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Global Regulators Consult on Margining Practices; Member Call Scheduled for 30 November at 1:00 pm (Eastern Time)

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TO: ICI Members
ICI Global Members SUBJECTS: Derivatives
Financial Stability
International/Global RE: Global Regulators Consult on Margining Practices; Member Call Scheduled for 30 November at 1:00 pm (Eastern Time)

The Basel Committee on Banking Supervision, the Committee on Payments and Market Infrastructure, and the International Organization of Securities Commissions (collectively, the "regulators") late last month published a joint consultation ("report") examining whether and, if so, to what extent margin calls were unexpectedly large in the derivatives and securities markets during March 2020.[1] The report considered both initial margin ("IM") and variation margin ("VM"), centrally and non-centrally cleared markets, margin practice transparency, predictability, and volatility. It also considered the liquidity management preparedness of market participants to meet margin calls and the availability of each jurisdiction's regulatory data.[2]

The report found dramatic increases in centrally cleared margin calls and non-centrally cleared VM calls during the period, and that transparency around CCP IM models differed across CCPs and jurisdictions. It also found that most intermediaries and clients (e.g., regulated funds, hedge funds, and pension funds) were relatively unaffected by the changes in margin, though some clients faced greater-than-anticipated liquidity needs. In addition, it found that, although clients varied in their level of preparedness for margin calls, they avoided fire sales to meet liquidity needs, partly due to the intervention of central banks to support funding markets. The report recommends six potential areas for further work, which may inform further policy considerations, and invites general comments on its findings and specific comments on ten questions.[3]

Comments on the report are due on 12 January 2022. We have scheduled a member call to discuss the consultation and potential comments for **Tuesday, 30 November at 1:00 pm (Eastern Time)**. Please contact Nadia Ishmael at nadia.ishmael@ici.org to receive dial-in information for the call. If you have any comments, please contact Ken Fang

at kenneth.fang@ici.org. We summarize the report briefly below in three sections: (I) Introduction and Context; (II) Analysis of the Margin Increases; and (III) Key Findings and Recommendations.

I. Introduction and Context

The report describes the events surrounding the March 2020 market turmoil. It notes that equity markets in several countries reported their greatest single week decline since the Great Financial Crisis at the end of February 2020, leading to high volatility, market and liquidity stresses, and a "dash for cash." Although counterparty credit concerns were not widespread, the report notes that there were dramatic increases in margin requirements in both centrally and non-centrally cleared markets. As a result of the market turmoil, it states that central banks and other public authorities undertook monetary support measures, fiscal support measures, and other measures. It then claims that, because of those policy actions, the stressed period was relatively short-lived.

The report proceeds to describe current margining practices, including the exchange of IM and VM and the current practices for both centrally cleared and non-centrally cleared markets. It then describes the basis for and scope of the report, which includes a review of both IM and VM, and covers:

- Margin in centrally and non-centrally cleared markets during the March market turmoil, including clearing member-client dynamics;
- Margin practice transparency, predictability, and volatility during the March market turmoil across various markets, jurisdictions, and margining models; and
- Liquidity management preparedness of market participants (especially non-banks) to meet margin calls (including the ability of firms to use or transform high quality liquid assets in meeting margin calls).

The report states that, following the consultation period, the regulators anticipate producing a final report setting out how any identified issues are to be addressed.

II. Analysis of the Margin Increases

The report states that, given the rapid increases in market volatility, there was a broad-based and rapid increase in margin across the financial system.

