Response to the Bank of England consultation
Supervisory Stress Testing of Central Counterparties

Executive Summary

Members of the Futures Industry Association (FIA) and the International Swaps and Derivatives Association (ISDA, together the Associations) welcome the consultation by the Bank of England (the Bank) on supervisory stress testing.

We overall agree with the presented approach. Some of the points we make in this consultation response are:

- Given the huge effort to run supervisory stress tests (SST), we propose for global regulators to join forces and run joint SSTs.
- We welcome the inclusion of operational scenarios, especially stressing of porting assumptions and propose to also include non-default losses as a result of defaults.
- We propose to not only use plausible scenarios, but also include scenarios that probe recovery and resolution situations.
- We propose to analyse contagion risk, for instance by linking the losses at CCPs to the available resourced of clearing members.
- In this response, we propose additional disclosure, including some disclosure specific to each clearing member.

Discussion questions

<u>Risk coverage</u>

1. Within the specified risk coverage, what specific risk exposures or areas should be prioritised for more granular analysis and disclosure?

We agree with the priorities in the consultation: An initial focus on credit and liquidity stress testing makes sense. Both are equally important for evaluating a CCP.

Credit stress testing

We welcome the inclusion of concentration risk but note that there is not much detail in the report how concentration risk is stressed and analysed. We believe it is very complex to stress concentrated positions. The Bank would not only have to provide stress scenarios to CCPs, but also to apply an algorithm how these stressed prices change for large or concentrated positions. The Bank should not rely on CCPs' concentration frameworks, which would run counter to a SST and would disadvantage CCPs with a conservative concentration risk framework. We understand that the Bank is planning to

use quotes from banks, similar as in CCPs' concentration frameworks, but do this independently and apply its own approach to calculation additional losses under stress. We believe this to be a good compromise between using CCP models and developing completely new models.

Liquidity stress testing

We welcome the wide range of sources and channels for liquidity risk listed in the consultation. Similar to the remarks on concentration risk, we believe that the proposed analysis "*how the price and liquidity of assets could evolve in an unanticipated way during stress event*" will be nontrivial. Potentially an analysis how different classes of collateral was impacted during recent crises (like the credit crisis in 2007/2008 and the COVID volatility shock of last year) could be helpful.

The Bank should also not only look at how collateral prices and liquidity changes, but also assess how quickly CCPs can access cash that is secured overnight or kept elsewhere, e.g. at commercial banks.

We believe the least risky way to manage cash collateral is to deposit cash at central banks. For the analysis, we propose to contrast collateral currently used by CCPs with cash deposited at a central bank.

We also suggest to not only take the current collateral composition of CCPs into account, but also different collateral compositions over time, especially in the run-up to previous stressed periods.

Participation

We agree that "*supervisory stress tests with greater coverage would provide a more complete perspective of interconnections in the clearing system*". We also agree with the inherent trade-off between coverage and resource requirements. To square this trade-off, we encourage the Bank to work with global peers to conduct cross-jurisdictional stress tests, integrating concepts proposed in this consultation. If the Bank includes non-UK CCPs deemed systemic in the UK following the proposed approach to assessing the systemic importance and recognition of non-UK CCPs, the coverage will be very global already, and resource requirements could be mitigated by using the results for each of the involved jurisdictions.

> 2. Are there other risk exposures that supervisory stress testing would be the most optimal tool to assess from a regulatory perspective?

We would urge the Bank to include reverse stress testing as an integral part of credit and liquidity stress testing. Knowing how unrealistically large shocks would have to be to "break" CCPs would be helpful for market confidence in these FMIs.

We also propose the inclusion of scenarios that would trigger recovery and resolution plans. (Please see more explanation on the rationale under question 8).

If possible at all, we would welcome the inclusion of IM procyclicality in stress tests, even though we acknowledge that such an undertaking is not trivial – the Bank would not only need to specify a particular stress event, but also the market development over 10 to 20 days leading to the stress,

and possibly even project market developments after the stress event, for instance a snap-back of market prices.

Another area to explore could be non-default losses, for instance the analysis of market events that could result in related non-default losses (custodial and investment losses) after default loss event.

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3. Should the Bank develop an approach for assessing default-related operational risks? If so, what methods could be deployed for assessing these risks?

We welcome that the Bank explores the inclusion of default related operational risk. It will however be important to specify the operational risk scenarios carefully – otherwise there would be a large overlap with firedrills. While simultaneous stress tests and firedrills would possibly be too difficult to manage, the Bank could over time integrate the outcome of firedrills into the calibration of operational scenarios.

