# Corporate Bond Markets – Drivers of Liquidity During COVID-19 Induced Market Stresses

## Response from the International Capital Market Association

July 2022

### Introduction

ICMA welcomes the opportunity to respond to IOSCO's May 2022 Discussion Paper: *Corporate Bond Markets – Drivers of Liquidity During COVID-19 Induced Market Stresses.* ICMA is also grateful for the opportunity to engage with the IOSCO-FSEG Corporate Bond Market Liquidity working group while it undertook its analysis, both through its Secondary Market Practices Committee (SMPC) as well as through the IOSCO Affiliate Members Consultative Committee (AMCC) in the form of the especially created Bond Market Liquidity Working Party (BMLWP).

ICMA promotes well-functioning cross-border capital markets, which are essential to fund sustainable economic growth. It is a not-for-profit membership association with offices in Zurich, London, Paris, Brussels, and Hong Kong, serving around 600 members in 65 jurisdictions globally. Its members include private and public sector issuers, banks and securities dealers, asset and fund managers, insurance companies, law firms, capital market infrastructure providers and central banks. ICMA provides industry-driven standards and recommendations, prioritizing three core fixed income market areas: primary, secondary, and repo and collateral, overlayed by the transformational cross-cutting themes of sustainable finance and Fintech and digitalization. ICMA works with regulatory and governmental authorities, helping to ensure that financial regulation supports stable and efficient capital markets.

ICMA's response to the discussion paper was drafted under the guidance of its Secondary Market Practices Committee (SMPC). The SMPC is an open forum for sell-side and buy-side member firms active in the international, cross-border secondary bond markets. Through open dialogue and engagement, as well as through its subsidiary working groups and work-streams, it seeks to be the representative body of the international, cross-border secondary bond markets: addressing practical issues directly relevant to market practitioners; standardizing market best practice; disseminating relevant market information; and promoting the best interests of efficient and liquid markets.

ICMA has drafted its response based on member input, as well as drawing on its own published analysis of how the European IG corporate bond market performed during the turmoil. This is supplemented with the findings of a range of other ICMA research and white papers form recent years, as well as the various SMPC discussions with the IOSCO-FSEG CBML working group. ICMA's response is almost exclusively from the perspective of the European market.

## Response

### Summary of key outcomes

1. *What are your views on the key outcomes drawn from IOSCO's analysis of the corporate bond markets? Are there any aspects of the diagnostic analysis and the key outcomes with which you disagree or that would benefit from more nuance? Please be specific to each observation and indicate why.*

ICMA would broadly agree with the key outcomes drawn from IOSCO's analysis, at least from the perspective of European Corporate Bond Markets. ICMA would concur that corporate bond markets, in terms of overall outsandings, have increased significantly in recent years, while dealer capacity would appear to have remained unchanged. ICMA would also agree that despite the advancement of electronic trading, along with the development of new trading protocols and the introduction of new liquidity dynamics, the essential structure of corporate bond markets is relatively unchanged.

The observations of how the market performed during the covid-19 induced turmoil, leading up to and after central bank interventions on March 18 2020, are also consistent with those reported in ICMA's analysis of the European investment grade corporate bond market during this period.[1] For example, the ICMA report notes that secondary trading volumes did not decrease significantly leading up to March 18, and increased subsequently (one sell-side respondent suggests that these more than doubled). However, this is against a backdrop of a marked increase in client enquiry, meaning that hit-rates dropped (to around half of their average level), indicating a relative reduction in liquidity. ICMA further notes that the ability and willingness of dealers to provide balance-sheet to support liquidity provision also became challenged at this time. While many banks did 'step up to the plate' to continue providing liquidity and making markets for their client, albeit with significantly wider bid-offer spreads, this was not the case for all market-makers, and overall dealer capacity appears to have shrunk at a time when it was needed most.

ICMA members would express concern, however, at the possibility of this isolated, and relatively unique, event being relied upon to inform policy decisions. They note that the market moves and behaviours of March 2020 were not caused by inherent structural weaknesses or the mispricing of risk, as had been the case in 2007-08, but were rather the direct consequence of a global health crisis and the actions undertaken by various governments in response to this. It was the effective shutting-down of economies that prompted the 'dash for cash' and the subsequent high levels of market volatility across all asset classes.

ICMA members also highlight the danger of inferring generic conclusions from IOSCO's findings, without making important distinctions between underlying market structures across different jurisdictions (in particular the US and Europe), alongside the varying fiscal and monetary policy responses of the relevant governments and central banks. In the EU, for example, the market was still enjoying some support from central bank bond purchase program which were running at the time, while this was not the case in the US and which may explain why we observe a greater degree of price dislocation in the US corporate bond market. Furthermore, bond funds in the US benefited from direct central bank support, which was not the case in the EU, which also has implications for dealer capacity and behaviours.

[1] See: The European investment grade corporate bond secondary market & the COVID-19 crisis (May 2020)

2. *Does the report capture and accurately describe the main features of the corporate bond markets? Is there a particular aspect (or aspects) that may be missing?*

ICMA would agree with IOSCO's assessment that corporate bond markets, structurally, are very different from other asset classes such as equities. Firstly, corporate bond markets consist of many lines of bonds per issuer (sometimes hundreds). Secondly, corporate bonds are largely buy-to-hold instruments that are inherently illiquid. As the report notes, most trading activity tends to be in the first few weeks, or even days, after a bond is issued, after which trading becomes relatively scarce. Thirdly, there is very little direct retail investment in corporate bonds, which are mainly traded by wholesale investors and bond funds.[2] Fourthly, the primary source of secondary market liquidity comes from market-makers who intermediate flows through their balance sheets, which often involves warehousing and managing risk. This is particularly important in the case of larger ('block') trades. As the report notes, the underlying size of corporate bond markets has increased significantly in recent years, while at the same time dealer capacity to provide liquidity has become both more constrained and concentrated.

