Mr. Ashley Alder
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SPAIN

By email: CBML-feedback@iosco.org; aalder@sfc.hk

8.7. 2022

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

Dear Chairman Alder,

The Global Financial Markets Association (GFMA), together with our regional affiliates AFME, ASIFMA and SIFMA appreciate the opportunity to comment on the draft report regarding corporate bond markets. We believe this analysis and potential policy options are critically important in ensuring that the regulatory policy framework is supportive of further developing the corporate bond market and facilitating liquidity provision throughout economic cycles.

From the outset, while we broadly agree with the assessment, we highlight that the temporary economic uncertainty and subsequent reduction in market liquidity during the March 2020 market turmoil was not specific to credit, but rather stemmed from the extraordinary economic uncertainty caused by the pandemic and stresses in the government bond markets during the 'dash for cash'. The pandemic's impact on credit spreads was far more significant than for bid/offer spreads, reflecting the significant economic uncertainty and increased default risk and stress across most parts of the economy, until governments released unprecedented fiscal measures in support of companies and individuals. This temporary uncertainty resulted in a one-sided market, with very limited number of buyers.

Additionally, the March market turmoil was a significant test to operational resilience, which resulted in unprecedented and fast adaptation of remote working across all areas of the value chain in credit trading. Now that the technology and operational/conduct processes have been established, we do not see the temporary reduction in trading capacity due to sudden policy changes and forced remote working recurring.

While the overall issuance and notional value of outstanding corporate bonds has increased substantially over the past decade in a very low interest rate environment, dealer balance sheets have not expanded to the same degree, due to mainly regulatory constraints expressly put in place to limit banks' ability to warehouse risk. As evidenced in the draft report, corporate bond markets depend more on dealer intermediation during stress periods than during benign times. Quick sales of larger portfolios depend on dealer banks' ability to find buyers and warehouse risk on short term basis to smoothen the balance of supply and demand. This principal trading model supports recent issuances in the primary market and provides ongoing support for the secondary markets beyond the 'on the run' periods. In this context, the GFMA does not believe that there is a valid reason to move away from a market structure that to a degree depends on wholesale dealers intermediating in the market and deploying their own capital as principal-based intermediaries, as alluded to in the draft report. The alternative option would be to move towards agency trading model, whereby transactions will only occur when a broker

or platform can match a sell order with a corresponding purchase. Such a market structure would result in more volatility and wilder bid/offer swings during stress periods.

In this context, we highlight that the recent market liquidity stresses associated with the outbreak of the COVID-19 pandemic reaffirm the need for the IOSCO and FSB to consider the reduction in financial market liquidity as a cost of the post-crisis reforms. In addition to the temporary central bank market operations, numerous ad hoc adjustments to the new regime had to be made across many financial centres to bolster wholesale market capacity and restore stability. As noted above, rapid sales of larger portfolios depends on dealer banks' ability to find buyers and warehouse risk in short term to smoothen the balance of supply and demand. Dealer capacity to intermediate in the market during stress periods itself depends on wide-ranging factors such as real-time trade transparency requirements, regulatory balance sheet and capital constraints, client mix, balance sheet demand in other areas of the bank and internal risk management.

The area in the draft report that in our opinion requires further attention is the market capacity to facilitate larger sales transactions, i.e. block trades. The corporate bond market has evolved in terms of the market structure over the past decade (e.g. electronification, credit ETFs resulting in credit trading like equities without sale of the underlying assets pinning the ETFs etc.), alongside a wide-range of new regulations that investors and dealers have assumed in their risk management practices and appetite. With regards to drivers of sell-side liquidity provision, the GFMA believes that the report would benefit from further investigating the evolution of dealer capacity, in conjunction with the regional changes made to transparency requirements and evolution of the corporate bond markets. In this regard, considering the significant impact of the post crisis regulatory reforms to dealer bank capital requirements and establishment of new trade transparency standards, it has been challenging to isolate the impact of the transparency requirements when many other changes have occurred in the market at generally benign times. Therefore, we encourage IOSCO to further investigate the interaction between prudential regulatory requirements on dealer capacity alongside transparency rules, and how execution capacity is changing over time.

Recommendations:

- To ensure markets can function at times of stress going forward, the role of central banks' (CB) liquidity facilities that helped the private sector to continue intermediating in the market during the market turmoil should remain in the CB toolkit to manage temporary but significant market stresses that may overwhelm the private sector capacity.
- Some of the regional adjustments made to the regulatory framework should be made permanent (such as central bank deposit exemptions from the leverage ratio (LR)) in the global standards and others should be available as regional permanent or temporary measures (such as exempting government bonds from the LR exposure measure, exempting CB facilities from the counterparty credit risk and leverage exposures, and market risk backtesting exemptions) to increase dealer capacity at times of stress. For example authorities that did change the calibration of the LR exposure measure stated market liquidity/financial intermediation capacity as a key concern and reason why such temporary changes were necessary in their jurisdictions in support of financial markets functioning.
- Finally, it is important to ensure that the transparency regimes developed regionally are carefully calibrated, with appropriate dissemination delays, to avoid constraints on dealers' ability to execute portfolio and block trades at times of stress. Calibration of the transparency framework should be an iterative process that takes into account developments in market structure as well as prudential capital constraints.

We very much look forward to continuing this productive dialogue and are committed to supporting the IOSCO and FSB throughout the NBFI work programme. Below we provide our answers to the consultation questions relevant to dealer banks and welcome any opportunity to provide further detail on any of the issues raised in this comment letter. Thank you very much for considering our feedback.

Sincerely,

Allison Parent

Executive Director
GFMA

Answers to questions:

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.

Considering the sudden changes in economic outlook, rapidly changing perceptions of credit quality of corporates, public health and establishment of remote working practices, GFMA believes that the credit market performed relatively well during the turmoil. While we broadly agree with the assessment, we highlight that the temporary economic uncertainty and subsequent reduction in market liquidity was not specific to credit, but rather stemmed from the extraordinary economic uncertainty caused by the pandemic and stresses in the government bond markets during the 'dash for cash'. It is also worth highlighting that the pandemic's impact on credit spreads was far more significant than for bid/offer spreads, reflecting the significant economic uncertainty and increased default risk and stress across most parts of the economy, had governments not provided unprecedented fiscal support to companies and individuals. This uncertainty resulted in a one-sided market, with very limited number of buyers.

