International
Capital
Market
Association

ICMA

ICMA response to
IOSCO questionnaire on ETFs for industry participants

Executive summary

ICMA welcomes the opportunity to discuss the functioning of Fixed Income ETFs and their underlying bond markets in March/April 2020.

ICMA's response involved a diverse group of members including ETF issuers, ETF investors and Authorised Participants (APs)/Market Makers (MMs), and focuses on the European Investment Grade (IG) and High Yield (HY) credit markets and related ETFs.

A common diagnosis was established for questions that are similar in part A and B, which can be summarized as follows:

- **ETF discount/premium:** Selling pressure and volatility created uncertainty around underlying bond prices and NAVs. Discounts observed did not necessarily provide arbitrage opportunities but were mainly an indication of where underlying markets were actually trading and were in that sense an important tool for market participants ('price discovery'). We therefore do not believe that the presence of discounts should be mitigated (on the contrary).

- **APs/MMs**: Despite the difficult market conditions, ICMA members observed no change in the number of APs/MMs and that, contrary to claims that market makers and APs are likely to step away in times of market stress, the ETF ecosystem functioned well. The March/April 2020 episode shows instead the need to continue improving the resilience and liquidity of corporate bond markets via its further electronification and appropriately calibrated regulation.

Part A: Questions for ETF issuers

Stresses in March/April 2020

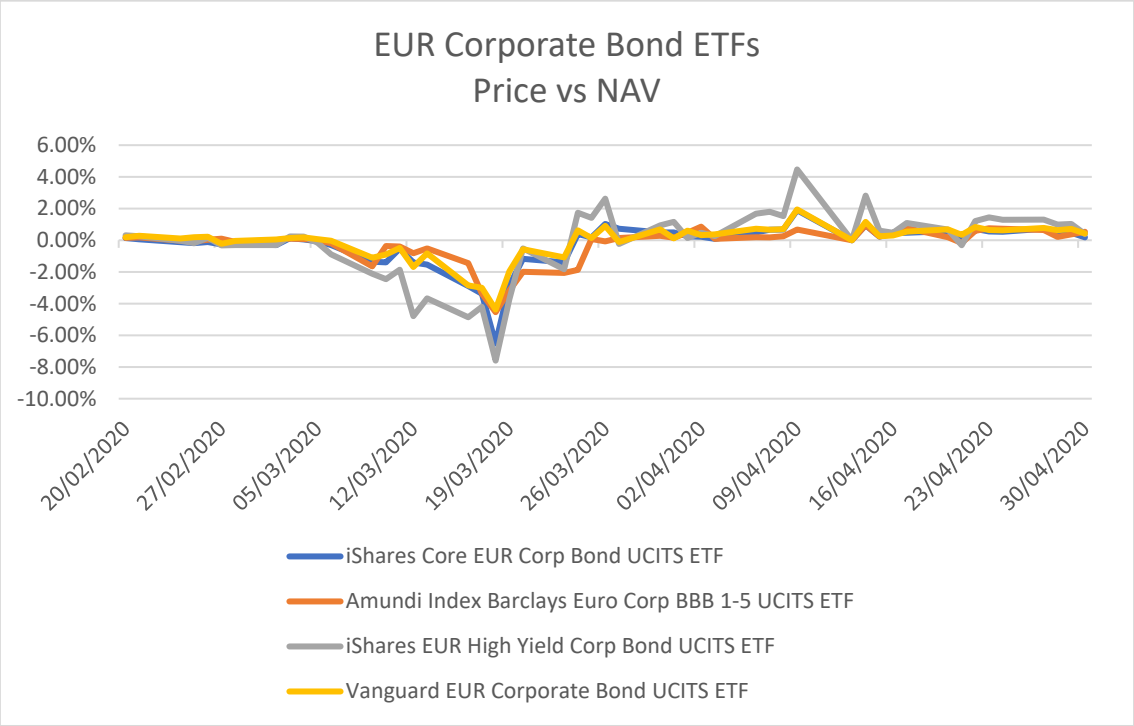
1. **During the stress period in March/April 2020, please provide your understanding about how the FI ETF ecosystem operated, including any information and data regarding:**

   (a) Significant price dislocations and how long did such price dislocation typically last?

   We assume by 'price dislocation' the questionnaire is referring to bond ETFs prices trading at a premium/discount comparing to their NAVs during March/April 2020.

