Recent Developments in Markets for Credit-Risk Transfer

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Instruments that transfer credit risk from one counterparty to another have existed for a long time.[1] For example, the use of letters of credit and financial guarantees goes back centuries. In recent years, however, the range of such instruments and their use have widened considerably. The modern era of credit-risk transfer (CRT) started in the United States in the 1970s with the packaging of residential mortgages into marketable securities (i.e., securitization) and was followed by the development of secondary markets for bank loans in the 1980s. International markets for credit derivatives, which transfer risk without transferring ownership of the underlying assets, were developed in the 1990s and have grown rapidly. Hence, credit risk is now viewed as being tradable, even when the lender is blocked from selling the underlying assets from its balance sheet.

CRT instruments facilitate the optimal allocation of credit risk in the economy and permit specialization by "unbundling" lending from exposure to credit risk. Financial institutions can also use these instruments to optimize the use of their economic and regulatory capital.

This article begins with a brief description of the various types of CRT instruments and the markets that they trade in, followed by an overview of activity in the Canadian CRT market. The risks inherent in the instruments themselves are then examined.

Instruments and Markets

The CRT landscape has evolved so that there are now numerous alternative mechanisms for managing credit risk, funding costs, capital allocation, and balance sheet disclosure. The specific instrument employed depends largely on the objective of the transfer and the nature of the credit risks being transferred. Table 1 summarizes the available CRT instruments. Interviews with market participants suggest that those who want to transfer risk usually prefer to simply sell the asset. By taking the asset right off the balance sheet, financial ratios are improved, and funds are freed up for other uses, including paying down debt. But selling is not always possible or cost-effective. For example, a loan may not be transferable, either for legal or customer-relations reasons; the cost of selling may be prohibitive (because of liquidity or transactions costs); or the borrower may be able to block the sale. Such factors have boosted the development of markets for credit derivatives, which transfer risk synthetically. The paperwork and legal work required to sell the loan as a separate item may also outweigh the benefits. This is often the case for credit card receivables and personal lines of credit. As a result, securitization markets, such as those for asset-backed securities (ABSs) and collateralized debt obligations (CDOs), have emerged.

Credit Derivatives

Credit derivatives are contracts that transfer credit risk and return without transferring ownership of the underlying asset.

1. Credit risk relates to the possibility that a counterparty to a financial contract fails to meet its commitments, because of bankruptcy or other reasons. It also reflects the possibility of financial losses that can result when a counterparty's credit rating is downgraded.

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Credit Default Swaps

Credit default swaps (CDSs) represent about three-quarters of the global market for credit derivatives, by notional amount outstanding.[2] These instruments basically provide "insurance" against various "credit events."[3] That is, the protection buyer pays the protection seller periodic premiums, in return for a payment if a credit event occurs.

Credit events include bankruptcy, payment failures, and distressed restructuring,[4] as well as repudiation or moratorium in the case of the obligations of sovereign governments. "Damages" can take the form of a single cash payment that is typically equal to the difference between the par value of the "reference asset" and its market value at the time of the credit event. However, CDSs usually settle "physically," with the protection buyer delivering the reference asset to the protection seller for its par value.

While most CDS contracts are based on one single reference asset or entity, basket swaps are based on portfolios of reference assets.

Other Types of Credit Derivatives

The other quarter of the credit derivatives market is composed of total-rate-of-return swaps (TRORSs), credit spread options (CSOs), and credit-linked notes (CLNs). TRORSs are contracts that effectively transfer the total economic performance of an underlying asset to the counterparty. A TRORS is really not much more than a synthetic financing transaction or lease, so its status as an instrument for transferring credit risk is somewhat debatable. A CSO is truly a CRT instrument, since it isolates and transfers

