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IOSCO Publishes Results of Examination of ETF Behavior During COVID-19 Induced Market Stress

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TO: ICI Members
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ICI Global Members
ETF (Exchange-Traded Funds) Committee
ETF Advisory Committee
Global Exchange Traded Funds Committee SUBJECTS: COVID-19
Exchange-Traded Funds (ETFs)
Financial Stability
Fixed Income Securities
International/Global
Operations
Risk Oversight RE: IOSCO Publishes Results of Examination of ETF Behavior During COVID-19 Induced Market Stress

On August 12, the International Organization of Securities Commissions (IOSCO) published the results of its examination of the behavior of exchange-traded funds (ETFs) during the COVID-19 induced market stress (the "Report").[1]

The Report reviewed ETFs' primary and secondary market operations to explore the impact of the COVID-19 market stress on ETFs' structure and functioning, including the causes of the pricing differences between some fixed income ETFs' secondary market prices and their net asset value (NAV). The Report relied on information derived from: data analysis compiled by a core research group (CRG) from IOSCO's Committee 5 on Investment Management (C5);[2] responses to a survey from 24 C5 members; and responses to an industry survey.

The Report concludes that the evidence did not indicate "any major risks or fragilities in the ETF structure," but that the stress episode instead "shed light on the resilience of most ETFs across various market segments." Importantly, the Report states that the "stress episode helped alleviate concerns about possible financial stability risks relating to the ETF structure."

Additionally, according to the Report, the COVID-19 volatility showed that: (i) ETFs' pricing could be different when the liquidity of their underlying assets has deteriorated significantly; (ii) fixed income ETFs have a potential role in providing additional pricing information for the underlying bond markets; (iii) ETFs' secondary markets can provide an additional layer of liquidity; and (iii) certain derivatives-based ETPs/ETFs may warrant further consideration related to product structuring and contingency planning.

Despite the Report's positive conclusions, IOSCO noted that in accordance with its 2021-2022 Work Program, it will continue its broader analysis of the ETF market in 2021 and will consult on ETF policy proposals in late 2021/H1 2022.

Below is a synopsis of each section of the Report.

General Observations from Data Analytics

1. Spikes in premiums/discounts to day-end NAV were mostly temporary
    - US-registered ETFs (US ETFs) experienced above-average levels of day-end premiums and discounts to NAV in March 2020. Discounts were most pronounced in fixed income ETFs, where the median ETF traded at increased discounts for several consecutive days. In extreme cases and for a short time period, certain investment-grade (IG) bond and high yield (HY) ETFs traded at discount levels ranging between 6-10 percent. Markets began stabilizing in Q2 2020, and premiums and discounts reverted closer to their pre-March levels.
    - The Report noted similar trends in Europe and Asia Pacific, where the discount of certain fixed income ETFs also increased to as much as 10 percent at one point. Yet, the spike in price was short-lived and normalized shortly thereafter.
    - Among fixed income ETFs across regions, the Report generally observed the largest discounts in HY bond ETFs at the height of the market volatility, followed by IG bond ETFs and government bonds ETFs.
    - In some jurisdictions in Europe and Asia, premiums or discounts for equity ETFs could be largely attributable to trading hour differences and hence valuation differences between ETFs and their underlying assets. For instance, valuations potentially diverged because they reflected different market information, especially during increased market volatility such as in March and April 2020.[3]
2. Widened bid-ask spreads served as an indication of the liquidity conditions for exchange traded securities
    - Globally, the bid-ask spreads for ETFs generally widened in March 2020. Across different underlying assets and listed venues, the median bid-ask spreads reached around 1 to 2.5 percent at the height of the volatility. The widened spreads normalized across most ETF categories in Q2 2020.
    - The widening of bid-ask spreads was larger among certain types of fixed income ETFs than equity ETFs (e.g., in extreme cases, spreads at one point briefly increased to around 5 percent for US HY bond ETFs, and to 10 percent in Asia Pacific HY bond ETFs).
    - Among fixed income ETFs across regions, the bid-ask spreads for HY bond ETFs were generally the widest during the height of the volatility period, followed by IG bond ETFs and then government bond ETFs.
    - The challenging liquidity environment in March 2020 was experienced market-wide and was not specific to ETFs. Some industry participants noted that the widened bid-ask spreads for fixed income ETFs were still narrower than the average spread of the underlying bonds (i.e., US treasuries and HY bonds).[4]

This suggested that it was relatively cheaper to trade such ETFs than to directly trade in their underlying portfolio assets during the market stress.