   It is not uncommon for ETFs and in particular bond ETFs to trade at a discount/premium to NAV. In normal market conditions, the creation and redemption mechanism will ensure these are relatively small and short-lived. However, the discounts/premiums to NAV may appear more pronounced during periods of elevated market stress. This is because intraday ETF prices are based on live trading of the ETF, whereas the NAV is calculated at a single point in the day and based on the most recently traded prices of the underlying bonds, which are mainly traded over-the-counter. This could result in the NAV lagging, while the ETF price continuously adapts to supply and demand creating discounts/premia.

In the context of March/April 2020, bond ETFs traded at a discount in the period from 3/09 to 3/23, being their most stretched on 3/18 (the day that the ECB announced its intervention package).



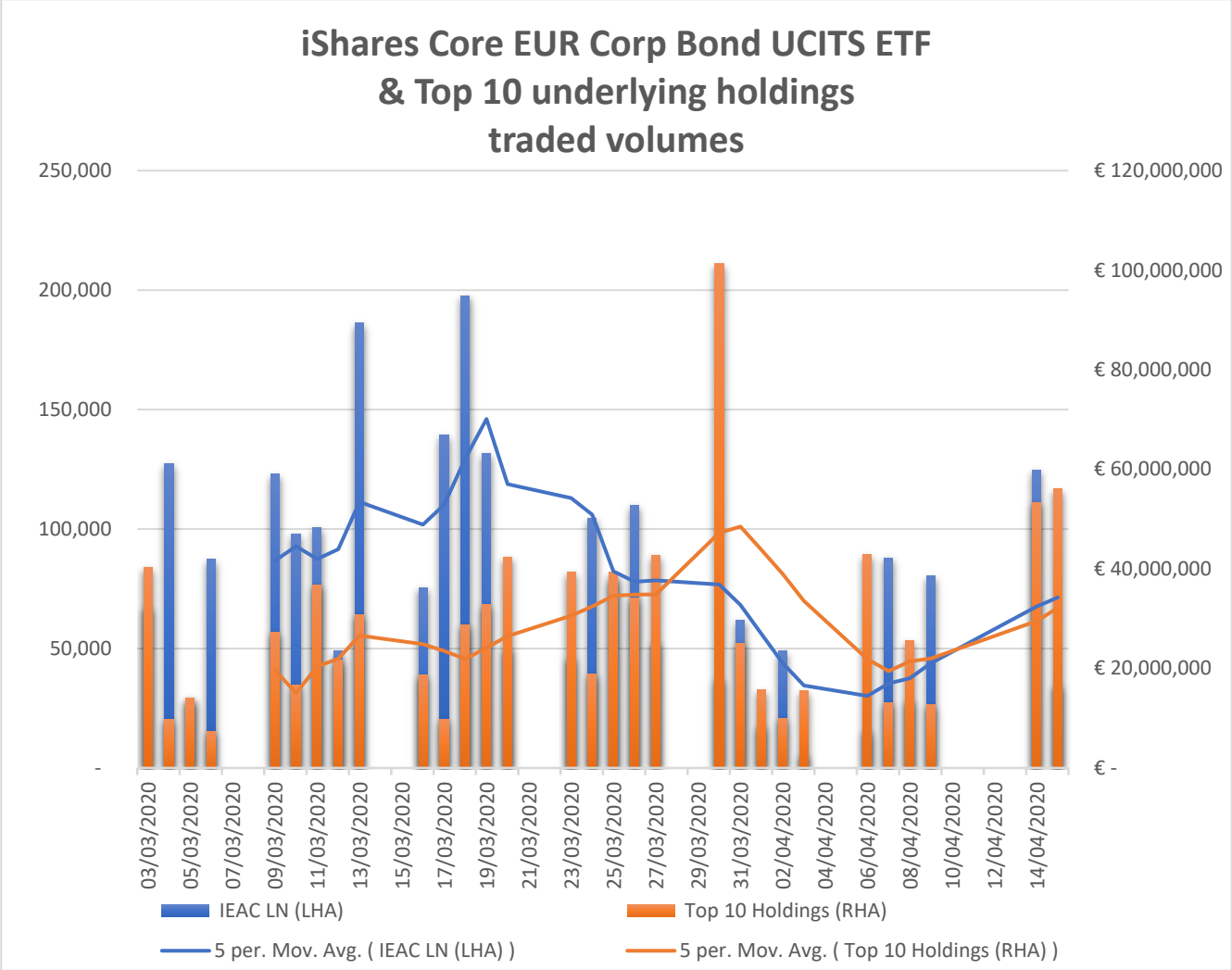
Source: ICMA analysis using Bloomberg data

The difference between the NAV and the ETF price observed in March/April 2020 can be explained by a combination of two factors:

- Price uncertainty regarding the underlying markets: As highlighted in our previous report[1], liquidity in the European IG credit market became severely impaired during the period of late February and early to-mid March, and by March 18, making trades hard to execute. The widening of the bid-ask spreads largely reflected this. The spike in volatility and the need to relocate staff (work from home) have also contributed to exacerbating uncertainty around underlying asset prices and NAVs/iNAVs.
- Price discovery via ETFs trading: The chart below shows the daily traded volumes of the iShares Core EUR Corp Bond UCITS ETF during the peak of the market turmoil (showing 2/13 to 4/15). It also shows the aggregate traded volume of the ten largest bond holdings in the ETF, intended to be a proxy for the underlying bond market. It can be observed that in the days leading up to March 18, trading in the underlying market remained relatively stable, while trading in the ETF wrapper increased significantly. Thus, during the period when bond markets were at their least liquid, liquidity in the ETF increased. Thanks to their 'second layer' of liquidity, bond ETFs were able to integrate information in a more timely manner than

[1] *The European investment grade corporate bond secondary market & the COVID-19 crisis*, May 2020, ICMA

underlying bond markets and gave a clearer picture on what was going on the market (price discovery).



Source: ICMA analysis using Bloomberg data

(b) Please provide information on how many and what types of ETFs were affected and how long the price dislocation lasted?

Most bond ETFs (HY, IG, SSA) were at some point trading at a discount/premium during March/April. The level of discount/premium and the timeframe are mainly subject to the secondary market activity of each ETF and the nature of the liquidity of underlying bonds. But overall discount/premium only lasted a few days.

(c) Were there any notable changes in the primary activities and secondary market trading of the affected ETFs (e.g the mix of in-kind and in-cash primary activities, the number and composition of AP participation, the mix of primary and secondary market volume, shifts from OTC trading to exchange trading)?

Bond ETFs primary activities are generally in-kind rather than in-cash. ICMA members observed no change in the number of APs and that, contrary to claims that market makers and APs are likely to step away in times of market stress, the ETF ecosystem functioned well

during March/April 2020. Some members decided to apply anti-dilution levies to protect existing investors from bearing the costs associated with large outflows and inflows at the time.

Regarding secondary markets, investors were able to continue to trade ETFs throughout the period based on their own constraints and perceived cost of liquidity. As bond market liquidity deteriorated, investors increasingly relied on ETFs for fixed income exposure, as evidenced by ETF record trading volumes comparing to underlying holdings.

Overall, all stakeholders maintained a continuity of service even in the difficult market conditions.

(d) In your view, what were the likely causes of FI ETF discounts? Do you have views on any good practices that facilitate the pricing normalization process?

It is not unusual for ETFs to be traded at discount. As explained in our response to question 1 (a) it is due to two factors that need to be considered together. These factors were largely at play in March 2020:

-Dynamic pricing of ETFs: An ETF trading at discount is likely to happen when there is an imbalance of orders to buy or sell shares of ETFs, and therefore, demand cannot be fully met through the secondary market. In this context the ETF's price can deviate from the NAV creating an opportunity for authorised participants to step in to participate in the creation and redemption process. The discounts observed on the markets in March/April 2020 did not reflect real ETF discounts and did not provide arbitrage opportunities. As explained below, those discounts are more technical in the sense that they are the result of the difference between a live price, or the fund's theoretical price (taking into account the true market liquidity), and NAVs that are calculated using the index methodology (incorporating no executable price of bonds or binding prices). This also explains how ETFs became a means of price discovery for the underlying bond market.

-Static and lagging NAV: Bond ETFs are more likely to be subject to discount/premium because of the characteristics of the underlying markets. This is because an intraday ETF price is based on live trading of the ETF, when the NAV is calculated at a single point in the day and based on the most recently traded prices of the underlying bonds which are mainly traded over-the-counter. This could result in a 'NAV lag', while the ETF price continuously adapts to supply and demand creating discounts/premia. During March/April uncertain prices in underlying bond markets may have also temporarily impaired the ability of APs/MMs to take advantage of potential arbitrage opportunities. But eventually they were able to step in and contribute to the creation and redemption of ETF shares (primary market) and the 'pricing normalization process.'

(e) Should the risk of discounts be mitigated, and/or do they provide potential opportunities?

