised in connection with ETFs in varying ways to achieve a similar regulatory outcome. These may include variance in (i) requirements for portfolio transparency and the provision of intraday NAV; (ii) affiliations among ETFs and service providers; (iii) disclosure requirements relating to the arbitrage mechanism, trading costs and costs internalized by the products; (iv) permitted range of asset classes and strategies; and (v) volatility control mechanisms on trading venues.

**ETFs and their trading activities are subject to robust regulatory frameworks across jurisdictions, supported by extensive IOSCO standards and guidance, although jurisdictional variance among specific regulations may have a bearing on the way that ETFs operate.**

<sup>24</sup> IOSCO (2018) Final Report on Recommendations for Liquidity Risk Management for Collective Investment Schemes. Refer to <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD590.pdf>.

<sup>25</sup> IOSCO (2018) Mechanisms Used by Trading Venues to Manage Extreme Volatility and Preserve Orderly Trading. Refer to <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD607.pdf>.

### Section III – Major Themes and Recent Developments in ETF Markets

The ETF Principles cover a wide range of topics relating to ETFs and the markets in which ETFs operate, as noted above. Since their publication, ETF markets globally have continued to evolve and exhibit sustained growth in assets under management (AUM).<sup>26</sup> In addition, the ETF industry has continued to evolve through the launch of new products with exposures to potentially less liquid and more novel asset classes and more complex investment strategies. ETFs have also become increasingly popular with different types of market participants, in particular retail investors in many jurisdictions.

In light of these developments, in February 2017, the IOSCO Board established the ETF Workstream<sup>27</sup> under the stewardship of its Committee on Investment Management to undertake additional work on ETFs to review a broad range of issues and developments relating to ETFs since the publication of the ETF Principles. Exploratory work included (i) a review of recent academic literature; (ii) multiple surveys of both regulators as well as industry participants;<sup>28</sup> (iii) engagement with industry stakeholders and academics through roundtables and other less formal outreach;<sup>29</sup> (iv) engagement with the IOSCO Committee on the Regulation of Secondary Markets (C2), Committee on Retail Investors (C8) and the Committee on Emerging Risks; (v) lessons learned from major market events affecting ETFs,<sup>30</sup> including the COVID-19 volatility;<sup>31</sup> and (vi) IOSCO's engagement with other international bodies such as the FSB.

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<sup>26</sup> Global ETF AUM increased from about USD 2.3 trillion at the end of 2013 to about USD 9 trillion at the end of 2022, compared to global AUM for all OEFs (including ETFs) of USD 60.2 trillion at the end of 2022. *Source:* Investment Company Institute, *available at*, [https://www.ici.org/statistical-report/ww\\_q4\\_22](https://www.ici.org/statistical-report/ww_q4_22).

<sup>27</sup> The ETF Workstream comprises Autoriteit Financiële Markten (AFM, Netherlands), Autorité des Marchés Financiers (AMF, France), Central Bank of Ireland (CBI, Ireland), European Securities and Markets Authority (ESMA), Financial Conduct Authority (FCA, UK), Securities and Futures Commission (SFC, Hong Kong) and Securities and Exchange Commission (SEC, US).

<sup>28</sup> These include (i) a survey conducted in 2019 to assess how different jurisdictions have implemented the ETF Principles and the jurisdictional variance in the ETF regulatory framework; and (ii) two surveys conducted in 2020 to solicit views and feedback from IOSCO members and industry participants (i.e., ETF managers and APs / LPs) respectively on the operation of ETFs during the COVID-19 volatility.

<sup>29</sup> IOSCO conducted industry outreach in 2018 and 2019 to understand more about (i) the role of and the interplay among ETF managers, APs, LPs and trading venues in supporting the proper operation of ETFs; and (ii) potential financial stability risk arising from ETFs.

<sup>30</sup> For example, Flash Crash (2015), Greek stock exchange closure (2015), Nikkei 225 Leveraged Index ETF halted creation (2015) and substantial losses of VIX inverse ETPs (2018).

In particular, AMF conducted a detailed analysis of how the August 2015 crisis affected the French ETF market and the role played by iNAV-based VCMs to avoid price dislocation, *available at* [https://www.amf-france.org/sites/default/files/contenu\\_simple/lettre\\_ou\\_cahier/risques\\_tendances/ETFs%20characteristics%2C%20overview%20and%20risk%20analysis%20-%20The%20case%20of%20the%20French%20market.pdf](https://www.amf-france.org/sites/default/files/contenu_simple/lettre_ou_cahier/risques_tendances/ETFs%20characteristics%2C%20overview%20and%20risk%20analysis%20-%20The%20case%20of%20the%20French%20market.pdf).

<sup>31</sup> IOSCO summarized its findings regarding the operation and activities of the primary market and secondary market of ETFs during COVID-19 induced market stresses in a thematic note, *available at* <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD682.pdf>.

Overall, IOSCO's review showed that the ETF Principles remain relevant and appropriate, with no major gaps in the ETF Principles. In addition, the ETF structure has generally remained resilient during times of market stress. Nevertheless, in the course of its review, IOSCO also noted differences among jurisdictions in the way that ETFs operate, variance in the way they are regulated, and differences in the markets in which they trade. With these differences in mind, IOSCO has identified a set of good practices to support the ETF Principles and other relevant IOSCO standards and guidance, and for regulators, responsible entities and/or trading venues to consider. While these good practices are useful for consideration by developed ETF markets, they could also assist growth and emerging market (GEM) jurisdictions, as their ETF markets develop, and they consider further enhancing the local regulatory framework for ETFs. The good practices are examples of how the ETF Principles and other relevant IOSCO standards and guidance can be put into practice. IOSCO encourages regulators, responsible entities and trading venues to review and adopt the good practices, where appropriate within each jurisdiction's regulatory framework.

The following is a summary of the major themes and recent developments in ETF markets explored by IOSCO.

### **Arbitrage Mechanism**

The arbitrage mechanism is a defining feature of the ETF structure as it provides the means to maintain a close tie between market price and NAV per share of the ETF. This in turn helps ensure that different ETF investors are treated equitably when buying and selling ETF shares,<sup>32</sup> when compared to investors in unlisted OEFs who all transact at the same NAV. Indeed, investors generally expect that an ETF's market price will maintain a close tie to the ETF's NAV per share in normal market conditions, and might otherwise refrain from purchasing ETF shares if the expectation of a close tie were not met.

Given the centrality of the arbitrage mechanism, IOSCO reviewed various jurisdictional approaches to see what elements may help facilitate effective arbitrage. The review particularly focused on (i) the type of valuation information provided to facilitate arbitrage and (ii) AP / LP participation rates. IOSCO also considered how different jurisdictional approaches could help regulators and responsible entities evaluate potential enhancements to their current practices.

#### **➤ Valuation Information to Facilitate Arbitrage**

Reliable information that allows APs and LPs to value an ETF and determine whether an arbitrage opportunity exists contributes to an effective arbitrage mechanism. Depending on local market considerations, different jurisdictions require various types of information to be

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<sup>32</sup> For example, in adopting Rule 6c-11 under the Investment Company Act, which allows ETFs to operate pursuant to exemptions from the Act and under certain conditions, the U.S. SEC has relied on this close tie between what retail investors pay (or receive) in the secondary market and the ETF's approximate NAV to find that the exemptions are necessary or appropriate in the public interest and consistent with the protection of investors and the purposes fairly intended by the policy and provisions of the Investment Company Act. See Exchange-Traded Funds, Investment Company Act Release No. 10695 (Sept. 25, 2019), discussion following n.34, available at <https://www.sec.gov/rules/final/2019/33-10695.pdf>.



disclosed to facilitate effective arbitrage (e.g., variance in the level of portfolio transparency and other information for valuing an ETF, the frequency of disclosure, the particular recipients of such disclosure, etc.). IOSCO observed that jurisdictional variance in the valuation information provided to market participants may be appropriate in light of the specific regulatory approaches that jurisdictions have constructed for their own markets. IOSCO also observed that the arbitrage mechanism has generally been effective in members' respective jurisdictions.

### ➤ **AP / LP Participation**

In general, AP participation rates were relatively robust for most ETFs across jurisdictions.<sup>33</sup> Even where an AP has stepped away in the past, disruptions in arbitrage have been generally short-lived with other APs willing to step in.<sup>34</sup> That said, IOSCO also observed that AP participation may vary depending on a variety of factors, including differences in local market structure depending on the jurisdiction in which a particular ETF operates. In addition, IOSCO observed that the arbitrage mechanism is not necessarily dependent on the participation of APs alone. For example, LPs and other market participants may engage in arbitrage activity by creating and redeeming shares through an AP on an agency basis, or by taking a long and corresponding short positions on the ETF shares and the underlying assets on the secondary market.<sup>35</sup>

As a result, IOSCO considered what elements could support adequate levels of AP and LP participation. For example, IOSCO reviewed the oversight provided by ETF managers on APs and LPs, the availability of information to value the ETF, as well as certain mandates and other incentives to APs and LPs for engaging in market making activities.

### **Disclosure-related Issues**

Many jurisdictions have disclosure requirements specifically tailored to the unique features and risks of ETFs. These requirements typically include making certain risk disclosures related to the arbitrage mechanism itself as well as disclosing certain costs that investors may incur when trading ETF shares on the secondary market.

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<sup>33</sup> For example, a 2015 survey-based study of 15 fund managers found that the average ETF has 34 AP agreements although not all of these APs are active at all times. See, Antoniewicz, Rochelle, and Heinrichs, Jane, *The Role and Activities of Authorized Participants of Exchange-Traded Funds*, ICI Research (March 2015), available at [https://www.ici.org/pdf/ppr\\_15\\_aps\\_etfs.pdf](https://www.ici.org/pdf/ppr_15_aps_etfs.pdf).

<sup>34</sup> For example, one study provides preliminary evidence that other APs step in during times of market stress. See, FCA, *Fixed income ETFs: primary market participation and resilience of liquidity during periods of stress* (August 2019) ("FCA ETF Research Note"), available at <https://www.fca.org.uk/publication/research/fixed-income-etfs-primary-market-participation-resilience-liquidity-during-periods-stress.pdf>

<sup>35</sup> For example, one study reports that creation and redemption transactions in the US occurred only on between 10% to 20% of trading days and that only 10% of the daily activity in all ETF shares (by volume) are creations or redemptions. See Antoniewicz, supra note 30, ("On most trading days, the vast majority of ETFs do not have any primary market activity—that is, they do not create or redeem shares.").

The ETF Principles suggest a range of ETF-related disclosures. IOSCO also published the “Good Practice for Fees and Expenses of Collective Investment Schemes” in August 2016,<sup>36</sup> which sets out examples of good practices to promote cost transparency that helps investors make informed investment decisions. However, as discussed below, IOSCO identified additional areas where regulators and responsible entities may consider supporting the existing disclosure guidelines.

➤ ***Historical Performance of the Arbitrage Mechanism***

IOSCO observed that certain jurisdictions require disclosure of historical metrics (e.g., trading premium/discount to NAV) and other quantitative data to highlight how the arbitrage mechanism for an ETF has performed over time and how such data may inform investors about potential risks associated with the arbitrage mechanism and secondary market trading. IOSCO also acknowledged that such data may be unavailable or difficult to compile in some jurisdictions (for example, in Europe, ETFs are primarily traded OTC and across a number of exchanges / MTFs simultaneously so accordingly, aggregated data is not readily available).

➤ ***Trading Costs and Other Internalized Costs***

IOSCO observed that some jurisdictions (e.g., US) require an ETF to disclose its median bid-ask spread to provide investors with additional information regarding potential costs associated with buying and selling ETF shares.<sup>37</sup> Regarding other costs, some regulators consider premium/discount to NAV of an ETF as “implicit” trading costs while others regard them as investment-related risks. Some regulators also require disclosure of certain costs internalized by ETFs such as swap costs and rebalancing costs.

➤ ***Helping Retail Investors Differentiate ETFs from Other ETPs and Unlisted OEFs***

IOSCO considered approaches taken in different jurisdictions to help retail investors clearly distinguish ETFs from other ETPs and unlisted OEFs, including naming conventions, disclosure requirements, as well as investor education and other industry practices. That said, IOSCO is also mindful of the significant jurisdictional variance in how ETFs and other exchange-traded vehicles are regulated,<sup>38</sup> which are important to be taken into account when considering relevant good practices.

## **ETF Product Structuring**

ETF managers play a key role in the development and operation of a successful ETF. IOSCO reviewed the process by which ETF managers design and structure their ETFs, focusing specifically on certain distinctive characteristics of ETFs such as: (i) facilitating effective

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<sup>36</sup> Available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD543.pdf>

<sup>37</sup> For example, ETFs in the US are required to provide daily website disclosure of their median bid-ask spread over the last thirty calendar days. *See* Rule 6c-11(c)(1)(v) under the Investment Company Act.

<sup>38</sup> As noted above, an entity that may be deemed an ETF organized as a CIS in one IOSCO member jurisdiction may be deemed a non-CIS ETP in another. For example, in the US, certain exchange-traded vehicles that primarily invest in commodities or derivatives are considered ETPs but not ETFs. In particular, these ETPs register their securities under the Securities Act of 1933 but are not “ETFs” registered under the Investment Company Act.

arbitrage and efficient secondary market trading; (ii) ETFs with novel asset classes or more complex strategies; and (iii) management of conflicts of interest between an ETF and service providers. IOSCO considered how these practices could be a useful reference for enhancing ETF product design, notwithstanding the jurisdictional variance across these areas.

➤ ***Facilitating Efficient Arbitrage***

Given that the arbitrage mechanism is largely dependent on robust participation by APs and LPs, IOSCO seeks to highlight particular good practices on ETF managers' selection and oversight of APs and LPs (where applicable), which could be helpful particularly in the early stages of ETF development. There are also other good practices relating to primary market arrangements, open AP/LP architecture, contingency planning (e.g., additional portfolio information disclosure where arbitrage becomes impaired) and mitigating operational risks, which ETF managers may implement to support APs and LPs that seek to engage in arbitrage.

➤ ***Novel Asset Classes and More Complex Strategies***

The trend towards more novel or complex strategies and asset classes (e.g., leveraged and inverse ETFs, smart-beta ETFs and crypto-asset-based<sup>39</sup> ETFs) has accelerated in many jurisdictions in recent years. This has raised questions about whether an asset class or strategy is appropriate for an ETF offering, especially with respect to facilitating an effective arbitrage mechanism. In addition, there may be questions about to what extent retail investors in particular appreciate the characteristics and risks of ETFs with more novel asset classes or complex strategies. The unique characteristics and risks of ETFs may also warrant specific investor education or other information to help retail investors make informed investment decisions.

In this regard, some jurisdictions impose specific obligations on managers in designing ETFs to take into account characteristics of their target investors, including their knowledge, investment objectives, and needs, which supplement the disclosure requirements in the respective jurisdictions. Other jurisdictions principally focus on disclosure to investors regarding the potential risks associated with investing in an ETF and may have other regulatory limits, such as limits that (i) do not permit certain asset classes to be offered in an ETF; or (ii) impose certain portfolio composition requirements (e.g., diversification, liquidity). IOSCO has also provided relevant guidance applicable to ETFs.<sup>40</sup>

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<sup>39</sup> Crypto-assets are not treated as a separate "asset class" in certain jurisdictions. *See, e.g.,* <https://www.sec.gov/rules/proposed/2023/34-97309.pdf> (SEC rulemaking proposal in which the SEC discussed how a crypto asset may be one of any number of different asset classes). In a particular jurisdiction, a crypto-asset may be considered a "security" and securities laws therefore will apply, regardless of the terminology or technology used for the crypto-asset's marketing or distribution. *See, e.g.,* <https://www.sec.gov/litigation/investreport/34-81207.pdf>.

<sup>40</sup> Specifically, the ETF Principles covered a broad range of disclosure standards, including portfolio transparency, costs, strategies and risks. In addition, the 2018 Liquidity Recommendations set out seven CIS design process recommendations, which collectively outline a robust framework for appropriate calibration of liquidity profiles of new CIS in the product design phase, which are equally applicable to ETFs.

## ➤ *Managing Conflicts of Interest*

IOSCO reviewed how ETFs currently manage potential conflicts of interest, such as intra-group affiliations with service providers (e.g., between ETF manager and APs) that may impact the arbitrage mechanism or affect trading in the secondary market.<sup>41</sup>

In addition to the areas highlighted in the ETF Principles,<sup>42</sup> IOSCO considered other areas where conflicts of interest may arise. For example, one concern is related to the construction of creation/redemption baskets that are negotiated bilaterally between an AP and the ETF manager (i.e., custom baskets), where an affiliated AP could potentially influence the ETF to construct baskets favorable to the AP to the detriment of ETF shareholders.<sup>43</sup> In this regard, many jurisdictions that permit such affiliations have also established relevant policies and requirements to mitigate such potential conflicts.

### **Volatility Control Mechanisms**

Many jurisdictions and trading venues have taken measures to address the risks to orderly markets resulting from extreme volatility events. IOSCO reviewed the volatility control mechanisms (VCMs) applicable to ETFs and observed the wide variety of VCMs across jurisdictions and trading venues. For example, many jurisdictions have VCMs based on historical secondary market price movements. Meanwhile, an entirely different type of VCM found in certain jurisdictions and trading venues in Europe (e.g., Euronext) links circuit breakers on ETFs to iNAV (as opposed to secondary market price movements). IOSCO considered how regulators can help ensure that VCMs are appropriately calibrated to the particular ETFs in their jurisdiction and the local market structures in which those ETFs operate.

### **ETFs and Financial Stability**

ETF liquidity and the potential impact of ETFs on underlying markets have been the subject of extensive consideration by regulators and international bodies. To that end, IOSCO has significantly engaged with the FSB in exploring issues related to ETF liquidity, including a joint FSB-IOSCO industry roundtable on ETFs and market liquidity hosted in Washington, DC in

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<sup>41</sup> As noted in the ETF Principles, an example of a possible conflict of interest could involve an affiliated AP, if it has the ability to exercise influence over the ETF manager through the group parent, has the ability to channel business through in-house trading desks, to gain an order flow benefit. Moreover, the group parent may also have the ability to instruct the ETF provider to authorize and de-authorize competitor APs. While this particular conflict is relevant to ETFs, affiliated relationships generally raise conflicts of interest for other types of CIS (e.g., directing a CIS's brokerage to certain affiliated brokers). *See*, IOSCO (2013), Chapter 3 of Principles for the Regulation of Exchange Traded Funds. Refer to <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD414.pdf>.

<sup>42</sup> Potential concerns about conflicts were previously also explored in formulating the ETF Principles. In particular, Principle Eight of the ETF Principles recommends that regulators assess whether their rules adequately address conflicts of interest raised by ETFs.

<sup>43</sup> However, it is noted that ETF managers are generally subject to fiduciary duties to act in the best interests of investors and must typically comply with rules that manage conflicts of interests.

2019, as well as a review of the activities of ETFs during the COVID-19 volatility.<sup>44</sup> Some of the major themes are summarized below.

➤ **ETFs and Liquidity Risk**

Overall, the ETF structure has remained relatively resilient, including in times of stress. Exploratory work undertaken by the FSB and IOSCO did not observe significant information indicating that ETFs negatively impact underlying markets or that ETFs would significantly contribute to a liquidity shock or crisis.<sup>45,46</sup> In particular, market observers generally noted that ETFs have structural features and tools to mitigate potential liquidity risks, including secondary market liquidity and the ability of many ETFs to redeem in kind.<sup>47</sup> Depending on the jurisdiction, these tools may also include redemption gates and suspending primary market transactions, which may also help mitigate potential liquidity/run risk and hence the potential risk transmission between ETFs and their underlying markets.

Market observers also have noted that the ETF structure itself can provide an additional layer of liquidity because investors can adjust their market exposures by trading ETF shares on the secondary market without directly impacting either the ETF or underlying markets. Some have also noted the relative liquidity of ETFs when compared to underlying markets and that ETFs can provide an additional source of pricing information for the underlying portfolio assets.

Nevertheless, during times of stress, some fixed income ETFs have displayed more significant or more persistent discounts and spreads. Some derivative-based ETPs/ETFs with more distinct features (e.g., investing in less diversified assets, such as commodity futures or

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<sup>44</sup> IOSCO summarized its observations in a report entitled *Exchange Traded Funds Thematic Note - Findings and Observations during COVID-19 induced market stresses (August 2021)*, available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD682.pdf>.

<sup>45</sup> For example, at a joint FSB-IOSCO industry roundtable on ETFs and market liquidity held in 2019, many workshop participants (including those from the industry) observed that the ETF market was showing signs of comparative stability. In particular, many remarked that where there have been volatility events in ETF shares, they have generally been relatively short lived.

<sup>46</sup> Recent market analysis by some academics has suggested that first mover advantage may theoretically exist in OEFs where early redeemers may be able to avoid certain costs that earlier redemptions may impose on remaining shareholders in the fund (e.g., reduced liquidity in the underlying portfolio), particularly in stressed market conditions. That said, some research noted that certain ETF features such as redemption in-kind could mitigate liquidity stresses (also see footnote 47). For example, *see*, Bank for International Settlements, *Open-ended bond funds: systemic risks and policy implications (BIS Quarterly Review, December 2021)*, available at [https://www.bis.org/publ/qtrpdf/r\\_qt2112c.pdf](https://www.bis.org/publ/qtrpdf/r_qt2112c.pdf).

<sup>47</sup> For example, because trading in the secondary market is largely structurally separate from the creation/redemption process, investors in the secondary market do not have a “first-mover” incentive vis-à-vis each other with respect to the ETF itself or the underlying portfolio. In addition, potential “first mover advantage” in the primary market (i.e., for APs that redeem directly from ETFs) can be mitigated by ETFs that primarily redeem in kind. First, ETFs that primarily redeem in kind generally incur fewer redemption costs because they do not have to liquidate assets under potentially unfavorable market conditions. Second, to the extent that redemption baskets are generally representative of the ETF’s portfolio, in-kind redemptions would not significantly affect the composition of the ETF’s portfolio or leave less liquid securities in the ETF portfolio, which could dilute the interests of non-redeeming shareholders. Additionally, both in the case of ETFs that redeem in kind and in cash, in many jurisdictions ETFs can use liquidity management tools (e.g., liquidity fees) to pass the costs associated with liquidating assets to the redeeming AP so they are not borne by non-redeeming shareholders.

volatility-based derivatives, and/or adopting a leveraged / inverse strategy), which collectively amount to a small portion of the ETP/ETF market, have also experienced more significant volatility and operational challenges.<sup>48</sup> As noted below, this was particularly the case during the COVID-19 volatility.

➤ ***ETFs during COVID-19 Market Volatility***

IOSCO reviewed the activities of ETFs during the COVID-19 volatility.<sup>49</sup> IOSCO found that most types of ETFs remained resilient during the market volatility in March 2020, despite significant turbulence in the underlying markets in which ETFs invest. Discounts and spreads for most ETFs temporarily increased in response to underlying market volatility before generally normalizing across most ETF categories. Similarly, primary and secondary market activities by APs and LPs also generally continued to function as intended. In addition, no major risks associated with the ETF structure were identified from a regulatory or financial stability perspective.

That said, a subset of ETFs temporarily experienced unusual trading behaviors during the COVID-19 volatility. These included certain fixed income ETFs that exhibited significant discounts between their ETF share price and NAV for brief periods during the peak of market stress. While the causes of such discounts are multi-faceted, some observers have suggested that fixed income ETFs, which are generally more liquid than the underlying fixed income instruments that they hold, may have played a role in providing additional pricing information for the underlying markets. This is because some inputs (e.g., last traded prices of bonds) to the calculation of these ETFs' NAVs became stale given the deteriorated liquidity conditions for these fixed income instruments during the stresses. Hence the ETFs' secondary market prices may have provided, in the absence of actionable real time prices for the underlying bonds, a reasonable proxy for market participants to price of the basket of securities as a whole. Their usefulness in the pricing of individual constituent bonds within the basket is, however, limited.<sup>50</sup>

Separately, certain derivatives-based ETPs/ETFs (e.g., with oil futures and/or leveraged/inverse strategies)<sup>51</sup> experienced significant volatilities and operational difficulties during the COVID-19 volatility. While these ETPs/ETFs collectively amount to only a small portion of the ETP/ETF space (around 2% of AUM), these potential risks, if not properly mitigated, could potentially impair the product viability of such ETPs/ETFs.

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<sup>48</sup> Depending on the jurisdiction, these products may be classified as ETPs instead of ETFs under the local regulation.

<sup>49</sup> IOSCO summarized its observations in a report entitled *Exchange Traded Funds Thematic Note - Findings and Observations during COVID-19 induced market stresses (August 2021)*, available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD682.pdf>.

<sup>50</sup> See, *Exchange Traded Funds Thematic Note - Findings and Observations during COVID-19 induced market stresses (August 2021)*, supra note 44, section 3(i).

<sup>51</sup> See, footnote 49.

- The reviews conducted by IOSCO for this Report demonstrate that the ETF Principles remain relevant and appropriate. No major gaps were identified and no major regulatory issues were reported by IOSCO members or industry participants.
- A historical review of stresses related to ETFs shows they have been idiosyncratic events<sup>52</sup> or were precipitated by exogenous shocks to the sector. As of the date of this report, no structural issues related to ETFs have been identified that have had a bearing on financial stability. The ETF structure has generally remained resilient during these stress events.
- Nevertheless, some good practices for consideration by regulators, responsible entities and/or trading venues emerged from IOSCOs' reviews and surveys to support the ETF Principles.
- The good practices are examples of how the ETF Principles and other relevant IOSCO standards and guidance can be put into practice. IOSCO encourages regulators, responsible entities and trading venues to review and adopt the good practices, where appropriate within each jurisdiction's regulatory framework.

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<sup>52</sup> Historical stresses related to ETFs only affected a small sub-set of ETFs, such as those investing in certain fixed income markets, commodity futures, or adopting a volatility-based or leveraged / inverse strategy. *See also*, footnote 49.

## Section IV – Good Practices

As noted in Section III, IOSCO identified various good practices in the course of its review of ETF regulatory developments and operation since the ETF Principles were published. These practices center on the distinctive features of ETFs, namely the trading of ETF shares in the secondary market and the associated arbitrage mechanism. This Report identifies the following good practices for the consideration of regulators, responsible entities<sup>53</sup> and/or trading venues. There are 11 good practices organized under four categories: (1) effective product structuring, (2) disclosure, (3) liquidity provision and (4) volatility control mechanisms. Each of the categories and the related good practices are discussed below, highlighting one or more of the ETF Principles and other relevant IOSCO standards and guidance.

