

Coming Together

Capital and Risk Management





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Capital management is critical for financial services firms. Successful capital management brings together a good understanding of a firm's capital requirements and funding possibilities, and provides an effective process for managing capital allocation to individual business units.

In this issue of our Embedding ERM series, we analyze the roles and responsibilities of the capital management function in these key areas:

- Determining capital requirements
- Monitoring and managing the capital position
- Managing the fungibility of capital
- Funding the capital position
- Optimizing capital efficiency

With the increased use of economic capital measures, the roles of the capital management and risk management functions will become ever more closely linked. In an integrated risk and capital management approach, the two functions will collaborate in a joint effort to enhance their firm's risk/return balance in line with its strategic management goals and risk preferences.

Determining Capital Requirements

Assessing the level of capital required to support the business is a key task of the capital management function. Capital requirements are typically determined on a number of different bases — both for the firm as a whole and for individual business units. These might include:

- Regulatory capital
- Economic capital
- Rating agency capital

At the same time, the level of available capital will also need to be determined separately for each basis, as different approaches are adopted for the valuation of assets and liabilities. In addition, regulatory and rating agency bases often restrict the admissibility of certain assets in this assessment. This results in three distinct assessments of the company's capital position, each with a different level of sensitivity to risk (see sidebar, page 4).

In some jurisdictions, the regulatory capital regime may already be based on an economic approach. But, in most regions (including the European Union until the formal implementation of Solvency II in 2012), regulatory regimes are based on more simplistic formula-based approaches rather than fully risk-oriented approaches.

For example, the U.K. regulatory system currently requires both a relatively simplistic formula-based approach, albeit with some risk-sensitive elements for with-profits (participating) business, and, in parallel, an economic risk-based measure designed to capture the specific risk characteristics of each individual firm (the individual capital assessment).

In the U.S., regulators have for some time adopted a risk-based approach (risk-based capital), using risk-based factors to determine capital requirements. This method is somewhere between simplistic formula-based approaches (e.g., a fixed percentage of reserves) and economic approaches currently being introduced in a number of countries. The U.S. regulatory regime is also moving in a more economic direction with the gradual introduction of principle-based approaches for an increasing number of product lines.

An economic approach should provide a more accurate view of:

- The risks facing the business
- How diversified these risks are
- The capital required to meet them

Current rating agency capital requirements are typically a mixture of economic and more simplistic formula-driven approaches. However, some rating agencies have indicated their willingness to take into account, to some extent, the results of companies' internal capital models in assessing capital requirements. Such treatment is conditional on the model passing the rating agencies' own criteria, which normally require, among other factors, the model to be used and embedded in the business decision-making process. This approach is very similar to that set out under the forthcoming Solvency II regulation in Europe.

The capital management function must understand which capital requirements are of the greatest importance in the decision-making process. Priorities might vary over time between different business units and between the business unit and group levels.

As already mentioned, the comparison of capital positions under these different bases is complicated by variation in the available capital, as well as variation in the capital requirement between the bases. One way to simplify the issue is to focus on the amount of excess or free capital under each approach. However, even this strategy is not as simple as it appears, since expectations of capital buffers in excess of requirements vary between bases. For example, it would be normal to maintain a buffer in excess of regulatory capital requirements to ensure the requirement can still be met after an adverse event. The same would not be the case for economic capital requirements for the company's target risk appetite. In this situation, the expectation would often be to manage available capital to be close to the economic requirement but without incorporating an explicit buffer.

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Conflicting Regulatory Messages

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In many European countries, insurance regulators have already started to embrace economic capital measures, partly in anticipation of Solvency II and partly to promote best practice risk management approaches. Yet earlier, more simplistic regulation, often based on Solvency I approaches, still remains in force. These two very different regulatory approaches can send conflicting messages to capital managers and make risk and capital management very difficult. Countries with these dual regimes include Finland, Switzerland and the U.K.

This challenge is illustrated by considering the interest-rate risk for life businesses. Typically, asset duration is lower than liability duration for life insurers and, from an economic point of view, falling interest rates would be the key risk. Moving to a matched asset-liability position (or at least closing the duration gap) would reduce the capital requirements.

