

First International Conference on Longevity Risk and Capital Market Solutions

18 February 2005

**Cass Business School
106 Bunhill Row
London EC1Y 8TZ
United Kingdom**

**Hosted by the Pensions Institute, the American Risk and Insurance Association and the
Centre for Risk and Insurance, Nottingham University Business School**

(www.pensions-institute.org)

Organized by: Professor David Blake (Pensions Institute) and Professor Richard MacMinn
(American Risk and Insurance Association)

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Motivation

As populations in countries around the world age, governments, corporations and individuals face increasing risk. Pay-as-you-go state pensions and corporate pension plans are beginning to put severe financial pressures on governments and companies. Mortality improvements especially at older ages make it ever more likely that individuals with inadequate pension arrangements will end their lives in poverty.

Capital markets do provide governments, corporations and individuals a means of transferring risks and resources across time as well as across individuals. Similarly, individuals can transfer money forward via security purchases to fund the retirement years. However existing instruments do not allow agencies, corporations or individuals to effectively hedge the longevity risk that they face.

Instruments can be constructed to alleviate these problems. The mortality-linked securities issued by Swiss Re in December 2003 and EIB/BNP Paribas announced in November 2004 to cover mortality surprises on the life and annuity contracts are two recent examples. The EIB/BNP Paribas bond was the world's first example of a Longevity (or Survivor) Bond. A Longevity Bond pays a coupon that is proportional to the number of survivors in a selected birth cohort; letting the cohort be the number of individuals turning sixty-five in the year that the bond is issued, the coupon the following year would be proportional to the number in the cohort that survive to this year. Since this payoff matches the liability of annuity providers, Longevity Bonds create an effective hedge against longevity risk.

Longevity risk in conjunction with interest rate risk has created problems for the annuity market. The immediate annuity market in the US is approximately two billion dollars per year while the UK immediate annuity market is approximately 10 billion dollars per year. As more and more baby boomers retire, annuity markets will grow as will the risk and consequences of underestimating mortality improvements. The whole private sector pension system in developed economies like the United States and United Kingdom are potentially at risk without hedging instruments such as Longevity Bonds. At the same time, the newly developing economies of Latin America, South East Asia, Eastern Europe and the former Soviet Union states, which are attempting to establish

private sector pension systems, often under World Bank guidance, are likely to find that these attempts are frustrated by the absence of annuities markets which cannot get off the ground without the existence of hedging instruments to help annuity providers hedge the longevity risk they face.

These issues will be discussed at the **First International Conference on Longevity Risk and Capital Market Solutions**. There is no conference registration fee.

Who should attend

Representatives from pension funds, actuarial consultancies, the insurance industry, investment banks, and government departments (Debt Management Office, Treasury, Government Actuary's Department, Department of Work and Pensions), academics from the fields of actuarial science, pensions, financial economics, risk, insurance, and public policy

Conference Schedule:

8.30-9.15am: Enrollment

9.15-9.30am Opening remarks: David Blake and Richard MacMinn

Morning session (Chair: David Blake)

How big a problem is longevity risk?

Farooq Hanif (Lehman) The scale of the problem, who is affected, the potential costs and lack of obvious solutions

Stephen Richards/ Gavin Jones (Prudential/ SwissRe) Financial aspects of longevity risk

Chris Hatry (Legal & General) A life company perspective

Tea/coffee break (11.00-11.30am)

Current solutions

Ronnie Klein (SwissRe), the Swiss Re mortality bond of December 2003

Mark Azzopardi (BNP Paribas), the EIB/ BNP Paribas/ PartnerRe longevity bond of November 2004

Lunch (12.30-1.30pm)

Afternoon session (Chair: Richard MacMinn)

Potential solutions and remaining problems

Arnaud Mares (Debt Management Office) Ultra-long gilt instruments

Adrian Gallop (Government Actuary's Department) Problems with constructing a mortality index

Francis Fernandes (ABN AMRO) A critical analysis of longevity bonds: alternative approaches to solving the problem of longevity risk.

Eugene Demetriou (Morgan Stanley) Obstacles to future market development and the consequences to making longevity a tradeable instrument

Tea/coffee break (3.00-3.30pm)

Current modelling frameworks

Sam Cox/ Shaun Wang (Georgia State University) Pricing longevity bonds

Andrew Cairns, David Blake & Kevin Dowd (Heriot Watt, Pensions Institute and CRIS) Modelling the mortality term structure

The implications of longevity risk for society

Michael Johnson (Tillinghast Towers Perrin)

Round table discussion and summing up: What now needs to be done

Chaired by Michael Johnson (Tillinghast Towers Perrin)

Drinks (6pm)

There will be a Second International Conference on Longevity Risk and Capital Market Solutions in Atlanta, USA, in 2006 (hosted by Prof Sam Cox of Georgia State University). Selected papers from that conference will be published in a special issue of the Journal of Risk and Insurance, the journal of the American Risk & Insurance Association, in 2007.

I would like to attend the First International Conference on Longevity Risk and Capital Market Solutions on 18 February 2005. CLOSING DATE: 4 FEBRUARY 2005

Name.....

Title.....

Organisation.....

Address.....

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Telephone number.....

Email.....

Please return to: Nikki King, Cass Business School, 106 Bunhill Row, London EC1Y 8TZ, United Kingdom

Tel: +44 (0) 20 7040 8764 **Fax:** +44 (0) 7040 8881 **Email:** N.King-2@city.ac.uk

For latest details of the conference, see **www.pensions-institute.org**