

New issuance of structured credit products began to plummet when the credit crisis struck global financial markets in August 2007. Among the worst casualties were collateralised debt obligations (CDOs), vehicles which repackage bonds, loans, and asset-backed securities (ABS) into new securities that redistribute the risk and return of the original collateral amongst other investors.

The shape of CDOs to come

by Christopher L. Culp and J. Paul Forrester

Global CDO issuance grew from approximately US\$41bn in the first quarter of 2005 to over US\$180bn in the first quarter of 2007, as shown in Exhibit 1. Over the same period, the proportion of new CDOs issued by Cayman special purpose entities (SPEs) peaked at around 80 per cent of total global issuance. The Caymans has long been an attractive domicile for SPE issuers of structured products due to its sophisticated and well-developed financial infrastructure, stable regulatory and monetary regimes, tax neutrality and open legal system.

When the subprime mortgage crisis spread to broader credit markets in the third quarter of 2007, global CDO issuance plummeted. As would be expected, the proportion of global issuance by Cayman SPEs also began to decline around the same time. But when global CDO issuance recovered slightly in late 2008 and early 2009, virtually all of the new issues were sponsored by European entities. Because the Cayman Islands serve as a primarily US market-targeted CDO issuance venue, the share of Cayman-based CDO issuance essentially vanished.

Despite their controversial performance during the credit crisis, CDOs have long been heralded for the beneficial risk management and investment tools they offer to banks, asset managers and other financial institutions¹. The current stall

in new CDO issuance thus is likely temporary. But when new CDO issuance resumes, CDOs will probably be different than before the crisis, reflecting both some lessons learned from the crisis as well as likely aversion by many investors to excessive complexity and leverage.

CDOs and the credit crisis

A cash CDO involves the issuance by an SPE of debt securities collateralised by bonds, loans or ABS that are purchased using the proceeds of the new debt issuance. Cash flows received on the collateral are used to service interest and principal paid on the CDO securities in their order of seniority in the SPE's capital structure. More subordinated CDO tranches thus are exposed to greater risk of loss and, in consequence, have lower ratings and higher coupons than senior CDO liabilities. Synthetic CDOs work much the same way as cash CDOs except that SPE issuers sell protection on debt portfolios using credit default swaps instead of buying the actual reference asset.

CDO collateral to date has included bank loans, corporate bonds, sovereign and municipal debt, project finance loans, trust-preferred securities and ABS, including residential mortgage-backed securities (RMBS). Following a period of loose central bank monetary policy be-

ginning around 2000 that fostered low interest rates and tight credit spreads, subprime RMBS became a favoured source of collateral for ABS CDOs. The substantial increase in CDO issuance from 2005 through mid-2007 (see Exhibit 1) was largely attributable to new issuance of ABS CDOs, a significant amount of which were backed by subprime RMBS.

When US house price appreciation slowed in 2006 and turned negative in 2007, subprime RMBS and the related ABS CDO prices plummeted. By early August 2007, secondary market liquidity had virtually evaporated. Investors and financial institutions, moreover, became concerned about subprime exposures (the magnitude and location of which could not be quickly or easily identified) outside traditional RMBS and CDO markets, especially in the relatively opaque structured investment vehicles and asset-backed commercial paper markets widely thought, correctly as it transpired, to hold these securities in their portfolios.

So, on or around 9 August 2007, the subprime problem burgeoned into a global credit crisis. Asset-backed commercial paper, interbank funding, non-subprime securitised products, leveraged loans and other markets all entered a phase of extreme volatility and instability. In some markets, those dislocations are continuing.

CDOs of the future

Given the CDO market disruptions during the credit crisis, some changes can be expected when CDOs re-emerge from hibernation. We review three likely such changes below.²

1. More diversified collateral

In the near-term new CDOs will likely be based mainly on relatively more diversified collateral to avoid the 'shock' that more highly-correlated portfolios can suffer. The few CDOs that came to market in 2008 and 2009, for example, were primarily either 'repacks' of older debt offerings or were based on low-risk collateral like sovereign debt, project finance loans³ or investment-grade corporate debt.