Table 1

Options Available for Credit-Risk Transfer

Typical CRT[a]	Underlying assets	
ABS & ABCP	Loans to households	Residential mortgages
		Credit card receivables
		Auto loans and leases
	Transferable debt (loans and bonds)	Commercial mortgages
		Trade receivables
		Equipment leases
Outright sale Conventional CDOs		Corporate debt
		Emerging-market debt
Synthetic CDOs, CLNs, CDSs, and CSOs	Non-transferable and transferable debt	Corporate loans
		Emerging-market loans

a. Abbreviations
ABS: asset-backed security
ABCP: asset-backed commercial paper
CDO: collateralized debt obligation
CLN: credit-linked note
CDS: credit default swap
CSO: credit spread option

2. Some definitions of credit derivatives include synthetic securitization and asset-swap activity. In this article, synthetic securitization is treated as a subset of securitization, and asset swaps are excluded on the grounds that they have an element of ownership transfer.
3. Although credit guarantees and acceptances are quite similar to credit default swaps (CDSs), they are not included in this article's definition of CRT instruments, owing to subtle contractual features that undermine their usefulness for the transfer of credit risk.
4. The term "distressed restructuring" refers to adjustment in the terms of the reference asset in a CDS contract in a way that is unfavourable to the holders. Such adjustments include reductions in the principal amount or interest payable, as well as postponement of payment.

declines in the price of the underlying asset that are independent of shifts in the general yield curve. In effect, a CSO is a CDS that specifies the widening of the yield spread as a credit event.[5]

CLNs are securities that effectively embed CDSs within a traditional fixed-income structure. They typically pay periodic interest and, at maturity, the principal minus a payment on the embedded CDS if a credit event has occurred. CLNs appeal to investors and protection sellers who are prohibited from trading directly in derivatives contracts.[6]

Securitization

Asset-backed securities (ABSs) bundle together numerous assets into a "special-purpose vehicle" (SPV) which, in turn, issues marketable securities. Various structural features and third-party enhancements are used in ABSs to transform a bundle of obligations that are not necessarily high grade (sometimes these even include "junk" bonds) into high-grade (e.g., AAA-rated) "senior securities."

Conventional collateralized debt obligations (CDOs) are very similar to ABSs, the main distinctions being the types of assets securitized and the number of subordinated "tranches." ABSs typically bundle fairly homogeneous consumer loans, such as credit cards, automobile loans, and mortgages, whereas CDOs are usually backed by more diversified corporate and emerging-market debt.

ABS structures typically issue, at most, a couple of tranches. For example, they will often sell a AAA-rated senior note to investors and a low-rated (e.g., BBB) junior security back to the originator. CDO structures, on the other hand, issue numerous tranches; selling AAA-rated senior notes, A-rated "mezzanine" notes, and one or two BBB- to BB-rated "subordinated" notes to investors, as well as an unrated "equity" tranche to investors and back to the originator. The lower-rated tranches serve as credit enhancements to the more senior securities, since they receive only the cash flow that remains after the claims of the structure's more senior tranches have been satisfied.

In addition to (or instead of) using subordination, credit risk can be reduced by transferring into the SPV assets with a greater aggregate value than the value of the securities issued (overcollaterallization). Third-party enhancements are also frequently used. These include letters of credit and surety bonds from highly rated financial institutions.

In conventional securitizations, the assets are transferred (risk and ownership) into the SPV, whereas synthetic securitizations use one or more CDSs to effect the risk transfer. In this last case, proceeds from the note issuance are used to buy high-quality (usually AAA-rated government) securities. Interest and principal payments on these securities, along with the CDS premiums paid by the originator of the asset, provide the funds for paying interest and principal on the notes and for making CDS payments to the originator if default events occur.

The advantage of the synthetic structure is that it can be used in situations where the underlying assets are not transferable, and it is especially useful for hedging credit lines and other undrawn lending commitments.

