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Bank financial analysis: An actuary's-eye view

by J. Lynn Peabody

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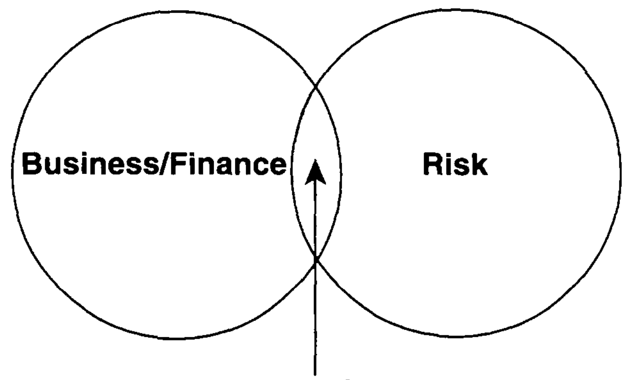
Risk, pure and simple, is what the banking business is all about. The measurement, management, and acceptance of risk historically define the traditional function of banks. Today and in the future, however, banking goes beyond this simple definition. Recently, Federal Reserve Board Chairman Alan Greenspan said, "Banks still perform their traditional functions. But today we are increasingly recognizing that banking also involves understanding, processing, and using massive amounts of information regarding the credit risk, market risk, and other risks inherent in a vast array of products and services, many of which do not involve traditional lending, deposit taking, or payments services."

Although Greenspan agreed that the traditional aspects of risk management remain in banking today, he emphasized the increased importance of risk information processing stemming from new financial products and services, which are so dependent on high-quality risk information and analysis.

Why is the changing bank environment of interest to an actuary? Actuaries deal with insurance and pension plans, right? True, but pensions and insurance are just two of the business applications that involve actuarial expertise. Fundamentally, actuaries deal with risk and the measurement and application of that risk in business situations.

Exhibit 1

Actuaries' Expertise



Steve Radcliffe, [1993-94] president of the Society of Actuaries, uses the diagram in Exhibit 1 to distinguish the unique expertise of actuaries. As shown in the diagram, actuaries are trained to evaluate the impact of risk on business situations. In the insurance business, that risk may be premature death, health costs, or property and casualty loss. When evaluating the financial implications of these occurrences, actuaries collect and analyze data, model current and projected experience, and study the impact of deviations from anticipated results. In this way, actuaries assist their insurance clients in analyzing historical and emerging experience in order to develop profitable products, establish adequate reserves, and provide management with the financial information necessary to run the business.

In recent years, actuaries' financial analysis activities have expanded into more nontraditional areas, where their combined risk-analysis and business skills mesh well with the issues being addressed. Currently, actuaries work with virtually all types of financial institutions, including insurance companies, banks, thrifts, investment bankers, and brokerage firms.

Banks and actuaries

Banks today face many of the same financial issues as insurance companies, including maintaining strong earnings during a changing economy, capital adequacy, increased competition in the marketplace, and expanded regulatory requirements. Greenspan's comments apply equally to insurance companies and banks. Actuaries' experience and expertise in working through some of these issues with insurance companies provide a resource on which banks may draw in their analyses as well. Following are some of the specific banking applications in which actuarial techniques can significantly contribute to a bank's overall financial development.

Loan loss reserve development

Actuaries have long been responsible for developing, or evaluating the adequacy of, reserves held by insurance companies for a multitude of risks. Establishing a bank's loan loss reserves, like establishing insurance reserves, requires an understanding of the underlying business and an evaluation of how future defaults might develop as a result of various economic or financial events. Analyzing historical experience is essential in the process.

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Bank financial analysis (continued from page 15)

Requirements in both industries soon will move closer as a result of new accounting standards (SFAS 114), which require loss reserves to reflect the discounted present value of future cash flows from impaired loans. This calculation must be based on reasonable and supportable assumptions and projects. Such procedures have long been the norm for the actuarial reserves held by insurance companies.

Product profitability analysis

The profitability of banking products (deposits and loans) depends on the emergence of experience that is consistent with or better than that anticipated in the pricing of the products. Many mortgage-based products, for example, did not appropriately reflect prepayment risk in their pricing and performed poorly. Similarly, deposit products should be priced with an understanding of the impact of unanticipated withdrawals or transfers during periods of rising interest rates.

Actuaries routinely perform product profitability studies for insurance products, which contain risk virtually identical to those in bank products. The profit studies provide an estimate of future earnings potential and serve as a baseline model for comparing actual experience with that which is expected down the line.

Merger and acquisition due diligence

Banks, like insurance companies, have undergone tremendous consolidation in recent years, and the trend is likely to continue. New branch banking opportunities will lead to even more acquisitions as banks position themselves for greater regional activity.

In the insurance industry, actuarial appraisals form an important part of the due diligence process. These appraisals provide estimates of the value of the business, reflecting the risk-adjusted present value of future cash flows based on detailed modeling of the business. These appraisals typically include sensitivity analyses, which develop the value using alternative assumptions reflecting inherent risks in the businesss. In banks, as in insurance, customers (depositors or borrowers) can exercise various options — such as prepaying loans or withdrawing deposits — if it is in their interest to do so. The impact of exercising these options should be evaluated as part of any acquisition. Actuaries have developed modeling tools that allow detailed analyses of the primary risks involved in such transactions. These tools and actuarial techniques can be applied in evaluating bank profitability.