2. More detailed collateral disclosures

Holdings data for CDOs with static collateral portfolios is generally available to investors from collateral managers or trustees. But for dynamically-managed CDOs with frequent changes in holdings, detailed collateral information can be harder to obtain. Investors in such structures were generally content to rely instead on the collateral eligibility requirements set forth in offering memoranda and rating agency guidance and on periodic trustee reports.

Investors and risk managers are likely to demand more detailed and frequent disclosures of CDO collateral holdings going forward. One reason is that risk and portfolio managers themselves have been criticised for not requesting such information in the past. Investors in a CDO2 (ie CDOs that invest in other CDOs) for example, might have seen the underlying ABS CDO collateral and perhaps even the RMBS behind the ABS CDOs. But they probably could not see one level further back to the original mortgage loans and many do not seem to have asked for it.

More collateral disclosure is, of course, no guarantee against future losses. Some risk managers that did have detailed information have been criticised for not using it effectively⁴. Others may have appreciated the risks but believed it was properly priced into expected returns. And all portfolio and risk managers are, of course, hostage to the modelling assumptions used in stress tests and other risk measurement exercises.

Before 2007, for example, most of the industry seems to have been assigning a low or zero probability to the risk of a national US real estate market collapse⁵. Although wrong in hindsight, the harder trick is determining whether a modelling assumption is realistic at the time of the modelling. That can be especially hard when the assumption is adopted almost wholesale by others. No amount of collateral disclosure will resolve that conundrum, which will vex risk managers for the foreseeable future.

3. Back to basics

A benefit of the CDO technology is its flexibility and the capacity for sponsors to design a portfolio that matches investor demands. But that same flexibility merely bred structural complexity in CDOs. Complexity itself is not a vice, of course, but the ease with which an otherwise complex structure can be analysed is a virtue.

In the wake of the credit crisis, CDO investors and regulators will likely prefer simpler structures where 'bells and whistles' are kept to a minimum. That need not imply the commoditisation of CDOs. Some complexity will still be required, after all, for managers to address the idiosyncratic needs of investors or to reflect a manager's distinctive and distinguishing portfolio management skills.

The complexity of a CDO that the market will tolerate is also related to disclosure. The more transparent the inner workings of a CDO are, the more complex the CDO can be without scaring anyone off. Specifically, all CDOs have 'cash flow waterfalls' that dictate the order in which cash flows on collateral are applied to CDO liabilities, reserves, credit enhancements and expenses.

Risk assessments, scenario analyses and stress tests can be performed in Excel on simple CDO waterfalls. But for complex structures with multiple dependencies on the waterfalls of other ABS (eg ABS CDOs) more comprehensive analytical services are required. Intex and a few other data services maintain templates of CDO waterfalls for many such structures. As those analyti-

cal and data services become more widely accessible and cheaper, the structural complexity of CDOs will matter a lot less.

