Investing for Self Sufficiency - Objectives and Strategies

Implications for endgame portfolios

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Legal & General
INVESTMENT MANAGEMENT

Agenda and speakers

Many pension schemes now have very low levels of investment risk. As a result, longevity risk (or risks) is becoming more important in the context of the total level of risk being run. If these risks are not hedged, there are implications for the most appropriate investment strategy in terms of optimising risk/return trade-offs. In this session, we describe the different risks faced, how they can be measured and the implications for optimal investment strategies.

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Paul is responsible for leading global research in investment strategy, outcome-oriented investing, risk management and asset-liability modelling. He works closely with teams not just at LGIM but also across the Legal & General Group. Paul joined LGIM in 2015 from J.P. Morgan Asset Management where he was European Head of the Strategy Group. Prior to that, he was a Professor of Actuarial Science at the University of Kent, where he continues to hold a chair. As well as holding a PhD in Economics from the University of Bristol, Paul is a Fellow of the Institute and Faculty of Actuaries, of the Chartered Institute for Securities and Investment, and of the Royal Statistical Society. He is also a chartered enterprise risk actuary and a CFA charterholder.

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Graham was appointed Head of Matching Solutions in March 2015. He has particular expertise in risk management, derivatives, insurance investment and project management. His main focus is on the management of a range of pooled funds and bespoke client portfolios for DB and DC pension scheme clients. Graham joined LGIM in 2007, originally working in the Derivative Trade Support team and moving to the Solutions Group in 2009. He is a graduate of the University of Southampton where he obtained an honours degree in management and accounting.

Key points


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Executive summary

This paper examines how uncertainty regarding future mortality and life expectancy outcomes, i.e. longevity risk, affects defined benefit pension schemes. The purpose of this paper is to set out a framework for measuring and understanding longevity risk, and to explore its potential impact on investment strategy, particularly for schemes aiming for self-sufficiency. The key points are:

First, pension schemes are maturing and there is an increasing focus on the endgame. As schemes approach their endgame, longevity risk is an increasingly significant component of overall scheme risk.

Second, properly understanding longevity risk requires use of stochastic models. These should integrate with models of the other risks that a pension scheme faces.

Third, consideration of longevity risk impacts investment strategy. For those schemes in run-off, the main conclusion is that schemes should likely maintain some investment risk, predominantly via credit but also from diversified growth assets at high funding levels, unless they are fully funded on particularly prudent longevity assumptions.

John Southall
Senior Investment Strategist

Paul Sweeting
Head of Research

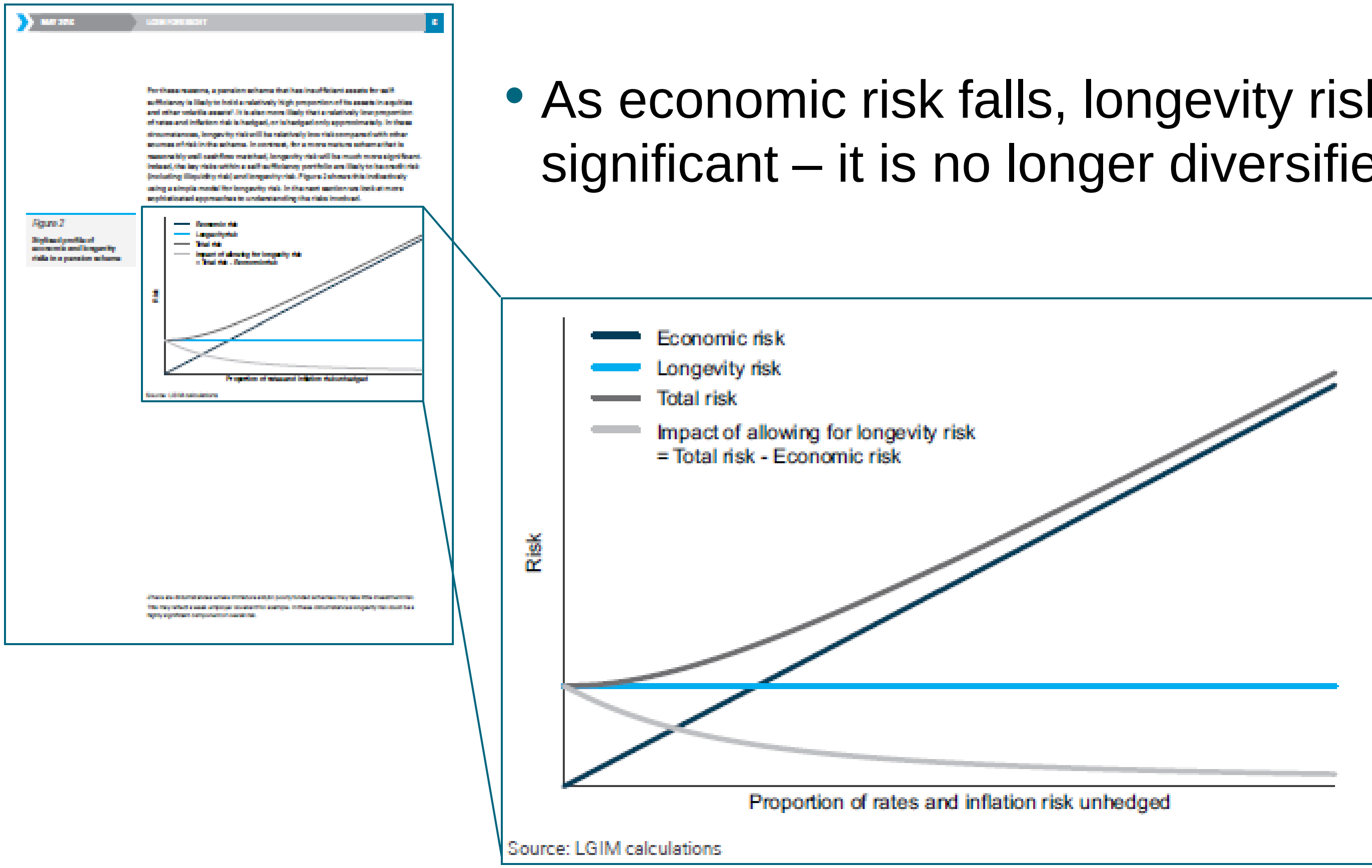
- As pensions schemes approach their endgame, longevity risk is an increasingly significant component of overall scheme risk

