



A White Paper to the Industry • June 2015

CCP Resiliency and Resources

DTCC

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A White Paper to the Industry:

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Executive Summary

DTCC safeguards the stability and integrity of global financial markets through robust risk management of centralized clearing and settlement processes for securities transactions. As the owner of the world's largest securities clearinghouses and the largest securities depository, DTCC has consistently promoted clear and transparent CCP risk management, strong industry governance and thorough regulatory oversight for CCPs.

- **CCP STRESS TESTING.** CCPs and regulators should develop a standardized framework that aligns the assumptions, parameters and governance of CCP stress testing, while providing for customized testing scenarios that target the diverse products cleared by different CCPs. Above all, stress tests must provide regulators and clearing members a meaningful evaluation of each CCP's risk management approach.
- **CCP DEFAULT LOSS WATERFALL.** CCP default loss waterfalls should be sized to absorb losses in extreme event scenarios with a balanced mixture of prefunded resources and assessments. CCP rules should provide clarity and certainty as to members' required contributions and maximum losses in any default scenario.
- **CCP CONTRIBUTION.** DTCC supports its CCPs contributing meaningful first-loss layers in their default loss waterfalls. Our CCPs' members supply their capital, and scaling CCP contributions directly to growth in exposure would have to be supported across our CCPs' entire memberships. For that reason, the additional collateral needed to protect either NSCC or FICC from increases in transaction volume is best raised through margin requirements imposed on those clearing members whose activity generated the increased risk.
- **CCP RECAPITALIZATION.** DTCC endorses a balanced approach to recovery and resolution. Because of our industry ownership model and the markets our CCPs serve, we focus primarily on recovery for our CCPs. As part of effective planning, DTCC will also explore accumulating limited prefunded resources that could be deployed as operating capital for a recapitalized CCP following a catastrophic failure.



In the wake of the 2008-09 financial crisis and legislative reforms mandating the central clearing of certain derivatives, both policymakers and market participants have increased their focus on central counterparties (CCPs). As market participants digest the impact of these changes and their new exposures to CCPs, some have suggested that CCPs have become the new “too big to fail” firms and argued that CCPs should be subject to greater oversight and increased financial resources requirements.

The debate over CCP resources and risk management practices has become especially intense against a backdrop in which global regulators are completing detailed rulemaking to implement legislative reforms and publishing interpretations and guidance that will drive outcomes for CCPs.

In this paper, DTCC outlines its views on these issues and next steps that we propose to take to refine and enhance the financial resources and default management structures of our CCPs. We appreciate the market’s enhanced focus on the role of CCPs, and we welcome the opportunity to review how our CCPs reduce risks for our clients and the broader financial services industry.

DTCC’s Utility Ownership Model and the Impact on Risk Management

DTCC is a user-owned company that provides critical clearing and settlement services for multiple asset classes, including US equities, corporate and municipal bonds, and government and mortgage-backed securities. DTCC’s primary mission is to reduce risk for its clients and to safeguard the integrity of the global financial system.

DTCC, through its clearing agency subsidiaries, serves as the centralized clearinghouse for more than 50 exchanges and equity trading platforms, including the New York Stock Exchange and OMX. DTCC also operates the world’s largest central securities depository, The Depository Trust Company (DTC), which holds custody of securities issues valued at US\$46.4 trillion.

The US Financial Stability Oversight Council has designated DTC and DTCC’s two CCP subsidiaries, National Securities Clearing Corporation (NSCC) and Fixed Income Clearing Corporation (FICC), as Systemically Important Financial Market Utilities (or SIFMUs) under Title VIII of the US Dodd-Frank Act. This SIFMU designation requires each of these entities to meet prescribed risk management standards and subjects them to heightened oversight by US regulatory authorities, as well as prudential regulation by the Federal Reserve. These enhanced requirements for SIFMUs are designed to promote robust risk management, safety and soundness, reduce systemic risk and support the stability of the broader financial system.

