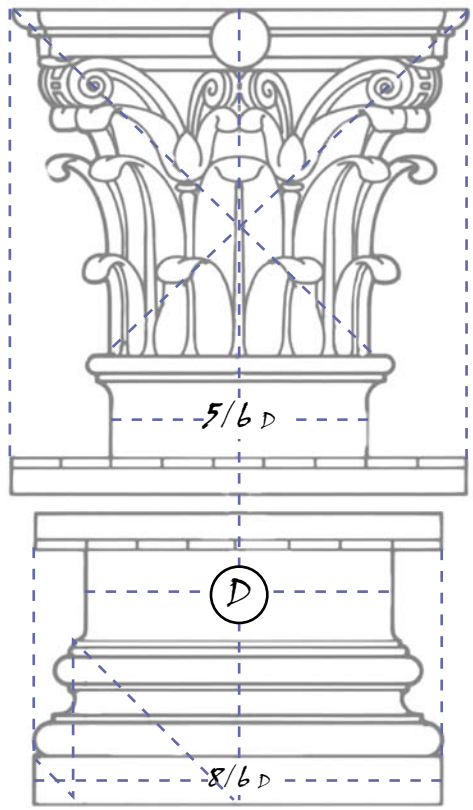
CREDITFLUX INSIDE GUIDE

CREDIT DERIVATIVE PRODUCT COMPANIES



Designs for a new type of credit investor

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THE CBM GROUP, INC.

CLIFFORD CHANCE

CREDITFLUX INSIDE GUIDE

Credit Derivative Product Companies

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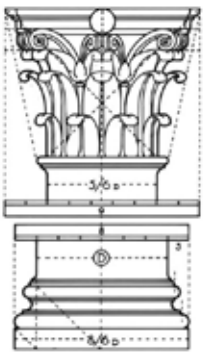

ABOUT THE SPONSORS

Ernst & Young LLP is the leading assurance, tax, transaction and advisory services provider to credit derivative product companies (CDPCs), having served all 11 of the currently rated CDPCs, and also assisting several CDPCs in the process of getting rated. The firm's services include assistance in developing CDPC capital models and operating guidelines, independent validation of CDPC capital models, verification of compliance with key operating guidelines, and annual financial statement audits of the operating company and the holding company.

International law firm Clifford Chance combines the highest global standards with local expertise. Leading lawyers from different backgrounds and nationalities come together as one firm, offering unrivalled depth of legal resources across the key markets of the Americas, Asia, Europe and the Middle East. The firm focuses on the core areas of commercial activity: capital markets; corporate and M&A; finance and banking; real estate; tax, pensions and employment, and litigation and dispute resolution.

The CBM Group Inc is a New York-based management consulting firm, founded in 1992. The firm advises leading global financial institutions on strategy and risk management in capital markets businesses.

CBM is active in credit risk management and works extensively in the financial guaranty, structured finance and credit derivatives areas. In particular, CBM has been a consultant to the first CDPC, Primus.

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FOREWORD

There are few more pressing topics in the credit derivatives market than the role of credit derivative product companies (CDPCs). In this, the first comprehensive guide to CDCPs, we analyse the potential for these companies to absorb much of the high grade credit risk that banks and other institutions are increasingly unwilling to hold.

On the one hand, the recent crisis in the financial markets and the switch to the Basel II bank capital standard create enormous opportunities for CDPCs. On the other hand, the troubles experienced by other dedicated takers of high grade credit risk – namely SIVs, monolines and certain hedge funds – have created uncertainty in the minds of many market participants over the true structure and workings of CDPCs.

This guide brings together a number of unique perspectives on CDPCs in an effort to provide a much clearer understanding of these companies in an accessible format.

In chapter one, opposite, Andre Cappon, Guy Manuel and Stephan Mignot of the CBM Group give a introduction to CDPCs from their perspective as highly experienced management consultants who have been asked to look objectively at the value and potential of CDPCs.

In chapters two and four (pages 11 and 25), Randy Gonseth and Chris Wu of Ernst & Young give an expert run-down of the typical workings of CDPC operating guidelines and capital models respectively.

In chapter three, Neil Hamilton and Mark Redinger of Clifford Chance address the legal aspects of CDPCs, and consider the various structural and documentation issues that CDPCs face. They write from an English law and European perspective. However, CDCP managers and sponsors in other countries will face a parallel set of issues.

In the remaining chapters, Creditflux journalists, with the help of a wide range of industry participants, assess other key elements of the function and structure of CDPCs – the rating agencies, the importance of operational issues, and the perspective of CDPC sponsors and investors – and assess the future prospects of this growing industry.

CHAPTER 1

INTRODUCTION: ASSESSING THE VALUE OF CDPCS

by Andre Cappon, Guy Manuel and Stephan Mignot
The CBM Group

Credit derivative product companies (CDPCs) are narrow-focus financial operating companies who play the role of specialty "reinsurers" of credit risk.

In the current credit crisis, they are performing well, honouring their obligations to counterparties and proving themselves. CDPCs should become increasingly important and useful players in the financial system in the future.

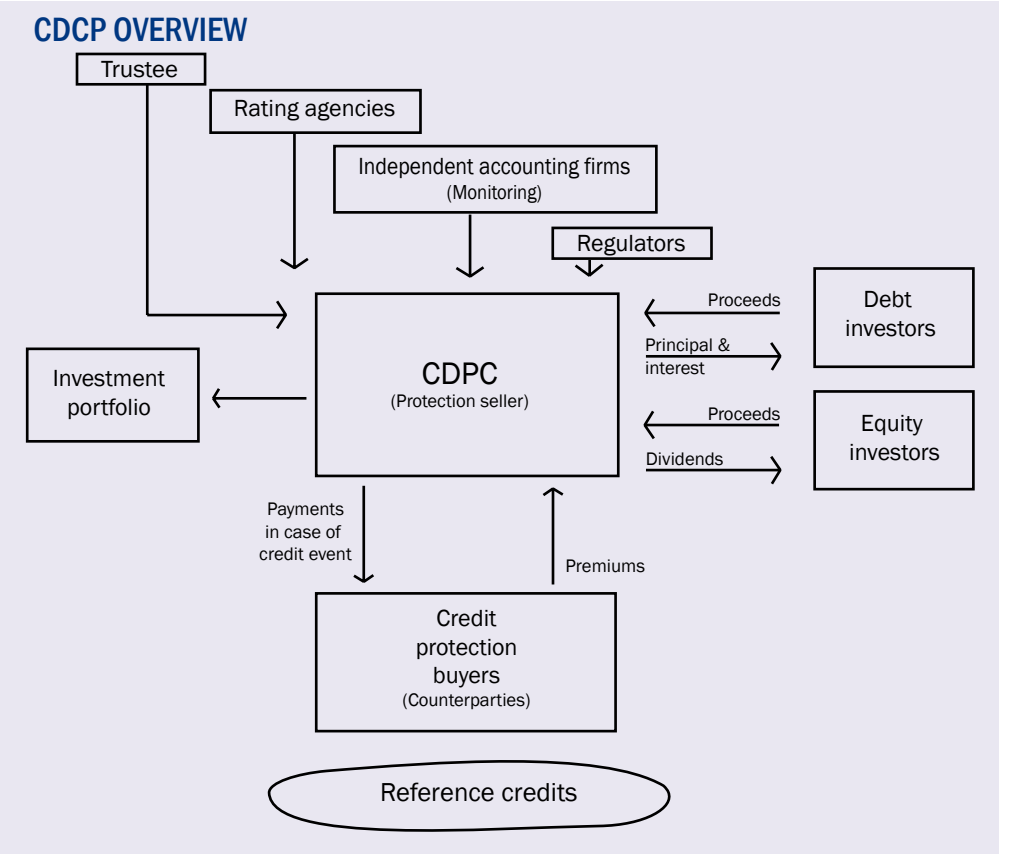
CDPCs should become increasingly important and useful players in the financial system in the future – Andre Cappon

DEFINITION OF A CDPC

One definition of a CDPC is provided by Moody's: "CDPC's are highly rated, stand-alone structured financial operating companies with tightly defined risk management and operating parameters that offer credit protection to counterparties through credit default swap (CDS) contracts on single name corporates or tranches of synthetic CDO's (mostly of corporates)"

The key features of CDPCs may be summarised as follows:

- They support real risk transfer for banks by selling protection against credit events – single name defaults or "super-senior" tranches "tail risk" – primarily in the corporate investment grade world.
- They are going-concern, perpetual operating companies, not temporary vehicles. They are capitalised with equity and debt provided by long-term investors.
- CDPCs are designed to withstand extreme credit conditions and perform their obligations to counterparties, as symbolised by triple A ***counterparty ratings***.



They can achieve those aims thanks to their structure...

- ***Operating guidelines*** that rigorously specify their permitted activities
- Adequate economic capital, calculated by rigorous ***capital models***
- Regular monitoring by independent third parties
- Clear procedures in the event of distress
- Transparency of portfolio risks to shareholders

...and to a business model that is focused narrowly on synthetic credit risk:

- No ***collateral posting***
- No ***mark-to-market*** triggers
- No need for liquidity lines / no liquidity risk

CDPC leverage is consistent with their narrow focus on credit risk (and the absence of market and liquidity risk)

CDPCS' VALUE PROPOSITION

CDPCs sell protection to counterparties that are major players in the credit derivative market, usually large global banks. They operate within credit limits determined by the counterparties' credit officers. They interact, on a daily basis, with the credit derivatives trading desks and the correlation trading desks of these counterparties. They help these clients achieve better management of credit risk and related risks such as correlation risk.

Most basically, CDPCs support effective risk transfer. By trading with triple A CDPCs, counterparties can achieve capital relief relative to their internal economic capital models and to the regulators. In addition, credit derivative traders are exposed to Gaap mark-to-market volatility arising from their credit derivative positions. In a large, complex, opaque financial institution, a sudden negative mark-to-market can translate into a big impact on the stock price.

As buy-and-hold, narrow-focus, privately held entities, CDPCs are in a better position to explain the mark-to-market volatility to their investors.

The one CDPC that is public, Primus, has been relatively successful in educating its investors that Gaap mark-to-market volatility, does not affect long-term solvency or economic results. Though unpleasant, it is acceptable in view of the business model.

Overall, CDPCs act as buy-and-hold accumulators or, in effect, reinsurers of credit risk. During the current credit crisis, which has seen the demise of some ***monolines***, SIVs and other accumulators of credit risk, CDPCs have proven themselves as one of the most reliable types of trading partners for banks. Their reliability results from their robust continuation structure, modes of operation with circuit breakers to reduce new risk taking if ratings are jeopardised, and regular transparent reporting to stakeholders.

CDPC STRUCTURE AND OPERATION

CDPCs are structured to protect counterparties and investors in their rated debt obligations. This is done by constraining them to specific, predefined limited activities and to risk controls. They must maintain their triple A counterparty ratings and should these ratings be at risk, the CDPCs are forced to limit their activities until they improve their risk profile (in contrast to monolines, where repeated rating downgrade surprises have damaged credibility). Their focus is strictly on credit risk and all other risks are carefully eliminated or minimised.

CDPCs are unique (in contrast to other vehicles, funds, CDOs, monolines) in that they have true counterparty ratings. Counterparty ratings focus on the promise a CDPC makes through all of the derivative contracts it writes (CDS and other) and measure expected loss to all counterparties. True counterparty ratings make sure that counterparties are protected ahead of other creditors. (See chapter 5.)

CDPCs are limited purpose companies subject to operating guidelines approved by the rating agencies. The operating guidelines explicitly list all the permitted activities for a CDPC such as selling protection, investing its cash and paying interest and dividends to investors. The CDPC is meant to stay within clear risk parameters such as exposure limits to single names, to sectors, asset classes and to ratings categories in order to maintain its rating. (See chapter 2.)

These operating guidelines are strictly enforced: they are incorporated in the company by-laws and ***management agreements***. Corporate governance is designed to ensure they are followed. In addition, CDPCs' compliance with the operating guidelines is monitored by third parties, appointed to perform specific roles under the overall supervision of rating agencies.

CDPCs are subject to capital adequacy models which quantify their expected credit loss. (See chapter 4.) These are Monte Carlo

simulation-based models which are constantly run under a range of assumptions for the probability of default of the assets in the portfolio, the correlation of these defaults, the probability of default of counterparties and multiple stress scenarios. The expected loss must remain consistent with the triple A ratings on the rating agencies' global scales.

If the expected loss remains below the triple A standard, the CDPC is free to proceed with trades and other permitted actions. If the expected loss exceeds the triple A standard, the CDPC must either refrain from taking the action or else, it enters into ***suspension operating mode***.

Suspension means that the CDPC must go static: it cannot write new business and must simply hold its portfolio. It can go back to ***normal operating mode*** by waiting until some exposures run off or by hedging some risks. Should the calculated expected loss worsen, due, say, to credit rating migrations in the portfolio or a credit event, the CDPC may hit another trigger and go into ***wind-down mode***, that is, a mode of operation similar to the run-off of an insurance company. In other words, it can do no new business of any kind, must make significant reduction of costs and must limit its activities to paying CDS liabilities and other claims.

