Module 3 Readings

3-5 "The synthetic solution" The ABC of CDOs 2004, pp. 12-20.

Turning the tanker

CDOs were originally static portfolios where the underlying names rarely changed. The fallout in credit in the first years of the new millennium changed this, and increased the attractiveness of portfolios actively watched over by fund managers

It can be helpful to think of a CDO like an ordinary business. The management of a CDO is given the task of investing in debt instruments and the better it is at doing that, the more the equity holders will receive. Rather than selling a product the CDO manager is buying debt. The CDO's selling of bonds is analogous to any company using the bond markets to finance its capital structure.

In the formative stages of the development of the market, CDOs were generally categorised as 'static' or 'passive' products, meaning that the original composition of their underlying portfolios remains unchanged. The obvious advantage associated with this structure is that it calls for minimal resources in terms of management expertise and time, and reduces the costs involved in trading or 'churning' a portfolio.

The drawback with the static structure is that it has all the manoeuvrability of an oil tanker. As long as credit quality was improving or remaining stable, that did not matter. But as credit quality began to deteriorate sharply in the downturn between 2000 and 2002, many investors in static CDOs found themselves holding instruments that were declining in value and – worse – were unable to do anything to reverse that decline.

The result was that by 2001 and 2002, actively managed CDOs – in particular managed synthetic products – were rapidly gaining in popularity. The growth of managed products, however, was also helped by the growing maturity of the CDO market, and by the increasing number of managers with proven experience in managing credit in general and credit derivatives in particular.

The asset manager

With the expansion of managed CDOs at the expense of more traditional static products, asset managers (or collateral managers) have become increasingly important protagonists in the CDO world. They will generally hold some of the equity in their CDO so as to ensure that they have a vested interest in the success of the business. However, the growing responsibilities of CDO asset managers in Europe has caused disquiet among some observers who have suggested that the majority of European managers remain highly inexperienced relative to their US counterparts.

Although the overall European market for managed CDOs may be in its infancy relative to the US, some sub-sectors of the market are maturing rapidly. In its 2003 year-end review, DrKW points out that of the 35 managed CDOs launched during the year, more than half were by repeat issuers, suggesting that a handful of the best CDO managers are now developing enhanced credibility based on established track records. *Credit*'s April 2004 salary survey has shown that complexity remains profitable and trading the more exotic structured instruments pays. Base salaries for traders of such products as single-tranche CDOs are 25% up on a year ago, and bonuses are 50% higher. One analyst that moved between American banks last year received $500,000 in total compensation and a structured product sales professional at a leading US investment bank is understood to have received $3 million.

According to Napier Scott's salary survey, London-based tier-one banks paid managing directors in exotic trading £125,000 basic plus a £1.5 million bonus. In credit structuring, managing directors received £125,000 and a £1.1 million bonus.

As asset managers will generally hold some of the equity in their CDOs, their size can be an important consideration, given that they will need to have the resources to hold (and, in some cases, to replenish) the equity. Size can also be an important consideration if it gives the CDO manager the resources it needs to maintain an in-house research

department. Nevertheless, analysts appear to agree that there are no hard and fast rules about the benefit of the size of a collateral manager. As a JP Morgan report observes: "Some CDO investors prefer a small management company that will be focused on the CDO. Others prefer a large manager that has available back-up personnel and clout in gaining access to allocations."

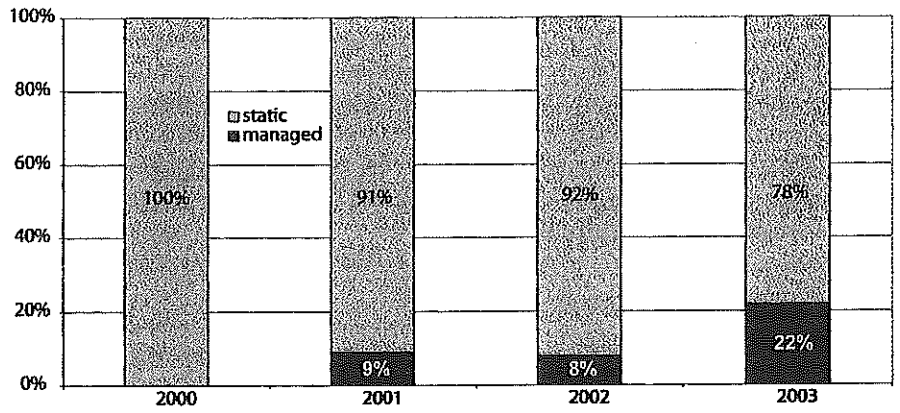
While size may therefore not be relevant, proven competence and management skills most assuredly are. Those skills will feed directly through to the management company's bottom line, given that the CDO manager payment is typically made up of a base management fee twinned with an incentive management fee that is strongly performance-related. That additional incentive fee will generally only be paid if certain predetermined targets (known as the manager's hurdle rate) are met.

