

## **The Role of the Actuary:**

### **Ensuring Sound Risk Management Practices in Financial Services**

#### Introduction

Thank you [name] for that kind introduction, and good morning ladies and gentlemen. I'm delighted to be with you today to discuss how actuaries can help ensure sound risk management practices in financial services.

I approach this important topic from a practitioner's point of view. Although I am a business segment leader at Towers Watson, I am an actuary by training and a Chartered Enterprise Risk Analyst. Throughout my career, I've worked with insurance companies and other organizations on risk and capital management issues.

Risk management is certainly a topic of interest currently, with organizations in various industries across the globe increasingly appreciating the benefits that sound risk management can bring. **The financial crisis was quite a wake-up call.** Both financial services companies and their regulators were reminded that effective risk management requires senior management to be actively involved if they are to add value and avert disaster.

This is most effectively done when risk considerations are woven into the fabric of how a company operates so that, at every level, better risk-based decisions are made for the ultimate benefit of all stakeholders. Some of the leading insurers are quite advanced in this regard.

**In the financial services industry, actuaries have been keen to stake a claim as the risk professionals of choice.** By virtue of their traditional roles, actuaries were in the door and well-suited to play a strong role in risk management in segments such as insurance, pensions and health care. In some markets, we are also seeing actuaries make advances in other segments of financial services, such as banking and funds management.

Why are actuaries well-suited? First and foremost, actuaries have a good understanding of risk and its financial implications. We have the core tools and models to explore risk and, as importantly, we have the experience to appreciate the limitations of our models. **Contrary to some of the stereotypes, actuaries can communicate these insights to non-technical audiences, including the C-suite and boards.**

As a profession, we have recognized the need for strong communication skills to build understanding rather than obscure issues with technical jargon and detail. Equally important for financial services, is the fact that we have expanded our

knowledge and expertise to encompass both sides of the balance sheet to better understand our full risk exposure.

**With the help of the IAA, our profession has taken concrete steps to broaden its reach in risk management. A prime example of this is the development of the CERA qualification.** But we cannot stop here – the profession needs to attract individuals who can develop the skills necessary to be the risk professional of choice for the financial services industry. This will include communication skills and the ability to adopt a strategic and business focus to problems. This will be a competitive area in the future.

Now, let's take a look at the environment we are in, the environment that is creating this groundswell of interest in risk management. To start, I'd like to focus on the shifts that we are seeing in global financial markets and wider economies. I especially would like to examine those areas in which actuaries predominantly work – insurance, pensions, health care and risk management.

**As you know, these segments of the global economy are facing unprecedented change.** The events of the financial crisis called into question the very strength of our banking and financial services system in the United States and other countries around the world.

Making the situation more complicated is anemic global economic growth, an ongoing sovereign debt crisis in Europe and a prolonged low interest rate environment. We also continue to face a cloud of uncertainty about the future economic trajectory – not just in developed countries but in many of the emerging markets as well.

As we have seen in Greece and elsewhere, these are not just issues with financial implications. We are seeing a profound impact on individuals and families, and even social unrest that has led in some cases to changes in governments.

**While these are the “burning platform” issues, there are also “slower burn” trends that will change the fabric of our societies and economies in the future.**

We are experiencing larger catastrophe events – 8 of the 10 largest natural catastrophe losses occurred in this century. Economic losses associated with these events are staggering and will continue to increase as more of the globe industrializes.

Loss potential also will rise as people continue to migrate to cities that are often highly concentrated and located in coastal areas. A recent Lloyd's report notes

that the world's cities are growing at unprecedented rates and that *three quarters* of the Earth's population will be living in cities by 2050.

Finally, as medical science advances and access to health care improves, we can expect people to live longer than in the past. A recent United Nations report notes that average life expectancy from 2005 – 2010 was 68 years; this compares to 47 years in the period 1950 – 1955. While this trend has its positives— **people generally prefer to live longer!** – it presents important structural problems for funding the costs associated with our longer lives.