Canadian CRT Market Activity

Canadian involvement in CRT markets has followed two paths: development of a domestic market and trade in foreign markets. Domestically, an active market for asset-backed securities has developed, but there is little secondary trade in credit derivatives and loans. Foreign interest in Canadian CRT markets is virtually non-existent,[7] but some Canadian banks are significant participants in the full spectrum of CRT activity in foreign markets. While foreign insurance companies are becoming big players in U.S. and European CRT markets, Canadian insurers are not involved to any great degree in either Canadian or foreign CRT markets.

The bulk of the domestic Canadian CRT activity takes the form of ABSs, particularly asset-backed

5. Bonds are priced in terms of a yield spread over benchmark instruments of similar maturities, such as government bonds and interest rate swaps. This compensates the investor for the bond's credit and liquidity risk relative to that of the benchmark instrument. (See Miville and Bernier 1999.)
6. See Kiff and Morrow (2000) for more detail on TRORSs, CSOs, and CLNs.
7. Some argue that the 10 per cent withholding tax on interest paid by Canadians to U.S. residents may be partly responsible for the lack of foreign interest in Canadian securitization markets.

commercial paper (ABCP).[8] The domestic market for other types of CRT instruments is fairly small. Most Canadian banks run trading operations out of their Toronto or Montréal offices that are purely intermediary. On the other hand, some are quite active in U.S. and U.K. markets for credit derivatives and securitizations. Several banks, in particular, are very active in European markets for synthetic CDOs, although details on such activity are extremely hard to track.

Financial System Issues Raised by CRT Markets

Although numerous benefits can be associated with CRT instruments, a recent report by the Bank for International Settlements (BIS 2003a) and some market observers have identified areas of potential concern.

Lack of Transparency and Disclosure

The BIS report identified lack of disclosure at the entity level and the deal level as an area of concern that may require a policy response from the authorities. Information regarding risk-transfer activity by individual banks can be difficult, if not impossible, to find in financial statements, even among institutions known to be extensively involved in CRT markets.

It should be pointed out, however, that some Canadian banks have dramatically improved their disclosure practices for CRT since the BIS report was finalized. For example, two banks provided fairly extensive information on their CDS activity in their 2002 annual reports; one even disclosed the extent of its ABS liquidity and credit-enhancement exposure.[9] Further moves in this direction would be helpful.

At the transaction level, transparency regarding not only the composition of the securitized-asset pools, but also the identification of third-party enhancers would be helpful. Although credit rating agencies have extensive access to this information for rating-assignment purposes, it is often difficult for private investors to do their own analysis. Particularly in the case of ABSs, investors should at least be aware of who is providing third-party enhancements.[10]

The disclosure of and the accounting for such activity should, however, be helped by the U.S. Financial Accounting Standards Board's (FASB) *Interpretation No. 46*, issued in January 2003. In April 2003, the Canadian Accounting Standards Board (AcSB) of the Canadian Institute of Chartered Accountants (CICA) announced that it is planning to approve a similar guideline. Not only will this raise the risk-transfer standards for removing securitized assets from originator balance sheets, but it may require commercial banks to bring onto their balance sheets some of the assets in the ABCP programs that they sponsor.[11]

Information on aggregate CRT activity is also lacking. In particular, the BIS report noted the extreme divergence in estimates regarding the size of the markets, and concerns have been raised as to where the credit risk is being transferred.[12]

Fitch Ratings (2003) has also raised some interesting questions regarding whether market participants' management information systems have kept up with their expanding activity in these markets.