### 1. Effective Product Structuring

#### **Relevant ETF Principles related to effective product structuring:**

##### **ETF Principle 4**

Regulators should consider imposing requirements regarding the transparency of an ETF's portfolio and/or other appropriate measures in order to provide adequate information concerning:

- (i) any index referenced and its composition; and
- (ii) the operation of performance tracking.

##### **ETF Principle 7**

Regulators should encourage all ETFs, in particular those that use or intend to use more complex investment strategies to assess the accuracy and completeness of their disclosure, including whether the disclosure is presented in an understandable manner and whether it addresses the nature of risks associated with the ETFs' strategies.

##### **ETF Principle 8**

Regulators should assess whether the securities laws and applicable rules of securities exchanges within their jurisdiction appropriately address potential conflicts of interests raised by ETFs.

##### **ETF Principle 9**

Regulators should consider imposing requirements to ensure that ETFs appropriately address risks raised by counterparty exposure and collateral management.

In addition to general product structuring considerations applicable to OEFs, effective structuring of an ETF should focus on supporting its defining feature, the arbitrage mechanism. In light of this, regulators and responsible entities are encouraged to consider the range of assets and strategies that may be appropriate for ETF offerings, and various means to facilitate the arbitrage mechanism, such as portfolio/basket information disclosure, the provision of

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<sup>53</sup> Responsible entities in the identified good practices generally refer to ETF managers / sponsors.



iNAV, and arrangements regarding the primary market, APs and LPs. There may be different considerations, merits and trade-offs for various regulatory approaches and market practices across jurisdictions, which are discussed throughout the measures in this Report.

➤ **Range of Assets / Strategies for ETF Offering**

**Measure 1:** *Regulators and responsible entities are encouraged to consider the range of asset classes and investment strategies that may be appropriate for the ETF structure, taking into account their nature, novelty, and complexity, the effectiveness of the arbitrage mechanism for such assets and strategies.*

In most jurisdictions, the permitted range of assets and strategies for ETFs are typically no different from the CIS requirements, which consider factors such as asset classes, liquidity, valuation, diversification limits, and custody. That said, given the unique features of ETFs, including the arbitrage mechanism and secondary market trading, and the trend towards more complex strategies and novel asset classes in the ETF space globally, regulators and responsible entities are encouraged to consider whether a particular asset class or strategy is appropriate for ETF offering. The considerations may include: (i) the nature, novelty and complexity of the asset class / strategy; (ii) the effectiveness of the arbitrage mechanism; (iii) orderly secondary market trading; (iv) capacity or liquidity of the asset in its underlying market and local circumstances (e.g., relative investor familiarity with ETFs); and (v) availability and capability of the service providers (including index providers, APs, LPs and swap counterparties). For example, depending on the jurisdiction, some types of ETFs may hold asset classes that are potentially less liquid, such as certain fixed income securities, derivatives, and commodities, and may implement more complex investment strategies (e.g., leveraged/inverse and volatility-based indices) or a combination of both.

In this regard, some jurisdictions have regulatory limits on the permitted range of assets /strategies, such as (i) prohibitions on investment in certain asset classes or investment strategies; or (ii) certain requirements relating to portfolio composition or the underlying assets (e.g., diversification, liquidity, considerations related to underlying asset markets such as the presence of a regulated exchange).

Separately, some jurisdictions have guidance or rules designed to encourage product providers to identify the target market and consider investor interests in the design of their products. These jurisdictions' guidance or rules typically supplement required disclosures to investors regarding the potential risks associated with investing in a particular type of ETF.

Jurisdictional examples related to the above considerations, including (i) limits on permitted range of assets and strategies; and (ii) guidance / rules to encourage product providers to design their products taking into account their target investors, are set out in **Appendix 3**.

Please also refer to **Appendix 6** for examples of the different assets and strategies that can be offered to retail investors in ETFs, OEFs and non-CIS ETPs.

## ➤ *Various Means of Facilitating an Effective Arbitrage Mechanism*

**Measure 2:** *Regulators* are encouraged to consider requirements regarding the transparency of an ETF's portfolio and/or other appropriate information provided to market participants so as to facilitate effective arbitrage.

IOSCO has observed that different jurisdictions require a combination of portfolio information disclosure (e.g., information on the full portfolio, creation and redemption baskets, or the PCF), all of which recognize the need to provide investors and other market participants with sufficient information to value an ETF in a timely and accurate manner and to determine whether an arbitrage opportunity exists.

### *Disclosure of Portfolio Holdings*

The provision of portfolio information (in particular full daily portfolio transparency) is generally associated with facilitating an efficient arbitrage mechanism, resulting in narrower premiums/discounts, tighter spreads and better liquidity in an ETF. Therefore, most jurisdictions<sup>54</sup> impose portfolio disclosure requirements applicable specifically to ETFs (in addition to general disclosure requirements for all CIS).

In general, many jurisdictions and market observers recognize that daily public portfolio disclosure helps facilitate robust arbitrage and makes the same information available to all ETF investors and market participants. In particular, daily portfolio transparency provides APs and other market participants with a tool to facilitate valuing the ETF's portfolio on an intraday basis, which, in turn, enables them to identify arbitrage opportunities and to effectively hedge their positions.<sup>55</sup>

That said, the level and frequency of portfolio disclosure requirements may vary in certain jurisdictions due to local market considerations. For example, various jurisdictions have also recognised (i) that there may be differences in the ability of institutional and retail investors to utilize such portfolio information;<sup>56</sup> (ii) a potential need to protect the ETF's proprietary trading or investment strategy, especially to protect investor interests in actively managed ETFs; and (iii) that other information may help APs, LPs and other investors value an ETF (e.g., iNAV, proxy portfolio and benchmark information).

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<sup>54</sup> Australia, Hong Kong, Ireland, Israel, Jersey, Luxembourg, Portugal, Switzerland and US SEC.

<sup>55</sup> For example, in the US, Rule 6c-11 requires an ETF to disclose prominently on its website, publicly available and free of charge, the portfolio holdings that will form the basis for each calculation of NAV per share. See rule 6c-11(c)(1).

<sup>56</sup> Some jurisdictions noted that retail investors may be unable to readily price the ETF with the portfolio information or transact with the ETF at net asset value. As such, other forms of disclosure may be more effective and informative to them.

Separately, while some jurisdictions recognize that full portfolio information may be of varying utility to different types of investors, they take the view that it is important to treat APs/LPs equally in this regard given their important roles in facilitating the arbitrage mechanism.

As a result of the above considerations, regulatory requirements on disclosure of an ETF's portfolio information vary across jurisdictions. Some jurisdictions<sup>57</sup> require daily disclosure of full portfolio to the public. Other jurisdictions<sup>58</sup> permit disclosure of portfolio to the public on a delayed basis and/or permit daily disclosure of portfolio to APs/LPs ahead of the public to enable them to perform their arbitrage or liquidity provision functions. In addition, in the case of certain actively managed ETFs, some jurisdictions<sup>59</sup> apply different transparency requirements, which may include the provision of alternative information such as composition of a proxy portfolio, composition of the creation/redemption basket, a description of the algorithm employed to determine the portfolio composition and enhanced iNAV (*to be discussed below and in Box 1*). In the case of index-tracking ETFs, some jurisdictions<sup>60</sup> may also require the provision of certain information concerning any index referenced and its composition, which may help investors infer the actual portfolio composition if the ETF's portfolio is disclosed on a delayed basis.<sup>61</sup>

### ***Disclosure of Basket Information***

Apart from an ETF's portfolio, daily public disclosure of the composition of the creation or redemption basket is also useful as it helps arbitrageurs determine precisely the cost of delivering the baskets for creating ETF units and the costs of liquidating basket securities when redeeming ETF units. Depending on the jurisdiction and the particular ETF, a creation or redemption basket may take the form of a "custom basket," the composition of which is negotiated bilaterally between an AP and the ETF manager. Where full daily portfolio disclosure is absent, daily disclosure of basket composition may be particularly important as it generally offers sufficient details to APs and LPs to effectively arbitrage without disclosing the true portfolio securities and their weightings. For example, in some jurisdictions, disclosure of a proxy portfolio or basket is required on a daily basis, which serves the same purpose of providing alternative information to maintain the efficient functioning of the arbitrage mechanism.

Regarding the recipients of basket information, similar considerations as portfolio disclosure apply given that different jurisdictions may have different views towards the utility of providing such information to the public or to APs and LPs only. As such, some jurisdictions<sup>62</sup> require daily disclosure of creation / redemption basket information to the public while some

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<sup>57</sup> For example, Australia (save for certain actively managed ETFs), Brazil, Ireland, Japan, Korea, South Africa, Spain and the US (save for certain actively managed ETFs).

<sup>58</sup> For example, Canada, France, Hong Kong, Luxembourg, Netherlands and Singapore.

<sup>59</sup> Australia, Japan, Switzerland and the US SEC.

<sup>60</sup> For example, Hong Kong and Europe in relation to UCITS ETFs.

<sup>61</sup> Some consultation respondents noted index providers in certain jurisdictions may impose confidentiality obligations on ETF managers.

<sup>62</sup> For example, Australia, Brazil, Japan, South Africa and Spain.

jurisdictions<sup>63</sup> permit daily disclosure of creation/redemption basket information to APs/LPs ahead of the public.

As supplemental information where a jurisdiction does not require full portfolio disclosure, regulators may consider encouraging disclosure of other portfolio characteristics that may be useful to assist market participants in understanding the market exposure provided by the ETF and performing arbitrage. These characteristics may include sector exposure, liquidity, valuation ratios (e.g., price to earnings ratio, dividend yield), and in the case of fixed income ETFs, interest rate, yield spread, duration and credit quality. Separately, frequent disclosure of index composition is also an alternative to portfolio or basket information and is particularly useful for ETFs with delayed portfolio disclosure to the public.

In sum, jurisdictions’ regulatory requirements on disclosure of an ETF’s portfolio and basket information primarily vary among the approaches (or a combination of them) as set out in **Table 1** below. Regulators are encouraged to consider the appropriate local requirements in this regard to facilitate effective arbitrage.

**Table 1: Summary Table of Different Portfolio Information Disclosure Approaches**

<b>Portfolio information disclosure approaches</b>	<b>Example jurisdictions</b>	<b>Merits</b>	<b>Other considerations</b>
<b>Daily disclosure of full portfolio information to the public</b>	<ul style="list-style-type: none"> <li>• Australia (save for certain actively managed ETFs)</li> <li>• Brazil</li> <li>• Ireland</li> <li>• Japan</li> <li>• Korea</li> <li>• South Africa</li> <li>• Spain</li> <li>• US (save for certain actively managed ETFs)</li> </ul>	<ul style="list-style-type: none"> <li>• Highly effective in facilitating efficient arbitrage mechanism.</li> <li>• All investors receive the same information.</li> </ul>	<ul style="list-style-type: none"> <li>• May not be optimal for actively managed ETFs considering issues relating to protection of intellectual property rights or proprietary investment strategies.</li> <li>• May lead to predatory trading practices by other market participants, such as “front running” and “free riding”.</li> <li>• While useful to institutional market</li> </ul>

<sup>63</sup> For example, Canada, Hong Kong, Singapore and Switzerland.

Portfolio information disclosure approaches	Example jurisdictions	Merits	Other considerations
<p><b>Permitting disclosure of full portfolio information to the public on a lagged basis (typically monthly or less)</b></p>	<ul style="list-style-type: none"> <li>• Australia (for certain actively managed ETFs)</li> <li>• Belgium</li> <li>• Canada</li> <li>• France</li> <li>• Hong Kong</li> <li>• India</li> <li>• Israel</li> <li>• Luxembourg</li> <li>• Netherlands</li> <li>• Singapore</li> <li>• South Africa</li> <li>• Switzerland (for actively managed ETFs)</li> <li>• US (for certain actively managed ETFs)</li> </ul>	<ul style="list-style-type: none"> <li>• May help shield intellectual property rights or proprietary investment strategies for ETFs that pursue active strategies.</li> <li>• Less likely to lead to front-running issues.</li> </ul>	<p>participants such as MMs, may be of limited utility to retail investors.</p> <ul style="list-style-type: none"> <li>• Supplemental portfolio information may still be needed on a more timely basis to facilitate effective arbitrage.</li> <li>• Depending on the jurisdiction, different investors may receive different information.</li> </ul>
<p><b>Daily disclosure of creation/redemption baskets information to the public</b></p>	<ul style="list-style-type: none"> <li>• Australia</li> <li>• Brazil</li> <li>• Japan</li> <li>• South Africa</li> <li>• Spain</li> <li>• US (for certain actively</li> </ul>	<ul style="list-style-type: none"> <li>• Supplemental information to facilitate effective arbitrage.</li> <li>• All investors receive the same information.</li> </ul>	<ul style="list-style-type: none"> <li>• While useful to institutional market participants such as MMs, may be of limited utility to retail investors.</li> </ul>

Portfolio information disclosure approaches	Example jurisdictions	Merits	Other considerations
	managed ETFs)		
<p><b>Permitting daily disclosure of portfolio or creation/redemption basket information to APs/MMs ahead of public (typically on the basis of a confidentiality agreement)</b></p>	<ul style="list-style-type: none"> <li>• Canada</li> <li>• Hong Kong</li> <li>• Singapore</li> <li>• Switzerland</li> </ul>	<ul style="list-style-type: none"> <li>• To enable APs/MMs to be able to hedge and quote within an acceptable spread.</li> <li>• Better protection of intellectual property rights or proprietary investment strategies for ETFs that pursue active strategies.</li> <li>• Less likely to lead to front-running issues.</li> </ul>	<ul style="list-style-type: none"> <li>• Non-AP/MM market participants may not have the most relevant information to conduct arbitrage.</li> <li>• Different investors may receive different information.</li> </ul>

**Box 1: Examples of Portfolio Disclosure Requirements Applicable to Actively Managed ETFs**

**In Australia:**

Pursuant to INFO 230 (Exchange traded products: Admission guidelines), in some circumstances, actively managed ETFs are permitted to delay public disclosure of their portfolio holdings, to the extent necessary for the protection of the intellectual property of their portfolio holdings. Licensed exchanges work with ETF managers to assess the need for and extent of delayed public disclosure in each case, with a minimum requirement of quarterly public disclosure with a delay (which equally applies to all investors) of up to two months. Nonetheless, full portfolio holdings disclosure to the public is to be made as soon as possible.

Furthermore, an iNAV for such funds should be provided as frequently as practicable throughout the trading day, so that investors can assess the quoted unit price available with an iNAV per unit. In this regard, licensed exchanges should (a) assess whether iNAV is as accurate and is disseminated as frequently as practicably possible (taking into account the nature of the fund); and (b) be satisfied that the ETF manager has robust processes in place to maintain the integrity and continued distribution of iNAV (e.g., undertaking regarding monitoring and integrity checks, or contracting with a second iNAV provider as backup). Generally observed market practice for such funds is for an iNAV to be published at least every 15 seconds (sometimes every second).

### **In Canada:**

There is no regulatory requirement on portfolio transparency for actively managed ETFs, other than the continuous disclosure rules that apply to all investment funds found in National Instrument 81-106 *Investment Fund Continuous Disclosure*. Such rules require an investment fund (including an actively managed ETF) to disclose (a) its portfolio holdings in its annual and interim financial statements; and (b) a summary of its investment portfolio including its top 25 holdings after the end of each quarter. Actual portfolio disclosure practices beyond the above rules differ between ETF managers as well as between different types of ETFs (e.g., actively managed ETFs vs. passive ETFs).

The majority of actively managed ETFs provide varying levels of portfolio transparency to only their APs, on a confidential basis, for the purposes of their market making activities in connection with the ETF. The majority of index tracking ETFs disclose their portfolio holdings daily to the public on their websites.

### **In the US:**

The majority of US ETFs (actively managed or passive) operate pursuant to Rule 6c-11 under the Investment Company Act, which requires an ETF to provide daily portfolio transparency on its website. In particular, portfolio transparency provides APs and other market participants with a tool to facilitate valuing the ETF's portfolio on an intraday basis, which, in turn, enables them to identify arbitrage opportunities and to effectively hedge their positions. Accordingly, Rule 6c-11 requires an ETF to disclose prominently on its website, publicly available and free of charge, the portfolio holdings that will form the basis for each calculation of NAV per share.

In addition, in 2019 the SEC began granting exemptive orders permitting certain actively managed ETFs to operate without being subject to the daily portfolio transparency condition ("non-transparent ETFs" or "NT ETFs").<sup>64</sup> Depending on the particular NT ETF model, these ETFs provide different types of alternative information about their portfolios in order to facilitate arbitrage, subject to appropriate safeguards.

For example, one NT ETF model is based on the dissemination of a so-called "verified intraday indicative value," or "VIIV," reflecting the value of its portfolio holdings, calculated every second during the trading day.<sup>65</sup> Meanwhile, other NT ETF models seek to facilitate arbitrage on the basis of a so-called "proxy portfolio" or "proxy basket" that, while different from an ETF's actual portfolio, is designed to closely track the daily performance of the actual portfolio.<sup>66</sup>

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<sup>64</sup> See Precidian ETFs Trust, *et al.*, Investment Company Act Release No. 33440 (Apr. 8, 2019) (notice) ("Precidian notice"), available at <https://www.sec.gov/rules/ic/2019/ic-33440.pdf>, at paragraph 26. See also, e.g., Blue Tractor ETF Trust and Blue Tractor Group, Investment Company Act Release No. 33682 (Nov. 14, 2019) (notice) ("Blue Tractor notice"), available at <https://www.sec.gov/rules/ic/2019/ic-33682.pdf>.

<sup>65</sup> See Precidian notice, *supra* note 69, at paragraph 17(b).

<sup>66</sup> See, e.g., Blue Tractor notice, *supra* note 69 at paragraph 16(a).

In approving these ETFs, the SEC “recognize[d] ... that the lack of full transparency may cause [such] ETFs to trade with spreads and premiums/discounts that are larger than those of comparable, fully transparent ETFs. Nonetheless, as long as arbitrage continues to keep [such] ETF’s secondary market price and NAV close, and does so efficiently so that spreads remain narrow, the Commission believes that investors would benefit from the opportunity to invest in active strategies through a vehicle that offers the traditional benefits of ETFs.”<sup>67</sup>

➤ **iNAV**

**Measure 3:** For jurisdictions that mandate the provision of iNAV, *regulators and/or trading venues* are encouraged to consider means to enhance the accuracy and usefulness of iNAV.

Currently, different jurisdictions have differing experiences with respect to the usefulness of iNAV. Some jurisdictions<sup>68</sup> believe that iNAV has benefits especially for retail investors. In particular, when full daily portfolio transparency is not provided, iNAV serves as important alternative information about an ETF’s portfolio for facilitating secondary market trading for retail investors and potentially effective arbitrage. These jurisdictions regard iNAV as an essential transparency tool providing investors with a facility to benchmark the portfolio value with the traded price of the ETF.

Other jurisdictions, however, noted that there could be quality issues associated with the accuracy or reliability of iNAV calculation, particularly for strategies with less liquid assets or international exposures. Typically, the frequency of iNAV dissemination is prescribed by the regulator or the trading venue; there is however little consistency in terms of requirements on iNAV disclosure standards (e.g., dissemination frequency) or the calculation methodology. Some also queried whether the utility of iNAV may depend on the sophistication of the investor or market efficiency. In particular,

- Questions have been raised about the accuracy and reliability of iNAVs, noting possible limitations due to stale pricing, differences in time-zones and the fact that they may not be published at sufficient frequency for professional traders.<sup>69</sup>
- Some jurisdictions outlined their understanding that iNAVs are not used by APs and LPs because these professional investors construct their own internal NAVs for arbitrage purposes.

<sup>67</sup> See, e.g., Precidian notice, supra note 69, at paragraph 26.

<sup>68</sup> Belgium, France, Germany, Hong Kong, India, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Portugal, and South Africa.

<sup>69</sup> For example, the underlying bonds of a fixed income ETF may not be traded frequently and the underlying securities of an international equity ETF may be traded at a different time zone (compared to the ETF). Therefore, these ETFs’ iNAV may be based on stale pricing data that may not reflect the most updated value of the ETFs’ portfolio. In addition, there may not be a standardized methodology or valuation approach to calculate iNAV of these ETFs.



- Some commentators noted that in an efficient market, the secondary market price quotations of an ETF would reliably indicate its fair value. Therefore, iNAV would have limited informational value in this case.

In light of the above, regulators and/or trading venues are encouraged to consider reviewing the merits and limitations of iNAV and consider whether and how it could be used to support investors in valuing an ETF alongside other types of portfolio disclosure. For jurisdictions that require the provision of iNAV, regulators and/or trading venues are encouraged to consider (i) means to enhance the accuracy and usefulness of iNAV, such as using real-time fair value for the inputs of iNAV, increasing the frequency of dissemination of iNAV information and verifying iNAV calculation against live quotations on secondary markets; and (ii) disclosures of limitations and other information related to iNAV<sup>70</sup> (see **Box 2** below for an example in which regulators aim to enhance the accuracy and usefulness of iNAV).

**Box 2: Example of Enhancing the Accuracy and Usefulness of iNAV**

**Requirements on iNAV in Hong Kong**

ETF managers are required to ensure iNAV information provided to investors is not false or misleading, or presented in an unfair manner.<sup>71</sup> To achieve this, ETF managers should (a) where external service providers are engaged to calculate iNAV, conduct proper due diligence on the competence of such service providers, as well as ongoing supervision and regular monitoring of iNAV calculated; and (b) where appropriate, provide disclosures on their websites relating to the limitations of iNAV and the related reasons.<sup>72</sup>

While the SFC requires that iNAV is calculated on the basis of the most up-to-date information,<sup>73</sup> ETF managers should act in the best interests of investors and exercise their professional judgement to determine how iNAV should be calculated to best reflect an ETF's intraday intrinsic value. To this end, ETF managers may use the last trading price or other appropriate proxy to calculate iNAV. For example, if the trading of futures contracts invested by ETFs is suspended, a temporary adjustment is expected to be applied to iNAV calculation by using the price data of the futures contracts' underlying index as a proxy.

<sup>70</sup> For example, in Italy, the identity of iNAV calculating entity shall be disclosed within the listing document of an ETF as well as the calculation frequency (at least once every minute, or more often), and iNAV ticker codes used by primary information providers.

<sup>71</sup> See, Section I – Chapter 3 of SFC Handbook for Unit Trusts and Mutual Funds, Investment-Linked Assurance Schemes and Unlisted Structured Investment Products, available at <https://www.sfc.hk/-/media/EN/assets/components/codes/files-current/web/codes/section-i-overarching-principles-section/Section-I---Overarching-Principles-Section.pdf>

<sup>72</sup> For example, iNAV is indicative and for reference only for reasons such as it is provided on a delayed basis; or where the base currency of an ETF is different from the currencies of its underlying investments, iNAV calculation will be based on relevant foreign exchange rates which may be different from those used in the ETF's NAV valuation.

<sup>73</sup> See, 8.6(u) of the Code on Unit Trusts and Mutual Funds (SFC), available at <https://www.sfc.hk/-/media/EN/assets/components/codes/files-current/web/codes/section-ii-code-on-unit-trusts-and-mutual-funds/section-ii-code-on-unit-trusts-and-mutual-funds.pdf>

➤ **Selection and Ongoing Monitoring on APs/MMs**

**Measure 4:** *Responsible entities* are encouraged to:

- (i) *conduct due diligence on APs and MMs when onboarding them to the ETF, with a view towards having those that are capable of facilitating an effective arbitrage mechanism and providing liquidity;*
- (ii) *conduct ongoing monitoring on APs and MMs for the ETF regarding, amongst others, the functioning of the arbitrage mechanism and liquidity provision; and*
- (iii) *avoid exclusive arrangements with APs and MMs if they may unduly affect the effectiveness of the arbitrage mechanism.*

The effectiveness of the arbitrage mechanism and liquidity provision is largely dependent on the active/robust participation of APs and MMs.<sup>74</sup> It is therefore important to consider what processes are in place to support APs/MMs performing their role.<sup>75</sup>

Where a firm is appointed by an ETF to act as an AP, the specific terms of the AP role are generally set forth in written arrangements between the ETF and its distributor and APs. While the eligibility of a market participant to become a MM on ETFs typically relies on the relevant exchange's decision,<sup>76</sup> in some jurisdictions,<sup>77</sup> MMs may also be subject to contractual obligations specified in their agreements with the ETF managers. As a result, in such jurisdictions ETF managers may play an important role in overseeing the AP/MM function through their due diligence and ongoing monitoring.

Based on IOSCO's engagement with industry participants, it is noted that ETF managers typically have detailed practices for onboarding APs/MMs and policies for monitoring them,<sup>78</sup> including dedicated oversight teams that work with APs/MMs on a daily basis to make sure that these parties make markets efficiently (e.g., characterized by tight bid-ask spread and sufficient market depth) in the respective ETFs. For example, some ETF managers noted that their oversight teams continually monitor secondary market activity on a real-time basis (e.g., bid/ask spreads, premium/discounts, primary flows, secondary market trading volume, etc.) and may intervene in case of any unusual trading patterns. Some industry participants further

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<sup>74</sup> The arbitrage mechanism is not dependent on APs and MMs alone because other market participants can engage in arbitrage activity by hedging their positions in the secondary market and by transacting through APs or by hedging in the secondary market, without using the creation and redemption process.

<sup>75</sup> As a general matter, most intermediaries acting as APs are regulated entities. For example, APs in the US are generally registered broker-dealers who are also members or participants of a registered clearing agency. *See* rule 6c-11(a)(1). In Europe there is no regulatory requirement for APs to be regulated firms, although APs are typically investment firms regulated under MiFID.

<sup>76</sup> In practice, trading venues typically administer the admission of MMs to market-making programs and monitor their compliance of quoting obligations on an on-going basis. *See section IV-3 for more details.*

<sup>77</sup> For example, Canada, Ireland, Israel, South Africa and Spain.

