

KEY POINTS

- When constant proportion debt obligations ('CPDOs') were first issued, the credit spreads were so narrow that the products had to use maximum allowed leverage to make profits. When the credit crunch hit the markets and the spreads widened dramatically, this triple-A rated instrument lost sometimes up to 90 per cent of its net asset value.
- Different types of CPDO structures reacted differently to the new conditions. Financial CPDOs, which are exposed primarily to banks and monoline insurers, suffered most.
- Considering the recent wave of corporate defaults, which includes such big names as Lehman Brothers, Freddie Mac and Fannie Mae, and further widening of the spreads, any new issuances of CPDO products seem very unlikely at the moment. Although there were a few new Constant Proportion Portfolio Insurance ('CPPI') and Dynamic Portfolio Insurance ('DPI') deals in the first few months of 2008, the future of leveraged credit in general and CPDOs in particular is still unclear.

Authors Edmund Parker and Marcin Perzanowski

Feature

Constant proportion debt obligations: what went wrong and what is the future for leveraged credit?

INTRODUCTION

■ On 23 May 2008, the CEO of Moody's issued a public statement starting as follows:

'As you may be aware, there have been reports in the news media of an error in a model that Moody's Investors Service used in certain of its ratings of European constant proportion debt obligations ('CPDOs').'

This statement was later followed by disciplinary proceedings against some senior employees of Moody's who were accused of trying to hide the errors in the ratings agency's methodology, which resulted in the instruments being graded four notches higher than they should have been.

When ABN AMRO issued the first CPDO in August 2006 though, it was described as a 'holy grail of structured credit' – they were the only triple-A rated instrument offering an impressive 200bp above LIBOR. Soon after the credit crunch began, CPDOs began to exemplify the excesses of the credit boom. Suffering from both a sudden and dramatic widening of credit spreads, most CPDO products were downgraded. UBS Series 103 Tyger CPDO incurred losses unprecedented for any instrument initially rated triple-A.

Currently, there is approximately €4.1bn worth of CPDO issuance outstanding with €2.2bn representing index-based structures, €0.6bn – managed structures and €0.6bn of static structures.

Constant proportion debt obligations ('CPDOs') exemplify the excesses of the credit boom where unduly high credit ratings and excessively high leverage were used to bring disproportionately large profits. When in the wake of the credit crunch the credit spreads widened to an extent unforeseen by the ratings agencies, the arranging banks and the investors, CPDOs were one of the first victims. At the moment, the future of CPDOs and of leveraged credit in general still looks uncertain.

WHAT IS A CPDO? BRIEF REMINDER

CPDO is a type of a synthetic CDO:

- A special purpose vehicle ('SPV') issues notes and it uses the proceeds to buy high-quality collateral or to enter into repo agreements on eligible securities. These sit in the structure to fund protection payments in case the investment strategy, as outlined below, suffers losses.
- Through a total return swap with the arranging bank, the SPV sells credit protection for an agreed amount in relation to each entity in a portfolio of a number of corporate names (or 'reference entities') and the arranging bank enters into credit default swaps (or 'CDSs') with market counterparties.
- The strategy loses money either: (a) when there are any defaults under the CDS contracts; or (b) as a result of mark-to-market ('MTM') movements. Each CDS has a market value, which represents at any point in time the difference between the premium that the SPV receives under the CDS and the premium that it could receive in the market if it were to enter into another CDS on the same terms. Basically, if a reference entity becomes riskier, the SPV makes a MTM loss.

However, if it becomes a better credit risk, there is an MTM gain.

- The returns from such strategy aim to generate sufficient profits to enable the coupon and principal payments to be made under the notes.