In terms of market liquidity, other asset classes were similarly impacted as work from home trading and compliance policies were being implemented by trading desks at the same time as the dash for cash occured, with significant temporary impact on dealer banks' ability to intermediate in the market. The March market turmoil was a major test to operational resilience, which resulted in unprecedented and fast adaptation of remote working across all areas of the business. Now that the technology and operational/conduct processes have been established, we do not see the temporary reduction in trading capacity due to sudden government policy changes and forced remote working recurring. Despite the initial difficulties with the sudden adaptations, it is important to note that dealers continued to trade, end executed far more trades than in the same period in 2019. However, as also evidenced in the IOSCO AMCC CBMLWG report, risk warehousing did not expand uniformly across all dealers and some reduced their risk management capacity.

The area in the draft report that requires further attention is the market capacity to facilitate larger sales transactions, i.e. block trades. The corporate bond market has evolved in terms of the market structure over the past decade (e.g. electronification, credit ETFs resulting in credit trading like equities without sale of the underlying assets pinning the ETFs etc.), alongside a wide-range of new regulations that investors and dealers have assumed in their risk management practices and appetite. With regards to drivers of sell-side liquidity provision, the GFMA believes that the report would benefit from further investigating the evolution of dealer capacity, in conjunction with the regional changes made to transparency requirements and evolution of the corporate bond markets. For example in the US, it has been impossible to isolate the impact of new transparency requirements when many other changes have occurred in the market at the same time. While the evidence shows a marked reduction in dealer inventories since 2013 as the post-financial crisis rules took effect, at the same time the bid/offer spreads have tightened but average trade sizes have declined as smaller trades have moved to electronic platforms[1,2]. Some market participants have argued[3] that dealers in the U.S. face heightened risk when transacting in block size, particularly when those trades are immediately disclosed to the market, and therefore it has become more challenging to transact in large size. In Europe, larger trades

[1] Staff of the Federal Reserve Board, "Staff Q2 2017 Report on Corporate Bond Market Liquidity," available at https://www.federalreserve.gov/foia/files/bond-market-liquidity-report-2017Q2.pdf.

[2] 9 Bruce Mizrach, "Analysis of Corporate Bond Liquidity," available at https://www.finra.org/sites/default/files/OCE_researchnote_liquidity_2015_12.pdf

[3] https://www.sifma.org/wp-content/uploads/2019/06/SIFMA-Pilot.pdf

constitute only 30 % of the overall trade count but over 80 % of the traded notional. This capacity to execute larger size trades is fundamentally important, particularly at times of stress, as it allows participants to effectively manage their liquidity needs, in a cost-effective and efficient way. Therefore, we encourage IOSCO to further investigate the interaction of prudential regulatory requirements and transparency rules on dealer capacity and ability for market participants to efficiently transfer risk, and how capacity is changing over time as markets evolve.

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?

We broadly agree that the report captures and describes the main features of the corporate bond markets issued in major currencies. The picture is somewhat different for emerging markets where bonds are mainly distributed and traded onshore under their own standards and practices. Our responses to this discussion paper refer to the broader market in major currencies only.

We also note that refinancing of corporate bond portfolios through repo markets has been curtailed due to prudential rules, with majority of the repo markets using government bonds as collateral. Secondly, the reduction in the market's ability to hedge credit risk via single name CDS has resulted in higher credit spreads and potentially further reduced market liquidity as effectiveness of risk management has declined.

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?

The recent market liquidity stresses associated with the outbreak of the COVID-19 pandemic reaffirm the need for the IOSCO and FSB to consider the reduction in financial market liquidity as a cost of the post-crisis reforms. In this response, we provide evidence on how the post-crisis regulations contributed to market illiquidity. In addition to the temporary central bank market operations, numerous *ad hoc* adjustments to the new regime had to be made across many financial centres to bolster sufficient wholesale market capacity and restore stability.

Under stressed conditions, corporate bond markets depend more on dealer intermediation than during benign times. Quick sales of larger portfolios depends on dealer banks' ability to find buyers and warehouse risk in short term to smoothen the balance of supply and demand. Dealer capacity to intermediate in the market during stress periods itself depends on wide-ranging factors such as block trade transparency requirements, regulatory balance sheet capacity, client mix, balance sheet demand in other areas of the bank and internal risk management.

The shock of the COVID crisis provides evidence that the post-crisis regulatory framework has both strengthened confidence in the banking sector but exacerbated the challenges for market liquidity and capital markets. The early responses to the pandemic resulted in increased demands on liquidity, including FX reserve management and increases in HQLA held by banks. In addition, hedge fund deleveraging (especially US Treasury derivatives) and money market fund redemptions in the absence of real buyers in the market resulted in bank's being unable to absorb all of these assets onto their balance sheets. As recognised in the Bank of England Financial Stability

Report[4], the lack of private sector "surge capacity" to intermediate in the markets, largely due to regulatory constraints forced central banks to undertake unprecedented market operations.

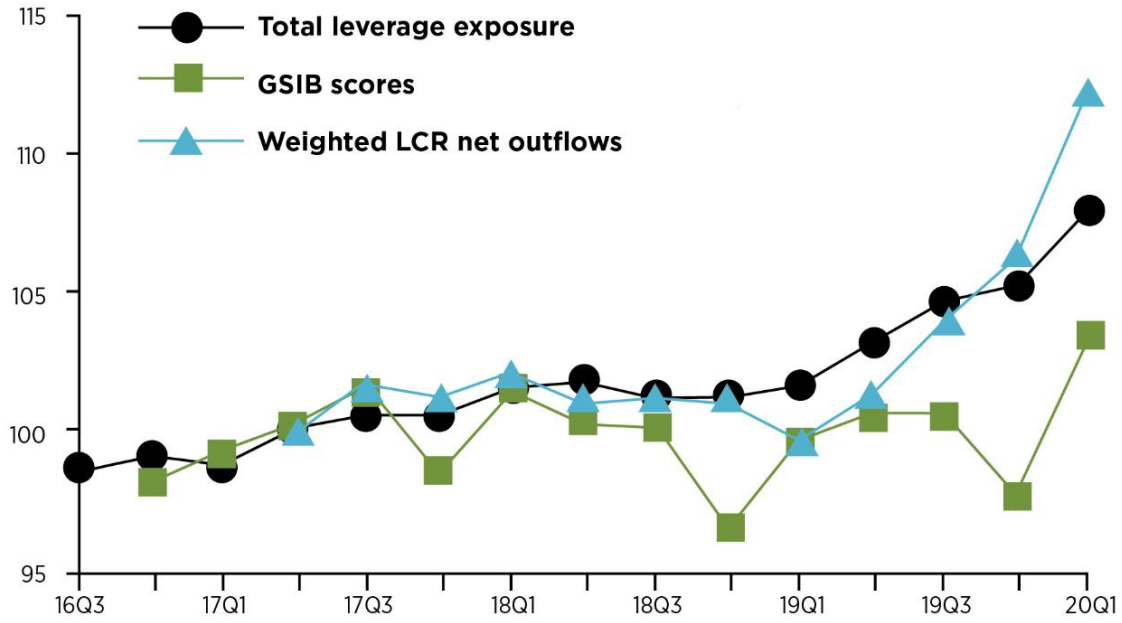
In terms of regulatory constraints, the interaction of different parts of the post-crisis reforms is a key driver for banks' ability to intermediate. At times of stress, the pressures from liquidity requirements conflict with those from the leverage ratio and GSIB surcharge. The former requires banks to hold large stocks of high-quality liquid assets (HQLA) which could be easily converted into cash (i.e. sold or repo'd) in the event of significant cash outflows during stress periods. The latter two constrain the expansion of large bank balance sheets, forcing banks to make tough decisions on how to put their balance sheets to best use during shocks. They also increase capital costs due to other regulatory measures in the GSIB surcharge calculation, such as interconnectedness, cross-jurisdictional exposure, complexity and reliance on short-term wholesale funding. These GSIB thresholds are difficult to manage in sudden stresses, and can create cliff-edge effects that discourage healthy firms from using their balance sheets productively at times of crisis. Separately, resolution plan requirements may add tensions to the way banks can allocate resources from other parts of the group to deploy capital for supporting market liquidity.