<sup>78</sup> For example, some managers treat APs as counterparties and monitor them accordingly, including a due diligence review of each AP's business operations on an annual basis (including, among other things stress testing, operational resilience, credit quality, internal capital available to support AP activities, etc.).

noted that ETF managers already have significant market incentives (i.e., the success of their ETFs) to make sure that the AP and MM function is working well in light of the important role that these intermediaries play in facilitating arbitrage and secondary market liquidity for ETF shares.<sup>79</sup>

As a good practice, responsible entities are encouraged to conduct due diligence on APs and MMs, in those jurisdictions where relevant, when onboarding them to an ETF and conduct ongoing monitoring on them to ensure that they contribute to the functioning of the arbitrage mechanism and liquidity provision.

***Examples of Considerations/Assessments:***

- whether the APs/MMs have sound financials, a clear ownership structure, good reputation and clean regulatory history;
- whether the operational structure of the APs/MMs can also facilitate trading in overseas markets (where appropriate) and for overseas investors;
- whether APs can facilitate in-cash, in-kind and custom basket formats to provide more flexibility for primary market transactions;
- whether the APs/MMs can hedge their exposure in an ETF and have flexibility in its inventory management to facilitate arbitrage or liquidity provision;
- whether APs/MMs participate in clearing or have other features to help facilitate settlement;
- whether APs/MMs can support the arbitrage mechanism and liquidity provision both in normal times and under stressed market conditions, particularly for ETFs invested in novel asset classes or implementing more complex investment strategies; and
- whether there is an adequate number of and diversified set of APs/MMs which can help maintain competitive bid-offer spreads and tight pricing relative to NAV or fair value.

***Avoiding Exclusive Arrangements with APs and MMs if They May unduly Affect the Effectiveness of the Arbitrage Mechanism***

In general, there is a strong incentive for responsible entities to engage multiple APs<sup>80</sup> and MMs in their ETFs. Open and effective competition among these parties contributes to efficient arbitrage and an active secondary market for the ETF, enhancing its attractiveness to investors.

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<sup>79</sup> One ETF manager noted that such market discipline effectively also serves as a check against strategies/asset classes from becoming too complex (i.e., because APs and other MMs could otherwise not effectively arbitrage them and the ability of APs and LPs to engage in effective arbitrage is one of the primary considerations when designing new strategies or asset classes for ETFs).

<sup>80</sup> By way of example, according to a 2015 survey by the ICI, on average, ETFs have AP agreements with over 30

That said, IOSCO also understands from industry outreach and surveys that in some jurisdictions, some AP agreements may contain clauses that have anticompetitive effects or exclusivity provisions. Similarly, in certain jurisdictions, some independent LPs expressed concerns to IOSCO about being excluded as APs or MMs by some ETFs.

As a good practice, responsible entities are encouraged to avoid exclusive arrangements with APs and MMs if they may unduly affect the effectiveness of the arbitrage mechanism. Responsible entities are encouraged to promote positive competition that could be beneficial to the ETF and its shareholders. Responsible entities are also encouraged to consider disclosing the list of APs and MMs for their ETFs to improve transparency to other market participants and oversight by regulators,<sup>81</sup> in particular in jurisdictions where ETFs typically may only have a limited number of APs and MMs. Responsible entities are also encouraged to work with APs and MMs so that they will take sufficient steps to achieve the best possible economic outcome for their clients when executing orders, in particular for ETFs that, due to the nature of the underlying assets, can only be served by a limited number of specialised APs and MMs in certain jurisdictions.

### ***Box 3: Example of Regulatory Measures to Prevent Anti-Competitive Arrangements***

In Ireland, exclusive arrangements which would favor one investor over another (including one AP over another AP) are not permitted. Provisions of the Central Bank of Ireland UCITS Regulations require the management body of the UCITS ETF to treat all shareholders in the same share class equally and fairly and, where there is more than one share class in a UCITS ETF, all shareholders must be treated fairly.<sup>82</sup> There cannot, therefore, be preferential treatment of an individual creating or redeeming AP (who will be a shareholder in the UCITS ETF). This does not prevent a UCITS ETF from agreeing to specific terms with an AP (provided that the same terms are available to similar APs who request them from the ETF).

Agreements (whether formal agreements or informal arrangements) which have as their object or effect the prevention, restriction or distortion of competition in services are prohibited and void as a matter of Irish competition law. This applies where practices seek to

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APs, and the average number of active APs is 5. See Antoniewicz and Heinrichs. Some APs may have an agreement with an ETF so they can participate when they see a profitable opportunity.

*See* BlackRock, on A Primer on ETF Primary Trading and the Role of Authorized Participants (March 2017), available at <https://www.blackrock.com/corporate/literature/whitepaper/viewpoint-etf-primary-trading-role-of-authorized-participants-march-2017.pdf>.

<sup>81</sup> Some jurisdictions, such as Hong Kong, Jersey, Korea, Singapore, South Africa, Spain, Turkey and the US, reported that the identities of APs are disclosed (not necessarily a regulatory requirement) on the websites or prospectus of ETFs to foster greater transparency.

Similarly, some jurisdictions, such as Brazil, Hong Kong, Israel, Japan, Jersey, Korea, Portugal, Singapore, South Africa, Spain, Switzerland and Turkey, reported that the identities of MMs are disclosed (not necessarily a regulatory requirement) on the websites or prospectus of ETFs.

<sup>82</sup> Central Bank (Supervision and Enforcement) Act 2013 (Section 48(1)) (Undertakings for Collective Investment in Transferable Securities) Regulations 2019, Regulation 26(d)

(a) fix prices, (b) limit or control production or markets, (c) share markets or sources of supply, (d) apply different conditions to equivalent transactions with other trading parties thereby placing them at a competitive disadvantage, or (e) abusing a dominant position.

➤ ***Appropriate Arrangements for Facilitating Arbitrage***

**Measure 5:** *Responsible entities* are encouraged to put in place appropriate arrangements to facilitate an effective arbitrage mechanism, including contingency plans to address the circumstances where the arbitrage mechanism of the ETF is impaired.

Since an effective arbitrage mechanism depends in a significant part on the proper functioning of APs and LPs, it is important for responsible entities to consider implementing appropriate arrangements at the product structuring phase to generally support APs and LPs that seek to engage in arbitrage. Below are examples of relevant good practices for consideration by responsible entities.

***Primary Market Arrangements***

Depending on the jurisdiction, the arbitrage mechanism is not necessarily dependent on the participation of APs placing creation or redemption orders alone. For example, other market participants may transact by requesting APs to place creation or redemption orders on their behalf on an agency basis, or they can engage in arbitrage activities by hedging in the secondary market, without using the creation and redemption process. These activities help align the secondary market price of an ETF's shares more closely to its NAV. Encouraging APs to be available for conducting agency trades for all third parties (although not necessarily as an obligation) could further facilitate an effective arbitrage mechanism.

Based on the IOSCO survey, industry participants identified the following practices that may also facilitate effective arbitrage:

- A clear and cost-quantifiable creation/redemption mechanism;
- Enabling custom baskets which can facilitate creation/redemption of, in particular, fixed income ETFs by allowing APs to deliver/receive a subset of the portfolio according to credit, duration, sector, country and issuer metrics;
- Having multiple APs per ETF available to step-in in the event that any particular AP is not able to carry out creations/redemptions for any reason;
- Facilitating an open AP architecture to promote competition (as discussed under Measure 4);
- Widening the availability of APs/MMs by allowing appropriate / qualified firms from outside an ETF's jurisdiction to act as APs/MMs; and

- Smaller minimum creation / redemption basket sizes where possible.<sup>83</sup>

#### ***Box 4: Example in Hong Kong***

In Hong Kong, APs are required to process creation / redemption requests from third-party investors as agents except for certain exceptional circumstances:<sup>84</sup>

- dealing or determination of NAV of the ETF is suspended;
- fund manager believes the acceptance of application will have an adverse effect on the ETF;
- trading suspension of the constituents of the index basket;
- trading restrictions/limits in the market for further investments;
- acceptance of the application will be in breach of laws or internal compliance of the APs which are for the purpose of ensuring compliance with laws or regulations.

The offering documents of ETFs need to disclose clearly the procedures and restrictions of the creation/redemption mechanism as well as circumstances under which investors' orders may be refused.

#### ***Additional Disclosure of Portfolio Information***

For jurisdictions that do not require full daily portfolio transparency, responsible entities are encouraged to consider providing additional information about the ETF portfolio than what may otherwise be required under applicable local regulations. For example, some jurisdictions require full portfolio holdings to the public on a delayed basis, but responsible entities may choose to disclose their full portfolio holdings to the public on a more frequent basis (e.g., daily). Jurisdictional examples of additional disclosure of portfolio information are set out in **Appendix 3**.

#### ***Operational Risks***

Responsible entities are encouraged to consider diversifying an ETF's key service providers such as brokerage and swap counterparties to mitigate the risks of operational disruption in case of the unanticipated withdrawal of such service providers. During the COVID-19 volatility, the experience of certain derivatives-based ETFs illustrated that if such operational risks, albeit

<sup>83</sup> There are potential benefits and trade-offs for smaller minimum creation/redemption basket sizes. For example, in the SEC's rule 6c-11 proposal, the SEC observed that "[a] large creation unit size could reduce the willingness or ability of APs (and other market participants) to engage in creation unit purchases or redemptions.... Conversely, a small creation unit size could discourage market making and render creation units irrelevant because the ETF could issue and redeem ETF shares much like a mutual fund." See Exchange-Traded Funds, Investment Company Act Release No. 33140 (June 28, 2018) [83 FR 37332 (July 31, 2018)], at text accompanying notes 179-180, available at <https://www.sec.gov/rules/proposed/2018/33-10515.pdf>.

<sup>84</sup> See, Frequently Asked Questions on Exchange Traded Funds and Listed Funds (SFC), available at [https://www.sfc.hk/-/media/files/PCIP/FAQ-PDFS/FAQs-on-Exchange-Traded-Funds-and-Listed-Funds\\_20191216.pdf](https://www.sfc.hk/-/media/files/PCIP/FAQ-PDFS/FAQs-on-Exchange-Traded-Funds-and-Listed-Funds_20191216.pdf)

applicable to only a narrow group of ETFs, is not properly mitigated, they could quickly materialize and impair the product viability of an ETF. For example:

- The clearing broker of a futures-based ETF may demand the ETF to take additional risk management measures to address the risk of negative prices of futures contracts in case of market volatility, failing which the clearing broker may liquidate part of or all of the ETF's futures positions – in such case, the ETF manager may have to suspend creation application and look for an alternative clearing broker; and
- If a swap-based ETF relies on only one or two swap counterparty(ies), during periods of stress, the swap counterparty(ies) may impose limits on the amounts of creations and redemptions it/they can accept, i.e., creations and redemptions are essentially limited at the discretion of the swap counterparty(ies).

#### **Box 5: Direct Redemption of Individual ETF Shares as a Contingency Plan**

A direct redemption mechanism involves opening the primary dealing facility to holders of individual ETF shares who have procured them in the secondary market. Its intended purpose is to act as a contingency plan to address circumstances where there are no willing buyers and sellers on the secondary market at reasonable prices or where the arbitrage mechanism is substantially impaired. In these cases, such a mechanism may offer investors the ability to divest themselves of the ETF shares by direct redemption from the ETF.

##### **Example in Europe:**

ESMA ETF Guidelines require that shareholders can directly redeem individual shares from the UCITS ETF in cases of significant price dislocation between the secondary market trading price and the NAV of an ETF.<sup>85</sup>

##### **Example in Hong Kong:**

In Hong Kong, upon delisting of an ETF, there was an example where the ETF manager made arrangements with an intermediary to facilitate repurchase of the ETF units from investors at net asset value (instead of investors redeeming from the ETF directly). This was akin to a direct redemption mechanism.

##### **Example in India:**

In India, the Manager shall facilitate direct redemption orders of up to INR 25 Crore (approximately USD 3.2 million) without any exit load, in case of the following scenarios:<sup>86</sup>

<sup>85</sup> A direct redemption mechanism is currently envisaged in European requirements via ESMA ETF Guidelines (*see Section IV of ESMA-2014-0011-01-00 EN*). In the case of European ETFs, this direct redemption facility only needs to be made available in circumstances where there is significant price dislocation. The mechanism is rarely used but has been utilized, for instance, by two different ETF providers in France in the past but not during the COVID-19 crisis: one time following a delisting from the Spanish stock exchange and the other for a delisting from the UK stock exchange. In these cases, the ETF provider appointed an entity that was in charge of receiving orders and placing them in the primary market given that retail investors do not have account opened directly at the custodian.

<sup>86</sup> *See* SEBI Passive Funds Circular, at paragraph 2(VIII)[A].

- (a) Traded price (closing price) of the ETF units is at discount of more than 1% to the day end NAV for 7 continuous trading days, or
- (b) No quotes for such ETFs are available on stock exchange(s) for 3 consecutive trading days, or
- (c) Total bid size on the exchange is less than half of creation units size daily, averaged over a period of 7 consecutive trading days.

While examples of direct redemption arrangements were noted above, allowing a direct redemption mechanism may pose operational challenges<sup>87</sup> and additional costs and has not often been practically applied. In most jurisdictions, most investors other than APs have no right of direct redemption from the ETF and the lack of a direct redemption facility is clearly disclosed in offering documents. Furthermore, it may not be meaningful in all circumstances. For example, such a mechanism would not solve the issue of a halted market for the underlying assets as the ETF managers would have no means to liquidate the underlying assets and would instead resort to the application of liquidity management tools or redemptions in-kind.

In light of the significant operational and practical challenges, a direct redemption facility may not be advisable in many jurisdictions or in all circumstances. The relevant jurisdictions and responsible entities may consider the pros and cons of a direct redemption facility by assessing its effectiveness and operational challenges, taking into account the characteristics of their particular markets, and make a tailored decision.

### ➤ **Conflicts Management**

**Measure 6:** *Regulators are encouraged to consider whether the securities laws and applicable rules of securities exchanges within their remit and jurisdictions appropriately address potential conflicts of interests raised by ETFs.*

While ETFs and unlisted OEFs share many similar conflicts of interest issues, ETFs may also be subject to certain additional conflicts specifically related to the ETF structure, for example, those arising from affiliation with APs, MMs, index providers and/or counterparties.

#### ***Affiliation with APs***

In cases where an AP is affiliated with an ETF, the AP may have the ability to exercise influence over the ETF manager (such as by channeling business through in-house trading desks or causing the ETF manager to de-authorize competitor APs). An affiliated AP may also take

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<sup>87</sup> One of the challenges of direct redemptions of individual shares is due to the manner in which ETF shares are settled. The nominee arrangements make it difficult for holders of ETF shares to demonstrate to the ETF manager that they have beneficial ownership rights in the ETF shares in order to be in a position to place an ETF redemption request. Other challenges exist such as those in relation to identity verification to meet anti-money laundering rules and the ability to transfer ETF shares directly to the ETF (as they will be held within a clearing and settlement system).



advantage of its relationship with the ETF and pressure the ETF to construct creation baskets that favor the AP to the detriment of the ETF and its investors.

### ***Affiliation with MMs***

Similar to the potential conflicts of interest associated with APs, an affiliated MM may have the ability to exert undue influence on the ETF manager (such as by causing the ETF manager to disassociate with competitor MMs, where applicable). An affiliated MM may also have incentives to influence an ETF's secondary market prices or liquidity in ways that favor the ETF manager (e.g., providing price quotations that deviate from the fair value of the ETF to inflate its demand or supply on the secondary market).

### ***Affiliation with Index Providers***<sup>88</sup>

Potential conflicts of interest could arise at various stages of index composition. It includes situations where the ETF manager, as a related party with influence over an affiliated index provider, is financially interested in the performance of the constituents of the index. The broader CIS regulations in most jurisdictions typically require the index providers to be operationally independent from the CIS. When index providers are affiliated, the general CIS rules on index for CIS (i) have typically required transparent and objective index methodology and (ii) in some jurisdictions, have required prior notice or consulting with the regulator if the change in index would be material.

### ***Affiliation with Counterparties***

For ETFs that invest in derivatives as part of their investment strategies (e.g., synthetic and other derivative-based ETFs), conflicts of interest may arise when an affiliate of the ETF manager serves as the counterparty, taking on the opposite side of the trade.

These specific conflicts may have consequences for the fair pricing of the ETF shares on the secondary market, the NAV of the ETF shares, the composition of the ETF's portfolio, and finally for the fair treatment and best interests of ETF investors.

While most jurisdictions typically rely on the broader CIS regulations and guidance/principles on conflicts management to address related concerns (*see Box 6 below*), some jurisdictions' notable requirements specific to ETFs are detailed in **Appendix 3** (*also see Box 7 and Box 8 below*). Regulators are encouraged to consider these requirements in reviewing or formulating the relevant regulations in their jurisdiction.

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<sup>88</sup> Parallel to the review work on ETF, IOSCO has also launched a review of conduct-related issues in relation to index providers. In 2020, it surveyed its members, and in 2021 it further engaged with stakeholders to explore issues related to the role of asset managers in relation to indices and index providers and the role and processes of index providers in the provision of indices (including the potential impact of administrative errors on funds and identifying potential conflicts of interest that may exist at index providers in relation to funds).

### **Box 6: Irish UCITS Rules on Conflicts of Interest in Relation to Transactions with Related Parties**

In Ireland, conflicts of interest must be carefully managed by the management body of a UCITS ETF. The UCITS Regulations require that the management body of a UCITS ETF must be structured and organized in such a way as to minimize the risk of the UCITS' interests being prejudiced by conflicts of interest affecting the management body. The management body is obliged to establish policies and procedures for acting honestly and with due skill, care and diligence in the best interests of the UCITS ETF. Additionally, there must be effective identification, prevention, management or disclosure of relevant conflicts of interest that may arise. The Central Bank of Ireland imposes obligations on "connected persons" where they transact with a UCITS (including a UCITS ETF). A "connected person" is defined in CBI UCITS Regulations and means "*the management company or depositary to a UCITS; and the delegates or sub-delegates of such a management company or depositary (excluding any non-group company sub-custodians appointed by a depositary); and any associated or group company of such a management company, depositary, delegate or sub-delegate.*"

The prospectus of a UCITS ETF must contain disclosure on the fact that transaction between UCITS ETF and a connected person might occur. Where such a transaction does occur:

1. It must be conducted at arm's length and be in the best interests of shareholders of the UCITS ETF.
2. In the event a transaction with a connected person is proposed, it is only permissible where
  - (a) the value of the transaction is certified by either a person who has been approved by the depositary of the UCITS ETF as being independent and competent, or a person who has been approved for the UCITS ETF as being independent and competent in the case of transactions involving the depositary of the UCITS ETF;
  - (b) execution is on best terms on an organised investment exchange under the rules of the relevant exchange; and
  - (c) execution is on terms which the depositary or, in the case of a transaction with the depositary of the UCITS ETF, the management body of the UCITS ETF is satisfied conforms to the requirements set out in (1) above.

In each case, a transaction with a connected person must be documented and evidence as to compliance with the foregoing requirements must be provided in that documentation. Where the transaction is in accordance with 2(c), the depositary of the UCITS ETF or its management body must document the rationale for being satisfied that the transaction conforms with the relevant requirements.<sup>89</sup>

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<sup>89</sup> Central Bank (Supervision and Enforcement) Act 2013 (Section 48(1)) (Undertakings for Collective Investment in Transferable Securities) Regulations 2019, Regulation 43.

**Box 7: US Rules on the Construction of Creation/Redemption Baskets to Protect ETFs and Their Shareholders**

The US SEC generally requires an ETF to adopt and implement written policies and procedures governing the construction of creation/redemption baskets (both standard and custom baskets) and the process that the ETF will use for the acceptance of baskets.<sup>90</sup> Such requirement is principally designed to address the risk that an AP or other market participant could take advantage of its relationship with the ETF and pressure the ETF to construct a basket that favors the AP or other market participant to the detriment of the ETF and its shareholders (e.g., cherry-picking, dumping, and other potential abuses).

In addition, Rule 6c-11 imposes heightened policies and procedures requirements if the ETF utilizes a so-called “custom basket,”<sup>91</sup> which also must: (i) set forth detailed parameters for the construction and acceptance of custom baskets that are in the best interests of the ETF and its shareholders, including the process for any revisions to, or deviations from, those parameters; and (ii) specify the titles or roles of the employees of the ETF’s investment adviser who are required to review each custom basket for compliance with those parameters.<sup>92</sup> In particular, the US SEC has stated that effective policies and procedures should:<sup>93</sup>

- a. provide specific parameters regarding the methodology and process that the ETF would use to construct or accept a custom basket;
- b. describe the ETF’s approach for testing compliance with the custom basket policies and procedures and assessing (including through back testing or other periodic reviews) whether the parameters continue to result in custom baskets that are in the best interests of the ETF and its shareholders;
- c. consistently apply the custom basket policies and procedures and establish a process that the ETF will adhere to if it wishes to make any revisions to, or deviate from, the parameters; and
- d. include reasonable controls designed to prevent inappropriate differential treatment among APs.

**Box 8: Internal Market Making in Australia**

Pursuant to INFO 230 (Exchange traded products: Admission guidelines), in very specific circumstances, licensed exchanges may allow the ETF manager to adopt the role of a MM (i.e.,

<sup>90</sup> See rule 6c-11(c)(3).

<sup>91</sup> For purposes of Rule 6c-11, “custom basket” means: (i) a basket that is composed of a non-representative selection of the ETF’s portfolio holdings; or (ii) a representative basket that is different from the initial basket used in transactions on the same business day. See rule 6c-11(a).

<sup>92</sup> See rule 6c-11(c)(3)(i) and (ii).

<sup>93</sup> See ETF rule adopting release, supra note 16 at discussion following 293.

an internal market-making arrangement) on the fund's behalf rather than using an independent third-party trading participant.<sup>94</sup>

Licensed exchanges should only allow internal market making and delayed portfolio holdings disclosure when there is a genuine need to protect the ETF manager's intellectual property. Factors that licensed exchanges should consider in assessing internal market-making arrangements include, among others, whether:

- the internal market-making arrangement complies with the Corporations Act, including the prohibitions on market manipulation and insider trading, and the duties to act in the best interest of members, manage conflicts of interest and maintain withdrawal provisions that are compliant with local requirements.
- the input for market-making quotes is limited to publicly available information – for example, iNAV, publicly available portfolio holdings disclosures, general market conditions and trading activity. Licensed exchanges should review internal compliance and supervision arrangements to verify that effective information barriers have been established at the ETF manager and its execution agent so that bids and offers are not submitted to the market by persons or systems with knowledge of the current portfolio holdings.
- the contracts which underpin the internal market-making arrangement are appropriate, including confirming that any discretion afforded to the ETF manager to override the standing market-making instructions does not result in the arrangement being at risk of non-compliance with the insider trading prohibition.

There may be periods of time where there are substantial information asymmetries in the market – for example, where publication of iNAV has ceased, iNAV is no longer an accurate reflection of the fund's current value (due to technical malfunctions or stale data inputs) or when the responsible entity seeks to change the parameters of its market-making operations. In these circumstances, ASIC considers it is better practice for the ETF manager to inform the market by announcement and cease market making until the information asymmetry is resolved. A further step could be requesting a trading halt of units of the fund. It is up to the ETF manager, in conjunction with the market operator, to decide whether this action is in the best interests of unit holders, taking into account the type of event and how long it may take to be resolved.

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<sup>94</sup> Under this arrangement, the ETF manager must appoint a trading participant to act as execution agent to enter bids and offers in the ETF units throughout the day on behalf of the ETF. At the end of the trading day, a net creation or redemption in the ETF units is performed by the ETF manager, or their appointed third-party, and any profit or loss based on the market-making activity is attributed to the ETF. Disclosure of the ETF's holdings is provided on a delayed, rather than daily, basis. ETF managers typically seek to implement this arrangement if they consider there is a risk that others will use the ETF's intellectual property, for example, by replicating the investment strategy to the ETF's detriment.

## 2. Disclosure

### **Relevant ETF Principles related to disclosure:**

**ETF Principle 1:** Regulators should encourage disclosure that helps investors to clearly differentiate ETFs from other ETPs.

**ETF Principle 2:** Regulators should seek to ensure a clear differentiation between ETFs and other CIS, as well as appropriate disclosure for index-based and non-index-based ETFs.

**ETF Principle 5:** Regulators should encourage the disclosure of fees and expenses for investing in ETFs in a way that allows investors to make informed decisions about whether they wish to invest in an ETF and thereby accept a particular level of costs.

**ETF Principle 6:** Regulators should encourage disclosure requirements that would enhance the transparency of information available with respect to the material lending and borrowing of securities (e.g., on related costs).

**ETF Principle 7:** Regulators should encourage all ETFs, in particular those that use or intend to use more complex investment strategies to assess the accuracy and completeness of their disclosure, including whether the disclosure is presented in an understandable manner and whether it addresses the nature of risks associated with the ETFs' strategies.

**Measure 7:** *For ETFs, in particular those that invest in more complex or novel asset classes, or use more complex investment strategies, regulators are encouraged to consider appropriate requirements for the adequacy and appropriateness of the disclosures regarding ETF-specific aspects, including whether certain disclosures are presented in an understandable manner and whether they address the nature of risks associated with the ETFs' strategies.*

**Measure 8:** *Regulators are encouraged to consider appropriate requirements for the disclosures of fees and expenses for investing in ETFs (including secondary market trading costs) in a way that allows investors to make informed decisions about whether they wish to invest in an ETF and thereby accept a particular level of costs.*

### ➤ ***Disclosures Regarding Arbitrage and Secondary Market Trading, and Specificities of ETF Investment Strategies / Underlying Asset Classes***

A core difference between ETFs and other OEFs is the trading of ETF shares in secondary markets and the associated arbitrage mechanism. Therefore, it is useful to provide disclosure in addition to what is otherwise required by the CIS regulations to help investors fully understand the particular features and risks arising from these distinctive features of ETFs. Similarly, additional disclosure requirements for ETFs that invest in more complex asset classes or use more complex investment strategies are also useful. In this regard, some jurisdictions have (i) disclosure requirements regarding arbitrage and secondary market trading; and (ii)

disclosure and labeling requirements for ETFs that use more complex investment strategies or invest in novel asset classes.

Most jurisdictions require disclosure of all the relevant risks specific to ETFs in the offering documents, an ETF's website and/or other means of disclosure (such as financial statements and website of market operators or stock exchanges). For example, these include disclosure regarding secondary market trading and the associated risks (e.g., trading at a discount/premium to NAV risk, secondary market liquidity risk, risk of inability to redeem from the ETF) and provision of quantitative information (e.g., NAV, market price, intra-day iNAV and bid/ask price) that helps investors to understand the effectiveness of the arbitrage mechanism.