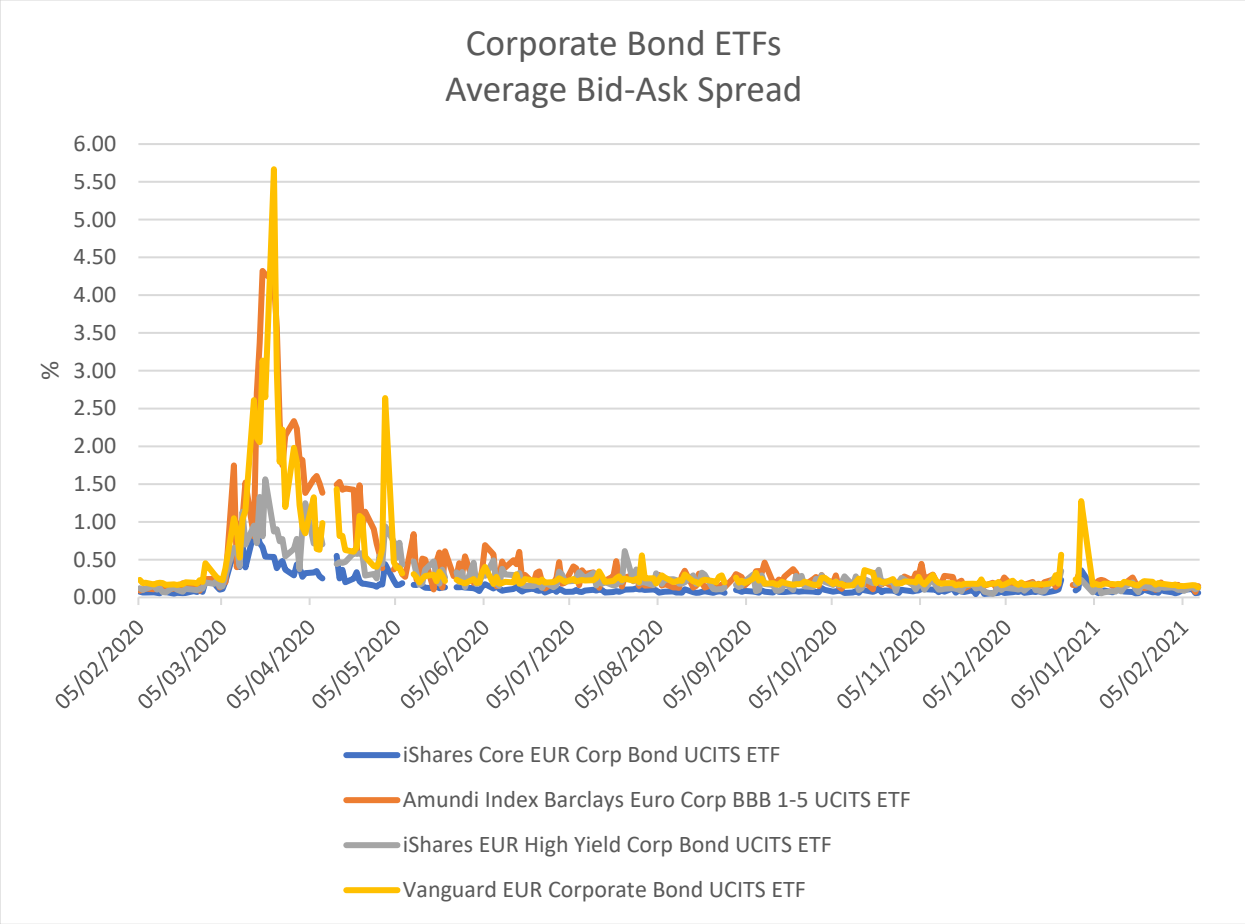
The presence of discounts should not be mitigated. The price discovery function provided by bond ETFs in extreme circumstances is an important and valuable tool for capital markets. Thanks to their 'second layer' of liquidity, bond ETFs are able to integrate information in a more timely manner than underlying bond markets and can give a clearer picture on what was going on the market.

(f) To the extent that you also managed other unlisted fixed income funds, please discuss whether and how the discounts observed in FI ETFs affect these funds.

We could not establish any correlation between fixed income ETFs and other fixed income mutual funds. While unlisted fixed income funds were at some point subject to valuation uncertainty (NAV update lagging), this was primarily due to underlying markets. Trading conditions of the bonds were identical regardless of the investment wrapper (ETF or index fund), which shows that the topic of conversation should not be the investment vehicle itself, but the functioning of underlying markets in periods of stress.