During the March/April period, the sheer number of sellers and the lack of end-user demand, coupled with the dealer capacity constraints to create a bottleneck that could have resulted in severe financial instability without rapid central bank action to unclog the system and take the roles of buyers of last resort. Firstly, bank affiliated broker-dealers (often primary dealers) that are at the centre of market making in HQLA securities were hit by a surge in selling pressure that overwhelmed their balance sheets. While the increase in Treasury activity does not cause a problem in terms of risk-weighted requirements, there were significant challenges in terms of leverage exposure and GSIB scores from market making, including collateral transformation and repo facilitation. The leverage ratio (LR) very quickly became the binding capital constraint for many dealer banks under the circumstances, capping banks' ability to make markets and warehouse risk.

Secondly, the corporate dash for cash converted credit facilities into non-operational wholesale deposits. This resulted in higher Liquidity Cover Ratio (LCR) outflows and thus a requirement to hold more HQLA (magnifying the LR pressure). These effects were particularly dramatic in March, when the pandemic emerged as an economic and financial stress event, leading to simultaneous pressure on the leverage, GSIB surcharges, and liquidity requirements (see graph below). A sharp increase in market risk RWAs was also an important constraint for many entities, until temporary backtesting relief was provided by supervisors. Additionally, we note that had the Net Stable Funding Ratio been implemented in most jurisdictions, it could have further curtailed the repo market capacity to support the "dash for cash".

[4] P. 65 – 85, available at: https://www.bankofengland.co.uk/-/media/boe/files/financial-stability-report/2020/august-2020.pdf?la=en&hash=2D820EFD16973AF9CB27F1C29507E0D55E03E1F5

Table: Total leverage exposures, GSIB score, and weighted LCR outflows among U.S. GSIBs; unitless, normalized to 100 as of 2Q17



Source: Courtesy J.P. Morgan Chase & Co., Copyright 2020, 8th July 2020

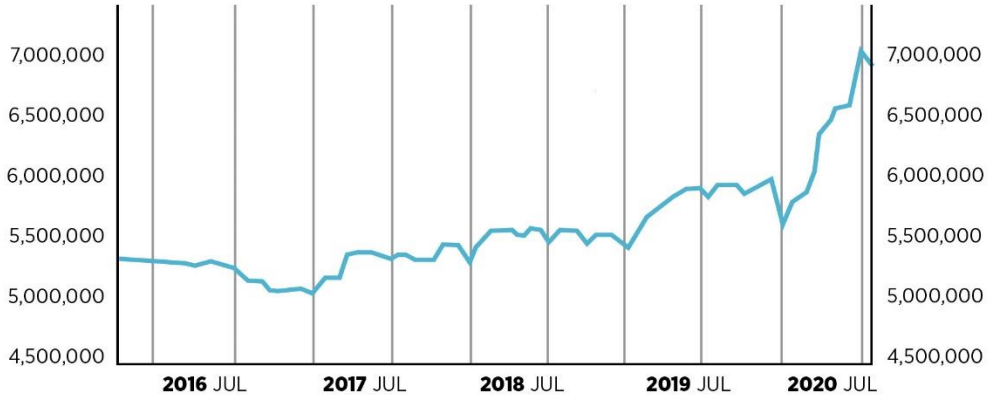
Furthermore, we believe that some current initiatives by regulators will negatively impact liquidity in corporate markets, and IOSCO should consider the changes particularly to dealer bank capacity in its deliberations. More specifically, we are concerned that the already reduced capacity to warehouse risk will be exacerbated by introduction of further changes to the Basel III framework, especially for market risk (FRTB). The regulator and industry analyses show that the FRTB will increase capital requirements for market risk by appr. 50%, while the Basel 2.5 already increased market risk capital at banks over three times compared to the pre GFC period, also evidenced in the draft report.

Corporate bond markets do not operate in isolation and liquidity of the market depends on the broader market sentiment, balance of supply and demand as well as dealer capacity. During the March 2020 market turmoil, liquidity demand from sovereign wealth funds, hedge funds, asset managers, smaller banks, central banks and corporates was much greater than what the private market and more specifically large wholesale banks could accommodate[5]. Regulatory constraints designed for more normal conditions emerged as a vulnerability when dealer banks had to ration scarce balance sheet to best possible uses. The inelasticity of dealer balance sheets increased the pressure on central banks to intervene.

In the Eurozone, ECB deposits increased from end of February €4.147 trillion to €4.947 trillion by the end of May (see table 6 below), as the markets rushed for cash and bank deposits ballooned. The Leverage Ratios (LR) for the EU GSIBs decreased to 4.6% in 1Q20 from 4.9% in 4Q19, and the TLAC LR to 8%, down from 8.4%[6].