**In the face of all this uncertainty, we are also seeing significant regulatory change across the globe.**

In the wake of the most acute phase of the financial crisis, policy makers have been analyzing what happened and debating about the most effective way to regulate global financial institutions.

**While the debate rages on, one thing that all have agreed to is this: The crisis revealed just how interconnected we've become as a global economy.**

On the one hand, this globalization has helped tremendously – capital flows to areas of the world where it is used most productively while allowing millions of people to have wealthier, more productive lives. But on the other hand, the

global flow of capital has created a system of highly networked and inter-dependent institutions. This system is highly vulnerable – weakness in one node of the network can quickly spread to the rest of the system.

Regulators recognize that the tools used to regulate our largest global financial institutions need to be improved to address this vulnerability. At the highest level, the G20, which consists of policy makers from 20 of the largest economies, has set the tone for the future shape and direction of our global economy. The overarching goals that the G20 agreed to in Los Cabos, Mexico (June 2012), include creating vibrant economies that are productive, stable and resilient while fostering greater cross-country communication and cooperation.

It would be easy to continue listing all of the problems we face as a society (and coping with change is certainly one of problems for many organizations).

**However, I'm more interested in discussing how we – a community of actuaries – can work together to help solve them. A good place to start is with Enterprise Risk Management.**

At its core, ERM is about enhancing the value of an organization through better decision-making and aligning risk-taking with the company's risk appetite. The aim is to protect the enterprise from disaster by improving our understanding of how various risks interrelate and interact and instituting appropriate controls. In

this way, company adoption of ERM is broadly consistent with the G20's goal of building stronger, more stable and resilient financial markets.

**While ERM was initially criticized as having “failed” institutions in the financial crisis, we increasingly recognize that a *lack of effective ERM drove the problems.*** Large financial institutions must have a system in place to understand the risks that they take on in all parts of their complex organizations, how these risks interact and the capital needed to support the business in times of stress. Recognizing this, many financial institutions are extending and strengthening their ERM processes. I expect this trend to continue and note that actuaries have much to contribute to the advancement of ERM.

**However, it would be wrong to portray our current thinking around ERM as the best it can be – we still have a long way to go.** The global actuarial community needs to focus on improving our current approach to ERM by better reflecting the dynamic and inter-related system in which we operate.

First, there is growing recognition that risk needs to be properly defined for us to address it. Perhaps the most promising definition of risk is something that has the potential for “impairment to a firm’s mission.” The task in ERM is to

understand what risks – or combinations of risks – could impair the firm’s mission, and which risks don’t have the potential for such a severe impact. Identifying and analyzing risk in this way helps management to focus and make better decisions about which risks to take, those to avoid and the most effective way to mitigate.

Generating this understanding often requires us to build models that attempt to replicate reality. **It is important to note that these models, while powerful tools, are imperfect approximations of the complex world in which we live.**

In developing our measurement tools, setting assumptions and selecting risk metrics, it is important to recognize their limitations and cast the results in the proper context for management and the Board. **The question has to be asked: Are we modeling risk in the proper way? Are our assumptions reasonable?**

It is important that we expand our thinking on the way we model risk.

Increasingly, we are using short-term risk measures for risks that are inherently longer term. As noted, risk is primarily about mission impairment and, for most financial institutions, a key strategic goal is to build value for stakeholders over

the long term. This focus on mission means that short-term risk measurement — as is inherent in Value at Risk or the one-year risk horizon often employed in solvency regulation or economic capital models — while helpful, is not sufficient.

We need to look at risks over the longer term and over the life of obligations taken on by an institution. While shorter term volatility in asset valuation or earnings is important if it creates the potential for mission impairment, we need to take care that the regulatory framework itself does not exacerbate this risk. This message is particularly relevant for pension funds and life insurers who manage funds for beneficiaries over time horizons that might extend for as long as fifty years.

**Another area where we are seeing advancement is the way that companies model risk.** Increasingly, economic capital models are being used to aggregate different risk types and place them on a common measure. In performing this work, it is easy to gravitate toward normal distributions and simple linear modeling between variables.

