

# Financial Regulation and the Maginot Line Defense Strategy

Dave Sandberg

**A**fter World War I, the French were determined to never again be at risk of a German invasion, so they built an impressive defense system out of concrete on their border with Germany. Yet this impressive risk mitigation technique became useless when the Germans just went around it by invading Belgium and the Netherlands first. As we look at the history of the financial regulatory system through the savings and loan crisis, the failures of Executive Life, LTCM, First Executive and now the credit crises, there is heard the familiar resigned refrain that we can never know ahead of time where the next new financial invasion may be coming from. While individual failures can occur, can we only passively wait for the next systemic crisis to occur? I think not. I think there are sets of principles and a methodology in the emerging Enterprise Risk Management (ERM) framework that will allow regulators and companies to more proactively respond to emerging new risks without finding all of the guns embedded in concrete facing the wrong direction.

Below, I make three observations and raise two questions exploring how ERM has and could be leading to important improvements in regulatory oversight.

## **Observation #1: The Rise in Enterprise Risk Management**

The last decade has seen substantial progress in the use of ERM as a formal company discipline and initiative. Ten years ago, ERM was first being elevated as a generalized approach beyond the traditional linkage to just asset/liability management of interest rate risk. The use of ALM for life insurance had become well institutionalized in the 1990s, but unlike ALM, which had also been mandated by regulatory requirements for cash flow testing, the institutionalization of ERM in this decade has occurred

without any regulatory mandate.<sup>1</sup> It seems almost too obvious to state that the value added by the proposition of insurance to the larger economy is the value of managing pooled risk. But it seems only recently that we have begun to recognize this formally through the designation of a chief risk officer, who is accountable for that function within the organization. Since there have been no legal requirements, this widespread development of the ERM function must reflect the view of the board of directors that ERM is a skill set and process that adds to shareholder value.

## **Question #1: So What is the Source of That Shareholder Value?**

A popular simplification is that since pooling of risk brings diversification, then it is size that brings value. This would imply that ERM is nothing more than a measuring tool to demonstrate the amount of value that has been added through aggregation. Rather, I think that more substantive sources are:

1. Creating accountability. This occurs through the institution of a common language or framework within the company to measure risk and with which to make decisions that can be transparent to shareholders and management.
2. Methodology and process. This allows one to create testable hypotheses about the current and future corporate risk exposures.
3. Change in corporate culture. ERM should strengthen the intellectual capital and learning speed of the firm about the risks it is managing.
4. Capacity to analyze the future. This goes beyond just assessing current risk expo-

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Dave Sandberg, FSA, CERA, MAAA, is a vice-president and corporate actuary at Allianz Life in Minneapolis, Minn. and also chairs the American Academy of Actuaries Risk Management and Solvency Committee. He can be reached at [dave.sandberg@allianzlife.com](mailto:dave.sandberg@allianzlife.com).

<sup>1</sup> While both regulators and ratings agencies have encouraged its introduction, they have not required it. In fact, the formal review of ERM practice by ratings agencies represents its reality as a part of company practice that needs to be evaluated by the rating agency.

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asures. Thus, the interaction of future risk changes and possible management responses can be contemplated and prepared for today.

5. An aggregate view. This allows one to see the overall impact of individual risk deci-



sions. This reveals both opportunities and dangers that cannot be seen in isolation.

**Observation #2: Core Organizational Principles of ERM**

I have come to the conclusion that there are three key elements that form an effective ERM discipline/methodology.

1. A Risk Control Process

This is similar to a systems control process for computer programs or Sarbanes-Oxley procedures in that it focuses on processes, but it is constructed on the following principles:

- a. Identify all the risks that are being accepted. Do not accept (or write) risk that you do not understand or cannot manage, hedge or reinsure. You must also include an examination of the tail events and options (not just the median or “likely” events). Also, the determi-

nation of various management options for these situations is critical.

