

A man in a dark suit is seen from behind, standing in a brightly lit hallway. He is looking at three doors set into a white wall. The doors are of different colors: a blue door on the left, a brown door in the middle, and a gold door on the right. Each door has a simple silver handle. The floor is a light grey color.

DOORS OF



OPPORTUNITY

ERM IN THE BROADER ECONOMIC SECTOR

BY ROBERT WOLF

THIS IS THE FINAL INSTALLMENT of a six-part series on the **Evolution of Risk Management.** The previous articles are available on www.soa.org, publications, *The Actuary* magazine.

In scouting for flights for family vacations, I generally have used my favorite airline Web sites' scheduling tools. Looking into the vast arrays and series of times, dates and airports, I would plop in arrival and departure dates for certain trips and then gauge their trends over time. I would monitor fares from Chicago to my favorite locations to see which weekends a family getaway was economically feasible as compared to others. It was just amazing how prices changed from one week to the next—sometimes daily.

In reading a recent article on how airlines manage the complex flight pricing plans, it occurred to me how the dynamics truly relate to how we actuaries price our insurance coverages. United Airlines develops its global flight schedule and pricing schematic in an extensively complex grid that is perpetually dynamic. The grid considers risks underlying connections, airline partners, customer demand, supply of planes, the markets, gas prices, potential revenues, potential losses and so on to assess risks and opportunities of charging the most reasonable price possible given all these factors. Oh, and they also have to figure out what their competitor airlines are doing too, for competitive reasons. Price wars sometimes remind me of the property/casualty industry's underwriting cycle—lower prices, get market share, bait, then switch.

It occurred to me that this process very much resembles what pricing actuaries do today. This is especially true with the predictive modeling tools we are using in incorporating an unlimited vector of risk components in the interest of determining a competitive pricing

scheme. If your credit report stinks, your auto rates are higher. No direct causal relationship, but rather a correlation of behavior. If you let your credit report go, chances are you are a careless driver, etc. Hey, we do this in insurance. We can do this for the airlines too. Maybe both industries can learn and grow from each other. In our evolving roles in the enterprise risk management evolution, this very much resembles our roles in our traditional sectors we serve in the insurance industry. We're advising on competitive prices, considering the many risk variables that go into the price. These considerations include the likelihood and propensity of underwritten risks to be subject to potential fortuitous contingent events such as the likelihood, frequency and severity of accidents, deaths, lawsuits, sickness, etc., the resultant expected and variable costs relative to the volatility of the financial markets, the demands of consumers (insurance buyers) and risk bearers (shareholders). Clearly, our profession has integrated the skill sets of mathematics, statistics, logic, value-based management, economics, legal and behavioral finance, the business of insurance and philosophy to evolve our skill sets in our traditional venues. We are now in a great position to apply these evolved skill sets into new venues, including our predestined frontier into the non-financial sectors of the broader economy.

WE ARE ALREADY THERE

It can be argued that we are already there. We already have at least one foot in various nonfinancial industries today. We have and continue to consult on employee health and retirement benefits for clients in the nonfinan-

cial sector. Actuaries have and continue to work with risk professionals, insurance brokers and traditional risk managers in the airline, food, energy and other industries in managing their property and casualty risks via insurance, alternative markets and self-insurance. Over the past decade, the actuarial role in these areas has evolved within the greater enterprise risk discipline as we have evolved in our skill sets, transcending into determining optimum insurance structures, advising on alternative risk retention/transfer strategies and recommending alternative market products given a customer's risk and reward appetite. Although we have had one foot in these economic sectors, we have a grand opportunity today to begin getting that other foot in. That is, we now have the opportunity to expand our actuarial skill set in the greater economic sector as key contributors to strategic business planning with integration into profit and risk optimization that extends beyond the work we already do in these business sectors today.

In Part one of this article series, I cited the Mercer Management Study that analyzed the causes of significant stock price drops amongst the Fortune 1000 companies in the booming '90s. The causes were generally due to multiple reasons and stemming from events mostly falling under strategic and/or operational risk categories. This was affirmed in a current yet-to-be completed study sponsored by the SOA/CAS/CIA Joint Risk Management Section and led by Larry Rubin, partner at PricewaterhouseCoopers.

