



SOCIETY OF ACTUARIES

Article from:

Risk Management

July 2006 – Issue 8

From Pension Risk Management to ERM

by André Choquet

If the field of Enterprise Risk Management (ERM) is to grow outside the insurance sector, and there is every indication that it will, pension actuaries are well positioned to become active participants. This was my conclusion after attending the SOA-sponsored ERM and pension finance symposium in New York City in November 2005. The two and a half day seminar presented views from actuaries, financial economists and representatives from investment firms, credit rating agencies, the PBGC and the ac-

counting profession on how to measure and manage risk in pension plans within an ERM framework. The seminar presented the CAS definition of ERM, which is:

“The discipline by which an organization in any industry assesses, controls, exploits, finances, and monitors risk from all sources for the purpose of increasing the organization’s short- and long-term value to its stakeholders”

To date, ERM has been applied by banks and insurance companies. This symposium was about extending its reach to any organization, starting with its pension plan.

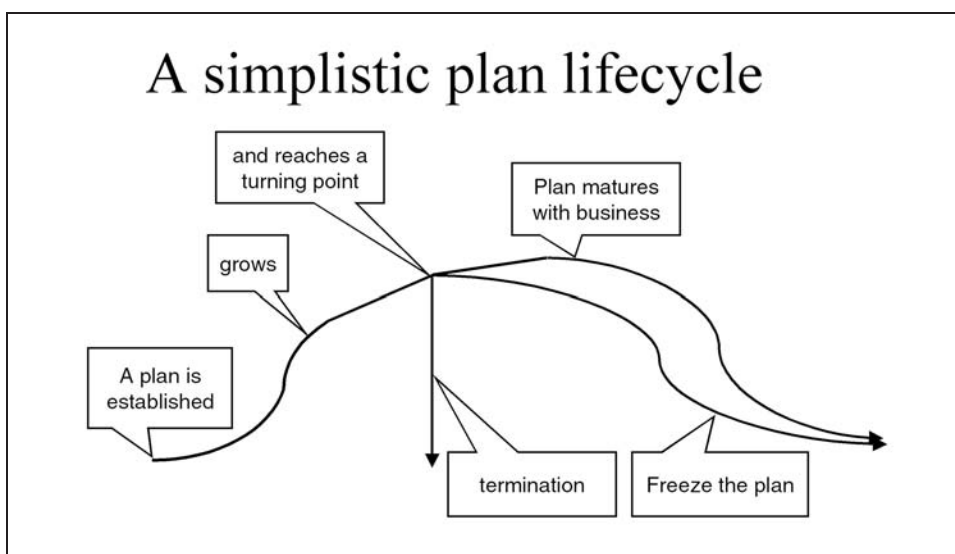
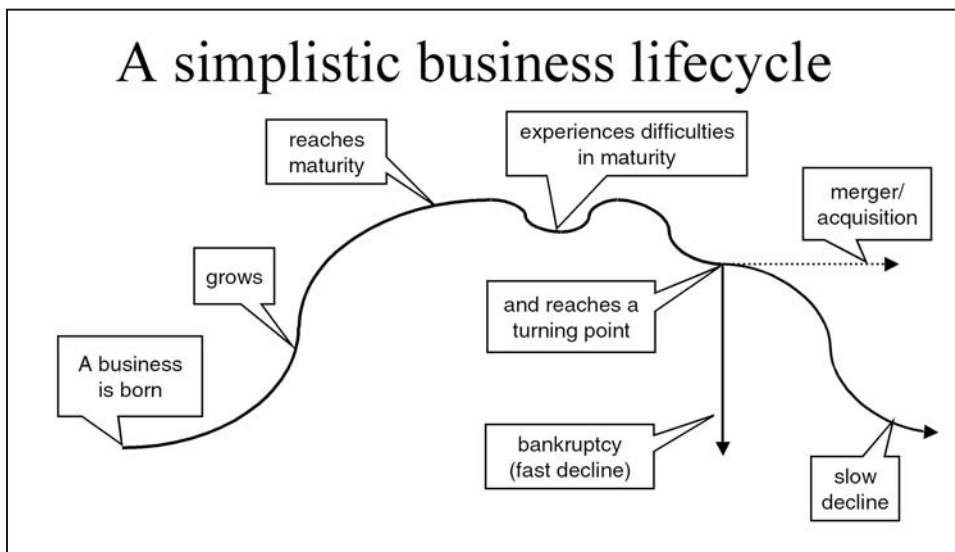
There were many interesting presentations but in the interest of space I will summarize only one of them. I will then offer my personal views on ERM opportunities for pension actuaries.

The lifecycle principle

Emily Kessler, SOA staff fellow, presented a very thought-provoking session. Armed with her own ideas and discussions with ERM experts, she came up with an interesting life cycle theory to explain risk management policies at a sponsor of a defined benefit pension plan.