[5] https://www.bankofengland.co.uk/-/media/boe/files/financial-stability-report/2020/august-2020.pdf?la=en&hash=2D820EFD16973AF9CB27F1C29507E0D55E03E1F5
[6] https://www.afme.eu/reports/data/details/AFME-Prudential-Data-Report-Q1-2020

Graph: Eurosystem deposit liabilities vis-a-vis euro area MFI in the euro area (€ millions)



Source: ECB banking data

The March/April shock of the COVID crisis provides evidence that the post-crisis regulatory framework has both strengthened confidence in the banking sector but also exacerbated the challenges for market liquidity and capital markets. The early responses to the pandemic resulted in increased demands on liquidity, including FX reserve management and increases in HQLA held by banks. In addition, hedge fund deleveraging (especially US Treasury derivatives) and money market fund redemptions in the absence of real buyers in the market resulted in bank's being unable to absorb all of these assets onto their balance sheets. As recognised in the Bank of England Financial Stability Report[7], the lack of private sector "surge capacity" to intermediate in the markets, largely due to regulatory constraints forced central banks to undertake unprecedented market operations.

The second wave of action to address market illiquidity came in the form of regulatory policy action to address the key procyclical liquidity constraints evident in the post-crisis regulatory framework. While releasing counter-cyclical capital buffers was fully aligned with the intent of the regulations and helped provide limited capacity, much broader adaptations were implemented in most financial centres, including:

- Regionally divergent changes to the Leverage Ratio framework. These included exempting central bank deposits, government bonds and government guaranteed "COVID loans" or exposures to temporary central bank or government financing vehicles, and early adoption of the unsettled trades standard under Basel III.
- Flexibility or temporarily not applying the market risk backtesting multipliers for model underperformance.
- Loan loss provisions under the new accounting standards.
- Deferral of implementation of the final Basel III package.

Recommendations:

- To ensure markets can function at times of stress going forward, the role of central banks' liquidity facilities that helped the private sector to continue intermediating in the market during the market turmoil needs to be considered as more permanent features of the CB toolkit to manage temporary but significant market stresses that may overwhelm the private sector capacity.
- Furthermore, regional adjustments made to the regulatory framework, including changes to the Leverage Ratio framework (exempting central bank deposits, government bonds and government guaranteed "COVID loans" or exposures to temporary central bank or government financing vehicles)

[7] P. 65 – 85, available at: https://www.bankofengland.co.uk/-/media/boe/files/financial-stability-report/2020/august-2020.pdf?la=en&hash=2D820EFD16973AF9CB27F1C29507E0D55E03E1F5

and sufficient supervisory flexibility to not apply market risk backtesting multipliers to internal models impacted by exogenous shocks should be considered as permanent (central bank deposit exemptions) and temporary measures to increase dealer capacity at times of stress. The authorities that did change the calibration of the LR exposure measure stated market liquidity/financial intermediation capacity as a key concern and reason why such temporary changes were necessary in their jurisdictions in support of financial markets functioning. However, we note that while the central bank liquidity provision was very well coordinated across jurisdictions, the adjustments to regulatory requirements were not aligned to the same degree. This may have caused further friction and fragmentation in the capacity provided by the regional measures. Any such friction could have been avoided, had the measures been better coordinated.

- Finally, it is important to ensure that the transparency regimes developed regionally are carefully calibrated to avoid any further reduction on dealers' ability to execute portfolio and block trades at times of stress.

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

The GFMA and our members believe that IOSCO, other international standard setters, and regional regulators should thematically review groups of proposed regulatory changes at the same time, rather than proposal by proposal. For example, a regulation that has an incentive effect on the use of electronic trading platforms needs to also consider other concurrent proposals that impact how trading platforms operate, to ensure that the net effect is what was actually desired by the authorities.

Furthermore, as noted separately in this response, we believe that the report would benefit from further analysis of the interaction of prudential and transparency rules on dealer banks' ability to execute block and portfolio trades on their clients' behalf.

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?

While we broadly agree with the description of corporate bond markets in the report, it does not capture well some of the recent developments. Based on member feedback, client demand in credit trading with dealer banks has become more focused on portfolio and block trading. Portfolio trading started initially with investment grade securities but now also high yield credit is traded on portfolio basis at an increasing level. While this is still a relatively small proportion of the overall market, it plays a bigger role at times of stress and/or for larger transaction. The key benefits of portfolio trades are immediacy of execution and that portfolio trades typically achieve better pricing. In this regard, the report should emphasize the importance of transparency regimes and how they impact execution of more sizeable trades at times of stress.

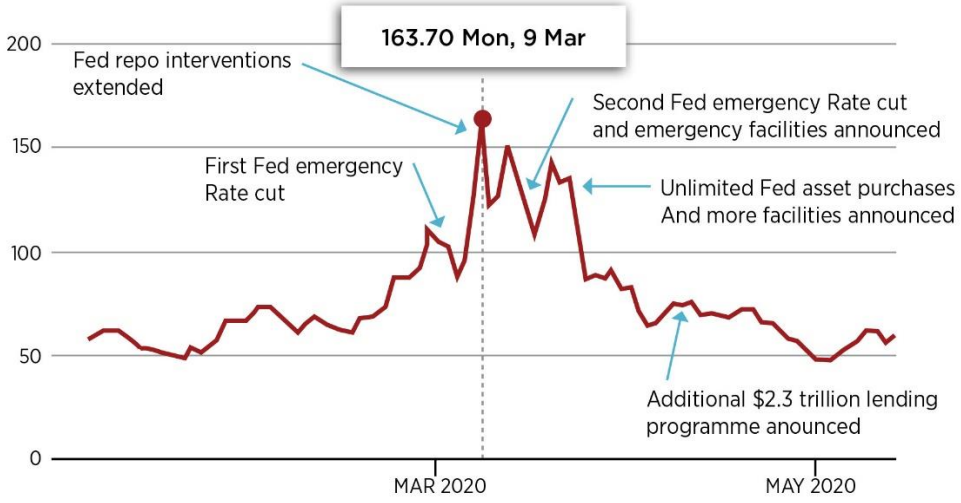
Liquidity during the COVID-19 induced stress

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?

As noted above, the report does not accurately capture the wider sell-off of all risk assets, substantial increase in default risk and initial difficulties caused by remote working. By way of background, we provide below further context on the circumstances under which the corporate bond market liquidity was assessed for the IOSCO report.

In March 2020, the scale of the COVID-19 pandemic materialized, including significant immediate economic and financial consequences. The latter included multiple days of historic price volatility amidst withering of market depth and very high transaction costs (see table 1 below). Unlike the 2007- 2008 financial crisis, which centered on credit markets, the most recent COVID-19 crisis disrupted risk-free assets[8] and their monetisation. The severity of the price moves put considerable strain on the markets that intermediate large transfers of risk and liquidity. The UST market, the world's largest and most liquid, began to experience significant liquidity stresses as investors shifted rapidly to hold cash, selling Treasury securities, while hedge funds also offloaded Treasuries and unwound related futures positions. Both the depth of the UST market and the bid-offer spread worsened by a factor of 10 during the crisis[9]. The change in 10-year UST interest rates, for example, was nearly six times larger than what was priced ex-ante into options markets[10]. This was the largest such volatility-adjusted move in the deepest and most liquid bond market in the world in the last 30 years, with yields on 10-year notes falling from 0.76 percent on March 6 to 0.31 percent on March 9, and yields on 30-year notes dropping from 1.28 percent to 0.7 percent over the same time period.