In addition to the structural features described above, CDPCs' mode of operation limits their focus narrowly to synthetic credit risk and practically eliminates liquidity and market risks.

Their credit guarantee is exclusively in the form of credit default swaps written under an ***Isda master agreement***. These swap contracts promise protection buyers compensation for any economic loss incurred as a result of a credit event. Note, this means CDPCs usually offer a stronger form of protection than monolines, which promise "timely payment of interest and principal", that is, strictly "pay as you go". Form approved Isda master agreements signed by CPDCs assure all counterparties are strictly pari-passu and enjoy cross-default provisions, unlike the financial guaranty provisions used by monoline insurers.

CDPCs execute "form approved" Isda master agreements which allow counterparties few if any "termination events". In other words, once it has written a trade, the CDPC is clearly entitled to a series of fixed payments for the duration of the swap. Early termination, including mark-to-market payments from a counterparty default, is mitigated by legal agreement.

Thanks to their triple A counterparty credit ratings, CDPCs do not have to post collateral when they write protection. Therefore, they do not need access to liquidity, which makes them immune to mark-to-market volatility and liquidity crunches.

They are never subject to any type of ***mark-to-market triggers***, such as those that led to the demise of SIVs. This has served CDPCs well in the recent crisis which has created unusual price volatility in the credit derivative market.

CDPCS' PROSPECTS

CDPCs are an effective solution to today's credit risk challenges.

The Basel II framework, even if it continues to be debated and revised, has driven banks to originate and transfer credit risk rather than hold it.

Even if regulators react to the current crisis by prodding banks to return, to some degree, to the old "balance sheet" model (for example, by forcing banks to retain a meaningful "skin-in the game" portion of the deals they distribute) the mechanisms of structured finance and credit derivatives are valuable and are here to stay.

There will be a lasting need for institutions able to support the credit risk transfer process by taking on credit risk. Clearly such institutions must be very creditworthy, that is, highly rated.

In view of the declining number of highly rated counterparties, triple A financial operating companies will be essential.

Monolines and SIVs have been badly hurt in the 2007/2008 credit crisis. Monolines have been hurt by their relative opacity and "ratings surprises". SIVs have been hurt by their need for liquidity and market value triggers.

The CDPC business model is better and more robust: it has more structure, more transparency, no need for liquidity, and narrow focus on credit risk.

CDPCs are in a strong position to occupy the space lost by other accumulators of credit risk. They will, however, have to overcome some challenges and prove themselves.

CHALLENGES FACED BY CDPCS

As a relatively new type of financial risk taker, CDPCs need to convince counterparties to give them credit lines and trade with them. They are facing three key challenges:

The first and foremost challenge CDPCs face is to ensure credibility to their counterparties and educate stakeholders.

Clearly, rating agencies have made major mistakes in recent years and at the time of writing (April 2008), many investors have serious doubts regarding the validity of ratings.

The entire system of structured finance and credit risk transfer is intimately tied to credit ratings. If ratings are not credible, the system is shaky.

However, credit ratings are a necessary "language of risk" and cannot be jettisoned. Undoubtedly, rating agencies will do their best to restore their reputation and credibility.

In the meantime, ratings are regarded with suspicion and this affects the credibility of financial guarantors, in particular monolines.

CDPCs are in a much better position to weather the crisis thanks to their superior business model which is highly structured, more transparent and narrowly focused.

Some CDPCs have embraced transparency to the point that they they provide outputs from their capital models including stress testing to the credit officers of counterparties and let them see all of the exposures and estimate expected loss.

Since not all counterparties may have the patience to run complex CDPC models, we recommend that CDPC define a number of standardised "distress scenarios" (such as default of the largest single exposures, stressed default rates for certain sectors, stressed default correlation coefficients, etc.) and publish the results of such scenarios. This should be of great help in communicating the strengths of the CDPC business model.

The second challenge CDPCs face is related to their leverage, which is significantly higher

than that of banks. Accustomed with bank-like leverage of the order of 25:1, credit officers are understandably wary of high leverage, especially in the context of the current crisis. As a result, some counterparties are cautious with counterparty credit limits for CDPCs. It is understood that recent trading lines granted to more active CPDCs such as Channel Capital have been for shorter maturities and smaller notional sizes than pre-credit crisis, with most recent transaction activity now limited to five or seven-year tenors and ticket size less than $1 billion for super senior tranches.

According to rating agencies, the maximum allowable leverage for CDPCs depends on their type of credit exposure. For single name portfolios, maximum allowable leverage is up to 50:1, for tranche portfolios it is 80:1. In fact, many CDPCs today operate well below their allowable leverage. CDPC leverage is logically justified. The fact is that CDPCs are highly structured limited-purpose companies that focus on credit risk, while practically eliminating market risk and liquidity risk. They take less risk than a bank, they are simpler institutions – much more transparent and closely monitored.

The third challenge faced by CDPCs is mark-to-market accounting. Since the business model is to buy and hold credit risk, rather than trade it actively, the mark-to-market should be irrelevant.

Nevertheless, the accounting profession has enshrined fair value mark-to-market accounting for derivatives, and CDPCs cannot avoid it. As Primus chief executive Tom Jasper has observed: “We are a good business model trapped in a bad accounting framework.”

The only solution is for CDPCs to systematically report “economic results” (which assume buy-and-hold) alongside their financial Gaap or IFRS results (as Primus, the one CDPC that is publicly traded, does).

CDPCS’ TRACK RECORD

CDPCs are a young industry. The first CDPC, Primus, launched in 2002, the second, Athilon, in 2005. The other nine CDPCs now in existence launched in 2007. CDPCs have so far written a total of some $110 billion of notional credit derivative exposure. There has been no downgrade of CDPC counterparty or debt ratings by any rating agency.

Although short, the CDPC experience is encouraging. CDPCs will undoubtedly be further tested in the years to come, yet we are confident they should perform well.

OPPORTUNITIES ARISING FROM-CURRENT CREDIT CRISIS

Like all credit investment businesses, CDPCs have the best opportunities when the market looks riskiest.

The current credit crisis is exacerbating the “fear factor” in credit spreads, as illustrated by the CDX index for investment grade, which reached around 160 basis points in early 2008.

This suggests it is a great time for CDPCs who can charge a high premium for their protection. Not surprisingly, there are many newly established CDPCs and a long pipeline of CDPCs waiting to be rated by the agencies.

Andre Cappon is president and founding partner, Guy Manuel is managing director and founding partner, and Stephan Mignot is a managing director of the CBM Group, Inc.

CHAPTER 2

CDPCS: UNDERSTANDING THE ROLE OF OPERATING GUIDELINES

by Randy Gonseth, Ernst & Young

At the heart of a triple A CDPC are its ***operating guidelines***, which detail the fundamental operating policies and procedures of the CDPC and are critical in the rating agency's rating of a CDPC. While operating guidelines differ among CDPCs due to their differences in business strategies, this article describes the typical policies and procedures contained in a CDPC's operating guidelines, which are critical in maintaining sound risk management in a CDPC's narrowly focused business.

ROLE OF OPERATING GUIDELINES

The CDPC agrees to engage only in those narrowly focused activities provided for in the operating guidelines. The operating guidelines detail the capital structure, the types of permitted business activities, the forms of credit default swaps the CDPC may execute, permitted counterparties, and the conditions necessary to issue additional debt. If a CDPC violates certain aspects of the operating guidelines, the level of operating flexibility will be reduced until such limit violation is cured. Certain violations could lead to the CDPC's ceasing to enter into new CDS. The policies in the operating guidelines are monitored either daily or weekly.

OPERATING MODES

The operating guidelines dictate three different operating "modes" that function as built-in circuit breakers requiring the CDPC to build up or retain capital and reduce risk if rating quality is at risk. The three operating modes are as follows:

Normal operating mode – The ***normal operating mode*** is generally characterised by having adequate capital to support the CDPC's obligations to its counterparties at the risk level indicated by the initial credit rating. During this mode the CDPC is in compliance with its operating guidelines and is free to undertake all permitted activities in accordance with its operating guidelines. CDPCs commence operations in the normal operating mode and will remain there as long as they maintain compliance with their operating guidelines, including the ***capital tests***.

Suspension operating mode – If certain operating guideline criteria that could imperil the counterparty credit rating are violated, then the CDPC enters into a ***suspension operating mode***, which typically results in the

CDPC notifying the rating agencies and the board of directors, and the CDPC not being allowed to enter into new CDS except on a "maintain or improve" basis. (See below for typical suspension events.) Upon suspension, the CDPC will generally not be allowed to pay dividends to the equity holders, and there is limited ability to call debt. If a CDPC cures the violation, it can exit the suspension operating mode and return to the normal operating mode. Raising additional capital and novating CDS that are causing violations are two methods of curing violations.

Wind-down mode – A CDPC enters into ***wind-down mode*** if certain suspension events are not cured within a grace period. This mode is permanent (unlike the suspension mode, which can be exited if a CDPC cures the violation). During wind-down mode, the CDPC does not enter into any new business; it just runs off the existing CDS portfolio and manages risks. All cash proceeds are used to pay off liabilities until the CDS portfolio is completely matured.

SUSPENSION EVENTS

The following are examples of suspension events contained in a CDPC's operating guidelines that could result in temporary suspension of new business:

- **Insufficient capital to support the initial counterparty rating**
- **Failure to pay the amount owed under a CDS, or senior obligations such as non-deferrable notes or any other financial contract**
- **Voluntary or involuntary bankruptcy**
- **Downgrade of a CDPC's counterparty rating below a certain rating (typically, A/A2)**
- **A violation of portfolio limits**
- **Failure to perform capital adequacy tests with sufficient frequency**
- **The occurrence of five or more ineligible transactions or portfolio limit violations over a year**

PERMITTED ACTIVITIES

The operating guidelines specify activities that the CDPC may conduct. Activities that are not described are not permitted. Typical permitted activities include:

- Issuance of equity and debt securities
- Redemption, call or retirement of equity and debt securities
- Entry into and liquidation of ***eligible CDS*** with permitted counterparties
- Entry into and liquidation of eligible investments
- Receipt, purchase and liquidation of deliverable obligations assuming the CDPC is permitted to use physical settlement of CDSs.
- Entry into any other activities that have received rating agency consent and board of director approval
- Entry into any incidental activities permitted under the operating guidelines that allow it to perform the activities described above

ELIGIBLE CDS

The operating guidelines list specific, objective boundaries on the types of CDS that the CDPC may transact, such as the types of reference entities (that is, corporates, sovereigns), the legal jurisdictions of such reference entities and minimum reference credit ratings for reference entities and bespoke tranches. Critical components of the operating guidelines are the forms of confirmation and ***Isda master agreement*** under which the CDPC will transact under, which are contained in the appendix. Such forms will dictate the types of obligation categories, settlement methods (cash versus physical) and credit events (bankruptcy, failure to pay, or restructuring) under which the CDPC may transact, and are key drivers in the risks that must be captured in the capital model. The

CDPC must obtain prior rating agency consent if it wishes to transact under terms outside of the prescribed confirmation or master agreement.

Hedges: While a CDPC sells credit protection in a "buy-and-hold" strategy, a CDPC may choose to hedge, novate or terminate early a CDS to manage credit risk. The operating guidelines allow for the purchasing of an offsetting CDS to cover some or all of the risk of the existing CDS under which the CDPC has sold protection. The operating guidelines describe the required elements of a hedge, such as matching credit events, settlement methods and reference entity, and maximum notional and tenor. In order to gain the benefit of the hedge in the capital model, a minimum credit rating is also required for the counterparty that is selling the credit protection.

Novations and early terminations: Another method to manage credit risk is for the CDPC to voluntarily early-terminate a CDS with the original counterparty, or assign a CDS to another counterparty. To early terminate or novate a CDS, the CDPC may have to make a cash payment; it can only do so if the resulting termination payment would not cause a suspension event, such as a failure of a capital adequacy test.

PERMITTED COUNTERPARTIES

The operating guidelines typically specify that counterparties have at least an investment grade credit rating and be domiciled in certain jurisdictions that have a degree of certainty of the confirmation and master agreement. In general, permitted counterparties are business corporations, regulated lending institutions such as commercial banks or dedicated investment companies.

ELIGIBLE INVESTMENTS

The CDPC invests the proceeds of the equity and debt issued in liquid, short-duration, high-quality financial instruments so that the CDPC can withstand a degree of immediate liquidation of its ***eligible investments*** to pay counterparties due to credit events on the CDS. (However, note that not all CDPCs permit physical settlement of CDS transactions.)

The operating guidelines detail the parameters of eligible investments, such as tenor, issuer, minimum credit rating and currency. Typically, CDPCs invest in triple A corporate commercial paper and US government and agency bonds with tenors of less than three years. See above for an example of a list of eligible investments.

TYPICAL CDPC ELIGIBLE INVESTMENTS

- **US dollars and time deposits**
- **Money market funds rated Aaa/AAA**
- **Euro-dollar deposits of less than 360 days with a bank rated P-1/A-1+**
- **180-day bankers acceptances**
- **US treasury securities with maturities of three years or less**
- **Commercial paper maturing within 270 days rated P-1/A-1+**
- **Repurchase agreements on treasury securities with a maturity of 365 days or less**

The operating guidelines require that eligible investments be held by a custodian with a minimum credit rating and that the eligible investments be marked-to-market on at least a weekly basis.