We propose in any case to include stressing of porting assumptions in the SST, for instance using an increased time for non-defaulting clearing members to accept new clients, or some clients not finding a new clearing member at all. A good assumption would be that all clients in a net omnibus account will not find a new clearing member. The Bank could also consider collecting data which client has a backup clearing members and which not. Clients without a backup clearing brokers could be assumed to not find clearing brokers. If this data cannot be collected, the Bank could make assumptions based on the size of the client.

Timing and frequency

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4. What are respondents' views on the proposed launch and publication dates of the Bank's CCP supervisory stress tests? Are there benefits to launching stress tests and publishing results at alternative dates?

We are mindful of the huge effort that flows into a SST but wonder if some of these processes could be automated to allow for more flexibility in using additional scenarios or more frequent stress tests.

In principle, we agree that the annual cycle with each cycle containing a nine-month stress test makes sense and is also in line with the SSTs applied to Banks.

However, with a yearly cycle containing a nine-month stress test, there will be not much time to integrate experiences from one cycle into the design of the next cycle. Similarly, CCPs might not have sufficient time to rectified identified shortcomings.

We would also propose a consultation before the SST commences on the proposed scenarios and further developments of the SST. There could also a potential consultation or other communication with the market after the test results have been disclosed. Three months between stress testing cycles might not be sufficient time for communications on disclosures and on new scenarios. Overall, the Bank should take sufficient time for consultations and planning of the new stress testing cycle, even if this will lead to an overall longer cycle than 12 months.

<u>Methodology</u>

> 5. Are there areas or assumptions within the methodology as described in this Discussion Paper that respondents consider particularly important or insightful, and should be prioritised in the analysis and disclosure of results?

If the Bank collected granular data from CCPs, the Bank would have full control, but would also have to build a complex system to run the stress test and to generate results. The Bank would also have to specify all market shock scenarios in detail. If the Bank relied too much on CCPs, aggregation would be very difficult.

We therefore agree with the proposed approach but propose for the Bank to review the detailed stress scenarios produced by CCPs to ensure consistency between CCPs.

We propose to include CCPs in designing effective and efficient data structures and reporting processes, so data is easily consumable by the Bank for its needs and participants to support transparency.

> 6. Are there specific vulnerabilities, dependencies or risk exposures of UK CCPs that respondents believe are not sufficiently covered by the methodology as described in this Discussion Paper?

We haven't identified any specific vulnerabilities, dependencies or risk exposures of UK CCPs that respondents believe are not sufficiently covered by the methodology as described in this Discussion Paper.

<u>Scenario design</u>

> 7. Are there specific scenarios or types of scenarios that would be material for CCPs in scope which participants believe should be prioritised by the Bank?

As mentioned in the consultation, the number of scenarios in a SST is restricted. The limited number of scenarios will force the Bank to focus on scenarios that are relevant to current market conditions, potential market vulnerabilities or recent stresses. By definition, these scenarios will be different each year.

To make the most of the limited number of scenarios, we propose to use a few base scenarios and then derive sub-scenarios with different severity (from likely scenarios over extreme but plausible scenarios to recovery/resolution scenarios).

While it might be operationally easier to work towards standardised scenarios, these might be less helpful as CCPs will over time be incentivised to add these scenarios into their stress testing suite. By doing so there would be an inflated and unrealistic amount of "pass" marks.

While it may be desirable to compare CCPs under stress, this comparison is only as good as the scenarios used for this comparison. UK CCPs clear a wide variety of products and scenarios that stress one CCP will not be very stressful for another CCP clearing different products. We understand that the Bank is planning to develop asset class-based scenarios that might be helpful to compare

CCPs clearing the same asset class. We are looking forward to more detail about these scenarios produced to compare CCPs.

In most stress testing exercises, both CCP specific or supervisory, the definition of stress scenarios and the actual defaults are seen as independent. It would be helpful to be able to identify and model situations where stress and default are not independent (e.g. like it was in the Nasdaq default). Please also see our response to question 11.

On scenario design, we note that depending on asset class, both absolute and relative shocks can lead to unintended outcomes. Best practice in stress testing at CCPs and banks is to use a mixture of absolute and relative shocks.