Table: Merrill Lynch Option Volatility Estimate (MOVE Index)



Source: Google

Broader markets, (see tables on credit spreads and bid/offer spreads below) were also affected, with lower market liquidity and higher trading costs. In the United States, stresses spilled over to the mortgage-backed securities space and then a wide variety of asset-backed securities (ABS), particularly high-yield corporates (CDS spreads were +171% on average at their peaks) and municipal securities (munis), before eventually leading to a freeze up in the commercial paper (CP) market. As SIFMA's July 2020 report on the COVID-19 related market turmoil noted, "essentially all risk assets in the fixed income space showed illiquidity and weak demand."[11]

[8] https://www.ft.com/content/a8cb729e-6772-11ea-a3c9-1fe6fedcca75

[9] Darrell Duffie, "Still the World's Safe Haven? Redesigning the U.S. Treasury Market After the COVID-19 Crisis," Hutchins Center at Brookings Working Paper #62, May 2020. Available at: https://www.brookings.edu/wp-content/uploads/2020/05/WP62_Duffie_updated.pdf.

[10] The difference of expected price volatility in the option premium vs the realised volatility. Expected volatility is usually a strong indicator of the risks of an asset. Volatility can be measured in different ways, but most often it involves tracking the standard deviation of returns over some sample period and capturing the dispersion – or potential dispersion of returns – over time.

[11] SIFMA Insights, "COVID-19 Related Market Turmoil Recap: Part II – Fixed Income & Structured Products," July 2020. Available at: https://www.sifma.org/wp-content/uploads/2020/07/SIFMA-Insights-Market-Turmoil_FI-FINAL-FOR-WEB.pdf.

Across US equities, ETFs and options markets, the VIX volatility index peaked at 82.69 on March 16, which was +563% from the start of the year and remained elevated through the summer[12].

European market liquidity also deteriorated during this period. In the equity market, bid-ask spreads rose by circa 5 basis points between February and mid-March and remained around two times above pre-COVID levels as of late June 2020. According to the AMF, as of early May French top of book depth of CAC40 constituent shares remained at less than half of pre-COVID levels. In the corporate bond market, bid-ask spreads rose 60 bps in mid-March but continued about twice pre-COVID levels as of late June 2020. Government bond bid-ask spreads also continue above pre-COVID levels, particularly for Italian and French sovereign bonds. It is also worth noting that coco spreads widened significantly across both the investment grade and high-yield securities, similar to the increase in credit spread for high-yield corporate debt. These increases in coco credit spreads are much wider than the spreads on other asset classes as can be seen in the table below, reflecting the specific risk characteristics associated with these securities.

Table: Credit spreads in some key markets. Q1 spread change indicates the initial shock and H1 change the persistence of the wider spread

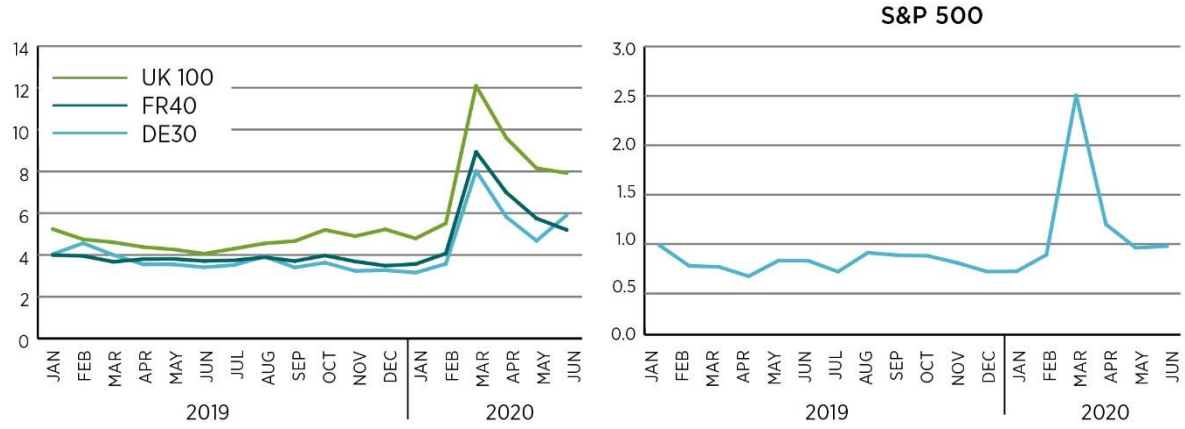
Spreads	30-Jun	31-Mar	1-Jan	Q1 bps Change	H1 bps Change
Corporate					
European AAA	70	136	53	**+84**	**+17**
European High Yield	512	866	308	**+558**	**+204**
US AAA	81	126	53	**+73**	**+28**
US High Yield	644	882	356	**+526**	**+288**
US IG Corporates	160	305	101	**+204**	**+59**
Sovereign					
5Y German CDS	8	14	5	**+9**	**+3**
5Y Italian CDS	100	104	57	**+47**	**+43**
5Y UK CDS	20	28	13	**+15**	**+7**
5Y US CDS	18	25	16	**+10**	**+2**
U.S. Municipal	48	31	20	**+11**	**+28**
Securitisation					
European CMBS Snr Euro FL	175	250	103	**+147**	**+72**
European Autos A Euro FL 4-5 Yr	180	275	76	**+199**	**+104**
UK Cards A GBP FL 7 Yr	250	350	150	**+200**	**+100**
ECB eligible Spanish Snr RMBS	91	135	48	**+87**	**+43**
Dutch RMBS Snr FL 5Yr	35	55	16	**+39**	**+19**
UK Prime RMBS AA Euro FL 5 Yr	170	260	115	**+145**	**+55**
UK Cards BBB GBP FL 7 Yr	350	500	190	**+310**	**+160**
Italian RMBS BBB FL 10 Yr	400	500	252	**+248**	**+148**
US CMBS AAA 5Y	144	268	152	**+116**	**-8**
US CMBS BBB 5Y	1937	2331	1915	**+416**	**+22**
European Banks					
T1 CoCo	552	674	316	**+357**	**+236**
HY CoCo	555	683	335	**+348**	**+220**

[12] SIFMA Insights, "COVID-19 Related Market Turmoil Recap: Part I – Equities, ETFs, Listed Options & Capital Formation," July 2020. Available at: https://www.sifma.org/wp-content/uploads/2020/06/SIFMA-Insights-Market-Turmoil_Equities-FINAL-FOR-WEB.pdf.