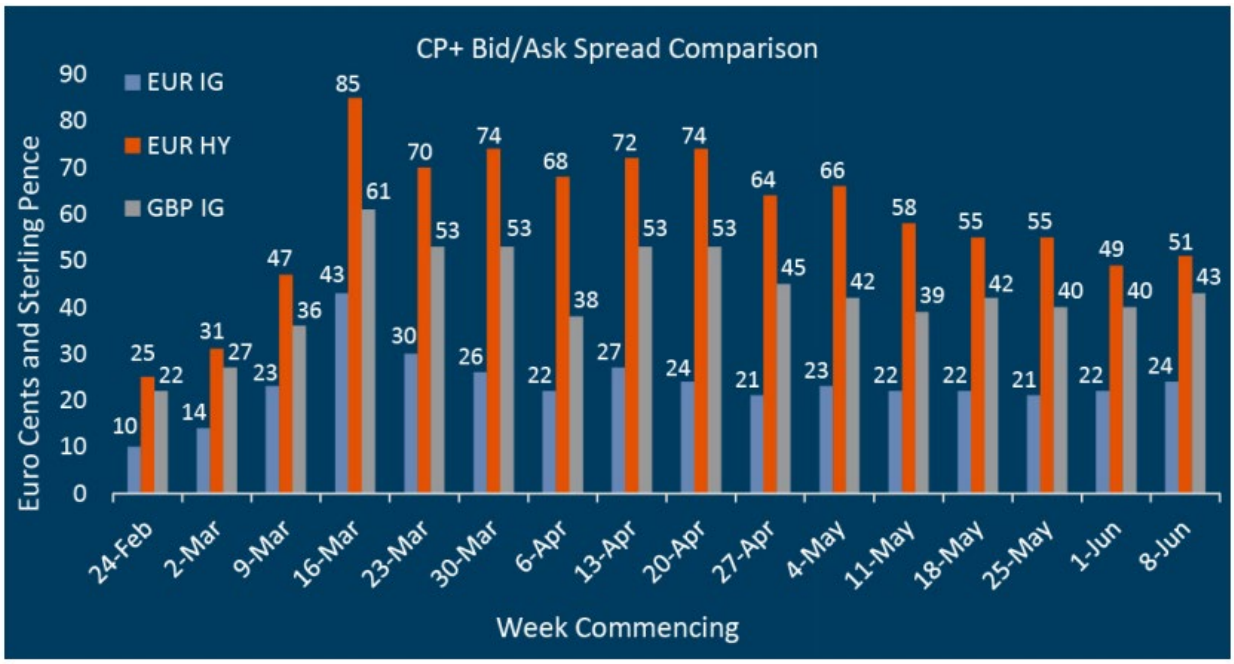
(g) **Did you receive any investor complaints regarding the pricing difference between the NAV and the ETFs' secondary market prices? If so and if possible, please elaborate**.

It is our understanding that members received no complaints. Explanations were at times provided to clients, but overall investors were familiar with the concept of price discount/premium comparing to previous stress events. As bond market liquidity deteriorated, investors increasingly relied on ETFs for fixed income exposure, as evidenced by ETF trading volumes comparing to underlying holdings. In many instances, it was cheaper to trade the ETF than the basket of underlying securities (where bid-ask spread widened more than on ETFs).



Source: ICMA analysis using Bloomberg data

The above chart shows the average bid-ask spread for four of the most liquid EUR corporate bond ETFs. Whilst these widened notably during the peak of the market turmoil, this is entirely consistent with the widening of bid-ask spreads observed in the underlying market (see below).



Source: MarketAxess

At the height of the crisis, European price spreads saw increases of +377% in EUR IG (€0.09 to €0.43), +325% in EUR HY (€0.20 to €0.85), and +190% in GBP IG (£0.21 to £0.61).

To the extent possible, please support your responses by sharing relevant data.

2. **During the stress period in March/April 2020, were there any noteworthy developments or stresses concerning futures or derivatives-based ETFs under your management or coverage? If so, do you have views on good practices that seek to address these stressed scenarios?**

During the stress period we did not notice any specific issue with synthetic ETFs. They benefited from a strong commitment from market-makers, in line with physically-replicated ETFs, and maintained liquidity provisions throughout March 2020.

Some futures or derivatives based ETFs such as commodity ETFs had to adapt index rules, which did not foresee that contracts could enter into negative territory (e.g. US oil).

Effective Product Structuring

1. **(a) As part of the design phase of a FI ETF, please describe the decision-making process you follow to decide on appropriate arrangements/product features that support the arbitrage mechanism, including the adequacy of the number of authorized participants (APs) / MMs, the attributes that you look for in APs/MMs and their business model.**

ETFs issuers determine which APs are authorized to transact with the ETF prior to launching the ETF. Only authorized APs have the ability to utilise the creation/redemption process. APs do not receive compensation from the ETF issuer and have no legal obligation to create or redeem the ETF's shares. APs are compensated either through their market making activities in the secondary market, or through service fees they collect from clients (such as independent market makers) who may engage them to facilitate primary trades on their behalf).

