LCH.CLEARNET

LCH.Clearnet Margining Approach

Presentation to : ECB Money Market Contact Group

1 June 2011

John Burke, Executive Director & Head of Fixed Income

Role as Central Counterparty

- Margining is driven by default management approach
  - Financial guarantee of performance
- Clearly articulated policy on default management approved by the Board:
  1. Maintain ongoing performance of LCH.Clearnet's obligations vis-à-vis all other clearing members
  2. Preserve the Default Fund and the Capital of both the Group and the individual CCPs.
  3. Manage the transfer of all segregated client positions
  4. Manage the transfer of non-segregated client positions
- Lehman Lessons Learnt activities still ongoing
  - Full-time Default Manager (ex-trader) employed to advise and coordinate default management fire-drills.

Role as Central Counterparty

Risk Appetite statement articulated by the Board:

- Clearly articulated margin policies referencing CPSS-IOSCO and ESCB-CESR
- 99.7% back-testing result of P&L against initial margin held over the past 18 months over the assumed holding period of the product
- Holding periods range from 2 days (liquid futures, securities) to 7 days (client swaps, illiquid securities)
- Measured daily, reported monthly internally and quarterly to the Risk Committee
  - Measured by market and clearing member/account
- Holding periods adjusted for concentrated positions, e.g. large positions that are judged to take longer than the standard holding period for a particular member are subject to additional margin.
  - Approx €3bn held across the Group currently held for this purpose.

Sovereign Risk Framework

Emerged in late 2009 in the context of LCH.Clearnet Ltd considering clearing Greek government bonds.

Framework was developed in conjunction with the Fixed Income Risk Working Group (major participants in the two LCH.Clearnet services) and approved by our Risk Committees and Boards.

- LCH.Clearnet Ltd declined to clear Greece in early 2010 due to market conditions but implementation of the Framework was a pre-requisite for our clearing Spanish government bonds in August 2010 in London and November 2010 in Paris.
- Allows for LCH.Clearnet to protect itself from increasing risks in a transparent way whilst providing certainty of funding for fixed income participants – (*we will not cease clearing a market).*

Sovereign Risk Framework

Framework was communicated to stakeholders (Regulators, Central Banks and National Treasuries in September 2010) prior to broader announcement in October 2010

It is designed to react to market conditions and perceived increases in risk in three main areas:

- Dislocation in prices (often termed 'jump-to-default' but does not need a default)
- Step change in liquidity of sub-investment grade securities; and
- "Wrong way risk" where participants are highly correlated with the underlying securities.

Sovereign Risk Framework

Price Dislocation

- In the event of a default LCH.Clearnet will need to buy/sell government bonds within one or two days in whatever market conditions exist at the time following the default of one (or two) major financial institutions
  - In the event of a default LCH.Clearnet would need to buy/sell government securities in the cash markets and match off repo terms to close the position of the defaulter
- Market conditions are by definition unknown but in a flight to quality, assets that are perceived as higher risk have the potential for liquidity and distressed pricing characteristics
- As such we need to make an assumption regarding market prices in these market conditions
  - This has been reported as if a view on “recovery rates” for European sovereigns but it is a view on potential price dislocation. It has no bearing, and LCH.Clearnet has no view, on government debt default/restructuring

Sovereign Risk Framework

Step Change in Liquidity

- Market liquidity in sovereign securities is demonstrably reduced where the market perceives the risk increasing; this is evident today in markets where spreads have widened
- At 'formal' rating agency sub-investment grade we expect to see a further step change in the liquidity of a security as some institutions are unable to invest.

"Wrong way risk"

- Where a clearing member is highly correlated with the underlying securities our risks are considerably higher.

Sovereign Risk Framework

The Framework has several key indicators where we judge the risks of a security to have increased significantly. The major published indicators are:

- At 450bp spread at the 10 year maturity to a AAA benchmark; or
- At a 500bp 5 year CDS spread; or
- Where a Market Implied Rating drops to B1

These have been arrived at following significant market consultation

This is also applicable to ‘Margin Collateral’, i.e. securities posted to cover initial margin liabilities.

Timeline

Timeline of events

- Framework published in October 2010;
  - Benign initial market reaction
- Communicated widely to market and clients
- Invoked after discussion with ECB, FSA, Irish Treasury and Central Bank on 10 November
- Subsequent market coverage (whilst not all entirely accurate) has helped to ensure that the implications of the Framework are understood and, **most importantly**, our clients are able to manage their liquidity and make rational decisions
- Action subsequently taken on Portugal in April 2011 after similar discussions with Portuguese authorities

Sovereign Framework Update

Immediate review undertaken by Executive, Risk Working Group and Risk Committees following invocation of framework in late 2010/early 2011:

- Agreement to maintain 450bp bond spread and other indicators
- Agreement to maintain 15% first step
- No differentiation of haircut across maturity curve unless market data indicates otherwise
- Decision to take earlier action on 'wrong way risk' and concentration risk
- Agreement to differentiate haircut for long and short positions
- Agreement to utilise actual bond prices; replacing 2nd cash leg
- The aim is to have sufficient margin in distressed market conditions for LCH.Clearnet to be able to cope with a 20 cent market close-out price when 10 year bond spreads to a AAA benchmark hit 800bp.
- Non euro currencies compared against an internal benchmark curve

LCH.CLEARNET