- b. While there is a myriad of events that may create risks, risk can only “manifest itself” or impact the company in the following categories:

- i. Financial risk via equity, interest or credit
- ii. Insurance risk
- iii. Policyholder behavior
- iv. Future management decision risk
- v. Operational risk.

The risk control process does not need to “predict” why financial risk changes, but it needs to understand that, given a change in the risk, what is the exposure to the company of the change in say, interest rates or policyholder behavior? This strengthens the review and reporting process from being just a focus on the specific number to report today. It expands the review process to include the ability to understand the sensitivity of one’s risks to a discrete grouping of exposures and thus plan how to manage them in the future.

- c. For any product offered by the company, identify which of these listed risks are then being taken on by the company.
- d. A first necessary step for a risk to be managed is that it must be measured and reported on. To not measure is to gamble instead of offering insurance.<sup>2</sup>
- e. Establish independent verification or validation processes for the defined measurement process.
- f. Examine the timing and impact of options in the future, to determine when

2 One exception to this might be operational risk. While there are certainly quantitative approaches used by banks, a scenario analysis of management responses and financial impact may be more relevant than frequency and severity measurements for some OR risks.

and if the management of that risk becomes unprofitable.

- g. Once measured, set appropriate reserves, capital, company action levels and risk limits.

Establishing a risk control process will assure that risk cannot disappear from the system and—as the process is followed—major breakdowns or surprises from chasing higher yield will not occur. Now let's look at the Actuarial Control Cycle.

## 2. Actuarial Control Cycle

I believe that the actuarial control cycle requires one to:

- Specify the problem
- Develop a solution
- Review and monitor.

The control cycle assures that a solution is proposed as well as a process to allow refinements to emerge over time. This is sometimes more simply called a feedback loop. This process, when correctly implemented, can have a powerful effect on sustaining a learning focused corporate culture that can also be used as a basis for internal incentives and penalties to align diverse corporate interests. It also implements a healthy check-and-balance process to identify, address and resolve divergent views. For example, the control cycle can change the focus and impact of internal models previously based on tracking relationships and using somewhat arbitrary estimates (as often portrayed in the popular press) to become a focused scientific-based baseline that documents and verifies actual to expected results. Also, by following the control cycle, corporate risk competence increases via the organized learning process since it is based on clear accountability.

In conclusion, following this process ensures that the corporation will be at the cutting edge,

aware of market transformations and positioned to evaluate them as they emerge (instead of afterward, when it is too late to act).

## 3. Consistent Set of Risk Metrics

Depending on the regulatory jurisdiction, the company may have both economic and regulatory metrics that vary from CTE to VAR to MCEV. While it is essential to have a consistent set of metrics, in my experience they do not produce a magical answer for rule-based decision making, but the metrics become the basis for making informed risk decisions about the business. More importantly, metrics allow the implementation of measurable risk limits to be considered and included in growth plans and product designs. Through this, there is now a mechanism for the company to safeguard its rating through estimating and setting limits on profit volatility that could impair its rating.

### ***Question #2: Could the Use of the Corporate ERM Process by a Regulator Improve its Corporate and Risk Culture in a Way that the Regulator's Measurement and Subsequent Decision Making Builds "Public Value" by Building off of the Shareholder Value Being Created by the Company's ERM Process?***

First of all, what would an ERM-based process look like for a regulator?