Complexity and Reliance on Rating Agencies

The BIS report notes the critical role of the credit rating agencies in various CRT markets, particularly in securitization markets. To properly evaluate such structures, rating agencies have had to significantly expand the scope of their assessments. For example, they evaluate ABS and

8. See the article by Toovey and Kiff in this *Review* (p. 43) for more detail on the Canadian ABCP market.
9. See Toovey and Kiff (p. 43) for more detail on ABS liquidity and credit enhancements.
10. See Toovey and Kiff (p. 43) for more on this point.
11. See Mountain (2003) and Parfeniuk and Azarchs (2003) for some early speculation as to the ultimate impact of FASB (2003).
12. See Fitch (2003) for the preliminary results of a survey of protection-selling activity. The U.K. Financial Services Authority has also expressed concerns about transfers into unregulated companies and insurance companies (FSA 2002). However, although the British Bankers' Association has estimated that insurers comprise 33 per cent of all protection-sale business in credit derivatives markets (BBA 2002) (versus 6 per cent on the protection-purchase side), more than 60 per cent of this was with monoline insurers. Monolines specialize in financial guarantees.

CDO structural enhancements, as well as assessing management systems, controls, and abilities. This is well beyond their traditional purview.

Disclosure shortfalls make this issue even more problematic, since it is almost impossible for individual market participants to do their own ABS/CDO risk analysis.

Other rating-related issues that have been raised by market participants with regard to ABS/CDO markets are "notching" and "rating shopping."

- **Notching** is the practice whereby a rating agency that is assessing the securitized assets in an ABS/CDO automatically reduces the ratings given to the underlying assets by any other agency. This is relevant only for securitized assets that the first agency does not rate itself, but the practice is seen by some as anti-competitive and designed to force CDO managers to pay for new ratings on such underlying assets from the ABS/CDO rater.
- **Rating shopping** is the practice of "cherry picking" credit ratings for different CDO tranches. For example, if one rating agency is known to be harsher on senior tranches and a second to be harsher on mezzanine tranches, the originator generates the highest ratings for the whole structure by having the first agency rate the mezzanine tranche and the second rate the senior tranche.[13]

Concentrated Intermediation

The BIS report points out that the extremely concentrated intermediation found in most CRT markets undermines the potential tradability of the instruments. High levels of concentration are particularly evident in the CDS market; for example, the U.S. Office of the Comptroller of the Currency has recently reported that three banks accounted for 92 per cent of outstanding credit derivative positions at U.S. banks (OCC 2002).

The shrinking pool of financial institutions rated at or above AA (low) could make things worse in this regard. The AA (low) threshold is particularly important with regard to counterparty risk on CRT transactions and third-party enhancements. For example, a key requirement for some ABSs to maintain top-tier credit ratings is that any third-party enhancers have minimum ratings of R-1 (middle) or AA (low) from the Dominion Bond Rating Service (DBRS). Most major Canadian banks are rated R-1 (high) and AA (low), but several have been earmarked as more likely to be downgraded than upgraded in the near future.[14]

Also, most synthetic CDOs require a guarantee, typically from a small pool of AAA-rated monoline insurance companies, to achieve a AAA rating on the most senior tranche.

The Impact of CRT Activity on Cash Markets

Some market observers have discussed the potential for the trading of CRT instruments to influence the prices and yields of the underlying obligations of the reference entity. For example, the prehedging of impending loan-syndication positions in CDS markets (front running) has been said to lead to widening spreads for the obligations of the underlying entities.[15] Also, "arbitrage" CDOs, which are built to exploit "average" differentials between the yields on CDO tranches and the underlying securitized assets,[16] require that the manager purchase the underlying assets in the open market prior to launching the CDO. This activity has been held responsible for idiosyncratic price increases in the underlying assets.

Some market participants also claim that hedge funds have used CDSs aggressively, buying protection in order to widen spreads in the CDS market and thus create an impression that the

13. See Perraudin and Peretyatkin (2002) for an analysis of rating shopping.

14. Three of the big-five banks that are rated AA (low) have been assigned a negative "trend" indication by the DBRS. The DBRS trend indicates the direction in which the credit rating is heading.

15. See Armstrong (2003) for a detailed discussion of loan syndication. Arguably, syndication is a form of CRT. It is a form of risk transfer that occurs prior to origination, however, whereas this article focuses on transfers that occur after origination.