Indices	30-Jun	31-Mar	1-Jan	Q1 % Chg	H1 % Chg
STOXX 600	360.05	314.88	416.17	**-24.3%**	**-13.5%**
FTSE 100	6282	5672	7604	**-25.4%**	**-17.4%**
DAX	12727	9936	13386	**-25.8%**	**-4.9%**
CAC40	5084	4396	6042	**-27.2%**	**-15.8%**
FTSE MIB	20072	17051	23836	**-28.5%**	**-15.8%**
S&P 500	3130	2585	3258	**-20.7%**	**-3.9%**
VSTOXX	32	49	13	**283.5%**	**150.3%**
VIX	29	54	12	**329.4%**	**129.5%**

Source: AFME and SIFMA Research

Table: Bid/offer spreads for selected European and US indices



Source: AFME Research[13] and SIFMA Research[14]

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

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.

The report focuses mainly on a qualitative assessment of trading activity, concluding that dealers did not expand their intermediation capacity during the early stages of the pandemic. However, a quantitative assessment of trade volumes would indicate that dealer trading activity increased substantially during the March market turmoil. Tradeweb data shows that European credit trading volumes were up by 18% compared to March 2019. Similarly, US IG and HY credit trading volumes were up 42% and 101% respectively. US Trace data (excludes dealer-to-dealer trades) shows a 26% increase in trading volumes year-on-year for US credit (IG and HY combined). While risk warehousing capacity of dealer banks varied across banks, daylight liquidity provision

[13] Further information on products, venues and indices available at: https://www.afme.eu/Portals/0/DispatchFeaturedImages/AFME-%20Impact%20of%20COVID-19%20on%20European%20Capital%20Markets%20-%20Update%20-%20Final%20Draft_1-1-1.pdf

[14] *Average of SPDR S&P500 ETF & Vanguard S&P500 ETF (bps)*

increased more universally during the turmoil compared to the same period in 2019 under more benign market conditions.

In this context, it is also important to acknowledge that the demand for bank balance sheet expanded across multitude of products and client types. Particularly, banks were incentivised to provide corporate loans under the government guarantee schemes as the fiscal policy objective was to ensure viability of businesses. The demand as described under question 3 during the 'dash for cash' as well as from corporates for loans, use of credit facilities etc. also increased significantly during the same period. Therefore, banks had to make strategic decisions on how best to serve their clients and to use the limited capacity most effectively.

Secondly, we disagree with the conclusion that transparency rules were immaterial as drivers of liquidity supply. Dealers must consider how they will exit risk positions when they transact, particularly during volatile periods and for large transactions. The current price transparency regime in some jurisdictions, such as TRACE in the US, is not supportive of block trade liquidity because it can impair the ability of broker dealers to lay off the risk they take on in service of their clients. Larger positions equate to larger amounts of market risk, and under the current regime dealers are faced with near-immediate dissemination of their trading activity.

Based on an AFME study[15] on MiFIR data from March 2021 to December 2021, small trades (of less than EUR 500k) account for the majority (c. 70%) of the overall number of trades in the European corporate bond markets. Therefore, making these small transactions transparent will significantly improve transparency by almost 10 fold, increasing from 8% of transactions currently being reported real-time to almost 70% of transactions becoming real-time transparent. The smaller the trade size and the more liquid the instrument, the less risk is associated with rapid dissemination of price and volume information for liquidity providers, with the 'trade out' (i.e. moving the risk off the bank's balance sheet) being less than 1 day for liquidity providers. However, it is critically important to note that this 70% of the trade count reflects only 13% of market volume, given the typically large size of corporate bond trades.

On the other hand, larger transactions (of more than EUR 500k) reflect a relatively small percentage of total transactions (appr. 30%), but a much larger share of the market volume. The data set demonstrates that the larger the transaction, the longer it takes to 'trade out' and clear the market. For trades larger than EUR 1 million, it takes on average 6 business days to 'trade out' of positions. For trades over EUR 5 million it takes on average 19 days to trade out, while larger trades take even longer. The complexity of managing block trade and portfolio trade flows during stressed times when clients require immediacy from dealers to execute their sell orders is therefore significant, adding to the wider issue of carefully managing the regulatory capital position and balance sheet capacity.

Thirdly, our member banks do not agree that local operations of international dealers withdraw capacity during the turmoil. In our experience, dealer banks committed to supporting specific markets continued to do so throughout the turmoil. We recommend a more in-depth quantitative assessment, based on trade volumes to ensure this assertion is corrected.

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?

The GFMA believes that the key drivers of supply side liquidity provision relate to regulatory constraints and post-trade transparency requirements for block trades. For example, balance sheet limits and regulatory requirements are essentially one and the same driver, as the post-crisis reforms have made regulatory

[15] AFME: MiFIR 2021 Corporate Bond Trade Data Analysis and Risk Offset Impact Quantification: https://www.afme.eu/Portals/0/DispatchFeaturedImages/MiFIR2022.pdf

prudential requirements the most binding capital constraint. Based on member feedback and data in the aforementioned AFME study, we also believe that transparency rules had a much higher relative impact on supply of liquidity than concluded in the draft report. In our view, post-trade transparency regimes should account for the need for investors to be able to transact in size.

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

The report identifies that during stressed conditions reliance on dealer intermediation generally increases. While all to all and exchange traded bond markets (e.g. Italian retail bonds) did not experience as big volume increases as the OTC dealer market, it is crucially important to acknowledge that all trading platforms need dealers that are willing to trade and take on risk to function, particularly during stressed periods. Significant imbalances between supply and demand will always result in widening of spreads and price volatility, which itself is not a symptom of market not functioning appropriately.

The area in the draft report that requires further attention is the market capacity to facilitate larger sales transactions, i.e. block trades. The corporate bond market has evolved in terms of the market structure over the past decade, alongside a wide-range of new regulations that investors and dealers have assumed in their risk management practices and appetite. With regards to drivers of sell-side liquidity provision, the GFMA believes that the report would benefit from further investigating the evolution of dealer capacity, in conjunction with the regional changes made to transparency requirements and evolution of the corporate bond markets. While the evidence shows a marked reduction in dealer inventories since 2013 as the post-financial crisis took effect, at the same time the bid/offer spreads have tightened but average trade sizes have dropped as smaller trades have moved to electronic platforms[16],[17]. The result is that even smaller trades can now be deemed block trades in the market and transactions falling within the block trade transparency category (size masked for a period of time) are becoming rarer. This capacity to execute larger size trades on behalf of clients that require timely execution is fundamentally important, particularly at times of stress. Therefore, we encourage IOSCO to further investigate the interaction of prudential regulatory requirements and transparency rules on dealer capacity, and how this capacity is changing over time. A key recommendation in our view is to review existing transparency rules against changing market structure and trading patterns.

