



# CENTRAL CLEARING:

## Proven, Transparent, Regulated Means of Reducing Systemic Risk

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### Introduction

Intercontinental Exchange (ICE) owns and operates seven clearing houses in North America, Europe and Asia. As the operator of clearing houses that clear a diverse set of exchange-traded and over-the-counter derivatives, we know firsthand that clearing plays an essential risk management role in the financial system and, as a result, is central to financial stability. The risk reducing benefits of central clearing have long been recognized by users of exchange-traded derivatives (futures) and were the foundation of the financial reforms put forward over the past decade for OTC derivatives. Clearing has historically proven to be a fundamentally safe and sound process for managing systemic risk.

This paper sets out the role of clearing, the benefits it provides, and the risk control measures and the layers of protection that are in place at ICE clearing houses. In addition, our plans are outlined for the highly unlikely and unprecedented event that recovery and resolution procedures are ever needed.

### Clearing Track Record

The central counterparty clearing model is effective and has been relied upon in futures markets for more than 100 years. The recent introduction of a mandated clearing obligation for certain swaps has increased awareness around clearing and the benefits it brings to traded markets. Clearing house risk management practices have been repeatedly tested and have performed as designed in response to clearing member defaults, including:

- Drexel Burnham (1990)
- Woodhouse, Drake & Carey (1991)
- Barings (1995)
- Griffin (1998)
- Refco (2005)
- Lehman Brothers (2008)
- MF Global (2011)

Over the past decade ICE has invested heavily in our clearing house technology and world class risk management practices. ICE has kept pace with and often preceded the regulatory reforms, new global rules, and international standards<sup>1</sup> that have been established with respect to the risk controls, levels of protection and proper functioning of clearing houses. We have worked closely with regulators, clearing members and end users to implement a clearing model that meets or exceeds modern regulatory reforms and international standards. The result is an even more robust clearing model that includes many ICE-led initiatives, such as the introduction of “skin-in-the-game,” whereby clearing houses add an amount of their own capital to the default waterfall.

ICE does not operate its clearing houses in a vacuum. On the contrary, we are highly transparent and inclusive with respect to all of our operations. Our clearing houses are subject to extensive regulatory oversight and strong corporate governance requirements, exercised largely through risk and advisory committees and independent boards.<sup>2</sup> Risk committees include representatives from our clearing member firms and, in some cases, end clients. ICE clearing houses regularly conduct margin back-testing, default fund stress testing, and liquidity stress testing - the results of which are reviewed by clearing members and regulators. In addition, the clearing houses’ margin, guaranty fund and liquidity methodologies are independently validated on a routine basis.

As detailed below, the rules, practices and procedures for ICE’s clearing houses are fully transparent and are publicly disclosed in a consistent manner, as set out within the CPMI-IOSCO Principles for Financial Market Infrastructures (PFMIs)<sup>3</sup> and various regulatory requirements. Any material changes to ICE’s clearing processes are subject to internal governance review as well as applicable regulatory review and approval.

## Transparency

ICE recognizes the importance of operating highly transparent clearing houses such that all market participants have adequate information to fully understand the clearing process. In addition to fulfilling all regulatory disclosure requirements, ICE clearing houses provide further public information where possible. Each of our clearing houses operate under detailed rule books that are posted on our website.

Each ICE clearing house has posted, or will soon post, their respective Disclosure Framework publicly on the ICE website. The Disclosure Framework provides relevant information to market participants with respect to the clearing house’s operations and risk methodology, including:

- Legal and regulatory frameworks
- Governance
- Systems design and operations
- Framework for managing legal, credit, liquidity, operational and other risks
- Process for effectively measuring, monitoring, and managing credit exposures to participants and those arising from its payment, clearing and settlement process
- Collateral and haircut requirements
- Margin methodology
- Processes for measuring, monitoring and managing liquidity risk
- Settlement finality
- Default rules and procedures
- Segregation and portability
- Custody and investment risks
- Operational risk
- Access and participation requirements
- Rules, key procedures and market data

ICE clearing houses make available to clearing members all of the information requested by the Payments Risk Committee related to:

<sup>1</sup> Committee on Payment and Settlement Systems, International Organization of Securities Commissioners (CPSS-IOSCO), *Principles of Financial Market Infrastructures* (April 2012). <http://www.bis.org/publ/cpss101a.pdf>

<sup>2</sup> An overview of the risk governance at ICE clearing houses can be found online: ICE Clear Europe - [www.theice.com/clear-europe/risk-management](http://www.theice.com/clear-europe/risk-management); ICE Clear US - [www.theice.com/clear-us/regulation](http://www.theice.com/clear-us/regulation); ICE Clear Credit: - [www.theice.com/clear-credit/regulation](http://www.theice.com/clear-credit/regulation)

<sup>3</sup> *Supra*, nt. 1.

- Governance
- Initial margin and guaranty fund composition
- Collateral
- Investment balances and policy
- Evaluation and monitoring of clearing members
- Initial margin and guaranty fund methodology
- Default procedures
- Legal opinions related to centrally cleared transactions

ICE clearing houses are preparing to comply with the following Public Quantitative Disclosure requirements recently issued by CPMI-IOSCO, which include:

- Credit risk - value of default resources and stress test results
- Collateral - eligibility and haircuts
- Margin - rates, models, back-testing
- Liquidity risk - size and composition of assets, stress testing
- Settlements - volume and type
- Default specific information - subject to legal constraints on timing and content
- Segregation and portability
- Custody and investment risks
- Operational risk
- Access and participant requirements

In addition, ICE clearing houses publicly disclose:

- Regulatory rule filings
- Clearing members
- Informational circulars
- Cleared products
- Clearing data and financial resources
- Volume and open interest
- Clearing fees

## Central Counterparty Clearing

Clearing houses serve as the “central counterparty” to the financial transactions they clear meaning that the clearing house is the buyer to a clearing member seller and seller to a clearing member buyer. In this manner, the clearing house maintains a balanced book of positions as opposed to taking on position risk itself. As a result, clearing houses do not themselves contribute risk to the financial system. They manage risk brought by the positions of the clearing members and their customers. The risk to the clearing house is that one (or more) of its clearing members defaults with respect to the clearing member’s obligations to the clearing house. Accordingly, clearing houses manage the counterparty performance risk associated with their clearing members. Interposing a clearing house as the central counterparty to financial transactions provides a series of systemic benefits including multilateral netting. In the absence of central clearing, market participants maintain positions that would be offsetting if not for the fact that they are open with multiple counterparties.<sup>4</sup>

## Layers of Protection

ICE clearing houses at all times have a series of comprehensive controls and protections in place to respond to an extensive range of extreme but plausible stress events and default scenarios. The range

<sup>4</sup> In the simplest example, participant A bought from participant B and sold to participant C. On a net risk basis, participant A’s risk exposure is zero given that it is long and short. However, since participant A has two open positions, participant A has counterparty risk to both participant B and participant C. If these transactions were centrally cleared, participant A’s long and short position would face the clearing house and would be netted to zero and participant A would no longer have any open positions. The clearing house would become the buyer to participant B and the seller to participant C. In short, multilateral netting reduces systemic risk (especially during times of payment system stress) by significantly reducing the amount of counterparties and associated payment flows.

of such controls and protections is extensive, as set out in the PFMI, and stipulated for European clearing houses in EMIR and US clearing houses in CFTC and SEC regulations that implement Dodd-Frank.

Membership Criteria
Ongoing Creditworthiness
Initial Margin Requirement
Collateral and Liquidity Management
Customer Segregation and Portability
Daily Mark-to-Market / Variation Margin
Intraday Risk Monitoring
ICE Contribution
Mutualized Guaranty Fund
Powers of Assessment

***Membership Criteria and Ongoing Creditworthiness***

The first level of protection is the clearing houses’ initial and ongoing conservative membership standards. Our clearing houses have developed and implemented a sophisticated review and internal credit rating process that assesses and monitors each clearing member’s initial and ongoing credit worthiness. Assessments performed by external ratings agencies are considered only one of many factors in developing our internal ratings. In addition, we maintain watch lists (that are shared with regulators) for any existing clearing members that might experience weakening credit. The clearing houses’ rules provide appropriate authority and discretion to manage any risk associated with a clearing member depending on the extent of the weakening credit including: increased financial reporting; increased margin requirements; capital-to-margin limits; risk reducing transactions only and suspension of clearing.