16. In "balance sheet" CDOs, the institution that originated the assets is initiating the transaction to improve financial ratios or reduce regulatory capital requirements. Arbitrage CDOs are usually initiated by investment banks, dealers, and money managers who are motivated by the potential profits from yield spreads and from actively trading the securitized assets.

reference entity is in trouble.[17] Empirical evidence supports the contention that such spread widening precedes the widening of spreads in cash markets,[18] but no study has yet suggested a causal link. In fact, the more likely reason for CDS spreads to lead cash-market spreads is that it is easier and more cost-effective to sell credit risk in CDS markets.[19]

Reduced Incentives to Behave Constructively During Restructuring

Unhedged lenders are usually inclined to participate constructively in distressed restructurings in order to minimize their potential losses. A lender who has purchased protection that covers restructuring events may not be so inclined. On the other hand, a lender that has bought protection that does not cover restructuring may even have an incentive to push the obligor into bankruptcy.

Basis and Pricing Risk

From the perspective of financial stability, the BIS report raised concerns regarding mismatches between CDSs and the instruments they are supposed to be hedging (i.e., basis risk). These mismatches usually revolve around the definition of credit events, particularly events pertaining to restructuring and settlement mechanics.[20]

The BIS report also voiced some concerns regarding the youthful state of the literature that pertains to the pricing of basket swaps and securitization structures. Not only is the theoretical work in its very early stages, but assessment of default correlation, which is critical for any such models, still appears to be very crude.[21]

Risks Inherent in CRT Instruments

Two additional areas of concern related to CRT instruments themselves are legal risks and incentive problems.

Legal Risk

One of the key legal assumptions that make ABS and conventional CDO structures "work" is the "true sale" principle. In other words, ownership and all of the legal rights to the loans should be absolutely transferred to the SPV so that it is insulated from originator bankruptcy (i.e., it is bankruptcy remote). This has been challenged unsuccessfully in the courts, in both the United States and Canada, but the challenges serve as a reminder that no structure is completely "bankruptcy proof," and that securitized assets can become, at least temporarily, entangled in the originator's bankruptcy proceedings. Problems of this nature can be avoided, however, by using synthetic structures, where no ownership transfer actually takes place.

In the CDS market, the use of debt restructuring as a triggering event has become rather controversial and has been dropped from some contracts. The intent of basing CDS payouts on debt restructuring by the reference entity was to ensure that the protection covers all credit events that might cause the price of the reference asset to decline. However, circumstances occasionally arise where restructurings do not result in any damages to the protection buyer, but a payment is still triggered. Although efforts have been made to narrow the focus of this trigger to "distressed" restructurings, another issue has evolved around the delivery option that the protection buyer holds in CDSs

17. Sender (2002) provides several examples where it appeared that hedge funds had aggressively purchased protection on entities whose credit ratings hovered on the precipice of becoming "junk bonds" (i.e., rated below BBB (low) by DBRS). The point of targeting such firms is that numerous institutional investors are prohibited from holding, or at least limited in their ability to hold, junk bonds. If, in fact, aggressive CDS buying does cause fundamental ripple effects that push credit ratings into the junk bond range, such activity could be very profitable.
18. See Box 2 in Kiff and Morrow (2000) for a discussion of the linkages between CDS premiums and the yields to maturity on the reference assets. Also, see Hull, Predescu, and White (2003) for empirical evidence of the "leading" role taken by CDS spreads when credits are deteriorating. They also show that CDS spreads tend to be closely aligned with cash-market spreads when they are narrowing.
19. The BBA (2002) survey shows that hedge funds are much more active buyers of protection than sellers.
20. See Kessler and Levenstein (2001) and O'Kane and McAdie (2001) for a discussion of basis risk.
21. One difficulty with assessing default correlations, and default statistics in general, is the paucity of defaults, particularly among investment-grade entities.

that settle "physically." [22] In several recent restructurings, it has been argued that protection buyers have abused the option by delivering lower-priced, low-coupon, longer-maturity bonds against the higher-valued loans that the contracts were designed to protect.[23] The treatment of restructuring was identified as an important issue in the BIS report, and it may not be completely resolved unless the new Basel Capital Accord drops the need for CDS hedges to include restructuring as a credit event.[24]

In fact, the most recent Accord proposal (BIS 2003b) does indeed make restructuring an optional event when the bank has complete control over the restructuring decision. However, since few banks are in this position, the BIS indicates that it will continue to explore alternative restructuring treatments.