If a CDS provides for physical settlement with standard currencies (as defined in the Isda

WHAT IS A MATERIAL BREACH?

Claudia Green, senior analyst, Moody's

"Material breaches" are actions by a CDPC that significantly depart from those permitted in its governing documents and that could adversely affect its rating.

Because compliance with the governing documents is a basic assumption in Moody's ratings analysis, it is important that there be built-in remedies should material breaches occur. In one typical approach, a CDPC that commits a material breach of its operating guidelines automatically loses control of its accounts to the independent third party trustee or custodian. From that time forward, the trustee or custodian would typically manage the CDPC in a run-off mode rather than in an actively-managed mode and would ensure that the cashflows are used and distributed in compliance with the operating guidelines.

Examples of events that may constitute a material breach include an unauthorised dividend to shareholders or other outflow of capital, an unauthorised grant of security interest over the CDPC collateral, failure to abide by trading limitations when in suspension mode and unauthorised changes to the operating guidelines or capital model.

A number of other breaches of the operating guidelines can take a CDPC to suspension mode and even wind-down mode, but this would generally occur while the CDPC management and board remains in control of the vehicle and its accounts.

master agreement) as a deliverable obligation characteristic, the CDPC could receive a "non-base-currency" physical obligation upon a credit event. The operating guidelines must therefore describe the policy on managing such foreign exchange risk of the physical obligation once the CDPC has taken custody of it. Such risk could be mitigated through purchasing a foreign currency forward or cap for the intended holding period. Alternatively, the CDPC could have a policy of not hedging and bear the foreign currency risk. Either way, the approach must be incorporated into the capital model.

LIMITS

The operating guidelines will state specific limits of each transaction at the time of execution and also for the portfolio as a whole. The CDPC will be required to maintain a vigorous system in place for timely monitoring of compliance within such limits.

Transaction limits

Tenor limits on CDS are driven partially by the maturity profile of the funding of the CDPC. The CDPC seeks to avoid the risk of having to liquidate eligible investments to pay the maturing debt capital before the CDS matures. The funding maturities therefore typically occur after the CDS maturity dates or after prepayment and extension-stressed scenarios establish an envelope of maturity outcomes.

Notional limits are imposed so that a single name CDS does not overly jeopardise the capitalisation of a CDPC. A single-name portfolio requires a notional limit on an individual reference obligor.

Minimum credit ratings are required at the time of execution of a CDS. For single-name portfolios such limit is a minimum credit rating of a reference obligation. For bespoke tranche portfolios such limit is the rating of the tranche (attachment point/detachment point) for which protection is provided.

PORTFOLIO LIMITS

A key to managing the credit risk of the CDPC is to promote diversification through portfolio limits. Portfolio limits are a function of the CDPC's business plan and operating strategy and vary among CDPCs. Portfolio limits are monitored at least weekly. Types of limits include:

- ***Concentration limits*** – geographic, industry, single-name and credit-rating group
- ***Maximum leverage limit*** – measured as the total notional of the CDS portfolio to capital. Such limits serve as an additional constraint to the CDS portfolio in addition to the capital model and are approximately 50 times for a single-name portfolio and 80 times for bespoke tranche portfolios.

CAPITAL MODEL

Each CDPC develops a proprietary ***capital model*** to calculate the implied counterparty and debt ratings based upon the CDS portfolio, eligible investments, the capital structure and other assumptions. The operating guidelines describe the frequency (at least weekly but often daily) which the capital model should be run (also known as the "capital adequacy tests") to assess debt and counterparty ratings. The operating guidelines also state the immediate actions (such as, entering into suspension operating mode) and notifications (to the board and rating agencies) required if the tests indicate that the current ratings of the CDPC are in jeopardy. A key appendix to the operating guidelines is the capital model technical document, which details the inputs into the capital model, the methodology employed by the capital model and the resulting metrics calculated to assess the risk of the CDS portfolio and the CDPC's credit ratings. The operating guidelines contain strict policies that require all changes to the production version of the capital model to receive rating agency consent. (*See also chapter 4, page 25.*)

MANAGEMENT AND SERVICE PROVIDERS

The operating guidelines list the roles and responsibilities of all the service providers to the CDPC, such as:

- Portfolio manager
- Administrative agent
- Employees – typically provided through the asset manager or other service provider
- Custodian
- Auditor
- Periodic agreed-upon procedures provider
- Capital model agreed-upon procedures provider

The operating guidelines also describe the roles and responsibilities of the ***CDPC board of directors***. The board is responsible for the oversight of management and the CDPC. The operating guidelines dictate the minimum number of directors and the minimum number of meetings per year. The operating guidelines require a minimum number of independent directors (often at least two), specify the criteria to be considered independent and also dictate which material actions of the board require approval by all the independent directors.

OPERATIONS AND CONTROLS

The operating guidelines typically describe the key transaction processes and controls. These processes and controls include the trade approval process, roles and responsibilities

WEEKLY REPORTING TO THE RATING AGENCIES

- **For each single name trade:**
  - **Reference entity name, credit rating, industry and jurisdiction**
  - **Notional amount**
  - **Maturity date**
  - **Counterparty name, rating and jurisdiction**
  - **Applicable credit events**
- **For each tranche trade:**
  - **All the information above for single-name trades**
  - **Attachment and detachment points**
- **The portfolio limits report showing each of the CDPC's exposures versus its limits (such as industry concentrations and rating concentrations)**
- **Outputs from the capital model displaying risk measurements, leverage and rating agency metrics**
- **The description and market value of the eligible investments**

for monitoring operating guidelines compliance (including performing capital adequacy tests and monitoring exposures concentration limits), credit surveillance, approvals of trade documentation, monitoring of outstanding confirmations and meeting third-party reporting requirements. Other key controls include keeping the capital model in a secure environment, and that all changes to the capital model and related technical document are documented, approved and tested.

MODIFICATIONS TO OPERATING GUIDELINES

Any changes to the operating guidelines require a strict approval process. Typically, such approvals include prior written approval by the board of directors and written rating agency consent. Management must prove to the rating agencies that it has the appropriate expertise and infrastructure in place and that the new activities would not negatively affect the risk profile of the CDPC. It is not unusual for a CDPC to seek periodic modifications to the operating guidelines, for example, to add new types of CDS.

MONITORING COMPLIANCE WITH THE OPERATING GUIDELINES

A strong oversight function is key to ensure the timely monitoring of the requirements and limits of the operating guidelines. The CDPC also engages an auditor to conduct monthly agreed-upon procedures to test the CDPC's compliance with certain of its operating guidelines. CDPC management uses the results of the agreed-upon procedures in its evaluation of the operational effectiveness of the controls over compliance with the operating guidelines. The rating agencies also provide certain surveillance procedures, such as receiving weekly reports from the CDPC on granular information about the CDPC's portfolio, counterparties and eligible investments. See above for types of reports. Rating agencies also perform an initial and sometimes periodic review of the business plan and operational platform, including manager due diligence.

CONCLUSION

Detailed operating guidelines are one of the defining characteristics of a CDPC. They are a key element in the CDPC conducting a narrow business line in a well controlled and well capitalised manner, by contrast to entities that have a more flexible operating structure.

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CHAPTER 3

CDPCS: HANDLING THE LEGAL ISSUES

by Neil Hamilton and Mark Redinger, Clifford Chance

A number of legal issues may arise in various jurisdictions in connection with the establishment and operation of a CDPC. The following are selected English and UK law issues that may arise where the bulk of the CDPC's legal documentation is governed by English law and/or where the CDPC has a presence in the UK, for example through an investment manager or adviser based in the UK.

Care needs to be taken to ensure that the CDPC is off balance sheet for any bank sponsor – Neil Hamilton

STRUCTURAL ISSUES

Jurisdiction of incorporation

As with other special purpose vehicles in the structured finance markets, the choice of jurisdiction of incorporation of a CDPC is largely determined by tax and regulatory considerations.

Since the payment flows to the CDPC consist principally of premium income from credit default swap counterparties and distributions on eligible investments in which the CDPC's capital is invested, there is generally no need to avoid the imposition of withholding tax on the CDPC's cash inflows by siting the CDPC in a jurisdiction which benefits from a double tax treaty network. Accordingly, CDPCs have been established in a number of different jurisdictions, including Bermuda and Ireland.

Tax

In cases where the CDPC is established outside the UK, it is important that the CDPC is structured so that it is neither tax resident in the UK nor treated as carrying on a trade in the UK through a permanent establishment. In order for the CDPC to remain resident outside the UK, central management and control of the CDPC must rest exclusively with directors whose specialist knowledge enables them to

oversee the business of the CDPC and who actually exercise this control outside the UK.

Even if the CDPC is not resident in the UK for UK tax purposes, it might be subject to UK corporation tax if it is carrying on a trade through a permanent establishment in the UK. If the CDPC were to be viewed as carrying on a trade (which is a question of fact) an investment manager which has authority to conduct business on behalf of the CDPC in the UK (rather than as adviser to a non-UK manager of the CDPC) could constitute a permanent establishment of the CDPC in the UK through which a trade is carried on.

If the CDPC is incorporated in a jurisdiction such as Bermuda, the Cayman Islands or Jersey, it is unlikely that any double tax treaty will alleviate this potential tax exposure and reliance will therefore have to be placed on the UK investment manager exemption. This exemption provides protection from an assessment for UK corporation tax if the investment manager is an "agent of independent status" acting in the ordinary course of its business. Certain conditions need to be satisfied for this exemption to apply, including that the transactions carried out pursuant to the investment management agreement are investment transactions, that the fees payable to the investment manager are not less than the customary market rate, and that the "20% rule" is satisfied (under which, broadly speaking, the investment manager and its affliates may not own more than 20% of the CDPC's "relevant excluded income" (broadly speaking, capital or equity-like instruments in the CDPCs capital structure)).

Regulatory and accounting issues

Where a bank is the sponsor of a CDPC, it will usually be looking to ensure that the CDPC is off balance sheet for both accounting and bank regulatory capital purposes, and care needs to be taken that the relevant regulatory and accounting regimes are complied with. This is most likely to impact on issues such as the circumstances in which the investment manager's appointment can be terminated by the CDPC, the extent to which the investment manager can exercise voting rights in relation to the CDPC, and aspects of the structure under which the sponsor is providing implicit or explicit credit support to the CDPC. In the wake of the support that sponsors of structured investment vehicles (SIVs) have recently provided to SIVs structured to be off balance sheet to the structuring bank, the possibility exists that the accounting and regulatory tests for off-balance-sheet treatment will be re-assessed.

Consent rights

In structuring a CDPC, consideration should be given to whether stakeholders of the CDPC should have approval or voting rights with respect to changes to the CDPC's business, such as (i) the ability of the CDPC to write credit protection on new asset classes (ii) substantive changes to the operating guidelines and (iii) termination and replacement of the investment manager.

Debt issuance

CDPCs have funded their capital requirement in various ways: most commonly by issuing term subordinated debt (ranking junior to the claims of credit derivative counterparties) and/or by issuing auction rate notes on a continuous issuance basis. The legal issues which arise in relation to the establishment of the CDPC's funding structure are generally the same issues as arise in relation to debt issues for other types of structured vehicle. These include disclosure requirements and marketing and selling restrictions. Given the current emphasis on transparency in the structured products market post the "credit crunch", it is more important than ever to

ensure that the disclosure documents for the relevant debt issuance have clear disclosure of matters such as the triggers for changes in operating states, and a general outline of the operation of the capital model, so as to avoid any potential mis-selling claim.

Where the CDPC funds itself through auction-rate securities or other continuous issuance debt programmes, rather than by issuing capital or term debt, dealers on the programme may request an indemnity from the investment manager, as well as from the CDPC itself, in relation to losses suffered as a consequence of misstatements or omissions in the disclosure documents for the programme. The extent to which any such indemnity covers misstatements or omissions in reports prepared by the investment manager, such as portfolio reports produced by the investment manager, is often a point negotiated between the parties.

DOCUMENTATION

Once the structural issues have been settled with some certainty, attention can turn to documenting the vehicle and closing the transaction. Subject to any taxation or regulatory requirements the legal documentation can be as creative or "off the shelf" as the various parties have the appetite for and can be tailored to suit any particular structure.

In commencing the documentation process for the CDPC it is critical for counsel to understand the risk profile of each of the parties involved in respect of their discreet roles in the transaction. Too often parties enter into the documentation process prematurely without a frank understanding of a counterparty's interests which causes unnecessary delay in completing the paperwork.

The "core documents" for the establishment of a CDPC are not unlike those required for the establishment of other managed vehicles and are typically an investment management agreement, a custody agreement and an administration agreement. Some CDPCs have also included a security trust deed.

Investment management agreement

CDPCs, like SIVs, are intended to be "indefinite life vehicles", or "going concerns" meaning that the vehicle has the ability to continuously fund itself. The investment manager has the responsibility to manage the asset side of the CDPC structure and provide the overall management responsibility for the vehicle. It is difficult to over-emphasise the importance of the investment manager to the overall rating of the CDPC.