Liquidity is a very important feature of ETFs and any mismanagement in this area could create irreversible reputational issues for ETF providers. Liquidity is therefore carefully assessed pre and post launch by both local regulators that authorise investment funds and ETF issuers, which make sure to work with a large network of APs with which they have different contractual agreements. ETF issuers make sure that APs are familiar with the arbitrage mechanism in place well ahead so that they are in a position to support primary market activities on day one.

It is worth noting that, in the EU, ETFs are subject to UCITS, which contain specific requirements regarding fund liquidity management (eg ESMA guidelines on liquidity stress testing and ETFs). Although this was not used during March/April 2020, ESMA's guidelines on ETFs allow investors to redeem directly at the level of ETF issuer, which provides an additional layer of protection to investors in the absence of APs or secondary market liquidity.

The ETF issuers which are members of ICMA have not experienced a shortfall of APs (when some stepped out, others stepped in) during the March/April episode.

(b) To the extent that there are a small number (e.g. 1-2) of APs/MMs for a particular FI ETF, please describe measures / features (including those relating to market structure and trading incentives) that aim to promote participation by other market participants (e.g. institutional investors) in arbitrage activities or liquidity provision.

The ETF issuers which are members of ICMA, work with a large network of APs and have not experienced a shortfall of APs during the March/April episode. While some stepped out, others stepped in.

The nature of ETFs – and even more so the in-kind creation/redemption mechanism that is common practice for fixed income ETFs – allows APs to efficiently manage positions between an ETF and its underlying securities. This in turn creates opportunities should an unjustified discrepancy arise between an ETF and its underlying basket of securities. Should some market makers step away, others would seize this opportunity by filling the void. This is in line with a Research Note by the FCA, which found out that other market participants were "stepping in" during times of market disruption.

Although this was not used during March/April 2020, it is worth noting that ESMA's guidelines on ETFs allow investors to redeem directly at the level of ETF issuer, which provides an additional layer of protection to investors in the absence of APs or secondary market liquidity.

(c) Please comment on any industry practices for exclusive arrangements to APs/MMs and the reasons for them.

ETF providers generally operate with very large and a diversified APs/MM/brokers network (which is a risk mitigation factor) and in Europe the primary market is opened to new APs (no limit to number of APs as long as an agreement signed with the ETF issuer).

2. **Please describe your policies and procedures for valuation and if applicable, any reliance on third party valuation advisors, including for less liquid holdings. How do you evaluate the valuation advice from third party? Do you rely on index prices for valuation and, if so, please outline the extent, and circumstances in which you might vary from these prices.**

The NAV of an ETF is generally calculated using pricing services. Inputs for NAV calculation are typically actual trades (for bonds that traded that day) and/or estimates for bonds that trade infrequently or did not trade that day (based on observed market activity for similar bonds that did trade) and other metrics such as dealer quotes and interest rate movements.

In the EU, ETF issuers are subject to UCITS, which means that they are ultimately responsible for the calculation of the issue or redemption price, and errors in the calculation of the net asset value and related investor compensation. A UCITS ETF should also disclose clearly in its prospectus how the indicative net asset value is calculated, if applicable, and the frequency of calculation.

3. **If applicable, please describe how you calculate iNAV for FI ETFs. Please also comment on the utility of iNAV pricing information to investors and market participants (e.g. MMs and LPs). What improvements, if any, could improve the quality and the availability of iNAV in facilitating arbitrage? Alternatively, please comment on any possible alternative approaches if you do not produce an iNAV for FI ETFs.**

   iNAVs are not particularly helpful for MMs and LPs in a situation of stress like March/April 2020 where there is strong volatility and uncertainty around prices of underlying bonds.

   iNAVs are particularly relevant for exposures that trade at the same time as the ETF (i.e. European equities) or for which there is a reliable proxy that is quoted at the same time as the ETF (e.g. Futures).

   In normal times, iNAV gives investors a good proxy for the value of the fund and an important tool to protect them (ie trigger for circuit breaker). There may be however alternative indicators to trigger circuit breaker in times of stress (volatility indicators, proxy indicators with dynamic price references). Whatever the metric used it needs to both reflect the ETF underlying market liquidity and allow circuit breakers to operate efficiently.

4. **Are there any mechanisms other than full portfolio information which could be of use to facilitate effective arbitrage? Please elaborate. For example, please discuss your views on whether disclosing portfolio and creation/redemption information solely to APs/MMs impedes or assists arbitrage.**

   Disclosing the portfolio composition to APs and market makers is indeed critical for an efficient secondary market functioning.