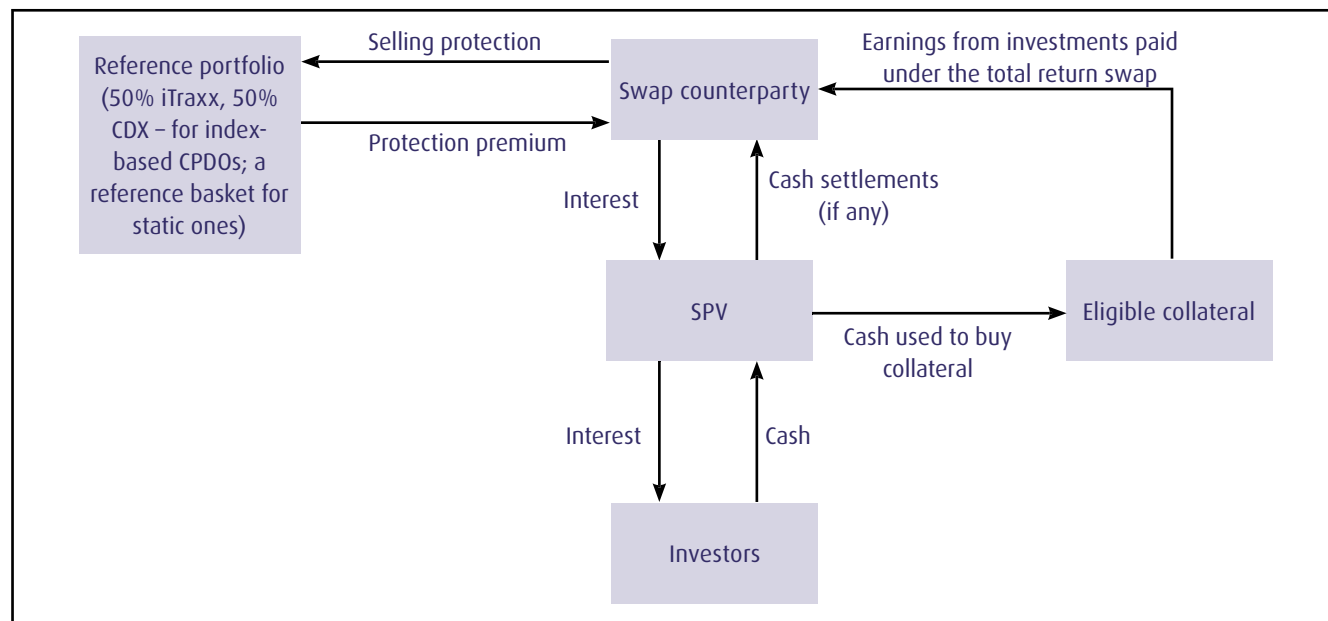
What distinguishes a CPDO from other synthetic CDOs is its original investment strategy, which is primarily based on: (a) high leverage; and (b) very little protection of the principal. With the benefit of hindsight, we can now tell that if those factors are not adjusted correctly, item (a) allows for the high losses; and item (b) magnifies them.

Dynamic leverage

Dynamic leverage means that a CPDO with a net asset value of \$100m can often sell protection for up to \$1.5bn. The exposure is taken in an unfunded format, so the SPV does not need to use any of its funds while selling protection. The degree of leverage varies throughout the life of the instrument in accordance with a defined formula with the aim of always having enough funds to pay the coupons throughout the life of the instrument and repay the capital on maturity. Counter-intuitively, spread-

Feature

Standard CPDO structure



widening or the occurrence of a credit event cause an increase in leverage, to give the instrument a chance to 'chase the losses' and still make a profit. However, increased leverage can also magnify the losses.

Cash-In and Cash-Out rules

The SPV will stop offering protection on the reference entities on either a 'Cash-In Event' or 'Cash-Out Event'. The Cash-In Event occurs when the net asset value of the strategy is higher than the present value of future liabilities of the SPV. At that point the SPV has made enough money to pay off all its debts and it does not need to face the risks of its investment strategy any more. Future liabilities include: payments of all the coupons, repayment of the principal to the noteholders and all fees and expenses.

The Cash-Out Event occurs when the net asset value of the instrument is worth around 10 per cent or 15 per cent of the principal value of the notes. This means that the strategy has failed and the remaining funds are then returned to the noteholders.

EVOLUTION OF DIFFERENT CPDO STRUCTURES

Index-based structures

In all early CPDOs, the 'Reference Portfolio' (which contains the reference entities) is a combination of the main credit indices, usually Dow Jones CDX and iTraxx Europe. Each of the indices consists of 125 corporate names and is reconstituted every six months, when the speculative-grade names are replaced by better quality entities.

The Reference Portfolio of the CPDO also changes every six months. On or close to each roll date (20 March and 20 September), the CPDO unwinds all transactions on the old indices and enters into new transactions on the new indices. Consequently, the Reference Portfolio contains only the entities with the best credit quality. Examples of index-based CPDOs include SURF CPDO arranged by ABN AMRO or Starts Series 2006-26 by HSBC.

Managed structures

As an index-based CPDO unwinds all CDS contracts twice a year, the transaction costs are quite high. Furthermore, as the value of each individual CDS in the portfolio fluctuates on a daily basis, its price on the roll date, when it has to be terminated, may be very unfavourable.

