Open Credit Default Swaps Clearing Solution

Security, Neutrality, and Transparency

February 24, 2009
Open CDS Clearing Solution Offers Straight Through Processing Into CME Clearing From Multiple Venues

Our solution will:

- Allow for immediate migration of existing bilateral trades to CME Clearing
- Furnish real-time validation of contract terms and clearing eligibility as well as pre-clearing credit controls
- Provide straight through processing and T+0 confirmation
- Provide full life cycle trade management
- Leverages participants’ existing CME connectivity
Our CDS Open Clearing Solution Addresses the Needs of CDS Market Participants Now

**CME’s industry-leading financial safeguards package**
- Financial safeguards that have protected market participants over CME’s 110+ year history
- $8B financial safeguards package – the largest of any clearinghouse in the world
- CME’s industry-leading financial safeguards package is being extended to CDS products
- Protection of customer accounts through time-tested regulatory framework

**CME’s best in class clearing infrastructure**
- Handles over $1.2 quadrillion in notional value traded a year
- Manages ~$100 billion in collateral and ~$50 trillion in open interest
- Provides full trade life cycle management, and ability to integrate immediately with participant’s front and back-office infrastructure as well as with existing CDS infrastructure

**CME’s comprehensive CDS risk management**
- Multi-factor portfolio margining model covering macro, sector, idiosyncratic, liquidity, and basis risks, that is transparent and robust
- Daily mark to market to cover price movements and optimize margin
- Highly experienced at managing the positions of a defaulting clearing member

**Standardized contracts**
- Standardized contract terms that are consistent with ISDA OTC templates, adhere to the determinations made by ISDA, and ensure submission to the ISDA auction process
- Maximize CME Clearing’s ability to multi-lateral net and close out positions
CME Clearing is Collaborating with Regulatory Authorities and Industry Organizations

- Completed regulatory risk management reviews with the Federal Reserve Bank of New York, the Securities and Exchange Commission, and the Commodity Futures Trading Commission (CFTC).

- CME Risk Committee, CME Clearing’s governance body comprised primarily of clearing member representatives, approved the inclusion of cleared CDS in the combined guaranty fund.

- Working with the SEC and FINRA to complete the SEC exemption process.

- Actively engaged with the FSA regulatory review of CME Clearing’s offering.

- Seeking a CFTC 4d order that permits customer funds used to margin, secure or guarantee Credit Default Swaps (“CDSs”) to be held in Section 4d segregated customer accounts.

- Finalizing agreements with ISDA and Markit.
**Day 1 Products Cover Over 75% of the Corporate CDS Market, the Most Comprehensive Product Offering in the Industry**

### Day 1 Offering

<table>
<thead>
<tr>
<th>CDX Index</th>
<th>iTraxx Index</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Products</strong></td>
<td>IG, HVOL, HY, XO</td>
</tr>
<tr>
<td><strong>Tenors (years)</strong></td>
<td>3, 5, 7, 10</td>
</tr>
<tr>
<td><strong>Series</strong></td>
<td>Current + Previous 3</td>
</tr>
</tbody>
</table>

- Coupon rate, list currency, restructuring type, and reference obligation consistent with those published by Markit Group

#### Single Names

- All single name constituents in the CDX and iTraxx indices referenced above *(over 500 reference entities)*
- Tenors include 1 year to 10 years for any IMM date (Mar 20, Jun 20, Sep 20, Dec 20)
- Standardized fixed coupons of 100 bps and 500 bps so that the risk profiles of our contracts match those of existing OTC contracts
- Series include current and previous three off-the-run series

**CME Clearing’s cleared CDS contracts serve to improve the overall market infrastructure**

- Our standardized contract terms for the cleared CDS contracts are designed to mirror the bilateral OTC contracts, and are consistent with ISDA definitions, adhere to ISDA determinations, and are eligible for participation in ISDA auctions
- Existing single name trades will be converted to the new coupons, with each split into two new trades, one with a 100 bps coupon and one with a 500 bps coupon - the net notional and coupon remain the same
- New single name trades will trade at the fixed 100 and 500 bps coupons with an upfront payment to compensate for the difference between the fixed coupon and the fair spread
- Forthcoming product offerings (e.g. Tranches, additional Indexes, additional Single Names) will be based on recommendations of the CMDX Product Advisory Board
Full Support of CME Financial Safeguards are Being Extended to CDS Products