DTCC is owned and governed by the users of its SIFMU subsidiaries, all of whom commit capital as owners, pay fees for services and ultimately benefit from the safeguards, risk mitigation and efficiencies that DTCC provides. DTCC’s ownership model creates an optimal alignment of interests among our shareholder-members, our Board of Directors and management, while fostering greater capital efficiency and delivering cost-effective operating and processing solutions.

Importantly, our ownership structure also ensures that:

- We are not unduly distracted by short-term considerations that might discourage taking a long-term view of proper risk management
- We direct our primary focus toward addressing industry needs and preserving market stability, which is especially critical during times of crisis

Our Board of Directors plays an integral role in the oversight of DTCC, ensuring our services continue to meet the evolving needs of our clients while promoting safety and security across the global financial system. Individuals are nominated for



The Composition of DTCC’s Board

- 12 directors are representatives of clearing agency participants, including international broker-dealers, custodian and clearing banks and investment institutions.
- 3 directors are individuals with specialized knowledge of financial services but no participant affiliation.
- 2 directors are designated by DTCC’s preferred shareholders, ICE and FINRA.
- DTCC’s Executive Chairman and its President and CEO are also directors.

election as Directors based on their ability to represent DTCC's diverse client base, which extends to thousands of companies within the global financial services industry, including brokers, dealers, institutional investors, banks, trust companies, mutual fund companies, insurance carriers, hedge funds and other financial intermediaries. Directors serve on a variety of Board committees with responsibility to oversee all aspects of DTCC's operations, including the management of risk.

Transparency of CCP Risk Management Practices

In the recent public discourse, certain market participants have advocated for increased transparency by CCPs in terms of their risk management practices and the totality of resources that each CCP has available for loss absorption in the event of a member default. DTCC wholeheartedly agrees that such transparency is critical in order for market participants to have sufficient information to independently assess the risks of clearing through a particular CCP. In light of their increased exposures to CCPs, market participants are seeking appropriate alignment between the level of transparency CCPs provide to their regulators and the level of transparency they provide to their members.

We have long provided substantial transparency concerning our CCPs' operations, risk management practices and financial resources through publicly available materials on our website, including our rulebooks, rule filings, member handbooks and financial statements. We publish comprehensive disclosure documents for both NSCC and FICC in accordance with the CPMI-IOSCO PFMIs, which provide detailed information regarding our risk management practices and facilitate market participants' assessment of NSCC's and FICC's adherence to internationally recognized best practices for CCPs. DTCC is engaged in continuous dialogue with clients regarding risk management practices and new risk initiatives through DTCC's governance processes and multiple client advisory councils. DTCC has also committed to providing enhanced transparency to our CCPs' members in the form of standardized disclosures regarding our CCPs' financial resources, collateral, investments and back testing and stress testing procedures in accordance with recommendations developed by the Payments Risk Committee and CPMI-IOSCO.

In addition to enhanced transparency regarding risk management practices, certain market participants have recommended that all CCPs be subject to a standardized stress testing methodology similar to that applied to banks. DTCC supports the establishment of a stress testing framework for CCPs and welcomes the opportunity to engage with policymakers in its development. We note, however, that substantial differences among CCPs, their risk management approaches and the markets they serve may render fully standardized testing scripts for CCPs less useful than more customized stress tests that are targeted toward the scenarios most likely to stress a particular CCP.

Fully standardized CCP stress tests would provide a basis for CCP comparison only between CCPs that clear substantially the same asset classes in the same or very similar markets. Regulators and CCPs should assess the degree to which standardized testing scripts may provide valuable information, but should not maximize standardization at the expense of genuine usefulness. More importantly, each CCP should fully engage its regulators and member-based risk committees in developing its stress testing program, and the underlying assumptions and appropriate detail concerning test results should be transparent to clearing members. The key purpose of stress testing for CCPs should be to fully evaluate the sufficiency of each CCP's total loss absorption resources in light of the products it clears and markets it serves.