***Initial Margin Requirement***

The second level of protection is the appropriate collateralization of market risk through initial (original) margin. The levels of initial margin are calibrated such that a portfolio the clearing house may be required to liquidate post clearing member default can be closed or auctioned without recourse to resources other than those held by the defaulting clearing member, assuming an appropriate risk confidence level and liquidation period.<sup>5</sup> As noted above, ICE’s default resource calculation methodology has withstood the test of time and no ICE clearing house has been required to utilize its own capital or the default contributions of the non-defaulting clearing members. Instead, the margin and guaranty fund contributions of the defaulting clearing members have proven to be sufficient to allow ICE to manage any defaults.

***Collateral and Liquidity Management***

ICE clearing houses require clearing members to collateralize their credit exposure by depositing highly liquid collateral with the clearing house which has low credit, liquidity and market risk. Conservative haircuts are applied to non-cash collateral in order to manage market risk. Cash and collateral is secured through investment policies which are designed to safeguard the principal (safety), provide sufficient liquidity to meet all operational requirements (liquidity) and obtain a reasonable rate of return (yield) whilst complying with relevant laws and regulations. Cash deposits are secured through reverse repos, direct purchases of government bonds or, where necessary, deposit at regulated credit institutions. Committed repo facilities have been secured to provide additional means of liquidating held securities in extreme

<sup>5</sup> The PFMI set out in principle 6 minimum standards a clearing house should adhere to in ensuring it holds adequate initial margin commensurate with the risk a clearing member brings to the clearing house. Key considerations in setting appropriate initial margin levels include the expected liquidation time of a defaulter’s portfolio and anti-pro-cyclicality criteria. ICE is fully supportive of these standards, and believes it is crucial that such standards are implemented in a consistent manner across all jurisdictions.

circumstances. All ICE clearing houses regularly stress test liquidity needs in order to ensure that adequate resources are in place.

ICE advocates the use of accounts at central banks as “safe harbor” accounts, for ongoing deposits in order to avoid over reliance on repo markets or commercial banks and in order to enhance management of short-term liquidity risk. ICE also advocates the availability of fully secured access to central bank liquidity facilities in extreme circumstances. ICE encourages central banks to make such accounts readily available for clearing houses. For the avoidance of doubt, ICE does not expect such access to include any form of taxpayer bailout.

#### *Customer Segregation and Portability*

Importantly, customer-related margin is segregated from the clearing member’s house (proprietary) margin. The purpose of such segregation is to ensure that in no event will customer-related margin be exposed to losses associated with the clearing member’s proprietary trading. In addition, the segregation of customer-related margin serves to facilitate the transfer (porting) of customer-related positions in the event that the clearing member defaults to the clearing house.

#### *Daily Mark-to-Market / Variation Margin*

Further protection is provided through the revaluation of cleared portfolios, on at least a daily basis, through settlement of variation margin or mark-to-market margin. This practice of requiring clearing members to pay their losses on at least a daily basis serves to avoid the accumulation of large losses over time. Clearing members with losing positions are held accountable as the market moves.

#### *Intraday Risk Monitoring*

ICE’s clearing houses monitor positions on a nearly real-time basis and may make additional intra-day margin calls in the event that certain risk thresholds are exceeded. Clearing members are required to provide additional collateral in a timely and proscribed manner in the event of an intraday call.

#### *ICE Contribution*

ICE pioneered the concept of “skin-in-the-game” and contributed our own capital to the default waterfall on a voluntary basis ahead of any regulatory requirements. Notably, this was a commercial rather than a risk-based consideration. Importantly, the level of skin-in-the-game at each of our clearing houses is an additional, separate and distinct layer of protection that does not reduce the level of guaranty fund contributions required from each clearing member which are based upon the size of the risk each clearing member’s position brings to the clearing house. Clearing houses, as previously noted, are central counterparties and, as such, are market neutral and do not create risk. The core role and function of a clearing house is to manage the risk associated with its clearing members’ positions.