5. **Are there asset classes or investment strategies that may present particular challenges (or be otherwise inappropriate) for the ETF structure? In responding, please provide any supporting data or other information.**

   In Europe, ETFs are UCITS funds complying with the UCITS eligible assets rules and requirements, as well as diversification ratios and risk control monitoring. Within this UCITS framework they do not invest in inadequate nor implement inappropriate strategies. Regarding eligible assets, those cannot be real assets nor physical commodities, and assets must be “liquid” according to the regulatory provisions. Components of European UCITS ETFs indices are valued daily. More importantly there is no liquidity transformation generated by UCITS ETFs.

6. **Please discuss your views on causes of divergences, in general, of the ETF secondary market price from NAV, particularly for FI ETFs, and how they could be addressed. Please focus your answer on your experiences beyond the COVID-19 stress in March/April 2020 as covered in the first section above to consider the ETF structure more generally**.

   We do not believe that discount/premium divergences need to be addressed or mitigated. The price discovery function provided by bond ETFs in extreme circumstances is an important and valuable tool for capital markets. Thanks to their ‘second layer’ of liquidity,

bond ETFs are able to integrate information in a more timely manner than underlying bond markets and can give a clearer picture on what was going on the market.

The March/April 2020 episode shows instead the need to improve the resilience of corporate bond markets. We believe that this could be achieved by mitigating disincentives to liquidity provision, including a review and possible recalibration of prudential capital and liquidity treatments for market makers; not only for underlying bonds, but also related hedging and financing transactions. The removal of the EU CSDR mandatory buy-in obligation is another critical consideration in this respect. Improved market transparency, such as the introduction of an EU consolidated tape for bonds, could potentially also help, if appropriately implemented and calibrated.

Disclosure Aspects

1. **If applicable, please describe your policies for assisting investor understanding of ETF fees and expenses. Are there particular disclosures (e.g. income from securities lending) or measures that are effective in the case of a zero-fee ETF?**

   ETFs are UCITS funds in Europe. As a result they comply with all UCITS transparency requirements, amongst which those related to costs and charges. ETF costs (at the fund's level) are already transparent, like it is also the case for other UCITS "traditional" funds. The costs data are available from the funds' KIID (funds' on-going charges) as well as the MiFIF2 reporting (transaction costs reported in the 'EMT file').

2. **Please describe your views on how to make disclosures of secondary market trading costs, spreads and variations from NAV, rebalancing and swap costs, and securities lending/repo income more effective for different investors, including retail investors.**

   All the information related to ETF costs is captured by the Tracking Difference and Tracking Error metrics rather than the funds' Total Expense Ratio (or On-Going Charges for UCITS funds). Indeed replication costs linked to the rebalancing costs (costs not captured by the anti-dilution mechanisms such as swing pricing and/or entry/exit fees) including taxes, trading and settlement costs, swap price, as well as optimized income generated within the fund, are captured within the ETF performance and its tracking difference.

Liquidity Provision

1. **Please describe how you prepare and plan for the exit (even temporarily) of a MM for ETFs with less liquid assets.**

   ETF providers have contractual agreements with multiple market makers. Those arrangements define details on the service provided to the ETF, as well as the terms of causes for termination, and processes following this termination. If a market maker can no longer meet its obligations, an alternative solution will be found: either adding one or more other contracted market makers, or opening the primary market to final investors (as the European fund's structure and UCITS obligations allow it). There are other measures to ensure any fallout is mitigated e.g. listing exchanges will often incentivise market-making, as well as the Limit-Up/Limit-Down rule in the US, which is intended to address extraordinary market volatility that may result from temporary gaps in liquidity.

2. **Please describe your policies for monitoring secondary market trading and market making activities of the ETFs you manage, including the major risks being monitored and the potential follow-up actions. If possible, please provide examples.**

It is worth noting that, in the EU, ETFs are subject to UCITS, which contain specific requirements regarding fund liquidity management, including diversification/concentration ratios and risk control monitoring (ie ESMA guidelines on liquidity stress testing). Although this was not used during March/April 2020, ESMA's guidelines on ETFs allow investors to redeem directly at the level of ETF issuer, which provides an additional layer of protection to investors in the absence of APs or secondary market liquidity.

Beyond these regulatory requirements, ETF issuers would normally monitor/manage secondary market liquidity on an on-going basis (bid-ask spreads, stock exchanges' requirements, presence time etc.). This can notably lead to adapt anti-dilution levy mechanisms used on primary markets in times of stress.

Part B: Questions for ETF MMs / LPs

General

1. **Under what circumstances could the arbitrage mechanism of FI ETFs fail? What factors could contribute to this under stressed market conditions? Please describe any good practices to mitigate the impact of this occurrence.**

MMs, which are members of ICMA, have not witnessed FI ETFs structured in a way that could cause the arbitrage mechanism to fail. It is highly unlikely that the arbitrage mechanism will fail; this was borne out in March/April 2020 when there were minimal problems during a period of extreme market stress. This confirmed the findings of the FCA research paper that APs do not typically step away during periods of market stress but instead they see more APs stepping in. Ensuring that issuers operate open architecture multiple AP models is important to ensure this remains the case.