- Understanding longevity risk needs stochastic models which should be used together with stochastic investment models

- Schemes in run-off should diversify longevity risk with some investment risk unless they are fully funded on particularly prudent longevity assumptions

Stylised profile of economic and longevity risk

- As economic risk falls, longevity risk becomes significant – it is no longer diversified



Drivers of longevity risk

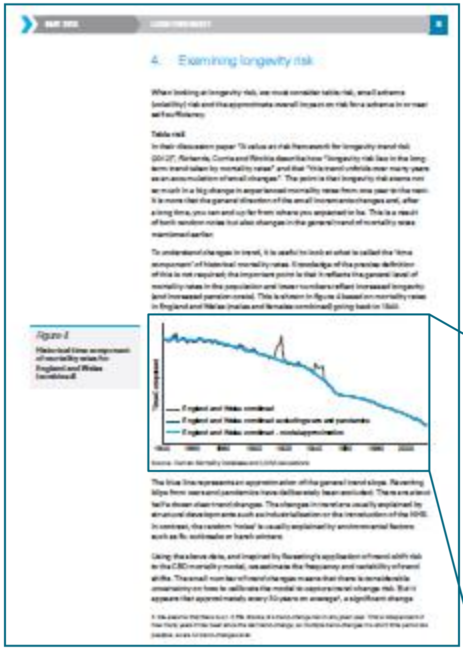
Drivers for continued longevity improvements	Drivers for reduced improvement rates
Reduced infectious disease rates	Complex illnesses such as dementia may be harder to tackle
Reduced occupational stress	Global warming
Improved healthcare	Pollution
Rising living standards	Obesity
Lifestyle changes	Biological limits of ageing
Increasing understanding of genetics and personalised medicine	Antibiotics lose effectiveness
Further advancements in medical technology	Overcrowding

Components of longevity risk modelled

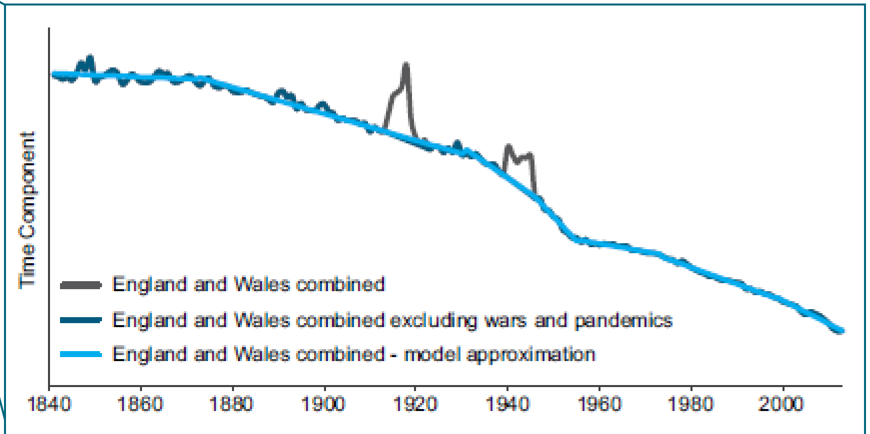
Components of longevity risk	
Level risk	✗
Volatility risk	✓
Trend risk	✓

- Level risk is ignored – though there is a risk that the initial rates are wrong, it is not a diversifiable risk
- Volatility risk can be important for small schemes
- Trend risk is the most obvious risk…
- …though we also consider trend *change* risk
- Starting point is Lee-Carter…
- …with a trend-change variation

