

Cleared for take-off

Moorad Choudhry* analyses one of the latest developments in synthetic securitisation: the single tranche CDO

In the February 2003 issue of *FOW*, we discussed how the combination of certain aspects of traditional cashflow securitisation techniques with credit derivative technology gave rise to so-called synthetic securitisation, also known as unfunded securitisation.

In a synthetic transaction, the credit risk of a pool of assets is transferred from an originator to a group of investors but the assets themselves are not sold¹. In certain jurisdictions, it may not be possible to undertake a cash securitisation due to legal, regulatory, cross-border or other restrictions. Or, it may be that the process will simply take too long under the prevailing market conditions. In such cases, originators use synthetic transactions, which employ some part of the traditional process allied with credit derivatives.

However, if the main motivation of the originator remains funding concerns, the cashflow approach must still be used. Synthetic transactions are mainly used for credit risk and regulatory capital reasons and not funding purposes.

Since the inception of the first synthetic deals, the market has evolved with continuing development of newer structures to meet differing originator and investor requirements. For example, a proposed multi-special purpose vehicle (SPV) hybrid collateralised debt obligation (CDO) structure may be considered the fourth-generation of such products, following the structures introduced previously (see Choudhry [2003] and a forthcoming article in *FOW* magazine). This is illustrated in Exhibit 1. Another fourth-generation CDO product is the so-called single tranche CDO, which is the focus of this article.

The single-tranche CDO

One of the advantages offered to investors in the synthetic market is the ability to invest at maturities required by the investor, rather than at maturities selected by bond issuers. For instance, Exhibit 2 illustrates that, while the bond market provides assets at only selected points on the credit curve, synthetic products allow investors to access the full curve.

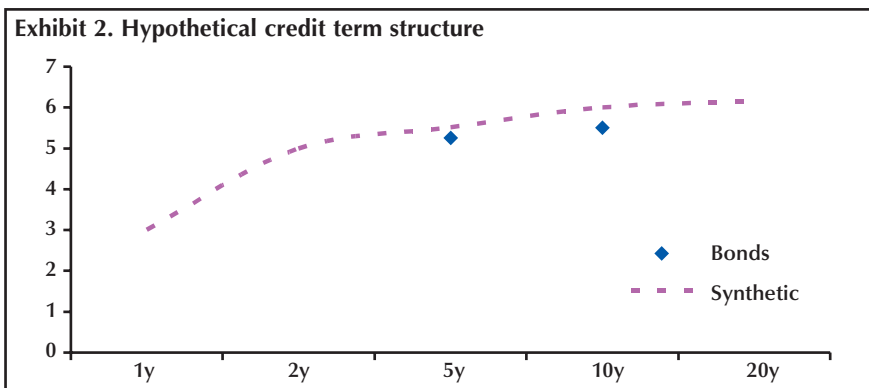
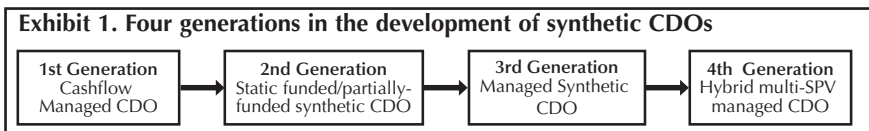
The flexibility of the synthetic CDO, enabling deal types to be structured to meet the needs of a wide range of investors and issuers, is well illustrated with the tailor-made or single tranche CDO structure². This structure has been developed in response to investor demand for exposure to a specific part of a pool of reference credits. With this structure, an arranging bank creates a tailored portfolio that meets specific investor requirements with regard to:

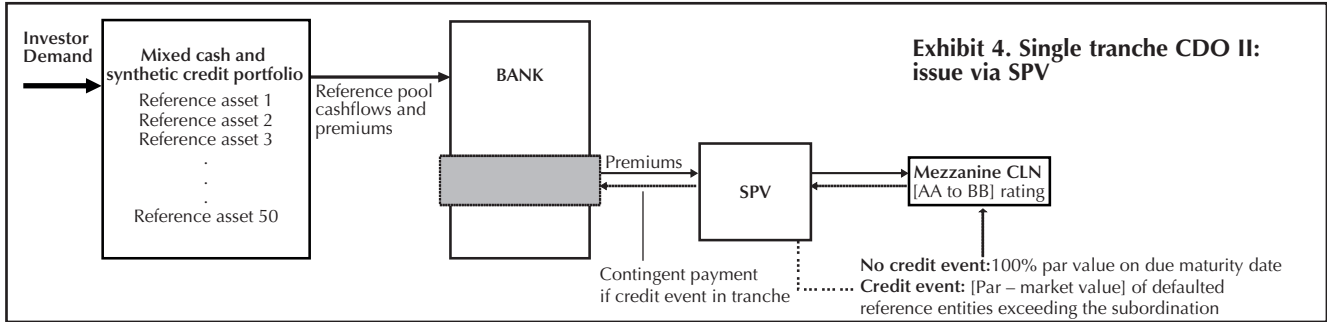
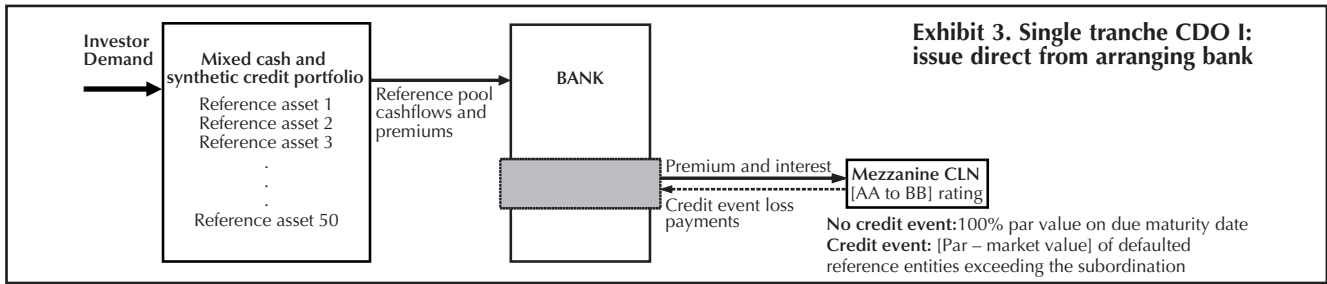
- Portfolio size and asset class
- Portfolio concentration, geographical and industry variation
- Portfolio diversity and rating
- Investment term-to-maturity.

The structure is illustrated at Exhibits 3 and 4, respectively, with and without an SPV issuer. Under this arrangement, there is only one note tranche. The reference portfolio, made up of credit default swaps, is dynamically hedged by the originating bank itself. The deal has been arranged to create a risk/reward profile for one investor only, which buys the single tranche note. This also creates an added advantage that the deal can be brought to market very quickly. The key difference with traditional CDOs is that the arranging bank does not transfer the remainder of the credit risk of the reference pool. Instead, this risk is dynamically managed and hedged in the market using derivatives.

Deal structure

The investor in a single-tranche CDO will decide on the criteria of assets in the portfolio and the subordination of the issued tranche. Typically, this will be at the mezzanine level so, for example, covering the 4-9% loss level in the portfolio. This enables a very favourable risk return profile to be set up: a CDO tranche that is exposed to 4-9% losses has a very low historical risk of default





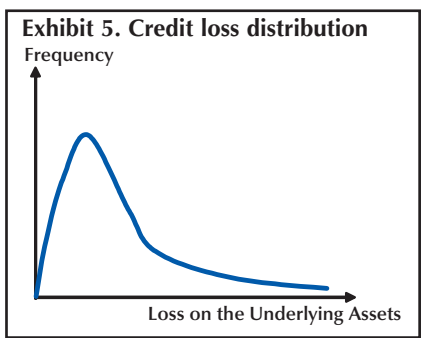
(approximately equivalent to a Moody's A2 rating) and a high relative return given its tranching, around Libor plus 200 basis points as at May 2003³. This is the risk/return profile of the mezzanine piece.

Exhibit 5 shows the default probability distribution for credit events in a CDO. Exhibit 6 shows the more specific distribution as applicable to the mezzanine tranche.

Unlike a traditional CDO, a single tranche CDO has a very simple cashflow "waterfall". Compared to the waterfall for a cash CDO, a single tranche waterfall will consist of only agency service and hedge costs and the coupon of the single note itself.