Perhaps missing, at least in sufficient detail, from the report is an analysis of the role of both the credit repo[3] and single name credit default swap (SN-CDS) markets. ICMA's work in recent years has illustrated how fundamental both of these are in supporting liquidity provision for corporate bond markets.[4] ICMA's research indicates that, at least from the perspective of the European markets, liquidity has deteriorated quite substantially since 2008, and that this has had a direct impact on liquidity provision in the underlying corporate bond market.

3. *Are there ways to improve the market functioning and liquidity provision in corporate bond markets, notably under stressed market conditions? If so, please explain how and the extent to which this could be addressed at an international level?*

While market-led initiatives successfully continue to find solutions to bolster liquidity, for example with improved connectivity through trading venues, or new trading protocols, such as 'all-to-all' or 'portfolio trading', there needs to be a wider understanding among the regulatory community of corporate bond market structure and participant dynamics, which are clearly outlined in the IOSCO report. In particular, there needs to be a deeper appreciation of the role of market-makers, the constraints under which they operate, not least in times of market stress, and the economic incentives to allocate balance sheet and assume risk. This should be assessed in light of the potential benefits they provide for investors and the market more broadly with respect to overall efficiency and stability.

As concluded from ICMA's analysis of the European IG corporate bond markets during the covid turmoil, the main lesson learned from the crisis perhaps is to be reminded how corporate bond secondary markets function and how liquidity is created, with market-makers at their core.

[2] There is an ongoing debate about whether corporate bonds, as standalone investments, are suitable for retail risk profiles. Many hold the view that retail investment should only be through appropriately balanced fund vehicles.

[3] The term credit repo is used widely to encompass both repurchase agreements and securities lending in corporate bonds

[4] See: The European Credit Repo Market: The cornerstone of corporate bond market liquidity (June 2017) and The European Corporate Single Name Credit Default Swap Market - A study into the state and evolution of the European corporate SN-CDS market (February 2018)

Constraining the ability of market-makers to take prudent and appropriately priced and capitalized risk will inevitably impact market liquidity and, potentially, efficiency, particularly in times of market stress. Whether the screens are switched on or off, it is the dealer-client relationship that ultimately holds the market together.

4. *What further work, if any, should IOSCO consider in the context of corporate bond markets?*

As suggested in the response to Question 2, a deep dive into the role and importance of the credit repo and SN-CDS markets in underpinning market efficiency and resiliency could help to inform broader considerations around the prudential calibration of liquidity provision in corporate bond markets.

## Background of corporate bond markets globally

5. *Are the features and key characteristics of the corporate bond markets accurately capture and described? Is there a particular aspect (or aspects) that may be missing?*

From the perspective of the European IG corporate bond market, ICMA would agree with both of IOSCO's observations with respect to corporate bonds essentially being 'buy and hold' instruments and the significant growth in market size over the past decade. ICMA would also concur that an efficient and active primary market is important both for general market liquidity and as a barometer for the overall health of the market. However, ICMA research prior to 2020 suggests a disconnect between liquidity conditions in the primary and secondary markets for European IG corporate bonds.[5]

Issuers, as well as syndicate managers, follow secondary markets closely, usually as a barometer for market sentiment and investor appetite. The pricing action of an issuers existing outstanding issues (the issuer's 'secondary curve'), as well as SN-CDS pricing, where available, can be an important consideration in estimating demand and a useful reference point in determining the pricing of a new issue. What ICMA's analysis suggest is that is that despite any declines in secondary market liquidity conditions, the primary market remained resolutely robust. With the exception of a slow final quarter in 2018 (as global credit markets came under pressure), new issuance for European IG non-financial corporates (NFCs) over the prior three years remained higher than at any previous time, and with the first quarter of 2019 hitting record levels. This can at least in part be explained by aggressive monetary policy which created a strong demand for primary issuance, which is also reflected in low outright yields and super-tight credit spreads, which, arguably, were not reflective of fundamentals.

As the IOSCO report highlights, it was again central bank intervention that was critical in re-opening the primary market during the covid induced market stresses. According to ICMA's analysis, one of the key factors in bringing some stability to the EU corporate bond secondary market seems to be the surge in new issuance following the ECB's March 18 intervention. Not only did this new supply satisfy pent-up demand, it also helped to provide a point of reference for secondary valuations: a reversal of the traditional pricing relationship between primary and secondary.

[5] See: Time to act: ICMA's 3rd study on the state of the European investment grade corporate bond secondary market (March 2020)

## Liquidity during the COVID-19 induced stress

6. *Does the report accurately describe the state of liquidity in corporate bond markets during the COVID-19 market stress across the three stated measures employed in the report?*

Definitions of and methodologies for measuring bond market liquidity vary and can be prone to a high degree of subjectivity. In its 2016 report on the European corporate bond market,[6] ICMA settled upon the following definition: *the ability to execute buy or sell orders, when you want, in the size you want, without causing a significant impact on the market price.* This essentially captures the three dimensions of liquidity outlined by Kyle (1985)[7] and Harris (2003):[8] cost, depth, and time.

ICMA notes that the IOSCO analysis has selected as its measures of liquidity: primary market issuance; levels of secondary market activity; and price/transaction costs. In the case of the first two criteria, at least from a European market perspective, ICMA would support IOSCO's observation that primary market activity decreased significantly from February to mid-March 2020 (only to explode following ECB intervention). ICMA's analysis also supports the observation that secondary market volumes did not decrease by any notable degree, but, as previously noted, this was against a backdrop of highly elevated enquiry, suggesting that the ability to execute was significantly impaired. ICMA's analysis and participant feedback further corroborates the observation that any reduction in liquidity was directly correlated to credit ratings, with lower credits being more severely impacted. ICMA's analysis also identifies a flattening of credit curves, which is usually an indicator of market stress rather than a barometer of liquidity.

