Commercial
Lending
Review

ACCOUNTING CLUES TO MANAGEMENT QUALITY 2

PAUL HOFMAN

The accounting policies chosen by a borrower's management give important clues to management quality and the business' creditworthiness.

ADAPTING RISK MANAGEMENT TO PROTECT THE ENTERPRISE 8

MARK J. OSWALT

Risk management, once considered a loan review or operations function, now must encompass wide-ranging lines of business.

RISK IMPLICATIONS OF CREDIT DERIVATIVE INSTRUMENTS 15

J.V. RIZZI

While opaque and difficult to value, credit derivatives can be a useful means of participating in the credit market.

PROPER LOAN STRUCTURE REQUIRES COORDINATION OF MULTIPLE AREAS OF LAW 23

GEORGE A. NATION III

Even small loans require an understanding and coordination of many areas of law to be properly structured.

NEW TECHNOLOGY FOR CREDIT REVIEW 28

CAROLYN NOBLES

Basel II is driving many institutions to consider new systems for credit review. Here are some pitfalls in acquiring new technology and how to avoid them.

LOAN REVIEW

CASE STUDY: BEST PRACTICES AT HIBERNIA NATIONAL BANK 34

THOMAS R. WOOD

How Hibernia National Bank allocates loan review resources and adapts to change.

SMALL BUSINESS

NONCREDIT PUBLIC RECORD DATA FOR CREDIT DECISIONS 38

MARK DOMAN AND JAMES CHRISTIANSEN

Public record and other noncredit data can enhance examination of both thin and full credit files, and increase the universe of prospective borrowers.

ACCOUNTING

CONSOLIDATION OF VARIABLE-INTEREST ENTITIES 41

ADRIAN P. FITZSIMONS AND MICHAEL J. GREGO

Post-Enron, FASB revises the rules for consolidating special-purpose entities.

RELATIONSHIP MANAGEMENT

CALL PREPARATION FOR THE TECHNOLOGY INDUSTRY 47

BOBBY MARTIN

A bank need not incur credit risk in order to establish and maintain a long-term profitable relationship with technology firms.

Accounting Clues to Management Quality

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Accounting has suddenly become a popular subject for seminars, speeches, even cocktail parties. Thanks to the recent spate of accounting scandals that continues to dominate the business press, accountants are no longer depicted as arcane backwater types. We are being romanticized as wild risk takers who have the ability to create revenue out of thin air.

Of course, accountants can have a significant impact on the reported earnings of a company. People are learning the accountant's dirty little secret of generally accepted accounting principles (GAAP): There is a wide choice of how to record transactions and still be in compliance. Some companies are using accounting principles that are not quite generally accepted yet, and others are stretching the rules to the breaking point.

What does all this mean to the lender, who depends on the reliability and validity of a borrower's financial statements and who, in my opinion, is the most important reader of privately owned companies' financial statements? It means that one can no longer take a casual reading of financial statements and assume that they present a good picture of a company's financial status. Furthermore, to really understand a company's financial statements, the reader must understand the goals and motives of the owner. Under GAAP there is a wide range of acceptability, which allows two borrowers to record the same transaction differently and still be in compliance.

For example, if I were an owner bent on selling my company soon, I could apply as much window dressing to the statements as possible, let's say, by depreciating my equipment very slowly. On the other hand, if I were an owner aiming to minimize my tax liability, I could depreciate my equipment very rapidly. Both choices would be within GAAP but result in different bottom-line profits.

In addition, financial statements are replete with estimates and judgments made by the preparer. Another dirty little secret! The numbers are not true, perfect, accurate, or firm. In fact, there may be only one item on the balance sheet that is not an estimate. I believe it is capital stock. Every other number has some degree of judgment behind it.

One of the ways that we determine the goals and motives of an owner is to review warning signs that, historically, have predicted trouble. This review of warning signs could lead the analyst to get a better understanding of the quality of management and ownership. Let's review some of the key risk areas that may reveal management incompetence.

Working Capital Trends

Working capital assets and liabilities are a good indicator of management acumen. These assets and liabilities are greatly affected

by the cash flow of the business. The cash cycle flows through the primary working capital accounts, including accounts receivable, inventory, accounts payable, and accrued expenses. Competent management watches those accounts closely and monitors them almost daily to make sure that the cash cycle is not interrupted. Consequently, you will find a certain number of days' sales in accounts receivable, a certain number of days' trade purchases in inventory and accounts payable, and a certain number of days' operating expenses in accrued expenses. A well-run company will keep close tabs on those metrics because they affect the investment needed in working capital, which, in turn, affects the amount of borrowing needed.

When accounts receivable and revenue are not staying in proportion with each other, a problem may be brewing.

There is a close association between the primary working capital accounts and revenue, especially if a consistent number of days are maintained in those accounts and the gross profit percentage is fairly constant. For example, if revenue increases and a borrower maintains 60 days in accounts receivable, one can fairly predict the increase needed in accounts receivable to support the new revenue level. When accounts receivable and revenue are not staying in proportion with each other, a problem may be brewing. This should be of prime importance to the lender.

Using a tool that I call a "linked account analysis" will indicate potential problems very quickly. A linked account analysis compares the percentage increases/decreases in revenue with the percentage increases/decreases in accounts receivable, inventory, accounts payable, and accrued expenses. When those percentages start diverging, there is some kind of fundamental problem brewing in the company. There is the first warning sign of trouble that should be investigated immediately.

If revenue is growing at a 10 percent rate and accounts receivable is growing at a much higher rate, let's say 20 percent, questions must be asked to find out why the condition exists. It could be some legitimate reason, which the lender should know about, such as slowing collections or customers in financial difficulty. On the other hand, could it be that management is cooking the books using a variety of methods available?

The same analysis holds true for inventory, accounts payable, and accrued items. Comparing the percentage increases/decreases of the four primary working capital accounts with revenue can be accomplished very quickly and will give the analyst a view of the company, which will lead to some very good questions that management needs to answer.

Gross Profit Trends

Every financial analyst knows that gross profit (or margin, if you prefer) is a key statistic that should be monitored very closely. A downward trend of gross profit over many accounting periods may reveal warning signs that need to be addressed by management and certainly explained to the lender. In my experience, I have noticed that small decreases tend to be ignored; however, over time this can be a serious problem if not questioned. This condition may be caused by a sick industry or management incompetence. The lender has to figure out why.

Lenders should know how each borrower's gross profit compares to other companies in the industry. Trade statistics or standard industrial code (SIC) statistics are invaluable in comparing the company's performance to the industry.

When a borrower is generating a gross profit below the industry average, an explanation should be sought from management. This cannot be glossed over; a serious analysis should be taking place here so that the lender is not caught off guard at a later date. Accepting management's explanation without performing some level of due diligence is a major error.

Quality of Management

I have been told that every lender attempts to measure the quality of management of its borrowers. This should not be as elusive as it appears. The first "C" for lenders is character. Character means management understands the business and has the foresight to succeed. This implies knowledge and intelligence. Over the years I have seen

incompetent management; upon review, a certain set of conditions were common. The following are the 10 red flags of bad management:

1. Management hesitant to allow you to visit the operations'
2. Frequent changes in high-level management positions;
3. Management always in a hurry and expecting immediate decisions;
4. Management that lives outside the normal business area of the company;
5. Management with personal problems, extended illness, and erratic behavior;
6. Management not willing to share critical financial details;
7. Management not knowing the critical driving forces of the business;
8. Management without a significant stake in the business;
9. Management with a high tolerance for risk;
10. Management with a track record of failure.

Unduly Aggressive or Unrealistic Financial Forecasts

Financing fast-growth companies is a challenge for anyone. Early stage companies usually find themselves in this predicament, and one can expect cash flow problems in that situation. Be cautious about the mature company that is trying to sell a large increase in revenue in the forthcoming fiscal period without any increase in working capital needs or financing, however. We call this situation the hockey-stick projection, because that's what it looks like.

This type of projection without an adequate understanding of the working capital requirements leads to disaster.

Understanding the Relationship Between Net Income and Cash Flow

Often, we hear the question: "Where is all my cash since I made a nice profit?" Profit is imperative; however, we all know that cash is king. Management that has a hard time understanding this concept is doomed to fail. Therefore, we want to make sure management understands the difference and understands how to manage the cash cycle in the business.

Approximately 15 years ago, the Financial Accounting Standards Board (FASB) determined that the statement of cash flows should be included in financial statements prepared under GAAP (Statement of Financial Accounting Standards [SFAS] No. 95, "Statement of Cash Flows," November 1987). This has gone a long way to educate readers of financial statements about how net income and cash flow are reconciled. Many believe that this statement is the most important of the three basic statements in the standard presentation.

The cash flow statement clearly shows how the management of working capital has a direct impact on cash flow. The mark of a well-run mature company has been the amount of cash flow generated from operations in excess of what is recorded as net income on the income statement. A study of the Fortune 500 companies will show that cash flow from operations is a multiple of net income.

Management must know how its decisions affect the lifeblood of the company, its cash flow. Every day decisions may have an impact on accounts receivable or inventory. The old saying, "For every action, there is a reaction," holds true here. The smallest action, like extending credit beyond the normal terms, affects the working capital of the company.

A lender should make the appropriate inquiries of management to ensure management understands this concept. If so, the lender should feel much more comfortable.

Late Financial Statements

Continually filing financial statements long after the company's fiscal year-ends could be a symptom of weak management. I'm talking months here! If it takes an extended amount of time to present financial data, it could mean many different situations: the existence of vague and speculative transactions, weak or nonexistent internal controls, or poor bookkeeping. Any one of these conditions should be a cause of alarm to the lender.

Public corporations have Securities and Exchange Commission (SEC) deadlines to meet. Private companies have no such deadlines but only have their lenders to answer to regarding the timing of financial statements. We could benchmark off of the public companies, however. They must report year-end data within 90 days of their

fiscal year-end; therefore, lenders should enforce this standard for private companies.

A lender should investigate the reasons for late submission of financial reports by talking to the borrower and the independent accountants (if one is engaged).

Revenue Decline Beyond Industry Averages

A revenue decline is the first sign that trouble exists in the company or in the industry. By referring to trade association statistics, an analyst can determine just how far the borrower is from others in the industry. If that is not available, the government, Risk Management Association (RMA), and Dun & Bradstreet (D&B) compile national statistics. What is most interesting is obtaining management's response as to why the condition exists.

Owners usually see their company through rose-colored glasses.

Owners usually see their company through rose-colored glasses; everything is going well and next year will be better than the last. The lender must be wary of this trap and obtain as much information as possible about industry trends and how the borrower fits into that trend.

Accounting Policies That Rely Heavily on Management Judgment

Much has been written about GAAP lately. Unfortunately for the uninitiated, GAAP has a broad range of acceptable choices. The selection and application of GAAP leaves great room for judgment in certain areas. This flexibility allows management to get creative when preparing financial statements. The following areas that have been most abused are:

- Timing of revenue recognition;
- Inventory valuation;
- Depreciation or amortization of long-lived assets;
- Timing of goodwill impairment;
- Timing of recognition of expenses or losses of anticipated future events.

A rigid set of accounting standards will not work in a global economy when great variations exist in conditions and cross over whole industries. Consequently, lenders must realize that estimation and judgment will remain in financial reporting. All readers of financial statements must understand this when evaluating a company. By understanding the hot topics being discussed by accounting practitioners, users of financial statements will be better able to evaluate them.

Ten Hot Topics in Accounting

1. Off-balance-sheet financing

There are many legitimate reasons to enter into arrangements that could be described as off-balance-sheet financing. Even private companies frequently own real estate in separate business entities, which is an acceptable tax strategy for the owners. The argument centers on consolidating the entities for financial statement purposes. We will be reading a lot about this in the future.

2. Related-party transactions

When one person or company controls both sides of a transaction, duplicity can take place. As we have all seen, this problem has reached new levels recently. If the financial position or results of operations could change significantly because of common control, the nature of the control should be disclosed.

3. Inventory valuations

Liberties have been taken in valuing inventory for financial statement purposes. Usually, it is a large asset and difficult to audit. Most frauds have taken place by overstating inventory values. It is to be valued at cost or market, whichever is lower. Controversy takes place over what is market value.

4. Revenue recognition

This ongoing problem prompted the SEC to issue Staff Accounting Bulletin No. 101 on this subject. Basically, revenue must be earned and realized or realizable to be recorded. In an era in which market share counts more

than profits, no one should be surprised about how managements have twisted this concept.

5. Internal control

The internal controls in a company are there to protect the owners from misappropriation of assets and false impressions of the financial health of the company. When the owners have the ability to override the controls to meet their objectives, however, the financial statements become unreliable and invalid. It appears that the new legislation under the Sarbanes-Oxley Act will require an independent auditor to more closely examine the internal controls and report on them to the shareholders. This will be a good thing!

6. Significant estimates

Accounting judgments and estimations are needed throughout the financial statement process to present a statement that reflects the financial condition of the company. That is a fact, so we must deal with it. Disclosures are required when estimates are used in valuing assets, liabilities, or gain or loss contingencies if it is reasonably possible that the effect on the financial statement will change in the near term and the change is material.

7. Concentration vulnerability

Just how vulnerable is a company that is dealing with one dominant vendor, one large customer, one product or service, one market, or one geographic area? How much disclosure can be made in this area? How much due diligence is needed to satisfy the investors? How does this affect the values on the financial statements? Financial statements must disclose concentrations if management knows before issuance of the financial statements that the concentration makes the company vulnerable to the risk of a near-term negative impact that is at least reasonably possible to occur.

8. Stock options

Controversy swirls about expensing stock options as compensation on the financial statements. There are as many arguments for as there are against. The political climate may cause them to be expensed even if it is theoretically incorrect. We all will be hearing more about this in the months ahead.

9. Internally developed assets

The cost of an asset should include all costs necessary to bring the asset to the point that it is functioning properly for its intended use. This includes interest. Often, however, interest is considered to be immaterial and not included. The consideration of the amount that is material is a judgment call and allows for more wiggle room than one might expect. Moreover, if it is determined that the interest is material, the amount is subject to determinations of rate and time. Again, this allows for wiggle room.

10. Goodwill impairment

This relatively new concept of recording downward valuations when the underlying asset has been impaired is another area where judgment comes into play. Theoretically, once per year this intangible asset is to be evaluated for impairment. I believe management can have its way with this procedure depending on the level of profitability being sought. The auditors probably will be given a rationalization that will be difficult to challenge, unless it is fairly obvious to the casual observer.

Earnings Management

The problem of earnings management goes back as far as memory can take us. It is not a new phenomenon. It has been exacerbated by the public market that punishes companies that miss their estimates of earnings. Public company management has become preoccupied with meeting Wall Street's expectations of quarterly earnings. That is to be expected when multiples are sky-high, making valuations very shaky. In the past 10 years, a multitude of companies has manipulated their accounting results to falsely inflate performance.

There are two sides to the story, though. There is good earnings management and bad earnings management. You probably have read about "cookie jar reserves" or "the big bath" or "restructuring charges," to name a few.

Let's talk about good earnings management first. GAAP allows managers to choose accounting policies from an array that is acceptable. The natural tendency will be to choose policies that shed the best light on their results and that, in turn, will maximize shareholder value. There is nothing wrong when a company sells off assets at a gain to offset poor operating results, as long as it is properly disclosed to the reader of the financial statements; but don't you find it interesting that companies involved in changing top management take large write-offs of assets blaming outgoing management? This ploy cleans the slate for the new management to look good, at least, in the first year.

On the other hand, bad earnings management is the type that inflates earnings due to creative accounting entries designed to deceive readers of the financial statements. There are many forms of abuse that result in hiding inflated asset values from the auditors. Unfortunately for auditors, they have been accepting management's representations without verification more and more over the past 10 years. The end result of management inflating assets and auditors taking shortcuts is an untrusting public and selling pressure in the markets.

Earnings management is not only a problem for public companies. Privately owned companies employ the same tactics but not for the same reasons. As long as third parties such as vendors and lenders are interested in a company's financial statements, there is pressure on management to make forecasts or predictions and live up to them.

Conclusion

Lenders want to lend money to quality management teams, but we need to know how to measure "quality." We need to understand the motivations or goals of the borrower's management. Clues to those motivations and goals will be in management's accounting policies.

Adapting Risk Management to Protect the Enterprise

Mark J. Oswalt

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The convergence of regulatory, legislative, technological, and competitive pressures on financial services companies has broadened the focus on effective risk management in our industry. Every key stakeholder group has amplified its questions and concerns around the effectiveness and soundness of risk-control processes and the ultimate impact on financial returns. The recent spate of headlines surrounding bankruptcies of unprecedented size and scope has accelerated the enactment of legislation to force more complete disclosure and attestation to sound risk controls.

Every financial services professional has a stake in effective risk management: As Wachovia Bank CEO Ken Thompson said recently, "Everyone is a risk manager." Many banking companies have adopted structures in which they have a dedicated risk-management function separate from line and audit, in many cases an extension of the traditional loan review or operational risk-management functions. These risk managers are being asked to broaden their focus into unfamiliar lines of business and nontraditional risk processes, many being asked to contribute to the formation of new organizational and control structures. Put simply, things are becoming more complex. To contribute effectively in this emerging environment, risk managers must have an expanded view of the following key areas:

- Understanding of the basic risk paradigm;
- How to influence the risk-management process at the level of risk taking and beyond;
- How the design of risk-management processes is aligned with their bank's organization structure, product and market focus, and culture;
- How risks in one line of business may affect those in another;
- The design and use of feedback and reporting systems;
- The fundamentals of capital-return models and their implications in risk management;
- How to better identify, measure, and evaluate unfamiliar risks;
- The need for skill-set enhancement and where to obtain advanced training.