Under Solvency I regulation in most Continental European countries, the assets are marked to market, while the liabilities are based on book reserves and generally remain unchanged under varying interest rates. In this instance, rising interest rates is the key risk to meeting solvency requirements, since falling asset values are not compensated by any liability movement.

This complicates the task of managing interest-rate risk, as both rising and falling interest rates increase capital requirements on one of the bases to be determined. In practice, one of the capital bases will be dominant at any given time. But significant interest-rate movement may result in the alternative basis becoming more onerous, potentially requiring a shift in risk management policy.

For some insurers, particularly in the U.S. where regulatory and rating agency capital requirements still differ from an economic viewpoint, it may seem unnecessary to add a third type of capital management. However, the U.S. regulatory basis does not provide a consistent picture of performance across heterogeneous businesses (such as long-term versus short-term business), nor is it aligned with the individual risk situation of the company. That is why developing an economic capital capability offers distinct business advantages. It allows management to understand how much of shareholders' capital is truly at risk and whether this fits with the firm's strategic goals and risk management policies. And since economic capital relies on granular data, it provides helpful management information across heterogeneous businesses that can be used to set financial targets for business units and assess their performance over time.

Monitoring and Managing the Capital Position

Monitoring the capital position and ensuring a sufficient quantity and quality of capital is one of the capital management function's key tasks. This work has close links to business planning, as it has to account for the capital needs of future business expected to be underwritten. Such capital projections should be based on the "best estimate" view of the world, as well as other more positive and adverse scenarios. In today's economic climate, prolonged recession and/or high-inflation scenarios might be seen as particularly relevant. This will help management understand what actions to take if these scenarios actually develop (e.g., varying new business levels or raising capital), as well as what actions to take now to change the impact of certain scenarios (e.g., hedging extreme tail events). It can also generate useful information to communicate to shareholders. In the European Solvency II context, such capital planning would form a key component of the Own Risk and Solvency Assessment (ORSA).

An organization's future capital needs are determined by the use, consumption and release of capital by the various lines of business it writes. Different insurance products have very different patterns of capital requirement over their lifetimes. For example, in most short-tail property & casualty lines, the greatest need for capital funding is on inception of a policy, with capital being released later as claims from the underwriting year run off. In contrast, long-term life business might start with a relatively low capital requirement (aside from funding requirements for initial expenses and regulatory reserving strain), but capital needs gradually build as reserves increase. Also, liquidity management is important, particularly for companies exposed to substantial natural catastrophe risks, where significant claim payments could fall due in a short time frame. It is also important for companies subject to contractual funding or margin call requirements, and especially so during the recent financial crisis. A clear understanding of how capital and liquidity might be freed up in certain areas and redeployed elsewhere is essential for active capital management.

Another activity in which capital management participates — linked to general business management and strategic goal setting — is actively allocating (available) capital to areas where return expectations are particularly value enhancing for the firm. This requires a clear understanding of how value (after allowing for risk) is generated and should be used to set financial targets for both the organization and individuals within the organization.

More details on this topic can be found in the third article of this ERM series, “Consistent Performance Measurement — Aligning Risk, Value and Capital Management.”

Managing the Fungibility of Capital

When capital cannot be moved freely between entities, the issue is referred to as a lack of fungibility. If capital is not fungible, insurers will not be able to take full credit for the diversification effects between risks, which leads to higher economic capital requirements. That's why it is important to allow for a degree of capital fungibility, both in determining economic capital requirements and business planning. Scenario testing can help pinpoint where potential fungibility constraints might exist within a group of companies, but the impact on economic capital can often only be quantified through stochastic simulation.

Fungibility is particularly important for insurers, since many have evolved complex legal structures both across and within the various geographies where they operate. The fact that available capital resources are distributed across a substantial number of entities (as opposed to residing within a limited number of balance sheets) often limits the ability to move capital from one entity to another, due to legal, tax or regulatory constraints.