> **8. Should the Bank's market shock scenarios be broadly as severe as historical shocks or CCPs' own stress-test scenarios, or test CCPs against a higher level of resilience? How important is it for market shocks to stress CCP services to a similar degree of severity?**

As mentioned above under question 7, we believe that the Bank should use stresses with different severities, from likely scenarios over extreme but plausible scenarios to scenarios that trigger recovery plans or resolution. We believe that the Bank needs to make up its own mind as to the required severity as this depends on the objectives of a SST and the market situation that the Bank wants to analyse. Historical scenarios will be a good yard stick, but to probe potential market vulnerabilities, the Bank might also want to employ hypothetical market shocks. Such hypothetical events might still be informed by the severity of historical market shocks.

In the disclosure the Bank should make clear how severe each scenario is meant to be. Otherwise less severe scenarios might give a false sense of security and very severe (recovery) scenarios might trigger false alarm.

We explicitly propose scenarios that test recovery situations and financial stability stress (by increasing the severity of the scenarios considered for a SST, see above). Such scenarios will provide more data and insights into potential financial stability impact of recovery and resolution tools and will be helpful informing the calibration of recovery plans and resolution plans. Recovery scenarios will also help market participants assessing how severe market shocks need to be for additional tools to be required via the triggering of recovery tools.

We do not support using CCPs' own scenarios. We have full confidence in the stress scenarios employed in the daily stress testing of UK CCPs. Using these scenarios will however mean that no CCP will ever struggle with theses stresses, as all these stresses are already covered by available resources. Using CCP scenarios might also foster groupthink and mean the Bank loses independence.

In the consultation, the Bank suggest it plans to use the same scenarios for credit and liquidity stress tests. This might be a good solution to streamline the SST, but we understand that credit and liquidity stresses are driven by very different scenarios.

As mentioned above, if scenarios are standardized (and constant) over time, CCPs might be incentivized to adapt their margin models or default fund sizing to make sure these scenarios area covered.

We however support the global standardization of scenarios to be used by SSTs around the globe. We would welcome more global cooperation, or at least cooperation between the Bank and ESMA, given that both regulators will look at the same range of CCPs over time, at least in relation to the larger systemic relevant CCPs that will drive the results of the SST. Such a cooperation could over time grow including a wider group of regulators. If regulators don't want to have joint tests, they could at least consider aligning scenarios.

On scenarios that are designed asset class wise to compare CCPs please see our response to question 7.

Reference dates

Certain dates would not be representative for stress tests as the portfolios of clearing members would not be representative at these dates, for instance month-ends and quarter-ends, as many market participants will adapt their scenarios for reporting requirements at month-ends and quarter-ends.

Using multiple reference dates (assuming using the same scenarios) could indeed be helpful to isolate SST against the impact of the choice of a particular reference date and would also allow the evaluation of varied portfolio compositions at different points in time but will require a certain level of automation on the CCP side to produce the required loss amounts under each combination of reference date and scenarios.

Where feasible and where data is available, it may also be worth evaluating intra-day positions as it is equally likely that defaults can happen in the middle of the day when there are large moves.

We agree that the Bank should avoid reference dates with irregular positions or market moves, unless such moves are explicitly subject of the stress test. This could be for instance the case if a SST is meant to analyse the market shock together with position moves around the period of Covid volatility shocks, or when a significant market settlement date (e.g. a large expiration) puts also additional liquidity stress on market participants.

<u>Defaulter assumptions</u>

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11. What are respondents' views on the most insightful defaulter assumptions to examine through supervisory stress testing?

Unless the aim is to assess the resilience of each CCP in scope, the obvious default assumption would be the default of the two common clearing members that drive the largest overall loss across all CCP. In line with our response to question 3, we suggest to also stress assumptions around the porting of clients. Which clearing members cause the highest loss across all CCPs could very well depend on whether porting works as planned or not. For instance, a clearing member that predominantly clears for clients will not drive the highest losses if porting is assumed to work but might cause large losses if porting does not work as envisaged.

We believe that the Bank has more leeway to use more defaulter assumptions: we understand that the complicated and resource intensive task is scenario design and execution. How to aggregate losses based on these scenarios should be comparably simple queries, so there is no reason for the Bank to restrict the number of defaulter assumptions, and at least for the initial SST it would make sense to explore a wide range of defaulter assumptions, including very extreme and maybe even implausible ones, like four or more defaulters.

We however believe that the simultaneous default of three or four clearing members is extremely unrealistic, unless it is seen as part of reverse stress testing ("Four clearing members have to default at the same time to exhaust funded resources and assessments").