It could start, where applicable, by building off of the company's efforts to manage its earnings volatility and shareholder return targets. While the regulator's emphasis is with solvency, not with diminished corporate profits and returns, a regulator could still build an oversight process off of the corporate ERM process already in place. For example, it could start with a "Principle-Based Product Approval Process" where it is not the product that is approved, but the risk management strategy of the product. It

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could entail, for example, requirements for the company to:

- 1) Provide a comprehensive, conceptual documentation of risks created by the contract as defined in Observation 2, 1c above
- 2) Identify risk mitigation strategies
- 3) Identify new risk exposures of used mitigation options and retained risks
- 4) Identify how each risk will be measured<sup>3</sup> (and the impact if any are not measured), explain the intended usage and expected impact of management options (levers) and document the intended corporate risk limits that will be placed on the product
- 5) Identify frequency and format of needed reporting so that management and regulatory actions can prevent failure. Here profits and solvency limits will have different trigger or action control levels<sup>4</sup>
- 6) Identify the actual to expected validation and reporting process (including model tracking error and source of objective benchmarks) for all modeled risks, including management actions<sup>5</sup> and
- 7) Items 5 and 6 would then be agreed to by both regulator and company prior to product approval.

What Would Be the Likely Outcomes of this Process?<sup>6</sup>

- 1) A much more efficient way for regulators to understand the risk exposures of the companies under their review and under review by other regulators. They would:

- a) Know when a company is “gambling” within specified risk tolerances (previously shared with the regulator) that only affect the level of profits.
  - b) Be “put on notice” by a requirement to notify the regulator when and why those internal risk limits have changed.
  - c) Have previously reviewed various sensitivity testing results and the regulator would know how they impact various reserve and capital needs and their potential impact on solvency.
  - d) Obtain a series of interim reports regarding the leading risk indicators of the company at a mutually agreed to frequency. This would save time for both company and regulator where, for example, the quarterly statement for life companies is of little interim value to the regulatory risk review process
- 2) A defined accountability for the company to identify, measure and manage their risk in a more transparent fashion to the regulator since the regulator can use the transparency that has been built to manage the company.
  - 3) A regulator could now review and assess the “competence” of the company’s risk management via the company’s own self-monitoring processes for its internal models and risk exposures.
  - 4) A regulator can now obtain an ongoing view of the “integrity” of company management in either adhering to its planned management actions and acceptable risk limits or in its ability to take action and responsibly manage based on revised management

3 Measurement includes risks at all significant moments of risk distribution.

4 Defining the several moments of the risk distribution helps resolve how frequent the reporting needs to be to manage the “deltas.” This could include the “delta” of filing and obtaining a rate increase, for example.

5 This is the issue of regulatory approval of internal models used to measure the risk. Can these measures be independently verified, calculated in alternative ways as a reality check or build in their own “self-validation” procedures?

6 I recognize that in the United States., there are confidentiality issues to be resolved for various elements of this process.

levers and/or limits. While this does not limit in any way management's discretion to "gamble" on profits, it also introduces awareness that its actions and "integrity" are being observed.

- 5) Implementing this type of an organized ERM process would mean that each state in the United States, for example, would not need their own "rocket scientist" trying to "catch" the mistakes of the industry's "rocket scientists." Instead this methodology requires that the basic skill set required for the regulator is to have good analytic and coordination abilities, as well as, have adequate communication skills with occasional access to various levels of expertise. But more importantly, the regulator is allowed to learn, in an organized way from the leading practitioners, and to be able to quickly identify and highlight companies in need of regulatory attention.
- 6) A double entry "accounting" for risk. Identifying the risks taken on and how they are either managed or passed on to someone else is the base for risk not "disappearing" from the system. This creates an "audit trail" or genealogy record of the risks. This is not meant as an accounting ledger but a risk ledger.

### ***Observation #3: Progress Already Made and Missed Opportunities***

Canada (OSFI) took a major step forward in this arena in the mid 1980s when its public and regulatory reporting became based on a company's own assumptions. This allowed for the modernization of the regulatory process through the use of several tools (carrots and sticks) to balance company and regulatory discretion when assessing the uncertainty of the future. The regulator's application of the actuarial control cycle principles has driven continued enhancement of company reporting and regulatory oversight. These tools have included:

- 1) Actual to expected reporting

- 2) Independent peer review
- 3) "Jawboning"—i.e., the possibility of a public disclosure that there is a company and regulatory disagreement on appropriate assumptions or risk exposures has meant that OSFI has not had to actually ever make this disclosure public.
- 4) Grading of the quality of actuarial reports
- 5) Annual meetings with an industry executive group, which reviews past issues and future concerns of both parties
- 6) The ability to compare a company's specific assumptions to that of the broader industry.