In a visually convincing way, she superimposed the life cycles of a pension plan and of its sponsor. She affirmed that in the early stage of both life cycles, the company can more easily withstand the fluctuations in the plan contributions and may willingly choose to take on more investment risk in the hope of benefiting from the potential extra return. There is a lag between the two life cycles so that the company’s growth precedes that of its pension plan.

When the company’s growth reaches a plateau, it may experience some difficulties and will eventually face a critical point: bankruptcy,



Pension Plan 1

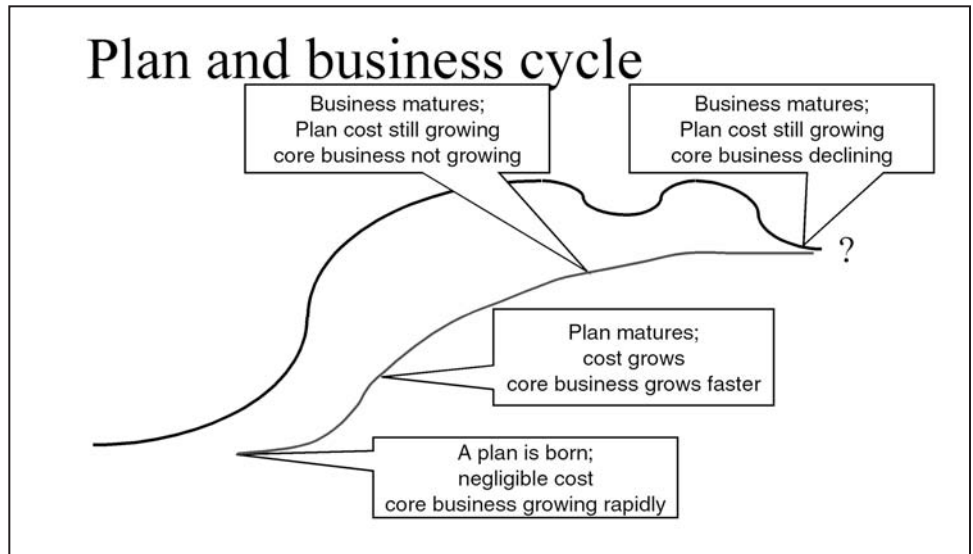
merger or acquisition, or slow decline. At that critical point, the pension plan liabilities would still have a lot of momentum and become significantly larger as the ratio of retirees to active lives increases. That is the stage when the company is most vulnerable to negative experience fluctuations, when it must find ways to reduce risks and/or costs associated with the plan.

What I found to be groundbreaking about this big picture view is that it steps above the recent debate between the proponents of financial economics and the traditional actuarial approach in valuing plan liabilities. In the early stages of a pension plan life cycle, funding follows the traditional actuarial approach and the equity risk premium is reflected in the assumptions, as a company is willing to take on risk with the hope of extra return. In the later stages of the life cycle, where we currently are with many North American plan sponsors, their appetite for risk is reduced and the financial economics view of the liabilities becomes the order of the day.

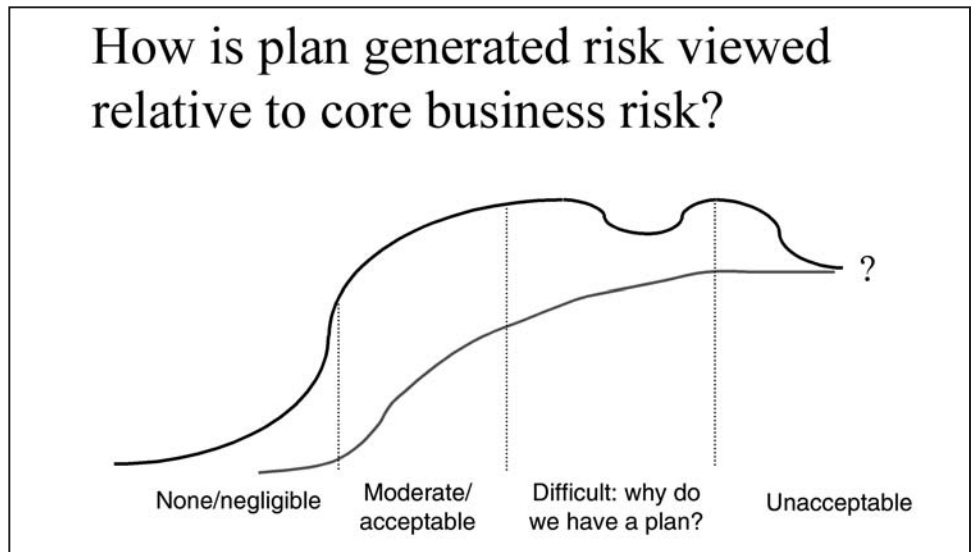
More empirical research is needed to test the risk appetite of sponsors as they and their pension plan go through various stages of the life cycle, but intuitively this makes sense. An individual may be more or less willing to take certain risks, depending on the size of the risk, their circumstances and time horizon. Similarly, a corporation may be more or less willing to take risks with the pension plan, depending on the size of the plan, the corporate structure and the time horizon.