Size and Composition. The report provides a description of the spike in size and composition of the margin calls during March 2020 noting, for example, that:

- CCP VM calls increased approximately 460 percent (from $25 billion to $140 billion) from February 2020 to 9 March 2020.
- CCP IM increased by approximately 40 percent (or $300 billion) from end-February to mid-March 2020, with roughly two-thirds of the increase coming from required IM for CCPs that clear exchange-traded derivatives.
    - The core component of IM models, rather than margin add-ons (which are designed to cover risks outside of market risk, such as liquidity and concentration risk) drove the CCP IM increases.
    - Peaks in centrally cleared IM calls were more than 20 times larger than the pre-stress average, though the peak amount of IM calls was half the comparable peak of VM calls.
    - Excess collateral (collateral at CCPs that exceed portfolio requirements) as a part

of total required IM increased from around 26 percent to a March peak of 29 percent of required centrally cleared IM. In addition, IM collateral posted in cash increased from 37 percent to 43 percent.[4]

- Collateral posted to meet non-centrally cleared margin calls also peaked in mid-March.
  - Total cumulative non-centrally cleared margin rose from $1.6 trillion in February 2020 to $5.7 trillion in March 2020 (a 249 percent increase).
  - VM calls rose the most, rising from $0.9 trillion in February to $3.7 trillion in March (a 310 percent increase).

Drivers of IM Calls. The report notes that increases to IM requirements should be expected for unprecedented stress and, in many cases, reflect prudent risk management. It states that many factors drove the increase to IM requirements, including trading activity, changes in volatility, and models reacting to market stress. It notes that the size of the reaction to volatility also depends on CCP model design choices and how conservative margin requirements are in less volatile times. It also notes that, though volatility was similar, non-centrally cleared IM adjustments in IM requirements were much smaller, primarily due to the conservative nature of the Standard IM Model ("SIMM").[5]

The report suggests that underlying volatility and models' reactions thereto, rather than portfolio changes, were responsible for the majority of the peak increases to the centrally cleared IM requirements.[6] In this regard, the report states that CCPs use a wide range of model types and calibration choices for key IM model parameters. These choices can reflect differences in regulation and market standards across asset classes and jurisdictions. They also can lead to differences in how IM requirements respond to changes in volatility[7]

To assess how CCP margin models reacted during the market turmoil, the report compared the change in IM levels to the volatility of the single largest risk factor the CCP identified. It found that generally margin rate and IM increases were lower than the corresponding increases in the price volatility of key risk factors. It did note, however, that risk factors with larger volatility increases experienced larger margin rate or portfolio IM increases.

The report found that CCPs experienced some margin exceedances during February and March 2020, though those exceedances were not excessively large relative to CCP financial resources.[8] In fact, those exceedances typically represented less than 15 percent of default funds (except for debt securities where a peak of 30 percent was observed), suggesting that CCPs were well protected even during the highest volatility periods.

CCP Transparency. The report considered the transparency and understanding of CCP margin practices and the availability of tools and data to help market participants estimate and anticipate margin calls from CCPs.

- **CCP Perspective.** A large percentage of CCPs (85 percent) indicated that information on margin models and methodologies is publicly available on their websites, while most (76 percent) indicate that they make margin calculators or simulators available to their clearing members and, in many cases, clients. This information varies but usually includes information on how margin is calculated and called, margin calculators, margin rates, collateral haircuts, risk model details and modelling techniques used, and risk or operational manuals covering clearing, margin calculation and additional margin processing.
- **Intermediaries Perspective.** Less than half of the intermediaries in the survey (46

percent) indicated that they have the data and tools available to estimate CCP margin calls prior to the call being issued to clearing members. Intermediaries generally use tools from CCPs, though some use third-party tools. A number of intermediaries noted issues regarding material gaps in data, information, and/or tools needed to perform accurate estimations of CCP margin call amounts and timing. These include a lack of disclosure of the specific parameters that CCPs use to calculate IM, the discretion CCPs have to change parameters, and the timing mismatches between trade booking and clearing registration that were exacerbated by the magnitude and frequency of the CCP margin calls. Several intermediaries noted additional disclosures that would help them estimate margin calls with reasonable accuracy and recommendations on how to improve both centrally and non-centrally cleared margin calls.

- **Client Perspective.** Clients also highlighted challenges in replicating CCP margin models, and therefore challenges both in anticipating margin changes and performing risk management, even in cases where CCPs provided margin tools. Clients in aggregate found margin demands in March generally to be less predictable than in February, while nearly 26 percent of clients reported that margin calls were not at all predictable in March 2020. Smaller clients (31 percent) reported a greater level of unpredictability compared to large clients (16 percent). Some clients use tools and support for cleared margin calculations, while others do not. In addition, some clients reported poor usability on tools provided to estimate margin. Overall, most clients reported being able to adequately estimate liquidity needs during March 2020, though some firms were not as prepared. Many clients reported using sophisticated liquidity management techniques, good relationships with prime brokers, and access to balance sheets as aids in these estimations.

