

P.R.I.M.E. Finance

Panel of **R**ecognized **I**nternational **M**arket **E**xperts in **F**inance

Derivatives Closeout Valuation: Challenges and Approaches



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Panel of Recognized International Market Experts in Finance



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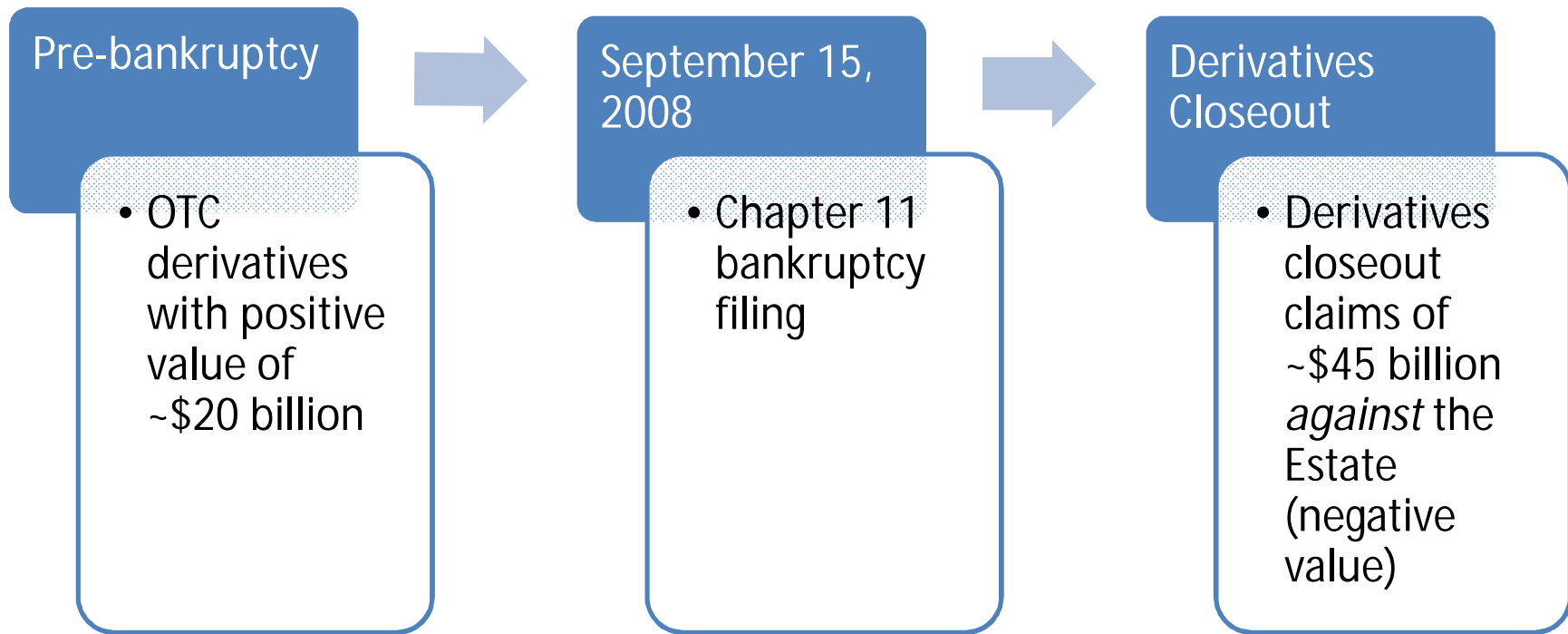
Capital Market Risk Advisors

P.R.I.M.E. Finance Annual Conference 2018

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Lehman Estate Suffered a \$65 Billion Loss of Value According to Derivatives Claims

The loss arose from moving from mid-market valuations on Sep 12
to claims for replacement cost on Sep 15



Closeout Amount and Loss Rely on the Commercial Reasonableness of Replacement Pricing

Examples of Products

- Liquid Products
 - Interest rate swaps
 - Single name CDS
 - Forex swaps
 - On-the-run indexes
- Inactive or Customized Products
 - Non-standard attachment point indexes
 - CDS on single name non-Agency RMBS
 - TARNs
 - Digital options
 - Auto receivables index
- Extraordinary Market Circumstances
 - Canadian ABCP
 - Icelandic bank CDS
 - TRS with underlying loans that had no bid

Issues in Valuation

- Liquid Products
 - Netting
 - Position size
 - Credit Valuation Adjustment
 - Counterparty access to market
- Inactive or Customized Products
 - Valuation methodologies consistent with market practice
 - Reasonable assumptions that would have been made contemporaneously
 - Cost of hedging
- Extraordinary Market Circumstances
 - Contractual stays
 - Valuation anomalies



