

Falling Dominoes

The Impact of Credit-Triggered Risk

By Tom Conway and Peter O. Davis

THE ENRON COLLAPSE, the sudden deterioration of WorldCom, and the string of asbestos-related bankruptcies over the past 18 months have reopened the eyes of insurance company management to exposure from credit-related losses. Like the wake-up call issued to the industry when Hurricane Andrew narrowly missed Miami in 1992, these events are driving home a clear message: to measure, monitor, and manage the interconnected risks that emanate from multiple trigger points.

The new world of risk has property/casualty companies facing what we call "credit-triggered risk." In a traditional sense, credit risk usually implies the chance that a loss will occur on a financial instrument due to an obligor's failure to meet its contractual obligations. Credit-triggered risk encompasses traditional credit risk but also a host of additional risks that arise when the financial condition of a policyholder, reinsurer, counterparty, or related third party deteriorates due to credit-related events. In a kind of deadly domino effect, the multiple losses from these exposures can sweep through a company, compounding the initial direct damage, in a chain of events that may be difficult to anticipate and impossible to halt.

A recent example of the credit-triggered risk phenomenon is the insurance industry fallout from the Enron bankruptcy. In the days and weeks following Enron's demise, property/casualty companies scrambled to quantify their losses. As they struggled to gather information, two things gradually became very clear: (1) that gathering the information was too difficult, and (2) that losses were emerging from multiple operating areas of each company.

The areas affected included investments (stocks, bonds), surety bonds, financial products (credit default swaps), directors and officers liability, and errors and omissions coverage. To date, total reported losses per insurer have ranged from \$10 million to

the hundreds of millions.

Initial reports on WorldCom show a similar spread of loss exposures over multiple products. Heavy exposures have been reported by insurers in the traditional investment areas but also in the area of financial products and directors and officers liability.

Driven by Major Trends

Given developments over the past 10 years, it shouldn't come as a surprise that the insurance industry could be susceptible to such a large aggregation of exposure from a single bankruptcy. Major industry trends such as globalization, consolidation, the introduction of complex new products, and the increasing structural changes within companies have all contributed to this problem.

Globalization has created farther-flung business operations, making it more difficult to provide corporate oversight at the level necessary to track risk aggregation. Consolidation has led to an increase in company size and to more diversified product offerings, making it more likely that an insurer will have multiple touch points with a single customer. The introduction of complex new products, such as collateralized debt obligations, has created the potential for companies to substantially leverage their credit exposure to a single counterparty or portfolio of counterparties.

**In the wake of Enron and WorldCom,
property/casualty insurers must reassess
their exposures to credit-triggered risk
and how this risk is controlled.**

Exhibit 1

Insurers Have Multiple Exposures . . .

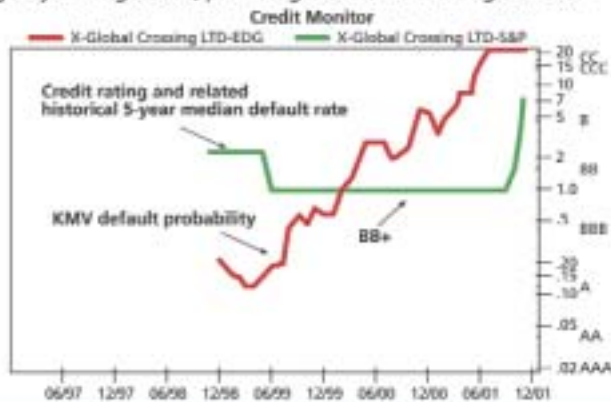


Before Enron, most property/casualty companies weren't focused on the need to assemble the necessary data and develop tools to manage and monitor credit-triggered risk.

Exhibit 2

Forward-looking Default Risk Models

Market-based models typically reflect credit quality issues well in advance of rating agency downgrades, providing more time to mitigate risks.



Changes in management organizational structures have created specialized business units for the purpose of developing more focused, entrepreneurial operations within a company. While the business reasons behind these structures are legitimate, the effect in some cases has been to create silos that don't communicate and may be offering multiple products to the same customers.

The result of these developments is that before Enron, most property/casualty companies typically didn't have the information to track aggregations of credit-triggered risk across operating units and product types. They simply weren't focused on the need to assemble the necessary data and develop tools to manage and monitor credit-triggered risk.

