Derivative Valuation Adjustments-A quick outline

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Derivative Valuation Adjustments

Overview

- Derivative Valuation Adjustments - What and why?
- High level look at the different adjustments
- Practical implications
- Considerations

Derivative Valuation Adjustments
What and Why?

Some history…

- Recent years (since GFC) have seen regulators and banks place more emphasis on the risks and costs inherent in derivatives
- Mirrors the changes occurring in bank debt pricing
- Accounting standards have changed [introduction of IFRS13]
- Funding has become more of a focus as the cost of capital has increased
- XVAs are now all the summary parts of a derivative price to a customer
    - CVA, FVA, KVA and MVA!!

Derivative Valuation Adjustments-XVA's The Acronyms

- **CVA-Credit Valuation Adjustment**
  > The cost of hedging counterparty risk through credit default swap markets (CDS)
- **DVA-Debit Valuation Adjustment**
  > Theoretical value of "own default" implied by CDS
- **FVA-Funding Valuation Adjustment**
  > The cost of funding an uncollateralized trade, or the funding benefit a trade provides
- **KVA-Capital Funding Adjustment**
  > The cost of regulatory capital applied to a transaction through its life
- **MVA-Margin Valuation Adjustment**
  > Initial margin cost (we wont look at this)
- All together covered by to the acronym **XVA!**

Bank pricing in the NZ OTC market is most concerned about CVA, FVA, and KVA

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What effects XVA?

What are banks thinking about when we look at a swap?

- Credit quality of swap counterparty
- Tenor
- Existing portfolio held with counterparty
- Nature of the swap, restructure? In the money? Or Out of the money? Forward start?
- Type of swap
- Funding curves-bank funding costs

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A Simple Borrower Swap

CVA Factors

• Lower credit quality	Will lead to higher CVA adjustment
• Longer tenor	Longer exposure to the client, therefore adjustment required will be higher
• Existing portfolio	In the money trades will generally attract a lower CVA adjustment to the new deal
• CCIRS	More credit intensive so higher CVA adjustment required
• Credit Support?	CVA reduces to virtually zero

FVA Factors

• Curve shape	More positive slope will increase funding benefit for longer dated trades
• ITM/OTM	OTM swaps will receive less funding benefit
• Curve differentials	On CCIRS the wider the interest rate differential, the higher the benefit
• Forward start?	Funding benefit on a forward start will be lower than a swap starting at spot

KVA Factors

• Longer tenor	Higher spread required to cover hurdle
• Forward start	Higher spread required to cover hurdle
• Existing portfolio	Offsetting trades will attract less KVA

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How Does it Play Out?

Standalone	CVA	FVA	Total	KVA
5yr, ATM	+1pts	-1pts	+0pts	+4pts
5y in 5y, ATM	+2.5pts	-0.1pts	+2.4pts	+9pts
10yr, ATM	+2pts	-1.5pts	+0.5pts	+4pts
8yr in 2yr, ATM	+3pts	-1.0pts	+2pts	+7pts
CCIRS, USD to NZD, 10yr	+10pts	-5pts	+5pts	+10pts

- CCIRS - more expensive, due to credit intensive nature of CCIRS deals
- Existing book will significantly influence these
- Generally, these are the spreads that would be added to “trader price” to generate the “client price”
- The “trader price” will have its own nuances and cannot be standardized
    - i.e. book positioning, trader view, market liquidity

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Main things to consider

- Approaches to XVA's vary significantly between banks
- Existing portfolios impact CVA and KVA dramatically
- Direction matters… especially in cross-currency swaps
- Close-out netting can dramatically reduce XVA's
- Ask for transparency, request dealing off a base rate with XVA's as adjustments to make
- Expect this to continue to evolve eg NSFR, collateral costs, monetization of funding

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