Incentive Problems

Both BIS (2003a) and Kiff, Michaud, and Mitchell (2003) discuss extensively the ways that CRT instruments change the relationships between borrowers and lenders, creating new relationships with other risk takers. Many features inherent in CRT instruments limit the conflicting incentives that could arise from these relationships.

For example, lenders have an incentive to protect only high-risk assets, and to lower their standards regarding the screening and monitoring of such borrowers after they have purchased protection. Appropriate incentives are introduced by credit support from lenders (e.g., providing letters of credit for ABSs), structural enhancements (e.g., overcollateralization and taking subordinated interests), and through the issuer's desire to maintain a reputation for issuing quality securities.

CDOs, which give collateral managers some latitude over the composition of the asset pool and timing of transactions within the pool, are particularly prone to incentive problems. For example, a CDO manager who is also the source of the pool's assets might be tempted to replace maturing assets with low-quality assets off its own balance sheet. Such incentives can be mitigated by the use of independent management boards, strict substitution rules, and the provision of information on the securitized assets, plus manager participation in the equity tranche and other forms of risk retention.[25]

Summary

There is little doubt that CRT instruments increase market efficiency and the dispersion of risk, but in doing so they create other potential risks and problems. These include legal and incentive-alignment issues that the market seems to be well on the way to solving. In addition, on a more systemic level, disclosure and transparency seem low, although various authorities are in the process of requiring improvements in this area for many of these instruments. Finally, the increasing complexity of these instruments is of some concern as is the increasing reliance of market participants on rating-agency and "black-box" risk assessments.

Such concerns are allayed to some extent by the still low levels of activity in these markets, particularly when compared with other risk-transfer markets, such as those for interest rate and currency derivatives. For example, the notional value of outstanding contracts for credit derivatives is only about 2 per cent of the value of outstanding interest rate and currency-swap contracts.[26] Also, for many lenders, managing

22. In physical delivery contracts, it is necessary to provide for more than one deliverable asset, to ensure that the contract can actually be settled.
23. In 1999, the International Swaps and Derivatives Association (ISDA) introduced some modifications to the market-standard documentation that restricted the terms to maturity of the assets that can be delivered under a restructuring event. However, this "modified restructuring" language does not seem to have completely eliminated the potential for delivery option exploitation.
24. On 3 March 2003, the Creditflux news service reported that CIBC is suing Ace Capital Re Overseas Ltd. over the monoline insurance company's refusal to honour its side of a CDS that referenced Xerox. In 2002, Xerox's bankers extended the maturities of some of its bank loans, triggering a controversy as to whether this was a "distressed" restructuring.
25. See Nazarian (2002) for a discussion of potentially abusive practices by CDO managers and some suggested solutions.
26. According to the ISDA (2003) there were US$2 trillion of credit derivatives outstanding (by notional value) at the end of 2002, versus US$100 trillion of interest rate and currency derivatives. However, the potential risk exposures being transferred by credit derivatives, relative to those being transferred by other types of derivatives, may in fact be larger than those inferred from just comparing notional values. For example, the impact of a reference entity bankruptcy on the value of a credit derivative would likely be much greater than that of even the most extreme interest rate or currency "events."

credit risk at the origin of the transaction remains the preferred way of achieving their target profile for credit risk.[27]

References

Armstrong, J. 1997. "The Changing Business Activities of Banks in Canada." *Bank of Canada Review* (Spring): 11–38.