Depending on the local conditions and circumstances, these additional disclosure requirements for ETFs may vary across jurisdictions in details.<sup>95</sup> Some existing practices of disclosure of ETF-specific aspects in different jurisdictions are set out in **Appendix 4** (*also see Table 2 below*). Regulators are encouraged to consider the relative merits of these disclosure requirements with different levels of details.

In addition, regulators are encouraged to consider whether the correct naming or product label is attached to ETFs with more complex investment strategies. For example, where actively managed ETFs are not permitted by local regulations, regulators are encouraged to review the underlying indices of ETFs, particularly those that involve factor investing (i.e., smart-beta indices) and/or systematic investment strategies (e.g., targeted volatility and risk parity) to see if these indices involve significant discretion by index providers. To the extent that the discretion amounts to active management, such ETFs may not be labelled as passive funds and offering them to the public may not be consistent with local regulation.

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<sup>95</sup> Where appropriate, responsible entities may also consider supplementing existing disclosure requirements with additional investor education materials (e.g., via their website, seminars, etc.). Where appropriate, they may also consider not making disclosures overly technical or legalistic in order to better facilitate investor understanding.

**Table 2: Information Required to be Disclosed on ETF Websites under US SEC’s Rule 6c-11, and their Rationale**

<b>Information to be disclosed on website</b>	<b>Rationale</b>
<p><b>NAV per share, market price, and premium or discount, each as of the end of the prior business day</b></p>	<ul style="list-style-type: none"> <li>• To provide investors with a “snapshot” view of the difference between an ETF’s NAV per share and market price on a daily basis</li> <li>• To promote transparency and help investors better understand the risk that an ETF’s market price may be higher or lower than the ETF’s NAV per share and compare this information across ETFs</li> </ul>
<p><b>A table and chart showing the number of days the ETF’s shares traded at a premium or discount during the most recently completed calendar year and calendar quarters of the current year</b></p>	<ul style="list-style-type: none"> <li>• To allow investors to appreciate how often an ETF is traded at a premium or discount, and the degree of such premium or discount, in formats that are easy to view and understand</li> <li>• To provide investors with useful information regarding ETFs that frequently trade at a premium or discount to NAV per share</li> </ul>
<p><b>If an ETF’s premium or discount is greater than 2% for more than seven consecutive trading days, disclosure that the premium or discount is greater than 2%, along with a discussion of the factors that are reasonably believed to have materially contributed to the premium or discount</b></p>	<ul style="list-style-type: none"> <li>• To provide secondary market investors with useful context for the disclosed premium/discount and help them make more informed investment decisions.</li> <li>• To help inform investors about the nature, and potential for frequent deviations, of certain types of ETFs such as those ETFs that invest in certain foreign markets</li> </ul>
<p><b>Median bid-ask spread over the most recent 30 calendar days</b></p>	<ul style="list-style-type: none"> <li>• To inform investors that they may bear bid-ask spread costs when trading ETFs on the secondary market which ultimately could impact the overall cost of the investment, and help investors make more informed investment decisions</li> </ul>

## ➤ *Disclosures Regarding Fees and Expenses*

Most jurisdictions have rules requiring the disclosure of fees and expenses and other costs borne by investors in offering documents, websites and other disclosure documents (such as financial statements) that apply to all OEFs. As such, the disclosure should provide sufficient transparency to allow the investor to make an informed judgement of the investment. Some jurisdictions may have more detailed requirements on the disclosure of ETF-specific fees and expenses as follows:

- *Trading costs in secondary markets*: Many jurisdictions require qualitative but not quantitative disclosure of costs associated with buying and selling ETF shares<sup>96</sup> in offering documents.<sup>97</sup> Some jurisdictions<sup>98</sup> also require quantitative disclosure, such as maximum bid-ask spread, historical data on bid-ask spread and premiums/discounts.<sup>99</sup>
- *Other types of fees and cost information*: Some jurisdictions<sup>100</sup> require qualitative but not quantitative disclosure of brokerage commissions and relevant tax considerations (such as capital gains, etc.).<sup>101</sup>

In jurisdictions where zero fee ETFs<sup>102</sup> are being or have been offered (for example, Australia, and US), some require additional disclosure on how such funds are funded or operated. For example, Australia, under RG 97 (Disclosing fees and costs in PDSs and periodic statements),

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<sup>96</sup> For example, risk disclosures that investors trading ETF shares on secondary market may incur transaction costs such as bid-ask spread, brokerage fee and stamp duty.

<sup>97</sup> For example, Brazil, Europe (in relation to UCITS ETFs), Hong Kong, Israel, Korea, Singapore, South Africa, Switzerland, Turkey and US SEC.

<sup>98</sup> For example, in Switzerland, the exchanges define the maximum bid/ask spread in their exchange regulation (cf. article 27 paragraph 4 and article 28 paragraph 1 [FinMIA](#) combined with the "[Trading Parameters](#)" [Guideline](#) from SIX Swiss Exchange SA and [Segment Swissfunds – Annex ETF-Spreads](#) of the BX Swiss SA Trading Directive). The maximum bid / ask spread is also usually mentioned in the offering documents of an ETF. Canada requires disclosure of the average bid/ask spread for the past 12 month period in an “ETF Facts” document under Form 41-101F4 *Information Required in an ETF Facts Document*. The US SEC requires ETFs to provide both narrative disclosures in their offering documents and quantitative disclosures on their websites of secondary market trading costs, including certain historical data on spreads and premium/discounts (see **Table 2** above). See Item 3 of Form N1-A, available at <https://www.sec.gov/files/formn-1a.pdf>; Investment Company Act rule 6c-11(c)(1)(ii)-(v). In Israel, ISA also requires disclosure of the maximum bid-ask spread in the ETF's annual report.

<sup>99</sup> Some respondents suggested that the availability of near real-time consolidated trading data, particularly in jurisdictions where ETF share trading is fragmented and occurs across different trading venues and/or over-the-counter (e.g., in Europe), should be considered by regulators and trading venues as an important enhancement to further facilitate transparency of secondary market trading costs for investors (also related to Measure 10).

<sup>100</sup> For example, Belgium, Brazil, Canada, Ireland, Luxembourg, Hong Kong, Switzerland, Turkey, US CFTC and US SEC.

<sup>101</sup> For example, certain types of secondary market trading costs (such as brokerage commissions and tax considerations) may largely depend on prevailing market conditions and the individual situation of the investor, which are difficult for ETF managers to quantify.

<sup>102</sup> Depending on the product, zero fee ETFs generally refer to ETFs that are effectively offered at zero expense ratio and zero management fee. Some of these products may even offer a rebate to investors.



requires ETFs (similar to all OEFs) if they are offered with a zero fee to include relevant information in their disclosure materials when such products' recoverable expenses are borne by investors.<sup>103</sup>

### ➤ *Disclosures Regarding Securities Lending*

Similar to other OEFs, ETFs may lend securities to other financial institutions in exchange for a fee paid by the borrower. Revenues from securities lending may result in returns that can partly offset an ETF's management fee. Securities lending can in some cases provide relatively significant additional revenues to ETFs, particularly ETFs with comparatively lower fees. As part of its analysis of disclosures related to fees and expenses, IOSCO also considered securities lending disclosures in the ETF Principles. The report set out that "Regulators should encourage disclosure requirements that would enhance the transparency of information available with respect to the material lending and borrowing of securities."

The scope and scale of ETF securities lending activity differs across jurisdictions and even among ETFs within the same jurisdiction. Some jurisdictions limit the amount of securities that may be on loan.<sup>104</sup> In other jurisdictions, where there are no restrictions on the amount of securities loaned, the report noted that fee information disclosed by ETFs should be designed to help investors understand whether revenues are received by parties other than the ETF or its investors (e.g., a securities lending agent) (*see Appendix 4 for jurisdictional examples*).

Based on a survey of IOSCO members, most responding jurisdictions require specific disclosures when a CIS (including an ETF) intends to enter into securities lending arrangements.<sup>105</sup> Jurisdictions noted a number of examples of disclosures required in offering documents that allow an investor to make a more informed judgement regarding the investment. Some jurisdictions may require additional or supplemental disclosures regarding securities lending arrangements in the fund's financial statements.

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<sup>103</sup> See Regulatory Guide 97 Disclosing fees and costs in PDSs and periodic statements available at <https://download.asic.gov.au/media/5801438/rg97-published-28-september-2020.pdf>.

<sup>104</sup> For example, in the US ETFs generally lend securities consistent with SEC staff guidance that states that securities lending should generally be limited to no more than one-third of total assets (which under SEC staff's view may include collateral pledged to secure the loan). Under SEC Rule 18f-4, ETFs (similar to other CIS) that accept collateral other than cash or cash equivalents for securities lending transactions will have to comply with asset coverage limitations of Section 18 of the Investment Company Act or treat the securities loan as a derivatives transaction for purposes of the rule. Among other securities lending related disclosures, CIS, including ETFs, must disclose in their registration statements income and expenses from securities lending and a description of services provided to the fund by a securities lending agent (see Item 19(i) of Form N-1A, available at <https://www.sec.gov/files/formn-1a.pdf>). Funds also must report to the SEC the monthly average value of securities on loan (see Item C.6.f of Form N-CEN, available at <https://www.sec.gov/files/formn-cen.pdf>), as well as information regarding securities lending counterparties, portfolio securities that are on loan, collateral received by the fund, and reinvestment of cash collateral (see items B.4 and C.12 of Form N-PORT, available at <https://www.sec.gov/files/formn-1a.pdf>).

<sup>105</sup> For example, Australia, Belgium, Canada, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Luxembourg, Netherlands, Singapore, South Africa, Switzerland, UK and US.

Examples that members noted of disclosures required in offering documents include:

- the purpose of securities lending transactions;
- information on counterparties;
- gross and net revenue generated from securities lending transactions;
- direct and indirect expenses to be incurred;
- fees and compensation (including fees from a revenue split);
- collateral requirements (e.g., permitted types of collateral, level of collateral required, haircut policy);
- maximum and expected level of CIS's assets permitted to be on loan;
- risks associated with securities lending and borrowing;
- involvement of any affiliated persons and any potential conflicts of interests;
- custody / safekeeping arrangements of assets on loan; and
- any risks related to securities lending (e.g., operational, liquidity, counterparty, custody and legal risks) and potential impact on the fund.

Examples of disclosures that some jurisdictions noted they require in financial statements regarding securities lending arrangements include:

- details on the counterparty exposure;
- identity of the counterparties and amount of payment entitled to receive;
- type and amount of collateral received by the fund to reduce counterparty exposure; and
- revenues arising from securities lending transactions together with direct and indirect operational costs and fees incurred.

### **Box 9: Costs Internalized by ETFs**

Set out below are some notable disclosure requirements on costs internalized by ETFs that may be applicable to a broader group of CIS (i.e., not necessarily unique to ETFs). Regulators are encouraged to also consider their usefulness holistically when formulating their local regulatory regime applicable to ETFs.

- Swap costs: Some jurisdictions require disclosure of swap costs in the offering document<sup>106</sup> or financial statements.<sup>107</sup> In Canada, an ETF has to disclose the “trading expense ratio” (which includes swap costs and rebalancing costs) in its “ETF Facts” document and management report of fund performance accompanying the financial statements.

<sup>106</sup> For example, Canada, Hong Kong, Switzerland and Turkey.

<sup>107</sup> For example, Belgium and France.

- *Rebalancing costs*: Some jurisdictions require disclosure of rebalancing costs in the offering document<sup>108</sup> or financial statements.<sup>109</sup>

➤ ***Differentiating ETFs from Other ETPs and CIS***

**Measure 9:** *Regulators and responsible entities are encouraged to consider appropriate disclosure requirements or disclosures to help investors clearly differentiate ETFs from other ETPs / CIS, as well as appropriate disclosure for index-based and non-index-based ETFs.*

IOSCO previously examined the matter of ETF disclosure and classification as part of its ETF Principles. At that time, IOSCO primarily focused on appropriate disclosure for investors based on the characteristics specific to ETFs. However, the report also set out that “disclosure regarding classification that helps investors distinguish ETFs from non-CIS ETPs and from other CIS, and understanding the risks and benefits of each also would be helpful”.<sup>110</sup>

Based on a recent survey among IOSCO members, most respondents reported there are no legal prohibitions restricting the use of the term “ETF” to listed entities organized as CIS. That said, respondents did not mention any material issues concerning the usage of the term “ETF”. In certain cases, however, potentially imprecise and inconsistent use of acronyms by the media or investors has been observed in certain markets. Regulators are therefore encouraged to consider any imprecise and inconsistent use of terms and labels between ETFs and other ETPs (such as ETNs and ETCs) whose characteristics and risks may be different from ETFs.

It is generally considered a good practice that the regulatory framework of a given jurisdiction imposes disclosure requirements that help (i) differentiate ETFs from other ETPs and other CIS; and (ii) understand an ETF’s investment strategy. Jurisdictional examples of ways in which regulators could achieve those goals are set out in **Appendix 4** (also see **Box 10** and **Box 11** below). Where the regulatory framework does not already provide for such disclosures, responsible entities are also encouraged to consider providing these disclosures that are beneficial to investors. Where appropriate, responsible entities may also consider additional investor outreach and education to help provide greater clarity for investors.

**Box 10: Examples in Hong Kong**

**Synthetic ETFs**

An asterisk (\*) and an annotation “(\*This is a synthetic ETF)” is required to be put right after the name whenever it appears in the offering documents and marketing materials issued to investors.<sup>111</sup> A marker “X” will be placed at the beginning of the English and Chinese stock

<sup>108</sup> For example, Canada, Switzerland and Turkey.

<sup>109</sup> For example, Belgium.

<sup>110</sup> Page 8, IOSCO Principles for the Regulation of Exchange Traded Funds, Final Report, June 2013.

<sup>111</sup> See, Guide on Practices and Procedures for Application for Authorization of Unit Trusts and Mutual Funds (SFC),

short names of all synthetic passive ETFs listed on the Stock Exchange of Hong Kong (SEHK). These annotations and markets would make synthetic ETFs more visually distinctive. Synthetic ETFs are also required to disclose through the ETF's own website or other acceptable channels on an ongoing basis to investors:

- gross and net exposure to each financial derivatives instrument (FDI) issuer;
- overall collateralization level (expressed as a percentage of the ETF's NAV);
- hyperlinks to the websites of FDI issuers (where applicable);
- pictorial presentation of collateral/invested assets information by way of pie charts; and
- top 10 holdings in the collateral/invested assets (including name, percentage of the ETF's NAV, type, primary listing for equities, country of issuers).

### **Leveraged products / inverse products (L&I Products)**

In view of their day trading nature as opposed to the investment nature of conventional ETFs, the Circular on Leveraged and Inverse Products provides that leveraged and inverse ETFs are not allowed to be named "ETFs" but must be named "Leveraged Products" or "Inverse Products" to help investors distinguish them from conventional ETFs. The leverage / inverse factor (e.g., 2X, -1X) and the word "daily" must always be included in the product name. The offering documents of L&I Products shall contain upfront disclosure of the following in the product key facts statement so that investors will not mistakenly assume L&I Products share the buy-to-hold characteristics of conventional ETFs:

- A warning against holding L&I Products for longer than the rebalancing interval, typically one day;
- L&I Products are designed as a trading tool for short-term market timing or hedging purposes, and are not intended for long term investment;
- L&I Products are only suitable for sophisticated trading-oriented investors who constantly monitor the performance of their holdings on a daily basis; and
- the performance of L&I Products, when held overnight, may deviate from the underlying indices.

### **Short name convention and designated webpages**

For physical ETFs, synthetic ETFs, futures-based ETFs, actively managed ETFs and L&I Products, the SEHK assigns a different stock short name convention for them. In terms of disclosure, SFC has prepared designated webpages for each of actively managed ETFs, passive ETFs and L&I Products. SEHK has also prepared designated webpages for ETFs and L&I Products.

## **Box 11: Guidance on Naming Conventions for ETFs in Australia**

ASIC provides guidance<sup>112</sup> on naming conventions for ETFs, which are divided into two levels of labelling – primary labels based on product type, and secondary labels for specific risks or strategies (as discussed below). The positioning and appearance of labels should follow certain general conventions for consistency and easy identification by investors. For example, labels should appear at the end of the product name, with the secondary label appearing immediately before the primary label. ETF managers and licensed exchanges should take steps to ensure that relevant naming conventions appear in all instances where a product name is used.

### **Primary labels – Naming conventions by product type**

The primary labels are either “Exchange Traded Funds” (or “ETFs”) or “Structured Products”. Such labels are intended to ensure that ETFs will be separately identified from other listed securities, while retaining the distinction between collective investment vehicles and structured products:

- (1) “Exchange Traded Funds” or “ETFs” are collective investment vehicles, such as managed investment schemes, including those that hold a single asset on trust until maturity, or Corporate Collective Investment Vehicles.
- (2) “Structured Products” are products that are open-ended and structured as derivatives, redeemable preference shares or debt securities.

### **Secondary labels - Naming conventions related to risks and strategy**

The secondary labels are either “Active” or “Complex” and are directed at both ETFs and Structured Products (as defined under primary labels).

The purpose of the secondary labels is to indicate to investors that these products may have specific features or higher risks that require more detailed consideration.

- (1) “Active” products are those that are structured and marketed as employing an active investment objective. This is where underlying investments are held or traded in a way that does not track or replicate the returns of a robust and transparent index or benchmark (i.e., the objective is to outperform an index, or is benchmark unaware) or track the performance of a specific security. For example, the “Active” label may apply to products that rely on an issuer’s own quantitative models to select investments.
- (2) “Complex” should be applied to products that:
  - use debt or leverage to make a financial investment
  - use short selling

<sup>112</sup> ASIC, *INFO 230: Exchange traded products: Admission guidelines*, available at <https://asic.gov.au/regulatory-resources/markets/market-supervision/exchange-traded-products-admission-guidelines/>

- use derivatives, other than disclosed hedging of exchange rate or interest rate risks, to
  - gain non-temporary material economic exposure to implement the underlying investment strategy, or
  - create a net leveraged or net inverse position for the portfolio, or
- otherwise meet the hedge fund criteria in Regulatory Guide 240 Hedge funds: Improving disclosure (RG 240).

Where the “Complex” label is applied, it is good practice for the full product trading name to indicate the specific risks, strategies or features that gave rise to the application of this label (e.g., leveraged, inverse, synthetic, hedge fund, long-short, etc.). This approach is intended to balance the aims of highlighting a range of more complex products to investors in a simple way using a label, and encouraging identification of specific risks or features somewhere in the product name, where possible, without prescribing or limiting the descriptors that might be used for this purpose. Where a product applies the Complex label, it does not have to apply the Active label (if that label could also apply).

### 3. Liquidity Provision

#### **Relevant ETF Principle related to liquidity provision:**

**ETF Principle 9:** Regulators should consider imposing requirements to ensure that ETFs appropriately address risks raised by counterparty exposure and collateral management.

**Measure 10:** *Regulators and/or trading venues, where applicable, are encouraged to monitor secondary market trading and market making activities of ETFs and have rules governing the orderly trading of ETF shares.*

Participation by MMs is generally considered to be important to an ETF's liquidity and facilitating an effective arbitrage mechanism. Depending on the local circumstances of an ETF market (or the markets of its underlying assets), the secondary market liquidity of certain ETFs may heavily depend on MMs fulfilling their functions. As such, regulators and trading venues, where applicable, are encouraged to (i) regularly monitor MMs' compliance of market making obligations and the secondary market trading of ETFs;<sup>113</sup> and (ii) impose specific rules governing the orderly trading of ETF shares.

#### ➤ ***Monitoring of the Trading / Market-Making Activity***

In practice, trading venues typically administer the admission of MMs to market-making programs and monitor their compliance of quoting obligations on an on-going basis. For example, in Singapore, the monitoring of MMs is conducted annually on a sampling basis. In Hong Kong, the performance of MMs in fulfilling their market making obligations is reviewed on a monthly basis. In Australia, periodic evaluation of MMs' performance against the parameters of a market operator's market making incentive scheme is carried out.

Regarding the supervision of the secondary market by regulators, there are different monitoring approaches:

- Some jurisdictions monitor the ETF's market on a continuous basis similarly to other asset classes (e.g., Australia, Canada, Hong Kong,<sup>114</sup> Israel, Italy, UK,<sup>115</sup> US).
- Other jurisdictions conduct investigations in case of extraordinary situations or thematic approaches (e.g., France, Ireland, Netherlands).

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<sup>113</sup> Consultation respondents reflected that ETF managers also closely monitor the secondary market trading and market making activities to ensure that investors can access liquidity at all time. The market indicators that are tracked by ETF managers are similar to the ones monitored by trading venues (e.g., order book's depth, volume traded). In Europe, some UCITS ETFs may remunerate MMs for their compliance with stringent obligations on, but not limited to, participation rate in continuous trading and auctions and minimum turnover amount.

<sup>114</sup> In Hong Kong, the regulator is notified by the trading venue of market making firms which are in breach of their obligations on a monthly basis. The regulator may then follow-up with the ETF manager if necessary.

<sup>115</sup> In the UK, high level monitoring of trading and/ or market making activities is carried out. If there is an identified issue, specific day-to-day monitoring will be undertaken.

If the monitoring results indicate that a MM's market making performance falls short of obligations or expectations, trading venues may wish to follow up with them accordingly to help to ensure that they are performing as required under the rules of the trading venue. The monitoring parameters may include bid-ask spread, depth and volume, participation rate in continuous trading and auctions and minimum turnover amount.

In some jurisdictions (e.g., Europe), the monitoring of the "true" liquidity of ETFs may be made more difficult due to the fragmentation of trading venues,<sup>116</sup> the sizeable OTC<sup>117</sup> market share and the absence of a consolidated tape where all transactions that take place across trading platforms would be disseminated equally to market participants. Therefore, regulators and/or trading venues in these jurisdictions may consider enhancing consolidated trading data to facilitate the monitoring of secondary market trading on ETFs. As of the date of this report, it is noted that the Markets in Financial Instruments Regulation (MiFIR) review<sup>118</sup> is looking to address this issue, with the core objective of creating a consolidated view of prices and liquidity available on all trading venues in the EU.

➤ ***Rules Governing the Cessation of Liquidity Provision by a MM***

MMs may face situations where they can no longer fulfill their obligations and wish to cease acting as a MM. In this case, depending on the duration and the extent to which it coincides with other MMs' withdrawals, there may be a concern about the ETF's liquidity.<sup>119</sup>

As such, regulators and/or trading venues are encouraged to consider putting in place appropriate requirements to facilitate an orderly exit of MMs in these cases and allowing sufficient time to organize replacements. Jurisdictional examples of such requirements are set out in **Appendix 5**.

Separately, IOSCO C2 published in 2020 the Final Report of Liquidity Provision in the Secondary Markets for Equity Securities.<sup>120</sup> The report presents a summary of responses to a survey of regulatory authorities, trading venues and market intermediaries, including obligations and incentives, and common themes with respect to the approaches taken to

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<sup>116</sup> The fragmentation of trading venues may lead to overestimation of the "true" liquidity of multi-listed ETFs as the liquidity provided on each venue may be mutually exclusive, in particular when it is the same MM that provides liquidity on each venue.

<sup>117</sup> In Europe, MMs of ETFs typically respond to RFQs (Request For Quotes) from end-investors. The absence of pre-trade transparency for ETFs that are mostly traded in such OTC environment may make the assessment of their "true" liquidity difficult.

<sup>118</sup> More information on the MiFIR review in Europe are available at: [https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/financial-markets/securities-markets/investment-services-and-regulated-markets-markets-financial-instruments-directive-mifid\\_en#mifir-review](https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/financial-markets/securities-markets/investment-services-and-regulated-markets-markets-financial-instruments-directive-mifid_en#mifir-review)

<sup>119</sup> There may be situations, in particular under stressed market conditions, where one or more MMs temporarily withdraw from the market. In this case, the liquidity of the concerned ETFs does not necessarily vanish: when some MMs step out during times of market disruption, other market participants may seize the opportunity to fill the void. *See*, FCA ETF Research Note.

<sup>120</sup> *See*, IOSCO, Final Report of Liquidity Provision in the Secondary Markets for Equity Securities, available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD660.pdf>



market making and liquidity provision. It also highlights some common themes that regulators could consider as key elements of market making programs that may promote the provision of liquidity, strengthen investor confidence and foster fair and efficient markets. While the report focuses only on liquidity provision in equity securities and does not extend to other asset classes such as ETFs, it could serve as a reference for regulators and/or trading venues' consideration on the liquidity provision framework for ETFs.

#### 4. Volatility Control Mechanisms

##### **Relevant IOSCO guidance related to VCMs:**

##### **VCM Recommendation 2 – Calibration of VCMs:**

Trading venues should ensure that volatility control mechanisms are appropriately calibrated. To do so, trading venues may consider the following non-exhaustive list of elements: a) the nature of the financial instrument or underlying asset e.g., a security, ETF or derivative; b) the liquidity or trading profile of the financial instrument; c) the volatility profile of the financial instrument or underlying product; d) volatility control mechanisms in place for related financial instruments and/or markets; and e) price of the financial instrument.

##### **VCM Recommendation 8 – Communication between trading venues:**

Where the same or related instruments are traded on multiple trading venues in the same jurisdiction, trading venues should communicate as appropriate when volatility control mechanisms are triggered. Where the same or related instruments are traded in different jurisdictions and the mechanism is triggered, communication may be appropriate.

*Measure 11: Regulators and/or trading venues, where applicable, are encouraged to appropriately calibrate volatility control mechanisms applicable to ETFs, considering factors including their liquidity profile and volatility profile. Where an ETF is listed or traded on a number of trading venues, those trading venues are encouraged to consider communicating with one another as appropriate when VCMs are triggered.*

Some jurisdictions have implemented VCMs to mitigate extraordinary volatility in secondary market trading in ETF shares and/or underlying securities more generally. There is a wide variety of VCMs and the VCMs imposed by jurisdictions and trading venues vary, depending on the market structures in which ETFs operate. The two most common types are: (i) trading halts based on quote prices and/or historical secondary market price and (ii) trading halts based on divergence between the ETF share price and iNAV of the ETF. Regulators and/or trading venues are encouraged to evaluate whether the existing VCMs applicable to ETFs are appropriately calibrated and review the merits of different approaches in order to enhance their existing approaches.

