17 December 2021

Ms Cathie Armour
Commissioner
Australian Securities and Investments Commission
Level 5, 100 Market Street
NSW 2000

By Email

Dear Ms Armour

Re: Letter to Market Participants Regarding ASIC Report 708

AFMA represents the collective interests of over 120 members in the Australian financial markets including many of those that are required to respond to recent letters referencing Report 708.

Our members have asked that we raise with you some matters in relation to the expectations noted in Report 708 and the related requirement to report to ASIC by mid-February on how firms have implemented or plan to implement these expectations.

AFMA has been pleased to work with ASIC in building its understanding of the market dynamics at play and we remain open to further work in this area. We provide further detail on the matters we believe are relevant to consider when responding to the market outage in relation to market participants in the Appendix to this letter.

AFMA Supports Improvements in System Resilience

AFMA has long worked to support market reliability and resilience. Our members are inherently motivated to maintain service levels to clients across different market conditions including during the rare event of a primary exchange outage.

In response to the 2016 outage AFMA worked with ASIC to progress significant infrastructure improvements, notably the ASX status server, which removed a primary exchange system dependency that prevented trade migration to the secondary market. Our response to ASX's 2018 consultations at the time included support for:

- A minimum trade day definition for resumption after an outage;
- Governance changes to assist with outage management;

- Improved protocols for session state changes (away from 'Enquire') to assist with transition to other markets.

We note that some of the above are again proposed to address the more recent outage. We continue to support these measures.

AFMA is aligned with ASIC's overall goal of well-functioning markets and continues to support efforts to improve market resilience and the removal of barriers to investors trading during primary market outages, and efforts at reducing the frequency of outages where this can be done without excessive costs or impacts to features and the agility of the sector.

While we support seeing trading largely continue in the event of a primary market outage we recognise that there are substantial challenges. The nature of some of these challenges may mean that the ideal outcome ASIC seeks may not be achievable to the degree sought without changes that would be at odds with the free nature of the markets and the business environment.

Taken together the operational challenges, technical complexity and commercial realities mean that there are no simple solutions to achieving a seamless switch between markets in the event of an outage. While the industry is supportive of continuing to remove barriers to market competition during primary market outages given the substantial differences in markets, the infrequency of outage events, the cost, complexity and in practice impossibility of seamless transition mean in our view ASIC would be better placed to take a more accommodative rather than punitive regulatory stance and work with the industry to identify opportunities to efficiently create the conditions where more trading is likely to continue during a primary market outage.

Timing, prioritisation and transition period

The technology stacks used in market participant firms are substantial and any comprehensive review requires the evaluation of potentially many hundreds of components for linkages and dependencies. This takes time and must use the same limited resources that are typically already deployed for other purposes.

Work associated with assessing market participant systems is complex and there are limited resources with the requisite knowledge to undertake these activities in the short term.

Redeveloping technology to meet revised regulatory requirements in a safe and well-managed way also takes time and uses the same limited internal resource pool with knowledge of each particular firms' technology stack.

ASIC has asked that firms report back in two months over the holiday period with the results of a complex audit of existing system dependencies compared to newly released expectations and produce a plan to address any shortfalls. We respectfully submit that this is an insufficient response period for such a complex and extensive undertaking.

As such, the industry requests more time to undertake the dependency assessments.

Industry-wide scheduling

The industry has a clear number one priority at present being the CHESS replacement project. This is a large technically challenging project on a system used every trading day that is at a critical stage. It is due to complete in 2023.

Chi-X has also announced that it is replacing its trading system infrastructure following its purchase by CBOE. While the industry very much welcomes the Chi-X initiative as a significant improvement for the Australian financial markets, it is expected to place a large load on resources well into 2023/24.

Aside from being a major project in itself for the industry, the Chi-X project promises very substantial improvements in the technical and commercial abilities of Chi-X to attract order flow during outages. Specifically, it is expected to bring additional functionality capacity including intraday and closing auctions and Good-Till-Cancel (GTC) order types which could help with liquidity attraction during primary market outages. The industry would welcome such improvements in the commercial attractiveness of primary market outage trading conditions.

While technical details of the new system are yet to be released, it may well be the case that the replacement of the trading system at Chi-X creates technical changes that require algorithms that have been reengineered to fail over to Chi-X's current trading system to be reengineered again to fit with the new system.

For most firms their budgeting and planning for 2022 is already closed and the process for adding resource and spend at this late stage, especially for global banks, will be very challenging.

