

## Risk and capital: A working relationship

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The significant failures in financial control, regulation, and risk management which led to the current financial crisis should not detract from the very positive developments made in these disciplines. Large, internationally active, financial institutions have been at the forefront of the development of sophisticated and forward-looking risk management approaches and techniques for years. Responsible regulators have made significant strides in aligning the regulatory environment with best practices in risk management and providing capital rewards for those who have excelled or demonstrated significant improvements in the relationship between their actual and projected risk-based performance.

Governmental interference and human fallibility appear to be the primary issues underlying the crisis. In the U.S., these include supporting exercises in self regulation, maintaining very poor underwriting practices, staying in the game to remain competitive while knowing the bubble would eventually burst, providing special privileges to Fannie Mae and Freddie Mac by allowing them to attract capital they could not under pure market conditions; and thus, distorting the housing market, and proliferating structured products with complexities that exceeded the capabilities of risk managers, rating agencies, investors, insurers, and their tools to understand and price the underlying exposures.

This leaves many of our community and other banks out in the cold, struggling to maintain adequate capital levels to counter the effects of deteriorating asset quality, earnings, and liquidity. Increasingly, more are failing or being placed on regulatory agencies' watch lists. Many community banks are struggling to come to grips with the necessity of anticipating future losses and evaluating their impact on earnings and capital, having never needed to do so in the past. Many are ill equipped to price risk into their products, or accurately quantify and manage the risk associated with their deteriorating assets. It can also be argued that this problem is exacerbated by their regulatory model, which is still based on early standards, incorporates risk poorly, and does not reflect risk-based measures implicit in economic capital standards, which best practice and new regulations do.

In the words of John Walter from Bank of America, a consistent and comprehensive economic model accomplishes two goals:

- > "It provides a common currency of risk that management can use to compare the risk-adjusted profitability and relative value of businesses with widely varying degrees and sources of risk."
- > "It allows bank management and supervisors to evaluate capital adequacy in relation to the risk profile of the institution."

(John C. Walter, "Economic Capital, Performance Evaluation and Capital Adequacy at Bank of America" 2004.)

Rather than wait for regulatory reaction, community and other banks can achieve this on their own through adopting an economic approach to capital adequacy. **First, a clear understanding of capital is fundamental.**

### Accounting capital

Accounting capital, the best-known term, is the sum of items on the claims side of the balance sheet (e.g., book value of shareholders' equity, paid-in capital, and retained earnings). It views capital as a source of funding and risk has no bearing.

### Connect with us:

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## Regulatory capital

Regulatory capital, on the other hand, refers to specific categories of equity and “equity-like” claims and is used to meet capital regulations. These officially defined tiers of capital attempt to reflect different liquidity characteristics and levels of capacity to absorb losses. Potential for loss is defined partly by how regulators assign risk categories to assets to officially measure the risk weighting of assets. It is widely seen to have three main flaws:

- > It is one-size-fits-all, inflexible, and rules-based.
- > It does not consider a bank’s unique strengths, positions, and niches.
- > It does not account for shareholders’ perceptions of, and tolerance for, risk.

Long before the days of regulatory capital requirements, banks and moneychangers always held capital, and even allocated capital, based on their unique, perceived risks. The role of government and regulation changed over the past century evidenced by the printing of fiat money, demanding ever-lower fractional reserve requirements, protecting banks with deposit insurance, and regulating and controlling lending. Naturally, that environment resulted in banks having less responsibility to hold, manage, and allocate capital, and capital ratios fell from 40% in the mid 1800’s to 6% in the mid 1980’s.

After the well publicized series of crises and scandals in the late 1980’s, national and international regulators asserted the need for capital standards, and banks increased capital to the 10% average we saw at the onset of the current crisis. These early standards incorporated risk poorly and had many flaws, allowing bankers to play the system and find ways to hold less capital than was required by their true risks. The latest regulations, exemplified in Basel II, attempt to repair these flaws by incorporating the risk-based measures implicit in economic capital in the determination of regulatory capital and by requiring banks to hold not just regulatory capital, but also to calculate economic capital requirements. These advances do not apply in the U.S. to regional and community banks. Despite this, several regional and community banks have developed or are exploring implementation of economic capital models, and more are expected to do so.