The primary objective of CCP stress testing should be to produce a genuinely meaningful evaluation of each CCP's risk management framework.

DTCC supports as much standardization as possible in terms of the assumptions included, parameters tested and governance around CCPs' stress testing methodologies, within a framework that permits customized testing that targets the market conditions most likely to stress each CCP, given the diverse product classes cleared and markets served by the global CCP community. The primary objective of CCP stress testing should be to produce a genuinely meaningful evaluation of each CCP's risk management framework.

The CCP Default Loss Waterfall

While dynamic and appropriately conservative risk management and margining is a CCP's first line of defense, the default loss waterfall is also critical to a CCP's resiliency and its mitigation of systemic risk in a crisis. When a member defaults, a

CCP's default management process must close out the defaulting member's open obligations and reestablish a matched book in order to continue clearing and settlement services for non-defaulting members and their customers. To support this process, CCPs utilize layered loss absorption resources that are organized and consumed in the order of a pre-defined default loss. A large part of the debate about CCP resources has focused on the size and structure of CCP default loss waterfalls. In DTCC's view, CCP default loss waterfalls should be sized to absorb losses in extreme event scenarios with a mixture of prefunded resources and cash calls and should provide reasonable certainty to members as to their required contributions in any default scenario.

Various industry organizations have outlined recommendations that take into account a CCP's systemic importance and the nature of the products it clears. We approve of these high-level standards and agree that CCP rules should be clear and transparent as to the tools that the CCP may employ for default management. However, we caution against any regulatory approach that would mandate or prohibit particular tools. No two CCPs are alike, and CCPs must work with their members, regulators and boards of directors to devise default management structures that are suited to the services they provide, the products they clear and their positions within the financial services industry.

Clearing Member Contributions

Members deposit Clearing Fund collateral to NSCC and to FICC based on their activity. A member's required Clearing Fund deposit – which generally consists of a mix of cash and high quality securities – is determined by several components. The market price volatility component, which comprises the bulk of total Clearing Fund requirements, represents the model portion of the requirement, and is calculated using a 99% confidence level over a three-day risk horizon. Each member's Clearing Fund requirement can change daily, based on its activity and changes in its counterparty profile.

The Clearing Funds provide NSCC and FICC with the collateral required to cover a member's exposure and also, in the aggregate, operate as their default funds, such that a non-defaulting member's Clearing Fund contribution may be used by the CCP, after the defaulting member's assets and the CCP's own contribution, to mutualize ultimate losses in the event of a catastrophic default.

Amidst the increased industry focus on CCP resources and recovery and resolution planning, along with the new capital treatment of default fund exposures to CCPs under Basel III, DTCC proposes to modify the default loss waterfalls of NSCC and FICC to introduce a Guarantee Fund. Similar to the approach implemented by other CCPs, DTCC proposes that each of NSCC and FICC collect from its membership a separate prefunded, risk-based pool of capital, which will be used to mutualize member default losses in the event of an extreme default scenario.

In addition to supplying DTCC's CCPs with additional resources to address tail risk, implementation of a Guarantee Fund will also restructure our CCPs' default loss waterfalls. Any losses not covered by the initial layers of default resources (including the defaulter's Clearing Fund and Guarantee Fund contributions and NSCC's or FICC's own contribution) will be absorbed by the Guarantee Fund, removing non-defaulting members' Clearing Fund deposits from loss allocations. By segregating the pool of resources that can be utilized in the event of a member default from other margin requirements, the Guarantee Fund will give NSCC and FICC members greater transparency regarding their maximum potential loss exposures and thereby allow them to more effectively measure, monitor and control those exposures from both a risk management and a capital management perspective. Moreover, collecting additional funds from each member in the form of a Guarantee Fund contribution will reduce moral hazard risk by increasing the proportion of a defaulter's losses that will be covered by its own resources (i.e., a defaulter-pays approach), as opposed to the resources of non-defaulting members.