From a structural perspective, the investment manager is appointed by the board of the CDPC to manage its assets and obligations, and the board has ultimate oversight of the performance of the investment manager. In certain extreme circumstances the board may direct the investment manager to take or refrain from taking certain actions, or otherwise terminate for failure to perform.

In practice the investment manager undertakes its responsibility in strict adherence with the ***operating guidelines*** that have been highly negotiated with various rating agencies and are designed to ensure that, if complied with, the vehicle will maintain its ratings.

Some additional responsibilities may include the requirement to monitor the operation of the CDPC to ensure that the CDPC is operating within its required criteria, including complying with various threshold tests required by each of the rating agencies. A capital model will be employed by the investment manager and run on a frequency discussed and agreed with the rating agencies to test

the performance of the CDPC against these various criteria.

The investment manager may also be required to formally enter into reporting obligations apart from its obligations to the CDPC and provide such reports directly to the rating agencies, or other counterparties of the CDPC. Where the investment manager is also responsible for running and administering the capital model, an on-going obligation to report to the rating agencies the outcome of the capital model will likely be present.

The investment manager will be entitled to fees in the performance of its services to the CDPC. Where a CDPC has a pre and post payment priority waterfall, generally those portion of fees that are in the nature of a "reimbursement expenses" for example, legal costs, travel expenses, and in some cases a base set management fee may be taken out quite senior in the waterfall whereas the performance related fees, which are payable based on the overall performance of the vehicle annually, will typically be subordinate to all other payments but ahead of any final amounts payable to the vehicle as excess.

Throughout the term of the investment management agreement, the investment manager will need to covenant with the CDPC to maintain certain financial criteria as well as other criteria related to its status and operation. Due care needs to be taken to ensure that covenants are not drafted too restrictively so as to inadvertently cause the investment manager to be in breach.

The investment management agreement will typically clarify that the investment manager will make no warranty about the performance of the CDPC in the compliance with its obligations. The standard of care and indemnity provisions are typically highly negotiated and in the absence of "wilful misconduct, fraud, bad faith, gross negligence or reckless disregard" the investment manager will typically have no liability to the CDPC for actions undertaken on behalf of the CDPC pursuant to the investment management agreement. The investment manager typically obtains a blanket indemnity from the CDPC for actions taken on its behalf in compliance with its obligations under the investment management agreement. Unsurprisingly, these clauses tend to be highly negotiated between the parties.

The introduction of the Markets in Financial Instruments Directive (MiFID) on 1 November 2007 to replace the Investment Services Directive requires investment managers to evaluate whether their actions under the investment management agreement are impacted by the directive. Additional drafting will be required to ensure that investment management agreements comply with MiFID

SECURITY TRUST DEED

A ***security trustee*** may be appointed to act on behalf of the secured creditors pursuant to a security trust deed. The nuances of English law require that the security granted by the CDPC to the security trustee will cover both those assets (including rights, obligations) owned by the CDPC at the time of execution (fixed charge) but also those assets that may become the property of the CDPC at a later date (floating charge).

Broadly, the class of secured creditors is intended to include any party to which the CDPC owes any obligations. Since the CDPC is prevented from granting security to any party other than the security trustee, all the parties to whom the CDPC owes any obliga-

ARE OPERATING GUIDELINES ENFORCEABLE?

Claudia Green, senior analyst, Moody's

A critical component of the counterparty ratings and debt ratings that Moody's assigns to CDPCs is the enforceability of the company's operating guidelines. The operating guidelines define the CDPC's permitted scope of activity and limit permitted trades to those whose risk can be captured by the CDPC's capital model. The operating guidelines also set out other governing provisions including the triggers for converting normal operating mode to a suspension or wind-down mode, and limitations on payments of dividends and other activity. The operating guidelines, despite their name, are enforceable against the CDPC and not an optional or discretionary guide. Compliance with the operating guidelines is typically verified by an independent auditor who performs regular agreed-upon procedures.

Unless the CDPC commits a "material breach" of its operating guidelines, often the CDPC itself oversees any transition from one operating mode to another. In contrast, if a material breach has occurred, an independent trustee or custodian takes control of the CDPC's accounts and ensures that cashflows are used and distributed in compliance with the operating guidelines.

It is important from a ratings perspective that such an independent third party be responsible for supervising the CDPC's accounts once the CDPC's ability or willingness to conform to the operating guidelines becomes doubtful. To merit a high rating, Moody's expects significant assurance that the CDPC will adhere to the parameters and limitations built into the operating guidelines, especially since most CDPCs are newly formed companies with limited operating histories.

tions have an interest in ensuring that they are able to obtain the benefit of the security trust deed.

Where it is used, the security trust deed will typically provide for:

- the secured creditors to expressly agree to limited recourse and non-petition provision, which limit their ability to take any independent action against the CDPC for payment of debts owed to them;

- the order of payment of obligations by the CDPC both when the CDPC is in ***normal operating mode*** and after the CDPC has entered into ***suspension operating mode*** or ***wind-down mode***. Payments to the security trustee come ahead of all other monies due and owing to any other party;

- the list of discretionary and mandatory powers of the security trustee, notably the ability/requirement to appoint a receiver once the CDPC has become insolvent; and

indemnity for the security trustee in undertaking any activity under the security trust deed.

Following the deterioration of the credit markets in 2007, greater attention has been paid to the role intended to be exercised by the security trustee in structured debt transactions.

Certain CDPCs, including Channel Capital, have employed the use of a security trust deed given preferences of CDS swap counterparties.

ADMINISTRATION AGREEMENT

The CDPC itself does not have any employees, as a result it outsources all administrative functions to an administrator that the CDPC's directors cannot do (or are unwilling to do) themselves.

The CDPC administration agreement generally grants the administrator full authority to act as the CDPC's agent in fulfilling the following roles:

- conveying all information, notices and other documents to the CDPC, the security trustee, any of the CDPC's debt-holders, the investment manager, the custodian and the rating agencies;
- ensuring the calculation of the daily mark-to-market values of the CDPC's assets and informing the investment manager of these;
- operating and monitoring an account to be used by the custodian, and instructing the custodian to make appropriate payments from it to meet the expenses of the CDPC;
- providing any other organisational services to the CDPC that are deemed necessary and requested by the CDPC;
- maintaining the CDPC's books and general accounting records;
- providing administrative assistance to the CDPC and the investment manager in acquiring and disposing assets; and
- acting as the verification agent in the event of it entering ***wind-down mode***, meaning that it must approve any instruction to make a payment before that payment can be made.

The administration agreement should expressly distinguish the role of the administrator from that of the investment manager by stating that the former will not be responsible for the obligations of the latter. This ensures that the administrator does not stray outside of its expertise and acceptable risk boundaries.

CUSTODY AGREEMENT

The CDPC will enter into a custody agreement with a ***custodian*** bank. The custodian will be a financial institution, which under the custody agreement assumes responsibility for safeguarding and managing the CDPC's assets. These will largely consist of the highly liquid low risk assets owned by the CDPC in order to meet its potential liabilities under the credit default swaps it enters into. In addition to providing what is held by whom, the custody agreement will also state where the assets are held.

The custody agreement will also lay down the mechanics of the custody, determining when and how the assets will be transferred and what events might lead to the assets no longer being held for the CDPC. It is typical for the CDPC to assign the benefit of the custody agreement to the security trustee and for the custodian to acknowledge that it will hold the assets on trust in the custody agreement.

This will be necessary to ensure that the CDPC does nothing to breach its obligations under the security trust deed, where it grants a charge over all of its assets.

In fulfilling its duties the custodian might, amongst other things, be expected to:

- safekeep securities such as notes and shares;
- organise settlement of sales and purchases of the CDPC's assets where sufficient funds are advanced to it by the CDPC;
- collect any income from the CDPC's securities;
- receive and provide information on the assets and their issuers; and
- regularly report on its activities to the CDPC.

However, the custodian will make sure that in no event it is responsible for the selection, disposal and acquisition of the assets as this discretion would bring potential risk to a very risk averse body. It will also want to hold the discretion to decline to hold assets where this would be reasonable and to ensure that where additional unforeseen costs arise the CDPC will reimburse it fully.

The custodian will seek to limit its liability to the CDPC to losses caused through the custodian's negligence, fraud or wilful default under the custody agreement. It shall also require an indemnity from the CDPC for all reasonable losses it suffers in performing the terms of the custody agreement, subject to those arising from its own negligence, fraud or wilful default. Once again, this reflects the unwillingness of the custodian to assume a risk out of proportion with its modest fees.

CREDIT DERIVATIVE DOCUMENTATION

Templates for the forms of ***Isda master agreement*** to be put in place with credit default swap counterparties, and the forms of confirmation for different types of credit derivative transactions, will typically be reviewed and "form-approved" in advance of trading by the rating agencies. Since CDPCs do not post collateral with their credit default swap counterparties, there is no requirement to put in place credit support agreements. Because CDPCs are continuation vehicles, the circumstances in which credit default swap counterparties have the right to terminate outstanding transactions will differ from those found in vehicles which have termination structures. In the case of CDPCs which create security over their assets in favour of a security trustee, amendments will need to be made to the standard Isda events of default to ensure that the appointment of the security trustee, or actions by the security trustee under the terms of the security trust deed, do not of themselves permit the counterparty to terminate the swap.

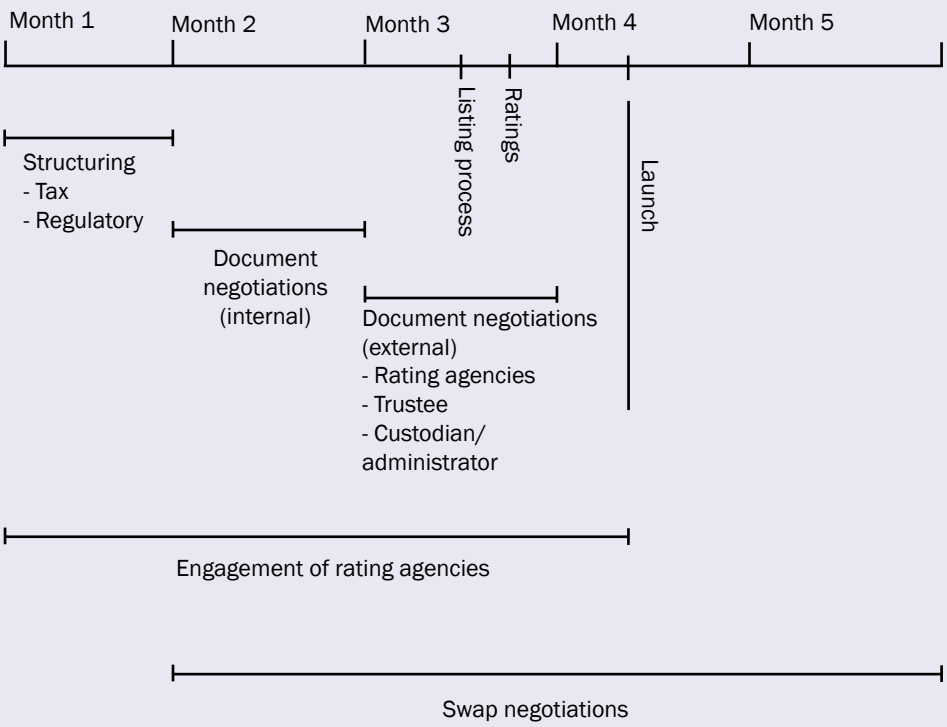
DOCUMENTATION PROCESS

CDPCs are fairly novel transactions in the European context, despite persistent rumours of new market entrants, the most recent CDPC being Channel Capital, launched in 2007.

As a result of their relative novelty, the timeline for execution and negotiation of documentation is a bit longer than some other transactions. A typical timeline is shown overleaf.

As in any transaction, our experience has demonstrated that the key to smooth execution is dependent on keeping all parties moving towards targets and engaging third-parties, namely, the security trustee,

TIMELINE



the administrator and custodian, and their counsel, as well as rating agencies and their respective counsel, early in the process in order to avoid any last minute surprises.

Given the nature of the transactions undertaken by CDPCs, the documentation process naturally continues after launch as new business is written with various counterparties.

CONCLUSION

While CDPCs are relatively new in the European context they benefit from a wealth of prior experience that has been obtained in the structured debt market. As with any new product however, part of the challenge is in educating counterparties about its novelty while pointing out the similarities with prior structures. Having competent counsel is only one element in ensuring the smooth launch of your vehicle.

Neil Hamilton is a partner in capital markets and Mark Redinger is a senior associate in capital markets at Clifford Chance LLP. *The authors would like to give special thanks to Jan Hobbs for assistance in preparing this piece.*

CHAPTER 4

CDPCS: RUNNING THE CAPITAL MODELS

by Randy Gonseth and Chris Wu, Ernst & Young

Each triple A credit derivative product company (CDPC) develops a proprietary, simulation-based cashflow ***capital model*** to determine whether the size of the current capital supports the CDPC's counterparty and debt ratings. The capital model simulates the CDPC's future cash flows for a large number of simulation paths to the longest obligation (credit default swaps and debt) of the CDPC. For each path, it is determined if there is adequate capital to pay the CDPC's obligations. The capital model is typically run on at least a weekly basis.