This last point also raises an important consideration around using pricing and transaction costs as indicators of liquidity, and the inherent difficulty associated in deconstructing dealer bid-ask spreads. Firstly, bond prices are generally not firm (i.e. executable). Due to the costs and risks associated with market-makers taking positions onto their books, quoted prices are invariably indicative at best. Secondly, bond-dealers' bid-offer spreads reflect a number of components: balance sheet costs, hedging costs, financing costs, and, most importantly, volatility. As ICMA has pointed out in several publications, there is tendency to conflate volatility with liquidity,[9] particularly when using classic equity market- based measures of trading costs in the context of bond markets.[10] Therefore the wider bid-ask spreads observed during the covid turmoil are more likely to reflect increased market volatility than a decrease in liquidity. ICMA research would also suggest that in times of stress liquidity becomes more binary, with the ability to execute becoming a more meaningful metric than price.

[6] See: Remaking the corporate bond market ICMA's 2nd study into the state and evolution of the European investment grade corporate bond secondary market (July 2016)
[7] Kyle, A, S, 1985, Continuous Auctions and Insider Trading, Econometrica, Vol. 53, No. 6 (November 1985)
[8] Harris, L, 2003, Trading & Exchanges: Market Microstructure for Practitioners, Oxford University Press
[9] In a study undertaken by Risk Control, commissioned by the European Commission (see European Commission 2017), the researchers suggest that previous regulatory studies had conflated a sharp decline in volatility with a perceived improvement in liquidity.
[10] The Amihud (see Amihud, Y., 2002) measure of calculating the cost of round-trips in equity transactions has frequently, and crudely, been adopted as an attempt to measure bond market liquidity, with misleading outcomes.

## The drivers of liquidity - supply, demand, and market participant behaviors

### The demand for liquidity

7. *Do you agree with the overarching analysis of the drivers of buyside investor behavior set out in this section?*

ICMA would agree that a better understanding of the complex biosphere of corporate bond market investors is helpful in trying to map and predict responses to market shocks, and commends IOSCO for its attempts to do this. ICMA, as part of the IOSCO AMCC Corporate Bond Market Liquidity Working Party (BMLWP) also attempted to deconstruct different investor behaviours (across jurisdictions) through the means of surveying market participants.[11]

In the case of the BMLWP initiative, it became clear that there were some limitations in its approach. However, perhaps helpfully the CBML WP did conclude that given the rich and varying diversity of investor ecosystems, it is also difficult to draw general conclusions on the buy-side behaviors in times of stress**.** Active fund managers may look to reduce exposure to credit markets more generally, but some investor types, such as insurance funds, are less directionally biased, while others, such as credit hedge funds or central banks, may become net buyers of corporate bonds. In particular, many underlying investors within investment funds are long-term investors, and are usually keen to benefit from counter-cyclical purchases of assets (which helps to explain, for instance, why some fund managers experienced client inflows during the March 2020 turmoil). Overall there seems to be an indication of a shift in preference to better quality credit, while there is a more mixed picture across jurisdictions with respect to changes in duration. One important consideration, as noted by one respondent, is that in the case of many funds, their investment behavior will be driven by that of their underlying investors and in direct response to changes in redemptions or subscriptions. Thus any assessment of market behavior in stressed scenarios probably warrants some deeper analysis here.

8. *Are the main demand side drivers of liquidity by investor-category accurately described and reflective of events in your experience of the COVID-19 induced market stress?*

ICMA members suggest that the main concern for long-term investors (such as insurance companies) was not so much liquidity, but rather the increased possibility of credit defaults. This perhaps also helps to explain the acute credit differentiation in terms of trading volumes and pricing, noted in both IOSCO's and ICMA's analyses.

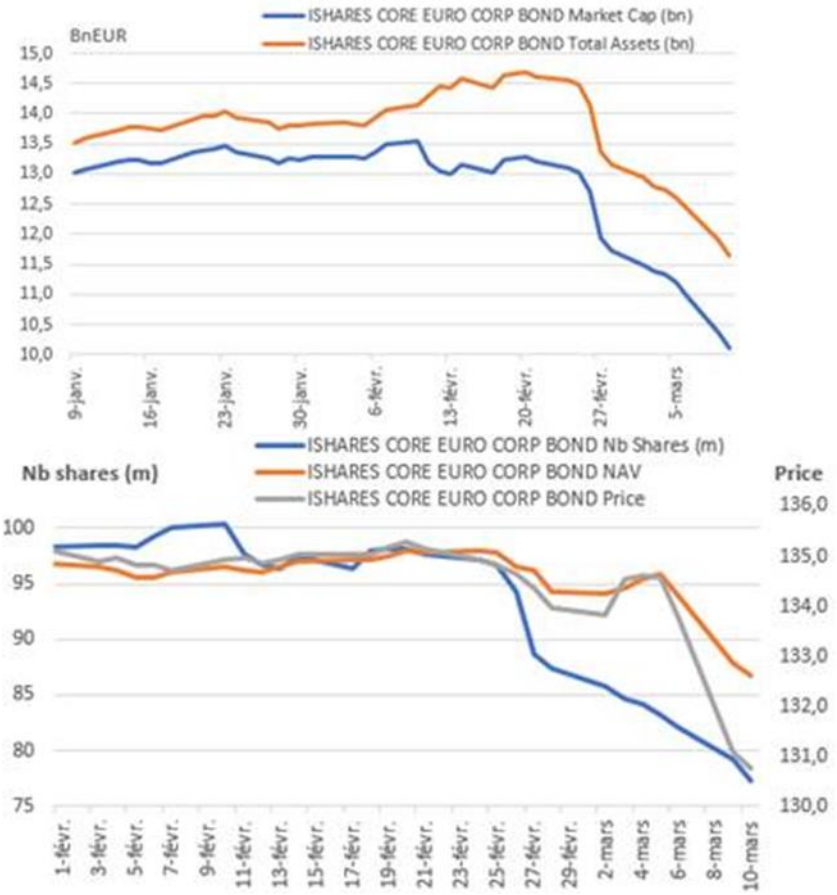
Regarding the role of open-ended funds, clients redeemed as they needed cash to meet different liabilities due to the pandemic. This meant that there was no particular distinction between investors who held exposure to the market directly or through open-ended funds, and that they acted in exactly the same manner in response to a need, or desire, for liquidity. So in this respect, it can be concluded that open-ended funds were not in themselves an accelerator of the market stresses observed at the peak of the turmoil.