The current economic and business environment provides an excellent opportunity for the banking and insurance industries to work together to address their common financial issues.

Risk-based capital analysis

Banks have struggled with a risk-based capital formula that is designed to strengthen the industry overall but is less than perfect at reflecting risk applicable to individual banks. In 1993, the life insurance industry also adopted a risk-based capital formula that has caused a flurry of activity among insurance companies as they adapt their balance sheets and activities to comply. Unlike the banking capital requirements, which reflect only default risk, the insurance company formula includes interest-rate risks, pricing risk, and general management risk. On the basis of recent proposals by the bank regulatory authorities, it appears that the bank risk-based capital formula is moving toward the insurance formula in terms of reflecting interest-rate as well as default risk.

Actuaries play a crucial role in helping insurance company management understand the impact of capital requirements on key management decisions. Products have been repriced to appropriately reflect their expected contributions to capital. Actuaries model the impact of future sales and adverse experience on capital levels. Rating agencies, which apprise the public of insurance companies' financial conditions, rely on actuarial projections as one element of their capital adequacy analysis.

The techniques actuaries use for capital analysis and projections are applicable to banks as well as to insurance companies. As the banking risk-based capital requirements expand in the future, such analytical expertise will provide substantial value.

Strategic business unit evaluation

As a result of acquisitions, or perhaps because of attempts to decentralize various unrelated activities within banks, management needs more detailed financial information about its various business units. These business units could be recently purchased banks, regional branches, or various lines of business. In each case, banks must understand the operations and their contributions to the corporate good. This includes measuring profitability in light of expected goals. Similarly, capital allocation issues must be considered, and return on capital targets must be tracked.

Insurance companies face similar issues when evaluating the profitability of business units. Actuaries provide this analysis, using a building-block approach that begins with profit studies of individual insurance products. These studies are gradually consolidated into lines of business, business units, and ultimately corporate profit analyses and projections. Actuaries are often responsible for developing assumptions for use in the profit studies of the various business segments and consolidating and communicating results.

This building-block approach to financial analysis would benefit banks that historically follow a "macro" approach to financial management (e.g., a total company evaluation) but that now are struggling to better understand the financial implications of a more decentralized organization.

Data analysis and experience studies

Financial institutions are warehouses of data — much of it unavailable — and much of what is available is unused. Today, when technology allows access to so much information, the door is open to make giant strides in gathering data that is essential to the management of financial services businesses. Virtually every element of bank management today requires a greater level of understanding than in the past. This increased understanding can be achieved in part through better data analysis and the development of practical applications of that data.

Data analysis and experience studies are the foundation for the financial evaluations that actuaries provide. Within the insurance industry, mortality and persistency studies, expense analysis, asset credit reviews, and investment return information are critical elements in providing relevant financial management information. Actuaries are trained to gather and analyze the data and then use it in practical applications. These same techniques may be used by banks to develop studies of the wealth of information they have available and to use that information to create a better understanding of the risks associated with the business.

Addressing common issues

Banks are operating in a changing world. The risks they accept in order to succeed are often new and more volatile than in the past. The rewards for being in the business must be commensurate with those risks.

The insurance industry operates in a similar environment, in which the business and regulatory pressures are similar to those facing banks. Within the insurance industry, actuaries are critical members of the financial analysis team, providing the expertise necessary to blend the theoretical financial foundations of the business with its practical business aspects.

Banks and insurance companies today are addressing many similar issues. Included are product, business unit, and corporate profitability; capital requirements and allocation issues; reserve adequacy; and data development and practical utilizations. Actuaries are uniquely qualified to address these issues. Combining their experience and expertise with that of bank professionals, actuaries can provide substantial value to banks. The current economic and business environment provides an excellent opportunity for both the banking and insurance industries to work together in addressing their common financial issues. Actuaries provide one of the primary resources for accomplishing this goal.

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SOA May spring meeting in New York

The second Society of Actuaries' spring meeting, May 22-23, is located right in the heart of midtown Manhattan at the Waldorf=Astoria Hotel. The theme for all spring conferences this year is "Ethics and Professionalism for the Actuary," and this meeting's 85 sessions will primarily focus on financial reporting and investment.

Gary Edwards, president of the Ethics Resource Center, Washington, D.C., is the opening session keynote speaker. The ERC is a not-for-profit corporation that provides assistance to companies seeking to institute or improve business ethics programs.

The Society of Actuaries Foundation will present "What's Hot in Investment Research" at the New York meeting with a field trip on May 23 to New York University. Foundation Chair Jim Tilley will moderate this teaching session, which will focus on research conducted by nonactuaries and its potential application to actuarial practice. Four academic researchers will present their work.

Two special interest seminars at the Waldorf=Astoria will follow the spring meeting on May 24. "Capitation Rate Setting" will be a hands-on seminar to learn a consistent methodology to apply to capitation calculations. The "Introduction to GAAP" seminar takes participants through topics at a pace that allows ample time for questions. They include traditional insurance products, universal life contracts, purchase accounting, market value accounting, and GAAP for mutuals. Contact SOA Continuing Education, 708/706-3540, for more information.