While skin-in-the-game adds an important layer of protection that clearing members may evaluate when determining whether to use a clearing house’s services, its purpose is to further align the risk management interests of the clearing house to the interests of its clearing members; it is not intended to replace or reduce the position risk-based amount of the guaranty fund. Accordingly, ICE fundamentally disagrees that a clearing house’s skin-in-the-game can be determined based on a risk-based calculation.

Any contribution by a clearing house to the default waterfall may have the unintended consequence of actually increasing systemic risk. To the extent that a clearing house assumes direct financial responsibility for the risk of its clearing members’ positions, the buffer created by skin-in-the-game may create a moral hazard by discouraging the clearing member from fully managing their risk or earnestly participating in default auctions which form the most important element of recovery plans. The disincentive arises because skin-in-the-game contributed by the clearing house effectively subsidizes the risk members may introduce to the clearing house. Perhaps more importantly, the clearing house contribution may reduce the level at which non-defaulting clearing members bid in default auctions since it is the clearing house funds that will be the first layer of loss absorption. In sum, a mutualized guaranty fund serves to incent clearing members to manage the risk they bring and to help the clearing house manage a default.

### *Mutualized Guaranty Fund*

All of ICE's clearing houses have in place robust default resources and the mechanisms and procedures to cover losses which exceed the resources of a defaulting participant. This layer of protection typically consists of a mutualized default fund, with contributions from clearing members proportional to the risk of their positions and sized pursuant to the clearing house's guaranty fund methodology.

We fully support the international consensus that default resources should be fully pre-funded, highly resilient and able to withstand at least the failure of the two clearing member groups that create the greatest uncollateralized losses under rigorously tested stress conditions representing extreme but plausible scenarios. Extensive member review and regulatory approval of all risk models and policies are critical components of risk management at each of our clearing houses.

### *Powers of Assessment*

As part of the default waterfall, ICE's clearing houses have a contractual right to call for additional guaranty fund contributions from clearing members in the form of assessment rights. Assessment rights are limited to a multiple (normally 1x or 2x) of the clearing member's guaranty fund requirement per default. Assessment rights provide important additional protections in the event of a clearing member default which exhausts the existing pre-funded resources. We believe that the extent of our assessment rights should be clearly defined and limited in order to provide clearing members with certainty as to the extent of their liability. In addition to assessment rights that are limited per default, ICE believes that assessment rights for multiple clearing member defaults should be limited.

## **Recovery Arrangements**

To accommodate extreme and unlikely circumstances that result in losses in excess of clearing members' margin and guaranty fund resources, ICE clearing houses have in place recovery plans.

We agree that a recovery plan should be clear and transparent and provide sufficient detail for members and regulators to anticipate the likely actions and tools of a clearing house during a default. However, it is important that the plan not be so prescriptive that the clearing house is rendered unable to take a set of actions which might otherwise successfully manage a default.

## **Key Characteristics Relevant to Recovery Arrangements**

Elements of the ICE recovery structure include:

- All clearing house defenses support the fundamental principle that the clearing house has a balanced position. The layers of protection are designed with the specific purpose of restoring a clearing house's position to balance in the event of clearing member default and preserving the continuity of clearing services.
- Non-defaulting customer-related positions and, where possible, collateral assets should be transferred (ported) to a non-defaulting clearing member as soon as appropriate from a risk perspective.
- Clearing members should be required to participate in default auctions and "juniorized" with respect to their guaranty fund contributions if they fail to participate. Non-clearing members should be able to participate subject to the consent of their clearing member and following the contribution of capital to the default waterfall.
- Variation margin gains haircutting (sometimes referred to as reduced gains distribution) is a tool of last resort and only utilized on a limited and defined basis.
- Recovery tools such as assessments are not prefunded and we believe that such obligations should be limited in order to provide clearing members with certainty as to the extent of their liability.

- Partial tear-ups are preferred to forced allocations because forcing positions on clearing members will increase risk whereas partially tearing-up positions is the least intrusive process during a time of stress.

## Scope of Clearing House Recovery Arrangements

As stated above, ICE is fully supportive of the PFMI's relating to clearing house recovery. Today we have in place, or are actively working to amend, recovery plans to provide a range of tools consistent with the PFMI's, including: mandatory auctions with bidding incentives; powers of assessment; variation margin gain haircutting; final auction; and ultimately, a controlled and limited process of partial contract tear-up.