Revisiting the Basic Risk Paradigm

In *Taking Risks: The Management of Uncertainty*,[1] Kenneth MacCrimmon and Donald Wehrung present an effective structure for understanding and affecting the key elements of risk in any setting, not just those encountered in business. The two dimensions are separated into risk components and risk determinants. Components include magnitude of risk, probability, and exposure to risk. The common element to most risk

determinants involves loss; traditionally, we have spent most of our risk-management efforts in reducing real dollar losses.

Today, the concept has expanded to embrace more advanced relative measurements of risk that surround opportunity losses and performance against forecasts. The key is to manage risk so as to reduce the volatility and uncertainty around events and processes that negatively affect the firm's ability to create value for its stakeholders.

To reduce the magnitude and probability of risk, timely, quality information is the central requirement for effective decision making.

Risk determinants are the influences on components that may help to result in reduction of overall risk: time, information, and control. To reduce the magnitude and probability of risk, timely, quality information is the central requirement for effective decision making. Increasingly, the information resources available to risk takers are the result of modeling and statistical studies on portfolio performance in addition to transaction-specific factors. The component of risk exposure takes on special significance at both the transaction and portfolio levels with an increasing array of methods to control risk through transfer or hedging now used at banks of all sizes. The methods used to control overall exposure to risk have embedded strategic and financial considerations that change with market conditions and are subject to quantitative modeling and trend analysis.

Influencing the Risk-Management Process

To balance all three risk components, managers must have a thorough understanding of the bank's risk appetite and policies and exercise sound judgment in shaping a portfolio that meets those requirements while satisfying their customers' needs.

Risk managers play a key consultative role with risk takers as they can focus on the rapid evolution of risk-management information, methods, and policy requirements and in turn provide their clients with tools and choices to better manage risks. Many line business managers augment their decision ability with the resources provided by risk managers, including their ability to compress time, interpret key data, and suggest alternative courses of action. Risk managers in turn can be more effective if they center their feedback along the elements of time, information, and control in the overall advisory effort. Increasingly, they play a role in training and interpretation of compliance, profitability analysis, and product-delivery initiatives. Acquiring strengths in articulating and facilitating change management can be a valuable asset. To be truly effective, the risk manager must have a balanced perspective around customer impact when considering the relative risks in any transaction or portfolio-management decision. The overall responsibility for managing risk always lies with the line manager. The ability to confront tough issues in a supportive way is a key skill for the risk manager. Though working in the spirit of partnership is essential, the independence of the risk-manager position is of utmost importance to the relationship, especially when it comes to final risk ratings of credit relationships. Growing numbers of experienced line managers and staff specialists are becoming involved in cross-functional efforts to reassess and restructure their banks' risk-control environment. Many are doing this for the first time. To perform this task effectively, each group must first expand its understanding of how risk-management infrastructure is developed and implemented.

Foundations of the Risk-Management Process

Risk-management process development and efforts to enhance organizational design are highly dynamic disciplines, born of the accelerating changes in products, delivery systems, regulatory scrutiny, and financial disclosure requirements. These systems can't simply be built and then left alone: The velocity of change strongly suggests that the principles of continuous improvement are at the core of the process. While there is no single best practice for all banks, the best systems grow from a balanced examination of culture, strategy, policy, and stakeholder needs.

The embedded risk culture of any bank is perhaps the key starting point for process design. The company's core values are the foundation for this effort; ideally, those are highly visible, clear, unambiguous, and continually rein-

forced. In a balanced risk culture, the identification of problems must be approached preemptively, and issues must be resolved promptly. The business self-assessment process must be broadly applied, and accountability for results must accompany each separate management process. Organizational structure and strategy flow from cultural considerations: Key aspects include whether decisions are made with an entrepreneurial or centralized approach and whether growth and soundness are balanced. These issues evolve more or less rapidly with the rate of business expansion and are especially critical in the formation of a merged institution. With any merger, it is important to build on any effective processes that accompanied the separate legacy institutions, but even more so to build risk-management disciplines that will support synergistic growth and that may mean adopting something totally new. The control of risks in transition is an especially demanding task that calls for flexibility and intense teamwork. At Wachovia, we have dedicated specific resources to the development of transition processes as well as end processes to deal with the immense tasks of creating a seamless combination of the merged banks. The end process may develop slowly; it is critical to ensure that the cultural realignment has a forward focus and that risk goals and disciplines are established in transition phases that support long-term objectives.

Key Aspects of Risk-Control Process Design

Strategic objectives will have profound impact on risk-control process development. There are unlimited ways to approach the market and to develop lines of business to reach it. The issues of business and reputation risk come heavily into play with any approach. Some financial services firms have responded to competitive issues in recent years with the adoption of customer relationship management (CRM) strategies and supporting automation that provide real-time holistic information on risks and opportunities. This movement away from transaction management also accentuates the need for identifying and managing risks in delivery of complex, bundled products. Beyond the traditional default and loss-risk components of lending and deposit products, there are many layered compliance issues that affect multiple product and delivery systems that challenge the design of risk controls. For example, the provisions of the Gramm-Leach-Bliley Act and Fair Credit Reporting Act (FCRA) that affect customer privacy and information sharing between affiliates and outside counterparties require multiple control points. In the wealthy client segment, for example, many relationships feature credit, trust, investment management, and insurance components. These combinations feature layered customer interface, usually involving several product specialists who often come from focused backgrounds and have minimal cross-training in other disciplines. Moreover, relationship management may be significantly affected when the bank plays multiple roles, including credit provider, custodian, and fiduciary, for example.

It is essential to reach proactively across the white spaces of the organization chart for help and to share information.

The risk manager must have at least a basic understanding of interrelated products and services and how the risks of one product or business line affect risks in another. It is essential to have a well-developed sense of "how the institution works" and to reach proactively across the white spaces of the organization chart for help and to share information. Risk managers must be the eyes and ears of dedicated compliance specialists at the point of risk taking to ensure integrity of the process. Moreover, at the institutional level there must be a structure that facilitates the transparency of risk information and a network of professionals that can synthesize it, interpret it, respond to specific client situations with speed and skill and elevate broader considerations to executive management. Centralizing this function is not always necessary, although dealing with the increasing complexity and sophistication of processing risk information is likely more effective when supported with dedicated, highly skilled specialists. In creating that structure, several guiding considerations help to shape management and reporting disciplines:

- Where is the organization taking the risk?
- Which board and management committees monitor this risk?
- What key policies govern this risk?

- What key reports provide information about this risk?
- How is the management of this risk evaluated?

In larger organizations, this infrastructure often is provided through a staff function at the institutional level with reporting to a chief risk officer. In regional and community banks, it may frequently take the form of a team of line-of-business managers who dedicate a portion of their efforts to risk oversight with reporting to the chief credit officer or CEO and to the board. Many banks outsource key data for collection, comparison, modeling, and synthesis of risk trends, and there are several widely used programs available. This is most commonly born of resource constraints; however, the tactical decisions and risk-control strategies that result from this information should be viewed and dealt with in a holistic, comprehensive framework by those accountable for risk oversight.

Beyond the structural aspects of risk management, several organizing principles must be thoroughly embedded in all activities, controls, and touch points. Among those are shared vision, teamwork, forward-thinking perspective, clearly articulated policy, transparency and integration, and accountability. To demonstrate commitment to these principles, the incentive systems that are employed in the organization must have a risk-management component. Without a clear alignment of growth and sound objectives at the level of risk taking, it is much more difficult to move toward improvement of risk-based measures of financial return at all levels in the corporation.

Management Systems for Feedback and Control Assessment

As mentioned above, the business self-assessment process has been used effectively to provide key feedback on design and execution of risk controls. This discipline generates its key benefit from a continuous examination of changes to the control environment and resulting need for modification of control design. The importance of this process in providing internal and external assurance is underscored by the use of the Statement of Auditing Standards (SAS) No. 70 ("Service Organizations") Audit, a widely used independent audit examination of risk-control design and effectiveness of implementation for service providers. Although SAS No. 70 is more frequently encountered in noncredit business units, the objectives of the audit reinforce the necessity of documented and effectively designed control objectives.

A widely used instrument that supports this process is the balanced scorecard, developed by Robert Kaplan and David Norton. Line managers and their support staffs provide the key feedback information and quality assessments used in this model. The instrument is used in both management and measurement of risk activities and facilitates development of metrics around the key areas of growth, internal business process, customer management, and financial performance. The balanced scorecard may be used in both measurable and judgmental risk assessments, with each parameter separated by its feedback relevance (either detective or predictive). Each separate process area is weighted and then rated by the accountable manager along a scale as to the level of risk impact to the organization. Typically, the ratings are updated quarterly. The benefits lie in increasing transparency and escalating key risk areas to executive management for resource commitment and prioritization. Ensuring that the most relevant risks are measured and are accurately assessed is among the key challenges of the system. When these measurements are matched against key risk metrics generated from accounting data and risk databases, their contribution is even further enhanced.

Although it may not always be necessary to create a large, centralized risk-management infrastructure, there is considerable benefit in creating a standard data collection system for all types of risk, one especially that lies outside the general ledger and that features interfacing systems that speak a common language and can be downloaded to a data warehouse or compared with outside databases.

Economic Capital Models and Risk-Management Implications

Although the use of risk-based capital-allocation models is not new in many banks, many line managers and risk managers are only beginning to learn how the mechanics of these models drive portfolio performance evaluation and affect customer-relationship decisions. The predicate for the use of these models is to assess the variability of returns by business unit, allocate capital to those units, and develop measures that quantify the amount of capital and target return rates for all operating activities. These measures cumulatively will determine

the optimal level of equity capital for the institution. Common parameters used are risk-adjusted return on capital (RAROC) and economic profit, both at the relationship and unit levels. The use of capital-allocation models in assessing and quantifying risk in noncredit services is gaining momentum with Basel; however, these models are not as well developed as in the credit realm.

It is imperative that anyone influencing the risk process be well versed in the institution's model and will gather information frequently relating to unit capital allocation and performance trends. Since relationship risk grades are a key driver of these measures, it is important to track the entire portfolio, to determine if key credit concentrations may be deteriorating, and to develop an understanding of the incremental impact on portfolio performance from a capital standpoint. The results may affect the development of new relationships and how they are structured as well as concentration management objectives that improve the risk-reward profile of the unit.

Assigning capital to a credit is a function of exposure, tenor, use of commitment, facility type, and borrower industry.

Since RAROC models usually can be run on individual relationships, it is important that the information from different modeling scenarios be shared with those in business development roles if they do not have direct access themselves. The information gathered in this process has significant potential to enhance the scope and economic profit of individual relationships. Assigning capital to a credit is a function of exposure, tenor, use of commitment, facility type, and borrower industry. Relationship capital allocation is affected by the scope of other products used, such as treasury services, derivatives, trust, and investments. Many business units have assigned RAROC hurdle rates at the credit-transaction and relationship levels; however, an understanding of economic profit at the relationship level will take on increasing importance in portfolio performance and individual incentives. Understanding the cost-allocation factors around loan underwriting and servicing and ensuring that they are correctly assigned and captured accurately in individual models is a key risk-management objective.

A Framework for Risk Assessment: Key Questions

Integrated risk-management structures and reporting will afford many risk managers the opportunity to expand their ability to recognize, identify, and evaluate risk in areas in which they have not traditionally participated. Loan review officers may be asked, for instance, to evaluate a trust operation whose activities include custody, securities lending, and investment-management services. Many banks are beginning to blend the disciplines of audit and risk-review functions to create teams that have both transactional and process risk-review capabilities. The learning opportunity is very compelling, and with a road map and flexible framework, these reviews can bring fresh perspective to all stakeholders.

Recognizing risk involves determining what losses are possible, what are the sources of uncertainty, and what activities are exposed to loss and to what extent. Identifying risk further drills down to specific opportunities for systemic risk or event risk. Evaluation introduces an element of judgment in determining whether possible losses are bearable and worth assuming in view of the bank's risk appetite. Is the exposure acceptable?

The following partial list of questions can guide a risk-management review. Each of these high-level questions may lead to additional detailed inquiries based on results, balanced with the agreed-upon scope of a review.

Mission

- What is the stated mission of the business unit? Are its activities consistent with that mission?
- What are the interdependencies with other units in the organization?
- What service-level agreements exist with other units? Are they documented and understood?

Organization Structure

- Does the current organization structure support an effective risk-management framework centered around transparency, accountability, and flexibility in dealing with all unit risks?

Policies and Procedures

- Are policies documented, distributed, and understood?
- Is there accountability and risk transparency built into key processes?
- How and how often are losses examined?
- How are policies created and how often revised?

Unit Objectives

- How are the unit objectives set? How is performance against them measured?
- Are resources to achieve objectives adequate?
- What is the degree of pressure to meet objectives? Are sacrifices made in accuracy or quality?
- Is there a unit business plan? Is it up-to-date?

Nature of Transactions and Principal Activities

- Who are your customers?
- What is your product or service? How is it delivered?
- How do you obtain new business? How are new customers screened?
- What support and servicing activities are required by your unit in its customer agreements?
- What is the volume of transactions processed and the trend?
- What is the complexity of transactions? What are the touch points for possible error?
- Is the occurrence of inaccuracy in transactions material? What is the trend?

Strategic Issues

- Is the unit's mission critical to the company?
- Is the unit's future stable or volatile?
- How often do products, processes, or outside influences (regulations) change?
- What changes have occurred/are occurring/will occur? What is the impact?
- How is change managed?

Risk-Control Structure and Practices

- Is a business self-assessment plan in place? How often is it evaluated?
- Are risk controls effective and cost-efficient in mitigating risks?

Opportunity Identification

- What process is used for continuous improvement and identification of best practices?
- Does the unit use any benchmarking against other units?
- Are there unresolved issues from prior audits?

Personnel

- What is the training and experience of key staff members?
- Are personnel resources adequate to achieve the unit mission?
- Are staff duties segregated properly to eliminate self-dealing or conflicts?
- Are authorities clear and monitored?

Performance Metrics/Reports

- Are the performance metrics used in the unit consistent with risk-management goals?
- What reports are produced, how often, and for whom? Is the content useful to all stakeholders?
- Is the unit capturing detective and predictive data? Can future trends be modeled?
- How is management information used to affect risk components (magnitude, chance, exposure)?

Information and Data Systems

- Do unit transactions require a complicated automated system?
- Can the unit's activities be performed manually with automation as backup?
- Is there significant risk to the unit with disruption of information processing?
- Is it necessary to monitor unit activity in real time?
- Is access to the system properly controlled?
- Is there adequate IT support?
- What is the quality of data integrity affecting risk data and modeling input?

Management Involvement

- Has management communicated the ethics and standards to be followed?
- Is management adequately informed of unit activity? Is it on a full, limited, or exception basis?

External Influences

- Are customers and markets served stable or volatile?
- What is the degree of change and involvement of regulation?
- What is the impact for noncompliance with regulations?

Risk-Management Training and Resources

Risk management is no longer a by-product of routine business activity; it is an essential ingredient. Fortunately, there are an increasing number of resources available for developing

advanced skills and certification in the science of financial risk management. Certification programs such as those offered by Bank Administration Institute (BAI) and the Global Association of Risk Professionals (GARP) offer comprehensive curricula that explore credit, market, and operating risk. In addition to the multitude of books and white papers on this subject, many Web-based learning resources and free courses are designed to explore the fundamentals of financial risk and the ways that nontraditional products are used to mitigate it. It may be helpful to study the fundamentals of risk management and project management across different industries and to gain further perspective on best practices and common issues. A short list of learning resources follows:

- Contingency Analysis: www.contingencyanalysis.com
- Global Association of Risk Professionals: www.garp.com
- E-Risk: www.erisk.com
- Risk Metrics Group: www.riskmetrics.com
- Default Risk: www.defaultrisk.com
- Bank Administration Institute (Knowledge Bank and Certification Programs): www.bai.org
- Balanced Scorecard: www.SAS.com
- Robert Morris Associates: www.rmahq.org
- The Credit Risk Resources: www.geocities.com/wallstreet/8589/credit.htm
- Carnegie Mellon Software Engineering Institute: Continuous Risk Management Guidebook: www.sei.cmu.edu

Note

1. Kenneth R. Maccrimmon and Donald Wehrung, Taking Risks: The Management of Uncertainty (New York: Free Press, 1988), 39–76.

Risk Implications of Credit Derivative Instruments

J.V. Rizzi

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Credit derivatives (CDs) have grown from less than $200 billion in 1997 to more than $2 trillion in 2002. Furthermore, they are projected to more than double by 2005 and represent the fastest-growing segment of the credit market. Initially used by financial institutions from a risk and regulatory capital management perspective, they have developed into a new credit-risk-asset class. Credit-asset investors now can choose between the cash and derivative credit markets. In fact, many institutions prefer to acquire credit exposure in the derivatives markets than in the cash primary or secondary markets based on relative value, funding, and ease of execution considerations. This has improved both the liquidity and pricing efficiency of credit assets.