Furthermore, we also reiterate our view that the sudden change to operational model – moving to remote working – led to a period of lower trading capacity in March 2020. This should not recur under similar circumstances in future, as banks and authorities very quickly found ways to facilitate remote trading and we expect these systems and capabilities will remain in place for the foreseeable future.

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.

We broadly agree with the assessment, in terms of core markets. We note however that the key features do not necessarily translate to all, especially emerging markets.

[16] Staff of the Federal Reserve Board, "Staff Q2 2017 Report on Corporate Bond Market Liquidity," available at https://www.federalreserve.gov/foia/files/bond-market-liquidity-report-2017Q2.pdf.

[17] 9 Bruce Mizrach, "Analysis of Corporate Bond Liquidity," available at https://www.finra.org/sites/default/files/OCE_researchnote_liquidity_2015_12.pdf

Dealer intermediation and concentration

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

Dealer concentration varies across markets and needs to be assessed at a specific market level. Generally, we believe that competition from different business models and from local as well as from 3rd country dealers is good for the market ecosystem. Diversity of dealers operating in any given market helps provide access to more pools of liquidity, investors and capital, as well as providing shock absorbance during stress periods.

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.

The GFMA does not believe that there is a valid reason to move away from a market structure that to a degree depends on wholesale dealers intermediating in the market and deploying their own capital as principal-based intermediaries. The alternative option would be to move into agency trading model, whereby transactions will only occur when a broker or platform can match a sell order with a corresponding purchase. Such a market structure would result in more volatility and wilder bid/offer swings during stress periods.

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?

Standardisation, particularly in corporate bond markets is unlikely to meet issuer needs. Each issuer in the market have their own credit risk profile, tenor and cost of capital desire, specific case for use of proceeds and indenture and creditor considerations. Bond issues are not typically used for working capital management (better to use short-term liquidity facilities, bank borrowing and CP programmes) but rather for specific needs that are not supportive of standardisation. Secondly, with the exception of the most liquid government debt, investors in bonds typically want different maturities, interest rates, yield, or other terms.

This lack of uniformity in the desired bond characteristics results in a unique market structure for corporate bonds (e.g., a corporate issuer may have dozens or hundreds of bond CUSIPs/ISINs, but only a single equity CUSIP/ISIN). Therefore, corporate bond market has historically been predominantly a dealer to client, over the counter market due to the low probability of equal and opposite simultaneous trading interests that can easily be traded on an exchange. In addition, as can be seen in table 1 below, average trade sizes in credit far exceed those in equities where retail investors are more active compared to mainly institutional corporate credit market. Liquidity in corporate bond markets is more fragmented as opposed to centralised liquidity in the equities markets.

As a result, market makers have an essential role to play to bridge liquidity gaps, and bond investors still rely heavily on the provision of risk capital, mostly by banks and dealers that make markets. In some cases, certain investors may also quote prices. This has meant that unlike equities markets where electronic trading has been common for many years, the adoption of electronic trading in fixed income has been gradual. However, it is progressing and becoming an important and well-established part of the fixed income market landscape, varying by fixed income asset class in terms of market share. In this regard, it is important to keep in mind the distinctions between fixed income and equity trading, and as fixed income markets electronify, to not simply impose equity market regulatory constructs on to very different fixed income markets[18].

[18] As we have recently seen with the imposition of SEC Rule 15c2-11 on fixed income markets in the U.S..

Table: Equities vs credit trading in US markets

	Notional[1]	ADV[2]	Number of trades[2]	Avg. daily trades	Avg. trade size	Unique securities[3]
US Equities	$142,296B	$565B	17,326M	68,753K	$8K	6K
TRACE US IG	$6,011B	$24B	11M	43K	$558K	26K
TRACE US HY	$3,246B	$13B	5M	21K	$614K	7K*

[1] FY 2021 market value traded in all US equities exchanges and trade-reporting facilities (TRFs), sourced from Cboe. Includes Tapes A, B, and C.

[2] Corporate bond secondary par value and trade count submitted to TRACE, excluding converts and equity CUSIPs, sourced from FINRA.

[3] Unique equities trading on US exchanges as of 2020, traded in NASDAQ and NYSE. Unique corporate bond issues as of December 31, 2021, excluding converts and equity CUSIPs, sourced from FINRA.

* FINRA categorizes an additional ~125K securities without ratings as US HY.

Growth of electronic trading

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

We believe that electronification and evolution of trading platforms is beneficial to the market as a whole, particularly from market access viewpoint. Direct access to platforms will help clients access pricing and pockets of liquidity from a wider range of dealers/market makers, which can be associated with better pricing and lower bid/offer spreads.

Furthermore, the growing electronification of Repo – through venues like Bloomberg, Tradeweb or MTS - allows dealers to quickly and accurately identify availability/liquidity of securities which, in turn, supports their secondary market activity. This electronification has also been accelerated by the European Union's Securities Financing Transactions Regulation (SFTR), which entered into force in April 2020.

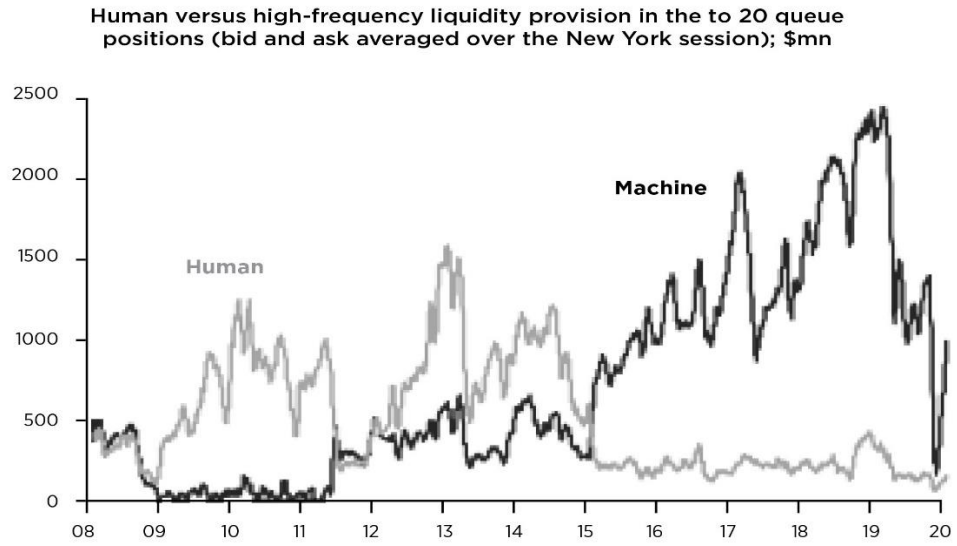
19. Is the electronification (and any resulting increase in liquidity) of government bond markets over the last decade illustrative of how corporate bond markets could evolve? How and why?