3. Substantial increase in secondary market turnover of exchange traded securities
    - Daily turnover of ETFs listed on US exchanges increased approximately 100 percent in March when compared to February 2020 levels, with increases across equity, fixed income, and other categories of ETFs. Trading activity peaked in the week ending March 13 and receded during the remainder of the month.
    - Daily turnover of ETFs listed on European and Asia Pacific exchanges also experienced similar degrees of increase across asset classes in March 2020.
    - In the United States, the ETF share of US stock market trading reached about 40 percent in early March 2020, up from 20-30 percent in normal times,[5] which the Report notes, may support "the view that ETFs are convenient and preferred tools for market participants to adjust their exposures in a stressed market."

4. Fund flows
    - During the height of the COVID-19 volatility, weekly fund flows of equity ETFs across regions remained stable or briefly increased.[6] Fixed income ETFs across regions, however, generally experienced larger outflows.
    - Equity ETF fund flows reverted to relatively normal levels from late March to Q2 2020. IG bond and HY bond ETFs in the United States and Europe saw fairly consistent inflows for much of Q2 2020, while fixed income funds saw mixed flows in the Asia Pacific region during the same period.[7]
    - ETFs' primary market activities generally increased, with weekly outflows of fixed income ETFs around or below 10 percent NAV at their peak. On the other hand, the amount of primary market activities during the height of the market stress was far less than the secondary market turnover of ETFs.[8] This suggests that during the stress period, investors still traded ETFs mostly through the secondary market, without necessarily engaging in significant additional primary market activities. This additional level of liquidity may have helped mitigate the liquidity risk to the underlying asset markets from the period's selling pressure.

5. Fund flows of ETFs compared to unlisted open-end mutual funds
    - During March 2020, the outflows of both ETFs and mutual funds with similar underlying asset classes were mostly comparable. Generally, there also was no significant difference between their fund flow trends in 2019 and 2020, though nominal fund flow figures for ETFs across regions were generally much smaller than those for mutual funds due to their size difference in terms of AUM.
    - In the United States, while equity ETFs experienced inflows for much of 2019 and 2020, equity mutual funds saw outflows for much of this period. During March 2020, equity ETFs saw inflows of approximately 0.4 percent of assets, while equity mutual funds saw outflows of 0.3 percent of assets.
    - Both fixed income ETFs and mutual funds in the United States saw steady inflows during 2019 and 2020. During March 2020, however, fixed income ETFs lost over 2 percent of assets to outflows, while fixed income mutual funds lost nearly 6 percent to outflows (close to US $250 billion). After the large outflows in March, both fixed income ETFs and mutual funds had positive net inflows for the remainder of 2020.
    - In Europe, equity and fixed income ETFs and mutual funds with similar underlying asset classes generally experienced similar fund flow trends in 2019 and 2020. During the observation period, equity ETFs and mutual funds had mixed flows, while fixed income ETFs and mutual funds saw inflows during much

of the period. Both types of funds saw sharp outflows in March 2020 but recovered with steady inflows thereafter.
- In Asia Pacific, equity ETFs saw inflows for much of 2019 and 2020 (including March 2020), while equity mutual funds had mixed flows. Fixed income ETFs and mutual funds experienced inflows for much of 2019 and 2020 but had sharp outflows in March 2020.