While these approaches have the advantage of being simple and easy-to-understand, they generally fail to represent the underlying risks at the extremes. The financial crisis taught us that our risks are interdependent. Further, risk effects are pronounced in times of stress as individuals and businesses pursue a “flight to safety,” leading to fat tails for many risk distributions. **The liquidity crunch associated with sub-prime mortgage securities that extended to all sorts of structured products was an example of this situation.**

A discussion of ERM would be incomplete without recognizing the importance of the qualitative aspects that allow the system to function properly. It is important to have strong governance in place to regulate the firm’s risk taking.

**Furthermore, the vital role of a strong risk culture is increasingly recognized.** A recent Towers Watson survey of 540 risk executives globally highlighted “risk culture” as the most important aspect of their end-state visions for risk management.

A trend that continues to move forward is the practice of clearly defining and codifying the financial institution’s risk appetite, tolerance and limits. This is important to ensure that insurers and pension funds are operating within their comfort zone and avoiding positions that place the organization at undue risk.

We also are seeing more companies employ deterministic stress and scenario testing in concert with business unit leaders. **We expect these trends to continue as Boards of Directors increasingly want to know – “What if 2008 happened again? What if the Eurozone dissolves? How are we exposed? Are we prepared?”**

Regulators have certainly come to understand the importance of ERM.

Currently, several international bodies of financial regulators are working to debate and agree on the regulatory principles that need to be in place for stable and resilient financial markets. A prominent example is the International Association of Insurance Supervisors – or the IAIS. It consists of insurance regulators from more than 190 jurisdictions covering all the regions of the world and develops principles and standards of practice for insurance regulation.

The IAIS recently ratified a revised set of “Insurance Core Principles” that outline commonly agreed to standards of practice for insurance regulators. **Several of those principles have the potential to change how insurers operate and how actuaries do their work in many parts of the world.**

Of particular interest to today's topic is "Core Principle 8," which requires insurers to have an actuarial function that provides independent actuarial advice on (as a minimum) reserves, premium and pricing activities. In addition, it suggests that the actuarial function should advise on a broader range of matters such as solvency and risk modeling.

The role of the actuarial function within Solvency II is defined consistently with this Core Principle 8. While this does give actuaries a clear role in certain areas such as reserving, most aspects of risk management are the primary responsibility of the risk function, not the actuarial function, under Solvency II.

**Actuaries will need to compete for such roles alongside other risk professionals. I will return to this later in my talk.**

Another prominent standard is Core Principle 16, which requires insurers to perform Enterprise Risk Management including a self-assessment of risks and capital. This concept is colloquially known as "ORSA." This goes beyond quantification – which actuaries excel at – to include the entire risk management framework.

**Common principles are the starting point for creating more stable and resilient financial markets, provided these principles do not encourage pro-cyclicality.** History is littered with well-intended regulation having unintended

consequences. While there are many good arguments for why insurers and pension plans are different from banks, we should keep in mind that perhaps the greatest systemic risk is that of regulatory arbitrage.

Given the recent financial crisis, there will be a greater regulatory focus on analyzing and interpreting the financial results of insurers and pension funds, and reporting of results is also covered by the Core Principles. Of particular interest will be the financial condition of the group as a whole – with a view of all legal entities and how they are connected.

In this regard, actuaries will be critical to helping external parties understand the financial condition of the institutions they represent. We believe actuaries can help the regulatory community develop the standards that it uses to evaluate the financial condition of insurers and other institutions. **The IAA and local actuarial organizations have an important role to play in this regard.**

Internal demands will also increase.

While financial executives are facing tremendous external regulatory pressures, internal pressure is also building from company boards of directors.

Shareholders and boards are increasingly expecting management teams to advance their practices for risk and capital management. After a major loss event, it is not uncommon for a board to ask management: “Could this happen to

us? If it did, what would be the impact to our organization? To our shareholders? To our customers and the public?”