The discounts observed on the markets in March/April 2020 were not real ETF discounts, as they did not always provide real arbitrage opportunities. As explained previously, those discounts were more technical in the sense that they were the result of the difference between a live price, or the fund's theoretical price (taking into account the true market liquidity), and NAVs that are calculated using the index methodology (incorporating no executable price of bonds or binding prices). This largely explained why ETFs became a means of price discovery in the underlying bond market.

The March/April 2020 episode shows instead the need to improve the resilience of corporate bond markets. We believe that this could be achieved by mitigating disincentives to liquidity provision, including a review and possible recalibration of prudential capital and liquidity treatments for market makers; not only for underlying bonds, but also related hedging and financing transactions. The removal of the EU CSDR mandatory buy-in obligation is another critical consideration in this respect. Improved market transparency, such as the introduction of an EU consolidated tape for bonds, could potentially also help, if appropriately implemented and calibrated.

2. **Given the comparative lack of transparency and liquidity in fixed income markets, and the OTC nature of trading, please describe good practices to manage any potential conflicts (notably pricing conflicts) with respect to business models and market making/arbitrage activities.**

Stresses in March/April 2020

1. **During the stress period in March/April 2020, did you have any general observations how the FI ETF ecosystem or underlying markets operated? For example, did you experience difficulty in transacting in fixed income instruments?**

As highlighted in our previous report[2], liquidity in the European IG credit market became severely impaired during the period of late February and early to-mid March, and by March 18, making trades hard to execute. The widening of the bid-ask spreads largely reflected this. There was a buy-to-sell enquiry skew going into early March as high as 20:80 to 10:90, noting that in previous corrections during this multi-year rally this would not rise much above 40:60. The spike in volatility and the need to relocate staff (work from home) have also contributed to exacerbating uncertainty around underlying asset prices and ETFs' NAVs.

Some ICMA members report that bond market liquidity in the week following the announcement of central bank interventions (in mid-March) was perhaps even worse than the week leading into it. Sell-sides, report that the buy-to-sell enquiry skew fully reversed, to close to 90:10, as asset managers came back into the market looking to redeploy funds and rebalance risk. Bond dealer capacity appears to have become stretched in the face of predominantly one-directional flow. Consistent with this, we observe FI ETFs temporarily trading at a premium to their NAVs.

Please provide your views regarding the discounts to NAV seen in FI ETFs during the stress period in March/April 2020. In particular,

(a) How many and what types of ETFs were generally affected? In case of any significant price dislocations, how long did the price dislocation typically last?

Please refer to our response in section A.

(b) Were there any notable changes in the primary activities and secondary market trading of the affected ETFs (e.g. the mix of in-kind and in-cash primary activities, the number and composition of AP participation, the mix of primary and secondary market volume, shifts from OTC trading to exchange trading)?

Please refer to our response in section A.

(c) In your view, what were the likely causes of these discounts?

We would like to reiterate some of the points made in our response to section A. Discounts are due to the difficulties in pricing services to update the value of bonds in a timely manner versus the real-time price of an ETF, which is more reactive to market developments than the prices of underlying bonds. Some bonds simply don't trade very often leading to stale pricing.

(d) Do you have views on any good practices adopted to facilitate the pricing normalization process?

Increasing transparency in bonds would go some way towards this; for example, very few bonds in Europe are subject to real-time transparency and there is no consolidated tape. Bonds are subject to significant deferral exacerbating the real-time pricing issue.

(e) Should the risk of price dislocations or discounts be mitigated, and/or do they provide potential opportunities?

Please refer to our response in section A.

[2] *The European investment grade corporate bond secondary market & the COVID-19 crisis*, May 2020, ICMA

(f) **If applicable, were the funding conditions tightened by your prime brokers during the crisis? If so, please describe to what extent these changes affected your liquidity provision capabilities and how you mitigated the impact. To the extent possible, please support your responses by sharing relevant data.**

Obviously this is specific to each market maker but in general during March/April 2020 there was no evidence to suggest market makers stepped away, which implies there was not a problem with their funding capacity overall.

2. **During the stress period in March/April 2020, were there any noteworthy developments or stresses concerning futures or derivatives-based ETFs under your coverage? If so, do you have views on good practices that seek to address these stressed scenarios.**

Please refer to our response in section A.

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1 March 2021

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