The market is becoming an increasingly efficient arbiter of the competence of collateral managers in the CDO market. By 2001 and 2002, an increasingly conspicuous process of price-tiering had emerged in the market, whereby those managers with poor track records were penalised by investors who would demand a premium of between 3bp and 5bp for CDOs managed by those with less impressive performance histories.

Rating agencies are also important referees of the quality of collateral managers. Although much of the rating agencies' analytical work is quantitative, all the leading agencies also publish detailed qualitative research on the performance, strengths and weaknesses of collateral managers. Fitch assigns scores ranging from CAM1 to CAM5 to the asset managers it rates, with CAM1 representing the top rating. Those ratings are subdivided into scores based on a range of criteria, including: company and management experience; financial condition; staffing; procedures and controls; credit underwriting and asset selection; portfolio management; CDO administration; technology; and portfolio performance.

Among the other top agencies, Standard & Poor's (S&P) describes its CDO Manager Focus as "a comprehensive report of a CDO manager's capabilities and track record developed through in-depth site visits and evaluation of past transactions." In March 2003, meanwhile, Moody's announced the release of a new CDO performance report series aimed at helping market participants track and compare the credit performance of US CDO transactions over time. According to the agency: "Moody's Deal Score Reports provide investors and other market participants with independent, objective criteria by which they can measure an individual deal's performance. Rather than focusing on equity performance or total return, these reports measure and compare Moody's rating performance on the deal and the manager level." ■

Proportion of managed synthetic CDOs to static synthetic CDOs



Source: Lehman Brothers 'European CDOs: review & outlook'

Structuring by seniority

CDOs use classical securitisation methodology to provide senior creditors with greater protection and allow subordinated investors to lever up their investments

A common characteristic of all securisations, including CDO collateralisations, is so-called tranching – the structuring of the product into a number of different classes of notes ranked by the seniority of investors' claims on the instrument's assets and cashflows. As with any business, alongside the 'owners' (the holders of the equity tranche), a CDO has creditors with varying degrees of seniority. The more senior the creditor, the less risky the investment and hence the less they will be paid in interest. The way it works is frequently referred to as a 'waterfall' or cascade of cashflows, because in bankruptcy the proceeds from liquidating a CDO assets will first be used to repay the most senior creditors, the senior debt tranche, and only then, if there is remaining money, the next most senior tranche. And so on.

The most senior note is rated triple-A, with the tranche below this generally referred to as the mezzanine notes, which are usually rated from high triple-B to low single-B. These can be in fixed- or floating-rate form and pay note-holders a regular coupon. As such each individual tranche is very much like a bond.

Over-collateralisation

Over-collateralisation (OC) is one of a broader range of structural features of CDOs – collectively known as credit enhancement – that allows for higher-quality debt to be issued relative to lower-rated underlying collateral.

The concept of over-collateralisation is pivotal to all forms of securitisation, and refers to the excess of the par amount of collateral available to secure one or more of the note classes over the par amount of those notes. To illustrate how the level of OC is determined, consider this example described by Standard & Poor's, which is a cashflow transaction involving the issuance of $80 million of rated senior debt supported by a collateral pool with a total par value of $100 million. This is therefore known as an '80/20' liability structure consisting of 80% of rated senior debt and 20% of unrated supporting debt or equity. The level of over-collateralisation is 125%, which equals the ratio of assets over liabilities.

Tests to ensure that the OC level is maintained (OC tests) fall into two categories. The first is the par value test, which requires that the value of the rated notes is equal to a minimum percentage of the underlying collateral. The higher the ranking of the note in the capital structure, the higher this is required to be. In other words, the par value test may call for 115% coverage in the case of the senior notes and for 105% in the case of the mezzanine tranche.

The second OC test is known as the interest coverage test. This is designed to ensure that interest income earned by the collateral is sufficient to cover potential losses and to maintain interest payments to senior note-holders, with the difference between the two referred to as the excess spread.

In the event of a breach of the OC test, managers will need to remedy the situation usually within two to 10 days by, for example, purchasing additional collateral with any available excess interest.

