CONFERENCE on
Risk, Insurance and Longevity

November, 19, 2012 at 12:30 pm
EEE - ESSEC La Défense - room 203

The aim of this conference is to have academics and professionals, specialized on risk analysis or risk management, exchanging on the latest methods and approaches in actuarial sciences & statistics / econometrics proposed or used to handle the effects of ageeing, in particular on (re)insurance business lines. The conference program is available on : http://risk-insurance-longevity-event.essec.edu

Invited Speakers

Blaise BOURGEOIS, AXA Group Life Chief Risk Officer, Paris, France
Pierre FRANCOIS, CEO Health and protection, Swiss Life, Paris, France
Daria KACHAKHIDZE, Dr., Head of the Research on longevity, SCOR, Paris, France
Emmanuel LAGARDE, Dr., Research Director, Head of the team "Injury Prevention and Control", INSERM, Bordeaux, France
Les MAYHEW, Prof. Dr., CASS Business School, City University, London, UK
Ermanno PITACCO, Prof. Dr., University of Trieste, Italy
Dan RYAN, Dr., Head Life & Health R&D, Managing Director, SWISS RE Services Ltd, London, UK
Oliver STOLL, Director, Financial Analyst (CIIA), KPMG AG, Zürich, Switzerland

Registration on the conference website.

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For any information, please contact Patricia Fernandez (01 34 43 32 45 and fernandez@essec.fr)

http://isds-department.essec.edu/research/working-group-on-risk

Blaise BOURGEOIS
Axa Group Life Chief Risk Officer

Life Risks

Over the past 100 years, life expectancy of human beings has nearly doubled from an average of 40-50 years to more than 85 years, an increase largely due to lifestyle improvements, rising wealth and medical advances. With decreasing fecundity in a number of countries, this trend increases the proportion of elderlies within the general population. By 2050, the proportion of people aged 80+ years will be 4 times higher than in 2005, with 1 in 6 of the global population (about 1,5 billion people) aged 65 years and above. This unprecedented demographic evolution is more than likely to have major consequences on the funding of health care costs and retirement schemes, with some early effects already being felt in a number of countries.

The insurance sector today has a unique opportunity to innovate and propose new products that will address consumer concerns tomorrow, such as outliving their assets or seeking additional cover that public schemes will no longer be able to provide to their full extent. To offer the best solutions to clients, it is key to measure longevity risk appropriately but also recognize the uncertainty inherent in any prospective measure. It will be equally important to efficiently manage the financial & technical risk profiles arising from such future liabilities. That is why innovative tools of risk transfer need to be imagined today to frame the landscape of longevity covers in the future.

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Pierre FRANCOIS
CEO Health and protection
Swiss Life

How prevention can help to manage longevity risk in insurance ?

This question has issues on different risks. I will first describe, with some examples, the impacts on:

- health insurance
- death and protection insurance
- car insurance
- annuities

I will describe the importance of the capacity to measure on a long term these impacts to have the ability to create a real management through prevention and not only marketing. This will explain why, due to market, regulatory and economics reasons, prevention still today very poor in insurance.

It will give us the opportunity to make some proposals to develop prevention, especially for health and protection insurance.

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Daria KACHAKHIDZE
Dr., Head of the Research on longevity,
SCOR

World life expectancy and future longevity scenarios

The increase in life expectancy that we have been observing over the last two and a half centuries is a very spectacular phenomenon. It has a significant impact on society and on the economy. Governments, actuaries and medical care providers all have a great interest in studying its reasons and all have to make assumptions on the future evolution of life expectancy. People live longer lives now, and more of them survive to older ages, which cause the so-called « rectangularisation » of the survival curve.
The question that one may ask is: what is going to happen next? Is there is a limit to a life span? For an insurance (reinsurance) company, the obvious question is: what the possible future scenarios would mean for the life insurance business?

Publication available on:
http://www.scor.com/images/stories/pdf/library/scorinform/scorinform_122010_k2.pdf

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Emmanuel LAGARDE
Dr., Research Director,
Head of the team "Injury Prevention and Control
INSERM