9. *Who in your view were the main drivers of liquidity demand during the COVID-19 induced market stresses and why?*

[11] See: AMCC Report of the survey on corporate bond market microstructures and participant behaviours (January 2022)

As already highlighted, the BMLWP initiative to map investor behavior during the covid turmoil was largely unsuccessful in deconstructing behaviours along the lines of different investor types. However, what the surveys do suggest, albeit at a generic level, is that of the main concerns for investors in stressed markets, secondary market liquidity is the most significant, followed by the issues of mark-to-market, contagion risk, and redemptions. This very much intersects with the sell-side's ability to provide balance sheet and pricing during times of increased trading volumes and volatility, which would appear to be limited. This would also suggest that approaching the question of market resiliency from the perspective of dealer capacity and incentives would likely have more direct benefits than attempting to anticipate and influence the decisions and behaviors of an extremely diverse and complex universe of investors.

Some ICMA members note that ETF flows, during more neutral market conditions, can help in supporting overall bond market liquidity, creating demand and supply in the underlying securities. However, in the case of the Covid induced market turmoil, with first heavy outflows, followed by significant inflows, the one-directional nature of the orders in ETFs helped to exacerbate the market moves. They suggest that this probably explains the large discounts and premiums witnessed in ETF prices compared to the net asset value (NAV) of their underlying indices, reaching divergences of around 6% at the height of the turmoil (see illustration using iShares Core € Corporate Bond UCITS ETF below).




Some ICMA members, however, provide a counterargument to this. They posit that corporate bond ETFs actually performed well through the crisis, doing what they were supposed to do, and providing an additional layer of liquidity and an easy access and exit point for the underlying asset class. These firms suggest that while volumes increased, it remained possible to recycle risk in the secondary

market while also being able to meet the heightened investor outflows and inflows. Rather the observed dislocations between prices and NAVs reflect the loss of liquidity and unreliability of pricing in the underlying market, with the ETF providing a more accurate valuation

10. *Given mixed evidence, how significant was the behavior of long-term investors in driving or mitigating liquidity demand during the COVID-19 stress?*

Feedback from ICMA members would suggest that the behavior of long-term investors had little influence either in driving or mitigating liquidity demand during the covid stress, at least from the perspective of European markets.

## The supply of liquidity - the role of dealers

11. *Do you agree with the overarching analysis of the drivers of liquidity supply and, specifically, how dealer behaviors are set out in this section? Please be specific and explain why.*

ICMA would agree with the observations in the report related to the evolution of dealer behaviour over the past ten years. Due to the additional capital costs introduced through the adoption of new Basel measures, as well as restrictions on proprietary risk taking, the ability for dealers to hold positions (both long and short) has become constrained. Previous ICMA studies have noted that this has also had impacts on dealer behaviours, such as a greater propensity toward acting more in a riskless 'matched-principal' capacity, and so working client orders to find the other side, rather than taking positions onto their own books. Also, where dealers do provide liquidity in a principal capacity, there is a tendency to focus on more liquid bonds, where the potential to trade out of the position quickly is higher.

ICMA's research has also noted that the significant reduction in the depth and breadth of the SN-CDS market, as well as poor liquidity in the credit repo market, has also made positioning by dealers more challenging.

ICMA would also agree with the observation that the electrification of the corporate bond markets has largely been an extension of the traditional voice model, with RFQ remaining the predominant protocol and, particularly in the case of larger block trades, trades often being negotiated off-platform before being processed through a venue. However, as discussed further on in this response, more recently we are beginning to see the adoption of protocols that to some extent challenge this dealer-centric model.

12. *What are your views on the relative impact of the drivers of the supply-side in driving the state of liquidity during the COVID-19 induced market stresses?*

ICMA's analysis of the European IG corporate bond market during this period would align with those of IOSCO.

Feedback from ICMA members suggests that many dealers did indeed reduce their liquidity provision, largely in response to the heightened volatility and increased uncertainty. As also noted in the research of the AMCC BMLWP, a number of dealers also began to act more in a riskless matched-principal capacity. A number of larger dealers, however, did appear to increase balance sheet, however this was focused on core clients, and on more liquid or higher rated bonds. This in

turn led to a greater concentration in market liquidity, in terms of dealer, clients, and market segments. Bid-ask spreads at this time also widened significantly (again, largely a reflection of the observed volatility).

13. *Considering the drivers of dealer behavior, how could the supply of liquidity be improved?*

ICMA would refer IOSCO to the response to Q.3.