———. 2003. "The Syndicated Loan Market: Developments in the North American Context." Bank of Canada Working Paper No. 2003-15.

Bank for International Settlements (BIS). 2003a. *Credit Risk Transfer*. Report submitted by a working group established by the Committee on the Global Financial System. Basel: BIS (January).

———. 2003b. *The New Basel Capital Accord*. Third Consultative Paper by the Basel Committee on Banking Supervision. Basel: BIS (April).

British Bankers' Association (BBA). 2002. *BBA Credit Derivatives Report 2001/2002*. London: BBA.

Financial Accounting Standards Board (FASB). 2003. "Consolidation of Variable Interest Entities – An Interpretation of ARB No. 51." FASB *Interpretation No. 46* (January).

Financial Services Authority (FSA). 2002. "Cross-Sector Risk Transfers." Discussion Paper. London: FSA.

Fitch Ratings. 2003. "Global Credit Derivatives: Risk Management or Risk?" Special Report 10 March. Available at <http://www.fitchratings.com>.

Hull, J., M. Predescu, and A. White. 2003. "The Relationship Between Credit Default Swap Spreads, Bond Yields, and Credit Rating Announcements." University of Toronto Working Paper (March).

International Swaps and Derivatives Association, Inc. (ISDA). 2003. "ISDA 2002 Year-End Market Survey." New York: ISDA (19 March). Available at <http://www.isda.org>.

Kessler, M. and L. Levenstein. 2001. "Credit Default Swaps versus Financial Guarantees – Are the Risks the Same?" Moody's Investors Service (June).

27. This is demonstrated in, for example, the Rutter Associates survey, which is summarized in Smithson et al. (2002).

Kiff, J., F.-L. Michaud, and J. Mitchell. 2003. "An Analytical Review of Credit-Risk-Transfer Instruments." *Banque de France Financial Stability Review* (June).

Kiff, J. and R. Morrow. 2000. "Credit Derivatives." *Bank of Canada Review* (Autumn): 3–11.

Miville, M. and A. Bernier. 1999. "The Corporate Bond Market in Canada." *Bank of Canada Review* (Autumn): 3–8.

Mountain, J. 2003. "FASB's SPE-cial Delivery on Consolidation Accounting." Deloitte & Touche *Heads Up* 10 (4 February).

Nazarian, D. 2002. "Structural Features Aimed at Enhancing CDO Ratings Stability: An Overview." Moody's Investors Service, Special Report (July).

Office of the Comptroller of the Currency (OCC). 2002. *Bank Derivatives Report: Third Quarter 2002*. Washington: OCC (December). Available at <http://www.occ.treas.gov>.

O'Kane, D. and R. McAdie. 2001. "Explaining the Basis: Cash versus Default Swaps." *Lehman Brothers Structured Credit Research* (May).

Parfeniuk, L. and T. Azarchs. 2003. "FIN 46 Likely to Have Impact on Major Canadian Banks." Standard & Poor's (16 April).

Perraudin, W. and V. Peretyatkin. 2002. "EL and DP Approaches to Rating CDOs and the Scope for 'Ratings Shopping.' " In *Credit Ratings: Methodologies, Rationale and Default Risk.* Edited by M.K. Ong. Risk Books.

Sender, H. 2002. "Deals & Deal Makers: A Market Backfires, and Investors Pay," *Wall Street Journal*, 5 December, C1.

Smithson, C., S. Brannan, D. Mengle, and M. Zmiewski. 2002. "Results from the *2002 Survey of Credit Portfolio Management Practices*." Rutter Associates (17 October). Available at <http://www.rutterassociates.com>.

Toovey, P. and J. Kiff. 2003. "Developments and Issues in the Canadian Market for Asset-Backed Commercial Paper." *Bank of Canada Financial System Review,* this issue.