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Own Risk and Solvency Assessment

The requirement to conduct an Own Risk and Solvency Assessment (ORSA) in Europe under Solvency II will formalize what might currently be regarded as best practice capital management and planning processes into a regulatory requirement. The ORSA encompasses the entire risk management system, whereby insurers have to assess and manage their own short- and long-term risks and the amount of funds necessary to cover them, given their particular risk strategy and appetite. This is independent of whether the company is using the standard approach for the Solvency Capital Requirement or an approved internal model.

The importance of ORSA's forward-looking nature is recognized by the Solvency II framework and supplements the one-year risk horizon view of the capital requirement. An insurer's ORSA should include an analysis of likely future changes in the risk profile, capital requirements and sources of capital to meet these requirements.

The capital management process will therefore move from being an important component of a well-run company to a regulatory requirement.

Fungibility of capital can be increased by concentrating the business within a smaller number of entities. Reinsurers have been among the first to see the advantages of operating from a single balance sheet. But with the freedom-of-services regulation now in place in Europe, primary insurers are also taking advantage of this opportunity (see sidebar below).

Funding the Capital Position

The capital management function will be heavily involved in raising new capital, even if another department, such as the finance function, actually goes to market to physically raise funds.

The capital management function should forecast the likely timing for raising future capital and support more specific decisions about when capital is required and what sort of capital should be raised. The type of capital raised, in particular its absorptive capacity and treatment by regulators, affects many aspects of the business, including its corporate risk profile and profitability. In theory, the riskier a

business, the more absorptive the capital structure should be, which will inform the choice of capital (equity, preferred equity, senior debt, unsecured debt, hybrid debt) to be raised.

In addition, the capital management function can play a role in designing and implementing innovative forms of capital — ideally both low cost and risk absorptive — linked to the specific needs of the business (see sidebar, page 7).

The stresses in financial markets since mid-2007 have forced a number of insurers to pay closer attention to both their capital needs and explaining these needs to the market. While many insurers have raised capital, this has usually come in the form of debt issuance or the divestiture of businesses rather than by going directly to shareholders for more equity capital. Insurers have also introduced scrip dividends (when the dividend is paid in new shares) or cut their cash dividend to preserve capital, since raising capital from shareholders is often viewed as something of a last resort.

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Enhancing Fungibility

Capital management considerations often substantially influence the legal structure of an insurance group (with tax typically being the other major driver). For example, writing business out of one legal entity and setting up branches in other countries, instead of operating out of a range of local subsidiaries, can have many advantages. In addition to reducing the complexity of the group structure, it allows a company to concentrate its capital resources in one entity rather than spread its funds over a number of entities, and thereby increase the fungibility of capital and the crystallization of diversification benefits:

- Reinsurers have traditionally operated from a single balance sheet and have often used branch structures instead of subsidiary companies, particularly in Europe. Swiss Re, for example, opened two Luxembourg-

based pan-European carriers for its life and non-life business in early 2008. According to Swiss Re, “The restructuring enables Swiss Re to free up hundreds of millions of francs in capital — and thus to enhance both its capacity and to offer competitive solutions to its clients.”* The existing business written in other Swiss Re entities is being transferred to these new entities.

- Primary insurers are also starting similar reorganizations. ZFS has now concentrated its pan-European general insurance and corporate client businesses in a Dublin-based carrier. ZFS cited, “flexibility in capital efficiency and solvency” and “reduced complexity and costs due to fewer legal entities and one EU regulator”** as reasons for this move.

* http://www.swissre.com/pws/locations/europe_middle%20east/luxembourg/luxembourg.html, Swiss Re press release: <http://www.lff.lu/finance/news/news-detail/browse/3/article/swiss-re-inaugurates-its-european-headquarters-in-luxembourg//21/>

** http://zdownload.zurich.com/main/events/20090527_general_insurance_strategy_update_en.pdf, page 46

Innovative Forms of Capital Management

A good example of innovative capital raising is Blue Coast Ltd, which in 2008^{*} issued an insurance-linked security covering U.S. hurricane risks. The innovation in this security is that losses are allocated down to the level of individual counties in the U.S., reducing the basis risk to the issuer. In addition to this risk transfer, the issue raised \$120 million.