Some of the issues the investor will consider when working with the arranging bank to structure the deal include:

- The number of names in the credit portfolio; usually this ranges from 50 to 100 names
- The geographical split of the reference names
- The required average credit rating and average interest spread of the portfolio
- The minimum credit rating required in the portfolio.



If the deal is being rated, as with any CDO type, the mix of assets will need to meet rating agency criteria for diversity and average rating. The diversity score of a portfolio is a measure of the diversity of a portfolio based on qualities such as industrial and geographical concentration. It can be defined as the number of equivalent uncorrelated assets in the pool⁴. We illustrate a hypothetical portfolio in Exhibit 7 (on page 46), which shows the composition of a generic portfolio for a single tranche CDO.

The position and rating of the issued single tranche is as required by the investor. The subordination of the note follows from the required rating of the investor. For instance, the investor may require an A2 rating for the note. The process followed involves:

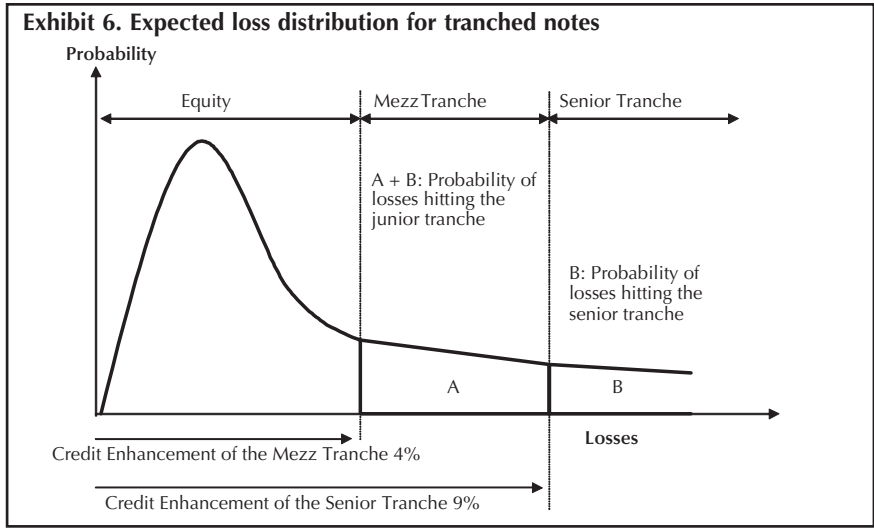
- Targeting the required rating on the issued tranche

- Setting the required return on the note, and hence determining where the tranche will lie

- Defining the percentage of first loss that must occur before the issued tranche is impacted by further losses

- Setting the size of the note issue, in line with investor requirements. For instance, if the investor wishes to place \$20m in the note and the reference pool is \$800m nominal value, this will imply a 2.5% tranche.

As with previous synthetic CDOs, a single tranche CDO can be either a static or a managed deal. In a managed deal, the investor can manage the portfolio and make substitutions if this is part of its requirement. To facilitate this, the deal may be set up with one or more fund managers in place to deal with the investor (when substitutions are required by the investor). Alternatively, an investor may leave trading decisions to a fund manager.



Single tranche advantages

For certain investors, the single tranche CDO presents a number of advantages over the traditional structure. These include:

- Flexibility – the features of the investment can be tailor-made to suit the investor's needs precisely. The investor can select the composition of the portfolio, the size of the tranche and its subordination level
- Note terms exactly as required – the coupon and maturity of the note are tailor-made for the investor
- Shorter time frame – the deal can be brought to market relatively quickly, and in as little as four weeks compared to anything from two months to one year for a conventional CDO
- Lower cost of issue: including lower legal costs because of the short time to issue and no protracted marketing effort by the arranger.

The flexibility of the single tranche structure means that the market can expect to see more variations in their arrangement as more investors evaluate it as an asset class. The market has seen both static and managed single tranche CDOs.