Market Participant Preparedness. In general, intermediaries were relatively unaffected by changes in margin. Client preparedness for margin calls during March 2020 varied, with some clients facing liquidity needs materially greater than anticipated.

- **Intermediaries' Preparedness.** Only 14 percent of intermediaries reported experiencing material structural flow mismatches in making or receiving flows related to margin calls and only 5 percent experienced delays in margin flows. Most (87 percent) also did not make any material changes to counterparty margin call policies and procedures, though some (16 percent) made material changes to credit limits applied to counterparty positions (e.g., requested excess margin buffers for some counterparties in anticipation of intraday margin calls). Flows related to cleared derivative VM, non-centrally cleared derivative VM, centrally cleared derivative IM, and centrally cleared securities IM were the most important factors driving draws on liquidity resources. In addition, many intermediaries (75 percent) did not experience or observe material issues converting high quality liquid assets to cash. Some intermediaries (29 percent) made material changes to their liquidity resources and/or cash management/liquid asset investment strategies. Although margin calls increased during the first half of March 2020, the total margin (VM plus IM) outflows as a percentage of total liquidity resources for the top third quartile of respondents most affected (relative to their liquidity resources) did not exceed 2.5 percent.

- **Client Preparedness.** Client preparedness varied. Some non-banks, such as insurers and pension funds, faced persistent VM outflows on their hedges, as well as IM increases. Many hedge funds met liquidity demands and did not find increases in margin unreasonable or unmanageable. Similarly, larger asset managers reported being able to meet liquidity needs from buffers that they maintain for these purposes.

Other clients, especially smaller ones, indicated more strain. Several clients noted that the ability to post securities to meet non-centrally cleared margin was helpful.

Intermediaries stated that clients generally met margin calls on time (at least 93 percent of margin calls across all markets were met by clients on their due date). However, some intermediaries (21 percent) indicated that specific market segments or counterparty types experienced materially high and out of the ordinary liquidity demands. Most clients reported no significant increases in liquidity demand from margin for both cleared and non-centrally cleared derivatives. Specifically, 55 percent of responding clients reported no increased liquidity needs for cleared derivatives, while 64 percent reported the same for non-centrally cleared derivatives. Despite no major shift in the aggregate liquidity demand, a number of clients indicated that their liquidity needs were materially greater than expected.

Clients used available cash deposits to meet peak margin requirements. In both February and March, clients reported using available cash deposits to meet margin requirements nearly 75 percent of the time. Despite the reliance on cash, clients increasingly used repurchase agreements and asset sales to meet direct margin payments across most client groups. Authorities' data suggests that some clients had to rely on repurchase agreements and sovereign debt to meet increased margin calls. In some instances, and for some specific sectors (e.g., non-asset managers, including "pension funds," "money market funds," "banks-clients"), clients may have had to rely on repurchase agreements and sovereign debt to raise cash to meet margin calls, or to replenish liquid buffers following the margin calls in March 2020. However, the report notes that these data have significant gaps and there are challenges to reliably identifying more detailed trends. Most clients stated that their intermediaries fulfilled their contractual obligations, but some noted that intermediaries' actions may have contributed to margin unpredictability.

Approximately 40 percent of client respondents increased liquid assets and roughly 30 percent liquidated assets as a response to heightened volatility. Many clients indicated no issues or little difficulty in sourcing liquidity (only 25 percent of respondents indicated they faced unexpected challenges).

Impact on the System. The report notes that, as CCP margin calls spiked, market participants had to meet increased IM and VM payments. Firms typically used available cash, but increasingly relied on asset sales in March and April. The proportion of cash collateral posted remained largely unchanged or increased among asset classes. Excess collateral increased by approximately $115 billion in March 2020 and the percentage of collateral posted as cash increased from approximately 38 to 48 percent (though IM does not need to be posted in cash). Market participants took actions to raise liquidity, relying more on repurchase agreement and asset sales to meet direct margin payments.