**Answering these questions requires a thoughtful focus on risk management.**

Many of you in the room will have the opportunity to help answer questions like this – if you haven’t already. Increasingly, actuaries are advancing the field of Enterprise Risk Management to more fully understand the risks that our institutions face in serving their customers and contributing toward the development of a stronger risk culture in their organizations.

Over many decades, actuaries have played a key role in ensuring the sound financial management of various segments of the financial services industry: pensions, and life, non-life and health insurance. In many markets, statutory roles have evolved that guarantee a place for the actuary in risk management.

**While our scorecard is not perfect, I think most of you would agree that as a profession, actuaries have generally done well by these industries.** In some markets, actuaries have pushed beyond our traditional areas of expertise into what has become known in actuarial circles as the “wider fields” such as

banking, funds management, and even energy markets. Here, actuaries encounter, and work side by side with, a vast range of other professionals.

**Do members of these professions see themselves as operating in the**

**“wider fields”? I tend to think not.** In insurance, one of our traditional strongholds, we have seen Chief Risk Officer roles often filled by non-actuaries.

Looking at the examples of the problems facing us that I discussed earlier, all the issues require our unique skills – a passion for analysis, a deep understanding of financial systems and strong modeling skills.

**Of course, to be effective in dealing with these problems – to be the professionals that management teams turn to for advice – actuaries will need to enhance their skill set beyond our traditional areas of strength.**

We will need to move beyond being a technical expert who answers specific questions, to think more strategically and to proactively contribute to the success of the business. To be successful as risk managers, actuaries increasingly will need a broader view of risk and an ability to work with a range of other professionals who each bring specialist skills to the tasks at hand. This may be our strongest challenge: to hone our business acumen and truly appreciate others’ expertise and vice versa.

Armed with our traditional skills and bolstered by some new ones, I'm optimistic that actuaries can positively impact the challenges our companies and societies will face in the coming decades.

As I said earlier, strong communication skills are vital for our entire membership base. For highly technical and analytical people, communications can be a tough nut to crack. How do you present enough information to convey the proper message while not overloading the recipient? How do you preserve important subtleties and appreciation for the uncertainty inherent in modeling the future?

**We have seen some activity in this space; for example, the Society of Actuaries' Business Skills Series highlighted communication skills earlier this year.**

How do we make actuarial insight accessible to wider audiences? Increasingly, we are seeing more companies use a dashboard approach. Dashboards have been around for a while but are a newer development for creatively communicating a company's actual risk position in relation to its tolerance levels. Moreover, the world of "data visualization" is becoming more popular and new methods are being used to creatively tell the story in the underlying data. There

is more to be done here, and we need further work on making our actuarial and risk communications more effective.

**In addition to communication, we need to hone our skills around process management and become more proficient at developing plans and turning plans into action.** My favorite way of thinking about this is “models don’t manage risk, people do”. So, to effectively lead our companies’ risk functions, actuaries have to do more than analyze and develop insights. Don’t get me wrong – these are valuable skills. But it’s by going beyond analysis into influencing decisions and carrying through into action that the full potential of our skills can be realized.

**In sum, the challenges that we face as a global society are unprecedented.** The financial crisis revealed the riskiness of our highly interconnected global financial system. Regulators have recognized that new tools are needed to more fully understand the risks that financial institutions take on in pursuit of their missions – and how those risks accumulate across the system.

At the same time, boards and shareholders are increasingly putting pressure on management to be more sophisticated about their approach to managing risk

and capital. These changes call for continued advancement of the ERM framework and strengthening of company systems of governance. More than ever, clear and effective communication and change management are critical to achieving any financial institution's risk management goals and objectives.

**I am a strong believer that actuaries have an important role to play.** Our analytical skills are valuable and our profession is well placed. We have an ability to think long as well as short term. We share a passion for the numbers yet appreciate of the limitations of our models. We have a deep understanding of our sectors of the financial world: insurance and pensions.

But we must do more. We must build on these skills and work on areas such as business acumen, communication and change management. This will help our profession make a stronger impact on the institutions that employ us and our society of large.

**I look forward to our strides in this important endeavor.**

**Thank you, and I look forward to comments and questions.**