The consultation proposes that the Bank could examine the default of clearing members that have high levels of correlation in their positions or clearing members who are active in similar asset classes. It certainly makes sense to analyse correlation between clearing members, but we believe a cover-2 (or higher) assumption should highlight issues automatically – if the correlation is material, it will drive cover-2, unless the number of defaulters is increased, for instance looking at all clearing members whose portfolios is directional in a particular direction, regardless of the number of firms. We believe that there might also be some review of credit quality required to inform if all of these clearing members might really default at the same time.

We also propose to explore the impact of any CCP assessments on credit quality of non-defaulting members – i.e. if cash calls or other loss allocation tools could result in subsequent defaults. Ideally the Bank could link the losses from each scenario to the capital position of each clearing member to establish if there could be some follow-up defaults or other contagion risk.

As part of defaulter assumption, the Bank should also look into the non-availability (or non-performance) of liquidity providers.

And finally, we are intrigued by the proposal to "*use the market shocks or other analytical models to gauge clearing members most likely to default or fail to perform in the stress scenario*". Such an analysis could address the issue that severity of the shock and defaulter assumption are usually treated as independent in stress tests, but in some cases will not be, as demonstrated at the default at Nasdaq Clearing. We understand that it would not be feasible to produce scenarios that could identify idiosyncratic issues as observed in the default case at Nasdaq Clearing. A contagion analysis (see above) could however be helpful to identify issues where a market stress is directly causing a default – in this case the Bank could compare stress losses in each clearing member portfolio with the capital position of each clearing member to identify default risk under market stress.

<u>Sensitivity and reverse stress testing</u>

> 12. Which assumptions and elements of the Bank's supervisory stress tests should be prioritised for sensitivity analysis and/or reverse stress testing, and would provide the most valuable insights to respondents?

Sensitivity Analysis

We agree with the examples listed for sensitivity testing, and that the Bank added to the obvious dimensions (more severe scenarios and more or a different set of defaulting clearing members) also sensitivity to assumptions about porting. As discussed in responses to previous questions, we believe that sensitivity to porting assumptions will be very high.

Reverse ST

We believe that reverse stress testing is important to a) understand resilience of CCPs and the overall system and b) to foster confidence in CCPs If the market know how extreme scenarios to "break a CCP" would have to be.

We also propose to look at reverse ST from an individual clearing member level to gauge if the IM, DF and SITG are sized appropriately. For example, an analysis how many defaulting member(s) and/or what scenario would it take to:

1. reach the CCP SITG.
2. exhaust the CCP SITG.
3. exhaust the non defaulting members DF.
4. initiate recovery tools.

<u>Disclosure</u>

> 13. What do respondents' consider to be the most appropriate quantitative metrics for assessing CCP resilience, and for disclosing supervisory stress testing results?

Welcome that the Bank plans to publicly disclose the outcomes of the SST. Disclosure of stress results, including the scenarios that lead to each outcome will be helpful to foster public confidence in CCPs. As mentioned elsewhere in this response, results from a SST can also be used to inform the discussion on CCP recovery and resolution.

On top of the public disclosure, we also suggest an invite only / Chatham House roundtable with CCPs and participants to discuss the results of the test. This can strengthen the transparency and foster new ideas to enhance current practices. A meeting with CCPs and their participants will be large enough for a diverse set of views to be voiced, whereas the Chatham House format will make participants comfortable with voicing their views.

We agree with the proposed elements laid out in the high-level approach to disclosure, namely setting out the approach to the SST, the results and policy actions that were informed by the SST findings.

For scenario disclosure, we would request for each scenario to elaborate on

- the rationale of introducing a new scenario.
- Severity level of each scenario (expected, plausible, recovery, resolution).
- data sources and parameters used to calibrate the scenario.
- data requested from CCPs.

We also agree with the metrics for results disclosure. The drawdown of resources will provide a good overall indicator for the severity of losses for each scenario. It will also be very interesting to provide sources of losses and outflows, as long as this can be suitably anonymised without losing too much information. We agree that information about diversification will be interesting but wonder howe to do this at an aggregate and anonymised level. For the diversification analysis, we also propose to measure how losses of clearing members diversify across CCPs.

While we appreciate that each SST is different, we propose to investigate whether global regulators could agree a standardised format so that SST could be easier compared across jurisdictions.