## Corporate bond markets' structure and implications on liquidity provision.

14. *Do you agree or disagree with these core features of the corporate bond market? Please be specific and explain why.*

As previously noted in ICMA research, one of the factors undermining overall market liquidity is the homogeneity of the investor community and a lack of diversity among market stakeholders and investment strategies. As noted in the IOSCO report, hedge funds active in credit markets, particularly those involved in relative value strategies, help to provide an alternative source of order flow, which can also be counter-cyclical. One of the potential reasons for the diminution of hedge fund activity in credit markets is perhaps the benign conditions of recent years, with tight spreads and low volatility, particularly in the wake of aggressive central bank activity. Thin liquidity in the SN-CDS and credit repo markets is possibly another factor.

Bank proprietary desks, similar to hedge funds, were traditionally also an important source of counter-cyclical activity. However, the ability to do so was also largely contingent on a deep and active SN-CDS market, as well as the ability to fund long and short positions in the repo market.

ICMA would argue that the development of the corporate bond ETF market has had a notable and positive impact on underlying market liquidity, providing two-way flow as a result of the creation and redemption process, at least in relatively calm markets. Although, as previously stated, this tends to be in relatively small sizes and concentrated in the most liquid bonds.

## Dealer intermediation and concentration

15. *What are your views on the level of dealer concentration?*

ICMA would agree that often market-making services are viewed as part of the bank's more holistic offering, and that often this is a consideration in how much liquidity to provide, and to which clients, particularly in times of heightened volatility or market stress. ICMA members further report that liquidity provision seems to be becoming more concentrated among a smaller pool of dealers.

16. *What could help the market diversify sources of liquidity supply and/or become less reliant on dealer intermediation, particularly in times of stress? Consider both market-led as well as potential regulatory-led solutions.*

We are beginning to observe more interest in, and greater uptake of, protocols that support 'all-to-all' trading, providing an alternative to the classical 'D-2-C' model. While this is unlikely to replace the established market structure, with dealer liquidity provision at its core, it does create new

opportunities to bring together matching interests, while also allowing buy sides to take on the role of liquidity provider, rather than liquidity taker.

As previously flagged, from a regulatory perspective, providing dealers with a greater incentive to apply risk capital to supporting secondary market intermediation, not only for bonds but also SN-CDS and repo, would likely have a positive impact on overall market liquidity.

## Corporate bond heterogeneity and standardization

17. *What are your views on standardization in corporate bond markets? What do you think are the pros and cons of increasing standardization?*

For frequent issuers, a smaller number of larger bonds would be easier logistically to trade and so might stimulate secondary market liquidity, and, potentially, reduce the cost of borrowing over time as deals attract more investors. However, it is possible that the problem of lack of bond liquidity primarily affects larger investment funds where there may be a liquidity mismatch between liabilities and assets. Many borrowers issue in response to reverse enquiry which allows investors to dictate structure, maturity and coupon payment dates to suit their investment profiles; liquidity is not an issue for these deals as they are not intended to be traded. For public deals, while liquidity is an advantage, it is not essential, as the market's continued growth makes clear.

From the point of view of corporate issuers, fundamentally, the treasury function is under a corporate governance obligation to manage its funding in the best interests of the company's business. Mindful of this, standardization is not desirable for a number of reasons.

Issuers need to be able to choose maturities and coupon structures to match their cash-flows. As well as needing to be 5 able to take advantage of ad hoc opportunistic funding, many issuers tend to borrow for a specific purpose and term, and cannot be tied to certain "one size fits all" parameters which do not match their intentions. It is fundamental that issuers have the freedom to negotiate terms that suit their own business model, their other financing obligations and documentation and their particular funding needs. Standardization would make it harder for issuers to achieve consistent borrowing on the best terms by restricting these fundamental capabilities and inhibiting funding flexibility. ICMA therefore considers that there would be significant reluctance to sacrifice this flexibility to raise capital market finance as required (subject always to market conditions), notwithstanding the intended stated benefits of standardization.

While, owing to their funding profiles, very frequent, large issuers may in principle be qualified to issue on a standard schedule, to apply a broad-brush approach to all issuers would be to disadvantage those smaller issuers with their own particular funding habits. In the European context, this would not only be inconsistent with the Capital Markets Union objective of expanding bond market access for smaller, mid-cap issuers, but a push towards standardization for very frequent, large issuers could also lead to greater market segmentation, resulting in issuance of standardised bonds, on the one hand, while issues from the rest of the sector could come to resemble the more bespoke private placement market, on the other hand.

Issuers would seek compensation for any loss of flexibility by means of favourable pricing and liquidity for larger deal sizes: something which investors do not currently pay for and which would be hard to quantify given that liquidity is only one of many potential pricing factors. However, the causal link between the size of the deal and its liquidity remains unproven.

With regard to standardized maturities, large amounts of debt which become due for repayment on similar dates would concentrate refinancing risk for issuers, and could make it more difficult for investors to establish relative values between bonds with different tenors. The fundamental principle of supply and demand would be skewed in the direction of supply, leading to an economic imbalance for price and deal size (which in turn could affect the problems associated with liquidity that standardization seeks to address). While this could be problematic for all issuers in terms of deal size and competitive pricing, in particular, if financial institutions find it economically inefficient, or are restricted in other ways from issuing, it would be difficult for them to manage their LCR ratios with certainty and predictability. A concentration of standardised maturities may inadvertently create volatility, which would not otherwise exist with staggered maturities which appeal to a variety of investors with different holding requirements and horizons.

Although interest payment dates on corporate bonds in the US are often aligned to mirror interest payment dates on US government securities (albeit issued on different dates, with long or short first coupons), such practice is not so usual in Europe. Therefore, in terms of market-related practicalities, consideration should be given to the market capacity to deal with potentially large activity bunching around the specified quarter days. Theoretically, standardization of issuance dates, coupon payment dates and redemption dates would equate to an entire quarter's worth of bond activity in one day – based on Bondradar data that 855 bonds were issued in 2013. This could therefore potentially equate to a large amount and, as already noted, would deprive issuers of the right to choose the most advantageous issuance time to match their requirements.