**Portfolio Margining & Risk Evaluation**
- Margin requirements based on the risk in a portfolio and defined by a series of scenarios and shocks (e.g., steepening/flattening, compression/decompression, industry concentration)
- Actual portfolio testing on 1,000 random portfolios provided >99.99% coverage for 1-day price moves from April to December 2008

**Daily Mark to Market**
- Accurate, automated daily mark-to-market calculations for variation margin

**Real-time P&L, Concentration, and Financial Monitoring**
- Consistent monitoring of financial strength of each clearing firm (including risk-based examinations, net capital requirements and segregation requirements)

**Membership Standards & Credit Limits**
- Participant requirements will be consistent with CME’s overall risk management framework and regulatory guidelines
- Credit and financial monitoring, and operational review of clearing members
- Customer account protection under CFTC Regulation 30.7 pending approval of petition for customer segregation protection under section 4(d) of the Commodity Exchange Act
Clearing Members Benefit from CME’s Well-Established Process for Handling Clearing Member Default

CME will facilitate an orderly liquidation and protect its clearing members in the event of a clearing member default.

Pre-Default Position

- **CME**
  - Provides transparent and consistent daily margining
  - Daily Multi-lateral position netting
  - Provides financial safeguards

- **Clearing Member**
  - Provides access to Clearing House
  - Collects margin and processes mark to market from customers in accordance with CME policies & other applicable regulatory requirements
  - Customer margin requirements held in segregated account

- **Buy-side Firm**
  - Collateral protected through segregated accounts
  - Positions protected under clearing member default
  - Margins are calculated on a net portfolio basis

Event of a Clearing Member Default

- **Defaulting Clearing Member**
  - Market access is restricted
  - Collateral is captured
  - Portfolios are smoothly liquidated, in part due to liquidity on the trading facility

- **New Clearing Member**
  - Positions are maintained and moved to a new clearing member

Customer protection

- Collateral is held in a segregated account

An Innovative Multi-Factor Risk Model is Used For Margin Calculation

**Description of risk factors**

- **Systematic risk**
  - Captures parallel shifts in (percentage terms) of credit spreads

- **Curve risk**
  - Captures credit spreads shifting higher for shorter tenors and lower for longer tenors (and vice versa) to reflect overall curve flattening or curve steepening

- **Spread convergence/divergence risk**
  - Captures the risk of high yield CDS spreads widening or tightening relative to investment grade CDS spreads

- **Sector risk**
  - Captures the greatest sector risk exposure within a portfolio. Each reference entity is assigned to one of ten sectors, and spreads for all names in each sector will be shocked up and down

- **Idiosyncratic risk**
  - Captures the risk of an extreme spread move for the two largest single-name risk exposures within a portfolio

- **Liquidity risk**
  - Captures the risk of high concentration in illiquid reference entities

- **Basis risk**
  - Captures the risk of an index spread richening or cheapening versus the combined spreads of its underlying components

- **Total margin required**
  - **Equals the sum of the margin required for each of the 7 risk factors**

- **Minimum portfolio margin requirement**
  - **A minimum margin** is required for all portfolios and will be used if the minimum exceeds the sum of the seven factors

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1 Minimum portfolio requirement is based on the following percentages of gross notional value: (i) 0.04% of IG index; (ii) 0.10% of HY index; (iii) 0.12% of IG single names; (iv) 0.50% of HY single names
We Are Ready to Launch

**Risk management**

- Multi-factor risk management and margin framework is fully integrated in CME’s risk-based margining framework
- Margin framework has been tested on many sample portfolios:
  - Investment grade
  - High yield
  - Toxic (e.g., WaMu, Wachovia, AIG, LEH)
  - Complete active CDS portfolios at different points in time
  - Others
- The resulting margin is robust - coverage was >99.99% for 1-day price moves for 1,000 random portfolios tested from April to December 2008

**Clearing operations**

- Most comprehensive Day 1 product offering in the market – over 75% of corporate CDS notional value covered
- CME has incorporated the CDS product set into its clearing systems and conducted full end to end testing
- Actively working with clearing firms on connectivity and integration

**Migration facility**

- Migration facility successfully tested on a range of actual and test CDS portfolios, including all of Citadel’s portfolio
- Conducted multiple migration exercises for both sell-side and buy-side market participants
- Operationally ready to accept trade data from market participants to begin immediate migration of legacy bilateral trades into standard contracts cleared by CME