## Contents of Clearing House Recovery Plans

### *Continuity of Clearing Service*

Achieving continuity of critical clearing services is, correctly, a key objective in the recovery arrangements for clearing houses. For this reason, a fundamental principle of any clearing house recovery arrangement must be to incentivize existing clearing members to continue to support the clearing house instead of relinquishing membership. This is necessary for the clearing house to continue to fulfill its core function of providing central counterparty clearing services and to allow clearing members to provide market access, payment and collateral transformation facilities for end users. Without clearing members, a clearing house cannot continue to perform its economic function.

### ROBUST RECOVERY PLAN

Position Transfer
Liquidation
First Order Hedges
Mandatory Auction (subordination)
Variation Margin Gains Haircutting
Call on Powers of Assessment / Cooling-off period
Mutualized Guaranty Fund
Final Auction
Partial Tear-Up
Short-Term Moratorium
Full Tear-Up

### *Position Transfer (Portability)*

Non-defaulting customer-related positions, and where possible collateral assets, should be transferred to a non-defaulting clearing member pursuant to the clearing house's porting rules on a timely basis.

### *Mandatory Auction*

As noted above, all clearing house defenses support the fundamental principle that the clearing house is designed to operate as a central counterparty with a balanced position. Accordingly, the layers of protection are designed with the specific purpose of restoring a clearing house's position to balance in the event of clearing member default. In the event that an ICE clearing house is unable to liquidate a defaulting clearing member's portfolio, ICE is proposing that the portfolio should be subject to a mandatory auction whereby clearing members are required to bid for the portfolio. In order to incentivize clearing members to bid and to bid competitively, ICE is proposing that clearing members who fail to bid or who bid poorly will be penalized by having their contributions to the guaranty fund subordinated (juniorized) meaning that the guaranty fund contributions of such clearing members will be utilized prior to the contributions of the clearing members who bid competitively. In order to facilitate a more robust auction, we support non-clearing member participation in the mandatory auction. Non-clearing members

may participate indirectly via their clearing members. With respect to indirect participation, the clearing member would enter a bid on behalf of the non-clearing member. Or non-clearing members may participate directly in the mandatory auction provided that they contribute directly to the guaranty fund and agree to be subject to the same auction terms as clearing members including subordination / juniorization. In either the case of indirect or direct participation, the non-clearing member would be required to clear (with its clearing member) any position resulting from a successful bid.

#### *Variation Margin Gains Haircutting*

We believe that recovery plans should be as comprehensive and flexible as reasonably possible in order to facilitate recovery and avoid resolution. Accordingly, we believe it is appropriate to include within the clearing house recovery toolset, to be used only in unprecedented circumstances and for a limited period of time, variation margin gains haircutting. Any use of variation margin gains haircutting should only be on the basis that it is defined and transparent, subject to consultation with members, communication with regulators where possible, and following approval of the clearing house independent board of directors. Whilst it is acknowledged that such a measure could, in extreme circumstances, impact end users which are not clearing members, a predetermined limitation on the use of recovery tools related to only clearing members would sharply focus the burden of recovery in an extreme scenario onto a smaller number of market participants. This could exacerbate systemic risk concerns while substantially reducing the comprehensiveness and, potentially, the effectiveness of clearing house recovery plans.

#### *Powers of Clearing Member Assessment*

The inclusion of powers of assessment of clearing members in recovery plans is a valid and viable tool. However it is important that potential liability towards the clearing house be defined and capped to preserve confidence in the recovery phase and to avoid unrealistic unlimited liability, together with associated regulatory capital implications. We support a power of assessment limited to 1x or 2x the clearing member's guaranty fund requirement for a given default and an appropriate overall cap for multiple defaults that occur during a "cooling off" period. In addition, a specified framework must be embedded in such powers of assessment whereby clearing members can choose to terminate their relationship with a clearing house (post the cooling off period) in a controlled manner, in order to limit future liabilities.

#### *Final Auction*

In the event that the mandatory auction is unsuccessful, ICE recommends a final auction. ICE may set a minimum or maximum price for any lot subject to a final auction (based on all remaining resources, including variation margin losses). Non-clearing members are invited to participate in the final auction and may bid directly (without the need for a minimum deposit).