^{*} See Towers Watson 2008 Q3 edition of *Emphasis*, “All-Weather Insurance Securitization.”

^{**} See the Towers Watson *Update*, “Aviva Transfers Longevity Risk to the Capital Markets,” September 2009.

Another example: Aviva’s 2009 longevity swap,^{**} covering £475 million of annuity reserves. While this action did not raise capital from the markets, the effect of the swap was to release Pillar I regulatory capital as well as being accretive to Aviva on both IFRS and MCEV bases.

Optimizing Capital Efficiency

The final aspect of capital management addressed in this article is the optimization of capital efficiency. This can be achieved by reducing the cost of raising and holding capital through risk mitigation and transfer instruments, such as reinsurance, hedging or capital market securitizations, or through other capital actions such as legal restructurings or reorganizations.

In seeking a capital-efficient structure, the capital management function will have to balance the desire to minimize the amount of capital held per dollar of expected profit with the requirement to ensure sufficient capital is held to attract customers and investors. Of course, improvements to capital efficiency involve the amount of expected profit, as well as the amount of capital. Improving the profitability of the business can be achieved through better capital allocation and performance management (see the third article in this ERM series, “Consistent Performance Measurement — Aligning Risk, Value and Capital Management”).

Bringing Risk and Capital Together

Business capital cannot be viewed in isolation; it must be looked at in the context of the risks the business is running.

For the risk management function, the risk strategy and risk appetite statements provide crucial input and guidance on the boundaries for risk taking (for more detail, see the second article in this ERM series, “Risk Appetite — The Foundation of Risk Management”).

The capital management function’s work is similarly based on a capital management policy, which typically includes references to desired economic capital and rating levels. These may be expressed in absolute terms, such as a free capital amount or rating target or, in relative terms, such as in relation to competitors’ rating and financial strength levels.

It is likely that within Europe, as an economic view of both risk and capital becomes more prevalent, Solvency II will be a significant catalyst for the convergence of both risk and capital management functions.

While risk and capital functions must work together, they focus on different aspects. The risk function, which deals with the nature, level and concentration of risks taken, leads in risk modeling and determining diversification benefits, and derives, sets and monitors risk limits. In contrast, the capital management function determines and monitors capital requirements, cost-effectively funds and manages capital, deploys capital into business opportunities with attractive risk/return combinations, and enhances the capital structure by one-off restructurings or capital measures (for an overview, see sidebar, page 8).

Ultimately, an economic perspective of risk and capital provides worthwhile insights into the business even when the regulatory capital regime diverges from an economic view. For example, this approach allows management to understand business risks and whether they fit with the risk appetite. It can also provide highly granular information on business unit and product line performance that can be used to drive improvements.

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Roles of Capital and Risk Management

Capital and Risk Management Tasks

Activities led by...		Activities supported by...	
Capital Management	Risk Management	Capital Management	Risk Management
Determining and monitoring capital adequacy	Setting risk tolerances and limits	Capital management policy	Risk appetite and strategy
Business planning and scenario testing	Economic capital requirements	Mergers and acquisitions	Sounding board for business units
Cost-effective fund raising/capital actions	Determining risk concentrations/diversification	Monitoring/setting business unit performance targets	Center of excellence for business unit risk management
Reporting capital positions	Monitoring business unit risks against tolerance	Investor/rating agency communication	Managing operational risk
Capital allocation to business units	Reporting risk positions		

The capital and risk functions are deeply involved with setting capital management policy and risk strategy, respectively. In principle, however, these roles are carried out by the board, supported by the capital and risk functions.

The capital and risk functions will remain distinct due to the different roles they play. The capital function is more heavily involved in capital raising and business planning, while the risk function is more concerned with monitoring group risks. However, as regulatory and rating capital measures converge toward an economic basis over time, it is likely that the capital and risk functions will collaborate even more. In particular, the role of determining and monitoring capital requirements will become very similar to determining economic capital requirements.

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