In managed structures, instead, there is no one all-encompassing formula, but there is a portfolio manager who decides when to sell or buy protection on given entities. Managed CPDOs sell credit protection either under CDSs referencing the iTraxx Europe and the CDX Index (eg Cairn CPDO 1 Finance arranged by JPMorgan) or on a pre-defined basket of reference entities (eg Series 2007 Alhambra B-1E arranged by Barclays Bank).

In and outgoings

CREDIT ON THE STRATEGY	DEBIT ON THE STRATEGY
Any income from the collateral	The coupon paid to noteholders
Proceeds of sale of the collateral	Any loss from the investment strategy (either from a credit event or from a loss when transactions are unwound)
Any income from the investment strategy (either from a premium received or from a gain when transactions are unwound)	Any fee payments

Biog box

Edmund Parker is a partner and head of derivatives at the London office of Mayer Brown.

Email: eparker@mayerbrown.com

Marcin Perzanowski is an associate at the London office of Mayer Brown.

Email: mperzanowski@mayerbrown.com

Feature

The key risks inherent in the CPDO structure

LEVERAGED INVESTMENT	Small price movements magnified by leverage may lead to greater losses
LIQUIDITY AND VALUATION	Lack of liquidity may affect the prices of the CDSs
CORRELATION	Correlation of defaults amongst the reference entities may magnify losses
VOLATILITY	Value of the instrument may be adversely affected by developments or trends in any particular industry
MARKET RISK	Spread widening will cause an MTM loss
FALLING STANDARDS	If modelling, disclosure or framework standards fall, the instrument may be downgraded

There are still rules which the manager must comply with, but it has a considerable amount of discretion.

Static/financial CPDOs

The managed CPDOs still face the risk of the manager not performing and losing all the funds. That is why in a static structure, all reference entities are fixed at the outset of the transaction (eg various series of the Financial Baskets TYGER Notes). The instrument does not sell and buy protection back on an ongoing basis, but instead it sells protection just once, on its inception, on a basket of carefully selected corporate names.

WHY DID IT GO WRONG?

In short, the answer is quite straightforward – the models used by the ratings agencies, issuing banks and arrangers had underestimated the role of spread widening for the profitability of the instrument.

There are two types of losses a CPDO strategy may suffer: realised and MTM.

Realised losses

Naturally, the structure incurs costs if there are any defaults on the reference entities and it needs to pay a defined amount to the counterparty. This, however, has not been the major reason for the losses suffered by those products.

Furthermore, the instrument may also incur realised losses each time the CDS transactions are unwound and new ones are entered into (for index-based CPDOs – each six months). If the spreads for a reference entity have widened, this means

that the credit quality of such entity has deteriorated. (Conversely, the tightening of the spreads means that the credit quality has improved). If a CDS contract is unwound at the time when the spreads are wider than they were when the transaction was entered into, the SPV needs to pay a termination fee. The termination fee compensates the counterparty for having to buy protection at a higher premium and it represents the difference between the market premium and the contracted premium.

One feature of all CPDO structures that made the situation worse is the 'gap risk leverage cap'. The purpose of the cap is to limit the leverage in a high-spreads environment, so that any daily loss would not exceed the entire net asset value of the instrument. It forces the CPDO to deleverage, ie to unwind some of the transactions. In practice, this often means that CPDOs need to terminate a large number of CDSs when the spreads are wide, thus incurring substantial losses.

Mark-to-market losses

The net asset value of the CPDO changes every day with each movement in the spreads of each of the reference entities. Therefore, if the average spreads move up dramatically overnight, the CPDO can lose a substantial portion of its value. Even though such losses are only MTM and not (yet) realised, the value of the instrument is calculated by reference to them in order to reflect the fair market value of the product.

Unfortunately for the CPDOs, the credit spreads widened dramatically in the wake of the credit crunch. In April 2007, the average

spreads were approximately 30bp, whereas in mid-August 2007 they soared up to 120bp. This is also magnified by the leverage, which is often as high as 15x and, in case of some static structures, 25x.

In theory, the effect of spread widening can be offset by the income effect. When the instrument re-contracts at the new, riskier and higher, rate, the premium the CPDO receives from the counterparty for providing protection on the reference entities will also increase. In practice however, the continuous widening of the spreads in the aftermath of the credit crunch were not offset by the increased income and the net value of some (if not most) products have fallen dramatically.

EFFECT ON DIFFERENT STRUCTURES Index-based structures

The credit crunch hit the markets quite suddenly and the credit spreads widened dramatically in its immediate aftermath. As this was just before the roll date of 20 September 2007, when the CPDOs had to buy back protection on the old indices and sell it on the new ones, most CPDOs lost a lot of money as a result.