The capital model is a circuit breaker to prevent the CDPC from jeopardising its credit ratings – Randy Gonseth

OBJECTIVE AND METHODOLOGY

The capital model measures the credit risk in the portfolio versus the available capital to determine the CDPC's ability to pay counterparties and debt holders with certainties commensurate with the respective credit ratings. Generally, the greater the notional exposure and portfolio risk, the greater is the capital required to achieve a particular credit rating. The capital model assumes that the CDPC is in ***wind-down mode***. Therefore the capital model assumes there is no new business activity - no new credit default swaps transactions or additional debt issuances by the CDPC.

The engine of the simulation model and its functions and inputs should be generally consistent with the rating agency's CDO models. Therefore, as each rating agency has its own CDO model, CDPCs will have a separate capital model for each of the rating agencies that rates it. As depicted in the diagram on page 27, the starting point of the capital model process is inputting the data and assumptions about the CDPC's asset and liabilities into the model, which is followed by three sequential processes:

- ***A Monte Carlo simulation*** of correlated defaults and recovery rates for reference entities or assets of the CDS, and also simulation of interest rates, foreign currency rates and potentially credit spreads;

WHAT IS THE PURPOSE OF THE CAPITAL MODEL?

Algis Remeza, senior credit officer, Moody's

Most CDPCs choose to have their ratings managed-with-model. The premise of managed-with-model ratings is that if a CDPC were to suspend all trading permanently, it would become a static portfolio of CDS, whose risk could be modeled accurately and simply. In order to apply the managed-with-model methodology, a CDPC commits to (a) becoming static if its credit risk estimates exceed the criteria for any of its ratings and (b) not taking action, including trading and allowing outflows of capital, if it would cause the CDPC to exceed the credit risk associated with its rating. Therefore, the capital model serves the critical purpose of measuring credit risk and, in turn, the trades that are within the permitted risk profile.

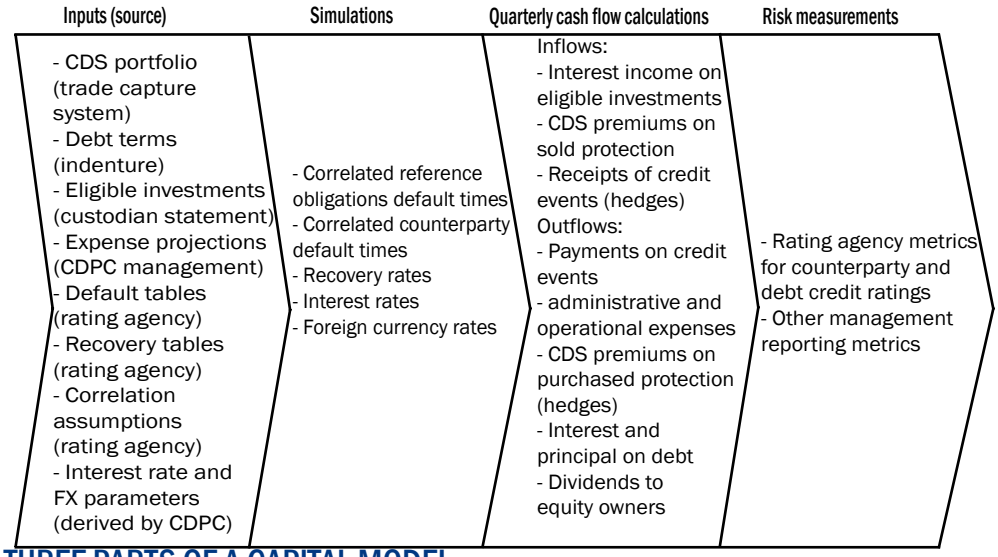
CDPCs build and operate their own capital models, which are reviewed for consistency with Moody's measurements of risk. There are many similarities among the different CDPCs, especially for the modeling of core risks which follow Moody's CDO analyses. Beyond this level, modeling similarities often end as CDPCs typically have different forms of contracts and structures, which require different modeling treatment. Moody's analysts review capital model technical descriptions to ensure that modeling is consistent with documentation and Moody's analyses. Before launching, the CDPC performs a battery of model runs used to verify the model output. Finally, an independent auditor reviews the capital model and delivers an agreed-upon procedures letter.

- ***Projection of future cashflows*** of the CDPC based on the simulated default times, recovery rates, interest rates, foreign currency rates and credit spreads; and
- ***Calculation of the rating agency*** and other metrics to gauge the CDS portfolio risk.

INPUTS TO THE CAPITAL MODEL

Inputs to the capital model include the CDPC's assets and liabilities, and rating agency assumptions on default probabilities, correlations and recovery rates. The entire CDS portfolio is entered into the capital model in granular detail (see opposite). The current market values of the CDPC's ***eligible investments*** are entered into the capital model with two reductions. First, the market value of eligible investments are reduced by haircuts to account for risk of fluctuating market prices of eligible investments as such eligible investments would have to be sold by the CDPC to pay counterparties under a credit event under a CDS. The applicable haircuts are documented in the operating guidelines and are based on their maturity and type of asset. Second, the CDPC must set aside "operational risk capital" to offset nonquantifiable risks, such as the potential for operational errors (that is, systems errors, coding errors in the capital model and documentation errors), unexpected legal costs associated with events, as well as economic risks that have not been modeled adequately. The amount of operational risk capital for a CDPC is also a function of the rating agency's assessment of the CDPC's manager and the soundness of its operations. Operational risk capital is usually a fixed amount that increases over time or as the CDS portfolio grows, and is documented in the ***operating guidelines***.

CDPC CAPITAL MODEL OVERVIEW



THREE PARTS OF A CAPITAL MODEL

1. Simulations

Default and recovery

For each Monte Carlo path, default times for all underlying reference entities are simulated using the rating agency default frequency assumptions. The default simulation model is generally based on the normal Gaussian distribution whereby normally distributed correlated variables (simulated default times) are generated for each underlying reference entity and compared with the default probability thresholds. The correlations of the normal variables are consistent with the asset-specific correlation approach in the rating agencies' CDO models. If the simulated default time for a reference entity is less than the remaining tenor of the CDS transaction, the entity is considered to have defaulted. If the simulated default time is greater than the remaining tenor, then the entity is not considered to have defaulted. For bespoke tranched CDS the defaults of the underlying reference entities are simulated using a drill-down approach, in which the impact of the underlying reference entity defaults is tracked to determine whether the attachment point has been breached.

Recovery rates of corporate assets are also simulated based upon the methodologies the rating agencies use in their CDO models. The recovery rates are assumed to follow

CDS PORTFOLIO DETAILS ENTERED INTO THE CAPITAL MODEL

- **Reference entity name**
- **Industry**
- **Jurisdiction**
- **Credit rating**
- **Counterparty name and credit rating**
- **CDS effective date and maturity date**
- **CDS settlement method (cash/physical)**
- **CDS credit events**
- **CDO tranche name, attachment and detachment points (if referenced by CDS)**
- **CDS notional amount and currency**
- **CDS premium rate, payment frequency**
- **Interest and foreign currency hedge transactions, if any**

COUNTERPARTY DEFAULT IN THE CAPITAL MODEL

If a counterparty defaults, not only do cash inflows of CDS premiums in the capital model terminate, but such counterparty default also creates the risk of a declaration of a termination event, and the value of the mark-to-market of the transactions between the two parties less any unpaid amounts may be due and payable (a cash outflow from the CDPC to the defaulting counterparty). CDPCs typically write their CDS contracts in a way as to avoid the risk of an early termination payment to a counterparty; however, the limited case law in some jurisdictions may lead the rating agencies to require the CDPC to model this risk. A CDPC may not need to model such termination payment risk if it can provide adequate legal and structural comfort to the rating agency that the CDPC will not be exposed to it. From a legal perspective, this requires altering standard Isda language and transactions with counterparties subject to insolvency regimes that will honour such altered language.

beta distributions with or without correlations among the assets. The parameters of beta distributions are derived from historical means and standard deviations of corporate recovery rates from the rating agencies.

Interest rates

A CDPC could face interest rate mismatches between the debt issued by the CDPC and the eligible investments. Therefore the CDPC would need to simulate the interest rate return for the eligible investments and the interest rate for the debt liabilities in the capital model. Interest income on eligible investments is typically modeled at a spread below the simulated Libor, and debt liabilities are modelled to be consistent with any floating rate and step-up features and the maximum rates for auction-rate securities. Any interest rate swap used by the CDPC to manage the interest risk between the eligible investments and the debt liabilities would likely have to be incorporated into the capital model, including the risk of default by the interest rate swap counterparty.

Foreign currency

A CDPC may face foreign exchange risk if counterparties pay CDS premiums in a non-base currency or, if a CDS provides for physical settlement with standard currencies (as defined in the ***Isda master agreement***) as a deliverable obligation characteristic, the CDPC could receive a non-base-currency physical obligation upon a credit event. Although a CDPC can structurally mitigate such risks by not allowing counterparties to pay non-base currency premiums or to deliver non-base currency obligations, such actions may limit the CDPC's business opportunities. A CDPC exposed to such foreign currency risk must therefore capture it in the capital model. Cash inflows on non-base currency CDS premiums should be modelled using a market standard methodology that converts all future cash flows into the base currency. The foreign currency risk on a delivered obligation could be mitigated through purchasing a foreign currency forward or cap for the intended holding period. Alternatively, the CDPC could adopt a policy of not hedging and bear the foreign currency risk.

Foreign currency derivatives used to hedge premiums or delivered obligations, including the risk of counterparty default, would need to be incorporated into the capital model. Alternatively, if no such foreign currency hedges were utilised, the risk of foreign currency movements on non-base-currency cash deposits and delivered obligations held by the CDPC would need to be incorporated into the capital model. Because interest rates and foreign currency exchange rates often move in tandem, simulations of interest and foreign exchange rates generally must be correlated, with the parameters derived from historical data.

2. Cashflow projections

Each of the simulation paths runs to the maturity of the longest CDS and is divided into smaller time intervals (typically quarter year increments). For each time interval, the defaults and recoveries upon default are obtained for all reference entities and counterparties, and the following cash inflows and outflows are summed:

- Inflows: CDS premiums, interest income on eligible investments, payments received due to default on purchased credit protection.
- Outflows: expenses (fixed and variable), debt interest and principal, payments due to default on credit protection sold, premiums on purchased credit protection and dividends. Cash outflows are in order of legal seniority.

If the CDPC has sufficient eligible investments and cash inflows to pay all claims and expenses, such payments are made and the model simulation moves onto the next time interval. If the cash outflows exceed the eligible investments and cash inflows, the CDPC will not have the ability to pay all of its obligations to its debt holders and/or counterparties in that simulation path. After the model has completed all time intervals, it moves on to the next simulation path. The number of simulation paths must be great enough to obtain stable and "converged" results from the capital model. It is not uncommon for a CPDC to run one million or more simulation paths.

3. Risk measurement calculation

Rating agency metrics are produced based on the results of each of the simulation paths. Basically, the outcome of each path is that the CDPC was either able to pay all of its obligations in a timely manner or not able to pay them in a timely manner. As each rating agency has different metrics for its respective credit rating assignments, such metrics must be produced for each of the applicable ratings agencies. The required metrics and the method from which to derive such metrics are generally publicly available from rating agency CDPC and CDO criteria, but generally the default probabilities generated by the capital model must be less than a AAA default probability at a certain time horizon for S&P and Fitch, or the losses calculated by the capital model must be less than a Aaa expected loss ratios at a certain time horizon for Moody's.

CDPC management can also use the capital model to produce additional risk measures to assist in managing the business, such as sensitivity measures, averages or scenario analysis. For example, management could run scenario analysis assuming all reference entities within a certain industry sector were downgraded one notch or a specific reference entity had defaulted.

CAPITAL MODEL TECHNICAL DOCUMENT

The "technical document" written by the CDPC details the required inputs to the capital model, the methodology employed and the resulting risk measurement calcula-

tions. Such documents can range from 30 to 80 pages, including exhibits, and typically detail the formulas for all key computations performed by the capital model. The capital model technical document is a key component of the rating agency review process and is reviewed thoroughly. This document is typically an appendix to the operating guidelines.

CAPITAL TESTS

The operating guidelines describe the frequency with which the capital model should be run (also known as the '***capital tests***") to assess debt and counterparty ratings. Typically, capital tests are run at least weekly, but often daily. If capital tests indicate that the current ratings of the CDPC are in jeopardy (for example, if the minimum required capital per the capital model exceeds 95% of available capital), the operating guidelines typically dictate certain immediate actions (such as a ***suspension event***) and notifications (for example, to the board and rating agencies). Results of the capital tests are provided by the CDPC to the rating agencies weekly.

The operating guidelines also specify the frequency with which inputs to the capital model must be updated. CDS portfolio detail inputs (that is, new trades and reference obligation credit ratings) are updated every time the capital model is run (weekly or daily). Therefore, deterioration in the credit quality, or increase in the size, of the CDS portfolio should result in an increase in the required capital on a relatively timely basis. Other inputs such as the volatility and correlation assumptions on interest rate and foreign currency rates are typically updated less frequently.