This attitude is similar to the insurance industry's position on catastrophe risk before Hurricane Andrew. Insurers used out-of-date methods and models to monitor aggregations of

risk. Since then, the industry has done an about-face. Working with vendors, insurers have developed sophisticated exposure databases and catastrophe simulation models to measure individual risks and aggregations of risk. These efforts should serve as a model for the industry to follow in measuring other aggregation-type risks, such as credit-triggered risk.

Insurance companies can draw on the experience of other sectors within the financial services industry to identify how they can strengthen their management of credit-triggered risks. Over the past decade, commercial banks have continued to invest heavily in enhancing credit risk management. The challenges that P/C companies face in managing their credit risk have parallels within the banking industry, allowing P/C companies to leverage banks' investments in this area.

These activities can fall into four categories: identification, measurement, monitoring, and management. Clearly, these activities build on each other, since credit-triggered risks must be identified before they can be measured or managed. These categories are also ranked by the increasing value they bring to the firm. Risk identification, by itself, doesn't improve a firm's risk profile. Therefore, the challenge is to sufficiently invest in risk identification and measurement in order to build value through effective risk monitoring and management.

Identification

As described above, there are two types of credit-triggered risks: direct and secondary. Direct credit risk is easy to identify at the product level but not necessarily at the business-unit or enterprise level. P/C companies take on direct credit risk primarily through their investment portfolios and financial products, such as surety bonds and credit guarantees.

In identifying the direct credit risk they face at the enterprise level, insurance companies confront two major challenges similar to those faced by banks. The first is to maintain the industry-wide databases containing the organizational hierarchies at the company the insurer has the relationship with. All the insurer's credit exposures to the individual companies in the respective organizations can be aggregated up to the parent-company level. Unless this can be done, single-name risk concentrations may not be fully identified at the insurer's enterprise level.

Second, exposure data must be collected from disparate systems across business units to allow for the aggregation of exposures at the enterprise and lower levels within the insurance company. Banks and other institutions with significant credit exposures have moved toward the creation of credit-risk warehouses, or databases, that use middleware applications to collect exposure and risk data from diverse client/server and legacy systems. These credit warehouses, supplemented by market data and risk models, then support the measurement, monitoring, and management of their credit risk.

But beyond the challenges they face in collecting and aggregating direct credit exposures, insurance companies, unlike banks, also are subject to secondary—credit-triggered—risk exposures. (See ex. 1.) The challenge isn't only to identify these risk exposures, but to place them on a level equivalent to direct credit risk exposures so they can be aggregated up on a single-name basis.

For example, an insurer may find that it has direct credit exposure to a given company, but also has secondary exposure through professional liability insurance sold to a service provider of that company.

As a second example, the insurer may also incur related losses from D&O insurance due to lawsuits against officers within the defaulting firm. And finally, the insurer may experience losses from providing reinsurance to a company that provided coverage (e.g., a surety bond) to the defaulting firm. A large claim from the defaulting firm could result in a reinsurance claim when the reinsurer was unaware of the underlying exposure.

The insurers' scramble to assess their exposures after the collapse of Enron indicates that identifying credit-triggered risks, and developing systems that fully aggregate risk exposures on a timely basis, will require a significant investment of time and money. Insurers must assess the return on these investments in light of their current and planned credit risk exposures.

Measurement

In recent years, banks have made much progress in quantifying their credit risk exposure. Insurers can leverage this expertise. Banks have focused on the enhancement of their internal ratings systems, improving the ability of these systems to effectively rank credit risks consistently across product types and to link credit ratings to default probabilities and estimates of loss severity. Particularly for credit exposures to public firms, banks have introduced forward-looking models to obtain the market's view of the credit quality of individual firms. This allows banks to identify

potential credit deterioration before a ratings downgrade.

For example, ex. 2 shows the default probability for Global Crossing—which filed for bankruptcy in January 2002—as estimated by KMV, a leading vendor of credit risk models. The exhibit compares its credit rating and associated historical default probability with similarly rated firms. In this case, the KMV default probability, which reflects the market's view of the altered value of the firm, shows a deterioration in credit quality well in advance of the credit rating downgrade.