As with most new instruments, a full understanding of their risks is frequently missing. This leads to surprises when institutions find that they have assumed more or different types of risk than originally envisioned. Recent concerns expressed by Warren Buffet and Fitch, for example, highlighting the problems with these rapidly growing, illiquid instruments have surfaced. They are correct that these complex instruments are opaque and difficult to value, particularly since they trade in the volatile, unregulated over-the-counter market.[1] Thus, they can produce unintended results including higher risk levels than the underlying cash market alternative. The problem is magnified by concentration of derivative credit exposure in a small number of financial institutions. Nonetheless, properly handled, CDs represent a useful means of participating in the credit market. This article will outline a framework to understand the risk issues inherent in the widening use of such instruments.

The Market Setting

Setting

Demand growth in derivative credit assets is driven primarily by nonbank institutional investors seeking leveraged access to an underrepresented credit-asset class. These investors, hedge funds and insurance companies, have favored countercyclical debt over traditional equity investments. Since derivatives allow investors to separate funding from credit risk, they can present a more efficient means of acquiring credit risk than cash market debt instruments. Thus, banks seeking credit protection sellers to balance their portfolios against concentrations and deterioration by effectively shorting a credit have found an active market.

Banks have moved beyond risk management to using CDs to acquire and trade credit risk.[2] They compare the prices available in the cash, primary and secondary, markets with the derivatives market. Many

syndicate banks view the derivatives market as a relative-value benchmark comparing the all-in loan spread plus expected ancillary relationship income with the derivative rate. Syndicators are responding to weak primary syndications for thinly priced relationship-type transactions by using the derivatives market to reduce excess concentrations. In effect, a form of synthetic syndication has developed. The originating institution retains the legal exposure and funding risk. It sells the credit risk to synthetic syndicate members through a CD. Consequently, the complementary CD market is enforcing cash market pricing discipline and increasing cash market liquidity as the markets become more closely linked.

Derivatives allow structuring institutions to open the doors separating markets to achieve the best client execution.

In addition, banks have recognized the need for an active CD focus to serve the sell side and operate in the secondary cash market for both loans and bond credit assets. In essence, derivatives serve as a key, allowing structuring institutions to open the doors separating markets to achieve the best client execution. Many institutions have combined their cash and derivatives functions to trade or sell credit as an asset class and not just the underlying loans, bonds, or derivatives separately.

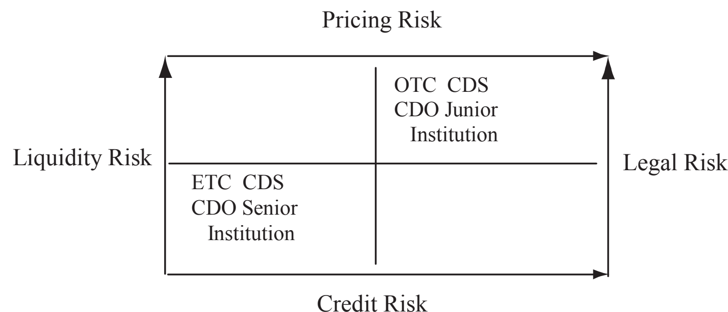
Market

CDs are instruments whose value is derived from the performance of an underlying reference asset. The major instruments include total return swaps (TRS),[3] credit-linked notes (CLNs),[4] credit default swaps (CDS),[5] and collateralized debt obligations (CDOs).[6] Major participants include banks, dealers, insurance companies, money managers, and hedge funds. Recent extensions involve CD indices such as the European iBoxx, swaps, and options on indices. For purposes of this article, the focus is on the major instruments, CDS and CDOs.

Limited market liquidity makes credit derivative instruments difficult to value on a traditional market-to-market basis. Thus, a mark-to-model approach is frequently employed. This increases the level of accounting and valuation risk. Furthermore, market-making liquidity is highly concentrated in the top five institutions.[7] This leads to a potentially volatile market.

The transparency and liquidity issues, among others, complicate the evaluation of CD performance. Perceived credit-rating arbitrage opportunities, two similarly rated instruments trading at different prices, may involve unidentified risk factors rather than true arbitrages or relative-value advantages. This is reflected in the poor per-

FIGURE 1
Risk Matrix



OTC: Over the counter
ETC: Exchange-traded contracts

formance of many CD investors. A framework identifying risk factors, and determining whether the user has been appropriately compensated and protected, is needed. This requires an examination of collateral, structure, counterparties, and documentation involved.

Risk Framework

Principles

The conservation of risk principle highlights that risk never disappears. Rather, it either is transferred to another counterparty or is transformed.[8] Thus, it is important to focus on the type of risk and who retains it in complex derivative transactions. Frequently billed as reducing risk, many derivative credit exposures have unrecognized risks leading to unintended consequences.[9] Currently, CDs are billed as the modern approach to risk management and the preferred form of credit-risk exposure. This creates a herding effect by users who do not wish to be left behind in the search for yield or protection. These users are, however, subject to adverse selection. The user with the lowest risk estimate will have the highest concentrations in the instruments. This can be compounded by the difficulty in assessing high-impact, low-frequency events. Investors are frequently lulled into a false sense of security by overweighting recent events and underweighting unlikely possible exposures. In behavioral terms, this is known as disaster myopia and is responsible for many well-known failures, including Long Term Capital Management. Failure to distinguish a risk expectation, which is usually historically based from the larger scenario-dependent risk exposure, can lead to losses.[10]

The key principles are as follows:

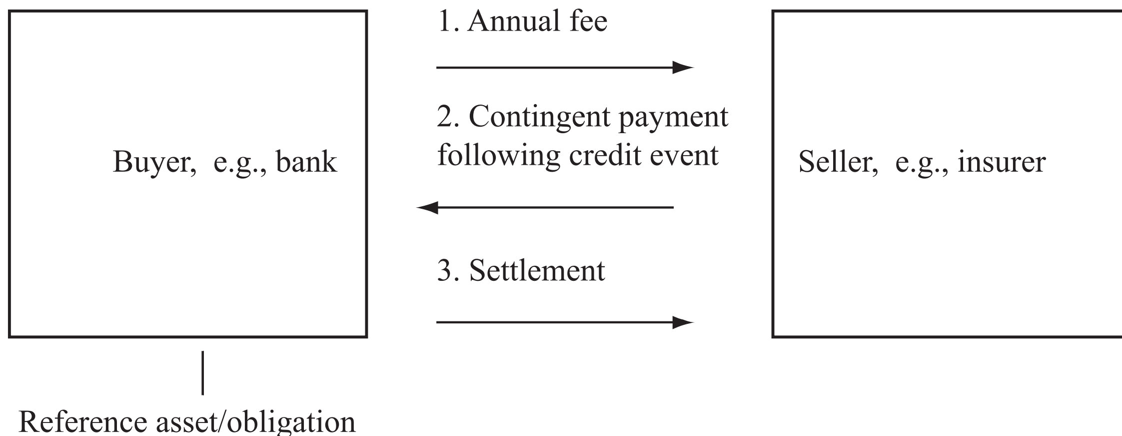
- Never allow rare events to become fatal; avoid concentrations and excessive leverage.
- Limit the downside; understand the consequences of the downside as the upside will take care of itself.
- Understand the source of the return; determine whether the perceived excess return or risk transfer is real or merely due to some unmeasured risk factor.
- Risk spreads reflect more than expected loss; liquidity and technical factors may overwhelm expected loss.
- Beware of survivorship bias; the record of successful CD users overstates their success rate as the unsuccessful efforts are ignored.

We will turn to an application of these principles to CDs.

Market Application

Application of these risk principles is complicated in the young, rapidly growing, illiquid CD markets. Being traded over the counter, they are customized and lack transparency. Next, both the investor base and liquidity providers are highly concentrated. Thus, pricing tends to be determined more by technical than fundamental factors making mark-to-market calculations problematic. Consequently, marking-to-model is often used to value CDs. The models, however, are data dependent.

FIGURE 2
Structure of a Credit Default Swap



Data problems complicate the pricing or valuation decision. Independent data are difficult to obtain in the over-the-counter market. It is frequently provided by the dealers themselves. Next, there is a relatively short history of data, as the instruments are relatively new. The data also are skewed by differing default definitions and credit mitigation issues.

Frequently, the result of these problems is mispriced risk. Many insurance companies that sold credit protection and investors who invested in subordinated CDO tranches, for example, have suffered disappointing returns due to mispricing. Furthermore, institutions like Credit Suisse have incurred large losses on credit default swaps (CDS) such as British Rail. This leads shareholders in CD market makers to extract an uncertainty discount reflected in lower price-earnings multiples for these firms. This situation should improve once pricing and disclosure becomes more transparent. This will require a move away from over-the-counter to exchange-traded derivatives, albeit with a loss of some flexibility.

In addition to pricing and model risk, other risk issues to consider include the following:

- Credit risk: Risk of counterparty default and credit mitigation.
- Liquidity risk: Unexpected payouts and thin secondary market conditions can complicate meeting obligations at a reasonable price.
- Operational risk: Settlement deadlines and collateral monitoring errors can affect claims.
- Legal and documentation risk: Nonstandardized clauses may increase risk exposure and transaction costs.
- Regulatory risk: Involves the capital treatment of the exposure, which is heightened by planned Bank for International Settlements (BIS) II changes.
- Accounting risk: Income volatility from mark-to-market adjustments and balance-sheet consolidation issues, which are complicated by recent accounting changes such as International Accounting Standard No. 39.

Credit derivatives can unexpectedly transfer tax benefits and liabilities between the parties (Figure 1).

Adding to the problem is the separation of functions between the economic pricing and institutional risk factors. Those valuing the instruments frequently fail to understand the structuring implications of the complex legal, tax, accounting, and regulatory rules that motivate the transactions. Armed with this framework and market understanding, we will now examine in detail the major credit derivative tools, CDS and CDOs.

Credit Default Swaps

CDS are the dominant credit derivative instrument. Single-name CDS comprise almost one-half of the market. The typical mechanics of a CDS are illustrated in Figure 2. In a CDS, the protection buyer pays a fee for the right to receive a contingent payment from the protection seller following an agreed-upon credit event con-

FIGURE 3
Credit Default Swap Quotes

Reference Entity	MDY	S&P	5-Year Bid/Ask
Ford Motor Credit	Baa1	BBB	340/350
Gen. Motors Accep.	A3	BBB	245/255
Daimler Chrysler	A3	BBB+	120/130
Delphi Auto Sys.	Baa2	BBB	150/155

cerning a reference obligation over a given term. Terms can range up to 10 years with the five-year term being the most liquid. Notional amounts per contract usually range between $5 million and $10 million with up to $100 million for more liquid investment-grade names possible.

> Credit default swaps are the dominant credit derivative instrument.

The largest sellers are insurers and financial guarantors. Banks represent the largest buyers, although more banks are moving toward selling protection as an alternative credit-asset origination tool. According to Fitch, the five most cited reference entities are General Motors, Ford, Daimler Chrysler, General Electric, and France Telecom. Market and contract-specific information for the more liquid 100 to 250 reference entities is provided by major participants.

Figure 3 presents a sample of market prices provided by ABN AMRO, April 22, 2003, for autos and auto parts.[11]

Quotes on less well followed entities are available on request. These quotes reflect both fundamental and comparable value factors. The major fundamental factors include the following:

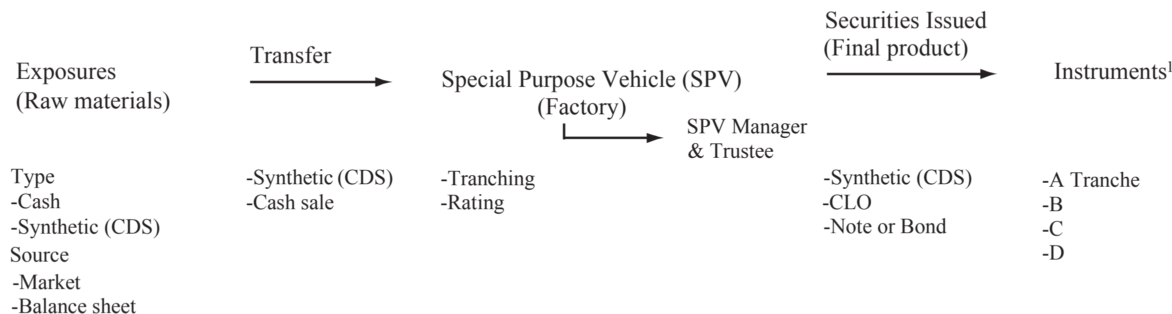
- Maturity: Fees vary directly with maturity.
- Counterparty rating: Fees vary directly with counterparty rating.
- Probability of credit event: Depends on both the type of event and its frequency.
- Recovery following credit event: Reflects loss given credit event.
- Default correlation between counterparty and reference obligation: Lower correlations imply higher fees.
- Liquidity: More liquid reference entities have tighter pricing.

Comparable value factors are based on spread differentials among similar firms with equivalent ratings. For example, the substantial spread difference between Ford and General Motors reflected in Figure 3, both BBB autos, could signify a temporary relative-value opportunity or something more fundamental.

CDS are predominately settled by physical delivery of the least expensive instrument.[12] Once a credit event has occurred, the protection buyer purchases the instrument selling at the highest discount to par and delivers it to the protection seller at par. Settlement mechanics require notification of the credit event supported by evidence of public announcement of the event and position closing within proscribed times.

As with any insurance product, payment is based on the coverage definition or, in the case of CDS, the definition of default or the credit event. This definition can be complex. It can run several pages in a loan agreement. Yet, for CDS, which

FIGURE 4
Structure of a Collateralized Debt Obligation



[1]Additional liability instrument features include payment speeds (sequential, fast and slow), fixed or floating rate and portfolio tests to divert cash flow from subordinate to senior. CD can be used to convert junior tranches into synthetic senior instruments.

use a shorter amended International Swap Dealer Association (ISDA) form, this complexity is sometimes overlooked.

Credit events can be categorized as follows:

- Hard events: Bankruptcy and failure to pay.
- Medium events: Default and payment acceleration.
- Soft events: Reference firm or obligations have been restructured. This involves changes in a reference obligation's rate, term, amortization, or priority as part of a financial restructuring.

The hard and medium events are typically beyond the protection buyer's control and, thus, present limited issues. The softer restructuring events, however, can be influenced by buyers. They give rise to moral hazard problems in which buyers can trigger a credit event and payout even though no default or economic loss has occurred.

This unexpected consequence was illustrated in 2001 with the Xerox restructuring. Xerox's bank group agreed to extend its loan to solve a liquidity problem. In exchange, the bank group received collateral, thereby enhancing its position. This was reflected by improved secondary loan prices. Nonetheless, Xerox bonds declined in value after being effectively subordinated to the restructured loan. Banks that had acquired protection declared a credit event, purchased Xerox bonds at a 30 percent discount, and presented them for par to the protection sellers. The protection sellers found that they were exposed to an unrecognized legal risk whereby they covered both default and credit deterioration risk. They mispriced the risk by failing to understand the risk factors.

In response to this problem, the ISDA documentation has evolved. The options, effective May 2003, now include full restructuring language as in Xerox, modified restructuring with limitations on deliverables upon a restructuring, and exclusion of restructuring as a credit event. A pricing differential of 15 percent to 20 percent exists between the full and no-restructuring language. We can expect other legal risk and documentation issues to surface given the complexities of loan agreements compared to the ISDA. Undoubtedly, they will be resolved over time as the market evolves but not without more traps for the unwary, such as Xerox.[13]

The current CDS market is evolving. The unexpected credit-quality decline among fallen angels such as Enron, WorldCom, and Global Crossing affected protection sellers. Firms such as Swiss Re and Scor have suspended further activity, while others, including General Re and Zurich Financial, have curtailed efforts. These early participants suffered from overexposure in a new market in which they mispriced risk.

Protection sellers have responded by challenging bank protection buyers from benefiting from insider information. They allege that the Chinese wall separating banks as credit providers with access to insider information and their CD trading desks is porous. Banks are believed to use this access and information to discover credit problems before they become public. They then use this information to purchase credit protection from unsuspecting sellers without properly disclosing this preexisting condition. This gives rise to a classic lemon-selling problem, which could harm the future development of the market.[14]

An additional problem stems from the lack of disclosure and limited regulatory oversight. Hedge funds, for example, can use the CDS market to influence equity prices. They can use the leading indicator nature of CDS to create the appearance of a credit problem to drive down a firm's stock price. This may have occurred in 2002 with MBIA. More than $1 billion of CDS were purchased by a hedge fund in a short time. This caused CDS spreads to widen and raised the question of a looming credit problem, which depressed their stock prices. Regulators are investigating this potential abuse. This may lead to increased regulation.

The net effect of the above is increased CDS pricing. This reflects providers' pricing more rationally to better reflect risks than achieve market share. In addition, short-term liquidity may be curtailed by the withdrawal of some traditional participants.

Collateralized Debt Obligations

Collateralized Debt Obligations (CDOs), the second major credit derivative instrument after CDS, are securities backed by a diversified pool of exposures.[15] The securities credit-risk exposures are based on their seniority or tranche in the overall capital structure. The market totals $1 trillion in outstandings with annual issuance exceeding $250 billion. Transaction size and maturity can exceed $10 billion and 10 years, respectively. Figure 4 depicts a generalized CDO.