## Economic capital

Economic capital differs from accounting and regulatory capital by focusing directly on risk, as perceived and measured by the bank bearing the risk. It is not based on accounting, funding strategy, or balance sheet composition. Rather, it is based on holding sufficient “equity-like” claims to cover losses arising from exposure assumed by the bank. It serves to underpin all the actual risks carried by the bank. It can be thought of as “true” capital and is not a balance sheet item. Required economic capital is the maximum amount of unexpected losses potentially arising from all sources that could be absorbed while remaining solvent, with a given confidence level over a given time horizon. Regulatory capital, on the other hand, is the maximum amount of unexpected losses that could be absorbed without any loss to depositors (or their insurer), for a given confidence level over a given time horizon.

Another way of looking at the difference is to understand their objectives. Regulatory capital is designed to provide protection to depositors and financial system stability, whereas economic capital focuses on shareholder wealth maximization. Economic capital is the capital banks would choose if there was no regulatory capital minimum.

Ultimately, economic capital based on risk should be compared to both actual capital held by the bank and the regulatory minimum. A sensible risk based capital adequacy framework should match the measured risk with financial resources available to cover the total amount of losses over a given time

horizon. These financial resources include not only book capital, or common equity, but also loan loss reserves and income generated during the period. Business performance should be compared across activities with widely varying degrees of risk.

## **Best practice institutions**

Given that the goal is to ensure capital adequacy for a certain level of solvency, volatility of market value is the best measure of a bank's risk and its capital requirement. This aligns risk measured by management with risk-based returns required by shareholders and bondholders (the market values). Best practice institutions measure capital based on unexpected loss (volatility around unexpected loss) and compare their estimate of required capital with financial resources (common equity and loan loss reserves) available to cover unexpected loss. Since expected loss (a cost of doing business) is covered by future margin income (priced-in to cover operating costs as well as expected loss and provide favorable return on capital), it is excluded from the measurement of economic capital. Likewise, future margin income is excluded from calculation of financial resources. This suggests that failing to price-in expected loss is a key to why so many community banks are responding too late to address the impact of credit quality.

## **Risk adjusted return on capital (RAROC)**

Effective capital allocation requires performance evaluation, the objective of which is to measure a business' contribution to shareholder value after fully adjusting for risk, and thus provide a basis for strategic planning, ongoing performance monitoring, product pricing, and tactical portfolio management decisions. To evaluate performance, risk adjusted return on capital (RAROC) systems assign capital to businesses to determine a risk-adjusted rate of return. It is obtained by dividing net income for each business by its required economic capital (you may need to make adjustments to accounting net income to remove timing distortions inherent to accounting). If RAROC is higher than the cost of equity, then the business is creating value for shareholders.

## **Shareholder value-added (SVA)**

However, since RAROC is a measure of profitability, it may result in rejecting value-increasing projects that will lower average return. Performance should also be evaluated according to the shareholder value-added (SVA) of the business, by comparing each business' return to the bank's cost of equity (shareholder's required rate of return). Because cost of equity is based on systemic risk, the risk measure used for SVA calculations must be based on risk contribution rather than stand-alone risk. This is calculated by subtracting the cost of equity capital from operating earnings of the business. SVA uses economic capital as the risk "currency" and allows comparison of activities with varying risk characteristics. This overcomes the RAROC limits by incorporating the size of the investment, not just its rate of return.

The necessity to effectively align value with risk management in community banking has never been more apparent. The economic approach presented in this paper provides a solution to addressing this need for both the banker and the regulator, as the resulting capital levels should provide the comfort that both the level of risk carried by the bank is understood and managed, and a sufficient, justifiable capital buffer is being maintained. The role of management in these processes cannot be over-emphasized. Risk management, ultimately, is about the quality of management practices.