Interim CDO-like solutions to ongoing credit problems

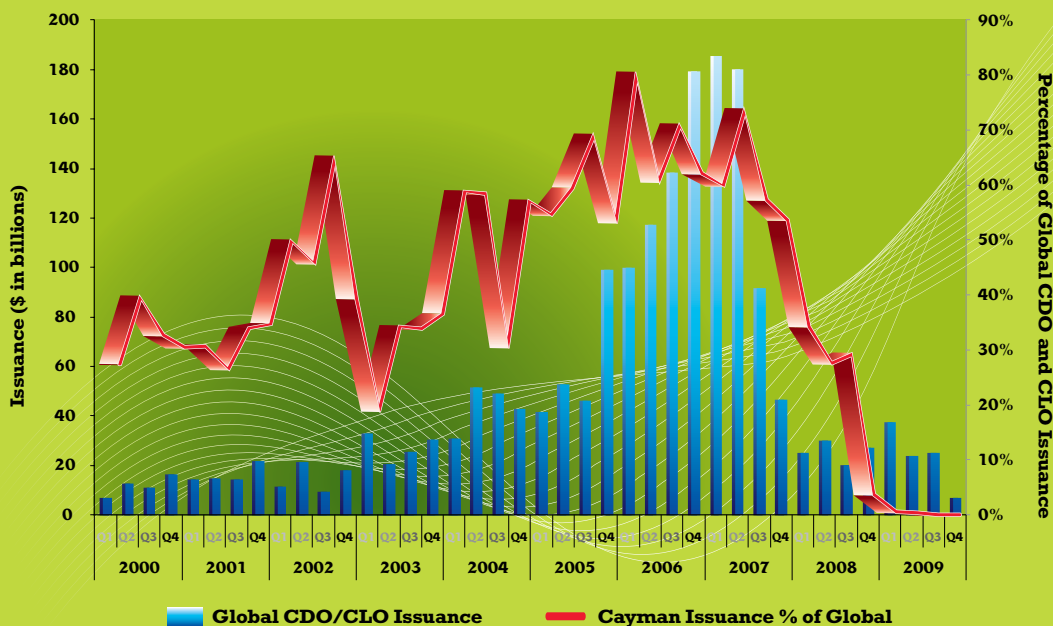
Many banks are still stumbling under the weight of troubled or non-performing structured credit instruments. One of the most important economic functions historically played by CDOs is their capacity to help banks manage such credit and liquidity risks. Unfortunately, new CDO issuance in 2008 and 2009 has been far too low to absorb the large amounts of troubled structured credit assets still on many banks' books. And because prices of those assets continue to gyrate, it is unclear whether they would be palatable as CDO collateral anyway.

To address their interim need to disgorge or manage ongoing problem credit exposures, banks have relied on piecemeal secondary market sales (often at seemingly fire-sale prices), credit default swap protection purchases (which expose banks to counterparty risk), and, if the troubled assets are eligible, government-sponsored programmes like the US Term Asset-Backed Securities Loan Facility (TALF).

In September 2009, Barclays Plc announced a different approach to resolving its troubled structured credit portfolio⁶. Specifically, Barclays sold US\$37.8bn notional in ailing structured products to Caymans-based Protium Finance

EXHIBIT 1: GLOBAL CDO ISSUANCE AND CAYMAN ISLANDS SHARE

2000 - 2009



Note: Data for 2009Q4 is as of 12/1/09.

Source: Thomson Reuters.

for US\$12.3bn. Like a CDO, Protium issued two tranches of interests to finance its acquisition – US\$12.6bn in 10-year debt (at LIBOR + 275bps) and US\$450mn in limited partnership interests. But unlike a CDO, the US\$450mn partnership interests are senior in Protium’s capital structure – the limited partners must be repaid from proceeds on the collateral before the US\$12.6bn loan. Limited partners also earn 7 per cent for 10 years plus any upside on the asset portfolio once the loan is repaid.

Although Protium is a standalone Cayman SPE, the US\$12.6bn Protium debt was financed by a loan from Barclays to Protium’s collateral manager. As such, Barclays will continue to hold regulatory capital against its exposure and will still absorb any default-related losses. Yet, Protium enabled Barclays to eliminate market-to-market earnings volatility on its struggling portfolio – ie the bank traded the upside of any recoveries for the elimination of further downside losses in fair value.

Similarly, Aozora Bank used three tailored CLOs to ‘package’ portfolios of corporate loans and similar credit exposures into highly-rated CLO securities that were eligible for central bank financing, thereby offering Aozora an additional liquidity resource. Even before the full force of the credit crisis, Lehman used a similar US\$2bn CLO, called Freedom Funding, to create highly-rated CLO securities that were eligible for Federal Reserve discount window funding.

Especially when TALF expires, Protium and other CDO-like solutions may provide useful templates for banks to obtain at least partial protection on their ongoing problematic credit portfolios. Some researchers have also suggested that CLOs may facilitate the economic recovery by assisting banks in shrinking their balance sheets without impairing their need to continue lending.⁷

Concluding observations

The CDO market was sucker-punched by the subprime crisis and is still in a dazed stupor. Yet, the structuring process underlying CDOs is fundamentally sound and the benefits of CDOs to issuers and sponsors alike have been amply

demonstrated over the years. As such, we are optimistic that CDOs are down but not out for the full count.