Further, with respect to standardization, investors can already – to an extent – influence the shape of the bond markets in that inclusion in an index goes some way to dictate benchmark size (for instance, minimum size criteria in certain indices).

Standardization would not necessarily substantiate the "intended" consequences ex post, leaving little incentive for issuers to change their issuance practice.[12] Generally, fundamental changes in issuance practice would not be easy to achieve across the board, which makes it all the more important to show significant, proven benefits in order to spur adoption. In order to avoid any unintended adverse consequences that could inhibit the new issuance markets, it would be necessary to examine more closely the cause and effect between deal size, standardization and liquidity and cost: the ultimate benefits, although ambitious, remain unproven and are therefore not necessarily clear to issuers.[13]

## Growth of electronic trading

18. *What are your views on electronification of the corporate bond markets? Has it improved the provision of liquidity?*

ICMA members active in the European corporate bond market report that the use of trading venues and e-trading protocols to execute trades in the IG corporate bond secondary market has continued to increase over the past years. Some point to a fillip to e-trading adoption provided by the various reporting requirements of MiFID II/R, particularly among smaller firms, although many maintain that

[12] Another example of unintended consequences can be seen with EU Product Governance, where attempting attempting to 'customize' commoditized products such as bonds can undermine one of the fundamental characteristics that are sought after by bond market investors: liquidity (see ICMA 2022 response to IOSCO consultation on Retail Market Conduct)

[13] The response to Q.17 is largely taken from ICMA's response to the UK's Fair And Effective Market Review Consultation Document (January 2015)

this is a continuation of a well-entrenched trend in the European credit markets that is primarily driven by a need for greater efficiencies in both pre- and post-trade processes. In terms of protocols being used, selective or multiple RFQ continues to dominate, consistent with the dealer-centric structure of the market, and whereby clients solicit quotes from specific dealers. RFQ is essentially an electronic form of the age-old practice of buy-sides calling their dealers for a price.

'Move-to-venue' transactions (often referred to as 'processed trades') also remain popular, whereby parties (again, invariably dealer and client) agree a transaction off-venue (say by messaging or phone), and then 'consummate' the trade on-venue, with all the associated benefits of automated reporting and post-trade processing. A number of venues support formalized functionality for this particular protocol, which has been largely driven by the advent of MiFID II/R.

Compared with three years ago, however, there appears to be more interest in, and uptake of, alternative protocols to source liquidity. In particular, a number of buy sides report more use of all-to-all protocols, such as RFQ-to-all (essentially soliciting all dealers on a venue simultaneously) or open trading (literally allowing all firms on a venue to connect anonymously to request quotes). As one respondent explained, it also allows buy-sides to become more proactive and essentially become price-makers, rather than price-takers. Sell-sides appear more mixed on the benefits of more open trading, with larger dealers preferring to limit their liquidity provision to selected clients. For some smaller, more local or niche market-makers, however, this is seen as providing access to accounts that would traditionally be beyond their franchise, and an opportunity to compete with their bulge-bracket peers on a more level pegging. The venues, who have seen open or RFQ-to-all protocols flourish in the US credit market, believe that momentum in Europe is only set to continue. While open or RFQ-to-all protocols gain traction among buy-sides, as well as sell-sides, it is noted that underlying trade sizes tend to be relatively small, and ISINs more liquid. For larger, less liquid blocks, where information leakage can be detrimental, buy-side participants suggest that they are still hopeful that all-to-all, anonymized trading venues, or 'dark pools', (similar to those commonly used in equity markets) will become a more prominent and utilized liquidity source. Here the challenge is identified as being a lack of critical mass among users, despite a broad desire for greater uptake. Similarly, buy-side interviewees would like to see more engagement with matching engines, or information networks, that automatically and anonymously scour users' trading blotters and inventory to find potential (or near potential) matching interests. As market-makers' balance sheets become ever more constrained, the view is that alternative means of trading larger sizes will become increasingly important.

Direct connectivity (or 'direct access trading'), whereby dealer banks stream axes or prices directly to their clients, appears to be gaining more interest among participants, which also supports more automated bilateral order execution, such as 'click-to trade'. Other protocols such as auctions, providing 'point in time liquidity' are used to a limited extent (mainly for cleaning up 'odd-lot' positions). Meanwhile there seems little hope of more exchange trading type protocols (i.e. a central limit order book, or CLOB) taking off any time soon. As a number of members have stressed, CLOBs simply are not suited for corporate bond markets, given the lack of market depth, infrequency of trading, and price sensitivity to information leakage.

Portfolio trading, which was a relatively new protocol in early 2020, surged to prominence early in the Covid-induced market stress period. In portfolio trading, clients can trade a basket of hundreds or even thousands of bonds of varying liquidity profiles in a single transaction with a single liquidity provider. These bond portfolios are typically traded in competition, in keeping with clients' MIFID II best execution objectives. Multiple liquidity providers now have dedicated portfolio trading teams that have visibility into their broader credit teams' axes and risk positioning, such that they are able to take a macro view of the risk rather than the more limited view individual line traders tend to

have. Portfolio trading teams also typically have algo and ETF trading expertise, which they leverage to hedge themselves efficiently. For example, they often use the ETF create-redeem process to recycle risk. The negotiation of corporate bond portfolios was historically facilitated through the exchange of spreadsheets, which carried inherent operational risks. In 2019 however, the first electronic solution for corporate bond portfolio trading was launched, initially in the U.S. and then extended to Europe in Q4 of that year. In March 2020, electronic portfolio trading proved to be a highly effective protocol for clients who highlight the benefits of certainty of execution, discretion, time saving, transaction cost optimisation, audit trail and straight-through-processing that it offers. The ability to combine liquid bonds with the illiquid bonds that market-makers are reluctant to price on a stand-alone basis, while sourcing a price to trade the entire package all at once, thereby eliminating market slippage, and mitigating the risk of human error associated with excel-based workflows, is seen as brining significant benefit to corporate bond investors. As a result, electronic portfolio trading has gained traction quickly in Europe since Q1 2020, with the trading venue that pioneered the protocol reporting their European portfolio trading volumes tripling from €20.1bn in 2020 to €61.5bn in 2021. The venue has also indicated that since launch, more than 90 buy-side clients of all types and sizes have added electronic portfolio trading to their execution toolkit for European corporate bonds and are using this functionality in both volatile and calmer market conditions.