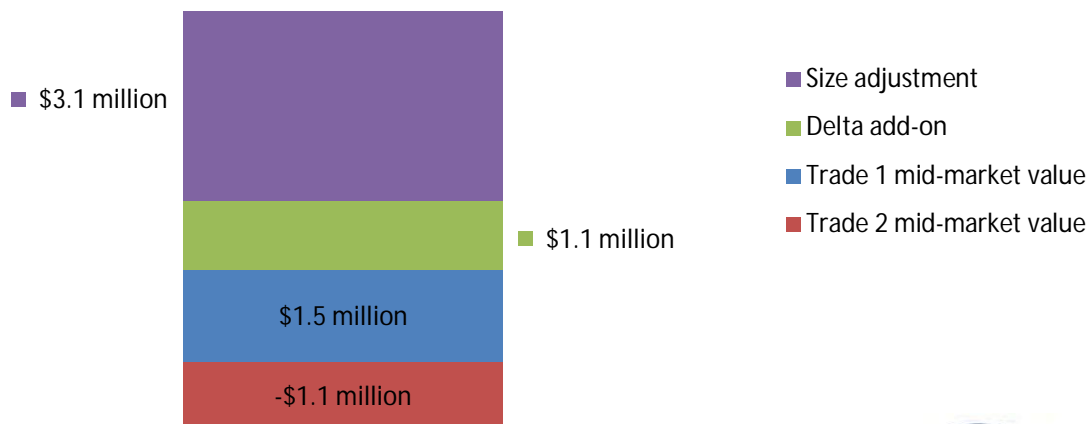
Marketable Products

The Derivatives Claims Settlement Framework (i.e., the “Lehman Framework”) attempts to arrive at a commercially reasonable result for liquid products

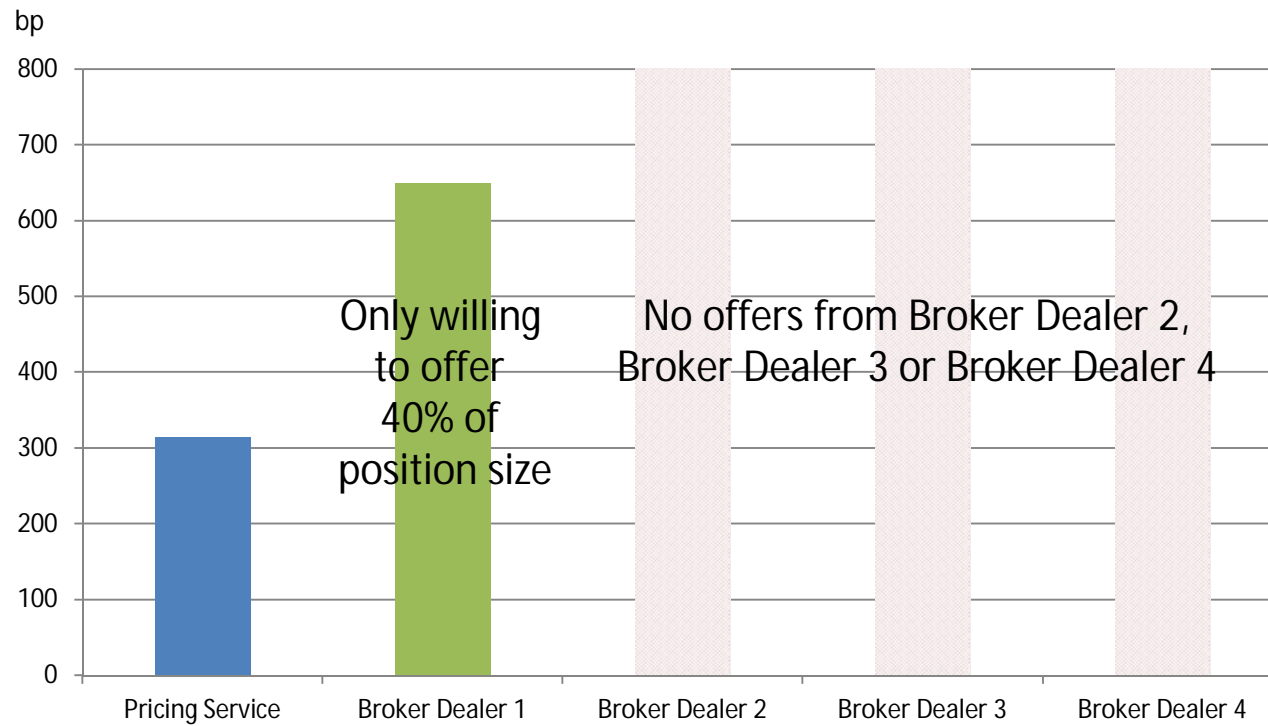
Find the net risk position, price at mid market and adjust for replacement costs for two offsetting corporate credit default swaps on the same reference entity