Cayman CDO issuance is tightly connected to US-sponsored CDO activity. Because virtually all new CDOs since late 2007 have been initiated by European sponsors, those new issues have occurred in European SPE-friendly domiciles like Ireland and Luxembourg. As a result, the Caymans have suffered from a dearth of new CDO issuance.

On the brighter side, nothing has changed to

make the Cayman Islands any less attractive as an SPE domicile than it was before the crisis, as confirmed by the domiciling of Protium in the Caymans. As long as Cayman regulators and market participants remain vigilant to ensure that nothing deters new issuance, the Cayman share of the CDO market should recover along with the US-sponsored CDO market. But market participants should also recognise that future CDOs may look rather different from past CDOs and should be prepared to accommodate those changes.

BIO: AT A GLANCE

Christopher L. Culp is a Senior Advisor with Compass Lexecon, an Adjunct Professor of Finance at the University of Chicago Booth School of Business and an Adjunct Fellow with the Competitive Enterprise Institute. He specialises in structured finance, insurance, derivatives and risk management in his teaching, research, consulting and testimonial activities.



Christopher Culp
Adjunct Professor of Finance
The University of Chicago Booth
School of Business
5807 South Woodlawn Avenue
Chicago, IL 60637

T. +1 (312) 846 6157
E. christopher.culp@chicagobooth.edu

The views expressed herein are the authors’ alone and do not necessarily represent the views of any organisations with which they are affiliated or their clients.

BIO: AT A GLANCE

Paul Forrester is a respected finance and securities lawyer whose practice is especially focused on bank facilities; bond financings; credit, commodity, currency, and interest rate derivative transactions; collateralized bond, loan, fund and debt obligations; energy financings and energy management outsourcing; project financings (especially concerning industrial, petrochemical, power and transportation projects); structured credit products; and restructurings, reorganizations and workouts.



J Paul Forrester
Partner
Mayer Brown LLP
71 S. Wacker Drive
Chicago, IL 60606
United States

T. +1 (312) 701 7366
E. jforrester@mayerbrown.com
W. www.mayerbrown.com

ENDNOTES

¹ See K.E. Kohler, “Collateralized Loan Obligations: A Powerful New Portfolio Management Tool for Banks,” Mayer Brown LLP (1998) (<http://mayerbrown.com/publications/article.asp?id=2229&nid=6>).

² Additional changes on the horizon for CDOs may include less reliance on external credit enhancements, more conservative tests and triggers, new rating agency guidance, and more. Alas, space constraints preclude our discussion of these other issues.

³ For a discussion of project finance loans in CDOs, see J.P. Forrester, “Project Finance Collateralized Debt Obligations: What? Why? Now?” *Journal of Structured and Project Finance* (Fall 2002), and C.L. Culp and J.P. Forrester, “Structured Financing Techniques in Oil and Gas Project Finance: Future Flow Securitizations, Prepaids, Volumetric Production Payments, and Project Finance Collateralized Debt Obligations,” in *Energy and Environmental Project Finance Law and Taxation: New Investment Techniques*, A.S. Kramer and P.C. Fusaro, eds. (London: Oxford University Press, 2010 forthcoming).

⁴ See, eg, UBS AG, Shareholder Report on UBS’s Write-Downs (18 April, 2009).

⁵ See, eg, K.S. Gerardi, A. Lehnert, S.M. Sherland, and P.S. Willen, “Making Sense of the Subprime Crisis,” Federal Reserve Bank of Atlanta Working Paper No. 2009-2 (February 2009), and W.N. Goetzman, L. Peng, and J. Yen, “The Subprime Crisis and House Price Appreciation,” NBER Working Paper 15334 (September 2009).

⁶ Protium is similar to Merrill Lynch’s July 2008 transaction with the Lone Star Funds private equity group. Merrill sold a US\$30.6bn notional ABS CDO portfolio for US\$6.7bn to Lone Star and loaned most of the purchase price to Lone Star, which put up only US\$1.675bn of its own money.

⁷ See, eg, R. Ahluwalia and M. Wang, “Collateralized Debt Obligations,” J.P. Morgan US, US Fixed Income Markets 2010 Outlook (25 November, 2009).