The various CDO types are based on the following characteristics:

- Market execution. Cash transactions are funded exposures acquired in the cash market. Synthetics are unfunded exposures acquired in the derivatives market. They represent a hybrid combination of derivative and securitization technology.
- Purpose. (1) Balance sheet: Used primarily by banks to reduce regulatory capital. Assets are transferred to the special-purpose vehicle (SPV) with the seller taking back the first loss exposure. (2) Arbitrage: Money manager purchases asset exposures based on a given capital structure. Its profit is the spread or arbitrage between the asset returns and funding costs.
- Credit structure. (1) Cash flow: Portfolio principle and interest used to repay tranche holders. (2) Market value: Trade to increase value, which is used to repay tranche holders.

Despite the many variations, CDO substance remains the same. Portfolio credit risk is transferred. Securities are issued with differing seniority. Income is distributed top down, to the senior-most instruments. Losses are distributed bottom up, to the junior-most instruments. Thus, the collateral risk profile is altered through tranching, the sequential ordering of priorities. This enhances liquidity as a wider investor group is accessed.

There are three key risk considerations involved with CDOs. The first concerns the asset class. CDO assets can include the following:

- High-yield bonds
- Commercial and industrial loans
- Emerging-market and sovereign debt
- Asset-backed debt (all seniorities)
- Investment-grade debt
- Distressed debt
- Equity

Each asset class has varying degrees of liquidity and credit risk, which affect realized values available to various CDO tranche holders. For example, loan collateral generally has a superior liquidation value compared to high-yield bonds, given its senior secured position. Thus, CDOs weighted with loans have outperformed those weighted with bonds in the current stressed credit environment.

The next consideration is structure. Equity levels for synthetic CDOs were 2 percent compared to 4 percent for cash transactions. This was based on their perceived lower risk due to shorter tenors, higher diversification, and lower interest-rate and par-accretion risk. Unfortunately, actual performance illustrates that the 2 percent equity level is insufficient, reflected in the large number of synthetic downgrades. The significant equity difference underlies their dominance, more than 75 percent of the 2002 volume, in synthetic structures. This factor fuels CDS growth and illustrates the convergence of the instruments. Other important structural features include capital structure complexity and seniority, control over payouts, and trading restrictions.[16]

Perhaps the most important consideration facing CDO investors is the quality and experience of the asset manager.

Perhaps the most important consideration facing CDO investors is the quality and experience of the asset manager. The focus is on asset-class expertise, investment strategy, track record, and transparency. Investors have been harmed by asset managers' temptations to invest in cheaper or riskier assets within a rating class. Ultimately, this leads to a higher-risk portfolio. The difficulty in placing the junior CDO tranches, the highest-risk components of the capital structure, leads some sponsors to subsidize their origination efforts by retaining the junior instruments themselves. The performance of the difficult-to-value junior tranches is at best mixed. Retaining such tranches to subsidize origination efforts appears unattractive given some high-profile problems. For example, in 2001, Am Ex suffered large losses relating to the first-loss tranches in CDOs they had originated. Am Ex consequently terminated the activity.

As with related CDS, the current credit environment has affected CDOs. Downgrade pressure on single names like El Paso, which suffered a same-day 5-notch

downgrade, and fallen angel defaults, for example, WorldCom, have triggered numerous CDO downgrades. Especially affected are low-equity synthetic CDOs using bond assets given their lower recovery values and thin equity cushions. Almost 10 percent of the CDO market has been downgraded, including many AAA instruments. An active secondary market had developed for depressed, formerly AAA instruments. Some of these instruments are being used as collateral for new CDOs. Overall, the market has reacted well with improved structures and forcing out new or weaker asset managers.

Conclusion

Credit derivatives represent a relatively recent development. They have moved beyond risk management to become a new credit-asset class. They do, however, suffer from problems concerning their use. These include pricing, documentation, credit, and liquidity concerns. Standardized, transparent, exchange-traded instruments that can be marked to market are needed for the market to move to the next stage of development.

The current focus should be on appropriate risk identification and compensation. Bank investors should be concerned about credit and rating arbitrage opportunities. Frequently, they are more apparent than real. Hopefully, the risk framework outlined in this article can help distinguish the opportunities. Nonetheless, this rapidly growing market promises to enhance credit-market liquidity and risk-based pricing.

Notes

1. Over-the-counter markets are similar to an eBay-type market using bilateral arrangements. Regulated organized exchanges operate as multilateral clearing platforms using standardized contract and settlement procedures. It is interesting to note that, while over-the-counter CDs continue to grow rapidly, exchange-traded contracts have declined.
2. "Global Credit Derivatives: Risk Management or Risk," Fitch, Mar. 10, 2003, highlights a large and growing number of banks acquiring credit-risk exposure through the derivatives market.
3. In a TRS, the protection buyer pays the cash flow received on asset plus capital appreciation and receives a floating rate plus any capital loss. Effectively, credit and market risks are transferred.
4. CLNs are notes linked to the performance of a reference asset. Essentially, they constitute a synthetic bond with a CD embedded in the structure. They are useful for investors subject to limits on derivative holdings.
5. CDS represent an insurance-type product when the buyer pays a fee for the right to receive a contingent payment based on a defined credit event concerning a reference asset.
6. CDOs are securities backed by a diversified pool of credit assets including loans, bonds, or derivatives.
7. During a May 8, 2003, speech at the Chicago Federal Reserve Bank, Alan Greenspan, stated while recognizing the benefits of CDs, expressed his concern over the liquidity and credit concentration issues flowing from the limited, and declining, number of major derivative dealers. He noted that one dealer accounts for about one-third of the global CD market, while just a "handful of dealers" account for two-thirds, with JP Morgan Chase as the largest dealer.
8. For example, the taking of collateral transforms the risk from credit to operational concerning the valuation, monitoring, and perfection of the collateral interest.
9. The current Securities and Exchange Commission (SEC) Chairman, William Donaldson, noted this point in 1992, when he stated, "No matter how much hedging is done, someone ends up holding the hot potato when the music stops."
10. Warren Buffet highlights the importance of considering exposure risk in his Berkshire Hathaway 2001 Annual Report.
11. The CD market provides a useful leading indicator of credit-quality information with widening spreads reflecting possible credit concerns.
12. The alternative cash settlement, par less the market value of the defaulted reference obligation based on a dealer poll, is used in less than 30 percent of CDS settlements.
13. The newly enacted ISDA definitions are already subject to dispute involving the demerger of Six Continents. At issue is the interpretation of "successors" to a demerger. More than $500 million of CDS are at risk of becoming worthless.
14. If the market perceived that banks are buying CDS protection only for future problems, then it will bid accordingly. Buyers will find prices unattractive for quality credits. Consequently, they will seek protection only for problem credits.
15. Other CDO forms include collateralized bond obligations (CBOs) and collateralized loan obligations (CLOs).
16. A recent development is the Moody's trustee surveillance issue. Moody's was concerned over a perceived lack of trustee involvement in the National City default case. Consequently, Moody's will pay closer attention to trustee responsibility. This may mean lower ratings for weaker trustee roles.

Proper Loan Structure Requires Coordination of Multiple Areas of Law

George A. Nation III

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The recent case of *Preferred Funding Inc. v. Jackson*[1] provides an excellent illustration of the importance of understanding and coordinating multiple areas of law to properly structure even simple loans. In *Preferred Funding*, the lender lost a major part of its collateral because it failed to properly understand and apply concepts of corporate, agency, and secured transactions law. Because of the lender's misunderstanding of the law, it had the security agreement signed by the correct person but in the incorrect capacity. Moreover, the lender misidentified its borrower in both the security agreement and the financing statement. Again, the correct person signed but in the incorrect capacity. Finally, Preferred Funding tried to regain its collateral by alleging that the first priority creditor had received a fraudulent transfer.

Unfortunately for Preferred Funding, its understanding of the Uniform Fraudulent Transfer Act was no better than its grasp of agency, corporate, or secured transactions law. As a result, it failed to regain its collateral even though factually it would have had first priority had it properly structured and conducted the transaction.

This article begins with a review of the facts in *Preferred Funding*. Next, the areas of law relevant to the case (secured transactions under Article 9 of the Uniform Commercial Code [UCC],[2] agency law, and corporate law) are reviewed. The case is then analyzed from the perspective of what the lender should have done to properly structure the loan. Finally, the conclusion offers some suggestions for banks and other lenders to ensure that the relevant legal areas are effectively coordinated in the structure and documentation of the loans they make.

Preferred Funding Inc. v. Jackson

The facts that gave rise to the *Preferred Funding* case began in 1996 when Wayne Jarvis and Clifton Platt made plans to open a bar and restaurant. Platt borrowed $120,000 from a company called Associates and provided about $50,000 of his own money. Jarvis and Platt rented a former McDonald's and began to renovate it for the bar/restaurant. On April 16, 1997, Jarvis and Platt formed Wy-Cliff Corporation to operate the business, which was now called Neighbors Bar & Bistro (Neighbors). Jarvis and Platt were the only directors of the corporation. In November 1997, before the business opened, Platt borrowed $270,000 from Preferred Funding, Inc., (Preferred), a commercial lender specializing in loans deemed too risky by traditional lenders. The loan was to be secured by a note and deed of trust on Platt's personal residence as well as "all supplies and materials to be used in connection with the rehabilitation and expansion of Mohawk Video [another of

Platt's businesses] and Neighbors Restaurant and Night Club."[3]

According to the court, of the $270,000, Platt received only $94,000 from Preferred's loan. The balance was used to pay fees and costs to Preferred and to pay off Associates. Preferred filed a UCC-1 to perfect its interest on January 29, 1998. The UCC-1 listed "Clifton E. Platt, DBA Neighbors" as debtor and listed as collateral "all furniture, fixtures and equipment located at Neighbors, 1417 Villard Street, Springfield, Oregon."[4] According to the court, Neighbors was actually located in Eugene, not Springfield. This issue was never pursued in the case. Moreover, most of the fixtures were owned by the building's landlord, not Platt. Worse, the equipment and other intangibles of Neighbors were owned by Wy-Cliff, the corporate entity, not Platt as an individual.

Neighbors opened on December 29, 1997, and did not do well, losing money from its opening day. By March, the business was in serious debt. Two regular customers of Neighbors Bar & Bistro (perhaps the only two) were Alfred Jackson and Richard Harger. They discussed the business problems with Jarvis. After running a UCC check on Wy-Cliff that showed no secured creditors, Harger and Jackson decided to loan Wy-Cliff $70,000. On March 26, 1998, Harger and Jackson filed a UCC-1 naming Wy-Cliff Corporation as debtor and listing as collateral all of Wy-Cliff's tangible and intangible assets.

Platt defaulted on his payments under the $270,000 loan. As a result, Preferred filed an action to foreclose on the collateral (Platt's residence and the tangible assets of Platt's businesses). While the foreclosure action was pending, Harger and Jackson loaned additional funds, bringing the total amount of their loan to $168,000, including interest. Shortly thereafter, Wy-Cliff defaulted on the Harger and Jackson loan. Harger and Jackson declared the loan in default and accelerated all obligations and demanded full payment. On November 3, 1998, Wy-Cliff executed an "Asset Transfer Agreement" (ATA) conveying all of the assets of Wy-Cliff, tangible and intangible, to Harger and Jackson in exchange for Harger and Jackson's forgiveness of Wy-Cliff's debt ($168,155).

In an attempt to get the collateral related to Neighbors, Preferred alleged that Platt was Wy-Cliff's agent when he borrowed funds from and granted collateral to Preferred. Thus, Preferred argued that both Platt and Wy-Ciff Corporation were liable for its loan to Platt. When Preferred learned that Wy-Cliff had transferred all of its assets to Harger and Jackson, Preferred alleged that this transfer was a fraudulent transfer under Oregon's Uniform Fraudulent Transfer Act. Preferred then asked the court to undo the transaction by allowing Preferred to foreclose on the assets of Wy-Cliff that had been transferred. Surprisingly, Preferred prevailed on these allegations in the circuit court. Not surprisingly, Preferred lost on appeal in the Oregon Court of Appeals. Preferred made many mistakes in structuring and documenting its loan to Platt/Wy-Cliff. As the next section discusses, Preferred misunderstood and/or misapplied many basic concepts of corporate, agency, and secured transactions law.

Business Law for Lenders

A fundamental misunderstanding by Preferred was that it thought that Platt was its only borrower. The question of who the borrower is must be addressed in every loan, and it is not always simple to answer. To properly identify the borrower, lenders often must apply basic concepts of corporate law. An important fact for lenders to understand is that a corporation (the same is true of limited liability companies and limited partnerships) is a separate legal entity. True, the corporation is not a personal entity, but legally it is treated as if it were a separate person. For example, when Platt and Jarvis formed Wy-Cliff Corporation and transferred the assets of Neighbors to the corporation, Platt no longer owned those assets. This is true even though Platt (with Jarvis) owned and controlled the corporation. As long as the proper corporate formalities are observed, the corporation is treated legally as an entity separate and distinct from its owners, officers, or directors. Assets owned by the corporation are *not* owned by the shareholders, officers, or directors. As a result, the transfer of any interest, including a security interest, in assets owned by the corporation must be done by the corporation. For example, if Preferred wanted the assets of Neighbors to secure its loan, it would have had to determine who owned the assets. This inquiry would have revealed that Wy-Cliff Corporation owned the assets. Thus, to get an enforceable interest in these assets, Preferred would need to deal with the corporation. This raises other issues. First, how does a corporation as a nonpersonal entity enter into contracts? The answer is found in agency law.[5] Second, what is the significance of the

fact that Preferred's borrower (Platt) did not own the assets that Preferred intended to use as collateral for the loan? Remember, Preferred predicated its loan on having a collateral position in Platt's residence, the assets of Platt's video store (Mohawk), and the assets used in connection with Neighbors. These issues require an analysis of secured transactions law (Article 9 of the UCC). Agency law and secured transactions are discussed in more detail below.

Agency law is ubiquitous in business transactions. In general, an agency is a consensual relation between two parties, the principal and agent, to the effect that the agent will act on behalf of and subject to the control of the principal and the principal's agreement to be represented by the agent.[6] If the agency is created and conducted properly, when the agent acts it is legally as if the principal had acted. For example, when the treasurer of a corporation signs a payroll check, the treasurer and the corporation intend the corporation and only the corporation to be liable on the check.[7] The treasurer does not intend to incur any personal obligation to pay the employee.

When an agent enters into contracts on behalf of his principal, there are two factors that determine the liability of the agent and/or the principal on the contract. The factors are authority and disclosure. As long as the agent is authorized, the principal will be liable on the contract.[8] Assuming the agent is authorized, only the principal will be liable if the agency is fully disclosed by the agent. An authorized agent who provides anything less than full disclosure will be, along with the principal, personally liable on the contract. In the case of an unauthorized agent, only the agent is liable on the contract.[9]

There are two types of authority that are sufficient to allow an agent to bind his principal to a contract. One is actual authority, the other is apparent authority. Actual authority may be either express or implied. This is the authority the principal intended to give the agent. It is usually created by direct communication from the principal to the agent. It is often stated in the agency agreement. An agent also has the implied authority to do any act or enter into any contract reasonably necessary to carry out the express actual authority given by the principal. Apparent authority is very different; this is authority that the principal did not intend to create. Apparent authority must be based on acts of the principal that have led third parties (anyone other than the principal or agent) to reasonably believe that the agent has more authority than the actual authority given to the agent. Since by definition the principal has misled the third parties, the principal will be bound to the contract even if the agent exceeded his actual authority as long as the contract is within the agent's apparent authority. Essentially, an agent has as apparent authority, the amount of authority a reasonable third person would think the agent had based on the conduct or statements of the principal.

Full disclosure of the agency requires that the agent disclose both the identity of the principal and the agent's representative capacity. For example, the proper way to have the president of ABC Corporation sign a document on behalf of the corporation would be as follows:

ABC Corporation

(s) Sam Smith

by: Sam Smith, President

This signature format reveals the identity of the principal and Sam's capacity as president.[10]

The other area of law relevant to structuring Preferred's loan is the law of secured transactions under Article 9 of the UCC. In general, a security interest in personal property must be created pursuant to Article 9. Article 9 provides that, for a security interest to attach, three conditions must be satisfied: The debtor must sign a security agreement that is in writing and contains a description of the collateral; the secured party must give value; and the debtor must have rights in the collateral. The word debtor is defined in relevant part as "a person having an interest, other than a security interest or other lien, in the collateral, whether or not the person is an obligor."[11] Preferred's problem was that Platt, its borrower, had no interest in the assets associated with Neighbors; all of his interest had been transferred to Wy-Cliff Corporation before he granted any interest to Preferred. Wy-Cliff had an interest in the assets that Preferred wanted as collateral, but Wy-Cliff was not identified as the debtor. As discussed in the next section, part or all of the loan should have been made to Wy-Cliff Corporation directly. To create an enforceable security interest, the lender must structure the loan so that the owner of the collateral is obligated to repay at least part

of the loan either directly or indirectly. Moreover, pursuant to the law of fraudulent transactions, the lender should make sure that the owner of the collateral receives some benefit from the loan.