Initial Observations Based on IOSCO's Surveys of (1) C5 Members and (2) Industry Participants[9]

1. Fixed income ETFs' role in providing additional pricing information in underlying bonds
    - For most survey respondents, the short-lived increase in ETF premiums or discounts during March 2020,[10] demonstrated the resilience of the ETF structure, as the arbitrage mechanism quickly returned trading to normal following the initial period of volatility.
    - Survey respondents suggested several potential causes for the pricing differences in fixed income ETFs including: (i) frictions in the arbitrage mechanism;[11] (ii) uncertainty related to valuation of underlying assets;[12] (iii) secondary market prices of fixed-income ETFs incorporating more timely information about the value of the underlying bonds held by the ETFs; and (iv) increased liquidity cost.
    - Most industry respondents suggested that fixed income ETFs provided additional pricing information for underlying bonds that were not as actively traded during the COVID-19 volatility. Most also believed that the discounts to NAV did not represent an issue nor any risk that needed to be mitigated.[13]
    - Industry respondents viewed the additional pricing information provided by fixed income ETFs as an important and valuable tool for understanding price trends in underlying bond markets.
    - The Report noted, nonetheless, that a fixed income ETF's value as a price discovery tool for the individual bonds in the underlying portfolio remains subject to debate and ongoing research.

2. Primary market activity
    - Industry respondents generally reported that AP participation in ETFs primary markets remained robust during the COVID-19 volatility, and many observed that primary markets were in fact more active than during normal times. APs' survey responses also showed an eagerness to actively participate in the market during times of volatility as there may be additional arbitrage opportunities. Even if a particular AP or MM ceased activities, even temporarily, respondents generally expected other market participants would step in accordingly.
    - Disruption in the ETF primary markets was not common in general, except for certain types of commodity ETFs that experienced extreme price volatility. ETF providers also indicated that they had controls and processes in place to manage relationships and to monitor APs' activities. These observations seem to alleviate concerns that APs might step away during volatile times and that primary market activities might become overly concentrated in a limited number of APs.
    - Industry respondents noted that custom baskets[14] provided valuable flexibility during the COVID-19 volatility to both ETF managers and to APs/LPs because they avoided the need to transact all underlying bonds at potentially discounted prices.

3. Increased secondary market turnover with potential shock-absorbing function

- Regulators from major ETF jurisdictions generally did not observe MMs/LPs stepping away at the height of the COVID-19 volatility, and industry respondents similarly said that MMs/LPs remained active in the ETF space and in some cases, even increased their participation.
- As liquidity deteriorated and transaction costs increased in underlying fixed income markets, investors increasingly relied on ETFs to adjust their exposure to such markets. Thus, industry respondents noted that the additional layer of liquidity offered by fixed income ETFs can generally help absorb shocks during stressed market conditions.

4. Little evidence of spillover between ETFs and underlying bond markets
    - Regulators from major ETF jurisdictions are not aware of any material impact from the pricing differences of fixed income ETFs on underlying bond markets during the COVID-19 volatility.
    - Some ETF managers reported that discounts in fixed income ETFs did not affect other unlisted fixed income funds. Some emphasized that trading conditions of underlying bonds were identical regardless of the particular fund structure.
    - Critics suggest that the discounted prices of fixed income ETFs may signal to investors in comparable mutual funds to redeem ahead of others. The Report noted that this phenomenon is not novel as it exists among many common types of instruments (e.g., equity futures and the underlying stocks) and largely reflects the efficiency and interconnectedness of financial markets. Also, mutual funds may have effective tools to manage their liquidity if needed.[15]

5. Stresses around derivatives-based ETFs
    - Futures-based oil ETPs/ETFs
        - In April 2020, high volatility in the prices of oil futures triggered concerns that the continued holding of oil futures for certain futures-based oil ETPs/ETFs might lead to a substantial or total loss to investors. Thus, the managers of many such ETPs/ETFs temporarily changed their investment strategy, for instance implementing an accelerated rollover to replace the oil futures contracts with longer term contracts, with short notice to investors.
    - Leveraged/inverse ETFs (L&I ETFs)
        - Certain L&I ETFs (e.g., with oil futures as underlying) experienced significant price and bid-ask spread fluctuations due to extreme volatility and prohibitive trading costs in the underlying derivatives market. Some instituted temporary measures such as halting creation, periodic halting of trading, temporary reduction in leverage, temporary name changes to reflect reduction in leverage, and amended rolling methodology. In more extreme cases, some L&I ETFs were liquidated.
    - The Report noted that the above observations highlight risks relating to product structuring of certain derivative-based ETFs with more distinct features (e.g., investing in less diversified assets). Thus, the Report concluded that while these ETPs/ETFs collectively amount to only a small portion of the ETF space,[16] these potential risks, if not properly mitigated, could potentially impair the product viability of such ETPs/ETFs.
    - Many comments from C5 members regarding COVID-19 volatility were about futures-based oil ETPs/ETFs and L&I ETFs, which the Report noted raises questions about whether investors were able to fully appreciate the distinctive features and risk profiles of such ETPs/ETFs.