ASIC appears to be suggesting that work should begin soon to address any shortfalls with its newly released expectations. If systemic resource constraints were to lead to under resourcing of such work, or the work associated with the CHESS and Chi-X projects this could readily increase risks to market integrity.

In light of the CHESS replacement project and Chi-X trading system replacement, and in order to minimise the risks and costs to market participants, investors and market operators, we request that ASIC reconsider this timing for Rep 708 related development work by participants.

Clarity of REP 708 expectations and interaction with regulatory requirements

Industry feedback is that the expectations in Report 708 require further elaboration particularly in relation to their interaction with existing legislated and regulatory requirements.

As ASIC has foreshadowed in the report, market participants remain concerned about the integration of their various legislated and regulatory obligations to act in their clients' best interests, notably including the Best Execution obligation.

Market participants are concerned there may be some potential incompatibility between some existing regulatory requirements. For example, the MIR Best Execution obligation requires participants to "take reasonable steps to obtain the best outcome for that client". Even in normal market conditions this will often mean not executing an order on the day but waiting until liquidity conditions are suitable to get the

best outcome. Market participants are ever conscious that an instruction to buy or sell is not an instruction to do so whatever the price impact or implementation shortfall. Such an approach could readily damage market integrity.

In Table 1 in Report 708 ASIC lists the bid offer spreads on Chi-X on the day of the outage. These spreads from 10.50 a.m. were very wide at up to over 6.3% (meaning to enter and exit a position would put participants at a starting loss of this percentage). It is difficult to see how client interests could be protected and demonstrated in crossing these spreads with client orders.

These are high risk and potentially loss-making markets. For instance, algorithmic orders would have to be highly refined to navigate such spreads safely. The safety mechanism of many algorithms may include sitting out of markets with such wide spreads. Certain standard algorithm types (e.g. percentage participation) could readily be vulnerable to participating in pricing that would be well out of market if the primary market were operating, yet the requirements of Report 708 include:

> We expect new orders received during a market outage to be submitted to an alternative trading venue…
>
> [and]
>
> We expect participants to have the operational ability to continue to offer their usual suite of trading services to clients during a market outage

We are concerned that mandating participation of all usual algorithms or requiring that algorithms switch across to participate in such markets may not be in the interests of supporting fair and orderly markets. Algorithms may require reasonable levels of liquidity to function in an orderly way and deliver best execution.

Participants are concerned that the seemingly contradictory nature of some of the expectations with the strict and enforceable requirements of Best Execution and other regulatory and contractually enforceable requirements on brokers have not been fully resolved at this time.

This work should be fully refined before implementing the expectations set out by ASIC in Report 708.

We also note that ASIC's work in resilience is currently on foot in its MIRs for CP 314. While we understand this work is progressing, ideally it should be released before planning and work begins on responding to ASIC's expectations around market outages, to allow participants to ensure their work conforms to the MIRs.

Similarly, the revisions to the market operator incident management procedures should be released before market participants begin work on integrating these procedures into their business continuity plans.

Regulatory foundations

AFMA seeks to understand better the regulatory foundations for the expectations. The Report references the high level "efficiently, honestly and fairly" obligation, the need to comply with the Market Integrity Rules (MIRs), and that ASIC considers "that the expectations we have set out in this report are consistent

with licensees' regulatory obligations and the regulatory framework." Understanding the basis is important as it informs prioritisation and the context for how obligations should be approached, and it has implications from an enforcement perspective.

On a related matter, we note AFMA has been cautious to avoid any activity that could be misconstrued as a concerted practice that might be seen as having the purpose, or that has or is likely to have the effect, of substantially lessening competition. Here we are concerned that in a two-supplier context a temporary outage at one supplier may not provide an exemption for firms to make any type of coordinated arrangements to use a particular other supplier.

We would appreciate any information in relation to this concern that ASIC can supply.

International context

In passing we note that the issue of trading not migrating to secondary markets is well known internationally and may not be related to the particulars of the Australian context. In Europe, a far deeper and more liquid market the problem is very current. Following the 2020 outages in European markets participants noted "a nearly complete lack of migration of trading to other exchanges, despite their continued functioning".[1]

There are industry moves in Europe led by Optiver, AQUIS, CBOE and others to see what can be done to assist liquidity build on and migrate to secondary venues during outages. The potential responses recognise the complexity of the problem and typically do not suggest mandating of migration, instead they propose the use of intraday recovery auctions and moveable closing auctions (as we have noted might be possible with Chi-X's upcoming upgrade), various supporting regulatory changes and other measures.