Preferred's most important mistake was that it misidentified its borrower. It may have been that Preferred simply thought it was taking over the position of Associates, the prior lender to Platt that was paid off with some of the proceeds of Preferred's loan. Associates evidently held a security interest in the tangible and intangible assets associated with Neighbors. Preferred, however, was either unaware of or had failed to appreciate the significance of the fact that Platt and Jarvis had formed Wy-Cliff and transferred all of Neighbors' related assets to the corporation. Once the assets were transferred to Wy-Cliff, Preferred needed to deal with the corporation to get an interest in the assets.

Interestingly, Preferred was dealing with the correct person but in the incorrect capacity. That is, if Preferred had wanted a security interest in the assets associated with Neighbors, it needed to get a security interest from Wy-Cliff. Platt, as a director and officer of Wy-Cliff, had the authority to grant the interest. When Platt signed the security agreement and UCC-1, however, he did so in his individual capacity, not as an agent of Wy-Cliff. Preferred tried to remedy this shortcoming by alleging that Platt was acting as Wy-Cliff's agent and that therefore Wy-Cliff was liable for the loan. Platt was Wy-Cliff's agent, but the court of appeals pointed out that Platt was not acting as Wy-Cliff's agent when he entered into the loan documents with Preferred, because he signed in his personal capacity "Clifton E. Platt, a single man . . . in his individual capacity" (loan agreement); "Clifton E. Platt, an unmarried person" (promissory note); and "Clifton E. Platt DBA Neighbors" (financing statement).[12] Thus, Preferred got no interest in the assets of Neighbors.

What Preferred Should Have Done

Preferred should have clearly identified its borrower, the collateral that would secure the loan, the owner of the collateral, and the purpose of the loan. If this had been done, Preferred would have recognized that two legally distinct entities were involved. The first was Clifton Platt, the other was Wy-Cliff Corporation. Judging from the court's opinion, it seems that the loaned funds were to be used for the Neighbors business. The loan was to be secured by Platt's personal residence; assets associated with another of Platt's businesses, Mohawk Video; as well as the assets used in connection with Neighbors. Based on the court's opinion, it seems reasonable to conclude that Platt's residence was owned by him personally and that the Neighbors' assets were owned by Wy-Cliff Corporation. It is less clear how the Mohawk Video business was organized. If it was a sole proprietorship, then all assets would be owned by Platt personally. Of course, a lender cannot afford to guess at the answers to these questions; proper due diligence must be done to confirm the answers to these questions.[13]

For the purposes of this article we will assume that the preceding assumptions regarding the use of the loan proceeds and the ownership of the collateral are correct. With this information, Preferred should have realized that the best way to structure this loan was to make Wy-Cliff Corporation the borrower and have Platt guarantee payment of the loan. Wy-Cliff could then secure the loan with the Neighbors assets that it owned. Since the loan proceeds would go to Wy-Cliff, there would be no question regarding the propriety of the grant of the security interest. In addition, Platt could use his residence and Mohawk Video assets to secure his guaranty of Wy-Cliff's debt.

Platt would be a signer of all the loan documents but in various capacities. For example, the loan agreement and the security agreement relating to the assets of Neighbors would be contracts entered into by the corporation. Thus, Platt should sign in his corporate capacity as an officer and director. Also, it would be a good idea to have Jarvis sign these documents in his corporate capacity. Platt would sign the guaranty agreement, deed of trust, and security agreement related to his residence and the assets of Mohawk Video in his individual personal capacity.

The loan structure discussed in the preceding paragraph is not the only possible structure, but it is the best one. For example, the loan could be structured with Platt as the borrower, but this requires the Wy-Cliff Corporation to guarantee Platt's debt and then secure the guarantee with the Neighbors assets owned by Wy-Cliff. The problem with this structure is that the corporation is providing what is often called an "upstream" guarantee.[14] That is, the corporation will not necessarily benefit from the loan proceeds, Platt could use them for some purpose unrelated to the corporation, and this creates the potential for a fraudulent transfer from the perspective of Wy-

Cliff's creditors. To the extent that the loan proceeds are in fact used for Wy-Cliff's benefit, or Wy-Cliff's balance sheet is in good shape, this risk is ameliorated. Still, there is no obvious reason to structure the loan this way and then have to be concerned with these issues.

Finally, since Preferred's loan proceeds were used in part to pay off a prior secured lender, Associates, Preferred should take an assignment of Associates' security interest and its UCC-1 financing statement. This would allow Preferred to benefit from the earlier filing date. Preferred would have to file an amendment to the financing statement to reflect the transfer of the assets to the corporation. In addition, while the assignment is a good idea, it is not a substitute for preparation and filing of new UCC-1 statements to perfect Preferred's interests created as part of its loan.

Conclusion

Commercial lending requires an amazingly broad knowledge of business law. In particular, as the *Preferred Funding* case illustrates, even small loans require an understanding and coordination of many areas of law to be properly structured. There are two important things banks and other lenders can do to help insure that loan officers have the ability to properly structure loans. The first is to provide loan officers with adequate legal training. There is really no substitute for individual loan officers' understanding basic business law concepts. This is best accomplished on an in-house training program taught by professional educators and focused on the basic concepts of business law (contracts, corporate law, business organizations, negotiable instruments, secured transactions). Having a law firm do a three- or six-hour seminar on a cutting-edge issue, while important, is not a substitute for a solid understanding of basic concepts. The second thing lenders can do to help loan officers properly structure loans is to provide them with adequate access to attorneys, either in-house (preferable) or outside counsel. The communication between loan officer and attorney is central to protecting the lender. Moreover, if the loan officer has been properly trained regarding basic business law concepts, he or she will be able to communicate more effectively with counsel.

Notes

1. Preferred Funding Inc. v. Jackson, 61 P. 3d 939 (Ore. 2003).
2. Article 9 was revised in 1999 by the Permanent Editorial Board of the Uniform Commercial Code at the direction of its sponsors, the American Law Institute (ALI) and the National Conference of Commissioners of Uniform State Law (NCCUSL). The substantially renumbered and expanded provisions of revised Article 9 have been adopted by all states. All citations here are to the current revised version of Article 9.
3. *Preferred Funding*, 61 P.3d at 941.
4. *Id*.
5. Agency law is governed by the common law, which means there is no general statutory basis for agency law. Also, the applicable rules may vary from state to state, as is the case with all common law topics. A good general statement of agency law can be found in the *Restatement, Second, Agency* published by the American Law Institute (for relevant information about the ALI and how to obtain a copy of the *Restatement, Second, Agency* and also for updates on the progress of the *Third Restatement of Agency Law*, visit *www.ali.org*).
6. Restatement, Second, Agency §§1, 15.
7. *See* UCC 3-402(b)(1): "If a representative signs the name of the representative [agent] to an instrument and the signature is an authorized signature of the represented person [principal]… [then]… [I]f the form of the signature shows unambiguously that the signature is made on behalf of the represented person who is identified on the instrument the representative is not liable on the instrument."
8. Restatement, Second, Agency §§144, 186 (discussing the fact that a principal is liable on contracts entered into by the agent as long as the agent was authorized).
9. *Id.* at §330.
10. *See e.g.*, UCC 3-402(b)(1) quoted in n.7 *supra*. (While Article 3 concerns negotiable instruments, this format complies with the requirements in UCC 3-402(b)(1) and the common law of agency.).
11. *See* UCC 9-102(28).
12. *See Preferred Funding*, 61 P.3d at 942.
13. In relatively small loans a lender may be satisfied with reviewing tax returns, accountant-prepared financial statements, and, in the case of a corporation or LLC, confirming existence and the name of the entity with the appropriate state office. In large loans counsel will perform the due diligence and additional documents will be reviewed. For example, in the case of a corporate borrower, copies of organizational documents, such as a certified copy of the filed articles of incorporation, a good standing certificate, and certified resolutions (authorizing the borrower to borrow and when necessary, authorizing the grant of the necessary interests in collateral), also will be reviewed. In addition, certified resolutions should be provided that authorize specific officers of the debtor to execute the loan documents. Also, an encumbancy certificate should be provided to identify the relevant officers and provide copies of their signatures.
14. The problem with an upstream guarantee is that it might be deemed to be a fraudulent transfer under the Uniform Fraudulent Transfer Act (UFTA). In general, the UFTA defines as fraudulent any transfer made by a debtor when: (1) the debtor is insolvent at he time of or as a result of the transfer and (2) the debtor received less than fair consideration (*i.e.*, the fair market value) for the transfer. An upstream guarantee occurs when money is loaned to the majority shareholder of a corporation or a corporation subsidiary and the shareholder causes the corporation to guarantee the loan. The corporation is a separate legal entity and, while the shareholder controls the corporation, the corporation does not control the shareholder. Thus, the corporation cannot require the shareholder to use the loan proceeds for the corporation's benefit. If, in fact, the proceeds are not used for the corporation's benefit, then the second requirement for a fraudulent transfer is met. The guarantee is then considered to be at risk because, if the corporation is insolvent at the time as a result of the guarantee, then the guarantee will be deemed fraudulent and unenforceable.

New Technology for Credit Review

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A bank may embrace technological changes for any number of reasons. It may be that the company has gone through a cultural change, perhaps as a result of new management. The availability of new technology may provide avenues enabling the company to reach its objectives and goals quicker. Changes in laws or regulations may require organizational adoption. Certainly, one of the newest considerations is the upcoming Basel II Capital Accord.[1]

The introduction of Basel II has brought about new ideas in the area of credit risk. Adoption of Basel II requires banks to reevaluate their internal processes for determining credit quality. A critical area in assessing the bank's credit quality is credit review. Credit review performs the tasks of analyzing samples of credits to detect increases or decreases in credit quality and documents the causes of the credit-quality changes. Based upon its findings, credit review has the authority to upgrade or downgrade the credits, which ultimately affects the amount of capital the bank is required to set aside for loan losses.

Credit review has always relied upon evaluating credit risks by analyzing samples of individual credits, known as transactional reviews, in both large and small banks as well as with the regulatory agencies. While transactional reviews most likely will continue to be the foundation for the credit review department, newer concepts, such as continuous monitoring, are available to work in conjunction with the transactional reviews. The driving force behind this and other new developments in the credit review area is the availability of data and the technology to access it. As technology develops and data becomes more readily available, so will credit review's access to tools that will assist in the evaluation of credit risk.

One of the more interesting techniques emerging from Basel II that affects credit review is the concept of two-dimensional risk rating, which enables the credit analyst to rate the obligor as well as the facility. The first dimension indicates the probability of default for the obligor. The second dimension indicates the loss-given default associated with a particular loan or facility. This new grading system helps the credit review analyst determine where the real risks lay by identifying the ability of the obligor to repay the loan as well as the amount of loss in the event of default.

Another key concept is the need to analyze the risk of a portfolio in addition to the individual credit. Basel II is promoting portfolio analysis at a more sophisticated level that would evaluate a bank's entire portfolio using a common grading system to measure all credit risk across the bank. A less complicated, cost-justifiable solution might be a system that enables the credit analyst to slice and dice the portfolio using a risk-based approach. By incorporating this type of approach, credit quality can be analyzed

from an overall perspective with emphasis placed on the impact of the entire portfolio.

Both of these concepts have emerged from banks preparing for Basel II. Within the framework of Basel II, the larger, international banks are being asked to adopt a different approach for assessing capital adequacy in their bank. While the cost-benefit ratio is still too high for banks outside the top 10 or so largest banks to consider the transition to Basel II, there should be some consideration given to some of the solutions surfacing from the Basel II movement.

Whether a credit review department decides to take a more conservative approach or to move quickly toward these types of solutions, the use of these new concepts requires technology. Due to the significant investments needed for technology, banks are now trying to control their technology needs by putting more emphasis on what software is licensed and how it fits into their current technological environment. As a result, the acquisition of software now requires a substantial amount of time, effort, and involvement across different departments throughout the bank. Credit review departments are increasingly finding themselves in the new situation of selecting and implementing technology solutions.

This article will serve as a road map to the successful selection and implementation of technology in support of the credit review operation. Critical elements of the process include defining cross-functional needs, cost-justification strategies, and implementation considerations.

Gaining Organizational Buy-In

The most critical element affecting the success or failure of the project will be your ability to gain widespread executive-level support for the acquisition and implementation of technology. You need it up front to get budget approval; throughout the process to keep project timelines in focus and met; and, most important, very publicly after the selection to ensure that an appropriate level of commitment is in place to have a timely and successful implementation.

How do you gain organizational support? You must have a well-defined set of anticipated benefits for the new environment and a compelling, reality-based, project-cost justification.

The process starts by defining your operational needs. This exercise is not focused solely on credit review. You can dramatically increase the odds of approval by tying credit review gains back to other departments. This will gain broad support for your initiative throughout the bank. The following areas should be considered:

- Bankwide strategic and operational objectives;
- Interdepartmental work flows;
- Technology (IT) departmental considerations.

For example, within credit review you may have a broad objective of increasing efficiency. At the bankwide level, that could translate into increased coverage of the portfolio annually. That will have a positive impact on loan losses and a favorable impact on an overall corporate objective of increasing profitability. In a high-growth environment, the increased efficiency may not provide more portfolio coverage, but it can allow you to handle the increased workload without a corresponding increase in staff. The result is a positive impact on profitability through a percentage decrease in noninterest expense.

Interdepartmental work flows also should be considered. Both credit administration and credit review may look at certain credits, with varied levels of detail, annually. If the new system environment will allow each group to leverage work done by the other, the operating efficiencies gained by each group can have the benefits outlined above, and your department will gain an ally for change. Similar benefits may be realized by IT through reduced dependence on IT resources.

Finally, IT operating environment requirements must be considered. The bankwide technology environment is complex. To maintain a reasonable level of control, there will be standards that all technology solutions must operate within to enable IT to support them. Take the time to understand the standards at a high level (that is, operating system, database, and network environment) before you start considering specific solutions. By ensuring that only viable alternatives are considered, you will gain the trust of your IT operation. In addition, you will not waste time and effort considering options that ultimately cannot be implemented.

At this point, you should be able to pull together a document that broadly defines your objectives in acquiring new technology, describes gains to be expected organizationally and across specific departments, and justifies the cost (Figure 1). Before proceeding further, use this document to gain budgetary approval. Having budgeted money will increase your leverage when working with potential vendors, and it will ensure that you will not be investing considerable time and effort in an evaluation process that goes nowhere.

The Evaluation and Acquisition Process

You have a budget, now what? The first step is to understand your bank's requirements for technology acquisitions. What sign-offs and approvals need to be gained before contracts can be executed? Is a formal Request for Proposal (RFP) needed? What are the general steps and time frames required for all approvals for a typical acquisition of this magnitude? Once contracted for, what is a realistic implementation time frame? Gather this information and work backward from when you want to be running your new technology. Are there any significant events that will affect the schedule (holidays, vacations for key personnel, major changes within the bank such as an acquisition)? This will tell you the latest date on which to start the vendor selection process in order to implement the system on time.

Before the formal selection process begins, you need to establish a framework within which the evaluation will occur. Prepare by developing a list of decision criteria. Depending on your bank's procurement requirements, you may need a formal RFP. Even if an RFP isn't required, a decision matrix should still be developed for internal use to ensure that you consider all relevant points. The matrix also will ensure that all alternatives are considered equally and will help you to cut through vendor hyperbole. The matrix will help you keep vendor capabilities in mind as time passes between presentations.

FIGURE 1
Sample Cost/Benefit Analysis

Five-year cost analysis		**Year 1**		**Year 2**	
Project Cost					
License Fee		125,000			
Maintenance Fee		25,000		26,250	
Implementation		30,000			
Total Project Cost		**180,000**		**26,250**	
Budget Projections		Dollars		Dollars	
Item	%Savings	Budget	**Savings**	Budget	**Savings**
Review (staff)	0.25	687,000	171,750	707,610	176,903
Deferred hiring reduction		1			
Salaries saved			57,000		57,000
Training (staff)	0.30	0	0		0
Travel (staff)	0.10	92,000	9,200	94,760	9,476
Total budget projections		779,000	**237,950**	802,370	**243,379**
Review efficiency					
	% increase	Projected	Increase	Projected	Increase
Number of reviews	0.25	**25**	6	**25**	6

What goes into this decision matrix? Include features that credit review and other departments require/desire to effectively perform their duties as well as internal IT operating requirements and vendor issues, such as satisfied references, track record of timeliness within budget implementations, active user groups, financial stability, five-year cost of ownership, and strength of their management team. At this point, the trick with the RFP/matrix is to assign a relative value to each item. Ideally, this should be a two-dimensional scale: One dimension is the item's relative importance as it relates to all other items; the other dimension is your opinion of the vendor's ability to satisfy the requirement. A weighting scale of one to five (Figure 2) should be applied to each dimension for each item. Multiply the two dimensions to compute the vendor's score for that item. The total score for each vendor will give you an objective comparison for its fit against your needs.

Even without a formal RFP, share the matrix with vendors so that they can describe how they match up with your needs. Question vendors thoroughly to evaluate their answers and then score the responses based on your opinion of their ability to meet the need. If multiple people within the bank are participating in the process, average the scores for each vendor to compute a final ranking.

It is important to test vendors' responses with vendors' demonstrations. Invite the vendors to the bank or have them conduct their presentations over the Internet.