Trade	Notional (\$)	Fixed Rate (bp)	Maturity	Mid-market value (\$)	CR01 (\$)
1	500,000,000	285	3/20/2012	1,496,076	151,662
2	-200,000,000	280	6/20/2012	-1,072,507	-64,159
Total	300,000,000			423,569	87,503

\$0.4 mid-market value + \$1.1 delta add-on + \$3.1 million size adjustment
= **\$4.6 million total**



For Less Liquid or Large Size Positions, An Alternative Approach May be Necessary

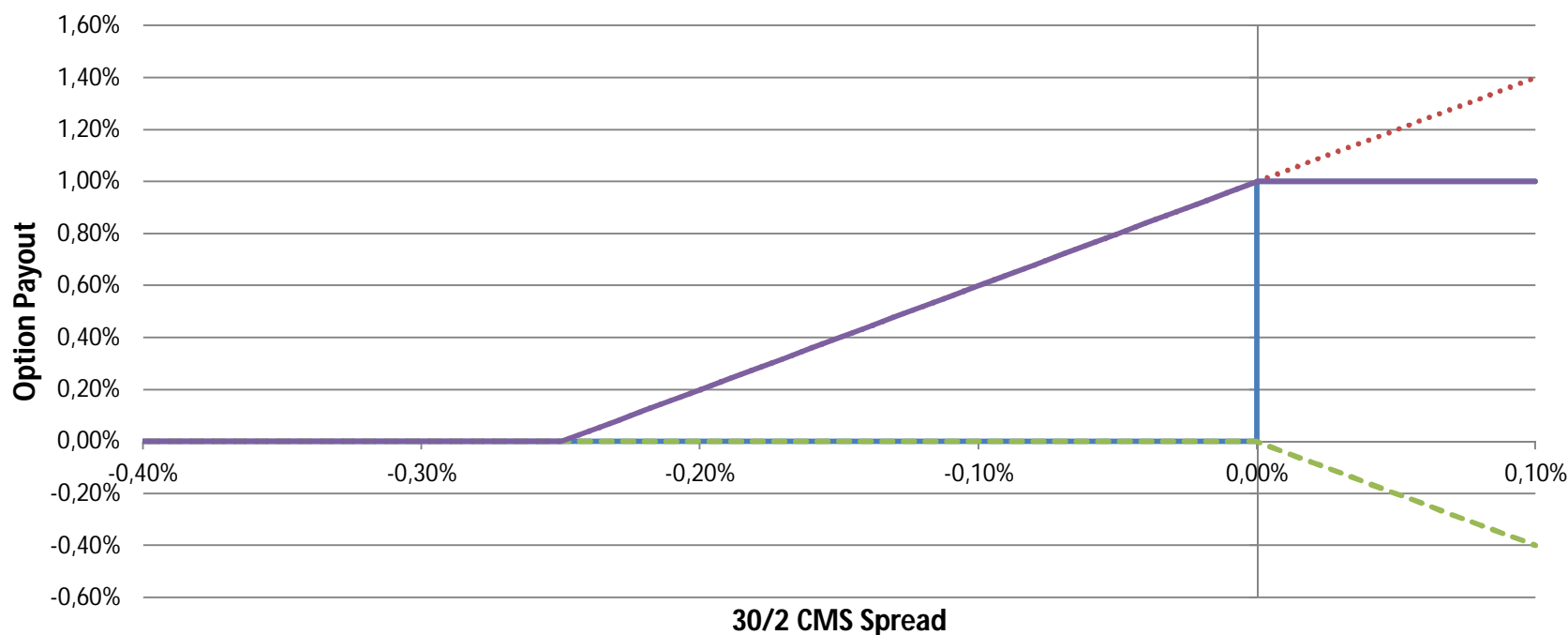


Inactive Products

Digital Yield Curve Slope Option

The Cost of Hedging: the Shark Fin

Digital option hedged by buying a low strike call and selling a high strike call (i.e., call spread). Depending on available call strikes, may require larger notional call spread than original digital option.