##### ➤ ***VCMs Based on Historical Secondary Market Price***

Trading venues in many jurisdictions have implemented VCMs based on historical secondary market prices.<sup>121</sup> This type of mechanism is triggered when the secondary share price, as measured by either quoting activity or last traded prices, of the ETF (or such other security) crosses certain pre-set trading thresholds. Thresholds may be ‘static’ or ‘dynamic,’ with some

<sup>121</sup> E.g., Brazil, Canada, Germany, Hong Kong, Israel, Italy, Japan, Luxembourg, Netherlands, Portugal, Singapore, South Africa, Spain, Turkey, UK and US.

regulators and/or trading venues having implemented both.<sup>122</sup> Static thresholds are tied to a prior set price (e.g., prior closing price or opening price of current trading session), whereas dynamic thresholds take into account the changing price of a particular security (e.g., last trading price).

In those venues, initial trading halts are typically lifted after a relatively short period of time (e.g., five minutes) but may increase in duration if triggered multiple times or higher thresholds are crossed.

For example, the primary trading venue in Germany (Deutsche Börse) recently introduced multiple, automatically expanding auction corridors. These auction corridors are expanded at given time intervals once a volatility interruption is triggered and thus allow for consecutively larger price deviations from the previous reference price. When triggered, trading switches from continuous trading to an auction which lasts for two minutes for the first corridor and five minutes for subsequent corridors. The auction will end at a random point in time to avoid price manipulation.

In addition to trading halts, VCMs may also entail a variety of other protective measures short of a complete stop of trading. These commonly include so-called ‘price bands’ or ‘collars’ where executions or order entries may only be made within prescribed price bands.<sup>123</sup>

In addition to VCMs based on individual securities, many regulators and/or trading venues also have so-called “circuit breakers” that are based on wider market volatility.<sup>124</sup> Such circuit breakers are coordinated, cross-market trading halts designed to operate only during significant market declines. For example, trading venues in the US have market-wide circuit breakers in addition to trading halts based on individual stocks (i.e., “Limit Up-Limit Down Plan”).<sup>125</sup>

#### ➤ *VCMs Based on iNAV*

This type of VCM restricts divergence of the ETF share price from iNAV beyond a specific threshold. It is generally prevalent in certain European jurisdictions.<sup>126</sup> Preset threshold levels are generally set in the range of 1.5% to 3% from iNAV. Trading halts typically last only a short period (e.g., as short as 30 seconds), although trading halts may be triggered multiple times in succession (e.g., for a maximum of 22 consecutive halts in applicable jurisdictions).

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<sup>122</sup> E.g., Germany, Japan, Spain and UK.

<sup>123</sup> E.g., Canada, Hong Kong, Italy, Singapore, UK and US.

<sup>124</sup> E.g., Canada, Korea, UK and US.

<sup>125</sup> A description of the market-wide circuit breakers and Limit Up-Limit Down Plan in the US can be found at <https://www.investor.gov/introduction-investing/investing-basics/glossary/stock-market-circuit-breakers>

<sup>126</sup> E.g., Belgium, France, Netherlands and Portugal where Euronext operates the local main regulated markets. However, at the time of the publication of this Report, Euronext is reviewing its VCM for ETFs and may switch from an iNAV-based approach to a historical secondary market price approach.

## Box 12: Examples for VCMs in Euronext<sup>127</sup>

### VCM in Euronext

Euronext's VCM prevents ETFs from trading outside a pre-defined corridor around iNAV. Such corridor limits the ability of an ETF to trade far away from its underlying index while leaving some flexibility to diverge from it if needed, taking into consideration the actual / expected cost of liquidity of the underlying market or any other fees.<sup>128</sup>

In times of high market volatility where iNAV of most ETFs cannot be calculated properly, Euronext can adjust and widen the corridor to facilitate the functioning of the VCM. For example, during the COVID-19 volatility, in Euronext, the VCM caused disruptions in the functioning of the ETF market during the episodes of highest volatility until the corridor was doubled (for nine non-consecutive days).

Generally, Euronext and other EU regulated markets are required to have in place effective systems, procedures and arrangements to ensure its trading systems are resilient under conditions of severe market stress as required by article 48 of MiFID II and specified by ESMA's guidelines on Calibration of circuit breakers and publication of trading halts under MiFID II.<sup>129</sup>

Save for trading venues that adopt VCMs based on iNAV, many trading venues apply the same VCMs to both ETFs and equities.<sup>130</sup> Among them, some apply the same pre-set threshold levels to ETFs as for other equities,<sup>131</sup> while others may impose trading halts that apply specifically to ETFs. For example, trading venues in some jurisdictions may set different threshold levels for ETFs and/or differentiate by asset class.<sup>132</sup> Regulators and trading venues are encouraged to appropriately calibrate the VCMs and thresholds applicable to ETFs, considering the nature of the financial instrument or underlying assets and the local circumstances.

### ➤ *ETFs Traded on Multiple Trading Venues*

Pursuant to IOSCO's guidance on VCM, where an ETF is listed or traded on a number of trading venues, trading venues are encouraged to consider communicating among themselves as

<sup>127</sup> cf. previous footnote.

<sup>128</sup> A VCM based on iNAV allows managers to comply with article D-214-22-1 of the Code Monétaire et Financier, which states (not an official translation): *"The shares or units of undertakings for collective investment in transferable securities governed by French law marketed in France or those of undertakings for collective investment in transferable securities governed by foreign law [...], the management objective of which is based on an index, provided that these organizations have put in place a system to ensure that the price of their shares or units does not deviate significantly from their net asset value. The Autorité des marchés financiers assesses the maximum acceptable difference with regard to the characteristics of the assets of these bodies and the markets on which they are listed. This difference cannot be greater than 5%."*

<sup>129</sup> See, Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments.

<sup>130</sup> E.g., Brazil, Canada, Germany, Hong Kong, Israel, Italy, Japan, Portugal, Singapore, South Africa, Spain, Turkey and US.

<sup>131</sup> E.g., Brazil, Germany, Japan, Israel, Singapore, South Africa, Spain, Turkey and US.

<sup>132</sup> E.g., Canada, Luxembourg, Hong Kong, Italy, Portugal and Switzerland.

appropriate and feasible when VCMs are triggered.<sup>133</sup> The degree of communication may vary based on different market structures in different jurisdictions. One of the main considerations for the need and method of communication is whether the volatility event could affect the trading of the ETF in other trading venues. In addition, the need for communication may depend on the nature of the volatility event, for example, whether it relates to a local liquidity imbalance or a wider stress originated from the underlying assets.

In some jurisdictions, such communication has already been mandated by regulatory authorities. In other jurisdictions, this communication could be established through a formal bilateral agreement or more informally, for example, the trading venue may draw up a list of relevant contacts at other trading venues that trade the same ETF.

Depending on the jurisdiction(s) involved and market structure, it may be appropriate for trading venues and regulatory authorities to consider harmonization in the design of a volatility control mechanism, particularly where the same ETF is listed or traded on a number of venues. However, in some cases, a volatility event may be local in nature and direct coordination may interfere with normal trading on another trading venue.

**Table 3: Summary Table of VCMs Applicable to ETFs Individually**

Type of VCMs	Example jurisdictions (location of the trading venues)	Merits	Other considerations
<b>VCM based on quote price or historical secondary market price of ETFs</b>	<p><i>Either static or dynamic pre-set thresholds</i></p> <ul style="list-style-type: none"> <li>• Brazil</li> <li>• Canada</li> <li>• Hong Kong</li> <li>• Israel</li> <li>• Italy</li> <li>• Luxembourg</li> <li>• Singapore</li> <li>• South Africa</li> <li>• Switzerland</li> <li>• Turkey</li> <li>• US</li> </ul>	<ul style="list-style-type: none"> <li>• A straightforward model in line with the VCMs for other securities.</li> <li>• ‘Price bands’ or ‘collars’ enable trading within prescribed price bands while providing reasonable safety buffers.</li> <li>• Preserve the price discovery function of ETFs</li> </ul>	<ul style="list-style-type: none"> <li>• Does not necessarily prevent an ETF’s shares from trading at prices that significantly deviate from its NAV.</li> <li>• Static thresholds based off the ETF’s share price may not reflect potential changes of fundamentals of underlying securities and may cause unnecessary halts when the ETF’s share price rebounds rapidly.</li> </ul>

<sup>133</sup> See, IOSCO (2018), Final Report on Mechanisms Used By Trading Venues To Manage Extreme Volatility And Preserve Orderly Trading Final Report, Recommendation 8, available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD607.pdf>.

Type of VCMs	Example jurisdictions (location of the trading venues)	Merits	Other considerations
	<i>Both static &amp; dynamic pre-set thresholds</i> <ul style="list-style-type: none"> <li>• Germany</li> <li>• Japan</li> <li>• Spain</li> <li>• UK</li> </ul>		
VCMs based on iNAV	<ul style="list-style-type: none"> <li>• France</li> <li>• Netherlands</li> <li>• Portugal</li> </ul>	<ul style="list-style-type: none"> <li>• Prevent significant premium / discount to iNAV.</li> </ul>	<ul style="list-style-type: none"> <li>• In case of market dislocation, the inefficiencies observed in the calculation of iNAV may affect the good functioning of the VCM mechanism.</li> <li>• It may limit the price discovery function of certain ETFs (e.g., ETFs whose underlying assets are not traded at the same time as the ETF units).</li> </ul>

➤ *Calibration of VCMs Based on ETF Characteristics*

Pursuant to IOSCO’s guidance on VCMs, in applicable jurisdictions, trading venues are encouraged to calibrate the VCMs based on characteristics of the ETFs, such as (i) the liquidity profile of the ETFs; (ii) the volatility profile of the underlying assets or the ETFs; and (iii) the leverage factor of leveraged and inverse ETFs.<sup>134</sup> For example, for trading venues, the VCM thresholds for leveraged ETFs are widened by a multiple of their leverage factor when compared to the thresholds applicable on conventional ETFs (*see Box 13 below*).

<sup>134</sup> See, IOSCO (2018), Final Report on Mechanisms Used By Trading Venues To Manage Extreme Volatility And Preserve Orderly Trading Final Report, supra note 150, Recommendation 2.

### Box 13: Examples of VCM Calibration

#### Canada

In Canada, for Single Stock Circuit Breakers (SSCBs), the threshold for triggering is widened by the leverage ratio (e.g., for an ETF that uses a 2:1 leverage ratio, the SSCB trigger is set at twice the usual level of a non-leveraged product). For illustration, for VCMs set by a Canadian trading venue, the threshold for triggering is the multiple of the leverage times 10%. Accordingly, for an ETF that uses a 2:1 leverage ratio, the VCM at the trading venue is set at 20%.

#### Germany

Deutsche Börse Group (DBG) in Germany has implemented a VCM based on trading prices of ETFs where trading interruptions are triggered if the potential execution price lies outside predefined price ranges. Those price ranges include a dynamic price range, which is set based on the last traded price of an ETF, and a static price range, which is set based on the last auction price of an ETF, with the static price range being wider than the dynamic price range. ETFs are clustered based on their underlying market and similarities in the volatility profiles of underlying markets. The concrete dynamic and static price ranges are then broadly determined based on historical volatility levels of ETFs tracking those markets and disclosed to the market for each ETF.<sup>135</sup>

For illustrative purposes, set out below are the current price ranges for some key ETF categories traded on DBG's trading venue Xetra:

ETF asset class	ETF category	Dynamic price range	Static price range
Equities	Developed markets (excluding Sector and Leveraged ETFs)	1.50%	5.00%
	Emerging and Frontier markets	2.00%	5.00%
	Sector ETFs		
	Leveraged ETFs		
Fixed Income		1.00%	3.00%

#### Hong Kong

In May 2022, Hong Kong Exchanges and Clearing Limited (HKEX) implemented a VCM on ETFs based on their average daily turnover and leverage factors. ETFs listed on HKEX for more than 3 months with an average daily turnover of not less than HK\$100 million for the past 3 months are subject to a VCM. HKEX assesses whether an ETF is subject to a VCM or not every quarter. The potential trade price of an ETF is continuously checked against the last auto-match traded price 5 minutes ago with the triggering thresholds of: (i)  $\pm 5\%$  for conventional ETFs and  $-1x$  inverse ETFs; (ii)  $\pm 10\%$  for  $2x$  leveraged ETFs and  $-2x$  inverse ETFs. The price bands within the 5-minute cooling off period are the same as the triggering thresholds.

<sup>135</sup> While the price ranges for each ETF are disclosed to the market, the categories themselves have not been published.

**Italy**

Borsa Italiana in Italy implements two-minute volatility auctions which are triggered at thresholds calibrated depending on whether or not the ETF is leveraged. For example, a price limit of  $\pm 10\%$  and  $\pm 5\%$  to static price is applied to equity ETFs with and without leverage respectively.

**US**

In the US, for every six months, primary listing exchanges assess their ETF listings to determine which ones have average daily turnover of over US\$2 million. Those ETFs that pass the turnover threshold are subject to narrower price bands for the next 6 months. Those that do not meet the threshold test are subject to wider bands for the next six months.



## **Section V – Conclusion**

The good practices are intended to support the ETF Principles and ensure that IOSCO's guidance on ETFs remains up-to-date and keeps pace with the significant market developments that have occurred since the publication of the ETF Principles, taking into account differences among jurisdictions in the way that ETFs operate, variance in the way they are regulated, and the markets in which they trade. While the Report does not seek to replace the ETF Principles and does not comprise either standards or recommendations as per IOSCO's taxonomy, the good practices are examples of how the ETF Principles and other relevant IOSCO standards and guidance can be put into practice. IOSCO encourages regulators, responsible entities and trading venues to review and adopt these good practices, where appropriate within each jurisdiction's regulatory framework.

## Glossary of Relevant Terms and Definitions

<p><b>Exchange-traded fund (ETF)</b></p>	<p>ETFs are open-ended collective investment schemes (CIS) that are listed and traded throughout the day like a stock on at least one secondary market (e.g., through an exchange). ETFs may be index-based or actively managed, and may pursue their investment objectives using a physical or derivatives-based investment strategy, or a combination of both.</p> <p>ETFs are a sub-set of OEFs, as discussed below, which issue redeemable securities. Like some closed-end funds, however, ETFs register offerings and sales of ETF shares and list their shares for trading on an exchange. Investors may trade ETF shares continuously at market prices throughout the trading day, but ETF shares are generally not redeemable from the ETF except by some institutional investors that have arrangements with the ETF (i.e., APs, as defined below) and only redeemable in large blocks of shares called <i>creation units</i>.<sup>136</sup></p>
<p><b>Exchange-traded products (ETPs)</b></p>	<p>ETPs include a wide variety of different investment products that share the feature of being traded on an exchange. While ETPs include ETFs that are organized as CIS, they also include a number of other exchange-traded vehicles, including exchange-traded commodities (ETCs) and exchange-traded notes (ETNs) which are typically not subject to the same regulatory requirements for CIS applicable to ETFs.</p>
<p><b>Open-end funds (OEFs)</b></p>	<p>An OEF is a registered/authorized/public CIS, which provides investors the right to purchase or redeem shares directly from the fund based on the net asset value (NAV) of the scheme, typically on a daily basis. The money an OEF receives from investors buying into the fund is pooled and invested in a portfolio of financial instruments (stocks, bonds and other securities) on a collective basis, with each investor sharing in the profits and losses in the underlying portfolio in proportion to the investor's interest in the OEF. Registered mutual funds in the US, Asia and elsewhere, as well as undertakings for collective investment in transferable securities (UCITS) in the EU and the UK, are prevalent examples of OEFs.</p>
<p><b>Authorized Participant (AP)</b></p>	<p>Unlike other OEFs, ETFs generally do not sell or redeem their individual shares (ETF shares) to and from investors directly at NAV. Instead, certain institutional investors (known as authorized participants or APs) purchase and redeem ETF shares directly from the ETF, but only in creation units. Most often, an AP that purchases a creation unit of ETF shares first deposits with the ETF</p>

<sup>136</sup> A creation unit may be defined as the block of ETF shares (the number of which the ETF specifies) that an AP can acquire or redeem, typically for a specified basket of securities or other assets.

	<p>a basket of securities and cash and/or other assets identified by the ETF that day, and then receives the creation unit in return for those assets. The basket is generally representative of the ETF's underlying holdings but in certain cases may also be composed of a non-representative selection of the underlying holdings (i.e., custom baskets, also defined below). After purchasing a creation unit, the AP may hold the ETF shares, or sell some or all of the ETF shares in secondary market transactions. The redemption process is the reverse of the purchase process.</p>
<b>Market Maker (MM)</b>	<p>MMs generally register with the relevant exchange to provide liquidity by posting two-way quotes on a regular and continuous basis, balance supply and demand, and profit from arbitrage opportunities (without necessarily seeking to profit from taking a directional position in the ETF) for an ETF under certain market-making obligations. In some jurisdictions, MMs may also be subject to contractual obligations with ETF managers.</p>
<b>Liquidity Provider (LP)</b>	<p>Some jurisdictions distinguish MMs from LPs. In these jurisdictions, the main variance between the definitions of LPs and MMs is that MMs are typically required by the rules of a trading venue to satisfy specific obligations in liquidity provision (as noted above), while LPs do not have to satisfy specific obligations and thus are not required to participate in the market. LPs' decisions regarding trading activity on a particular trading venue may be influenced by incentives rather than obligations and are often based on fee and total cost structures, technical access conditions, liquidity and arbitrage opportunities.</p> <p>In addition, LPs generally are not APs, but engage in arbitrage activities on ETFs through an AP, as agent, or by hedging in the secondary market, without using the creation or redemption process.</p> <p>For the purpose of this Report, LPs refer to the collective group of MMs and other market participants that do not have to satisfy specific obligations in providing liquidity to an ETF.</p>
<b>Actively managed ETF</b>	<p>The manager of an actively managed ETF typically exercises discretion over the composition of the invested portfolio subject to the stated investment objectives and policies, generally in an attempt to outperform a chosen benchmark. The key difference compared to an index-based ETF is therefore a manager's ability to adjust the portfolio without being subject to the set rules of an index.</p>
<b>Synthetic ETFs</b>	<p>Synthetic ETFs seek to meet their investment objective by entering into one or more derivative contracts with selected counterparties.</p>

<b>Leveraged &amp; inverse ETFs</b>	<p>Leveraged ETFs seek to deliver multiples of the performance of an index or benchmark over a specified time frame. Inverse ETFs (also called short funds) seek to deliver the opposite of the performance of the index or benchmark over a specified time frame. Most leveraged and inverse ETFs reset their leverage factor daily, meaning they are designed to achieve their stated objectives on a daily basis. However, some leveraged and inverse ETFs may also have a longer reset period, such as weekly, monthly, or annually. Like other ETFs, some leveraged and inverse ETFs reference broad indices, some are sector-specific, and others are linked to commodities, currencies, or some other benchmark. Use of leverage may alternatively be embedded in an index itself, whereby the index provider attempts to replicate the payoff of leveraged investment strategies. To accomplish their objectives, leveraged and inverse ETFs pursue a range of investment strategies through the use of swaps, futures contracts, and other financial derivative instruments.</p>
<b>Smart beta ETFs / multi-factor ETFs</b>	<p>A smart beta ETF is a type of ETF that tracks an index which is constructed by systematically selected and weighted constituents based on their characteristics in addition to market capitalization (i.e., its index methodology is rules-based). These characteristics are typically known as factors, and include, for example, valuation metrics, price trends and/or other accounting metrics.</p> <p>Single factor ETFs generally refer to smart beta ETFs that track an index constructed based on one factor only, while multi-factor ETFs refer to smart beta ETFs that track an index constructed based on a range of factors.</p>
<b>Indicative net asset value (iNAV)</b>	<p>Indicative net asset value (iNAV) is a real-time estimate of the intraday net asset value (NAV) of an ETF based on real-time market values of its underlying assets and is often calculated by a third-party service provider. It is disseminated regularly (e.g., 15 or 60 second intervals) throughout the trading day and is available to all market participants.</p>
<b>Standard and Custom baskets</b>	<p>An AP generally purchases (or redeems) ETF shares in exchange for a creation (or redemption) basket of certain securities and cash/or other deposits identified by the ETF that day. A “standard” basket is generally representative of the ETF’s underlying holdings. A creation or redemption basket takes the form of a “custom basket”, when its composition is negotiated bilaterally between an AP and the ETF manager.</p> <p>Custom baskets are typically composed of a selection of securities that may not be representative of the ETF’s portfolio holdings (although they may still seek to match the overall characteristics of the ETF’s portfolio). For example, in the case of a creation</p>

	<p>basket, an ETF may select those securities that the ETF wishes to acquire in its portfolio, or, in the case of a redemption basket, the ETF may select those securities the ETF wishes to dispose of from its portfolio. The construction and negotiation of custom baskets are also typically subject to heightened policies and procedures by the ETF.</p>
<p><b>Multilateral trading facility (MTF)</b></p>	<p>In Europe, MTFs are alternative trading venues to conventional stock exchanges where a financial instrument, such as an ETF, is traded electronically. Based on the relevant European regulations, MTFs are typically defined as a multilateral system, operated by an investment firm or a market operator, which brings together multiple third-party buying and selling interests in financial instruments – in the system and in accordance with the applicable rules.<sup>137</sup></p>

<sup>137</sup> See, Article 4 of MiFID II, available at <https://www.esma.europa.eu/databases-library/interactive-single-rulebook/clone-mifid-ii/article-4-0>.

See also, Glossary - FCA Handbook, available at <https://www.handbook.fca.org.uk/handbook/glossary/G3395u.html?date=2021-01-01&filter-title=mtf>.

## Appendix 1: List of IOSCO's ETF Principles

- Principle 1** Regulators should encourage disclosure that helps investors to clearly differentiate ETFs from other ETPs.
- Principle 2** Regulators should seek to ensure a clear differentiation between ETFs and other CIS, as well as appropriate disclosure for index-based and non index-based ETFs
- Principle 3** Regulators should require appropriate disclosure with respect to the manner in which an index-based ETF will track the index it references.
- Principle 4** Regulators should consider imposing requirements regarding the transparency of an ETF's portfolio and/or other appropriate measures in order to provide adequate information concerning:
- (i) any index referenced and its composition; and
  - (ii) the operation of performance tracking.
- Principle 5** Regulators should encourage the disclosure of fees and expenses for investing in ETFs in a way that allows investors to make informed decisions about whether they wish to invest in an ETF and thereby accept a particular level of costs.
- Principle 6** Regulators should encourage disclosure requirements that would enhance the transparency of information available with respect to the material lending and borrowing of securities (e.g., on related costs).
- Principle 7** Regulators should encourage all ETFs, in particular those that use or intend to use more complex investment strategies to assess the accuracy and completeness of their disclosure, including whether the disclosure is presented in an understandable manner and whether it addresses the nature of risks associated with the ETFs' strategies.
- Principle 8** Regulators should assess whether the securities laws and applicable rules of securities exchanges within their jurisdiction appropriately address potential conflicts of interests raised by ETFs.
- Principle 9** Regulators should consider imposing requirements to ensure that ETFs appropriately address risks raised by counterparty exposure and collateral management.

## Appendix 2: List of IOSCO's ETF Good Practices

### 1. Effective Product Structuring

*Relevant ETF Principles: #4, 7, 8 & 9*

- Measure 1** Regulators and responsible entities are encouraged to consider the range of asset classes and investment strategies that may be appropriate for the ETF structure, taking into account their nature, novelty, and complexity, the effectiveness of the arbitrage mechanism for such assets and strategies.
- Measure 2** Regulators are encouraged to consider requirements regarding the transparency of an ETF's portfolio and/or other appropriate information provided to market participants so as to facilitate effective arbitrage.
- Measure 3** For jurisdictions that mandate the provision of iNAV, regulators and/or trading venues are encouraged to consider means to enhance the accuracy and usefulness of iNAV.
- Measure 4** Responsible entities are encouraged to:
- (i) conduct due diligence on APs and MMs when onboarding them to the ETF, with a view towards having those that are capable of facilitating an effective arbitrage mechanism and providing liquidity;
  - (ii) conduct ongoing monitoring on APs and MMs for the ETF regarding, amongst others, the functioning of the arbitrage mechanism and liquidity provision; and
  - (iii) avoid exclusive arrangements with APs and MMs if they may unduly affect the effectiveness of the arbitrage mechanism.
- Measure 5** Responsible entities are encouraged to put in place appropriate arrangements to facilitate an effective arbitrage mechanism, including contingency plans to address the circumstances where the arbitrage mechanism of the ETF is impaired.
- Measure 6** Regulators are encouraged to consider whether the securities laws and applicable rules of securities exchanges within their remit and jurisdictions appropriately address potential conflicts of interests raised by ETFs.

## **2. Disclosure**

*Relevant ETF Principles: #1, 2,5, 6 & 7*

**Measure 7** For ETFs, in particular those that invest in more complex or novel asset classes, or use more complex investment strategies, regulators are encouraged to consider appropriate requirements for the adequacy and appropriateness of the disclosures regarding ETF-specific aspects, including whether certain disclosures are presented in an understandable manner and whether they address the nature of risks associated with the ETFs' strategies.

**Measure 8** Regulators are encouraged to consider appropriate requirements for the disclosures of fees and expenses for investing in ETFs (including secondary market trading costs) in a way that allows investors to make informed decisions about whether they wish to invest in an ETF and thereby accept a particular level of costs.

**Measure 9** Regulators and responsible entities are encouraged to consider appropriate disclosure requirements or disclosures to help investors to clearly differentiate ETFs from other ETPs / CIS, as well as appropriate disclosure for index-based and non-index-based ETFs.

## **3. Liquidity Provision**

*Relevant ETF Principle: #9*

**Measure 10** Regulators and/or trading venues, where applicable, are encouraged to monitor secondary market trading and market making activities of ETFs and have rules governing the orderly trading of ETF shares.

## **4. Volatility Control Mechanisms**

*Relevant VCM Recommendations: #2 & 8*

**Measure 11** Regulators and/or trading venues, where applicable, are encouraged to appropriately calibrate volatility control mechanisms applicable to ETFs, considering factors including their liquidity profile and volatility profile. Where an ETF is listed or traded on a number of trading venues, those trading venues are encouraged to consider communicating with one another as appropriate when VCMs are triggered.