The cashflows of the waterfall

To illustrate how the cashflows of the CDO waterfall function, consider this simple example of a CDO of a portfolio of $300 million of triple-B rated asset-backed securities (ABS) described in a Bear Stearns primer to the CDO market published in 2002. In this instance, the portfolio generates an annual cashflow of 4.25% after the deduction of the CDO's expenses and hedging costs, which equates to a total of approximately $12.7 million. Deducted from that total is the $7.3 million paid to the holders of three tranches of rated notes. The most senior tranche is accounted for by the $240 million of Aaa/AAA rated Class A-1 notes, paying Libor plus 54bp, a total of $5.7 million. The next claim is from the holders of the $26 million Aa3/AA- rated Class A-2 notes, paying Libor + 79bp, or $700,000, with the holders of the more deeply subordinated $20 million tranche of Baa2/BBB rated Class B paper bringing up the rear in terms of claims on the rated paper. The depth of that subordination, however, is compensated for by the spread of Libor plus 275bp that they are paid.

Assuming that all these payments are made in full, with no defaults on the portfolio, the residual $5.4 million flows to the holders of the $14 million tranche of income notes, or equity – a very healthy return of almost 40%. This equity represents credit enhancement for the notes ranking above it in the capital structure, because any defaults on the underlying portfolio will be borne by holders of this 'first-loss piece'. In other words, if the underlying portfolio suffers losses of, say, $3 million, the cashflows due to the rated note-holders remain the same, with those due to the equity holders shrinking to $2.4 million and reducing their return to 17% – still within the 15% to 20% range that investors in the most junior tranche of a CDO will expect to earn.

What of the risks to the most senior claimants? In this example, because the $240 million of Class A-1 notes are backed by $300 million in collateral, the portfolio would need to suffer a loss of $60 million before these first priority notes would suffer any loss. But because of the OC triggers, the excess spread (of $5.4 million) provides additional protection for the senior note-holders.

In addition to being senior to the subordinated debt and the equity holders, the most senior tranches can be given an added degree of protection in the form of guarantees from monoline insurance companies. As Duke Street Capital explains in a report on its Duchess I CDO, in this instance "Financial Security Assurance (FSA), an insurance company, 'wrapped' the €865 million of A/A2 notes to an AAA/Aaa rating. In the event of severe underperformance... rendering the Fund incapable of paying the interest and principal due to the AAA/Aaa note-holders, these note-holders would then have their interest and principal paid by FSA."

The final tranche within the CDO structure, in terms of seniority of sequential payment claims, is the equity portion, and it is this junior position in the capital structure that explains why the equity is also described as the 'first-loss' piece. Also sometimes known as junior subordinated notes, preferred stock and secured income notes, the equity tranche is generally unrated and can account for anything between 2% and 15% of a CDO's total capital structure.

Unsurprisingly, the equity tranches of CDOs have historically delivered the highest returns but also exposed investors to the highest risks, in just the same way as investing in the equity of any public company is associated with higher risks and rewards than investing in its debt. In the early 1990s, the equity tranches of some US high-yield CDOs provided returns of as high as 50% or more, but in the downturn of 2000 and 2001 investors in equity tranches of CDOs sustained some very heavy losses.

There are no predetermined parameters dictating how many tranches an individual CDO can contain,

although there is usually a minimum of three. Nor are there any governing the optimum weighting of any class of note within the overall structure. Indeed, one of the principal attractions of CDOs is the flexibility of their capital structure, which can create scores of different risk profiles by adjusting the structure of the instrument and the credit quality of its collateral.

Single tranche versus whole capital structure CDOs

A notable recent trend within the CDO market has been the growing popularity of single-tranche products, which are generally bespoke transactions structured on a reverse enquiry basis – in other words, to cater to the specific requirements of individual investors. As Fitch explains in a recent report: "The ability of the investor to have a higher degree of input to the characteristics of the transaction is a common element of the single-tranche synthetic. Portfolio composition, tranche size, desired spread, management/substitution rights, and, importantly, rating can all be selected to a greater or lesser extent by the protection seller [CDO investor]."

In a single-tranche structure, only a specific level of the portfolio credit risk is transferred to the investor, with the remaining risk dynamically or delta-hedged by the dealer. "In other words," Fitch explains, "risk transference is achieved using a derivatives model in the case of single-tranche synthetics versus a securitisation model in the case of traditional synthetics."

Given that single-tranche trades are arranged on a bilateral basis and not generally disclosed to the market, it is very difficult to gauge precise issuance volumes. But as DrKW's 2003 review of activity in the CDO market notes: "Based on figures from *Creditflux*, we estimate that the total notional amount referenced by single tranche CDOs in 2003 was in excess of US$400 billion, although the amount of protection sold to hedge these tranches was a fraction of that number." ■