— Digital Payout Low Strike (-25 bp) Call Payout - - - High Strike (0 bp) Call Payout — Call Spread Payout

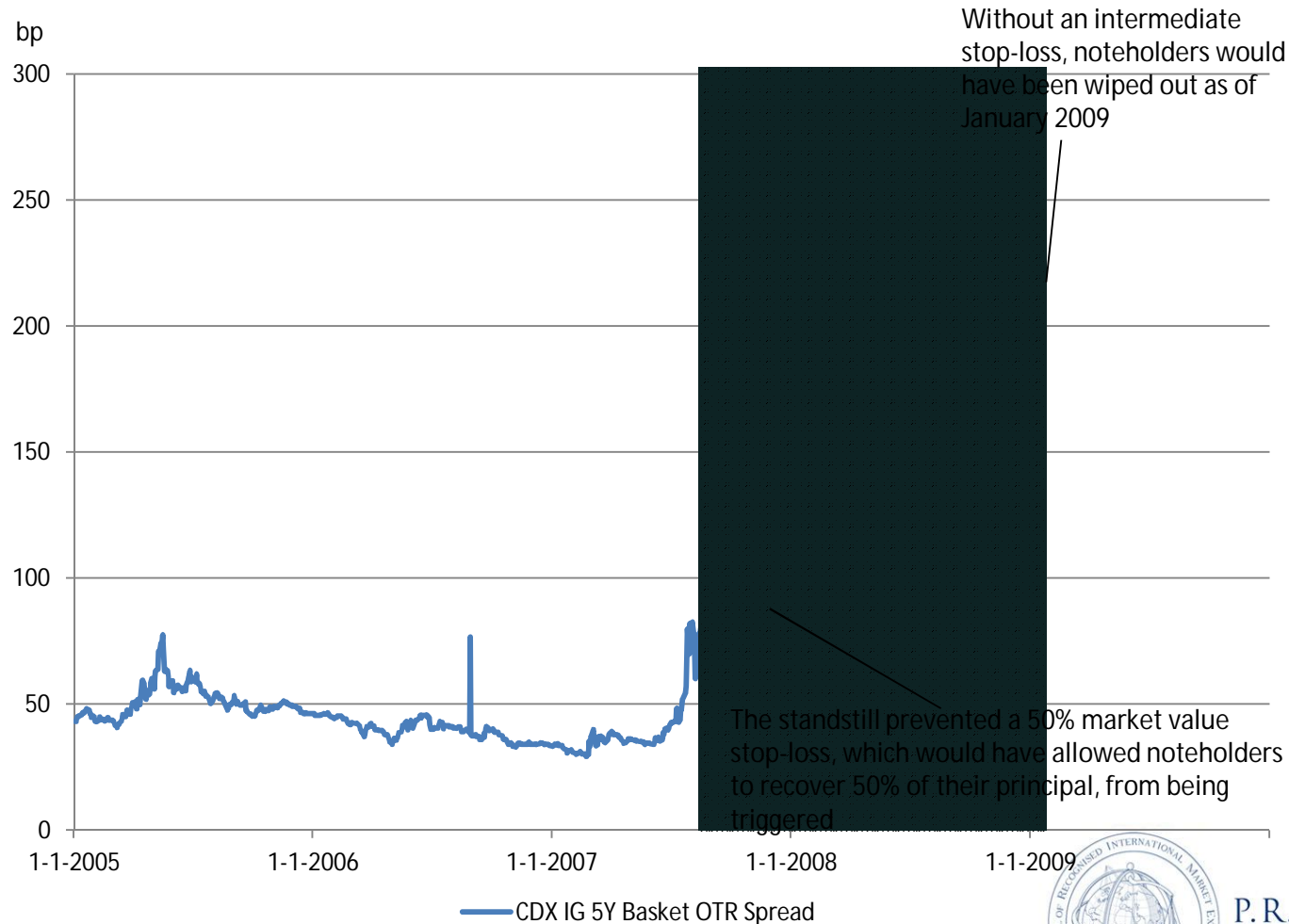


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Extraordinary Market Circumstances: 17 Month Standstill

Total Return Swap Valuation in a CDO Structure

\$300 Million Dispute in a Canadian Court



Determining Commercially Reasonable Closeout Amounts Requires Market Judgment

- Valuation of less liquid and/or large size transactions is much more nuanced than putting numbers in a model
- Real world practical knowledge and perspective as well as sophisticated analytics are needed
- Mid market “marks” are of limited value in assessing “replacement” levels, especially in stressed markets