## Appendix 3: Jurisdictional Examples of Good Practices on Effective Product Structuring

**Measure 1:** Regulators and responsible entities are encouraged to consider the range of asset classes and investment strategies that may be appropriate for the ETF structure, taking into account their nature, novelty, and complexity, the effectiveness of the arbitrage mechanism for such assets and strategies.

### Examples of Certain Jurisdictions' Limits on Permitted Range of Assets / Strategies:

#### *Leverage Limits / Investment Strategies*

- In Australia, market operator rules and practices, reflecting ASIC guidelines in INFO 230 (Exchange traded products: Admission guidelines), do not permit the use of leveraged or inverse ETFs with daily resets.<sup>138</sup> This is due to the fact that such products are unable to exactly replicate the specified multiples of an index over more than one day and concerns that retail investors would fail to understand the implications of the product being held for a period longer than one day.
- In Brazil, pursuant to article 2º, III, of Rule CVM nº 359, only passive ETFs are allowed and the underlying index must be “replicable” by any investor.
- In Europe, all UCITS ETFs (irrespective of their strategies) are subject to restrictions on the level of global exposure, including obtaining through synthetic leverage (i.e., leverage generated through the use of financial derivative instruments as UCITS may not enter into direct short positions) they can employ. Where a UCITS ETF measures global exposure using the commitment approach, its global exposure cannot exceed its NAV. Where a UCITS ETF measures global exposure through the use of relative VaR, the UCITS VaR cannot exceed twice the VaR of an index or a relevant reference portfolio.<sup>139</sup>
- In Hong Kong, the Circular on Leveraged and Inverse Products provides that the leverage factor of leveraged and inverse ETFs (required to be named as leveraged and inverse products in Hong Kong to alert investors given their unconventional product features) is capped at 200%, considering the volatility of the products and the potential systemic risk posed to the underlying market should the leverage factor be higher.
- In India, the regulation does not currently explicitly allow leveraged and inverse ETFs or ETFs with synthetic structures.<sup>140</sup>

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<sup>138</sup> See Information Sheet 230 *Exchange traded products: Admission guidelines*, available at <https://asic.gov.au/regulatory-resources/markets/market-supervision/exchange-traded-products-admission-guidelines/>

<sup>139</sup> Commission Directive 2010/43/EU.

<sup>140</sup> Based on SEBI's circular dated August 18, 2010 regarding norms for investment and disclosure by Mutual Funds in derivatives, it has been inter alia provided that cumulative gross exposure through equity, debt and derivative positions should not exceed 100% of the net assets of a mutual fund.

- In South Africa, the local regulation does not currently allow leveraged and inverse ETFs, actively managed ETFs, ETFs with synthetic structures, or ETFs with substantial amounts of securities lending activities due to these products' complexity and/or novelty to local investors. The FSCA will typically consider developing these ETFs only if there is a meaningful investor demand for them and the necessary protective conduct legislation has been developed.
- In the US, in 2020 the SEC adopted Rule 18f-4 to provide an updated, comprehensive approach to the regulation of funds' use of derivatives and certain other transactions.<sup>141</sup> Rule 18f-4 permits unlisted OEFs (other than money market funds), ETFs, registered closed-end funds, and business development companies (collectively, "funds") to enter into derivatives transactions and certain other transactions notwithstanding the restrictions under section 18 of the Investment Company Act. Rule 18f-4 generally requires a fund to adopt and implement a written derivatives risk management program.<sup>142</sup> A fund relying on the rule generally must comply with an outer limit on fund leverage risk based on value-at-risk, or "VaR." This outer limit is based on a relative VaR test that compares the fund's VaR to the VaR of its "designated reference portfolio." Subject to certain conditions, an OEF's relative VaR generally must not exceed 200% of the VaR of the fund's designated reference portfolio.<sup>143</sup> Like other funds, leveraged or inverse ETFs will generally be subject to rule 18f-4, including the requirement to comply with the VaR-based limit on fund leverage risk.<sup>144</sup>

### ***Underlying Assets***

- In Australia, INFO 230 (Exchange traded products: Admission guidelines) provides guidance under which licensed exchanges may determine permissible underlying assets for ETFs admitted to their market. In assessing whether a crypto-asset, that is not a financial

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Furthermore, pursuant to the SEBI (Mutual Funds) Regulations, 1996, the fourth schedule under Regulation 18(2) provide that the asset management agreement shall inter alia contain a provision which states that the asset management company shall not acquire any of the assets out of the scheme property which involves the assumption of any liability which is unlimited or which may result in encumbrance of the scheme property in any way.

<sup>141</sup> See Use of Derivatives by Registered Investment Companies and Business Development Companies, SEC Release No. IC-34084 (Nov. 2, 2020), 85 Fed. Reg. 83162 (Dec. 21, 2020), available at <https://www.sec.gov/rules/final/2020/ic-34084.pdf>.

<sup>142</sup> The program will institute a standardized risk management framework for funds, while also permitting principles-based tailoring to the fund's particular derivatives risks.

<sup>143</sup> A derivatives risk manager approved by the fund's board will be responsible for administering the program. If the derivatives risk manager is unable to identify an appropriate designated reference index, the fund will be required to comply with an absolute VaR test, under which the VaR of the fund's portfolio must not exceed 20% of the value of the fund's assets.

<sup>144</sup> The rule includes an exception from the VaR-based limit for leveraged or inverse funds in operation as of October 28, 2020 that seek an investment return above 200% of the return (or inverse of the return) of the fund's underlying index and satisfy certain conditions. Rule 6c-11 has also been amended to permit leveraged and inverse ETFs to rely on that rule so long as they comply with all applicable rule 18f-4 provisions. Rule 6c-11 permits ETFs that satisfy certain conditions to operate without obtaining an exemptive order from the Commission.

product, is a permissible underlying asset, market operators are expected to be satisfied that:

- (i) there is a high level of institutional support and acceptance of the crypto-asset being used for investment purposes,
  - (ii) reputable and experienced service providers (including custodians, fund administrators, MMs and index providers) are available and willing to support ETFs that invest in, or provide exposure to, the crypto-asset,
  - (iii) there is a mature spot market for the crypto-asset,
  - (iv) there is a regulated futures market for trading derivatives linked to the crypto-asset, and;
  - (v) robust and transparent pricing mechanisms for the crypto-asset are available, both throughout the trading day and to strike a NAV price.
- In Canada, ETFs that hold crypto-assets (physical or futures-based) are regulated as “alternative mutual funds”, which, among other things, would require such ETFs to provide enhanced risk disclosure in a textbox in their offering documents (see the description of risk disclosure below under section IV-2). Also, to address potential operational risk and market integrity concerns, regulatory expectations for such ETFs include the following:
    - (i) the market for the underlying crypto-assets have sufficient liquidity;<sup>145</sup>
    - (ii) the MM for the ETF be able to carry out its duties under its agreement with the ETF, including being able to make liquid markets for the ETF’s units given the specific crypto-asset to be held;
    - (iii) the ETF will only buy and sell crypto-assets on trading platforms that have put in place anti-money laundering and know-your-client controls that the platform’s participants must adhere to;
    - (iv) the ETF’s crypto-assets be valued using an appropriate index that aggregates data only from trading platforms described in (iii), to reduce the risk of a single trade on a platform overly influencing the calculation of the ETF’s net asset value;
    - (v) the ETF provides an undertaking that the custodian will provide auditors with an annual service auditor’s report (SOC 2 type 2 report) or will allow the ETF’s auditors to test the custodian’s internal controls, to reduce the risk that the ETF’s auditors cannot provide an unqualified audit opinion; and
    - (vi) the creations of new units be payable in cash (with the ETF buying the crypto-assets), or if the ETF permits in-kind creations, the AP agreements specify that all crypto-assets used for in-kind creations be sourced from trading platforms described in (iii).
  - In Europe, UCITS ETFs are restricted to eligible investments under the UCITS Directive, i.e., investment in transferable securities and money market instruments, CIS, deposits,

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<sup>145</sup> In Canada, investment funds that are reporting issuers are subject to restrictions concerning illiquid assets, including crypto-assets (see section 2.4 of National Instrument 81-102 *Investment Funds*).

financial indices and financial derivative instruments.<sup>146</sup> A UCITS ETF may not invest directly in, or obtain exposure through the use of derivatives, to commodities or real estate. UCITS ETFs are also subject to the asset diversification and risk spreading rules contained in the UCITS Directive. These prevent a UCITS ETF from investing directly in a single commodity futures (noting that where an eligible index is comprised of commodities futures exposure to such an index is permissible).

- In Hong Kong, the Code on Unit Trusts and Mutual Funds provides that a CIS (including an ETF) may not invest in physical commodities unless otherwise approved by the SFC on a case-by-case basis taking into account the liquidity of the physical commodities concerned and availability of sufficient and appropriate additional safeguards where necessary.
- In India, bond ETFs shall replicate bond indices comprising of investment grade constituents only. Limits are imposed on the underlying indices' diversification (in terms of issuers / groups / sectors), as well as the bond ETFs' deviation from the indices (in terms of composition / portfolio duration / maturity, etc.).<sup>147</sup> As for commodity ETFs, currently only investments in gold and silver are allowed in India.<sup>148</sup>
- In the US, ETPs that are not primarily invested in securities and whose portfolios may consist of commodities, or other assets, including currencies, certain futures, or swaps, are issued as securities, created and redeemed by APs, and traded on a securities exchange (or OTC) in a manner similar to ETFs. However, these ETPs are not registered or regulated as investment companies under the Investment Company Act. These include ETPs that invest primarily in commodities or commodity-based instruments, such as crude oil and precious metals, or futures or swaps thereon (commodity ETPs). Commodity ETPs typically are organized as trusts or as limited partnerships, and often are commodity pools (whose operators are regulated by the CFTC). An offering of shares in a commodity ETP is subject to registration under the Securities Act of 1933 (Securities Act), periodic reporting

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<sup>146</sup> Refer to <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009L0065-20140917&from=EN>

<sup>147</sup> For example, regarding diversification limits, the underlying index for a bond ETF shall not have more than 25% weight in a particular group or a particular sector. In addition, a single issuer shall not weight more than 10% - 15% (depending on the securities' ratings) in an index with at least 80% weight of corporate debt securities. At least 8 issuers from the underlying index should form part of the ETF's portfolio.

Regarding deviation from the underlying index, for an ETF based on an index comprising of more than 80% of corporate debt securities, investment in securities of issuers accounting for at least 60% of weight in the index, should represent at least 80% of the ETF's NAV, and at no point of time the securities of issuers not forming part of the index may exceed 20% of the ETF's NAV. In addition, the Macaulay Duration (i.e., a measure of bond price sensitivity to interest rate) of the ETF's portfolio should be within 10% of that of the underlying index.

See SEBI, *Circular on Development of Passive Funds* (Circular No. SEBI/HO/IMD/DOF2/P/CIR/2022/69) (May 23, 2022) ("SEBI Passive Funds Circular"), available at [https://www.sebi.gov.in/legal/circulars/may-2022/circular-on-development-of-passive-funds\\_59098.html](https://www.sebi.gov.in/legal/circulars/may-2022/circular-on-development-of-passive-funds_59098.html), at paragraph 2(I)[A-D].

<sup>148</sup> See, SEBI, *SEBI (Mutual Funds) Regulations, 1996* (Last amended on August 3, 2022), available at <https://www.sebi.gov.in/legal/regulations/aug-2022/securities-and-exchange-board-of-india-mutual-funds-regulations-1996-last-amended-on-august-3-2022-61683.html>, at paragraph 43(1).

requirements of the Securities Exchange Act of 1934 (Exchange Act) and other applicable SEC regulation.

- In the US, SEC staff issued a letter in 2018 that identified questions concerning how funds, including ETFs, holding substantial amounts of cryptocurrencies and related products would satisfy the requirements of the Investment Company Act and its rules, including those relating to valuation, liquidity, custody and arbitrage (for ETFs).<sup>149</sup> 2021 saw the launch of the first ETFs with exposures to CME-traded, cash-settled bitcoin futures.<sup>150</sup>

### **Examples of Guidance / Rules to Encourage Product Providers to Design their Products Taking into Account their Target Investors:**

- European product governance rules from the Markets in Financial Instruments Directive (MiFID) and MiFID II impose extensive obligations in relation to the manufacturing, distribution and sale of investment products. With a view to ensuring that all entities involved in the life cycle of the product act in the best interests of clients, these rules require implementation of governance processes including requirements to address conflicts of interest and market integrity, due diligence around the product's potential target market and detailed rules on distribution.
- In Hong Kong, product providers are required to identify the target market and consider investors' interests, and design their products accordingly. The considerations should cover the target market's profile; whether the product and its risks would be generally understood by the target market; and whether the product's investment objectives and risk/return profile match the needs of the target market.<sup>151</sup>
- In Ireland, fund management companies are required to implement good board governance practices in respect of the proposed investment approach for a new fund and consideration of the target market when approving the distributing strategy. In an ETF context, this could incorporate ETF-specific considerations such as portfolio transparency, identity of APs and listing venues.
- In Thailand, asset management companies are required to comply with the Product Governance Guidelines when offering any products, including ETFs. Under the guidelines, the product design process of an asset management company should include identifying the target markets, related risks and management plan, product design and testing,

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<sup>149</sup> See, Staff Letter: Engaging on Fund Innovation and Cryptocurrency-related Holdings (Jan. 18, 2018), at <https://www.sec.gov/divisions/investment/noaction/2018/cryptocurrency-011818.htm>.

<sup>150</sup> See, e.g., ProShares Bitcoin Strategy ETF (Aug. 4, 2021), available at <https://www.sec.gov/Archives/edgar/data/1174610/000168386321004445/f9424d1.htm>. See also, generally, IM Staff Statement on Funds Registered Under the Investment Company Act Investing in the Bitcoin Futures Market (May 11, 2021), available at <https://www.sec.gov/news/public-statement/staff-statement-investing-bitcoin-futures-market>.

<sup>151</sup> See, Circular to Product Providers of SFC-authorized unit trusts and mutual funds, SFC-authorized investment-linked assurance schemes and SFC-authorized unlisted structured investment products, available at <https://apps.sfc.hk/edistributionWeb/gateway/EN/circular/products/product-authorization/doc?refNo=16EC11>

distribution selection and communication, and product and distributor monitoring. For the ETF, selection of AP / MM should also be included.

- The US focuses on disclosure to investors regarding potential risks associated with investing in an ETF. In addition, the regulatory framework for registered investment companies includes substantive requirements that address fund development and operation. Registered management companies, for example, must have a board of directors, which oversees the management of the fund and has a fiduciary duty to act in the best interests of the fund and its investors. Other provisions of the Investment Company Act and rules thereunder that are designed to protect investors throughout their investment in a fund include prohibitions on certain affiliated transactions (as discussed below), requirements for diversification and rules on fund payment for distribution.

**Measure 5:** *Responsible entities are encouraged to put in place appropriate arrangements to facilitate an effective arbitrage mechanism, including contingency plans to address the circumstances where the arbitrage mechanism of the ETF is impaired.*

#### **Examples of Additional Disclosure of Portfolio Information:**

- In Canada, there is no requirement to disclose portfolio or basket information on a daily basis. Many ETFs choose to disclose their full portfolio holdings to the public on a daily basis. Some ETFs (mainly actively managed ETFs) disclose their entire portfolio daily to their APs and some disclose an optimized basket.
- In Hong Kong, 8.6(u) of the Code on Unit Trusts and Mutual Funds requires an ETF to provide its full portfolio holdings to the public on a monthly basis with a one-month time lag. However, most ETF managers choose to disclose their full portfolio holdings to the public on a daily basis.
- In Turkey, there is no requirement to disclose ETF portfolio or basket information but in practice, every ETF discloses the creation/redemption baskets daily through the fund's website.

**Measure 6:** *Regulators are encouraged to consider whether the securities laws and applicable rules of securities exchanges within their remit and jurisdictions appropriately address potential conflicts of interests raised by ETFs.*

#### **Examples of Requirements to Address Potential Conflicts Arising from Affiliation with APs:**

- In Turkey, ETF affiliation with APs is generally prohibited by law. Article 56(8) of Capital Markets Law requires that the managers of the investment firm providing intermediary services in the purchase and sale of assets to the fund portfolio as well as the persons

authorized to represent and bind these institutions not be shareholders, managers, or representatives of the portfolio management company. The rule is set to address potential conflicts of interest between APs and ETF managers that may harm the interests of ETF shareholders.

- In the US, Section 17(a) of the Investment Company Act generally prohibits an affiliated person of a registered investment company (or an affiliated person of such person) from knowingly selling any security or other property to or purchasing any security from the company. Because purchases and redemptions of ETF creation units are typically effected in kind, without an exemption, Section 17(a) would prohibit these in-kind purchases and redemptions by affiliated persons of the ETF. As a result, an AP or other market participant that becomes an affiliated person of the ETF due to its holdings in the ETF would be prevented from engaging in arbitrage using an in-kind basket. To facilitate in-kind creations and redemptions with APs, the SEC's ETF rule (Rule 6c-11) therefore provides certain limited exemptions from section 17(a).<sup>152</sup>

#### **Examples of Requirements to Address Potential Conflicts Arising from Affiliation with MMs:**

- In Australia, internal market making is allowed for actively managed ETFs and there are specific requirements to mitigate the conflict of interests arising from such arrangement (see **Box 8** above).
- In Korea, if there is only one MM for an ETF, the MM should not be an interested party.
- In the US, certain affiliated transactions are generally prohibited, including between ETFs and APs, MMs and other market participants (please see the discussion above).

#### **Examples of Requirements to Address Potential Conflicts Arising from Affiliation with Index Providers:**

- In Europe, ESMA's [guidelines on ETFs and other UCITS issues](#)<sup>153</sup> set out a number of requirements to be respected by financial indices to be eligible as investment for UCITS. These requirements include the prohibition for UCITS to invest a financial index that has been created and calculated on the request of a single or a very limited number of market participants, and according to their specifications, as it does not constitute an adequate benchmark of the market to which it refers. This effectively prohibits self-indexing in

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<sup>152</sup> Specifically, rule 6c-11 under the Act provides exemptions from sections 17(a)(1) and (a)(2) of the Act with regard to the deposit and receipt of baskets by a person who is an affiliated person of an ETF (or who is an affiliated person of such a person) solely by reason of: (i) holding with the power to vote 5% or more of an ETF's shares; or (ii) holding with the power to vote 5% or more of any investment company that is an affiliated person of the ETF. See ETF rule adopting release, supra note 16 at discussion preceding n.127.

<sup>153</sup> See, ESMA, Guidelines on ETFs and other UCITS issues, (ESMA/2014/937EN) paragraph 52, available at [https://www.esma.europa.eu/sites/default/files/library/2015/11/2012-832en\\_guidelines\\_on\\_etfs\\_and\\_other\\_ucits\\_issues.pdf](https://www.esma.europa.eu/sites/default/files/library/2015/11/2012-832en_guidelines_on_etfs_and_other_ucits_issues.pdf)

Europe. In addition, UCITS should ensure that the financial indices in which they invest are published, capable of being replicated as a result of that published information and subject to independent valuation.

- Hong Kong<sup>154</sup> requires an index-tracking ETF to disclose whether the index provider and the management company of the index fund (or its connected persons) are independent of each other. Pursuant to 8.6(e) of the Code on Unit Trusts and Mutual Funds, Hong Kong also requires that where the index provider is affiliated with the management company of an index fund (or its connected persons), effective arrangements for management of conflicts of interests should be put in place, which may include information barriers between the portfolio management staff and index staff.
- Switzerland requires an index-tracking ETF to disclose if the index provider and the management company of the index fund (or its connected persons) are not independent of each other. In such cases, Switzerland also requires the disclosure of measures taken to avoid any conflicts of interest in this regard.
- US SEC requires disclosure of whether the index is constructed by an affiliate and whether it is exclusively for the fund.
- In other jurisdictions,<sup>155</sup> broader provisions on information barriers and the sharing of sensitive information may more generally come into play. For example, in case of the US (SEC), a CIS with an affiliated index provider may need to consider a number of provisions under the federal securities laws in addressing potential concerns.<sup>156</sup> Similarly, European jurisdictions tend not to have specific mitigation rules, but again refer to managing conflicts of interest such as under the EU Benchmarks Regulation for such activity.

### **Examples of Requirements to Address Potential Conflicts Arising from Affiliation with Counterparties:**

- In Canada, section 4.2 of National Instrument 81-102 *Investment Funds* provides that an investment fund (including an ETF) cannot purchase a security from, sell a security to, or

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<sup>154</sup> See 8.6(j) of the Code on Unit Trusts and Mutual Funds

<sup>155</sup> For example, EU jurisdictions, Japan, South Africa, Switzerland and US SEC.

<sup>156</sup> For example, Rule 17j-1(c)(1) under the Investment Company Act requires a fund, its adviser and principal underwriter to adopt a code of ethics containing provisions designed to prevent certain fund personnel (“access persons”) from misusing information regarding fund transactions. In addition, Section 204A of the Investment Advisers Act of 1940 (“Advisers Act”) requires an adviser to adopt policies and procedures that are reasonably designed, taking into account the nature of its business, to prevent the misuse of material, non-public information by the adviser or any associated person, in violation of the Advisers Act or the Securities Exchange Act of 1934 (“Exchange Act”), or the rules or regulations thereunder. In addition, Section 15(g) of the Exchange Act requires a registered broker or dealer to adopt policies and procedures reasonably designed, taking into account the nature of the broker’s or dealer’s business, to prevent the misuse of material, nonpublic information by the broker or dealer or any person associated with the broker or dealer, in violation of the Exchange Act or the rules or regulations thereunder. In addition, Rule Commentary .02(b)(i) of NYSE American Rule 1000A requires a “fire wall” between an ETF and an affiliated index provider.



enter into securities lending, repo or reverse repo transactions with its fund manager, portfolio adviser or trustee of the fund, or an associate or affiliate of the foregoing (unless a statutory exemption is available or exemptive relief is granted by the regulators).

- Hong Kong SFC<sup>157</sup> and the Central Bank of Ireland<sup>158</sup> require that all transactions carried out by or on behalf of a CIS (including ETF) must be executed at arm's length and in the best interests of the holders. In particular, any transactions between the CIS and the management company, investment delegate, directors of the CIS or any of their connected person(s) as principal may only be made with the prior written consent of the trustee/custodian. All such transactions must be disclosed in the CIS's annual report.
- In the US, Section 17 of the Investment Company Act generally prohibits certain transactions between registered investment companies and their affiliated persons (and affiliated persons of their affiliated persons).<sup>159</sup> As discussed above, the SEC's ETF rule (Rule 6c-11) therefore provides certain limited exemptions from Section 17(a) to facilitate in-kind creations and redemptions between an ETF and APs.
- For jurisdictions that do not prohibit ETFs from investing in swaps provided by affiliated parties,<sup>160</sup> measures such as disclosure of counterparties and exposures (including limits on exposures), operationally independent set-up, stringent collateral requirements and best execution as well as regulatory obligations in relation to managing of conflicts of interest, are typically in place to address conflicts-related concern.

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<sup>157</sup> See 10.11 of the Code on Unit Trusts and Mutual Funds.

<sup>158</sup> See above, Box 6.

<sup>159</sup> For example, Section 17(a) generally prohibits an affiliated person of a registered investment company, or an affiliated person of such person, from selling any security or other property to or purchasing any security from the company. Section 17(d) generally prohibits any affiliated person of a registered investment company or any affiliated person of such person ("second tier affiliate"), acting as principal, to effect any transaction in which the registered investment company is a joint or a joint and several participant with such person. In addition, Rule 17d-1 generally prohibits any affiliated person of a registered investment company or second tier affiliate, acting as principal, to participate in, or effect any transaction in connection with, any joint enterprise or other joint arrangement or profit-sharing plan ("joint arrangement") in which the registered investment company is a participant.

<sup>160</sup> For example, Australia, France, Hong Kong, Ireland, Korea, Luxembourg and Singapore.

## Appendix 4: Jurisdictional Examples of Good Practices on Disclosure

**Measure 7:** *For ETFs, in particular those that invest in more complex or novel asset classes, or use more complex investment strategies, regulators are encouraged to consider appropriate requirements for the adequacy and appropriateness of the disclosures regarding ETF-specific aspects, including whether certain disclosures are presented in an understandable manner and whether they address the nature of risks associated with the ETFs' strategies.*

### Examples of Disclosure Requirements Regarding Arbitrage and Secondary Market Trading:

- In Canada, Form 41-101F4 *Information Required in an ETF Facts Document* under National Instrument 41-101 *General Prospectus Requirements* requires ETFs to disclose the range of the market price and the NAV over a 12-month period in an “ETF Facts” document.
- In Europe, ETFs are required to disclose to investors that shares cannot usually be sold back to the ETF and that investors must purchase shares on the secondary market through the auspices of an intermediary. The ETF must also disclose in its prospectus that investors will bear fees associated with purchasing shares through the intermediary as well as that the price of purchase of ETF shares will be a market price, rather than net asset value.<sup>161</sup>
- In Hong Kong, ETFs that invest substantially in one single instrument with position limits such as futures-based ETFs, are expected to disclose the risk that when the relevant position limit is reached, creation of the ETF may halt and may cause a divergence between its secondary market trading price and NAV.
- In the case of the US, SEC Rule 6c-11 requires ETFs to disclose on their websites certain information designed to provide investors with key metrics to evaluate their investment and trading decisions in a format that is easily accessible and frequently updated, such as (i) NAV per share, market price, and premium or discount at the end of the prior business day; (ii) a table and chart showing the number of days the ETF's shares traded at a premium or discount during the most recently completed calendar year and calendar quarters of the current year; and (iii) median bid/ask spread over the most recent 30 calendar days. In addition, for ETFs whose premium or discount was greater than 2% for more than 7 consecutive trading days, Rule 6c-11 requires ETFs to disclose such fact along with a discussion of the factors that are reasonably believed to have materially contributed to the premium or discount. See **Table 2** above for more details.

**Measure 8:** *Regulators are encouraged to consider appropriate requirements for the disclosures of fees and expenses for investing in ETFs (including secondary market trading*

<sup>161</sup> ESMA, [Guidelines on ETFs and other UCITS issues](#), *supra* note 105.

costs) in a way that allows investors to make informed decisions about whether they wish to invest in an ETF and thereby accept a particular level of costs.