Potential opportunities for pension actuaries in ERM

I am not suggesting that only pension actuaries can answer the ERM challenge for corporations outside the insurance sector. Any actuary who decides to take on the ERM challenge can offer great value to an organization by bringing tools



Pension Plan 2



The above four life cycle slides were designed by Emily Kessler, SOA staff fellow in the Schaumburg, Ill. office. She can be reached at: ekessler@soa.org for more information.

and skills unique to our profession. However, the pension actuary is particularly well positioned to participate. Here's why:

1. Using our technical skills, we could improve or build actuarial models to identify and quantify the **measurable risks** inherent in pension plans. In that regard we have

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everything to gain by communicating with our actuarial colleagues in the life insurance and casualty fields and by studying their methods used in the banking and insurance sector. We would need to improve our communication with CFOs to understand their existing risk control process so that our actuarial models can be designed to provide answers in a format and language useful to management.

2. We need to devise ways to illustrate the **intangible risks** inherent in pension plans using, say, futurism or other risk-management techniques. For example, just as the risks associated with DB plans have recently been brought to light with the evolution of time, the market downfall and drop in interest rates, there are risks within the whole pension arena that have yet to be exposed. An obvious one would be the investment risk DC plan members are assuming after a DB plan conversion. Others are not so obvious, like the long-term risks to a corporation of having its workforce not adequately transitioned off into retirement, the risk of not being able to attract a skilled workforce or the micro and macro impact of pension plans investing exclusively in bonds. We can either be proactive and devise techniques to bring these risks to light now, or we can let the passage of time reveal them later and miss our chance to make an impact on society. In that regard, studying the techniques used by other credible risk management associations like GARP or PRIMA could provide some answers.
3. After developing or improving risk models for pension plans in 1 & 2, we could discuss with management the benefits of applying these techniques to model **non-pension risks** that corporations are facing. A *raison d'être* of a corporation is to produce needed goods or services for society at an adequate return to its shareholders. As these goods or services are produced and sold, revenues flow in, expenses must be paid out, profit must be distributed or reinvested, salaries must be earned and paid, workers must be retained and transitioned off, and succession must be planned. All of the above involve cash flows governed by the decision-making process of human beings, (or of systems built by humans) which are shaped by outside forces and random events. Pension actuaries are experts at managing risks linked to the future cash flows within a pension plan. Why not apply our techniques to other forms of cash flows within an organization?
 4. We could design methods to hedge risk selectively. It would be a shame if “enterprise risk management” were confused with “enterprise risk elimination.” ERM involves conscious decision-making about which risks to assume and which ones to hedge against. Some decisions made today can protect against a downside risk of insolvency or lawsuits, but there are also decisions made today that can lead to high returns for shareholders like investing R&D in an up-and-coming technology. For a given level of enterprise risk allocation, what would be the optimal mix of long and short positions on various risks? Once a “risk portfolio” is adopted, a control process would be necessary to review the strategy over time.
 5. We have an important role to play in creating innovative plan designs that respond to the needs of today’s and tomorrow’s employees and their employers by:
 - Allowing the sharing of risks between sponsors and employees;
 - Recognizing the fact that most workers change employers several times in

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their career. They may not all have a defined-benefit plan but they will likely have defined-benefit retirement needs. If retirement can be likened to a second career, what level and form of “compensation” will workers of today expect or need in their next “career?”

- Incorporating flexible and cost-effective retirement provisions, like phased retirement, to respond to society’s needs as the baby-boom generation ages.

Plan design needs to be accompanied with a good communication strategy so as not to be perceived as another way for corporations to shirk from their responsibilities.

6. The North American actuarial profession should lobby the regulators to modify legislation that hampers the development of innovative plan design in order to:

- allow the party(ies) that bears risk to benefit from the potential rewards and

- protect the pension promises that have been earned.

One of the biggest challenges current pension actuaries may face in trying to adopt ERM is our own thinking. The outdated and narrow view of the pension plan as being independent from the corporation is no longer valid. Shareholders are affected by risks in the pension plan. In turn, the plan and its members are affected by risks from outside the corporation (*e.g.* financial and industry risks). The ERM pension actuary will have to identify the company stakeholders and their various, sometimes conflicting, interests. We will need to illustrate risk in a language and format that business leaders will understand and find valuable for decision-making purposes. Finally, acquiring a good dose of business knowledge would help us in communicating more effectively with management, equity analysts and credit rating agencies.

Are you an ERM pension actuary? ♦



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