The GFMA believes that while the evolution of government bond trading may provide directional guidance on where non-government markets may be headed, it is not correct to assume that trading constructs in these markets may simply be ported to non-government bond markets for a variety of reasons. For example, the investor base for sovereigns is different than that for corporate bond markets as government bond investors are rates investors whereas purchasers of corporate bonds are typically credit investors in a general sense. As another example, non-government markets are far more granular in terms of the variety of security issuer profiles and security structures than the core government bond markets. Each of these factors will lead to differing ideal market structures and trading practices for the markets.

Secondly, some of the developments in electronification of the government bond market do not necessarily lead to more resilient markets. Markets are most resilient when clients have access to pools of liquidity where a diverse pool of dealers present, with ability to warehouse risk and access to risk capital. In this context, we note that from a resilience perspective that while increased reliance on algorithms and HFT for market liquidity has had its benefits during more benign times, the March 2020 market turmoil revealed that the liquidity provided by HFT can be feeble at times of stress. Therefore, liquidity provision by HFT especially in less liquid markets such as corporate bond markets may not be possible due to the fundamentally different characteristics of the market and investor base.

Over the recent years, HFT activity (bank and non-bank) has grown at the expense of human activity to make up 80% or more of liquidity provision in the Treasury market. Because algorithmic trading strategies tend to focus on very short-term market making and hold no inventory overnight (thus minimising/avoiding regulatory capital requirements), they are profitable when prices are sufficiently stable to reliably profit from the bid/ask spread. Due to the high levels of intraday volatility and low trading volumes, HFT's liquidity provision collapsed during the COVID-19 liquidity bout (see table below). This sudden liquidity withdrawal, accompanied with the sell-off, lead to greater liquidity tiering among fixed income instruments (for example on and off the run treasuries) than during prior systemic events. It is evident even in the US Treasury market[19]. IOSCO also noted in their report[20] regarding secondary markets in equities that the new technology-enabled investors do not work under the same obligations as traditional market makers to buy and sell with all traders, creating concerns they could retreat from the market in a time of stress.

Graph: Human vs. HFT trading activity 2008 – 2020 (US Treasury market: Top 20 queue positions (bid and ask averaged over the New York session; $million



Source: Courtesy J.P. Morgan Chase & Co., Copyright 2020, 8th July 2020

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)?

There is a plethora of electronic trading solutions to access and increase corporate bond market liquidity, including limit order books, different protocols and order/execution management systems. Therefore, from a market structure point of view, the market needs to adapt to the recent changes and evolve naturally.

From a regulatory perspective, as noted above, regulators need to take care to avoid the assumption that what works for equity markets will work for fixed income markets. They are very different, and demand different frameworks in many respects. More specifically, there are some regional developments that may hinder the adoption and development of electronic trading. For example, requiring order management system (OMS) and execution management systems (EMS) to register as trading venues would disincentivise further adoption of electronic trading due to the significant regulatory and operational burdens that to not provide meaningful benefits.

[19] https://www.newyorkfed.org/newsevents/speeches/2020/log201023
[20] https://www.iosco.org/library/pubdocs/pdf/IOSCOPD660.pdf

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?

GFMA and our members believe that while all-to-all trading venues can provide direct access to a wider range of market participants to pools of liquidity, trading venues themselves are not sources of liquidity. Market makers manage their risk/utilise balance sheet to provide quotes across a specific market which remain the same, irrespective of the venue used for trading. Therefore, particularly in times of market volatility and stress when trading is very directional, all-to-all trading still relies mainly on the number of dealers quoting prices on the venue for efficient trade execution (please also see our response to question 15).

While we believe that it is possible to further increase the share of securities traded in all-to-all platforms from the current levels[21], larger orders still need to be intermediated during these periods by dealers operating a principal trading model, with their own capital at risk, irrespective of the platform of choice. As evidenced in the AFME report on transparency[22], shifting larger block orders requires several days or even weeks to complete.

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?

Whilst the industry is supportive of appropriate transparency, there is a delicate balance between transparency and liquidity. Too much transparency for illiquid bonds or large size trades could cause undue risk to the market makers who provide a valuable role as risk intermediaries, by providing two way liquidity to facilitate trading. This delicate balance is also needed in calibrating post-trade transparency in the related credit derivative markets, which are closely linked to cash market liquidity and are an important risk management tool.

Unlike in equity markets which are order book driven, there is rarely an equal and opposite side for a trade in the market at the same time i.e. a pension fund wanting to trade a specific corporate bond so a market maker will step in to provide a quote. Deferrals exist for example under the MiFID II Transparency regime to minimise any adverse impact on the market by limiting any unnecessary identification of sensitive inventory information which allows committed liquidity providers (market markers) sufficient time to hedge/ unwind their positions.

Any proposed changes to transparency need to be accurately calibrated, based off data analysis using comprehensive and high quality data sets. This ensure the balance with liquidity is not adversely impacted.

In Europe post-trade transparency data is made available via Approved Publication Arrangements (APAs) and Trading Venues (TVs) however as there are multiple APAs and TVs the information is fragmented and a lack of standardisation in formats makes it challenging to access the data. A bond consolidated tape will address this fragmentation issue and improve access to transparency data by making it available in one place.

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

Sources of pre-trade transparency have dated back prior to the implementation of MiFID II in Europe, Axes and composite pricing pages are commonly used. These sources have continued to prevail even after the implementation of MiFID II pre-trade transparency requirement, evidence is that the MiFID II pre-trade information is not beneficial and rarely referenced.

[21] https://www.marketaxess.com/pdf/All-to-All-Trading-Takes-Hold-in-Corporate-Bonds.pdf
[22] https://www.afme.eu/Portals/0/DispatchFeaturedImages/MiFIR2022.pdf

Post-trade data from one day is vital in providing pre-trade information for the next, it shows exactly where a bond has traded – rather than a quote which may or may not have then traded.