CONTROLS OVER THE CAPITAL MODEL

The following tests of the capital model are typically performed prior to the CDPC starting business:

Benchmarking to rating agency models
The CDPC will determine whether the capital model complies with the rating agency methodologies employed in the rating agencies' CDO models. This reconciliation is done by running a number of portfolios that comply within the limitations of the operating guidelines through the simulation portion of the capital model and also the rating agency CDO model. The metric output of each of the two models is checked for equality within a margin of statistical error.

Stress tests
The CDPC generates a series of extreme portfolios permissible under the operating guidelines, such as a portfolio maximising the exposures versus limits on certain industries, having reference entities with the lowest possible permissible credit ratings, and including CDS with the longest possible permissible tenors. Such extreme portfolios are run through the capital model along with the proposed initial capital levels. The proposed capital level of the CDPC must be sufficient to satisfy the threshold requirements for the target counterparty and debt ratings. Some CDPCs conduct further scenario analysis on the portfolio, including rating stresses to obligors and counterparties and other distressed scenarios for their counterparties and investors

Capital model agreed-upon procedures
CDPCs engage an independent accountant to perform ***agreed-upon procedures*** to test the consistency of key computations performed by the capital model with the methodologies described in the technical document. The independent accountant performs calculations described in the technical document on a sample portfolio with an independ-

CDPC CAPITAL MODEL: SCENARIO ANALYSIS AND STRESS TESTING

Brian Naini, chief risk officer, Channel Capital

Stress testing and scenario analysis are intended to forewarn of situations where the capital adequacy limits may be breached. The general approach for stress testing is to change the model inputs adversely and assess the impact on various risk measures. Given the number of inputs to the model and typical capital model run times, it would be impractical to consider very granular permutations of inputs.

A good starting point is to change some of the key inputs one at a time. Capital model inputs can be split into five groups:

1. Capital structure and levergeable capital: details of CDPC issued debt and the leverageable capital
2. Agency rating model data: default probabilities, transition matrices, recovery rate and correlation tables
3. Reference entity details: rating, country/region, industry
4. FX, interest rate and credit process parameters
5. Portfolio data: details of transactions

Capital structure data is not expected to change frequently if at all during the life of a CDPC. However, leverageable capital could change due to, for example, making default protection payments or default of eligible investments.

Reducing the leverageable capital in the model, keeping all other parameters constant, gives an indication of the excess capital in the CDPC. This corresponds to the unexpected cash outflows the CDPC can tolerate without breaching any of its limits.

Stress testing reference entity ratings is very useful in assessing capital adequacy under adverse portfolio migration and/or default scenarios. Defaults can be modelled by changing the ratings to the CC/Ca bucket. Industry and country codes can be used to downgrade or default specific slices of the portfolio.

It is also useful to assess the impact of a downgrade or default of some or all of the counterparties. For capital models that incorporate termination payments, downgrading counterparties highlights the exposure to termination payments. Counterparty downgrades can also indicate the extent of reliance on cashflows from a single or group of counterparties.

Capital models require calibrated parameters to simulate FX, interest rate and credit processes. It is typically required that these parameters be calibrated periodically in order to incorporate the most recent market data. If the most recent market behaviour is different from the historical norms, the newly calibrated parameters may be materially different form those currently in use, especially if the data history is relatively short. To get a preview of the potential impact on capital adequacy, it would be a good idea to shock the process parameters.

To establish whether existing capital can support planned business growth, the current portfolio with various hypothetical portfolios can be run. For both the current and hypothetical portfolios, it is advisable to run the scenarios through time. Time affects the average life of the portfolio, hence the risk measures and limits. Furthermore, maturing deals can affect the portfolio's diversity and cashflows creating capital bottlenecks which may not be apparent in daily production runs.

ent model. The independent accountant's results are then compared with the results calculated by the CDPC using the capital model and the same sample portfolio. Such agreed-upon procedures are done at the initial rating of the CDPC, and thereafter any time substantial changes are proposed to the capital model. For certain CDPCs, agreed-upon procedures are repeated periodically regardless of changes.

Controls over the capital model after launch

Capital model inputs

The CDPC also engages an independent accountant to conduct monthly agreed-upon procedures to test the CDPC's compliance with certain of its operating guidelines. Management of the CDPC uses the results of the agreed-upon procedures in the CDPC's evaluation of the operational effectiveness of its controls over compliance with the operating guidelines. Included in such monthly agreed-upon procedures are tests comparing certain inputs to the capital model with the respective sources as specified in the technical document. Such procedures may include:

- Comparing the total value of eligible investments, less haircuts per the operating guidelines, from the custodian statement with the capital model
- Comparing the operational risk capital amount from the operating guidelines with the capital model
- Comparing the total portfolio notional from the capital model with the trade capture system
- Comparing a sample of key CDS terms (such as reference entity, credit rating, notional, maturity date) from the capital model with the trade capture system and the confirmation

Changes to the capital model

As the CDPC expands its business platform (for example, by adding additional types of permitted CDS or by changing its capital structure), the CPDC makes corresponding changes to the capital model. The operating guidelines contain strict policies that require keeping the model in a secure environment, and that all changes to the capital model and related technical document are documented, approved and tested. This includes providing the rating agency with a marked-up version of the capital model technical document showing proposed edits or additions to the methodology, and obtaining rating agency consent prior to utilising the revised version of the capital model to perform the capital adequacy tests. Depending on the significance of the modifications to the capital model, the CDPC may re-perform some, or all, of the above-mentioned tests (such as tie-out to rating agency models, stress tests and capital model agreed-upon procedures) prior to implementing such changes into the production version of the capital model.

CONCLUSION

The capital model acts as one of several "circuit breakers" in a CDPC to prevent it from conducting additional business that could jeopardise its credit ratings.

In this way, the capital model provides counterparties and other stakeholders with reassurance about the CDPC's creditworthiness over the long term.

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CHAPTER 5

UNDERSTANDING THE RATING AGENCY VIEWPOINT ON CDPCS

by Lisa Cooper

For a credit derivative product company there are few relationships as important as that with the rating agencies that provide the company's crucial triple A ratings. A CDPC must get the rating agencies on side from the start, get them comfortable with the CDPC's business plan and set-up, and keep them on board over time. This relationship is one of the first a new CDPC thinks about.

"It all starts with a phone call," says Nik Khakee, a managing director in the structured finance group at Standard & Poor's in New York, as the prospective company makes contact to find out more about the rating agencies' criteria. From the agency's point of view, the first issues it wants to ascertain are the company's business objectives; its five-year plan; how it will be structured (parent company, strategic partners, large majority investors); the sectors it plans to target; and the potential management team.

For the company, a clear understanding of the rating agency criteria enables it to develop its ***capital model*** and ***operating guidelines*** – the two key points of focus for the agencies. "Our criteria are more prescriptive than rules-based – they describe the issues we are trying to address," says Khakee.

Once the capital model and operating guidelines are fleshed out, the rating agencies can begin to review the quantitative and qualitative sides of the company's operations. "We talk to the management frequently in the process of rating the company and conduct at least one on-site review," says Yvonne Fu, New York-based managing director in Moody's structured finance group. "We look at their systems and procedures so that we have a comfort level that they can perform their day-to-day operations and that they have the necessary skills to run the company, in addition to the quantitative assessment.".

"The quantitative and qualitative parts of our review are equally important," says Alan Dunetz, a managing director in the structured credit group at Derivative Fitch in New York. The quantitative review focuses on the capital model, which is used to measure capital adequacy, with particular emphasis on any potential correlated portfolio losses, while the documentary review revolves largely around the operating guidelines.

WHAT IS A CDPC "COUNTERPARTY RATING"?

Algis Remeza, senior credit officer, Moody's

A Moody's counterparty rating is an opinion of the financial capacity of a CDPC to honor its obligations under its financial contracts. The rating addresses the risk to each counterparty individually as well as in the aggregate. Risk is measured in terms of expected loss, based on the contractual promise. Expected loss is benchmarked against Moody's Global Scale for corporate ratings, meaning that expected loss in the CDPC context is consistent with the expected loss of a comparably rated corporate entity.

Because CDPCs do not necessarily issue rated debt, a counterparty rating may be the only publicly available opinion of its credit quality. Even if a CDPC has issued rated debt, the credit risk to a counterparty may differ from the risk of the rated notes. For example, if a counterparty is senior in payment priority to rated debt, it may be incorrect to conclude that the expected loss under trading contracts is less than that of the rated debt. In fact, the expected loss to the counterparty under trading contracts with a CDPC without a counterparty rating may be greater than that of the CDPC's debt for numerous reasons, including:

- **There may be exceptions to the counterparty's priority of payment, such as when the counterparty is the defaulting party.**
- **Rated debt may mature or be redeemed before a CDPC's obligations to its counterparties end, resulting in increased credit risk to the counterparties as capital flows out of the CDPC.**

A counterparty rating addresses some such risks.

However, as with all Moody's ratings, a counterparty rating does not explicitly indicate specific levels of rating stability or recoveries upon a CDPC default. Moody's urges counterparties to review the new issue and pre-sale reports, which address these and other CDPC risk characteristics not reflected in the Moody's rating. Similarly, ratings of debt and obligations of CDPCs do not reflect their market value or potential volatility. Also, a counterparty rating does not imply a standard CDPC structure or contract. Moody's ratings are its opinion about credit risk, and are not meant to substitute for a counterparty's own due diligence.

"The guidelines are like a credit and investment policy, linked in with a policy on liabilities," says Khakee. They outline how the company will use the proceeds of the capital it raises, how it funds itself, and any contingent obligations it will take on – how much and what type of debt it will raise, for example. It also outlines the exposure the vehicle will take to different sectors, rating levels and the types of investment.

"We express our concerns about any aspect that looks like it could create additional risk, whether it's in the model, the operating guidelines or in other documents," says Dunetz.

Another vital issue outlined in the operating guidelines is what happens should the company fail one or more of its tests.

It is imperative, therefore, that the documentation discusses the consequences of test or guidelines failure, including events that could force the vehicle from normal operations into restricted or wind-down mode. "When the company starts to see its financial position being eroded, we need to know what the remedies are that can cure it," says Khakee. "And if those remedies are not effective, what more stringent tactics will the company take to shore up its finances? And what measures will it take if ultimately that is unsuccessful."

In addition to reviewing the capital model and operating guidelines, a third aspect of a rating agency's assessment is a review of the managers. "It's very important to have a good understanding of the qualifications of the management team," says Dunetz. "We need to be sure that they are fully dedicated to the operation of the vehicle and have a strong background in credit derivatives and structured credit."

For the rating agencies, assessing a CDPC is very different from rating a fixed-life vehicle such as a CDO. "A CDPC is a living, breathing company, with lots of flexibility in terms of how it might evolve down the road," says Fu at Moody's. "So this makes the initial rating process much more elaborate than for rating a synthetic CDO. With a CDO you have a much simpler structure and one that is better defined and has a finite life. Plus you're rating debt which has a set maturity."

It's hardly surprisingly, then, that the initial rating process can be time-consuming. According to Khakee, when the first CDPC – Primus – was established in 2002, it took over two years to complete the rating process. Today the timeframe could be as short as three months, but it could still be significantly longer, as no two vehicles are completely alike.

"They could be investing in a different asset class or have a different mix of funding, and each difference flows through to the rest of the rating process, so even if two companies appear to do the same thing, it's like a matrix – there are lots of different combinations," says Khakee.

Once the company is up and running, its relationship with the rating agencies may become less intense than in the start-up phase, but it remains critical. An annual site visit is a bare minimum, but the two parties remain in contact at least once or twice a month. "They are perpetual vehicles and we monitor them actively," says Dunetz at Fitch. "We receive weekly capital adequacy reports and have an ongoing dialogue. If they want to make any changes, they would normally discuss them with us to see how they would impact our analysis."

Dunetz adds that Fitch has not rated any CDPCs since beginning its review of its CDO criteria back in November, but has kept companies informed of its review process and continued to discuss it with them.

"When the company starts to see its financial position being eroded, we need to know what the remedies are that can cure it"

CHAPTER 6

TACKLING THE OPERATIONAL ISSUES

by Lisa Cooper

For many companies, operations may be something of an after-thought. But for credit derivative product companies, which need to win the confidence of a wide range of constituents and keep those parties informed over time, operational issues are absolutely essential.

According to David Allcock, head of systems at CDPC manager Channel Capital Advisors, there are three factors that make operational efficiency critical for CDPCs: risk management, reporting and scalability. "IT systems are an integral part of the CDPC," he says. Effective systems reduce the scope for human error. This is particularly important when there are many details in a transaction that need to be checked – each one of which has the potential to cause problems for the investor. For example, a CDPC that invests in synthetic portfolio tranches need to check that each of the names in each transaction is the one the firm thinks it has traded with the correct reference obligation.

"A human being may think they recognise each of the reference entities," says Allcock. "But it is all too easy to make a mistake unless you have a system cross-checking every detail."