In the United States, a recent major accomplishment is to require that all state supervisors conduct a risk-focused examination beginning in 2010. This has already been required for some time for several states. The review process means that a company must:

- 1) Identify all risks taken on
- 2) Identify how the risk is hedged, reinsured or managed
- 3) Identify the net retained risks.

Both regulators and companies have typically found that this exam is quicker, less expensive and more effective by reviewing only the significant items. The structure for this type of review resulted from various NAIC and FSA dialogues in the early 2000s.

Some history from the Australian Prudential Regulatory Authority (APRA) is one of the more powerful examples of how modernizing financial regulation can work to prevent future problems. In 2003 they realized:

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Looking ahead, the main potential source of risk to financial stability would be a substantial correction in the housing market, impacting on the balance sheets of authorized deposit-taking institutions through mortgage defaults. The concern would be a sharp jump in mortgage defaults ...<sup>7</sup>

Therefore, APRA requested that its banks and mortgage insurance companies execute a series of stress tests, which included a 30 percent one-year reduction in housing prices plus an increase in defaults. This stress test identified several weaknesses within the system, which resulted in changes being made to capital requirements and reductions to acceptable concentration risks. As a result, today, PMI Australia has a rating higher than that of its parent and Australia has obtained international recognition as a strong and robust bank and mortgage insurer market.<sup>8</sup>

Models and scenarios like those of Australia demonstrate the important distinction between a regulatory system that is stuck in a Maginot Line paradigm, always prepared for a previous failure, versus a regulatory approach that anticipates and prepares for the future.

If an ERM methodology for the regulator had been set up within the United States, it could have “saved the day” even if the anticipatory scenarios had not been run as in Australia.

Consider for example:

- 1) If in approving a risk management program for muni insurance a warning would have been raised whenever a risk was being covered without having a measurement process in place regarding the primary risk

of defaults<sup>9</sup> and no access to the data that would drive that risk (such as underwriting criteria).

- 2) If actuarial models would have been required, identifying issues such as the potential impact of moral hazard and how it would be managed, instead of relying on an external rating agency certifying very low risk.
- 3) If an assessment would have been made in advance of what scenarios could “break the bank” and what leading indicators should be tracked to allow action while still resolvable.
- 4) If management action to diversify into risky products was “dictated” by rating agencies, this should have triggered earlier discussion with regulators.
- 5) If a risk-focused approval process would have highlighted the gap in the financial system, so insurance regulators could have raised issues with bank regulators and/or ratings agencies much sooner.

A major irony in current quick and superficial critiques of the credit crises is the tendency to round up all the usual suspects and then hang the models. Models that are built improperly to explain the past and/or report current earnings should be properly viewed with skepticism. Yet an ERM process that properly executes and reviews the modeling will allow both companies and regulators to better shine the light of understanding into the future and in so doing improve the ability to see the next financial invasion and be better prepared to address the relevant issues as they emerge. ♦

7 [http://www.apra.gov.au/Speeches/03\\_20.cfm](http://www.apra.gov.au/Speeches/03_20.cfm).

8 It is true that the Australian financial system is increasingly impacted by the disruption in international financial markets, including the slowdown in funding flows in the banking system and declines in the equity markets as well as the broader economic impacts from a global recession. However, economic commentators are suggesting that Australia is better placed than elsewhere as they have more room to use monetary and fiscal policy to address any slowdown in growth as their interest rates are higher and their budget is in surplus.

9 The irony being that once a breakdown occurs, little of the useful data has been captured, so trying to build a valid internal model is made all the more difficult.