Although specific methodologies are still being considered, DTCC believes that the optimal Guarantee Fund structure for NSCC and FICC will include prefunded resources sufficient to cover default losses associated with the largest two member family defaults (i.e., a "Cover Two" standard), a capped number of mandatory "top-up" assessments from non-defaulting members in the event that the prefunded Guarantee Fund is not sufficient to absorb default losses and, finally, a mechanism to call non-defaulting members for a final layer of voluntary contributions to the extent default losses remain after all other resources have been exhausted (see "End-of-the-Waterfall" Loss Allocation section below for details).

CCP rules should set forth the CCP's default management regime in a clear and transparent manner, including treatment of members' clearing fund or margin amounts and guarantee fund contributions, assessment authority and any other loss

allocation tools. While the CCP's loss allocation resources must be sized and structured to withstand extreme conditions and limit systemic risks flowing from any future market crisis, it must also provide certainty to clearing members concerning their maximum obligations to the CCP and maximum loss exposure in any default scenario.

CCP Contribution

CCPs themselves also typically contribute a portion of their own resources to cover default losses. The timing of those contributions (that is, where they are applied in the waterfall – before or after the default fund contributions of non-defaulting members) and the amounts differ among CCPs. Although views on this subject vary widely, some have argued that a CCP's contribution to the default loss waterfall must scale directly with increased risk at the CCP. The stated rationale for requiring that a CCP's contribution be risk-based is that it will limit the overall risk that a CCP can take on without further contribution of its own capital and, thereby, align the interests of CCP risk managers with the interests of its members. These commenters express a particular concern that for-profit CCPs may be incentivized to clear increasingly complex or risky products or “race to the bottom” on risk management standards in order to increase business. Others disagree that CCP contributions need to be risk-based, noting that CCPs themselves do not direct the trading decisions that generate their overall risk and therefore see no logic in tying a CCP's contribution directly to its members' aggregate activity.

By virtue of the company's user-owned and governed utility model, the interests of DTCC and its CCPs' members are already well aligned. DTCC nonetheless believes that its corporate contributions to NSCC's and FICC's default loss waterfalls signal confidence in our risk management framework. Such first-loss layers may also minimize systemic disruption and pro-cyclical impacts, provided they are sized to a level that would not materially weaken the CCP in a severe crisis. In order to provide certainty and an objectively-established contribution, DTCC would link NSCC's and FICC's CCP contributions to their regulatory capital requirements, which are generally based on the operating costs of each CCP. These first-loss layers – with discretion being left to DTCC's Board of Directors to contribute more – would simplify default management in many scenarios and reduce the likelihood of NSCC or FICC having to allocate losses among non-defaulting members in a default situation.

DTCC would not link NSCC's and FICC's CCP contributions to the size of their guaranty funds, which are linked to members' aggregate clearing activity and could fluctuate substantially in dynamic market conditions. It would be impractical (if not impossible) for NSCC or FICC to refuse to accept increased risk exposures created by its members' aggregate trading activity, which occurs across multiple exchanges and trading venues. As an industry-owned utility, changes in our capital requirements would be met by our clearing members. For that reason, the additional collateral needed to protect either NSCC or FICC from increases in transaction volume is best raised through margin requirements imposed on those clearing members whose activity generated the increased risk.

DTCC's overall risk management framework and specific margining methodologies are already subject to intense oversight from regulators and internal governance bodies with clearing member representation. In our view, all CCPs are highly motivated to manage prudently the risks they clear because imposing mutualized losses would irreparably damage confidence in the CCP and its management. Requiring that CCP contributions be risk based or set at a specific percentage of total resources offers no real enhancement to those already powerful incentives and could interfere with efficient capital planning and impose undue costs on those CCPs that, like NSCC and FICC, have historically operated as industry utilities. In DTCC's case, adopting CCP contributions that scale directly with increases in cleared activity would simply increase clearing costs without providing any genuine risk management benefit. **Although DTCC supports its CCPs contributing meaningful amounts as first-loss layers in their default loss waterfalls, very large or rapidly scalable CCP contributions to our default loss waterfalls would only add costs and reduce flexibility to deploy capital where it is needed in a crisis, potentially increasing the risk of mutualized losses.**

While the CCP's loss allocation resources must be sized and structured to withstand extreme conditions and limit systemic risks flowing from any future market crisis, it must also provide certainty to clearing members concerning their maximum obligations to the CCP and maximum loss exposure in any default scenario.