This study analyzes the high profile failures of recent times (Enron, WorldCom, etc.) since

the Mercer Management Study as they relate to best practices in risk management (or lack thereof). The goal of this research project is to test hypotheses and validate arguments for enterprise risk management (ERM) best practices from lessons learned in these high profile failures. As indicated preliminarily in this study and as presented in a recent session at the SOA '09 Annual Meeting in Boston, "A Case Study of Case Studies," one or more of four common themes seem to emerge as a common denominator in virtually all of these failures, again all generally falling under the categories of strategic and operational risks. They are:

1. **Business model failure:** The failure of developing and carrying through on sound strategic planning that prevents the firm from surviving and thriving in a highly competitive environment.
2. **Lack of proper risk metrics in place in analyzing the true element of risks undertaken to achieve company goals:** This is consistent to the lessons learned from the financial crises in which incentive compensation schemes were not appropriately tied to the desired performance of company executives. In other words, there were no general controls in place to stymie excessive risk taking to achieve company goals. In some cases, where there were any considerations of risk metrics, they were not prudently in place. In some cases no risk metrics were even considered.
3. **Lack of a truly independent internal audit function:** This lack of true independence has harmed the ability for firms to prevent traders or executives from harming the company for

individualist opportunity or gain. It also did not prevent accountants from gaming certain accounting conventions to shape up an otherwise shaky balance sheet. Similarly and consistent with the lessons learned from the financial crises, there are many instances where the authority to make decisions did not tie to accountability for decisions made.

4. **Inadequate asset/liability management:** In essence this translates to using short-term assets to fund long-term obligations, resulting in higher long-term liquidity risk. Clearly asset/liability management is a prudent discipline needed beyond the financial services sector. As a profession, we can take our best practices from our traditional domain to that in the nonfinancial sector as well. Bottom line, whether we

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are working in the financial services sector, or the nonfinancial sector, all projects and strategies require adequate means to be funded, and ultimately cash will eventually be required, when it is needed.

These common themes identified in the analysis of these high profile failures, in general terms, arguably compare to the causes of insurance company failures of the past. As a profession, we are quite familiar with them up close, we learned from our mistakes and have implemented best practices. As we have been developing and applying ERM principles in the current broader financial services sectors that we serve today, such as solvency management, we can apply the same strategies that have

worked into these new venues in the general economy.

I believe we can all recognize that all risks, whether in the financial or nonfinancial sectors of the overall economy, will eventually be manifested on the financial statements as a threat to cashflow in some form or another. It is this very notion of "Following the Cash" and its corresponding uncertainties that we as a profession can continue to pioneer per our actuarial philosophy to the broader business sectors of the economy.

OUR ULTIMATE FRONTIER

The nonfinancial sectors of our global economy are realistically managed no differently than the management of our financial sectors that we currently serve prominently. Pick a sector, any sector, and there is a general goal

in producing a viable product or service, and selling it at a profitable and competitive price, given the many risk and opportunity considerations in a firm's strategic business plan. In which stage is ERM operating in these opportunistic sectors? In general, with some exceptions, they are lagging far behind that of the financial services industry.

In my experiences, there have been three primary reasons that ERM implementation in nonfinancial sectors of the economy has lagged behind the financial services industry. They are as follows:

1. Lack of a coherent definition, and more importantly, an understanding of the philosophy of what ERM is all about.

Partial Convergence of Definitions

<p>Society of Actuaries (SOA)/Casualty Actuarial Society (CAS) ERM is the process by which organizations in all industries assess, control, exploit, finance and monitor risks from all sources for the purpose of increasing the organizations' short- and long-term value to their stakeholders. www.soa.org/www.casact.org</p>	<p>Treadway Commission's Committee of Sponsoring Organizations (COSO) ERM is a process, effected by an entity's board of directors, management and other personnel, applied in strategy-setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to within its risk appetite to provide reasonable assurance regarding the achievement of entity objectives. www.coso.org</p>
<p>Institute of Internal Auditors (IIA) ERM is a structured and coordinated entity wide governance approach to identify, quantify, respond to and monitor the consequences of potential events. www.theiia.org</p>	<p>Wikipedia ERM in business includes the methods and processes used by organizations to manage risks and seize opportunities related to the achievement of their objectives. www.wikipedia.org</p>
<p>Nextgov.com ERM is an integrated or holistic approach to understand and manage all the risks an organization faces. Its primary purpose is to improve the quality of decision-making throughout an organization. www.nextgov.com</p>	<p>University of North Carolina–Chapel Hill ERM is a coordinated approach to assessing and responding to all risks that affect the achievement of the University's strategic and financial objectives, including both upside and downside risks. www.unc.edu</p>

am seeing a partial convergence of the definitions, although I still believe the adopted definition of both the Society of Actuaries and Casualty Actuarial Society is best. Our definition relates to the process, an entity, the steps, the holistic integration and the goal of an ERM philosophy, all in one sentence. Risk is opportunity. Creating value is the goal.