Road safety and health: the challenges of an aging population of drivers

The purpose of this presentation is to review the epidemiological knowledge on health factors involved in road safety and attempt to predict the consequences of aging drivers.
The French decree of 21 December 2005 establishes the list of medical conditions incompatible with obtaining or maintaining the driving license. A part of the French driving population loses his license as a consequence of its application. Another part has stopped driving for health reasons, on its own initiative or on the recommendation of relatives, or at the invitation of the physician. Finally, the last part is exposed and exposes others to an increased risk of road traffic crashes. Most available epidemiological studies are dealing with this latter part of the driving population, with the objective of identifying medical conditions, disabilities and medical consumption which are causing a higher risk of crash. They are intended to describe the part of an iceberg whose global size increases with the aging of the population and whose waterline fluctuates with changing relevance of control measures and prevention.
In the field of road crash health-related risk factors, several factors are still poorly identified or understood. It remains necessary to monitor those likely to experience a change in the coming years (new drugs, changing disease prevalence, behavioral adaptations). The role of some medical conditions is sometimes obvious. It may also be well described by a range of data from experimental studies (eg driving simulator or task-based tests). However, the impact of various forms of symptomatology of a given disease is often more difficult to establish. The aging population also raises new issues related to the screening strategies of disabilities and to the failures of driving self-regulation. Finally, the field of health encompasses situations that go beyond pathologies. This is the case of addictions (alcohol, cannabis, tobacco), attention disorders, drowsiness, but also of behavioral and mood disorders, the role of which in road safety remains poorly understood. Finally, it is also necessary to question the relevance of denying the right to drive a personal vehicle for medical reasons. The consequences of driving cessation and loss of autonomy are also a major public health issue.

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Les MAYHEW
Prof. Dr., CASS Business School, City University,
London, UK

Gender convergence in human survival and the postponement of death

It has been a long accepted demographic maxim that females outlive males. Using data for England and Wales, we show that life expectancy at age 30 is converging and continuation of this long-term trend suggests it could reach parity in 2030.
Key among the reasons identified for the narrowing of the gap are differences in smoking prevalence between males and females which have narrowed considerably. Using data from 30 comparator countries gender differences in smoking prevalence are found to explain over 75% of the variance in the life expectancy gap, but other factors such as female emancipation and better health care are also considered. The paper presents a model which considers differences in male and female longevity in greater detail using novel methods for analysing life tables.
It considers the ages from which death is being postponed to the ages at which people now die; the relative speed at which these changes are taking place between genders; how the changes observed are affecting survival prospects at different ages up to 2030. It finds that as life expectancy continues to rise there is evidence for convergence in the oldest ages to which either gender will live.

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Ermanno PITACCO
Prof. Dr., University of Trieste, Italy

Sharing the longevity risk between life annuity provider and annuitants

The benefits provided by many types of life annuities and life insurance products, currently sold on the markets, imply a wide range of "guarantees" and hence risks borne by the insurance company (or the pension fund). Guarantees and inherent risks clearly emerge in recent scenarios, in particular because of volatility in the financial markets and trends in mortality / longevity.
Appropriate modeling tools are then needed for pricing and reserving. Hence, a progressive shift from expected present values, and their prominent role in life insurance (and pension) calculations, to more modern and complex approaches, like the Enterprise Risk Management based approach, is currently updating the actuarial toolkit.
However the implementation of complex mathematical methods often constitutes, on the one hand, an obstacle on the way towards sound pricing and reserving principles. On the other hand, facing the risks by charging very high premiums trivially reduces the insurer's market share. Then, alternative solutions can be suggested by an appropriate product design which aims at sharing risks between the insurer and the policyholders.
In this talk we focus on appropriate product design aimed at sharing the (aggregate) longevity risk between the insurer and the annuitants. Several arrangements are described and compared.
***Keywords:** Longevity risk, Life annuities, Pensions, Product design, ERM

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Dan RYAN presented by Severine RION
Dr., Head Life & Health R&D, Managing Director
SWISS RE Services Ltd, London, UK

A window into the future: understanding and predicting longevity

Unprecedented increases in life expectancy experienced in recent decades have been consistently underestimated, causing funding difficulties for employers, insurers and governments. Forward-looking models provide better estimates of future longevity and will play a vital role in the overall solution, which should be driven by public and private bodies working together.

I will illustrate how Swiss Re L&H R&D take account of important developments in medicine and society as a basis for a disease-centered approach for assessing future longevity.

Publication available on:
http://www.swissre.com/rethinking/longevity/

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Oliver STOLL
Director, Financial Analyst (CIIA), KPMG AG,
Zürich, Switzerland

Managing Longevity Risk - a Practitioner's Perspective

Life expectancy has increased steadily over the last decades in nearly all parts of the world. For an individual, this is good news, as in particular the years in good health have increased as well. For a society and in particular for the insurance industry this will certainly be a challenge.

I will highlight areas which are affected in particular and suggest some strategies to cope with this trend.

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