Hypothetical pricing example

Exhibit 8 is a simplified illustration of a pricing example for a single tranche CDO, with market rates as observed on Bloomberg during April 2003. We assume the portfolio is constituted in the following way:

- Number of credits: 80
- Nominal size: €800m
- Diversity score: 48
- Average rating: BBB+/Baa1
- Minimum rating: BBB-/Baa3
- Maturity: Five years

The originating bank structures a single tranche CDO following investor interest with the following terms:

Exhibit 7. Hypothetical portfolio composition for generic single tranche CDO

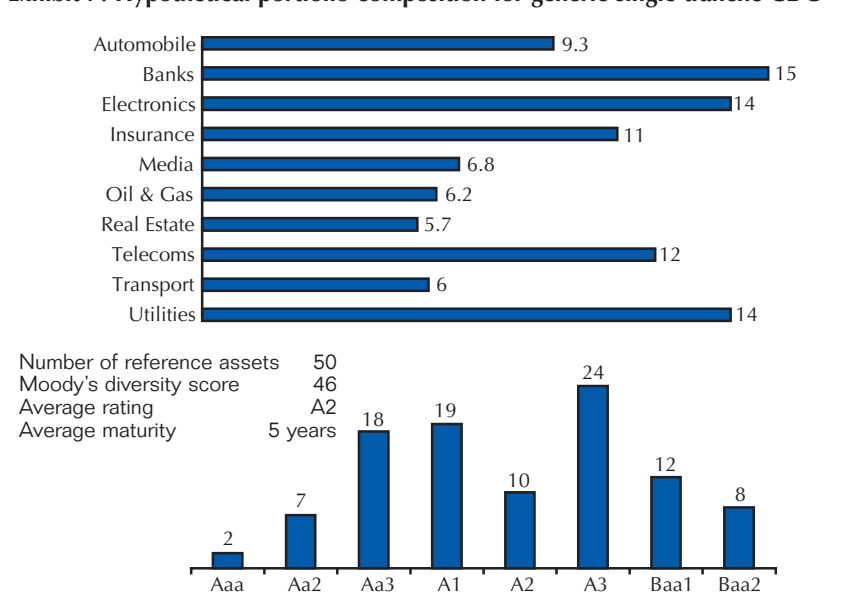
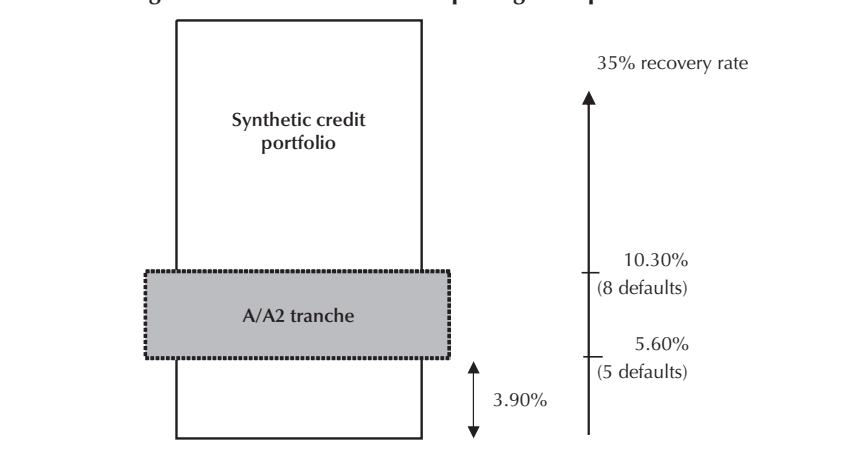


Exhibit 8. Single tranche CDO illustrative pricing example



- Subordination level: 3.9% (this means that five defaults would be supported, assuming a 35% recovery rate)

- Tranche size: €25m
- Expected rating: A/A2
- Spread: Euribor + 220bp

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Reference:

Choudhry, M., *Structured Credit Products: Credit Derivatives and Synthetic Securitisation*, Singapore: John Wiley & Sons 2003

Footnotes

¹ Although the first synthetic transactions were "balance sheet" deals, in which the originating bank transferred the credit risk of a pool of assets it held without actually selling them off its balance sheet, the fact that assets are not actually held means that the originator does actually have to own them in the first place. It may wish to transfer the credit risk for portfolio trading reasons. We looked at this development in the February 2003 issue of *FOW*

² These deals have been arranged by a number of investment banks, including JP Morgan Chase, Bank of America, UBS Warburg and Credit Agricole Indosuez. They are known variously as tailor-made CDOs, tranche-only CDOs, on-demand CDOs, iCDOs and investor-driven CDOs as well as single tranche CDOs.

³ Rates source: Bloomberg.

⁴ Further background on Moody's diversity score is given at the Appendix in Choudhry (ibid.).

