Issues in the asset-swap pricing of credit default swaps

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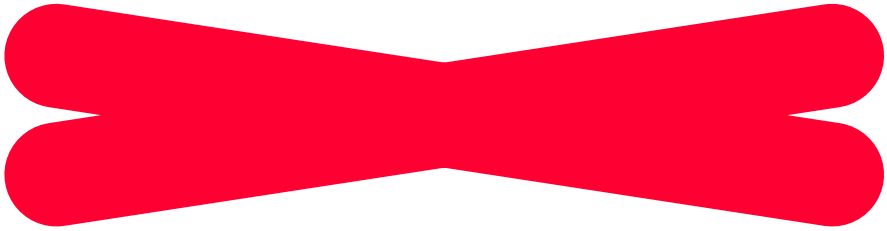
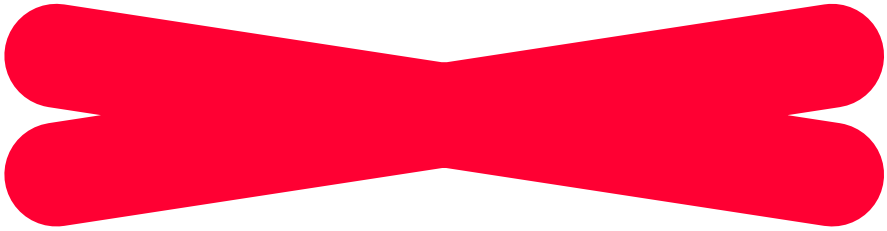


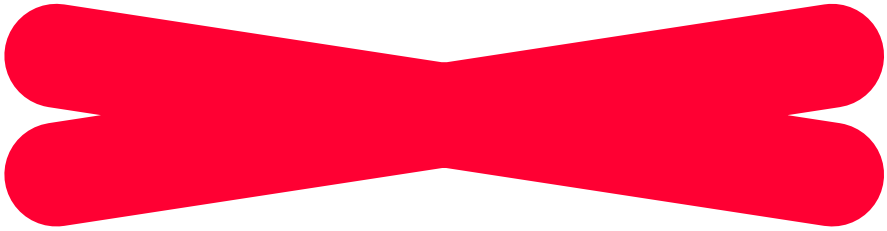
Agenda

- Introduction
- Asset-swap pricing
- Issues causing CDS price to differ from ASW price
- Simple illustration



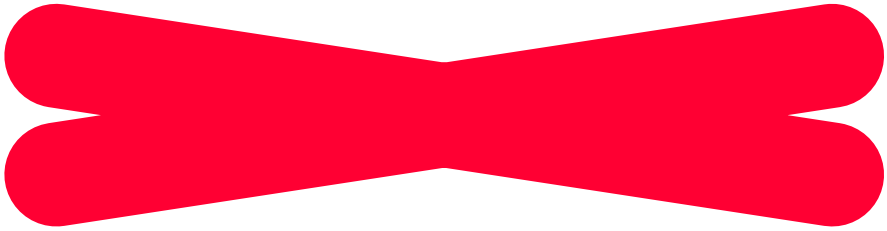
Asset-swap pricing

- A par asset swap typically combines the sale of an asset such as a fixed-rate corporate bond to a counterparty, at par and with no interest accrued, with an interest-rate swap.
- The coupon on the bond is paid in return for Libor, plus a spread: the asset-swap spread. The spread is a function of the credit risk of the underlying bond asset.
- As the spread is a function of credit risk, we could state with a certain logic that this spread is also the theoretical price for a credit default swap written on the same reference asset
- The basis for this can be shown using the no-arbitrage pricing principle, involving a basis-type trade constructed via a long position in the reference asset and a long (buy protection) position in the credit default swap.



Significance of asset-swap pricing

- The valuation of credit default swaps using the asset-swap technique was very common at the inception of the market and is still used today.
- Perhaps the most significant aspect of this is its use by middle-office risk managers and also by external auditors. When checking a traders mark-to-market, these areas frequently use this technique to obtain a valuation.
- To maintain credibility in the market, it is essential that the independent valuation of credit derivatives be as accurate as possible.
- For a number of reasons though, the credit default swap price will differ from the asset swap price.

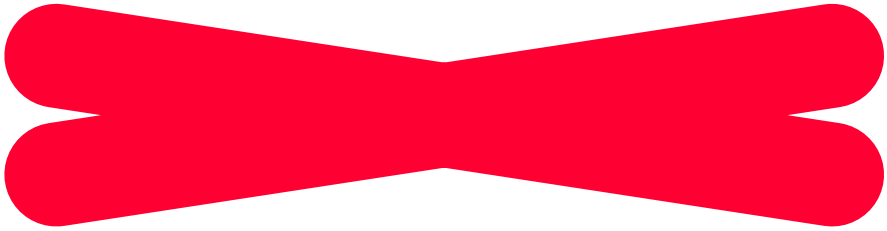


Pricing differentials

Factors resulting in price differentials

A number of factors observed in the market serve to make the price of credit risk that has been established synthetically differ from that as traded in the cash market. Identifying (or predicting) such differences gives rise to arbitrage opportunities that may be exploited by basis trading across the markets. These include:

- **Bond identity:** the delivery option afforded the long swap holder
- **Special status:** the impact of the borrowing rate in the cash market for "special" stock
- **AAA stock trading below Libor:** cash market versus premium in CDS market
- **Risk exposure of default swap seller:** the payouts required on technical defaults (definition of credit event) that are not full defaults
- **Counterparty risk of default swap buyer:** unlike cash bondholder, the default swap buyer is exposed to counterparty risk during term of trade



Simple illustration

- **Air Products and Chemicals 6.5% July 2007.**
- 18 January 2002, the asset-swap price for this bond to maturity was 41.6 bps.
- The CDS price to the same maturity was approximately 115 bps
- Using Bloomberg screens ASW and CDSW, we can see the source curves used in pricing the cash and synthetic martkets
- On CDSW the user can select the generic discounted credit spreads model, or the JPMorgan Chase credit default swap pricing model.

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