AFMA is finalising our position on specific proposals but generally is looking to assist with these efforts locally. We are always strongly supportive of increased competition for order flow, including during outages.

It should be understood, however, that even if all the changes ASIC has proposed are implemented fully the outcome of an outage could well be similar. The reasons are the same as those that make the Europeans not expect easy resolution – the challenge is complex and building markets that function well at all times is very difficult. While the change in expectations may increase the theoretical potential for maintaining trading levels in the event of an outage, we see the challenge as more fundamentally a commercial one which will need the types of commercial solutions that participants are already in the process of implementing. Further, despite expectations that brokers direct flow towards secondary venues they will simply be unable to do so if the liquidity is not present due to the various other regulatory and commercial obligations they continue to face.

[1] Recommendations for Improving Resilience in Europe's Equity Markets' | Optiver

Resource efficiency

In Report 708, ASIC states that:

> We expect participants to have the operational ability to continue to offer their usual suite of trading services to clients during a market outage.
>
> …
>
> Participants need to have robust and adequately tested solutions to confidently respond to a range of operational disruptions…

This requires the same level of functionality for market outage scenarios as would be available during normal market conditions.

Over the past 20 years ASX has provided very high levels of trading system reliability of around 99.9%. With the wide range of improvements ASX has made more recently to systems and the processes for managing these systems it could reasonably expected that this already strong figure should improve further. ASX has recently noted critical incidents are down 90%[2]. This suggests that the periods of time with primary exchange outages are likely to be much less than 0.1% of trading days. This means any benefits for the costs expended to meet ASIC's expectations will be limited to 0.1% of potential trading time.

The ASIC expectations mean that *all* participants not just those interested in differentiating their offering as a premium resilience provider *must* invest material resources into making all their 'usual suite of systems'[3] capable of potentially being able to trade relatively seamlessly on these less than 0.1% of days (in the event there is liquidity and client interest in doing so on these days).

We query whether this is an efficient outcome. Market forces may be better placed than a strict requirement to determine the appropriate level of resources to efficiently invest in these rare periods of system outage.

We expect the 2020 outage would have triggered the normal free market mechanisms as market participants compete for clients, and clients query market participants to ensure their service levels will meet their expectations for future outages. Client feedback and competition will continue to be the an important factor for firms in ensuring they have their resilience right.

Implementation alignment

We understand there is a project underway in Government to migrate policy implementation measures to their appropriate regulatory level, for example to look at whether long standing class orders should instead be the subject of legislative reform. The welcome aim of this project is to remove much of the confusing nature of the current regulatory landscape. Currently it is no simple matter to understand the law simply by reading it. Instead, firms must work through a complex web of regulatory levels, including

[2] ASX boss Dominic Stevens says damning reports miss the bigger picture (afr.com)

[3] "We expect participants to have the operational ability to continue to offer their *usual suite of trading services* to clients during a market outage" [emphasis added]

market integrity rules, guidance, class order exemptions that together often have the effect of reversing elements of outdated legislation. The view underpinning this work is that policy should be framed at the legislative level, then refined through regulations, with only smaller gaps to be filled in guidance and expectations.

The industry has appreciated the extensive informal discussions and genuine information gathering ASIC has undertaken and understands the motivation for bringing updated policy settings to the market promptly through the expectations mechanism.

However, our considered view is that the change in expectations may constitute a substantive policy change. As such, to fit in with the Government's project around regulatory levels we suggest ASIC consider whether in the medium term there could be benefit in a formal policy process including more formal consultation processes.

Framing as BCP

While some participants consider it appropriate to include market outages in BCP planning (and this can be appropriate given ISO 22301 definitions), others see BCP as focussed on dealing with issues related to the firm's own systems (noting some of these may be outsourced – the use of an exchange is not typically seen as an outsourced service), and matters relating to market outage are best dealt with in the context of individual system resilience. We note that firms would typically consider outages of secondary markets as matters for code resilience rather than BCP matters and it is unclear why similar treatment would not be suitable for primary market outages as ASIC suggests.

We support firms continuing to be allowed flexibility as to from which part of their internal operations (BCP or system resilience management) they wish to manage market related outage matters.

Conclusion

We trust our comments are of assistance.