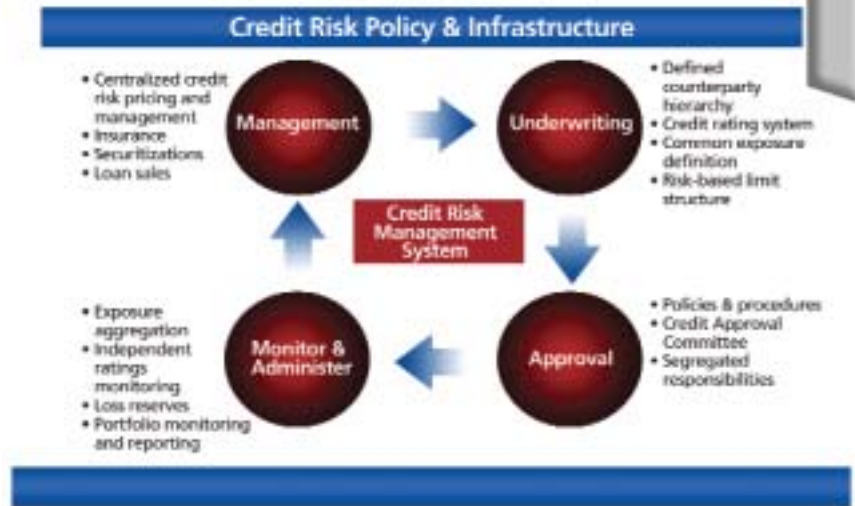
Banks have made similar advances in developing portfolio models that allow companies to measure their potential losses at a certain confidence interval, given the credit risk correlations within their portfolio. The information is crucial to the enhancement of early-warning systems, allocation of credit risk capital, and refinement of risk-based pricing.

As P/C insurers look to enhance their management of credit-triggered risks, they should assess their ability to consistently rank risks across products and business units based on forward-looking views of credit risk. They should also assess their ability to measure the correlations among their credit (and other) risk exposures in order to assess how much could be lost in a worst-case scenario. Where credit exposures are modest, insurers will want to develop cost-effective approaches that capture the credit risk within a contract, eliminating the need to undertake a costly assessment of the specific credit exposure.

1/4
CPS
Page 29

Exhibit 3

Leading Practice Credit Risk Cycle: Banking



Monitoring

Credit-risk monitoring is largely driven by a company's ability to identify and measure its risks. The more advanced the identification and measurement, the greater the potential to monitor shifts in credit quality and the potential impact on related exposures. Credit risk monitoring should allow management to focus on the largest exposures and highest risks. The largest exposures (based on direct and secondary exposures) and the lowest-quality credits should be monitored more frequently.

In recent years, many institutions have turned to vendors' market-based models to develop early-warning systems that monitor their riskiest customers and "biggest movers," or those customers with the greatest deterioration in credit quality from period to period.

Management

The management of credit-triggered risk can take three forms: (1) limiting the risk accepted, (2) demanding adequate compensation for the risk accepted, and (3) transferring or miti-

gating the risk either within the transaction or at a portfolio level. As shown in ex. 3, credit-triggered risk should be managed at all stages of the credit cycle.

Effective credit risk management begins with a clear definition of the firm's credit risk appetite, which then drives the controls and limits on the types of credits accepted. Common limit structures restrict risk exposures by single customer, credit rating, geographic location, and/or product.

In recent years, commercial and investment banks have revisited their limits structures, which were originally judgment based, to set more risk-based exposure limits. For credit-triggered risks, P/C companies must develop a consistent framework that allows them to compare direct and secondary credit exposures so that they can introduce comprehensive risk limits.

As insurers move from risk limits to risk-based pricing to risk mitigation, they again can draw upon the experience and investments made within the banking sector. In particular, the increased liquidity in recent years for the transfer of credit risk through securitizations, credit derivatives, and financial guarantees have created increased transparency in credit-risk pricing and opportunities for insurers to actively manage their credit-triggered risk exposures.

Recent events have made investors, rating agencies, and regulators much more aware of the potential costs of credit-triggered risk. Before the next triggering event precipitates another series of falling dominoes, the challenge for P/C companies is to introduce or enhance credit risk management techniques that allow them to identify their strongest lines of business and reposition their operations in order to control losses and provide stable returns during high-stress periods. ●

TOM CONWAY IS A PARTNER IN ERNST & YOUNG'S ACTUARIAL SERVICES GROUP IN CHICAGO.

PETER O. DAVIS IS DIRECTOR OF CREDIT RISK MANAGEMENT IN E&Y'S RISK MANAGEMENT AND REGULATORY SERVICES PRACTICE IN NEW YORK CITY.

1/4
Mitchell Group
Page 30