Perhaps the most eye-catching trend with respect to e-trading in recent years is the increased reliance on automation in the trading process, both for buy-sides and sell-sides. Sophisticated 'rules-based', or even algorithmic, automated processes to manage and direct orders to venues or counterparts are commonplace in equity markets and have been widely used by asset managers for many years. More recently, as technology becomes more advanced, their adoption in the fixed income space has become more prevalent, albeit mainly in the more liquid, homogenized, sovereign bond segment. Increasingly, however, interviewees and survey respondents suggest that this is beginning to impact the IG credit space.

The use of buy-side order management systems (OMS) has also increased in the recent years. OMS are essentially software applications which manage buy-side trade order flow, connecting the portfolio manager and execution desks internally, and then externally with various trading venues, direct counterparties, and data providers. OMS can either be an off-the-shelf vendor offering or proprietary software, and, depending on the degree of sophistication, can not only track orders, trading activity, and positions, but may also be capable of optimizing venue or counterparty selection, supporting order routing, as well as managing trade allocation, confirmation, and settlement instructions. Execution management systems (EMS) are software applications which focus more specifically on the real-time execution of an order, employing analytics to optimize trading decisions and providing streaming connectivity to multiple venues and counterparties, as well as providing post trade execution analysis. Increasingly, the distinction between OMS and EMS is becoming blurred as the functionality becomes more intertwined, and the processes more automated.

Buy-side interviewees and survey respondents indicate that their order flow in European IG credit is becoming increasingly more automated, albeit at the more liquid end of the spectrum and, again, mainly focused on smaller trade sizes. One respondent explained that this is very much an evolutionary process, incrementally adding new levels and parameters of complexity. For example, their OMS currently automatically routes orders below a certain size for RFQs. Where the quotes are within the acceptable range, these are 'auto-filled', and those that are not, which are generally the less liquid, more difficult issues, are re-routed to the buy-side trading desk to manage manually. The next step in evolving this process will be to introduce an algorithm to identify the difficult orders before they are sent automatically into the market, ensuring that these go to the trading desk first.

19. *Is the electronification (and any resulting increase in liquidity) of government bond markets over the last decade illustrative of how corporate bond markets could evolve? How and why?*

The electronification of government bond markets, particularly the use of auto-pricing or algos, is a clear indication of where credit markets are heading. However, it is important to recognize that sovereign bond markets are quite different from corporate bond market both in terms of structure and dynamics. Sovereign bonds are broadly much larger in outstanding issuance and inherently more liquid. Given that they are also used as benchmark interest rate hedges, as well as outright investments, at least in the case of 'on-the-run' issues, they are traded far more frequently, rather than being primarily buy and hold instruments. Liquidity in major sovereign markets is also supported by deep and active repo markets and, in many cases, active exchange traded futures markets. The active participation of hedge funds that engage in relative value strategies adds a further boost to overall market liquidity.

20. *What aspects or developments could help to further support increased levels, and the resilience of electronic trading both in normal times and in stress (e.g., availability of data)?*

One of the observations of both IOSCO's report and ICMA's analysis of early 2020 is that at the peak of the turmoil there was a significant switch, at least in relative terms, from venue trading to voice trading. This was not so much due to technological challenges with firms relocating from their trading floors, but rather the consequence of market conditions. Essentially the market became too volatile and too illiquid for dealers and other liquidity providers to risk providing pricing across electronic platforms.

ICMA members note that a significant proportion of flow in the European corporate bond markets is automated, particularly for smaller sizes and more actively traded ISINs, with requests for quotes (RFQs) being automatically routed into the market, via order management systems (OMS) or execution management systems (EMS), and with dealers responding to RFQs or providing price streaming by means of algorithms. This so called 'low touch' activity can be as much as 60-to-70% of an asset manager's flow, leaving more time for them, and their dealer counterparts, to focus on the more difficult, price sensitive, 'high touch' flow, involving larger sizes and less liquid bonds.

As volatility increased it is reported that algo trading, in many cases, had to be shut off. One participant suggests that many pricing models are designed to sustain market moves of five standard deviations, in itself a rare event. In the days leading up to and out of March 18, the market was experiencing moves of up to ten standard deviations. However, one sell-side member has posited that this was not the case for every bank, and that some were able to continue auto-quoting, albeit with much wider bid-offer spreads. They further suggest that in some respects algos used in the European market tend to be more robust than those used in the US since they are less reliant on actual trade data in their modeling, utilizing synthetic composite prices instead, and largely as a consequence of less immediate post-trade data.

As previously discussed, alternative trading protocols, such as all-to-all and portfolio trading, also saw increased uptake during this period. In fact, in absolute terms, volumes traded on venue remained high during this period, even registering record volumes at certain points.