CDPCs have onerous reporting requirements. Managers of a CDPC that tries to generate these reports manually are soon likely to be overwhelmed by the workload. "We as a company generate a large number of reports for multiple interested external parties such as the rating agencies, counterparties and our investors," says Allcock. "It is essential that these reports are both timely and accurate. Robust IT systems enable us to do this."

A CDPC that puts on just a handful of trades may be able to exist with a rudimentary technological infrastructure. But CDPC strategies typically call for significant volumes, and this means that the company needs to be able to expand without losing track of what it has on its books.

"As more business is carried out by the CDPC it would become increasingly difficult, if not impossible, to generate the required reports in any fashion other than through IT systems," points out Allcock.

Most companies meet their operational needs through a mix of off-the-shelf and customised software. Commercially available products may meet some of the needs of a CDPC.

For example, Principia Partners's SPF software is used by many structured credit vehi-

THE ROLE OF THE ADMINISTRATOR

With small teams of highly specialised and business-focused staff, running a full back-office function tends to be a step too far for most CDPCs. Therefore, most choose to outsource their downstream operations.

Cash management and operational infrastructure are typically passed over either to the company's bank sponsor or to a third party service. "We're the books and records for the structure," says John Spedding, a managing director at QSR Management, a subsidiary of Bank of New York Mellon, which acts as administrator to CDPCs and other structured finance vehicles. QSR has developed its own software platform, EnSIS, for middle- and back-office functions.

In QSR's case, information on all trading activity is fed into EnSIS from the client's system. The administrator is then responsible for capturing cashflows from settlement through to maturity, and for daily reconciliation of all current and future cashflows. Any discrepancies between expected and actual received cashflows are captured in the reconciliation process and the administrator takes responsibility if investigation or resolution with counterparties needs to be undertaken.

According to Spedding, the prime advantage of using a third-party administrator is its transparent, non-biased approach. "We have no economic risk to the transaction as we receive fixed fees to provide the service," he says. For QSR, its relationship with a major financial institution is essential. "Any administrator must have very good relations with the custodian, the paying agent and the security trustee," says Spedding.

cles including CDPCs. The platform provides functionality from front office right through to accounting. "Clients use us for different pieces of that," says Douglas Long, executive vice-president for business strategy at Principia Partners,.

Effective capture and storage of data in such a way that it can be used to ensure compliance with trading limits and operational guidelines is at the heart of a CDPC's operational requirements. Typically, companies would look to a software provider such as Principia to build that function, although some would be able to to piggyback on systems used by sponsoring banks, such as Calypso or Summit.

However, CDPCs cannot simply meet their IT requirements by buying off the shelf. Typically, there is a long period of tailoring. Long at Principia says CDPC customers typically require around six months to install and tailor their software systems.

"Our systems are heavily customised to reflect our operating guidelines and our internal processes," says Allcock at Channel. "Although many companies may use the same base system, a lot of work needs to be carried out to tailor that system to the specifics of the company.

"We went through this process at Channel and have customised the systems to provide us with the metrics and reports that we need, and to ensure all trades are booked according to agreed procedures."

CHAPTER 7

HEARING THE SPONSORS' VIEWPOINT

Thomas Keller, head of structured investments at LBBW, tells Michael Peterson of Creditflux about LBBW's reasons for investing in a CDPC

We are buying into the business case of an operating company with independent management and active corporate governance – Thomas Keller

Michael Peterson: Why does an institution choose to sponsor a credit derivative product company?

Thomas Keller: The CDPC industry is fragmented with many different types of companies and that is why there is no single reason for sponsoring a CDPC. Except that, clearly, a sponsor's motives are not altruistic: sponsorship of a CDPC is an investment.

The motivations for making such an investment are manifold, including: realising book value multiples through a (fast) IPO, shareholding, generating a steady long-term income stream, creating a prudent risk taker for credit derivatives exposure, and achieving diversification of credit derivatives counterparties especially in the super senior area.

In almost every case, the way each existing CDPC is set up reflects the specific motivation of the sponsor or the group of sponsors. And that motivation of the sponsor is essential in determining the way the CDPC is perceived by market participants, especially counterparties.

MP: What was LBBW's own motivation in sponsoring a CDPC?

TK: Given the operating company nature of a CDPC, our sponsorship of such a company is not the classical sponsorship you see in the structured credit world, where an institution sets up an arms-length special purpose entity.

Our sponsorship of a CDPC is a real (seed) equity investment – economically and legally – buying into the business case of an operating company with independent management and active corporate governance. That is why I think "investor" is more accurate than "sponsor" in describing our role. The business case we like to invest in is one promising us an attractive, long-term, steady income stream with low probability of default. In addition, Channel provides us with experience of a technology that will definitely

ABOUT LBBW'S INVESTMENT

LBBW is one of three European banks that sponsored Channel Capital, a CDPC that went live in 2007. Keller serves as a board member of Channel Capital's holding company. The other two members of the consortium are Calyon and KBC Financial Products, making Channel the only CDPC to be backed by a consortium of European banks. The company is rated Aaa by Moody's and AAA by Standard & Poor's and focuses on super senior tranches of global corporate risk in static and managed, index and bespoke formats in multiple curencies. The CDPC manager is Channel Capital Advisors, an FSA-regulated UK-based manager.

have wider applications in the near future. Setting up a triple A company is completely different to purely structuring a triple A risk. A triple A company needs triple A operation and management in addition to capital adequacy.

MP: Attractive returns with low default risk sound like an impossible combination...

TK: A CDPC like ours is different from most other credit vehicles or structures because of its continuation nature. When we designed our CDPC beginning in mid-2005, we were clear that we wanted to avoid liquidity gaps, market value triggers and imminent default risk. As a result we seeded a CDPC not a SIV because of its pure synthetic nature; we chose a continuation structure eliminating all market value triggers; and we focused exclusively on selling protection on corporate super senior single tranches.

That business case gives us excellent access to managed diversified corporate risk protected against defaults via the high subordination of the tranches. In addition, the structure of the vehicle protects us from negative impact on our investment caused by market disruption and liquidity problems or huge market-to-market swings.

MP: Why do you like super senior?

TK: The super senior part of the capital structure is very attractive because the spread you earn is pure risk premium bearing no expected loss. As those kind of risks are unattractive for many investors like hedge funds or banks as an on balance sheet investment and the fact that a major industry absorbing those risks has been falling apart, this area of the capital structure offers good opportunities.

MP: Could you not achieve all those objectives through direct investment in term-funded CSOs on super senior risk in bond format?

TK: A portfolio of CSOs does not give the same efficiency of investment compared to an investment in a CDPC. It also requires a lot more funding, which is expensive in distressed markets.

MP: What kind of returns do you expect on your investment?

TK: We expect returns reflecting the financial and entrepreneurial risks we are taking plus the resources we are contributing into the structure. As we have seeded the structure we clearly expect reliable and steady returns over time but not the quick returns seen in areas like private equity. We expect steady and

reliable dividends. However our return expectations are not purely expressed in monetary terms as we clearly have already and will continue to exploit new structuring technologies, knowledge transfer and relationships which can be put to use in other applications.

MP: What were LBBW's investment parameters? And how did they shape the structure of the company?

TK: When designing the structure we were aware that the success of a CDPC is mostly dependent on its credibility among a wide range of market participants: other seed investors, debt investors, management, board members, rating agencies and counterparties. We saw the need for a well balanced, transparent and sound structure to make it successful.

Achieving triple A counterparty ratings is a necessary but not sufficient condition for the success of a CDPC. To attract demand from various market participants we needed to add substantial features to the company: commitment to a sound, well designed and focused investment strategy, robust corporate governance principles and processes, independent, experienced management professionals, strong infrastructure with backup facilities, global counterparty and debt investor relationships – we have added everything market participants can expect from a professional managed, independent triple A company.

That is why a main focus of the structuring work has been set on corporate governance, alignment of interests and quality of the management. We have put much effort in creating a triple A or first class company regarding operational setup. Channel has outstanding operating professionals and an experienced non-executive management team and board of directors. The operating professionals are all first-rate at running the day-to-day investment operations of the company from front-middle-back while the board sessions provide an excellent opportunity to set strategy along with credit market aware colleagues. This setup gives Channel the ability to have aligned of interests with all parties involved.

MP: It sounds as if you have done much more than the minimum necessary to get the company up and running. Is that extra work paying off?

TK: It is definitely paying off. As you remember, Channel has been operative since June 2007 shortly after getting its triple A ratings and shortly before the crisis started. Channel has issued term debt and has resisted the temptation to launch auction rate notes (which introduce liquidity risk). Channel has grown to nearly $11 billion of super senior risk and succeeded in continuously attracting new counterparties in these difficult market environments.

MP: What does the future hold for CDPCs?

TK: The crisis has changed the credit market dramatically. Especially in the super senior area, a lot of very large market participants have fallen away. It is not attractive for regulated financial institutions to keep this kind of risk on their books, so a new industry is needed to absorb the supply. The CDPC industry is dedicated to taking that role.

The main concern here is setting proper industry standards for CDPCs. As I have just described, there are huge differences in the way that different companies that share the name CDPC are set up. That is why we are working on setting proper standards beyond the triple A rating criteria.

CHAPTER 8

CDPCS: LOOKING TO THE FUTURE

by Michael Peterson

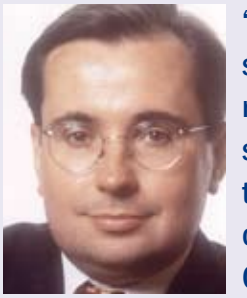
The concept of a CDPC, if not its exact workings, has become widely known in the credit market in recent years. So much so that it is easy to forget just how recent a creation these companies are.

Until around 2006, the term itself was rarely used. (The first use of credit derivative product company to describe these vehicles in Creditflux was in December 2005.) Before then, these companies were termed loosely as credit derivative operating companies or dedicated credit protection sellers.

In the period following Primus's launch in 2002 and before the appearance of Athilon in 2005, this was a club with only one member. Indeed, it was only in 2007 with the appearance of a flurry of new entrants – mostly targeting tranched risk – that CDPCs began to take shape as a coherent sector, with a growing (but far from complete) standardisation of terminology and concepts.

That burst of new business formation coincided with a seismic shock in the financial market which has, paradoxically, helped to create a much clearer sense of CDPCs as a distinct class of entities.

As discussed earlier in this guide, CDPCs have been able to demonstrate the fundamental difference between their business model and those of other structured credit



"CDPCs have demonstrated their operating resiliency and ratings stability when compared to collateral-posting vehicles" – Walter Gontarek, Channel Capital

vehicles. "In the challenging credit markets we have seen since last year, CDPCs have clearly demonstrated their operating resiliency and ratings stability when compared with collateral posting vehicles or operating companies with market value triggers," says Walter Gontarek, chief executive of Channel Capital. "They are facilitating the restructuring of credit portfolios and the execution of new transactions in this risk adverse environment where arrangers have little appetite for retaining correlation or super senior corporate credit risk on their books. Increasingly, the industry is now aware of the subtle but critical differences between CDPCs and monoline insurers," he added.

The central premise of a CDPC is that it is a better constructed holder of many types of credit risk than other institutions. In particu-

lar, CDPCs claim to be more efficient holders of very high quality corporate risk (either in portfolios of single names or tranches) than banks, whose regulators force them to set aside higher levels of capital against these assets.

That impetus by banks to offload certain types of credit risk is only likely to intensify as banks learn how to operate within a new global capital framework, Basel II. "As an active credit portfolio management desk, we are always interested in new vehicles and counterparties that are well rated entities to buy and hold term credit risk," Says Allan Yarish, head of credit portfolio management at Société Générale in Paris "Critical for us is a real capacity to absorb risk. Basel II requires us to achieve 'significant risk transfer' and therefore we need counterparties that can actively participate in the risk of our portfolio in exchange for a true market-based yield."

But the emergence of CDPCs begs two fundamental questions. First, are CDPCs truly an appropriate vehicle for holding credit risk? Second, how will they evolve in future?

CDPCs have clearly answered part of the first question. The use of market value triggers or rolling funding to provide high degrees of leverage has been discredited since the demise of SIVs and highly leveraged funds such as those managed by Bear Stearns.

If investors cannot get the leverage to invest in high grade credit through market value mechanisms or playing the curve, then an obvious alternative is to use credit derivatives to provide leverage. That is exactly what CDPCs do.

But the problem is that this looks very similar what monolines do. And the problems facing monolines show that a strategy of leveraging up by taking on unfunded credit can also be problematic. It is not yet clear that the monoline model will survive the reputational damage stemming from the downgrade of firms such as FGIC, XLCA and CIFG and the continued uncertainty over the ratings of Ambac and MBIA.

CDPCs claim to have certain advantages over monolines. These include the presence of operating modes to serve as "circuit breakers" to stop new business if the rating is in jeopardy, the lack of market value triggers leading to early termination, predominately corporate asset classes, lower leverage than monolines and more transparent capital and risk reporting.

The big challenge for CDPCs is to win the trust and understanding of their various stakeholders – notably counterparties, debt investors and equity investors.