## Examples of Disclosure Requirements Regarding Specificities of ETF Investment Strategies / Underlying Asset Classes

### *Leveraged or inverse ETFs*

- Some jurisdictions<sup>162</sup> have set out specific requirements regarding the investment strategy and risk disclosure to highlight that they are intended for short-term trading / hedging and not for long term investments and how the performance of the ETF may differ significantly from the multiple of the index performance over the medium to long term.
- Canada and US SEC require leveraged and inverse ETFs to disclose their leverage policy, including the sources of leverage (e.g., borrowing, derivatives) and the maximum aggregate exposure permitted.<sup>163</sup> Some jurisdictions<sup>164</sup> require the disclosure of the costs associated with the leveraging transactions for these ETFs.
- Hong Kong requires the provider of leveraged or inverse ETFs to make available a “performance simulator” on the products’ website, which allows investors to simulate the performance of the product during a selected period based on historical data.<sup>165</sup>
- Index-tracking leveraged UCITS ETFs are required to describe the leverage policy employed. This should describe how leverage is implemented (for example, whether at the level of the index or whether leverage arises from the manner in which exposure to the index is generated). Additionally, the ETF should disclose the cost of leverage and risks associated with the leverage policy (including the impact of multiple index performance

<sup>162</sup> For example, Canada, EU jurisdictions, Hong Kong, Singapore and the US SEC.

In Canada, if the investment objectives of the ETF are to track a multiple of the daily performance or the inverse performance of a specified underlying index or benchmark, the ETF Facts document must provide textbox disclosure indicating that the ETF is highly speculative and is intended for use in daily or short-term trading strategies by sophisticated investors. See Form 41-101F4 Information Required in an ETF Facts Document.

<sup>163</sup> In Canada, investment funds that use leverage (including ETFs) are subject to various disclosure requirements regarding their use of leverage. See Form 41-101F2 *Information Required in an Investment Fund Prospectus* and Form 41-101F4 *Information Required in an ETF Facts Document*.

In the US, OEFs (including ETFs) are subject to extensive disclosure requirements regarding their investment strategy, risks and performance, including the use of any leverage. *See generally, e.g.,* Part A, Items 4 and 9 of Form N-1A, available at <https://www.sec.gov/files/formn-1a.pdf>. As a result, for example, disclosures for a leveraged fund would generally include a warning that it is not intended for long-term investment. In addition, the US SEC requires each fund to provide certain information regarding its compliance with rule 18f-4. *See* Use of Derivatives by Registered Investment Companies and Business Development Companies, SEC Release No. IC-34084 (Nov. 2, 2020), 85 Fed. Reg. 83162 (Dec. 21, 2020), at discussion preceding note 76, available at <https://www.sec.gov/rules/final/2020/ic-34084.pdf>.

<sup>164</sup> For example, US.

<sup>165</sup> *See*, Circular on Leveraged and Inverse Products (SFC), available at <https://sc.sfc.hk/TuniS/apps.sfc.hk/edistributionWeb/gateway/EN/circular/doc?refNo=20EC45>

over the medium to long term). The prospectus document should disclose, where the exposure is inverse, a description of the impact of this leverage.<sup>166</sup>

### ***Actively-Managed ETFs***

- Some jurisdictions<sup>167</sup> require an actively-managed ETF to state prominently in its offering documents and marketing communications that the ETF is actively-managed, and to set out clearly how it will meet the stated investment policy including, where applicable, its intention to outperform an index.

### ***Smart Beta ETFs***

- In Hong Kong, for an unlisted index fund / passive ETF tracking a smart beta index, it is required to disclose in the offering documents that:<sup>168</sup>
  - (i) its index is a smart beta / multi-factor weighted index;
  - (ii) the index provider has adopted a rule-based approach in selecting and weighting the index constituents based on a combination of factors;
  - (iii) there can be no assurance that the index will outperform the market at any time and it is possible that the index may underperform capitalization weighted indices or other benchmarks in certain market environments, potentially for extended periods; and
  - (iv) the fund by tracking the index may have relatively large holdings in companies with relatively smaller market capitalization than it would have held if tracking a capitalization weighted index.

### ***Synthetic ETFs***

- Most jurisdictions generally require synthetic ETFs to disclose in offering documents that replication of the underlying index will be achieved through derivatives rather than direct investments in index constituents. Some jurisdictions' other notable requirements are as follows:
- In Europe, according to ESMA's guidelines on ETFs and other UCITS issues, if a swap counterparty (or the counterparty of other financial derivative instruments) of a synthetic ETF has discretion over the composition or management of the synthetic ETF's investment portfolio or of the underlying of the financial derivative instrument, the agreement between the synthetic ETF and the counterparty should be considered as an investment

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<sup>166</sup> See, ESMA Guidelines on ETFs and other UCITS Issues supra note 105 Section VI

<sup>167</sup> For example, Europe and Hong Kong.

<sup>168</sup> See, Guide on Practices and Procedures for Application for Authorization of Unit Trusts and Mutual Funds (SFC), available at <https://www.sfc.hk/-/media/files/PCIP/FAQ-PDFS/Guide-on-Practices-and-Procedures-for-App-for-Auth-of-UTMF-20210616.pdf>

management delegation arrangement and should comply with the operational and disclosure requirements on delegation. In particular, Belgium, Ireland, Italy and Luxembourg require disclosure of details on how the synthetic strategy will be operated, for example, how total return swaps or other similar instruments are used.

- Some jurisdictions<sup>169</sup> have requirements, to different extents, for ongoing disclosure of information relating to a synthetic ETF's derivative exposures, collateral and counterparties in its website and/or annual reports.

### ***Crypto-Assets ETFs***

- In Australia, in October 2021, ASIC released information for ETF managers and market operators on how they can meet their regulatory obligations in relation to crypto-asset ETFs and other investment products.<sup>170</sup> The information covers good practices for market operators in how they admit and supervise these products, and good practices for ETF managers in how they establish and operate these products, including a good practices regarding the responsible entities' disclosure obligations in relation to a product disclosure statement (PDS) for a registered managed investment scheme (form of collective investment vehicle), including ETFs, that invest in, or provide exposure to, certain crypto-assets. Specifically, ASIC focused on identifying matters relating to the characteristics and risks of crypto-assets for responsible entities to consider in the context of their disclosure obligations.

Types of matters that may be relevant in meeting these minimum requirements may include (non-exhaustive):

- (i) In relation to the characteristics of crypto-assets:
  - the technologies that underpin crypto-assets, such as blockchains, distributed ledger technology, cryptography and others;
  - how crypto-assets are created, transferred and destroyed;
  - how crypto-assets are valued and traded; and
  - how crypto-assets are held in custody.
- (ii) In relation to the risk of the crypto-assets:
  - market risk;
  - pricing risk;
  - immutability;
  - political, regulatory and legal risk;

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<sup>169</sup> For example, Europe, Hong Kong, Korea and Singapore.

<sup>170</sup> See, Information Sheet 225 *Crypto-assets*, available at <https://asic.gov.au/regulatory-resources/digital-transformation/crypto-assets/> and Information Sheet 230 *Exchange traded products: Admission guidelines*, available at <https://asic.gov.au/regulatory-resources/markets/market-supervision/exchange-traded-products-admission-guidelines/>

- custody risk;
- cyber risk; and
- environmental impact.

This list does not represent mandatory matters for disclosure and should only be regarded as illustrating the types of matters that may be relevant to responsible entities when complying with their disclosure obligations. Responsible entities must determine what is appropriate disclosure in the context of the characteristics, operations and risks of their product.

- In Brazil, Circular Letter SIN nº 11/2018 requires a crypto-assets ETF to make specific disclosure on how the ETF will treat the usual events regarding the crypto-assets (such as so-called “forks” and “airdrops”).
- In Canada, ETFs that hold crypto-assets (physical or futures-based) are “alternative mutual funds” under National Instrument 81-102 *Investment Funds*, and as such, under National Instrument 41-101 *General Prospectus Requirements*, they are required to provide enhanced risk disclosure in a textbox in their offering documents, highlighting the speculative nature of the underlying crypto-assets and the volatility of the crypto-assets’ markets, and indicating that an investment in the ETF is not intended as a complete investment program and is appropriate only for investors who have the capacity to absorb a loss of some or all of their investment. In addition, the prospectus of the ETFs includes extensive risk disclosure about the unique risks of crypto-assets.

### **Examples of Disclosure Requirements Regarding Securities Lending**

- In Europe, securities financing transactions (including securities lending, sale and repurchase and reverse repurchase transactions and other margin lending transactions) are subject to the Regulation on Transparency of Securities Financing Transactions<sup>171</sup> (SFTR).<sup>172</sup> From a disclosure perspective, ETFs must disclose to investors the types, use made of and rationale for use of securities financing transactions. This must also include details on the maximum and minimum proportion of assets that will be subject to each type of securities financing transaction as well as detailed disclosure on collateral.
- In Hong Kong, where securities financing transactions (including securities lending, sale and repurchase and reverse repurchase transactions) undertaken by an ETF exceed 50% of its total NAV, an ETF is required to make available to investors additional information

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<sup>171</sup> Regulation (EU) 2015/2365 on transparency of securities financing transactions and of reuse.

<sup>172</sup> This imposes reporting obligations to trade repositories of securities financing transactions, documentation and operational requirements for collateral arrangements and transparency and disclosure requirements in relation to securities financing transactions and other instruments.

through the ETF's own website or other acceptable channels on an ongoing basis to investors (updated monthly).<sup>173</sup>

**Measure 9:** *Regulators and responsible entities are encouraged to consider appropriate disclosure requirements or disclosures to help investors clearly differentiate ETFs from other ETPs / CIS, as well as appropriate disclosure for index-based and non-index-based ETFs.*

### Examples of Disclosure Regarding Differentiating ETFs from Other ETPs and CIS

- The ETF regulatory framework of most jurisdictions requires appropriate naming conventions (e.g., “ETF” identifier) to help potential investors identify ETFs and distinguish them from other ETPs and other unlisted CIS. <sup>174</sup> For example, in the EU, according to ESMA’s guidelines on ETFs and other UCITS issues, UCITS which have at least one share class which is traded throughout the day on at least one regulated market or multilateral trading facility with at least one MM (which takes action to ensure that the stock exchange value of its units or shares does not significantly vary from its net asset value and where applicable its indicative net asset value) should include “UCITS ETF” in its name.
- In terms of disclosure, most jurisdictions generally require disclosure of ETF characteristics and regulatory requirements which in itself provides the distinguishing aspects of ETFs. The disclosure includes:
  - (i) Even though ETFs are open-ended vehicles, creation and redemption process via APs only;
  - (ii) Functioning of the arbitrage mechanism and associated risks;
  - (iii) Secondary market trading of ETFs and the associated trading costs and risks (e.g., trading at a discount/premium to NAV risk, bid/ask spreads, brokerage commissions, secondary market liquidity risk, tracking error risk);

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<sup>173</sup> The required information includes policies on securities financing transactions and the corresponding risk management, information on counterparties in each type of securities financing transaction and the ETF’s respective exposure, amount of securities on loan as a percentage of the ETF’s total lendable securities; collateral information, including a breakdown of asset types and the top 10 collateral issuers in value terms; and net return from the transactions and the fee splits between the ETF and other operating parties (including the ETF manager).

*See, Frequently Asked Questions on Exchange Traded Funds and Listed Funds (SFC), available at [https://www.sfc.hk/-/media/files/PCIP/FAQ-PDFS/FAQs-on-Exchange-Traded-Funds-and-Listed-Funds\\_20191216.pdf](https://www.sfc.hk/-/media/files/PCIP/FAQ-PDFS/FAQs-on-Exchange-Traded-Funds-and-Listed-Funds_20191216.pdf)*

<sup>174</sup> Some consultation respondents also proposed more extensive use of short names or tickers to identify particular ETF characteristics (passive vs. active, leveraged/inverse, commodity, crypto-asset, etc.). That said, other respondents warned that additional subcategorization could also add to potential investor confusion.

- (iv) publication of iNAV (in jurisdictions where required);
  - (v) policy regarding portfolio transparency;
  - (vi) index methodology (for index-tracking ETFs); and
  - (vii) for European UCITS only, ability for investors to redeem directly from the issuer in case of significant deviation between trading price and NAV.
- Regarding requirements and guidance that help investors understand an ETF's investment strategy, there are two main types of disclosure, naming and investment strategies/underlying asset classes (*covered under Measure 7, please see section IV for details*).

*Regarding naming convention – for example,*

- (i) For index-based ETFs tracking an unleveraged index, names of ETFs in many jurisdictions (e.g., Australia, Europe and Hong Kong) generally include expressions relating to the tracked index. In some jurisdictions (e.g., India), ETFs are required to include the name of the underlying index or asset / commodity (e.g., gold and silver)<sup>175</sup>;
- (ii) “Active ETF” label for listed ETF with active investment strategy (e.g., Australia);
- (iii) “Synthetic” label for ETF with synthetic strategy (e.g., Hong Kong); and
- (iv) “Leveraged product” or “inverse product” for leveraged ETF or inverse ETF; and with the leverage factor (e.g., 2X or -1X) and the word “daily” to emphasize the daily rebalancing aspect of these products (e.g., Hong Kong and Singapore).<sup>176</sup>

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<sup>175</sup> See, SEBI Passive Funds Circular, at paragraph 2(XI)[C].

<sup>176</sup> Some consultation respondents also proposed naming conventions based on certain novel asset types, such as crypto-asset.



## Appendix 5: Jurisdictional Examples of Good Practices on Liquidity Provision

**Measure 10:** Regulators and/or trading venues, where applicable, are encouraged to monitor secondary market trading and market making activities of ETFs and have rules governing the orderly trading of ETF shares.

### Examples of Rules Governing the Cessation of Liquidity Provision by a MM

- In most jurisdictions, a MM that wishes to end its market making agreement on an ETF must notify trading venues. Such notice period could be up to 90 days. For example, in Singapore, the cessation of liquidity provision by a MM, even temporary, must be notified and justified to the exchange and the notification is made public.<sup>177</sup>
- In Europe an ETF must have a MM to provide liquidity (this is inherent in the definition of a UCITS ETF). Where no MM commits to provide liquidity on an ETF based on the relevant market making obligations, its quotation may be suspended or the ETF may be delisted. In such circumstances, the management company of the ETF will need to invoke its risk management procedures and will need to consider the impact of this event on the ETF.
- In Hong Kong, if the only remaining MM withdraws from the market, it is expected to give not less than three months' notice prior to terminating the market making arrangement.<sup>178</sup> The ETF manager must notify the regulator, fulfil the relevant disclosure obligations and provide a plan to ensure that investors may exit their investments in a fair and orderly manner.
- In Japan, a MM of a foreign ETF is requested not to cancel its commitment to provide liquidity within 6 months after its designation.<sup>179</sup>

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<sup>177</sup> See, Rule 6.6.2(b) “Bid and Offer Quotations” in Chapter 6 of the SGX-ST Rules.

<sup>178</sup> See, Frequently Asked Questions on Exchange Traded Funds and Listed Funds (SFC), available at [https://www.sfc.hk/-/media/files/PCIP/FAQ-PDFS/FAQs-on-Exchange-Traded-Funds-and-Listed-Funds\\_20191216.pdf](https://www.sfc.hk/-/media/files/PCIP/FAQ-PDFS/FAQs-on-Exchange-Traded-Funds-and-Listed-Funds_20191216.pdf)

<sup>179</sup> Japan Exchange Group has a “Foreign ETF, etc. Support Member System”, which is a market maker system for foreign ETFs (i.e., foreign-domiciled ETFs). The Guidebook for Listing Foreign ETFs and Foreign Spot Commodity ETFs describes as follows: “In order to prevent confusion among investors, etc., Foreign ETF, etc. Support Members, etc. are requested to choose a cancellation date at least six (6) months from the date of designation as a Foreign ETF, etc. Support Member, etc.”

Refer to <https://www.jpx.co.jp/english/equities/products/etfs/format/tvdivq0000005697-att/tvdivq000000u94v.pdf>

**Appendix 6: Examples of the Different Assets and Strategies that May Be Offered to Retail Investors in ETFs, OEFs and Non-CIS ETPs**

	U.S.			Europe			Asia <sup>180</sup>		
	ETF (40 Act)	OEF (Investment Company Act unlisted open end)	ETP (Non-Investment Company Act) <sup>181</sup>	ETF (UCITS)	OEF (UCITS, AIFs) <sup>182</sup>	ETP (Non-CIS) <sup>183</sup>	ETF	OEF	ETP (Non-CIS)
<b><i>A. Assets</i></b>									
<b>Equity</b>	Yes	Yes	Limited <sup>184</sup>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Fixed income (e.g., high-yield, government, money)</b>	Yes	Yes	Limited	Yes	Yes	Yes	Yes	Yes	Yes

<sup>180</sup> Australia, Hong Kong, Japan and Korea are selected as the sample group representing Asia.

<sup>181</sup> These ETPs register their securities under the Securities Act of 1933, but are not CIS registered under the 40 Act.

<sup>182</sup> In Europe, open-ended alternative investor funds (AIFs) are those collective investment schemes which are not authorised as UCITS. Open-ended AIFs can be established for the purposes of retail investors. AIFs are rarely established as ETFs.

<sup>183</sup> For example, these include products structured as asset backed bonds issued by Special Purpose Vehicles or as non-interest bearing debt securities (generally issued by a bank) and listed on exchange.

<sup>184</sup> Non Investment Company Act-registered ETPs may only hold a limited amount of securities.

	U.S.			Europe			Asia <sup>180</sup>		
	ETF (40 Act)	OEF (Investment Company Act unlisted open end)	ETP (Non-Investment Company Act) <sup>181</sup>	ETF (UCITS)	OEF (UCITS, AIFs) <sup>182</sup>	ETP (Non-CIS) <sup>183</sup>	ETF	OEF	ETP (Non-CIS)
market)									
<b>International securities</b>	Yes	Yes	Limited <sup>184</sup>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Derivatives (e.g., futures, swaps)</b>	Limited <sup>185</sup>	Limited <sup>185</sup>	Yes	Yes	Yes	Yes	Limited <sup>186</sup>	Limited <sup>186</sup>	Yes
<b>Physical commodities, currencies</b>	Limited <sup>187</sup>	Limited <sup>187</sup>	Yes	No <sup>188</sup>	No for UCITS / yes for	Yes	Limited <sup>189</sup>	Limited <sup>189</sup>	Yes

<sup>185</sup> In the US, the use of derivatives by registered CIS is subject to rule 18f-4 under the 40 Act (please see above for additional detail).

<sup>186</sup> In Hong Kong, CIS' investment in derivatives such as futures, options and warrants are subject to certain restrictions.

<sup>187</sup> ETFs and Investment Company Act CIS in the US do not generally invest primarily in commodities in the US.

<sup>188</sup> UCITS ETFs are not allowed to hold physical commodities nor futures on commodities that aim to replicate a commodities index, but it may replicate a commodities index comprised of commodities futures through total return swaps that deliver the performance of the index.

<sup>189</sup> In Hong Kong, CISs are only allowed to invest in physical commodities with sufficient liquidity and appropriate additional safeguards, for example, gold.

	U.S.			Europe			Asia <sup>180</sup>		
	ETF (40 Act)	OEF (Investment Company Act unlisted open end)	ETP (Non-Investment Company Act) <sup>181</sup>	ETF (UCITS)	OEF (UCITS, AIFs) <sup>182</sup>	ETP (Non-CIS) <sup>183</sup>	ETF	OEF	ETP (Non-CIS)
					retail AIFs				
<b>Crypto-assets</b>	Limited <sup>190</sup>	Limited <sup>191</sup>	No	No <sup>192</sup>	Limited <sup>192</sup>	Yes <sup>193</sup>	Limited <sup>194</sup>	Limited <sup>194</sup>	Limited <sup>194</sup>

<sup>190</sup> In the US, 2021 saw the launch of certain ETFs with exposure to CME-traded cash-settled bitcoin futures contracts. *See, e.g.*, ProShares Bitcoin Strategy ETF (Aug. 4, 2021), available at <https://www.sec.gov/Archives/edgar/data/1174610/000168386321004445/f9424d1.htm>. See also, generally, IM Staff Statement on Funds Registered Under the Investment Company Act Investing in the Bitcoin Futures Market (May 11, 2021), available at <https://www.sec.gov/news/public-statement/staff-statement-investing-bitcoin-futures-market>.

<sup>191</sup> In the US 2021 saw the launch of certain mutual funds with exposure to CME-traded cash-settled bitcoin futures contracts. See IM Staff Statement on Funds Registered Under the Investment Company Act Investing in the Bitcoin Futures Market (May 11, 2021), available at <https://www.sec.gov/news/public-statement/staff-statement-investing-bitcoin-futures-market>.

<sup>192</sup> In Europe, there are no primary investments by UCITS in crypto-assets due to the extensive requirements (including valuation, AML/CTF, safekeeping and risk management requirements). The regulatory approach for retail AIFs that invest in crypto assets are different across jurisdictions.

<sup>193</sup> Swedish bitcoin ETN is the most prominent example of this, to date.

<sup>194</sup> In Asia, ETFs, OEFs and ETPs investing directly in crypto-assets are allowed in Australia but the permissible underlying assets for ETFs and ETPs are limited as per market operator rules reflecting guidelines in INFO 230 (Exchange traded products: Admission guidelines). For OEFs, currently any prospective responsible entity can apply for a

	U.S.			Europe			Asia <sup>180</sup>		
	ETF (40 Act)	OEF (Investment Company Act unlisted open end)	ETP (Non-Investment Company Act) <sup>181</sup>	ETF (UCITS)	OEF (UCITS, AIFs) <sup>182</sup>	ETP (Non-CIS) <sup>183</sup>	ETF	OEF	ETP (Non-CIS)
<b><i>B. Strategies</i></b>									
<b>Active</b>	Yes	Yes	N/A <sup>195</sup>	Yes	Yes	N/A <sup>195</sup>	Yes	Yes	N/A <sup>195</sup>
<b>Passive/Index</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Factor-based (e.g., smart beta)</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Sector (e.g., health care, tech)</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

license to operate a OEF that directly holds any crypto asset if it can satisfy the general licensing requirements in respect of holding crypto-assets as an underlying asset of an OEF. In Hong Kong, ETFs investing in crypto-assets futures traded on conventional regulated exchanges are allowed. There are no ETFs, OEFs and ETPs which invest primarily in crypto-assets in other Asian jurisdictions.

<sup>195</sup> As ETP returns are typically linked to pre-defined instruments, the investment strategies of ETPs are not generally considered as active in nature.

	U.S.			Europe			Asia <sup>180</sup>		
	ETF (40 Act)	OEF (Investment Company Act unlisted open end)	ETP (Non-Investment Company Act) <sup>181</sup>	ETF (UCITS)	OEF (UCITS, AIFs) <sup>182</sup>	ETP (Non-CIS) <sup>183</sup>	ETF	OEF	ETP (Non-CIS)
<b>Allocation (e.g., target-date)</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Alternative (e.g., long/short, volatility management)</b>	Yes	Yes	Yes	Yes	Yes	Yes	Limited <sup>186</sup>	Limited <sup>186</sup>	Yes
<b>Leveraged/Inverse<sup>196</sup></b>	Limited <sup>197</sup>	Limited <sup>197</sup>	Yes	Yes	Yes	Yes	Limited <sup>198</sup>	Limited <sup>198</sup>	Yes
<b>Volatility-based</b>	Yes	No	Yes	Yes	Yes	Yes	Limited	Limited	Yes

<sup>196</sup> These funds seek to achieve their targeted returns by using financial derivatives and to pursue their investment strategy, must rebalance their portfolios on a daily basis to maintain a constant leverage ratio.

<sup>197</sup> In 2020, the SEC adopted Rule 18f-4 to provide an updated, comprehensive approach to the regulation of funds' use of derivatives and certain other transactions, including effective limits on leveraged and inverse ETFs targeted daily return generally to 200%. Please see above for additional detail.

<sup>198</sup> Regulatory authorities may impose a limit on the leverage factor. For example, in Hong Kong, the leverage factor for leveraged and inverse ETFs is limited to 2X and -2X.

## Appendix 7: Feedback Statement

Feedback was submitted by the following twenty-two (22) organisations to the Consultation Report:

1. Amundi
2. Association Française de la gestion financière (AFG)
3. BlackRock
4. Bolsas y Mercados Españoles (BME)
5. Canadian ETF Association
6. Deutsche Börse Group
7. DWS
8. Euronext
9. European Fund and Asset Management Association
10. European Principal Traders Association
11. Financial Sector Conduct Authority (South Africa)
12. Financial Services Regulatory Authority of the Abu Dhabi Global Market
13. ICI Global
14. Invesco
15. Investment Management Association of Singapore
16. Irish Funds Industry Association
17. Jane Street
18. Johannesburg Stock Exchange
19. Securities and Exchange Commission (Thailand)
20. The Investment Association
21. Vanguard
22. World Federation of Exchanges

The IOSCO Board is grateful for the responses and took them into consideration when preparing this Report. The rest of this section summarises the replies received on the consultation questions. Overall, respondents broadly supported adding a set of good practices in relation to ETFs and agreed that (i) the ETF Principles remain relevant and appropriate; and (ii) the ETF structure has generally remained resilient during historical stress events. Some respondents suggested to take into account the differences in the market and local regulations and avoid the “one size fits all” approach.

## 1. Effective Product Structuring

**Measure 1:** Regulators and responsible entities are encouraged to consider the range of asset classes and investment strategies that may be appropriate for the ETF structure, taking into account their nature, novelty, and complexity, the effectiveness of the arbitrage mechanism for such assets and strategies.

*Question 1: What additional considerations do regulators or responsible entities consider in determining the range of assets and strategies to be invested or implemented by an ETF and how are they different from those concerning OEFs?*

There was general agreement with the examples for consideration by regulators and responsible entities on permitted range of assets and strategies. In line with the observation as set out in the Consultation Report that the permitted range of assets and strategies for ETFs are typically no different from the CIS requirements in most jurisdictions, a number of respondents opined that there should not be different product rules for ETFs and unlisted OEFs, as it could stifle growth and innovation for ETFs.

Some respondents suggested that they will also take into account the availability and capability of the service providers such as index providers, APs, LPs and swap counterparties, etc., for determining the range of assets and strategies to be invested or implemented by an ETF.

**IOSCO's response:** IOSCO welcomes respondents' overall support to Measure 1 and has added useful examples suggested by respondents on considerations on range of assets and strategies.