6. Functional volatility control mechanism (VCM)[17]
    - During the COVID-19 volatility, VCMs were triggered in most of the major ETF markets, and most jurisdictions also had VCMs triggered for underlying assets in the ETF portfolios during the same period. ETFs affected by VCMs included equities, fixed income, commodity ETFs, and L&I ETFs.
    - Most C5 member respondents reported that VCMs were effective in addressing potential disorderly trading in ETFs and underlying markets.
    - Some jurisdictions showed flexibility in recalibrating the VCMs against the prevailing market volatility.[18]
    - Most C5 member respondents said that they are not considering any enhancement or adjustment to VCMs for ETFs; however, there are individual concerns over the effectiveness of VCMs for ETFs listed in Europe due to the fragmental trading environment where each exchange may have a different trading halt threshold for cross-listed ETFs.

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endnotes

[1] Exchange Traded Funds Thematic Note - Findings and Observations During COVID-19 Induced Stresses, The Board of the International Organization of Securities Commissions (IOSCO), (August. 2021), available at: https://www.iosco.org/library/pubdocs/pdf/IOSCOPD682.pdf.

[2] Id. at 3 (noting that the timeframe for the analysis was from Q4 2019 to Q2 2020, and that the analysis grouped ETFs based on their underlying asset classes and geographical regions).

[3] Id. at 4 (pointing out that for an ETF listed in Asia that tracks a US Equity index, its secondary market closing price and NAV are valued at different time points that may be more than 10 hours apart).

[4] Id. at 7 (citing to Investment Company Institute, Report of the COVID-19 Market Impact Working Group, Experiences of US Exchange-Traded Funds During the COVID-19 Crisis (October 2020) ("ICI October 2020 Report"), page 7, available at: https://www.ici.org/pdf/20_rpt_covid2.pdf).

[5] Id. at 9 (citing to ICI October 2020 Report).

[6] Id. at 10 (measuring weekly fund flows as a percentage of NAV).

[7] Id. at 11 (pointing out that market stress, especially in fixed income markets, receded following major central banks' actions).

[8] Id. (noting that US fixed income ETFs saw net outflows around US $20 billion in March 2020 but secondary market turnover of around US $720 billion during the same period).

[9] Id. at 16 (stating that industry participants included ETF managers, authorized

participants (APS), market makers (MMs) and liquidity providers (LPs).

[10] Id. (noting such premiums or discounts typically only lasted for up to two weeks, and that by April 2020, these pricing differences largely disappeared following various central banks' actions).

[11] Id. (pointing to "frictions" such as increased transaction costs, increased uncertainty related to valuation of underlying assets, and higher hedging costs due to uncertainty during periods of high stress; such frictions in the arbitrage mechanism may then lead to wider spreads and discounts as it may then take larger pricing differences for an arbitrage trade to be profitable).

[12] Id. (suggesting that, for instance, when the underlying bond markets are under stress, the NAV of a fixed income ETF may be based on pricing inputs that may no longer accurately reflect underlying market conditions).

[13] Id. at 18 (pointing out that empirical evidence also showed that ETF share prices in the secondary market were leading NAVs and thus incorporating new information in a timelier manner than that of the underlying assets, especially during times of market stress).

[14] Id. at n. 37 (stating that a custom basket differs from a standard basket because it is negotiated between the ETF manager and the AP).

[15] Id. at 22 (stating that such tools include swing pricing, redemption gates, and anti-dilution levies in some jurisdictions).

[16] Id. at 23 ("around 2% of AUM").

[17] Id. at 23-24 (stating that some examples of VCMs, include price banding (e.g., where order entries may only be made within prescribed price bands) and trading halts (e.g., single stock or market-wide circuit maker)).

[18] Id. at 24 (noting that in France, the triggering thresholds of VCMs for ETFs were doubled temporarily to accommodate the extreme volatility in March and April 2020).