For existing CDPCs, getting counterparties comfortable to trade with them is the most immediate challenge. And, after a period when new business for CDPCs slowed, there are signs that a growing number of banks are interested in putting on trades with CDPCs in the second quarter of 2008. For example, as reported in Creditflux, at least one CDPC - Channel Capital - has added new transactions in the second quarter of 2008.

Typically, banks need to perform a large degree of due dilligence on each individual CDPC counterparty. "We welcome the addition to the credit markets of well rated and performing counterparties including operating companies and CDPCs which promotes trading liquidity," says Robert Shi, head of structured credit trading at Commerzbank. "When evaluating counterparty opportunities we are pretty clear that sponsorship, a clear risk strategy, transparency and high under-

writing standards go a long way in the front office."

Those sentiments are echoed by officials at other banks. "We also support the development of a roster of well rated and high quality CDPCs as commercial banks are simply not the best holder of super senior corporate risk for example in any meaningful size today," says Richard Jacquet, head of alternative credit and structured assets at Natixis. "We are cautious with those entities we transact with. Good sponsors, quality managers, transparency and stable ratings are critical features for us."

One important motivation for banks to buy protection on super senior risk with CDPCs is the growing nervousness of many banks about holding onto this part of the capital structure. Many banks that arranged synthetic CDOs in the past would routinely retain this exposure to help get the deal done. The large losses sustained by banks recently on the super senior tranches of ABS CDOs has served as a reminder of the value of hedging risk that is theoretically remote in the extreme.

KBC Financial Products is one bank that has long steered clear of launching synthetic CDOs if it is unable to hedge the senior risk. "KBC Financial Products has issued a number of synthetic CDOs since 2002," explains Noah Millman managing director at KBC Financial Products. "Our primary business and risk focus is to risk-manage obligor credit risk at the portfolio level. We decided a long time ago that taking views on the correlation pricing and trading dynamics was not our priority in the transactions. This realisation underscored the need to be prepared to place the full capital structure at transaction inception."

"The key to the accounting issue for us was to establish a non-Gaap measure. We did that long before we were a public company."
– Thomas Jasper, Primus

While the most immediate challenge facing the CDPC industry may be to regain the confidence of counterparties, a longer term challenge is to explain their business model to equity investors. A big concern for many is that their earnings can be highly volatile when measured on a mark-to-market basis, as they must be if they become publicly listed.

For a CDPC that is sponsored by a bank or group of banks and has no intention of tapping the public equity market, this may not be a concern. But most new companies would like at least the possibility of being able to raise capital from a public listing.

The one CDPC that is public, Primus, has addressed this issue by consistently giving its investors a buy-and-hold view of its accounts as well as a mark-to-market one. "The key to the accounting issue for Primus was to establish a non-Gaap measure, which we did long before we were a public company," says chief executive Thomas Jasper. "It was absolutely essential to convince the investment community that Gaap was not going to be helpful – especially in a short timeframe like a quarter."

The migration of CDPCs to the public equity market is one possible future for an enlarged

and thriving CDPC industry. Another frequently made prediction is that there will be consolidation within the industry. On the one hand, greater size might give CDPCs more credibility as counterparties. On the other hand, consolidation would make it harder for banks to spread their counterparty risk.

Another long awaited development is the broadening of the CDPC asset class. There has been something of a false start in this direction, given the rather painful experience of the two CDPCs (Primus and Athilon) that have experimented with diversifying into ABS as an alternative to investment grade corporate credit.

However, there are already early signs of diversification in other directions. Many in the industry see high yield loans as a natural add-on to CDPCs' existing corporate risk management expertise – especially given the emergence of synthetic loan tranches.

Says Walter Gontarek, chief executive of Channel Capital, "We have excluded single-name risk from our existing super senior vehicle as we believe that investors and counterparties no longer tolerate co-mingled risk profiles. However we might consider that asset class in a separate operating company in the future".

A longer term prediction is that as the CDPC model becomes more established and better understood there will less focus on the accounting and reporting structure of CDPCs and more on their core business.

The CDPC industry has grown up in response to a need created by the needs of banks to shed risk and their capital and reporting requirements. So it is not surprising that so much of the industry's intellectual efforts have been centred on issues of accounting, reporting, ratings and structure.

But as the industry matures, expect the role of the accountants, legal structurers and modellers to take second place to that of the credit analysts that are already employed by CDPCs in large numbers.

CDPCs are a new type of credit risk-bearing entity. But once their structure is known, tested and understood, the world will inevitably start to focus more on the load they bear than the structure supporting that load.

Existing CDPCs

CDPC	*founded*
Primus Financial Products LLC	**April 2002**
Athilon Asset Acceptance Corp	**January 2005**
NewLands Financial Limited	**March 2007**
Cournot Financial Products LLC	**March 2007**
Invicta Credit LLC	**May 2007**
Koch Financial Products LLC	**July 2007**
Channel Capital	**July 2007**
Quadrant Structured Credit Products	**October 2007**
Aladdin Financial Products	**November 2007**

Source: CBM Group

GLOSSARY

Auditor
The nationally recognised auditing firm appointed by the ***CDPC*** for the purpose of auditing financial statements and corporate accounts. As CDPCs are operating companies, they typically prepare accounts under IFRS or FASB standards.

Agreed-upon procedures (AUP)
The review completed by a nationally recognised accounting or audit firm with respect to a particular aspect of the CDPC and its operations including the monthly operations, documentation, compliance to the operating guidelines, cash accounts and also the ***capital model*** validation (capital model AUP).

Capital model
The model used by the manager which assesses CDPC capital adequacy and size, the appropriateness of the capital resources to meet its longest liability obligation in a manner consistent with its counterparty rating. The results of the capital model are reviewed by the rating agencies before the they issue a counterparty rating and are further validated by the capital model AUP validation exercise.

CDPC capital models typically take into account the quality and composition of the CDS portfolio, eligible investments, and counterparties. Key parts of the capital model typically include the default engine, CDS termination risks, and cashflows of the company.

Capital tests (or capital adequacy tests)
The capital related tests as defined in the capital model technical document and operating guidelines. Failure of the capital tests will result in the change of operating states, loss of the ***normal operating mode*** status, and a reduction of risk taking activities by the CDPC.

Continuation vehicles
Entities that become static, closed-end vehicles upon the occurrence of a ***wind-down event***. Each claim is satisfied over time in order of their priority in the waterfall with counterparty claims satisfied first and equity capital repayment/any profits paid at the end of the vehicle's life. Continuation vehicles may retain their triple-A ratings in suspension or wind-down but their activities will be significantly restricted as described in the operating guidelines. Continuation vehicles therefore do not post collateral under a collateral support annex. All CDPCs rated to date are continuation vehicles.

CDPC
Credit derivative product company - a type of financial operating company which transacts in the ***CDS*** markets, has no ***market value triggers*** that can lead to an unwind of the CDS book and exists as a continuation vehicle.

CDPC board of directors
The board of directors of the CDPC which must approve any CDPC dividends and any changes to the operating guidelines or core documents.

CDS (credit default swap)
An over-the-counter derivative contract to transfer the credit risk of a reference entity or group of reference entities. A protection buyer transfers the credit risk to a protection seller. The protection buyer pays a premium to the protection seller and the protection seller

makes a payment in the event of a default by the reference entity.

Collateral posting
A common method of dealing with counterparty risk in a derivative transaction, in which one counterparty deposits collateral in the form of cash or securities in a margin account. The collateral can be seized if the counterparty is unable to fulfil its obligations under the transaction. CDPCs do not post collateral.

Counterparty ratings
The issuer credit rating which speaks to the capacity of the company to honour its contractual obligations to all counterparties. CDPCs have counterparty ratings and thus treat all counterparties equally. Issuers without counterparty ratings (such as CDOs, hedge funds and monolines) carry a different set of counterparty risks. These risks may include subordination upon default and declining subordination as debt matures over time.

Custodian
The party that provides collateral services to the CDPC and maintains the ***eligible investments*** as documented under a global custody agreement.

Eligible investments (or authorised capital investments)
The cash investments made by CDPCs with the proceeds of their equity and capital issuance. Most CDPCs do not seek to maximise the investment return with these funds and invest in shorter dated cash and cash equivalent instruments such as time deposits, commercial paper and bank debt of the highest short term ratings.

Eligible CDS (or authorised CDS transactions)
Those credit derivative transactions as described in the operating guidelines which are permitted to be executed by the CDPC including long, short and hedging CDS transactions. Transactions outside this scope are not permitted and would be identified by the periodic agreed-upon procedures process.

Form approved documentation
Those template transaction confirmations as approved by the rating agencies intended for use on every transaction. By limiting transactions to form approved documentation, CDPCs reduce their operational risk considerably. As such, form approved Isdas preserve CDPC strategy and ensure expected losses will only occur from obligor or counterparty defaults and not from early termination events. Form approved documentation also provides equal treatment of counterparty claims.

Global custody agreement
See ***custodian***

Isda master agreement
A standardised contract created by the International Swaps & Derivatives Association (Isda) which describes the general terms of over-the-counter derivative transactions that may take place between two counterparties.

Leverageable capital
The capital base of the CDPC which is available for leverage and is reduced by operational capital requirements and the approval of any dividends.

Management agreement (or investment management agreement)
An agreement entered into between the CDPC and the manager which lays out the terms, conditions and constraints under which the manager manages the CDPC's portfolio.

Mark to market
An accounting convention in which a value is assigned to an asset or liability based on its market price.

Mark-to-market triggers
Provisions which can force an investment vehicle to be partially or fully unwound if the value of its portfolio declines below a certain point. CDPCs do not face mark-to-market triggers.

Monoline (or financial guaranty) insurer
An insurance company that invests in credit risk by writing guarantees and, in some cases, credit default swaps. Monolines have a similar business model to CDPCs but are significantly different in many respects, most notably their broader scope of business, the different nature of their capital models and reporting rules, and the absence of prescribed operating modes.

Normal operating mode
The standard operating mode of a CDPC which has not been subject to any ***suspension events***. Only in normal operating mode may a CDPC undertake all permitted activities that would not cause a suspension or wind-down event.

Operating guidelines
The document agreed with the rating agencies which describes the limited operations and activities of the CDPC, and consequences of not following these limitations. The operating guidelines are typically legally enforced procedures and the failure to follow them has significant consequences for the CDPC and its manager.

Operational risk capital
The notional amount of capital in dollars determined by the rating agency allocated risks which is excluded from the calculation of leverageable capital.

Operations review
The upfront and periodic review conducted by the ratings agencies (unlike the monthly agreed-upon proceedures conducted by the AUP provider) to confirm that policies, procedures, systems/IT, corporate governance structures, and other practices are adequate to ensure compliance to the operating guidelines, portfolio limits and capital model requirements.

Permitted activities
Those activities permitted by the CDPC operating guidelines, including the execution or liquidation of eligible CDS transactions, the issuance of debt or equity capital, the redemption or retirement of securities and the making of eligible investments.

Security trust deed
A document which lays out the security arrangement in respect of secured creditors. Certain CDPCs use the security trust deed to enhance the claim of their respective counterparties.

Single tranche CDO (or synthetic CDO or CSO)
A CDS referencing a portfolio of underlying obligors which has an attachment point (where losses up to that point do not require a payment to or from the counterparty) and a detachment point (where losses above that point cease to require a payment to or from the counterparty). Many CDPCs are permitted to execute single tranche CDO confirmations based on Isda standards.

Suspension event
An event described in the operating guidelines which results in the CDPC entering ***suspension operating mode***.

Suspension operating mode
The operating mode of a CDPC which has experienced a suspension event but which has not experienced a ***wind-down event***. In suspension operating mode a CDPC's trading activities are limited to only those which maintain or improve the CDPC's capital adequacy. In this mode, CPDCs are not permitted to declare or issue dividends on equity and have restricted ability to call CDPC debt.

Suspension event
An event which results in a restriction of the CDPC trading activities. These events typically include a capital shortfall for counterparty or debt ratings, the execution of transactions which are not permitted transactions, a violation of a portfolio limit as defined in the operating guidelines, a default of debt, involuntary insolvency, or other violation of the capital model operation agreement. Suspension events, like wind-down events, are automatic and do not require any management or board ratification or process for implementation. The occurrence of a suspension event suggests a counterparty or debt rating is imperilled or at risk of downgrade.

Termination vehicles
Entities that are obligated to liquidate assets and portfolio exposures upon wind-down within a short time period, pay off all liabilities and terminate all derivatives exposures. Such early termination may lead to large claims being immediately due by the entity associated with mark-to-market exposures of the derivatives contracts which may or may not exceed the capital of the vehicle.

Wind-down agent
A party that may be designated by the trustee within 45 business days following a wind-down event to serve as a replacement for the CDPC manager.

Wind-down event
An event described in the operating guidelines which results in the CDPC entering wind-down mode and freezes all trading by the CDPC. Wind-down events typically include a major counterparty rating downgrade of the CDPC, an event of default with counterparties, bankruptcy, completion of an ineligible transaction while in suspension, and a failure to report agreed-upon procedures or portfolio results in a timely fashion for an extended period of time.

Wind-down mode
The operating mode of a CDPC which has experienced a wind-down event. A CDPC in wind-down mode is not permitted to carry out any trading activities and its manager is replaced.

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