So overall, it would seem reasonable to assume that while improvements in access to data could help support greater resiliency in terms of algo-based liquidity, electronic trading remained robust

during the covid induced turmoil. During times of extreme volatility and uncertainty, it may become more efficient to transact with market-makers directly, particularly in larger sizes or less liquid bonds, but this is more a reflection of underlying market structure and the importance of the dealer-client relationship, rather than a reflection of any vulnerabilities in the trading architecture.

21. *Would an increase in all-to-all trading help the provision of liquidity? Is it feasible to increase its use? What are the pros and cons?*

As previously discussed, all-to-all protocols are gaining more traction and can be seen to provide alternative avenues to untapped liquidity pools, particularly as dealer capacity becomes more constrained. While there is undoubtedly scope for greater uptake of such protocols, with more participants creating increasing opportunities to transact, there will always be a cap on usage due to the need for immediacy and limitations to the 'coincidence-of-want' (i.e. the ability to match willing buyers and sellers in the same security and size, at the same time). Therefore, it would seem likely that the role of market-makers who can act as principal risk takers will remain critical in underpinning secondary market liquidity for the foreseeable future.

## Increased transparency

22. *Do you think there should be more transparency in the corporate bond market, including the level of consolidated information? In which segments of the corporate bond market do you think transparency is most needed?*

ICMA has been a leading actor in the discussions around improving corporate bond market transparency in Europe.[14] ICMA has long supported the regulatory promotion of trading transparency, recognizing that this is one of the IOSCO principles of Securities Regulation (IOSCO 2017), with public transparency and accessibility to information viewed as key components of robust capital markets. Transparency can also support market efficiency: facilitating price discovery and market integrity, providing a level playing field for all market participants, and even underpinning liquidity by creating greater investor confidence.

However, in its recommendations for public transparency in secondary corporate bond markets, IOSCO also notes that while regulatory frameworks should be calibrated in a way that achieves a high level of post-trade transparency, they should also take into account the potential impact that post-trade transparency may have on market liquidity (IOSCO 2018). This is a recognition that, particularly in bond markets, too much information can be a bad thing. Again, this goes back to how bond market liquidity is created. This has been, and remains, a guiding consideration in ICMA's work in promoting bond market transparency.

In illiquid markets, especially those that rely on market-makers as the principal source of liquidity, prices can be extremely sensitive to information, particularly in response to public knowledge that a trade is trying to be executed or has just been executed. Such information leakage creates risks for both the liquidity provider and the liquidity taker. In the case of the former, the liquidity provider will be taking a position onto their books that they will subsequently look to offlay. If during this period (which could range from hours to weeks) the details of the original transaction are publicly disseminated, the market will anticipate the offlaying trade and adjust the price of the securities accordingly, to the detriment of the liquidity provider. In the case of the liquidity taker, if it becomes market knowledge that somebody is looking to execute a particular trade, either before they are

[14] See: EU Consolidated Tape for Bond Markets- Final report for the European Commission (ICMA, April 2020)

able to execute (pre-trade) or as they attempt to execute the transaction in increments (post-trade), the market will similarly adjust in response to this information. Here the liquidity dimension of depth (i.e. the ability for the market to absorb size) is also a fundamental consideration.[15]

Accordingly, too much transparency can have an adverse effect on market efficiency and liquidity, either forcing liquidity providers to adjust their pricing (assuming that they do not withdraw liquidity completely) or amplifying market moves in response to any request for quote or partial execution. In both cases it is the investor who ultimately suffers. In its response to the consultation document for the IOSCO transparency recommendations, ICMA stressed that efficient and liquid markets are the most important considerations for investors, and which are valued far more than transparency in itself, since inefficient markets fail to serve both investors and issuers.[16]

Thus, any public transparency framework needs to ride a fine line between improving market efficiency and undermining market liquidity. This probably also explains the range of opinions expressed by respondents in ICMA's analysis of the covid turmoil on European IG corporate bond markets on whether improved post-trade transparency would have helped or hindered market liquidity (the aggregated view, of both sell and buy sides, is that it would have had a net adverse impact).

23. *Would you consider that pre-trade transparency and post-trade transparency are equally important?*

Consistent feedback from ICMA members, both sell and buy side, has suggested that pre-trade transparency for secondary corporate bond markets, at least in the European context, is of limited value; particularly relative to access to post-trade data. The key reason for this, as opposed to other financial instruments, relates back to the fact that liquidity is generally provided by market-makers, who are the primary source of pre-trade pricing. Given the range of securities for which dealers are supporting liquidity (for the majority of which they will not have an underlying position, or specific long/short interest), and the requirement to employ balance sheet and assume risk in executing a trade, quoted prices are generally not viewed as being executable and are indicative at best. From this perspective, post-trade data, which reflects actual transactions, is deemed more valuable, even to the extent that volumes may be masked, or prints deferred.

What investors tend to be more interested in from a pre-trade perspective is not so much the indicative quote of a dealer, but rather their specific interest in matching a trade. In market terms, 'axes' represent a dealer interest to sell or buy a particular line of a bond, and is usually related to an underlying position (which they are looking to unwind), but can also be driven by a client order, or even the anticipation of client interest (i.e. pre-positioning). In corporate bond markets, particularly where liquidity is thin, information about dealer axes is not only a chance to get inside the bid-ask spread, but may be the best opportunity of getting a trade done, particularly in large size. Hence, improving the practices and protocols for disseminating axes would be more useful than imposing regulatory pre-trade transparency requirements for corporate bonds. [17]

[15] A fuller discussion on the relationship between transparency and liquidity in bond markets can be found in the paper: Transparency and Liquidity in the European bond markets (ICMA, September 2020)
[16] See: Response to IOSCO's consultation paper on Regulatory Reporting and Public Transparency in the Secondary Corporate Bond Markets (ICMA, October 2017)
[17] In 2021, ICMA published an industry guide to definitions and best practice for bond pricing distribution.