Yours sincerely

Damian Jeffree

Senior Director of Policy

APPENDIX – CHALLENGES TO MARKET OUTAGE RESPONSES

The problem and risks of change

AFMA recognises that understanding the dynamics of markets, particularly when they are dislocated, is a complex and difficult challenge. While every business day markets form on screen and function in high volume, performing important capital allocation and pricing functions for the economy, this apparent ease belies that they are contingent on a very delicate balance of commercial factors, the smooth interaction of a multiplicity of extremely complex computer systems, conformance with various intricate regulatory requirements and the confidence and interest of investors. In markets that are dislocated, including by technological faults, the trading outcome can be for activity to be severely attenuated or even absent.

(1) Liquidity, spreads, client best interest and directions

As ASIC recognises, the liquidity on the secondary venue during the ASX outage in 2020 was low and spreads were wide. The reasons for this are manifold. Even in normal times secondary venues typically have lower liquidity than primary venues due to lower participation by investors. In markets functioning normally, secondary market participants can draw confidence in the lower liquidity-based pricing on secondary venues due to that pricing being as well-formed as on higher liquidity primary exchanges. During an outage of the primary exchange this confidence can be lost and these participants may remove or limit their trading as a result.

Secondary venues also often have increased reliance on market makers for liquidity provision, and these market makers in turn rely on the primary market for risk management. In the event of a primary market outage, these market makers tend to reduce or remove liquidity. This can compound the loss of liquidity and spread widening on secondary markets during primary market outages.

Some market making liquidity is reliant on arbitrage trading that may be impacted by the increased volatility and widened spreads present during outages and other technical factors.

Investors are reluctant to execute on venues with low liquidity and high spreads as, in addition to a loss in confidence in the robustness of the price formation, their execution performance will be negatively impacted. This results in worse prices for end investors including superannuation funds and holders of superannuation accounts.

It is ultimately investors' call as to whether to move their orders to venues with low liquidity and wide spreads. Many investors actively chose not to continue trading during an outage given the risk to their execution and investment returns. Further, what may be considered an efficient ability to switch flow will be based on the nature, scale and complexity of each participant's business and is likely to result in considerably different timelines on the day of an outage. There may also be a perceived disadvantage for clients and participants to be the first to migrate their trading to alternative venues. The last to move to the secondary exchange will ultimately benefit from the highest level of liquidity and the tightest spreads. We stress however that the decision to move to secondary venues is primarily a matter for investors.

For some orders brokers have discretion as to whether to trade on alternative venues during primary market outages. At other times, brokers provide information and professional judgement to assist clients' decision making. Brokers acting in these capacities typically act conservatively and to preserve their

clients' interests and the commercial relationship. Brokers should not be pressured to continue trading orders for which they have discretion or to bias advice to clients towards continuing trading on alternate venues due to regulatory influence. Instead they should be at liberty to provide their honest judgement and act in the client interest. Brokers are unlikely to move orders to venues where it would result in poor executions for investors. Beyond being bad for business and not in their client's or their own interests this could be a breach of the Best Execution obligations and other fiduciary duties owed to clients.

(2) Technical challenges faced by brokers

The complexities that market participants face in dealing with outage scenarios should not be underestimated. Brokers face unreliable information during outages. There is typically great uncertainty around which systems are affected, which orders have traded, and which orders are still present in the system awaiting processing, and which trades may already be, or will be, cancelled. Market participants often incur losses caused by system outage-related errors (including double ups of executions, failures to execute, and execution at out of market prices). For large brokers this uncertainty can be related to tens or even hundreds of thousands of orders. Report 708 notes the uncertainty around orders and suggests the main implication is in terms of managing client expectations. While this is one consideration, the risks to participant error books are also very significant.

To minimise errors market participants understandably prefer to gain an accurate picture of where their client orders are up to before continuing trading where possible.

(3) Redirecting algorithms

The complexities of the interaction of algorithmic trading and market outages are substantial.

Competitive trading algorithms are not generic off-the-shelf pieces of software, they are instead typically custom made for the byzantine technical complexities of the primary market with measures in place to ensure liquidity or pricing advantages presented on secondary venues is utilised (particularly where required to comply with Best Execution requirements).