Year 3		**Year 4**		**Year 5**			
							Totals
							125,000
27,563		28,941		30,388			**138,141**
							30,000
27,563		**28,941**		**30,388**			**293,141**
Dollars		Dollars		Dollars		Budget	**Savings**
Budgets	**Savings**	Budget	**Savings**	Budget	**Savings**		
728,838	182,210	750,703	187,676	773,225	193,306	3,647,376	**911,844**
						2	
	57,000		57,000		114,000		**342,000**
	0		0		0	0	**0**
97,603	9,760	100,531	10,053	103,547	10,355	488,440	**48,844**
826,441	**248,970**	851,234	**254,729**	876,772	**317,661**	4,135,817	**1,302,688**
			Percentage of budget savings				**31%**
							Totals
Projected	Increase	Projected	Increase	Projected	Increase	**Projected**	**Increase**
25	6	**25**	6	**25**	6	**125**	**31**
			New total reviews				**156**

Regardless of the venue, take the time to form your own opinion as to the vendor's suitability for your needs. Focus on aspects of the vendor's product that are critical to your needs. Require all bank participants to score the matrix immediately following the presentation and before any other vendor's presentation.

This is also a good point to make reference calls. Validate critical capabilities and overall satisfaction. Speak to customers other than the vendor-provided references. Independently verify what you have been told.

Your bank's internal IT organization may want to respond to the RFP by developing and supporting an internal solution. If so, the internal proposal must be subjected to the same decision standards as those of all other respondents. Many organizations allow the decision process to break down when considering in-house options because of previous positive or negative experiences. You are selling yourself and the bank short if you do this. Let the IT department respond to the same performance standard as all others and objectively rank its ability to meet your needs.

The End of the Road?

You have ranked, rated, scored, and selected a vendor. Your work is done, right? Not at all. At this point, it is easy to lose focus and precious time. It is natural to have a letdown after actually selecting a vendor. Guard against it, and take steps to ensure that all final approvals are gained in a timely manner.

First, refine your cost justification. You should have more specific knowledge about how the vendor's solution will help you and other areas within the bank. Your knowledge about the vendor's actual costs also should be more specific. Use the information to tighten up your cost justification. Be creative when looking at how the solution can change your business practices in a positive way. Can you take advantage of capabilities to fundamentally change your work flows and processes? It is not uncommon for credit review departments to realize a 50 percent to 60 percent gain in productivity by implementing a fully automated solution.

Compare your current and anticipated departmental environment to your peers. Look at productivity comparisons using credit analyst productivity as full-time equivalent (FTE) per number of loans or per dollar value of the portfolio. The Bank Administration Institute *(www.bai.org)* and the Risk Management Association *(www.rmahq.org)* are both excellent sources of peer data to conduct the comparisons. Contrast these industrywide benchmarks to those of your chosen vendor's customers to justify your projected productivity gains.

Finally, step back and review your original project timeline, focusing in on the final approval process. What remaining steps are needed? Who needs to provide formal sign-offs? Clearly identify the process that remains and push the decision through. It is easy to lose time if you do not proactively manage the sign-off process through to its conclusion.

FIGURE 2
Weight Each Requirement by Importance and Vendor's Capability

Relative importance

5 Mission critical
4 Very important
3 Important
2 Somewhat important
1 Nice to have

Need fulfillment

5 Far exceeds requirement
4 Exceeds requirement
3 Meets requirement
2 Partially meets requirement
1 Does not meet requirement

Contracting for Success

Ignoring the legal aspects of the contractual relationship (that's what your attorney is for), discussions held during the contracting process are a valuable opportunity to ensure all parties involved have the same performance expectation of one another. General elements that should be in all contracts include the following:

- Well-defined costs for all products and services.
- Payment terms; ensure that a significant portion of the fees due are withheld until the project is complete.
- The length of the contractual relationship.
- Clearly articulated deliverables; for software, a list of features or functions it will perform. Implementation services should precisely say who does what when.

Customer support should have responsiveness guidelines based on the severity of the problem.
- Confidentiality provisions protecting each party's respective products and/or data.
- Limitations of liability.
- Warranty commitments.

Implementation: An Opportunity

The implementation presents a unique opportunity to reengineer your operation. Before beginning the implementation, take time to evaluate how your new capabilities and greater operating efficiencies can allow you to restructure work flows, operating practices, and departmental objectives. If you are gaining 50 percent in productivity, how will you use the increase in available resources? Do improved sample selection capabilities (that is, by officer, credit instrument, or industry) make it possible to analyze the credit portfolio in new ways? Make sure that you know where you want to end up before starting the implementation process.

At this juncture, there are two fundamental keys to a successful implementation:

1. Public, executive-level support for the project; and
2. A well-defined plan with a single point of responsibility for successfully executing it.

You got executive level buy-in at the very start of the process; now is the time to reinforce that to everyone involved in the implementation. Have a kickoff meeting to create project momentum. Executive management should use the opportunity to explain why the project is important for the bank as a whole, not just the individual department. Reinforce to all involved that everyone's timely execution of tasks is needed.

Successful project management cannot be done by committee. Appoint a project leader and empower him or her with the necessary authority to execute the plan. The project leader must have strong organizational ability, good attention to detail, and good interpersonal skills. The plan itself should specify responsible parties and due dates for each task. Plan timelines should be reasonably attainable. Unrealistic objectives are demotivating to the project team and ultimately can undermine the successful conclusion of the project.

New tools will continue to be introduced to help you assess credit quality. To acquire these solutions, you will need to follow a formal technology acquisition process. To make this trip successful, plan your activities and use a road map to get there.

Note

1. See *www.bis.org/bcbs/cp3ov.pdf*, "Overview of the New Basel Capital Accord," April 2003.

Case Study: Best Practices at Hibernia National Bank

Thomas R. Wood

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This article is based in part on a presentation made to the Bank Administration Institute's National Loan Review Conference held in Phoenix in February 2003.

I always begin any discussion of the concept of best practices in bank loan review with the statement that what works best in one bank may not be completely applicable to another bank. What works has to take into consideration the risk tolerance and credit culture of the institution. In some respects, it also takes into account the overall financial condition of the institution, its size, and its geographic footprint. Likewise, the mix of the bank's portfolio among consumer loans, small-business loans, and large commercial loans will influence the direction and scope of a loan review process. In this article, I will describe the loan review practices that have proved successful for Hibernia National Bank.

Hibernia National Bank was founded by a group of Irishmen some 130 years ago in New Orleans (Hibernia is the Roman word for Ireland) and currently operates in Texas, Louisiana, and Missouri with 260 branches. We had about $17 billion in assets and about $11 billion in loans at year-end 2002. The loans are 53 percent consumer, 22 percent small business, and 25 percent large commercial.

My loan review staff consists of me as the senior manager, four team leaders (three commercial and one consumer), and seven commercial and one consumer specialist/analysts. Administrative support comes from two part-time administrative assistants and one shared assistant with my upstream boss. We are geographically disbursed in three locations: New Orleans, Baton Rouge, and Alexandria, LA.

We are responsible for coverage on a loan-assets-per-employee basis, without support personnel counted, of about $713 million per employee. Our annual budget, without bonuses or long-term incentives counted, approximates $1 million. All my team leaders and analysts are bonus eligible.

Our reporting structure has loan review, audit, and the real estate appraisal departments all reporting to the chief regulatory officer, who in turn reports to the chair of the audit committee of the board of directors.

Loan Review Activities

Because we think that it is useful to articulate just what it is we are trying to accomplish, we have written and published a mission statement:

> We are committed to providing an independent, professional loan review function that serves as a resource to lenders, management, and the board of directors. Our focus is on quality-control assessment and proactively seeking better and more efficient ways of serving and adding value to the needs of our constituents. We acknowledge and confirm the needs of the bank to take prudent risks and

earn revenues with mutual concerns for safety and soundness.

Scope of review is a subject that is widely debated, with some banks doing nearly 100 percent and some as little as 40 percent. We commit to reviewing at least 50 percent of our large commercial areas annually. Our small-business portfolio is much more granular than our large commercial segments but can include loans up to $5 million, occasionally higher. In that area, we tend to focus on product segments by loan size and use more sampling techniques than pure percentage penetration levels.

The consumer portfolios are tracked by heavy use of statistics generated by various support areas combined with periodic direct sampling. We tend to bias samples by factors that are designed to highlight real or potential problems. Examples include overrides, extensions, lower-tier scores, etc.

We commit to reviewing at least 50 percent of our large commercial areas annually.

In focusing our resources, we go where the dollars are, deep coverage on large riskier-rated credits. Biased samples on more granular portfolios are a good way to test the pulse of these segments. Look for bubbles in the air hose: aggressive growth areas or new credit products; override activity; loans made to cover overdrafts; lines of credit that stay fully funded. Review your collections department for extension activity, following federal collection guidelines, and gaps in collection activity. Get involved in your bank's fraud and kite exposure activities. Form a fraud team with representatives from the major risk areas and meet periodically with the goal of making recommendations to add value and reduce fraud loss. Look at new credit initiatives, which may include leasing, factoring, asset-based lending, and new consumer programs.

Be a consultant to the various credit exposure areas of the bank. This may include conducting special targeted reviews requested by a line area or credit management. Loan review should be involved in the credit policy process. Review proposed changes to credit policy, offer suggestions or advice, and be actively involved in the credit culture of the institution. There is no conflict of interest in loan review's being proactive in influencing and providing input to the credit process. Preventing a bad loan from being made in the first place adds value.

Loan review management should be an active participant in the full spectrum of credit culture activities in the bank. This can and should include sitting in as a nonvoting attendee at senior loan committee meetings, special assets committee meetings, quarterly portfolio assessment meetings, credit oversight meetings (where policy is approved), and even credit product development forums.

Establishing Risk Grades

At Hibernia, loan review owns the commercial risk-grading system. All changes to existing risk grades flow through loan review via a standardized asset change request form (ACRF). We delegate risk-grade changes *within* the generic pass grades to credit officers who work for credit administration. These particular ACRFs still flow through loan review, and on rare occasions we may make a change from what the credit officer approved. We delegated the pass grades to the credit officers because we found that we were spending too much time debating the nuances between a grade 3 or grade 4 risk, for example.

We use a 10-grade risk scale for commercial transactions. We typically do not assign risk grades to consumer transactions unless they become criticized or classified by regulatory standards.

- Grades 1 to 5 are generic pass risk grades.
- Grade 6 equals a pass-watch grade we call monitored.
- Grade 7 is special mention.
- Grade 8 is substandard.
- Grade 9 is doubtful.
- Grade 0 is loss.

We use 0 instead of 10 for loss because we have a single-digit field on systems for grade, and besides, 0 says it all. Functionally, 0 is never used on *systems* because it is charged off. We can grade at the note level and have different grades within a borrower relationship if it makes sense to do so.

We have developed an internal loan review automated drop-down line sheet for commercial transactions that derives drop-down information from our mainframe systems. We have automated as much as we can but continue

to seek enhancements to our system to reduce manual effort and increase efficiency.

Hibernia has committed fully to internal online imaging of loan documents at all levels of the credit process, with varying degrees of success. It works extremely well with consumer loan products due to commonality and granularity. It is fairly effective for small-business lending for similar reasons, with some glitches and anomalies from time to time. It is far less successful for large commercial loans, due to complexity and volume of documents and the difficulty of retrieving them. Officers who work with large loans tend to create their own shadow or desk files as a defense to the limitations of imaging for these more complex credits.

Hibernia has committed fully to internal online imaging of loan documents at all levels of the credit process.

Until January 2003, we were a heavy user of Moody's RiskCalc tool, which had both public company and private company models to gauge current risk and direction of risk when tracked over time. Moody's bought the KMV risk model tool, and we have adopted this in lieu of RiskCalc. These outside-service-agency-based models can be very useful in tracking borrower performance; the public model is heavily influenced by the daily market value of the publicly traded security. These are great tools for loan review because they not only offer insights into transactional risk but also allow us to bias samples by higher risk scores. This increases our efficiency in use of personnel.

Our small-business banking segment has developed an early warning system (EWS) that derives a score based on delinquency, credit bureau score, and behavior score to produce a grade. The behavior score tracks such factors as percentage of revolving line outstanding, delinquency within past 12 months, and other performance factors we have found predictive. The grade then tells us which loans appear to be most risky. The top 10 percent of the high-risk scores are sent to a triage area in small-business banking; the worst cases are the first cases for an evaluation of risk grade. Downgrade requests are forwarded to loan review for review with appropriate documentation to support the recommendation.

Every good toolbox should have a measuring tool. We use the monthly database log of all ACRF activity to provide a performance tool to management about how people are doing on accuracy and timeliness of risk-grade changes. We evaluate not only whether the grade is right but also whether the recommendation was timely. This information is used in lender and lending area managers' performance reviews.

The axiom "nothing is as constant as change" should apply to the loan review process. Do not do exactly what you did last year, evolve over time. Adapt to changing risk practices, both internal and external. Consider a continuous review process in which you review suddenly after booking on large loans. Look for macropatterns of evolving or emerging risk trends. When was the last time you had any formal face-to-face risk-grade training for lenders in your bank? Do this at least annually—staff changes, and people need refresher courses on the basics. Always have a goal of seeking to add value. If you are not adding value, find something that does.

Here is a suggestion for adding value: Prepare spilled-milk memos on all charge-offs over some dollar amount, both consumer and commercial. We are using $50,000 and more. Make these memos a learning tool, not a bludgeon. Evaluate from front origination to ultimate loss. Are there lessons as to validity of overrides, flaws in process or controls, implied changes that could reduce future loss, or some other insight? You will be amazed at the issues that will surface that you had not considered previously. Have the line areas do the initial research and write-up, and then have loan review be the final reviewer and commenter. Present findings monthly or quarterly to senior management.

Principles of Effective Loan Review

Here is my top 10 list of the elements of an effective loan review operation:

1. Avoid the "gotcha" approach in words and actions.
2. Communicate in a timely way. Do not spring surprises, touch base with the involved parties, get the full story.
3. Give credit where credit is due; acknowledge when the line initiates action.
4. Use the team approach. Ask "How can we fix this?" versus "How did this get broken?"

5. Avoid sharp and prickly adjectives.
6. Keep materiality in mind: "Nice to have" versus "need to have"; an underwriting oversight on an isolated basis should not be cause for a public humiliation; an issue on a $10,000 loan probably is not as important as an issue on a $10 million loan.
7. Avoid jumping to conclusions, especially when you have not discussed the issue with all parties involved.
8. Recognize signals you may be giving; don't start out with "we-are-right-and-you-are-wrong" body language and verbal cues. After all, you may be wrong. Listen at least as much as you talk.
9. Make sure your constituents know that you recognize risk grading is as much art as it may be science and that you are equally open to upgrading as downgrading.
10. This is my favorite, as shared with me many years ago by a senior Federal Reserve examiner: "If it does not make sense, it is probably wrong."

In addition, keep a sense of perspective and perhaps a sense of humor about the human side of what we do. It's a tough job and you won't always be everyone's favorite person, but doing it right and fairly will serve your institution well.

Noncredit Public Record Data for Credit Decisions

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Recently, sophisticated predictive models based on public-record identity verification and other noncredit data sources have been developed to complement and improve the performance of the traditional credit scoring that financial institutions use to evaluate potential borrowers.

Pioneered by Fair, Isaac and Company in the 1950s, credit scoring revolutionized the lending industry. It distilled the intricacies of a prospective customer's credit history into a neat, three-digit score that financial institutions could use to make consistent, profitable credit decisions. Today, credit scores are an integral part of any lending operation.

Credit scores suffer from two weaknesses, however. They are less accurate when used to evaluate borrowers with slim credit histories (thin files), and they cannot be used at all to evaluate an individual with no credit history (no files).

Applications that use public-record and other noncredit data overcome these weaknesses by providing a tool to more closely examine prospective borrowers. These solutions augment credit reports by improving risk segmentation, while expanding the pool of acceptable borrowers. Because these models also incorporate identity-verification tools and do not rely on credit data, they can be used by lenders to combat fraud and to comply with new homeland security laws and rules governing how personal credit information can be used.

How They Work

The models are conceptually similar to traditional credit-scoring applications. A prospective borrower provides identifying information in the application process that the lender, or more typically a third-party vendor, cross-checks with known data matching that profile. Rather than checking credit information, however, the new applications review public record and other noncredit data, including license and motor vehicle data, property information, and government watch lists.

The system checks for red flags in the application, such as an unmatched phone number and zip code combination or an invalid Social Security number. The results are then fed through a model that produces a three-digit score indicating the applicant's credit risk.

Interestingly, it turns out that credit risk predictions by public-record-based models correlate surprisingly well with results returned by traditional credit-scoring models. A lender often can predict creditworthiness with public-record-based models about as confidently as with traditional credit scores.

Statistical models that use noncredit public-record data can enhance the predictive

power of credit scores on both thin and full files and can serve as the risk-assessment tool on no files. Groups that could not be assessed before, for example, college students and new immigrants without established credit histories, can now be reviewed and scored.

The two figures below illustrate the results of a test for a discount retail chain. The test included almost 140,000 unique approved credit-scored full and thin files as well as almost 60,000 credit file "no scores," of which slightly more than 10,000 were approved.

Figure 1 shows the risk segmentation of a typical credit-scoring model on the sampled thin and full files. The credit model rank-ordered the "bads" from 0.4 percent to 14.9 percent for the full files and 0.7 percent to 22.4 percent for the thin files.