A number of liquidity-raising operations were conducted while other market participants were simultaneously experiencing their own liquidity demands (e.g., affecting assets and sectors, including money market funds, open-end funds, leveraged funds, and dealers). Money market funds holding non-government debt experienced significant outflows. Some open-end funds (e.g., those exhibiting structural maturity mismatches) also experienced large redemptions. Some leveraged investors sold substantial holdings in US Treasuries, contributing to increased price volatility in the US Treasury markets. Meanwhile, dealers' capacity to intermediate and purchase corporate bonds was subject to constraints, contributing to further illiquidity in the market.

Some respondents perceived vulnerabilities in funding markets, reporting a perceived breakdown in liquidity in: FX forwards and swaps; certain types of high-quality liquid assets; corporate bond investment grade credit markets; money markets; and sovereigns, including US Treasuries and Gilts, especially off the run issues. Liquidity in the secured repurchase markets also was reported as scarce. Respondents also noted price disruptions; bank counterparties declining to provide various forms of liquidity; reduced market capacity; increased transaction costs; and fixed income exchange-traded fund net asset value discounts of 4-5 percent.

The report concludes that market participants trying to raise liquidity to meet margin calls therefore were doing this in the context of impaired market liquidity, which was alleviated by central bank intervention. In a stressed market in which market participants are trying to raise liquidity simultaneously, the actions further propagate stress on the system, raising the need for central bank intervention. Some liquidity raising by firms needing to meet margin calls may have been hampered by this stress and may have contributed to broader stresses in normally liquid asset and funding markets when compounded with vulnerabilities existing in the financial system.

III. Key Findings and Recommendations

The report outlines six areas for further work and seeks feedback on these potential next steps:

1. Increasing Transparency in Centrally Cleared Markets

The report notes that IM model transparency varies greatly, and, generally, low levels of transparency around modelling choices and governance practices may lead to procyclicality during periods of high volatility. Increased transparency of CCP IM models and more sophisticated tools/simulators should enable clearing members and clients to understand ex ante how individual models respond to various market scenarios and better plan for stressed liquidity needs through increased predictability. Further international work could explore consistent metrics, and disclosures concerning procyclicality, responsiveness to volatility and model performance. Additional international work also could consider the role that disclosure of modelling choices by individual CCPs, could have in enhancing understanding of and comparisons among CCP model behavior.

2. Enhancing Liquidity Preparedness of Market Participants as well as Liquidity Disclosures

The report asserts that both intermediaries and clients benefited from central bank interventions, which were a source of liquidity during March to April 2020. Clients varied in the size of margin calls they faced and their level of preparedness for margin calls during March 2020 with some clients facing liquidity needs materially greater than anticipated. Additional international work can identify ways to further enhance liquidity preparedness, including:

- the use and disclosure of appropriate liquidity measures in the non-bank financial intermediation ("NBFI") sector;
- elucidating ways that clearing members can encourage and facilitate greater liquidity preparedness of clients through appropriate information sharing; and
- the use by clearing members of clear, transparent, and more standardized disclosures, and automated margin processes/procedures.

Work could include analysis related to NBFI sector liquidity arrangements and intermediaries' provision of liquidity to clients to facilitate the fulfilment of margin obligations and the effectiveness of those arrangements during periods of extreme stress and/or volatility.

3. Identifying Data Gaps in Regulatory Reporting

The report states that data and regulatory requirements on the NBFI sector are much more varied and sparser than in the banking sector. Further international work to identify gaps in current regulatory data could help to provide a more comprehensive picture of the preparedness of market participants, particularly non-banks, for margin requirements. This work could help to inform future policy where appropriate and facilitate collaboration and information sharing between authorities (where appropriate gateways exist).

This work could consider what additional regulatory disclosures or data points could provide authorities with a more comprehensive picture of NBFI sector preparedness and intermediaries' provision of liquidity to clients.