Although I believe most of the definitions out there are converging, I don't believe the philosophies and understanding are converging just yet. This is where we, as a profession, can serve this need well.

Another challenge has been the lack of clarity of how such a discipline should be implemented in a firm. Generally, firms that decide to develop an ERM infrastructure do so by starting first with a handful of dedicated resources in the firm. Perhaps as an add-on to the internal audit function and a "check-the-box, OK-we-are-compliant" approach, after a couple of years a chief risk officer may be appointed with the eventual integration of business unit managers brought into the strategic "risk and opportunity" thinking. Ultimately, in the final phase, there would be full "top-down" integration, which incorporates planning and performance, with board oversight over the entire ERM discipline within the firm. For firms that have gotten to this stage, this has been a slow process with a long learning curve, encompassing anywhere from five to 10 years' time.

One of the major challenges in the slow maturity in implementing ERM in the non-financial sectors is the lack of uniform understanding of how ERM brings value to a firm. Several actuaries in our profession already are serving this purpose. Sim Segal, U.S. Leader of ERM Services for Watson Wyatt &

2. Not knowing where the ERM effort should be housed within a firm.
3. Not knowing how to show ERM as creating value.

The Risk and Insurance Management Society (RIMS), founded in 1950 with a current membership of more than 4,000 entities and more than 10,500 risk professionals, has recently developed the concept of an ERM Maturity Curve, very comparable to how I have identified the three stages of ERM in its evolution

in the various sectors in previous articles in this series. In the RIMS State of ERM Report of 2008, it reports that true implementation of ERM is very slow. It also cites evidence of a beneficial interest in developing an ERM culture in firms in that there is a significant correlation between companies that score higher on RIMS risk maturity assessment and higher credit ratings.

It seems that every profession, sector and even individual came up with another definition of what indeed ERM really is. Arguably, I



Company, is one of the recognized pioneers in our profession in applying the actuarial principles of ERM into new venues, including that of the non-financial sectors of the economy. Segal attributes his success to a value-based approach to ERM, which is a marriage between ERM and value-based management. ERM is the process of identifying, measuring, managing and disclosing risks. Value-based management is the process of identifying value drivers and managing them to increase firm value. Linking the two brings both sides of the risk-return equation together, which is what business leaders need to make decisions. Without this linkage, it is difficult to make the business case for recommendations coming out of the ERM program ... just as it is difficult to trust results coming out of the value-based management program without robustly considering volatility around expectations.

CLOSING

We, as a profession, have a tremendous opportunity here. The actuarial profession is poised to provide and expand its evolutionary actuarial skill set and philosophy into new venues. Expanding from our current strongholds of insurance, investments, pensions, health

care and broader financial services, we have an opportunity to move our expertise into the broader economy (e.g., airline industry, energy, food processing, sports, technology). We have already made such strides.

At the July American Academy of Actuaries Financial Summit, a consortium of more than 60 Academy leaders challenged our profession to a commitment in the development of a generalized actuarial model to address the foundation of what a sound financial security system ought to be. Such a foundation would incorporate risk systems plus the incorporation of incentives and accountability of such a system. This past August, the Enterprise Risk Management Institute International (ERM-II) research summit, supported by both the SOA and the CAS, went even further and proposed the development of philosophies and research needed to fulfill our destiny and obligation to not only develop a foundation of the financial systems, but also how such a system should and could interact with the general economy, which this article addresses.

Capitalism is the very foundation of our economy. This foundation has been rocked

due to the cloudy aspects of the fair value of prices. We, as a profession, have the ability to help right the ship and provide a call for clarity. We have a societal obligation and opportunity to use the actuarial foundation of ethics and a broad skill set to make better decisions that consider both risks and rewards. Risk is Opportunity. In our collective voice, we are in a grand position to shape the regulation of systemic risk within the general economy.

We're in the year 2009 today. Compare where we are today from, say, 1999. By the year 2019, I foresee actuaries serving as chief risk officers, risk managers and risk professionals at United Airlines, ConAgra Food and Marriott Hotels. We have the right expertise for this. We have much to say. There is momentum. Let's keep going. Our possibilities and opportunities are endless, our future is illustrious. As one famous German philosopher once said, "The best way to predict the future is to invent it." – Immanuel Kant. ■

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