Figure 2 shows the same segmentation for the noncredit model that ranked the thin files from 1.4 percent to 29.9 percent and the full files from 0.4 percent to 21.6 percent.

The credit-scoring model did a slightly better job segmenting the low-risk tail of the distribution because, for those applicants with detailed and perfect credit history, the credit model has a monopoly on the most predictive information available.

The noncredit model was actually better overall, however, with better identification of high-risk accounts. This was accomplished even though the model uses no credit history information to do its scoring. Even better risk segmentation can be achieved by using the two models in conjunction with each other.

A similar story arises for the no-score group. When evaluated one year after account activation, this group had an overall bad rate of 16.2 percent. We used the noncredit model to crack open this group and were able to rank-order the customer's risk from 0.5 percent to 42.0 percent. That allowed us to identify nearly a third of the population (32.4 percent) with a bad rate of only 7.1 percent, 56 percent lower than the overall no-score population. By approving that percentage of 800,000 annual no-score applicants, the client could profitably do business with an additional 259,000 credit customers each year.

The bottom line is that noncredit models predict risk about as well as credit models on thin and full files, significantly improve the performance of credit models on all segments, and allow credit issuers to evaluate the no-score population, providing the ability to make automated credit decisions with greater confidence and for more people.

FIGURE 1
Credit-Based Risk Segmentation

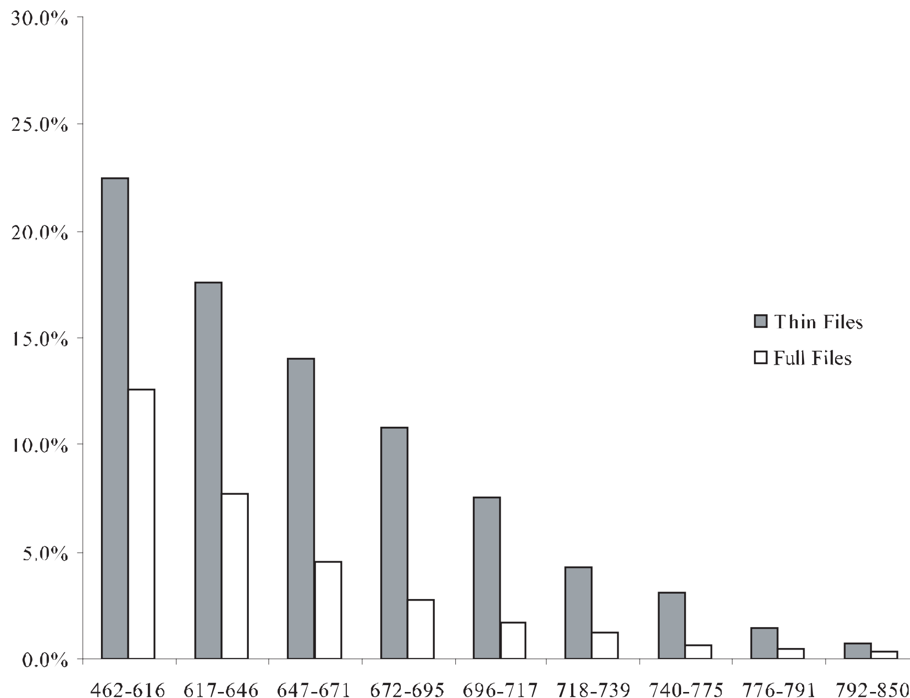
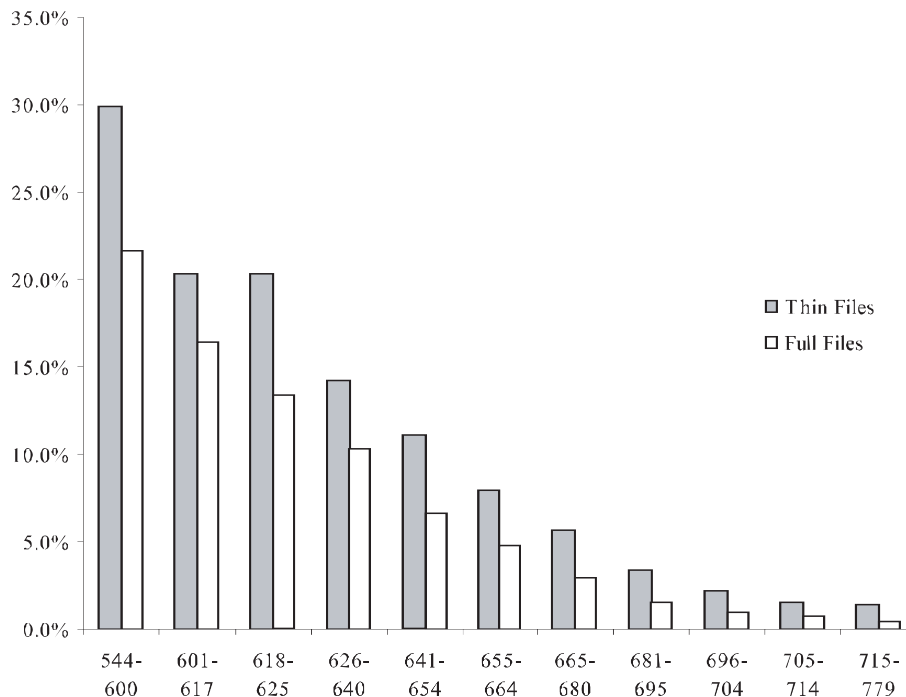


FIGURE 2
Noncredit-Based Risk Segmentation



Compliance

Lenders also can use nontraditional data models to comply with laws that govern how credit data can be used and that require financial institutions to verify the identities of prospective customers. The fraud detection and identity verification tools incorporated into non-credit solutions will meet those requirements and will pass compliance "audit scrutiny" by allowing institutions to deploy a consistent policy across all new accounts.

Increased Profits

An individual who wanted to steal from a wireless phone provider could assume the identity of someone with a solid credit profile. Subjected only to a credit check, the individual is granted the account, costing the provider money and victimizing another person's credit. A public records solution, however, could catch the mismatch between the identity information provided on the credit application and the facts in the public record and flag the perpetrator for greater scrutiny.

Case studies in industries as diverse as banking, Internet commerce, and retail sales have shown that using nontraditional information sources in conjunction with credit data can improve risk segmentation by 20 percent to 40 percent. The net results are lower loss rates and more booked profitable customers.

How big a difference can this make? One major bankcard issuer historically suffered an average $4.25 net application fraud charge-off per account. After implementing a comprehensive fraud and identity verification solution based on noncredit data, the issuer saw that number fall to $1.40 per account. That 70 percent reduction resulted in a $36.6 million savings, yielding a return on investment (ROI) of about 50.

Solutions based on noncredit public record data sources have the potential to significantly change the lending landscape. They can enhance examination of both thin and full credit files, while also opening up for evaluation groups without sufficient credit histories. As these tools advance and become more prevalent, expect them to become a significant competitive advantage for companies that adopt them first.

Consolidation of Variable-Interest Entities

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The Financial Accounting Standards Board (FASB) recently issued Interpretation No. 46, "Consolidation of Variable Interest Entities," to clarify the application of Accounting Research Bulletin (ARB) No. 51, "Consolidated Financial Statements," to certain entities. Specifically, the FASB's new guidance applies to a business entity in which equity investors do not have the characteristics of a controlling financial interest or do not have sufficient equity at risk for the entity to finance its activities without additional subordinated financial support from other parties.

Under current practice, two entities generally have been included in consolidated financial statements because one entity controls the other through voting interests. ARB No. 51, which was issued in 1959, requires that an entity's consolidated financial statements include subsidiaries in which the entity has a controlling financial interest. That requirement usually has been applied to subsidiaries in which an entity has a majority voting interest, but in many circumstances the entity's consolidated financial statements do not include variable-interest entities with which it has similar relationships.

The FASB noted that the voting-interest approach is not effective in identifying controlling financial interests in entities that are not controllable through voting interests or in which the equity investors do not bear the residual economic risks. The FASB stated that transactions involving variable-interest entities have become increasingly common, but the relevant accounting literature is fragmented and incomplete. Many variable-interest entities have commonly been referred to as special-purpose entities (SPEs) or off-balance-sheet structures; however, the FASB guidance applies to a larger population of entities.

The consolidation requirements of Interpretation No. 46 apply immediately to variable-interest entities created after January 31, 2003. In general, the consolidation requirements apply to older entities in the first fiscal year or interim period beginning after June 15, 2003. Certain of the disclosure requirements apply in all financial statements issued after January 31, 2003, regardless of when the variable-interest entity was established.

Scope

The FASB noted that Interpretation No. 46 will apply to all entities; however, there are a number of exceptions to the interpretation's scope including that:

- Not-for-profit organizations subject to the consolidation requirements of American Institute of Certified Public Accountants (AICPA) Statement of Position No. 94-3, "Reporting of Related Entities by Not for-Profit Organizations," are not subject to Interpretation No. 46, except

that they may be related parties or unless they are used by business entities in an attempt to circumvent the provisions of Interpretation No. 46.

- An employer should not consolidate an employee benefit plan subject to the provisions of Statement of Financial Accounting Standards (SFAS) No. 87, "Employers' Accounting for Pensions"; SFAS No. 106, "Employers' Accounting for Postretirement Benefits Other Than Pensions"; and SFAS No. 112, "Employers' Accounting for Postemployment Benefits."
- Separate accounts of life insurance entities as described in AICPA Auditing and Accounting Guide, "Life and Health Insurance Entities," are not subject to Interpretation No. 46.
- Registered investment companies (subject to Securities and Exchange Commission [SEC] Regulation S-X Rule 6-03[c][1]) are not required to consolidate a variable-interest entity unless the variable-interest entity is a registered investment company.
- Transferors to qualifying SPEs and grandfathered qualifying SPEs (*i.e.,* "a formerly qualifying SPE") subject to the reporting requirements of SFAS No. 140, "Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities," do not consolidate those entities (a transferor reports its rights and obligations related to the qualifying SPE according to the requirements of SFAS No. 140).
- No other entity consolidates a qualifying SPE or a grandfathered qualifying SPE unless the entity has the unilateral ability to cause the entity to liquidate or to change the entity in such a way that it no longer meets the requirements to be a qualifying SPE or a grandfathered qualifying SPE.

Variable-Interest Entity

Interpretation No. 46 states that, in general, a variable-interest entity is a corporation, partnership, business trust, or any other legal structure used for business purposes that either *(a)* does not have equity investors with voting rights or *(b)* has equity investors that do not provide sufficient financial resources for the entity to support its activities. A variable-interest entity often holds financial assets, including loans or receivables, real estate, or other property, and it may be essentially passive or may engage in research and development or other active activities on behalf of another company.

Investments or other interests that will absorb portions of a variable-interest entity's expected losses if they occur or receive portions of the entity's expected residual returns if they occur are called variable interests. Interpretation No. 46 requires that the initial determination of whether an entity is a variable interest be made on the date at which an entity becomes involved with the variable-interest entity. The initial determination of whether an entity is a variable interest should be reconsidered only if one or more of the following occur:

- The entity's governing documents or the contractual arrangements among the parties involved change.
- The equity investment or some portion is returned to the investors, and other parties become exposed to expected losses.
- The entity undertakes additional activities or acquires additional assets that increase the entity's expected losses.

The determination should be based on the circumstances on that date including future changes that are required in existing governing documents and existing contractual arrangements. An entity is not required to determine whether an entity with which it is involved is a variable-interest entity if it is apparent that the entity's interest would not be a significant variable interest and if the entity, its related parties, and its *de facto* agents were not involved in forming the entity.

The FASB noted that an entity that previously was not subject to Interpretation No. 46 should not become subject to it simply because of losses in excess of its expected losses that reduce the equity investment. Interpretation No. 46 defines a variable-interest entity's expected losses and expected residual returns to include *(a)* the expected variability in the entity's net income or loss, *(b)* the expected variability in the fair value of the entity's assets if it is not included in net income or loss, *(c)* fees to the decisionmaker (if there is a decisionmaker), and *(d)* fees to providers of guarantees of the values of all or substantially all of the entity's assets (including writers of put options and other instruments with similar results) and providers of guarantees that all or substantially all of the entity's liabilities will be paid.

Interpretation No. 46 requires a variable-interest entity to be consolidated by a company if that company is subject to a majority of the risk of loss from the variable-interest entity's activities or entitled to receive a majority of the entity's residual returns or both. A company that consolidates a variable-interest entity is called the pri-

mary beneficiary of that entity. (Not all variable-interest entities have primary beneficiaries, however.)

Interpretation No. 46 requires disclosures about variable-interest entities by *(a)* the primary beneficiary of a variable-interest entity and *(b)* an entity that holds significant variable interests in a variable-interest entity but is not the primary beneficiary. Disclosures required by SFAS No. 140, "Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities: a replacement of FASB Statement No. 125," about a variable-interest entity also should be included in the same note to the financial statements as the information required by Interpretation No. 46.

Information about variable-interest entities may be reported in the aggregate for similar entities if separate reporting would not add material information. An entity that holds a significant variable interest in a variable-interest entity but is not the primary beneficiary should disclose the following:

- The nature of its involvement with the variable-interest entity and the date when that involvement began;
- The nature, purpose, size, and activities of the variable-interest entity;
- The entity's maximum exposure to loss as a result of its involvement with the variable-interest entity.

Primary Beneficiary

Interpretation No. 46 states that an entity that consolidates a variable-interest entity is the primary beneficiary of the variable-interest entity. The primary beneficiary of a variable-interest entity is the party that absorbs a majority of the entity's expected losses, receives a majority of its expected residual returns, or both, as a result of holding variable interests, which are the ownership, contractual, or other pecuniary interests in an entity.

An entity should determine whether it is the primary beneficiary of a variable-interest entity at the time that the entity becomes involved with the entity. An entity with an interest in a variable-interest entity should reconsider whether it is the primary beneficiary of the entity if the entity's governing documents or the contractual arrangements among the parties involved change. The primary beneficiary also should reconsider its initial decision to consolidate a variable-interest entity if the primary beneficiary sells or otherwise disposes of all or part of its variable interest to unrelated parties. A holder of a variable interest that is not the primary beneficiary also should reconsider whether it is the primary beneficiary of a variable-interest entity if the entity acquires newly issued interests in the entity or a portion of the primary beneficiary's interest in the entity.

Interpretation No. 46 notes that the ability to make decisions is not a variable interest, but it is an indication that the decisionmaker should carefully consider whether it holds sufficient variable interests to be the primary beneficiary. An entity with a variable interest in a variable-interest entity must consider variable interests of related parties and *de facto* agents as its own in determining whether it is the primary beneficiary of the entity.

In addition to disclosures required by other standards, Interpretation No. 46 requires the primary beneficiary of a variable-interest entity to disclose the following (unless the primary beneficiary also holds a majority voting interest):

- The nature, purpose, size, and activities of the variable-interest entity;
- The carrying amount and classification of consolidated assets that are collateral for the variable-interest entity's obligations;
- Any lack of recourse by creditors (or beneficial interest holders) of a consolidated variable-interest entity to the general credit of the primary beneficiary.

Development-Stage Enterprises

The FASB noted that, because reconsideration of whether an entity is subject to Interpretation No. 46 is required only in certain circumstances, the initial application to an entity that is in the development stage is very important. A development-stage entity is a variable-interest entity if it meets the prescribed conditions. Interpretation No. 46 states that a development-stage entity does not meet those conditions if it can be demonstrated that the equity invested in the entity is sufficient to permit it to finance the activities it is currently engaged in (the entity has already obtained financing without additional subordinated financial support) and provisions in the entity's governing documents and contractual arrangements allow additional equity investments. Sufficiency of the equity investment should be reconsidered, however, when the entity undertakes additional activities or acquires additional assets.

Variable Interests and Interests in Specified Assets of a Variable-Interest Entity

Interpretation No. 46 states that a variable interest in specified assets of a variable-interest entity (such as a guarantee or subordinated residual interest) should be deemed to be a variable interest in the entity only if the fair value of the specified assets is more than half of the total fair value of the entity's assets or if the holder has another variable interest in the entity as a whole. The expected losses and expected residual returns applicable to variable interests in specified assets of a variable-interest entity should be deemed to be expected losses and expected residual returns of the entity only if that variable interest is deemed to be a variable interest in the entity.

Interpretation No. 46 requires an entity with a variable interest in specified assets of a variable-interest entity to treat a portion of the entity as a separate variable-interest entity if the specified assets (and related credit enhancements, if any) are essentially the only source of payment for specified liabilities or specified other interests. That requirement does not apply unless the entity has been determined to be a variable-interest entity. Expected losses related to specified assets are not considered part of the expected losses of the entity for purposes of determining the adequacy of the equity at risk in the entity unless the specified assets constitute a majority of the assets of the entity. For example, expected losses of a guarantor of the residual value of leased property are not considered expected losses of a variable-interest entity if the fair value of the leased property is not a majority of the fair value of the entity's total assets. If one entity is required to consolidate a discrete portion of a variable-interest entity, other variable interest holders should not consider that portion to be part of the larger variable-interest entity.