It is important to note that the primary market and secondary markets are not symmetric. Algorithms are thoroughly tested for normal market operations which are more predictable than dislocated conditions. While it might seem that it is relatively simple to redirect algorithms to use only the secondary market in the event of a primary market outage, in practice this is incorrect. Instead, a parallel alternative design must be implemented that takes into account each nuance of the secondary market in potentially illiquid conditions – trading still may not be possible if the liquidity is found to be insufficient. The algorithm must then be designed to switch between these modes of operation in a way that recognises that there may be some incorrect execution and pricing data received from the primary market. A complex and high cost challenge.

In addition to these design challenges there are significant operational risks in changing systems to redirect to a different market intraday. These are the sort of changes that will always be best made out of hours with a period of testing.

Risk is unavoidably increased by making intraday changes to core systems and these are the type of risks that should be left to firms to manage given the particular details of their implementation in a market based economy.

(4) The challenge of large numbers of orders

For brokers with significant order volumes in the tens to hundreds of thousands there are significant operational risks in switching these orders from one venue to another. Orders may be lost or picked up with incorrect execution information that could result in errors in the move to a secondary venue. The data actions of deleting an order off one exchange and creating it on another, while simple in theory, can go wrong in practice when automated with the systems required to move large numbers of orders automatically. This is particularly the case when these systems are required to interact with market operator systems that are by definition not functioning correctly. At worst data can be lost and errors created.

In addition, orders sitting in price time priority order on the primary exchange will lose that priority if deleted from that exchange and created on a secondary exchange. While Report 708 acknowledges some of the difficulties it still creates some expectations of movement "where operationally possible and where this does not risk harming market integrity". We do not believe this should be set as a default expectation.

(5) Differences in market structure and features, and related benchmarking challenges

Features that are present on a primary market may not be present on a secondary market or may be implemented in an entirely different manner (and vice versa). For example, ASX has implemented a mid-price trading venue Centre Point as a separate Central Limit Order Book with different trading rules and costs, Chi-X instead implemented a mid-price order type in its main trading system. While ostensibly targeting similar outcomes the mechanisms and technical implications of the two different approaches mean that it is far from simple to design algorithms that can switch from primarily using one to the other. Again, effectively they require two different algorithms with switching between them.

At present the secondary market does not have Good-Till-Cancelled (GTC) orders meaning that orders created today lose priority overnight. This means that orders deleted off the primary market and created on the secondary market would lose all priority on both exchanges by the end of the trading session. Losing queue priority for what might be 2 hours of potential execution will simply not make any sense for most queued orders.

GTC allows order to gain priority on the primary exchange. Many GTC orders have been waiting in line building up priority for execution for weeks or even longer. Removing these orders off the primary exchange does not appear compatible with Best Execution obligations and is likely often going to be at odds with the wishes of clients.

At present the secondary market does not have the liquidity event of opening or closing auctions. Liquidity events such as auctions attract volume as they allow the trading action to more readily form clearing prices at lower risk to trading participants and investors.

The secondary market's closing price mechanism is different to the primary market's and as a secondary exchange it may not be recognised for benchmark purposes. This means that executing on the secondary market may not meet market-on-close benchmark execution requirements, which for many clients is their primary aim.

Similarly, many if not most orders are benchmarked to VWAP for execution assessment. VWAP algorithms typically rely strongly on mean volume execution profiles that are the result of normal trading. During outages these benchmarks can be severely distorted and meeting the benchmark can be difficult or impossible. Investors are often internally assessed against their ability to meet or exceed these benchmarks and they may be unlikely to wish to participate in markets where these benchmarks are unlikely to be met.

(6) Differences between outages

Despite its high-level intuitive appeal, the idea that primary markets are fungible with secondary markets is not accurate once the technological complexities, operational risks, structural differences and investor risk management aspects are considered.

Adding to the complexity is that no two outages look the same. It is worth stressing that the market operator execution systems are extremely complex pieces of software implemented on equally complex hardware deployments. The symptoms, impacts, resolution, and system implications of a particular outage *cannot be known in advance* which makes planning impossible except at a very general level. Consider, for example, that it might be possible for some but not all of the systems of either the primary or secondary exchange to fail or to go into a reduced operating mode with some functionality unavailable or limited. It is essentially impossible to design automated systems to cleanly deal with all the possible outage permutations that are possible across all the systems and potential failure modes of these systems. Specifically, this means that the following requirement of ASIC is impossible to fully implement:

> "We expect participants to proactively map out different market outage scenarios to establish predetermined processes and system reconfigurations that would be appropriate to address the scenarios."