#### *Partial Tear-up*

In the unlikely event that the final auction does not result in the close-out in full of the remaining portfolio, then we believe it is appropriate for a clearing house to include the possibility of limited and partial position tear-up in its recovery plans. This is a last resort recovery tool to be used in the event that other tools have not been successful in re-establishing a matched book. The scope and magnitude of such a partial tear-up should be limited to that necessary to avoid entry into resolution. As is the case with respect to variation margin gains haircutting, the use of partial tear-up would be subject to consultation with members, communication with regulators, and the approval of the clearing house independent board of directors.

ICE believes that partial position tear-up is preferable to forced position allocation. The possibility of forced position allocation creates additional difficulty for clearing members in determining their potential risk exposure.

#### *Full Tear-Up*

Should a partial tear-up fail (as a result of insufficient default resources to pay for the torn-up contracts) the clearing house will have reached the end of its recovery plan and the rules provide for the closing out



of all outstanding cleared contracts with all of the clearing members.<sup>6</sup> In the absence of the intervention of a resolution authority, ICE would close out all outstanding cleared contracts by simply tearing up the contracts and paying out the remaining default resources (to the extent there are any remaining default resources) to the non-defaulting clearing members on a pro rata basis. This process is also known as complete or full tear-up.

#### *Short-Term Moratorium*

The complete tear-up of all of the clearing house's open contracts and the resulting termination of clearing would be a very unattractive result especially given the likely state of the marketplace at the time. Accordingly ICE believes that a short clearing "moratorium" (sometimes referred to as a "false weekend") is an important tool that could be utilized as an absolute last step prior to effecting complete contract tear-up and the end of clearing. Such a tool would provide time for other measures outside the framework of the clearing house's recovery arrangements to take effect and to thoroughly consider any remaining alternatives.

## **Resolution**

Recovery plans should be as comprehensive and flexible as possible within the scope of a clearing house's rules and abilities in order to facilitate the return of the clearing house to a balanced book and thereby preserve the continuity of clearing services. If the recovery tools are ultimately unsuccessful, the clearing house will be forced to completely tear up all outstanding contracts, as discussed above.

However, the clearing house does not become operationally insolvent as a result of the complete tear-up of its cleared contracts. As noted earlier, the amount of capital contributed to the default waterfall is limited and all of ICE's clearing houses are required by law to maintain a certain amount of operating capital (also known as regulatory capital). The capital that is not committed to the default waterfall serves to allow the clearing house to continue its operations.<sup>7</sup> As of June 30, 2015, the ICE clearing houses maintained a total amount of more than \$350 million in operating capital.

Accordingly, following the complete tear-up of its cleared contracts, a clearing house would remain solvent and would be operationally ready to continue or restart clearing. Importantly, a restart would not require a "recapitalization" or "bail-in" of the clearing house entity. Instead, clearing members would need to be prepared to fully margin any of their new cleared positions and to contribute to the guaranty fund in an amount that is determined relative to the risk of their open positions.

## **Conclusion**

Clearing houses play an essential risk management role in the financial system and, as a result, are central to financial stability. The central clearing model is one that has been time and stress tested for well over a century. The efficacy of the model is the chief reason lawmakers and regulators made the prudent decision to extend its use to more markets. The core elements of the clearing model are highly transparent and are subject to robust governance and oversight structures that include market participants, independent board members and a multitude of prudent regulators. ICE believes that our clearing houses' extensive regulatory oversight, governance arrangements and robust risk management tools and practices coupled with the natural compression / multilateral netting and associated risk reduction of offsetting trades fundamentally serve to reduce systemic risk.

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<sup>6</sup> ICE Clear Europe (ICEU) clears distinct and separate (in separate silos) contract categories: credit default swaps and futures & options. In the event that ICEU might be required to close-out one contract category (e.g., CDS) it would continue to clear the futures and options category.

<sup>7</sup> Notwithstanding that clearing house operating capital is not committed to a clearing member-related default, ICE would consider applying its operating capital to resolve a clearing member-related default if a continuation or restart of clearing thereafter is likely to be commercially viable. In such a case, ICE would immediately replenish the clearing house's operating capital.