Consolidation Based on Variable Interests

Interpretation No. 46 requires an entity to consolidate a variable-interest entity if that entity has a variable interest (or combination of variable interests) that will absorb a majority of the entity's expected losses if they occur, receive a majority of the entity's expected residual returns if they occur, or both. It requires an entity to consider the rights and obligations conveyed by its variable interests and the relationship of its variable interests with variable interests held by other parties to determine whether its variable interests will absorb a majority of a variable-interest entity's expected losses, receive a majority of the entity's expected residual returns, or both. Interpretation No. 46 notes that a direct or indirect ability to make decisions that significantly affect the results of the activities of a variable-interest entity is a strong indication that an entity has one or both of the characteristics that would require consolidation of the variable-interest entity. If one entity will absorb a majority of a variable-interest entity's expected losses and another entity will receive a majority of that entity's expected residual returns, the entity absorbing a majority of the losses should consolidate the variable-interest entity.

Interpretation No. 46 addresses consolidation by business entities of variable-interest entities, which have one or both of the following two characteristics:

- The total equity investment at risk is not sufficient to permit the entity to finance its activities without additional subordinated financial support from other parties, which is provided through other interests that will absorb some or all of the expected losses of the entity. For this purpose, the total equity investment at risk includes only equity investments in the entity that participate significantly in profits and losses even if those investments do not carry voting rights, thus: (1) An equity investment of less than 10 percent of the entity's total assets will not be considered sufficient to permit the entity to finance its activities without subordinated financial support in addition to the equity investment unless the equity investment can be demonstrated to be sufficient in at least one of the following three ways: *(a)* The entity has demonstrated that it can finance its activities without additional subordinated financial support; *(b)* the entity has at least as much equity invested as other entities that hold only similar assets of similar quality in similar amounts and operate with no additional subordinated financial support; or *(c)* the amount of equity invested in the entity exceeds the estimate of the entity's expected losses based on reasonable quantitative evidence. (2) Some entities, however, may require an equity investment greater than 10 percent of their assets to finance their activities, especially if they engage in high-risk activities, hold high-

risk assets, or have exposure to risks that are not reflected in the reported amounts of the entities' assets or liabilities. The presumption does not relieve an entity of its responsibility to determine whether a particular entity with which the entity is involved needs an equity investment greater than 10 percent of its assets in order to finance its activities without subordinated financial support in addition to the equity investment.

- As a group, the equity investors lack one or more of the following essential characteristics of a controlling financial interest: (1) The direct or indirect ability to make decisions about the entity's activities through voting rights or similar rights. The investors do not have that ability through voting rights or similar rights if no owners hold voting rights or similar rights (such as those of a common shareholder in a corporation or a general partner in a partnership). (2) The obligation to absorb the expected losses of the entity if they occur, which makes it possible for the entity to finance its activities. The investor or investors do not have that obligation if they are directly or indirectly protected from the expected losses or are guaranteed a return by the entity itself or by other parties involved with the entity. (3) The right to receive the expected residual returns of the entity if they occur, which is the compensation for the risk of absorbing the expected losses. The investors do not have that right if their return is capped by the entity's governing documents or arrangements with other variable-interest holders or with the entity.

Interpretation No. 46 notes that the equity investors as a group also are considered to lack the direct or indirect ability to make decisions about an entity's activities through voting rights or similar rights if *(a)* the voting rights of some investors are not proportional to their obligations to absorb the expected losses of the entity, to receive the expected residual returns of the entity, or both, and *(b)* substantially all of the entity's activities (for example, providing financing or buying assets) either involve or are conducted on behalf of an investor that has disproportionately few voting rights.

Related Parties

For purposes of determining whether it is the primary beneficiary of a variable-interest entity, Interpretation No. 46 requires an entity with a variable interest to treat variable interests in that same entity held by its related parties as its own interests. For purposes of Interpretation No. 46, the term related parties includes those parties identified in SFAS No. 57, "Related Party Disclosures," and certain other parties that are acting as *de facto* agents of the variable-interest holder. The following are considered to be *de facto* agents of an entity:

- A party that cannot finance its operations without subordinated financial support from the entity (for example, another variable-interest entity of which the entity is the primary beneficiary);
- A party that received its interests as a contribution or loan from the entity;
- An officer, employee, or member of the governing board of the entity;
- A party that has *(a)* an agreement that it cannot sell, transfer, or encumber its interests in the entity without the prior approval of the entity or *(b)* a close business relationship such as the relationship between a professional service provider and one of its significant clients.

If two or more related parties (including the *de facto* agents) hold variable interests in the same variable-interest entity and the aggregate variable interest held by those parties would, if held by a single party, identify that party as the primary beneficiary, Interpretation No. 46 provides the following guidelines for deciding the primary beneficiary:

- If two or more parties with variable interests have an agency relationship, the principal is the primary beneficiary.
- If the relationship is not that of a principal and an agent, the party with activities that are most closely associated with the entity is the primary beneficiary.

Initial Measurement

Except for entities under common control and assets and liabilities that are consolidated shortly after transfer from a primary beneficiary to a variable-interest entity, Interpretation No. 46 requires the primary beneficiary of a variable-interest entity to initially measure the assets, liabilities, and noncontrolling interests of the newly consolidated entity at their fair values at the date that the entity first becomes the primary beneficiary. That date is the first date on which, if the entity issued financial statements, it would report the entity in its consolidated financial statements.

Interpretation No. 46 states that the primary beneficiary of a variable-interest entity, which is under common control with the primary beneficiary, should initially measure the assets, liabilities, and noncontrolling interests of the variable-interest entity at the amounts at which they are carried in the accounts of the entity that controls the variable-interest entity (or would be carried if the entity issued financial statements prepared in conformity with generally accepted accounting principles).

Interpretation No. 46 requires the primary beneficiary of a variable-interest entity to initially measure assets and liabilities that it has transferred to that variable-interest entity at the same amounts at which the assets and liabilities would have been measured if they had not been transferred. No gain or loss should be recognized because of the transfer even if the entity was not the primary beneficiary until shortly after the transfer occurred.

If recognizing those assets, liabilities, and noncontrolling interests at their fair values results in a loss to the consolidated entity, Interpretation No. 46 requires the loss to be reported immediately as an extraordinary item. If recognizing those assets, liabilities, and noncontrolling interests at their fair values would result in a gain to the consolidated entity, Interpretation No. 46 requires the gain to be allocated to reduce the amounts assigned to assets in the same manner as if consolidation resulted from a business combination.

Accounting After Initial Measurement

Interpretation No. 46 requires that the principles of consolidated financial statements in ARB No. 51 apply to primary beneficiaries accounting for consolidated variable-interest entities. After the initial measurement, the assets, liabilities, and noncontrolling interests of a consolidated variable-interest entity will be accounted for in consolidated financial statements as if the entity were consolidated based on voting interests. Interpretation No. 46 notes that, in some circumstances, earnings of the variable-interest entity attributed to the primary beneficiary arise from sources other than investments in equity of the entity. Any specialized accounting requirements applicable to the type of business in which the variable-interest entity operates should be applied as they would be applied to a consolidated subsidiary. The consolidated entity should follow the requirements for elimination of intercompany balances and transactions and other matters described in ARB No. 51 and existing practices for consolidated subsidiaries. Fees or other sources of income or expense between a primary beneficiary and a consolidated variable-interest entity will be eliminated against the related expense or income of the variable-interest entity, and the resulting net income or expense of the variable-interest entity will be attributed to the primary beneficiary (and not to noncontrolling interests) in the consolidated financial statements.

Conclusion

The FASB noted that Interpretation No. 46 should achieve more consistent application of consolidation policies to variable-interest entities and, thus, to improve comparability between entities engaged in similar activities even if some of those activities are conducted through variable-interest entities. Including the assets, liabilities, and results of activities of variable-interest entities in the consolidated financial statements of their primary beneficiaries will provide more complete information about the resources, obligations, risks, and opportunities of the consolidated entity. Disclosures about variable-interest entities in which an entity has a significant variable interest but does not consolidate will help financial statement users assess the entity's risks.

Call Preparation for the Technology Industry

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Many consider technology to be one of the toughest industries to bank, despite the excellent opportunity that may exist with technology companies. Commercial bankers are often intimidated while calling on these companies because they do not understand the business. The hallmark of technology companies is that the inner workings of their products are basically incomprehensible to the average person (many people understand how a car engine works, but few understand how a telephone works or what DNA is).

Credit risks such as product obsolescence, high overhead, high failure rates, rapid change, cyclical results, and lack of suitable collateral also dissuade banks from pursuing technology.

A case in point is Bank of America, one of the country's largest commercial lenders. In its 10-Q filing on September 30, 2002, Bank of America lists its top 20 commercial banking industry loan sectors. Not surprisingly, technology did not make the list. Rather, the bank's commercial loan portfolio is extremely diversified in safer, more traditional sectors, such as business services, health care, autos, retail, food and beverage, and media. Most banks across the country have a lack of credit exposure to technology, probably due to good business judgment.

Just because banks do not have credit exposure to technology companies, however, does not mean that technology companies are not profitable to bank with other financial needs.

An Overview of Technology

Companies in the technology sector take advantage of scientific discoveries that have been made in the past few decades, turning them into marketable products. Technology companies often employ large numbers of engineers and scientists, invest heavily in expensive research equipment, have research and development (R&D) expenses that often exceed 10 percent of revenues, hold patents that protect their products, are frequently embroiled in patent disputes, and often ally with other companies to produce or market their products.

The technology sector in the United States consists of almost 100,000 companies with combined annual revenues of about $800 billion. Although much of the industry revenue is concentrated in large companies such as IBM (2001 revenue, $86 billion); Lucent ($21 billion); Motorola ($38 billion); and Intel ($26.5 billion), the average technology company has annual revenue of less than $10 million. Small companies can coexist with large ones because of the extreme knowledge specialization possible in different technology fields.

The key scientific discoveries that underlie many of today's technology companies

were made about 50 years ago: the transistor, the laser, the computer, the integrated circuit, the structure of DNA. Of the several distinct fields within the technology sector, most are based on computer technology. Even the technology fields of biotechnology and aerospace (airplanes, missiles, satellites) rely heavily on computers.

How Technology Firms Raise Capital

As noted, bank financing is unusual for smaller companies, because there is often little collateral and the risk of failure is high. Therefore, sales of stock to finance expansion (rather than bank or bond borrowing) are typical, as reflected in a high ratio of equity to assets of technology companies (sometimes greater than 80 percent).

Venture capital is often necessary to fund the high costs of buying equipment and hiring engineers. Venture capitalists usually demand a large share of company stock. There is an established venture capital industry, with funding companies that specialize in particular technologies and in different rounds of financing. Once companies have achieved initial success, internally generated funds are frequently adequate to meet further capital needs, because the value of technology products is usually much higher than their production cost. Gross margins greater than 60 percent are common.

Previously, we discussed that technology companies often have high credit risk. Rapid obsolescence, dependence on economic cycles, and difficulty in obtaining qualified labor all contribute to the industry's riskiness.

Obsolete products. Rapid advances in knowledge and manufacturing processes can make technology products obsolete within a short time. Companies that develop a new product can sometimes count on only a few years of strong sales before the product is surpassed. Older products may still be salable but at lower prices. Because of the short sales window, companies must carefully judge how much money should be spent on developing a particular product.

Dependence on economic cycles. The demand for technology products depends on the health of the US and world economies. Although consumer and business spending for technology products has been strong for the past decade, especially for computers and telephones, such spending drops dramatically in the face of a poor economic climate. For example, corporate managers have usually replaced their fleets of personal computers every three years but can easily push the cycle to four if their spending budgets are cut. Government and airline spending for new airplanes can similarly be drawn out.

By 2000, almost half of all US capital investment was IT related, making IT substantially more exposed to economic cycles.

IT cyclical vulnerability. IT companies need to address the new cyclical nature of their industry by including it in their management strategies and business processes. The maturing IT sector, for the first time in its history, is becoming vulnerable to economic cycles. Before 2001, economic downturns and recessions did not affect the IT sector, mostly because IT was only a small proportion of total capital spending. By 2000, almost half of all US capital investment was IT related, making IT substantially more exposed to economic cycles.

Qualified labor. The highly technical and specialized nature of much of the work at technology companies requires workers with specialized education and training. The rapid growth of the US technology sector in the past decade has outstripped the supply of qualified workers, partly because of the lack of adequate science and mathematics education in the United States. Many US companies have made up the difference by hiring workers who have been trained abroad or who have come to the United States for training. Currently, more than 40 percent of US doctorates in engineering and computer sciences are awarded to foreigners.

Banking Opportunities with Technology Companies

Aside from lending, profitable opportunities exist to bank these businesses.

Deposit and Cash Management

Based on the lack of credit opportunities, banks often overlook opportunities to invite technology companies as profitable customers. Many technology companies are cash rich and need fairly quick access to that cash; therefore, local banks should immediately recognize this opportunity. While there is competition from nonbanks (such as brokerage houses and other money managers), banks have some competitive advantages to house these deposits. First, banks accept deposits easily and conveniently and offer cash management tools such as lockbox, overnight investments, and controlled disbursements. Second, banks offer a branch network and a safe and secure brand reputation, including Federal Deposit Insurance Corporation (FDIC) insurance. A CFO of a technology company may believe that banks are lacking in money management expertise. As banks are affiliating and merging with brokerage firms, this disadvantage is fading.

Sophisticated Bank Opportunities

Technology firms need sophisticated financial instruments that may generate good profits for banks. Examples include foreign exchange, derivatives to manage interest-rate and currency issues, underwriting equity, quasi equity, and debt tools such as convertible debt, management of liquidity, management of complex debt structures, and letters of credit as substitutes for bonding for government and some commercial contracts.

Personal Banking Opportunities

Technology companies, while full of credit risk, often have highly compensated executives and salespersons. This creates an excellent opportunity to bank high-income, high-net-worth individuals. Technology executives may need trust advice, checking accounts with large balances, investments, loans, and an array of bank products.

Call Preparation and Adding Value

With some basic knowledge and call planning, a commercial banker should be confident in prospecting with a technology company's CFO or CEO. The key is confidence and a good call plan, which comes from background knowledge. Here are a few important trends, challenges, and opportunities that most technology companies face.

Licensing of university technology. Successful commercial development by industry of science and technology first discovered at universities has prompted many universities to demand royalties and fees in exchange for licenses to their technology. A large number of patents are received by universities, led by the University of California, MIT, and the California Institute of Technology. Academic research spending at 190 top universities totaled $30 billion in 2000. The Association of University Technology Managers reports that government-funded research spending was $18 billion and industry-funded research was $3 billion. Universities may receive billions annually in license fees.

Technology privatization. Technology once developed in secret for military purposes is now in the private sector as federal labs seek ways to commercialize their research. Legal since Congress OK'd partnerships between labs and private companies in the mid-1980s, the transfer of government technology to industry is encouraged by the National Technology Transfer Center. More than 5,000 companies have entered R&D agreements with federal labs, with small companies getting preference.

Foreign technology sales. Because advanced technology can be of military use to other countries, the US government restricts sales of certain items to foreigners, especially in the fields of advanced computers, communications, and aerospace technology. Potential sellers of a long list of technology items must first obtain export

A Note on the Technology Sector's Current Business Condition

Experts say that technology companies likely will benefit in 2003 from the short life span of technology products, since many companies have delayed technology spending in the last few years and will soon be forced to upgrade. On average, technology products have approximately a four-year useful life. Most forecasts expect IT hardware, software, and services to grow between 2 percent and 8 percent during 2003.

licenses. Exports reflect the high-technology orientation of US industry. The biggest US exports in 2000 were aircraft ($50 billion); electronic parts ($50 billion); car parts ($30 billion); computers ($27 billion); and telecommunications equipment ($24 billion).

Competition from other countries. The United States currently accounts for about 40 percent of total R&D spending in the world. Many European countries, however, now spend about the same on R&D in proportion to their gross domestic product as the United States does, especially in nondefense areas. The transfer of technology to other countries is common, especially as more foreigners work in the US technology sector and as large US companies have more of their research and manufacturing facilities abroad.

Technology Call Preparation Questions

After a commercial banker has developed a reasonable knowledge of the technology, he or she should consider planning the prospective client call with thoughtful, technology-related questions. Here are some suggestions.

What is the typical time from product conception to actual production?
For new drugs this can be years; for some computer products, just months.

How long, typically, before a product is replaced by a newer version?

Does the company manufacture its own products?
Companies commonly farm out actual production to larger or specialized firms.

What security measures has the company taken to protect its own assets?
International economic espionage is likely to increase as technology becomes more valuable.

Has the company created a branding strategy?
With cheaper and more available technology has come a need for technology companies to understand how a strong brand is built. To build an enduring brand, a company needs to consistently deliver its products and services and inspire long-term confidence.

How big is the company's R&D spending in relation to annual sales?
For most companies it is at least 10 percent and often more than 25 percent.

Does the company hold patents to its products or license the technology from others?
Licensing is common, especially in biotechnology, because small companies that invent a product or process lack sufficient marketing resources.

Where does the company find venture capital?
Technology start-ups are sometimes funded by larger companies in return for access to their technology.

Will the company be affected by the recent decrease in venture capital funding levels?
Many small technology companies depend heavily on venture funds because their technology is unproven.

Many Noncredit Opportunities

A bank need not incur credit risk in order to establish and maintain a long-term profitable relationship with technology firms. With so many opportunities, technology can be a good niche for commercial bankers.