4. Streamlining VM Processes in Centrally and Non-Centrally Cleared Markets

While VM payments are designed to increase in step with price volatility, in some cases the processes for collecting and passing on the VM payments may have been challenging for clients and increased the need to hold liquid resources. CCPs also have different practices when calculating and passing through intraday margin calls.

Further international work could consider ways to foster market participants' preparedness for above-average VM calls through efficient collection and distribution of VM and other means. In addition, further international work could identify good practices for VM collection and distribution by CCPs.

5. Evaluating the Responsiveness of Centrally Cleared IM Models to Market Stresses with a Focus on Impacts and Implications for CCP Resources and the Wider Financial System

In March 2020, IM increased significantly when market volatility spiked. CCP IM models should produce appropriate IM levels in normal and stressed times, while also reflecting specific features of the markets that CCPs serve. Further international work could understand the degree and nature of CCP margin models' responsiveness to volatility and other market stresses and to explore appropriate ways to analyze, compare and set baseline expectations as to procyclicality in various settings. Additional work also could review IM levels in non-stress times in the light of this responsiveness, including a review of the effectiveness of tools that lessen the procyclicality of margin models and the consistency of their use and the role of clearing members' practices when passing on CCP margin calls to clients in dampening or amplifying the procyclicality of margin.

6. Evaluating the Responsiveness of Non-Centrally Cleared IM Models to Market Stresses

Non-centrally cleared markets experienced a smaller adjustment in margin requirements relative to centrally cleared markets primarily due to model construction and low reactivity of models for non-centrally cleared markets (such as SIMM) to volatility changes. However, under SIMM, intermediaries on non-centrally cleared transactions reported substantially more backtesting exceedances.

Further work could look into the timeliness of mechanisms that consider stress periods in the calibration of internal models. It also could look into the timely remediation of IM shortfalls and the level of disclosure regarding the performance of non-centrally cleared IM models.

Kenneth Fang
Associate General Counsel

endnotes

[1] *See* BCBS, CPMI, IOSCO, *Consultative report: Review of margining practices* (October 2021), *available at* https://www.bis.org/bcbs/publ/d526.pdf. The report follows a Financial Stability Board report calling for further work to examine "whether market participants were fully prepared for the margin calls they experienced, their ability to liquidate assets to meet margin calls under stressed conditions, and the role of margining practices both in centrally cleared and bilateral markets in amplifying funding strains." *See* FSB, *Holistic review of the March market turmoil* (November 2020) at 42, *available at* https://www.fsb.org/wp-content/uploads/P171120-2.pdf.

[2] To support the report, the regulators used data gathered from four detailed surveys given to: (i) central counterparties ("CCPs"); (ii) clearing members and broker-dealers ("intermediaries"); (iii) other market participants active in globally centrally and non-centrally cleared derivatives and securities markets ("clients"); and (iv) global regulators.

[3] *See* Appendix A for a list of the ten questions.

[4] The report notes that the increases in excess margin and cash collateral might suggest an absence of extreme liquidity pressure, though it cautions that such conclusions should be made in the context of timely central bank measures.

[5] A SIMM model is a common methodology that most banks use to implement the non-centrally cleared minimum standards for margin requirements. The model generally responds less rapidly than CCP models to changes in market conditions, such as price volatility, by design.

[6] The report drew these conclusions by looking at the changing margin requirements compared to a hypothetical "static" portfolio that did not change its holdings over the period.

[7] Approximately 50 percent of CCPs reported that they do not have formal anti-procyclicality measures but many CCPs state that they use measures they consider to be anti-procyclicality tools (e.g., 10-year look-back periods, volatility floors, or use of discretion). Many of these tools have different risk tolerances (typically expressed as an upper bound for increases in IM over a time period), which could vary (e.g., some CCPs reported tolerances from a 25 percent increase in IM over 5 days, while others reported tolerances of 80 percent during the same time frame).

[8] Exceedances reflect observed outcomes that exceed expected outcomes derived from the use of margin models, which could lead to losses in the event of a clearing member

default.