“End of the Waterfall” Loss Allocation

In the recent public discourse, market participants have also weighed in on the choice of specific CCP tools to address the “end of the waterfall” (that is, what tools can a CCP use when other loss allocation measures have been exhausted). In the absence of an “end of the waterfall” tool to fully allocate uncovered losses, the CCP would have to enter insolvency or resolution. Although some have argued in favor of specific approaches to “end of the waterfall” loss allocation (e.g., variation margin gain haircutting and tear ups), regulators have not yet ruled out any particular approach but have made clear that systemically important CCPs like NSCC and FICC must have recovery plans that enable them to continue to operate and serve their members and markets.

In the case of NSCC and FICC, DTCC proposes to use both mandatory and voluntary assessment rounds at the end of the default loss waterfalls. To the extent unallocated default losses remain after exhaustion of pre-funded resources held by the CCP, non-defaulting members will be subject to a capped mandatory assessment obligation, after which the member may elect to withdraw from clearing with a prompt but orderly elimination or transfer of cleared positions. Clearing members that do not withdraw would be subject to additional (but still capped) assessments aimed at satisfying the remaining losses. In order to ensure the appropriate alignment of interests, participation in the second round of assessments would be a precondition to continuing membership in the CCP if it recovered or in any new CCP to the extent recovery efforts fail. We believe that this approach strikes an appropriate balance between the need for certainty regarding members’ maximum exposure and the requirement that NSCC and FICC establish effective recovery and resolution plans.

Continuity of CCP Services

As the views of regulators and the industry on “end of the waterfall” tools continue to evolve, it is important to recognize that these tools only address satisfaction of uncovered credit losses. CCPs (particularly SIFMUs) must also recapitalize themselves after such an extreme loss event to ensure that their critical services continue to be provided going forward.

Some have argued that default loss absorption resources sufficient to recapitalize a new CCP should be fully prefunded by the CCP’s membership and held in escrow at a central bank or government agency. The objectives of this prefunding approach to CCP recapitalization are to ensure that members’ exposure to the CCP are at all times measurable and contained and to ensure that essential clearing and settlement services continue without substantial disruption.

While DTCC appreciates the benefits that prefunding a CCP’s default loss absorption resources would provide, we believe such benefits must be realistically assessed against the limited chances such resources would ever be needed and the burden that this type of prefunding would place on our CCPs’ diverse memberships. NSCC’s and FICC’s memberships include many small broker-dealers who have already contributed significantly to the CCPs’ loss absorption resources in form of capital and default fund resources. These firms offer valuable services for their clients, and this diversity of firm membership reduces concentration risk for NSCC and FICC.

Although we do not support prefunding loss absorption resources, we are considering, as part of our CCPs’ recovery and resolution planning, establishing an escrowed set of resources funded from one or more possible sources (including, but not limited to, insurance proceeds, retained earnings, fee surcharges and member assessments) to cover a new CCP’s required operating capital. We believe that a balanced approach to recapitalization, combining prefunded operating capital with default fund contributions from continuing clearing members at the time, will effectively support an immediate resumption of clearing services and is most appropriate for our CCPs in light of our utility ownership model and the markets and diverse memberships our CCPs serve.

Conclusion

Given DTCC’s role as a critical infrastructure provider for the global financial markets, and its CCPs’ designations as SIFMUs, we recognize the importance of providing transparency and thought leadership on these important issues, and welcome the opportunity to continue engaging with policymakers, market participants and the global CCP community to achieve our collective goal of ensuring the safety and resiliency of CCPs and the integrity of the global financial system.