We propose disclosure on the distribution of losses: clearing members would like to see losses aggregated at the member level (with client portfolios included based on a transparent porting assumption). Although (as discussed below) to some extent anonymity is required, there are several options that would be helpful. The different options to disclose information in the order of our preference (starting with the most preferred) are as below:

- All IM and All uncollateralized stress losses by member with scenario identified but member anonymous.
- All IM & Maximum uncollateralized stress loss by member with scenario identified but member anonymous.
- All IM & Maximum uncollateralized stress loss by member with both scenario and member anonymous.
- Maximum uncollateralized stress loss by member with both scenario and member anonymous.
- Trend data on daily uncollateralized stress losses (the single largest and the aggregate number of the two largest uncollateralized stress losses).

Members could use the results to help understand the risks of default of the clearinghouse and the exposures resulting from the defaults of other members. Especially, it would help members identify scenarios wherein member's unfunded assessments would be called and/or scenarios wherein recovery tools above default fund and assessments would be triggered. Please see also the response to question 14.

For the public disclosure, we would prefer the most granular disclosure that is possible while still anonymising the results.

In general, protecting confidential information is paramount. Clearing participants often see confidentiality reasons used as a means to restrict CCP transparency though. As a general principle, clearing participants' information about size, composition, risk of their portfolio and trading activities needs to be protected at all times.

However, as long as the above information is protected, confidentiality should not be used as a reason to restrict disclosure of relevant information to market participants, provided that the information is aggregated to an extent that no individual portfolios, transactions or risk profiles can be deducted.

We also propose a more detailed level of granularity and disclosure: For instance, the Bank should share information of losses of each clearing participant under each scenario as a result of the SST directly and non-publicly with these clearing participants.

Additional disclosures helpful to clearing members

In order to adequately manage their risk exposures to CCPs, clearing members need to be able to measure the potential losses from their default fund contributions and potential assessments. A crude way to do this is to sum up default fund contributions and potential assessments across all CCPs. Given that most firms clear several asset classes at many CCPs in different jurisdictions with different clearing members and risk profiles, summing up default fund contributions and assessments provides a theoretical maximum loss, but will not cater for the fact that not all CCPs will be affected by defaults of large clearing members in the same way. The sum of all default fund contributions is therefore not even a plausible stress loss.

As the portfolios of other clearing members must not be known to clearing members, it is very difficult for clearing members to themselves build risk models for losses from default fund usage if large clearing members default across several CCPs. Most models that have been built rely heavily on assumptions and estimates.

We propose the following risk measures to be run and reported to clearing members of all CCPs in scope of the SST. All these risk measures should be anonymized and aggregated enough so positions of single clearing members cannot be reverse-engineered.

1. For each clearing member ("reporting member") on any CCP in scope of the exercise produce the combined default fund loss and assessment call (using consistent stress scenario assumptions) if another member with the biggest stress loss defaults across all CCPs of which this firm is a member. Also provide the distribution of stressed losses if the second biggest stress loss member defaults, and the third and fourth and so on. Note that the identity of the members representing the largest stress loss across all relevant CCPs can be different firms for each reporting member, depending on the set of CCPs the reporting member is active on and to what extent.
2. For each CCP, indicate the maximum assessment call that can be levied by the CCP under its rules.

3. For each CCP calculate the largest loss under all stress scenarios (can be different for different clearing members defaulting) from default fund and assessments if 10%, 20%, 30%, 40% of their clearing members (percentage by IM and/or DF contribution) default sequentially (assuming portfolios cannot be set off against each other) and concurrently. Also indicate how many of the largest members together would comprise the 10%/20%/30%/ 40% default event. Should the CCP membership be concentrated and the largest clearing member already covers more than 20% of the risk in the market, reports should highlight this fact.
4. Identification and description of the scenarios driving the largest and two largest losses in the SST to give participants confidence that the scenarios are indeed extreme enough.
5. The distribution of uncollateralized stress losses across all clearing members (see question 13).

Providing such metrics to clearing participants will not only help their risk management, but also avoid pro-cyclical actions by clearing participants driven by conservative assumptions in the absence of better information about potential losses from mutualisation.

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15. What level of granularity in the quantitative stress-tests results would be most valuable? Should disclosure focus on results presentation or an analysis of drivers, and assessment, of risk?

We refer to responses to the questions above: Disclosure would be most valuable the more granular it is, without allowing re-engineering of positions of clearing participants.

To cater to different audiences, the disclosure of results could present the results in different levels of details so that the general public and clearing specialists can both benefit from the disclosure.

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