However, the index-based CPDOs are exposed through iTraxx and CDX to a wide range of industries which ensures that each CDS is of a reasonably good quality. Although they are doing better than other structures, most of them have been downgraded (eg various series of SURF notes or Thebes Series 2006).

Static/financial structures

UBS, when it arranged the Tyger Series 103 CPDO, assumed that the safest entities were financial companies, such as banks or monoline insurers. Accordingly, its reference portfolio included entities such as Bear Stearns, Société Générale, Lehman Brothers and Ambac. Two days before the product was wound up, the spreads for Bear Stearns alone rose 27bp to 177bp. Eventually, the product was unwound incurring losses unprecedented for any instrument initially rated triple-A.

The financial CPDOs, such as Tyger, suffered most during the crisis and every

Feature

single one of them has been downgraded by Moody's in the aftermath of the credit crunch. Other static CPDOs, which were not exposed to the financial sector to the same extent, were also hit very badly by the constant widening of the spreads.

selling an enormous amount of protection, thus driving the spreads down. By early November 2007, the iTraxx Main Index decreased from a wide of 40bp to 22-23bp. It is now believed that due to the 'gap risk leverage cap', which (as explained above)

financial order, such as Lehman Brothers or AIG, are collapsing. Furthermore, there has been plenty of negative publicity in relation to CPDOs, especially following Moody's attempt to hide the errors in their methodology.

"When the markets eventually pick up, CPDOs may have their comeback."

Managed structures

The performance of managed structures differs according to the skills of their respective managers. Unavoidably, the widening of the credit spreads also hit those instruments, but a clever manager could sell the worst performing entities in time to minimise the losses. Although they were not the biggest losers, many instruments (eg various Cairn and Alhambra series) were still downgraded.

forces the products to terminate massive amounts of CDS contracts, the spreads have been widening faster than they normally would.

Considering that the total amount of CPDO issuance currently stands at around €5bn and the daily trade volumes are in the region of €15-20bn, it is quite unlikely that the CPDOs can actually have a major impact on the spreads. However, such possibility cannot be completely discarded.

However, when the markets eventually pick up, CPDOs may have their comeback. One product, Phoenix CPDO arranged by Nomura, cashed in just a few weeks (and not in ten years, as planned), which means that there is plenty of potential here. Investors may also turn to safer leveraged credit products, such as credit derivatives products companies ('CDPCs'), credit CPPIs (constant proportional portfolio insurance) and the dynamic portfolio insurance ('DPIs'). Recently, the Royal Bank of Scotland has sold a managed DPI to an Asian investor and there have even been reports of DPI deals triggering a cash-in within a few weeks of the start of the trade.

New CPDO products, if any, will almost certainly be less risky in several ways in order to answer the worries of both analysts and investors. Their reference portfolios will probably be managed and other changes are likely to include the limitation of the leverage maximum, automatic removal of credits from the reference portfolio if the ratings drop below a defined threshold, and various other measures introduced to protect the principal. ■

THE IMPACT OF CPDOs ON THE MARKET

The relationship between the spreads and CPDO products has not been only one-sided and the CPDOs have also, allegedly, had an impact on the spreads themselves. When the CPDO products first appeared on the market in August 2006, they were

WHAT IS THE FUTURE?

A dramatic and continuing widening of the spreads which has occurred as a result of the credit crunch has had a disastrous effect on CPDOs, which at that point were maximally leveraged. Any new issuances of CPDO instruments are very unlikely in an economic climate where the pillars of the

Butterworths Banking Law Guide

Butterworths Banking Law Guide is the indispensable quick reference tool for compliance and legal personnel in the banking industry and lawyers in private practice advising on Banking Law.

Butterworths Banking Law Guide provides you with access to authoritative and accurate guidance on Banking Law principles and practice. The logical, user-friendly and coherent structure ensures that you can go straight to the information you require, and work with total confidence.

Written by a team of well respected practitioners and academics, **Butterworths Banking Law Guide** uses practical examples, charts, bullets and checklists, making it the most accessible, quick reference guide to this complex area.

To order please call our Customer Services Team on **+44 (0) 845 370 1234** or visit www.lexisnexis.co.uk quoting reference AD B957.

Product Code: BLG1, ISBN: 9780406049353
Publication Date: October 2006, Price: £95.00 (Non-Standing Order)
£91.00 (Standing Order)