Regarding some respondents' feedback on avoiding different product rules for ETFs and unlisted OEFs, IOSCO clarifies that the intention is not to steer towards two different regulatory regimes, but to highlight considerations relating to ETF-specific features, such as the arbitrage mechanism which heavily relies on the liquidity and tradability of the underlying assets. Based on IOSCO's review work, IOSCO notes that, in most jurisdictions, such additional consideration is in line with the general OEF regulatory framework that is applied to ETFs.

*Question 2: What other good practices have been put in place to take into account the target investors at product design phase?*

There was general agreement with the examples of guidance / rules as set out in the Consultation Report (in particular, MiFID and MiFID II) which encourage product providers to design their products taking into account their target investors.

Some respondents made references to the guidance issued by Central Bank of Ireland and Securities and Exchange Commission (Thailand) with respect to target market at product design phase.



**IOSCO's response:** IOSCO welcomes respondents' overall support to the proposed good practice of taking into account the target investors at product design phase. Relevant useful examples suggested by respondents have been added.

**Measure 2:** Regulators are encouraged to consider requirements regarding the transparency of an ETF's portfolio and/or other appropriate information provided to market participants so as to facilitate effective arbitrage.

*Question 3: Do the merits and other considerations as set out above accurately reflect the issues for different portfolio and basket information disclosure approaches?*

Most respondents agreed that the merits and other considerations as set out in the Consultation Report accurately reflect the issues for different portfolio and basket information disclosure approaches.

Some respondents also noted that index providers in certain jurisdictions may impose confidentiality obligations on ETF managers.

**IOSCO's response:** IOSCO welcomes respondents' feedback and their overall support to Measure 2. IOSCO continues to take the view that there are merits to different disclosure approaches of an ETF's portfolio and basket information, including variation in their dissemination frequency and the recipients of such information. IOSCO believes each jurisdiction is well positioned to consider the appropriate local requirements in this regard. We have also noted in the Report how certain index providers in certain jurisdictions may impose confidentiality obligations on ETF managers as suggested by some respondents.

*Question 4: Other than the examples of portfolio and basket information disclosure approaches as listed above, are there any additional portfolio-related disclosures that have been used to support the functioning of the ETF arbitrage mechanism?*

Most respondents agreed with the examples of portfolio and basket information disclosure approaches as listed in the Consultation Report.

Some respondents suggested additional examples of supplemental information for fixed income ETFs, e.g., interest rates and yield spreads, where a jurisdiction does not require full portfolio exposure. For certain jurisdictions, some respondents also suggested disclosures on net asset value per share, market price and premium/discount information for the previous trading day may be useful in supporting the ETF arbitrage mechanism, similar to the requirements by the US SEC.

**IOSCO's response:** IOSCO welcomes respondents' feedback. We added additional examples of supplemental information relating to the portfolio of fixed income ETFs. Other suggested disclosures relating to net asset value per share, market price and premium/discount information are covered by Measures 7 and 8 which discuss disclosures to better inform investors of how the arbitrage mechanism has worked.

**Measure 3:** For jurisdictions that mandate the provision of iNAV, regulators and/or trading venues are encouraged to consider means to enhance the accuracy and usefulness of iNAV.

*Question 5: What additional means or disclosure have been put in place to address issues relating to iNAV?*

A majority of respondents agreed with the limitations of providing accurate and reliable iNAV as set out in the Consultation Report.

Some respondents did not consider the suggested improvements to enhance the accuracy and usefulness of iNAV to be practicable or cost-effective and noted that there are other better ways to support an effective arbitrage mechanism. Several respondents further suggested eliminating the iNAV requirement (in jurisdictions where it is currently mandatory) in view of iNAV's limitations. One respondent in particular mentioned the importance of removing iNAV across those EMEA jurisdictions in which it is mandatory. Three respondents also held up the United States as good example of a jurisdiction where there is no requirement to publish iNAV under Rule 6c-11 under the Investment Company Act of 1940.

**IOSCO's response:** IOSCO appreciates respondents' feedback on the limitations of iNAV and the suggested improvements to enhance its accuracy and usefulness. IOSCO notes that the usefulness of iNAV may vary across jurisdictions, asset classes and investment strategies. As noted from some regulators' responses to IOSCO's previous survey, in some jurisdictions, iNAV may be useful to retail investors as a convenient tool to benchmark an ETF's portfolio value with the secondary market traded price of the ETF. Measure 3 would already entail sufficient flexibility for regulators and trading venues to determine whether to require the provision of iNAV, taking into account its merits and limitations.

**Measure 4:** Responsible entities are encouraged to:

- (i) conduct due diligence on APs and MMs when onboarding them to the ETF, with a view towards having those that are capable of facilitating an effective arbitrage mechanism and providing liquidity;
- (ii) conduct ongoing monitoring on APs and MMs for the ETF regarding, amongst others, the functioning of the arbitrage mechanism and liquidity provision; and
- (iii) avoid exclusive arrangements with APs and MMs if they may unduly affect the effectiveness of the arbitrage mechanism.

*Question 6: Have the examples of considerations above captured the key considerations relating to selection and due diligence of APs, and where relevant, MMs, by responsible entities?*

There was general agreement that the examples of considerations relating to selection and due diligence of APs, and where relevant, MMs, as set out in the Consultation Report were

appropriate. Respondents also generally confirmed that the examples given in the Consultation Report by and large captured the practices of the industry.

**IOSCO's response:** IOSCO welcomes respondents' overall support to Measure 4 and their feedback that the examples of considerations are appropriate.

*Question 7: Do you agree with the proposed good practice to promote competition in ETF arbitrage and market making? Are there any justifiable circumstances where exclusive arrangements with APs or MMs would bring net benefits to ETF investors as a whole?*

There was general agreement on the proposed good practices to promote competition in ETF arbitrage and market making. Respondents pointed out that competition among APs and MMs are in the best interest of investors and that exclusive arrangements should generally be avoided.

However, a number of respondents pointed out that, although exclusive arrangements should generally not be pursued, in certain circumstances, only a limited number of APs may be available in certain jurisdictions. Respondents indicated that the level of diversity of APs will often depend on product type and local market conditions. In certain jurisdictions, there may be limited APs/MMs with capabilities to provide services for ETFs with novel asset classes and strategies. In the case of EU markets, some respondents also pointed out that even with exclusive arrangements, the "best execution" principle of the EU MiFID II regime ensures that a firm takes sufficient steps to ensure the best possible economic outcome for its clients when executing an order.

**IOSCO's response:** IOSCO welcomes respondents' feedback on promoting competition in ETF arbitrage and market making. We have added text to reflect that, the number of APs may be limited for specialised ETFs in certain jurisdictions.

**Measure 5:** Responsible entities are encouraged to put in place appropriate arrangements to facilitate an effective arbitrage mechanism, including contingency plans to address the circumstances where the arbitrage mechanism of the ETF is impaired.

*Question 8: Do you agree with the proposed good practices and jurisdictional examples as set out above? What additional good practices related to primary market arrangements have been put in place to promote effective arbitrage?*

There was general agreement with the proposed good practices, with respondents noting that they reflected market practice in the majority of cases. While a majority of respondents agreed with the need for ETFs to have the support of multiple APs / MMs to promote competition and effective arbitrage, some respondents noted that there are potentially fewer active market participants available for specialised ETFs in certain jurisdictions. It was also noted that the practice of having a main AP through which secondary APs transacted was prevalent in some jurisdictions (e.g., Europe). Some respondents observed that imposing an obligation on APs to accept agency trades in

certain jurisdictions could adversely affect a firm's (commercial) incentive to act as an AP for a particular ETF and could hence reduce the number of APs willing to act for that ETF.

**IOSCO's response:** IOSCO welcomes respondents' feedback and their overall support to Measure 5. IOSCO acknowledges again that while a multiple AP model can promote competition for better economic outcomes for an ETF, the number of APs may be limited for specialised ETFs in certain jurisdictions. Separately, some respondents were concerned about the practice of encouraging APs to conduct agency trades becoming an obligation in certain jurisdictions. While IOSCO appreciates these potential concerns, there may be local idiosyncratic market considerations for encouraging this practice to help facilitate arbitrage. We have reflected this in the Report.

*Question 9: To what extent should responsible entities be encouraged to provide more frequent disclosure of portfolio information to the public to facilitate the arbitrage mechanism? Does it depend on the information APs/MMs receive on a daily basis and the ETF's arrangements with APs/MMs?*

Divergent views are noted on whether it would be helpful to provide full daily portfolio holdings disclosure to the public, apart from APs/MMs. While proponents find this a way to promote transparency and ensure a level playing field for market participants, others suggested that efficient arbitrage can already be achieved through APs/MMs receiving up-to-date information on an ETF's portfolio before market-opening. Some respondents also noted that there may be other mechanisms (e.g., via disclosure of other valuation information and metrics) to help APs/MMs value an ETF's portfolio and in turn permit effective arbitrage to take place without full portfolio disclosure to APs/MMs.

**IOSCO's response:** IOSCO welcomes the feedback provided in relation to this topic. We note the common objective of ETF managers and APs/MMs is to ensure sufficient information is provided to APs/MMs to accurately value an ETF's portfolio and engage in effective arbitrage. IOSCO continues to take the view that there are merits to different disclosure approaches of an ETF's portfolio and basket information, including variation in their dissemination frequency and the recipients of such information, depending on the jurisdiction and the local market conditions in which an ETF operates. IOSCO believes each jurisdiction is generally well positioned to determine the appropriate local requirements in this regard, including consideration by responsible entities of the relative merits of more frequent disclosure and/or providing portfolio information to a wider group of market participants.

*Question 10: Have the examples above captured the key operational risks that may lead to disruption in achieving the ETF's investment objective? What additional good practices have been put in place to mitigate such risk?*

Respondents generally agreed that the examples in the Consultation Report captured the key operational risks that may lead to disruption. They considered that operational risk management is a key component of the ETF's governance structure and generally has been well addressed by ETF managers. Some respondents highlighted potential issues in underlying markets in particular, such as valuation uncertainty and illiquidity (particularly

for fixed income instruments), that may be more susceptible to causing operational difficulties. A number of respondents voiced their reservations towards the inclusion of a direct redemption mechanism as a recommended practice, given its operational difficulties that may affect its viability as an option for providing liquidity to investors in times of stress, such as where the underlying market is halted.

**IOSCO's response:** IOSCO welcomes the support and feedback provided on key operational risks. Concerning the practice of direct redemption of ETF shares, while there are local idiosyncratic reasons for allowing it in certain jurisdictions, it is not required in many other jurisdictions due to the operational and practical challenges. In this regard, we have acknowledged in the Report the operational issues for implementing direct redemption as well as its limitation in time of stress and have clarified that a direct redemption facility may not be advisable in many jurisdictions or in all circumstances.

**Measure 6:** Regulators are encouraged to consider whether the securities laws and applicable rules of securities exchanges within their remit and jurisdictions appropriately address potential conflicts of interests raised by ETFs.

*Question 11: Do you agree that the examples above are the key considerations related to potential conflicts of interest? In addition to the above, are there any other potential conflicts of interests associated with ETFs that warrant careful considerations?*

Respondents generally agreed that the examples in the Consultation Report captured the key considerations relating to potential conflicts of interest that arise in relation to ETFs. Respondents pointed to existing regulatory rules applicable to ETFs and their providers which require conflicts of interest to be identified, managed, monitored and disclosed under existing regulatory and governance frameworks.

**IOSCO's response:** IOSCO welcomes respondents' overall support to Measure 6 and agreement that the examples set out in the Consultation Report identified most potential areas of conflicts in relation to ETFs.

*Question 12: What additional good practices have been put in place to help mitigate conflict of interests between the ETF manager and other stakeholders?*

Respondents pointed to existing regulatory rules applicable to market participants and trading venues which require conflicts of interest to be identified, managed, monitored and disclosed.

**IOSCO's response:** IOSCO appreciates respondents' comments that conflicts of interest are generally addressed under different sectoral legislation. We also appreciate that in many jurisdictions the existing regulatory framework on the management and monitoring of conflicts of interest by responsible entities generally appears to address the particular types of conflicts that could arise in relation to ETFs. We also consider that potential conflicts identified should be disclosed by ETF managers.

## 2. Disclosure

**Measure 7:** For ETFs, in particular those that invest in more complex or novel asset classes, or use more complex investment strategies, regulators are encouraged to consider appropriate requirements for the adequacy and appropriateness of the disclosures regarding ETF-specific aspects, including whether certain disclosures are presented in an understandable manner and whether they address the nature of risks associated with the ETFs' strategies.

*Question 13: What additional good practices in disclosure have been put in place to help investors better understand (i) the risks and vulnerabilities of an ETF's arbitrage mechanism; and (ii) the specificities of ETF investment strategies?*

There was general agreement that existing disclosure requirements about ETF arbitrage and investment strategies are sufficient in most jurisdictions. For example, several respondents in the US observed that Rule 6c-11 and related CIS disclosure requirements more generally establish a disclosure framework about ETF arbitrage and investment strategies that is sufficient for investors to make informed investment decisions. Similarly, several respondents in Europe observed how regulations such as UCITS provide for disclosure of an ETF's trading characteristics and investment strategy. Some respondents provided other helpful suggestions, such as additional investor education via fund websites or seminars to help further inform investors about an ETF's characteristics.

**IOSCO's response:** IOSCO welcomes respondents' overall support to Measure 7 and has added useful examples suggested by respondents, such as supplementing existing disclosure requirements with additional investor education via fund websites and seminars.

**Measure 8:** Regulators are encouraged to consider appropriate requirements for the disclosures of fees and expenses for investing in ETFs (including secondary market trading costs) in a way that allows investors to make informed decisions about whether they wish to invest in an ETF and thereby accept a particular level of costs.

*Question 14: Have the examples above captured the fees and costs associated with ETFs that are important considerations to investors?*

Most respondents agreed with the proposed Measure 8 as well as the good practices examples provided in the Report on the fees and costs associated with ETFs. For example, some respondents in Europe stated how extensive the current regulatory framework under UCITS and MiFID2 is in terms of fund fees and costs transparency.

Some respondents provided other helpful suggestions. For example, several respondents supported current approaches in many jurisdictions of generally requiring only qualitative disclosures of certain secondary market trading costs that may be highly dependent on prevailing market conditions and the particular situation of the investor (such as brokerage commissions and tax considerations), which could be difficult to be quantified by ETF managers.

**IOSCO's response:** IOSCO welcomes respondents' overall support to Measure 8 and the good practices examples provided in the Report. Where appropriate, we reflected suggestions by several respondents in the Report.

For example, IOSCO appreciates comments that certain secondary market trading costs (e.g., brokerage commissions, tax considerations) are highly dependent on prevailing market conditions as well as the particular situation of the investor. These views support the approach already taken in many jurisdictions of requiring qualitative but not necessarily quantitative disclosure of certain secondary market trading costs. Nevertheless, we also note how some jurisdictions already require disclosure of certain other quantitative metrics, such as maximum bid-ask spread, historical data on bid-ask spread and premiums/discounts.

*Question 15: What additional good practices in disclosure have been put in place to help investors better understand their cost of investing in the ETF?*

Respondents suggested several additional good practices to help investors better understand their cost of investing in the ETF. For example, as noted in the responses to question 13, some respondents suggested that additional investor education via fund websites or seminars could help further inform investors about ETF characteristics such as costs.

In addition, some respondents suggested the availability of near real-time consolidated trading data in jurisdictions where ETFs trading is fragmented and occurs across different trading venues and/or over-the-counter (e.g., in Europe) could facilitate transparency of secondary market trading costs for investors.

Among other things, some respondents also suggested that short-form information sheets could help inform investors about ETF characteristics such as trading costs and risks. Finally, some respondents more generally cautioned against disclosures that are overly technical or legalistic in order to better facilitate investor understanding.

**IOSCO's response:** IOSCO welcomes respondents' additional suggested good practices to help investors better understand their cost of investing in the ETF. Where appropriate, we have reflected these suggestions in the Report. We have also reflected in the Report suggestions by respondents on the merits of near real-time consolidated trading data in jurisdictions where ETFs trading is fragmented and occurs across different trading venues and/or over-the-counter (e.g., in Europe) (also related to Measure 10).

**Measure 9:** Regulators and responsible entities are encouraged to consider appropriate disclosure requirements or disclosures to help investors to clearly differentiate ETFs from other ETPs / CIS, as well as appropriate disclosure for index-based and non-index-based ETFs.

*Question 16: What additional good practices in disclosure have been put in place to help investors differentiate (i) ETFs from other ETPs / CIS; and (ii) conventional ETFs from other more complex ETFs?*

Overall, many respondents observed that existing disclosure requirements are generally aligned with Measure 9. In particular, some respondents stated how various identification and classification systems already exist in certain jurisdictions (such as the “UCITS ETF” identifier for ETFs established as UCITS).

That said, some respondents observed that media coverage of ETFs in particular can often still ignore the distinction between ETFs and other types of ETPs, which could lead to potential investor confusion. Other respondents also stated how the growing number of ETPs, as well as ETFs with structural features different from traditional ETFs, have led to a lack of clarity about the varying levels of complexity and risk among ETPs.

As a result, some respondents believed that a distinct ETF/ETP classification system could provide greater clarity to investors. Some respondents also suggested more extensive use of short names or other identifiers about particular ETF characteristics (passive vs. active, leveraged/inverse, crypto, etc.), although other respondents warned that any additional subcategorization could also add to potential investor confusion. Similarly, some respondents stated how supplementing the ETF name with longer disclosures about the key characteristics of an ETF could enhance investor understanding. More generally, some respondents also suggested additional investor outreach and education to help provide greater clarity.

**IOSCO’s response:** IOSCO welcomes respondents’ overall support to Measure 9 and suggestions on how to further help investors differentiate ETFs from other ETPs/CIS, as well as conventional ETFs from other more complex ETFs. Where appropriate, we have reflected these suggestions in the Report.

### 3. Liquidity Provision

**Measure 10:** Regulators and/or trading venues, where applicable, are encouraged to monitor secondary market trading and market making activities of ETFs and have rules governing the orderly trading of ETF shares.

*Question 17: Please describe how ETFs’ trading or market making activity is monitored by regulators and trading venues. Does monitoring enhance the secondary market liquidity of ETFs? What are the key metrics that should be monitored and what are the appropriate follow-up actions?*

There is an overall consensus on the importance of monitoring market making activities to enhance the secondary market liquidity of ETFs. Trading venues assess the quality of liquidity provision by MMs, notably to ensure that they comply with their contractual obligations that make them eligible for rebates. Some trading venues propose a two-tiered



market-making scheme, where the MM may receive additional incentives from the trading venue if they meet certain additional market making requirements.

At ETF manager's level, there are usually relevant teams that monitor the spread and premium/discount of their ETFs to review the quality of quotation on a continuous basis. If any liquidity measure falls outside of the expected range, such ETF manager can engage relevant members of the trading venue to respond to the market conditions. In the event of a MM breaching its obligations, some regulators or trading venues may implement sanctions to create accountability (e.g., publishing of a report specifying the MM's breach, loss of status with a possible reapplication later).

In EU jurisdictions, a UCITS ETF must appoint at least one MM when listing a new ETF on the regulated market. The ETF might remunerate MMs for compliance with more stringent quoting obligations, albeit trading venues may offer market-making schemes to market participants not appointed by the ETF.

The fragmentation of the European trading venues was pointed out by many respondents, who recommend the implementation of a consolidated tape for a better assessment of ETFs' liquidity. For example, some respondents suggest that the "true" liquidity of some ETFs might not be properly reflected by the sole depth of the order book of one particular trading venue, because of less visible liquidity that is accessible OTC.

Generally, market making activity is monitored using the following parameters: bid/ask spread, depth/volume, participation rate in continuous trading and auctions, minimum turnover amount, and minimum period for which MMs must perform their duties each month.

**IOSCO's response:** IOSCO welcomes respondents' feedback and their overall support to Measure 10. Additional insights regarding the monitoring parameters have been added to the Report (bid-ask spread, depth/volume, participation rate in continuous trading and auctions, minimum turnover amount). A new paragraph has been added to address the EU-specific issue of trading venue fragmentation, the large market share of the OTC market for some types of ETFs and the absence of a consolidated tape, all of which have non-trivial implications on the capacity of market participants and ETF managers for the monitoring of ETFs' "true" liquidity. Reference has also been added in relation to the ongoing MiFIR review, which aims to address this issue in the EU by creating a consolidated view of prices and liquidity available on all trading venues.

We have also acknowledged in the Report that ETF managers also closely monitor the secondary market trading and market making activities to ensure that investors can access liquidity any time and take actions when necessary.

*Question 18: What rules are there to govern the cessation of liquidity provision by a MM? Do they minimize the impact to the secondary market liquidity of an ETF? What additional good practices have you considered in this regard?*

Respondents generally noted that, in most jurisdictions, at least one MM commits to providing liquidity on the exchange it is listed. MMs who have contracted with exchanges have strict requirements: minimum time of presence (on a daily and monthly basis), maximum spread and minimum volume on each side of the quotes. When MMs do not fulfill their quoting requirements set by the exchange, they generally do not face legal challenges but may be deregistered as a MM (at least for the ETF in question). In some jurisdictions, nevertheless, the regulator or trading venue may implement sanctions to create accountability (e.g., publishing of a report specifying the MM's breach, loss of status).

The withdrawal of an MM is generally not perceived by most respondents as a major issue. Some ETF managers commented that alternative MMs can be identified in most cases. Some respondents referred to a 2019 FCA research paper<sup>199</sup> which observed that the stepping out of MMs during times of market disruption was followed by the stepping in of other market participants that seized the opportunity to fill the void. Some respondents also mentioned that exchanges may impose on MMs a notice period before ending their agreement, so that ETF managers can have sufficient time to appoint a new MM. The ETF manager may negotiate longer notice periods with the MMs it has appointed. Relatedly, there is a general consensus that it is desirable to have more than one MM per ETF.

Some additional good practices were mentioned by respondents. In the US, for example, ETF managers generally disclose to investors the potential risks and implications of an AP or MM stepping away from providing liquidity to ETFs, while in Europe, ETF managers are required to disclose to investors the risks associated with secondary market trading, notably regarding trading risk and liquidity availability.

**IOSCO's response:** IOSCO welcomes the feedback that the withdrawal of any particular MM is generally a manageable event for most ETFs and that the temporary withdrawal of one or more MMs due to a sudden market disruption may be balanced by other market participants that step in to fill the void. A reference<sup>200</sup> to the FCA's research paper published in 2019 on this matter and mentioned by some respondents has been added. That said, such stepping-in by other market participants should not be assumed to exist in all market circumstances, therefore, it remains important to adopt the relevant good practices such as widening the availability of MMs as appropriate.

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<sup>199</sup> See, FCA ETF Research Note

<sup>200</sup> See, Footnote 34.

#### 4. Volatility Control Mechanisms

**Measure 11:** Regulators and/or trading venues, where applicable, are encouraged to appropriately calibrate volatility control mechanisms applicable to ETFs, considering factors including their liquidity profile and volatility profile. Where an ETF is listed or traded on a number of trading venues, those trading venues are encouraged to consider communicating with one another as appropriate when VCMs are triggered.

*Question 19: What are the key parameters that regulators and/or trading venues should take into account in calibrating the format of VCMs and the relevant thresholds applicable to different types of ETFs?*

Respondents generally stated that VCMs are necessary to ensure an orderly functioning of the market and protect market participants from trading at aberrant prices. VCMs should be properly calibrated to strike the right balance between preventing aberrant trades and unnecessarily interfering with price discovery.

Regarding the calibration of VCMs, respondents were generally supportive of VCMs calibrated using both static and dynamic pre-set thresholds using the historical secondary market prices. Those thresholds should be adjusted based on the nature of the underlying exposure, whether it is a leveraged or inverse product, and to reflect market conditions (e.g., sector and size of the ETF).

Conversely, respondents generally underlined the limitations of using iNAV to calibrate the thresholds that trigger VCMs, especially for ETFs invested in less liquid assets or in volatile market conditions, when the lack of transactions on the underlying basket's assets may prevent iNAV to incorporate changing market conditions in real-time. The same limitations may apply to ETFs with exposures to assets listed in different time zones.

Many respondents considered that in Europe, due to the fragmentation of trading venues, rules should be harmonized between trading venues for VCMs, as well as for liquidity monitoring and listing supervision.

Lastly, the benefits of the US VCM rules with regards to the different protections provided to the markets with the use of several VCM tools were mentioned.

**IOSCO's response:** IOSCO welcomes the overall support to Measure 11 and the additional insights regarding how respondents believe VCMs should be designed and calibrated. Respondents overwhelmingly support VCMs based on historical secondary market prices, rather than based on iNAV, in particular in light of the lessons learnt from the Covid-19 crisis. At the time of the publication of this Report, the European markets operator that currently uses VCMs based on iNAV for some of the venues it operates has indicated that it plans to replace these VCMs with a mechanism based on historical prices. We have reflected this in the Report.

Following the positive appraisal of the market-wide circuit breakers and Limit Up/Limit Down mechanisms in place in the US, a link to a US SEC's reference document has been inserted in the Report, which explains how these mechanisms work. In addition, as VCMs'

design and calibration are generally in the sole responsibility of trading venues, IOSCO has replaced some mentions of “jurisdictions” by “trading venues” where deemed more relevant.

*Question 20: What additional good practices related to design or implementation of VCMs have been put in place?*

Respondents generally observed that VCMs should be automated, harmonized and standardized in order to ensure consistency and transparency. In Europe, dynamic auction collars have been identified as a good practice as it strikes the optimal balance between allowing price discovery and ensuring investor protection during periods of market volatility. Some respondents noted that trading venues should review, where relevant, the static price band annually to ensure that it is set properly.

In addition, some respondents identified the recent implementation of pricing bands around the opening print in the US as a good practice. Another good practice identified is the multiple, automatically expanding auction corridors. These auction corridors are expanded at given time intervals once a volatility interruption is triggered and thus allow for consecutively larger price deviations from the previous reference price. When triggered, trading switches from continuous trading to an auction which lasts for two minutes for the first corridor and five minutes for subsequent corridors. The auction will end at a random point in time to avoid price manipulation.

**IOSCO’s response:** IOSCO welcomes the additional insights on the design and implementation of VCMs. Automatically expanding auction corridors has been added to the Report as an example of VCM based on historical secondary market prices and with automated feature and adaptability depending on the ongoing market circumstances.