Lee-Carter trend parameter

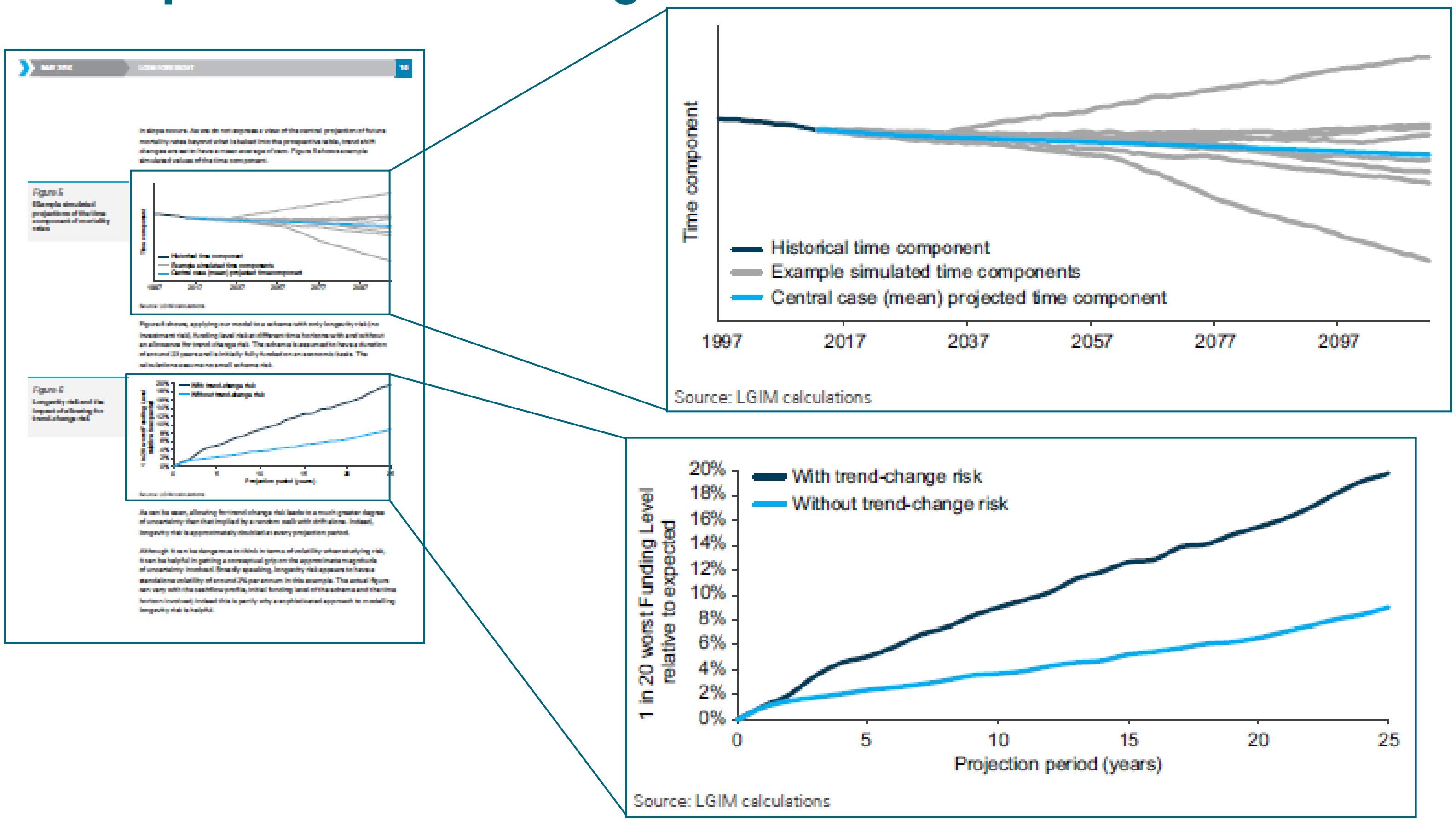


- Clear changes in trend can be seen…



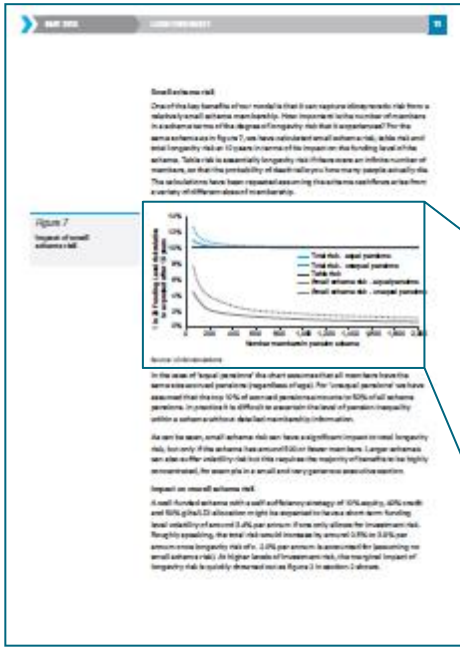
Source: Human Mortality Database and LGIM calculations

The impact of trend-change risk

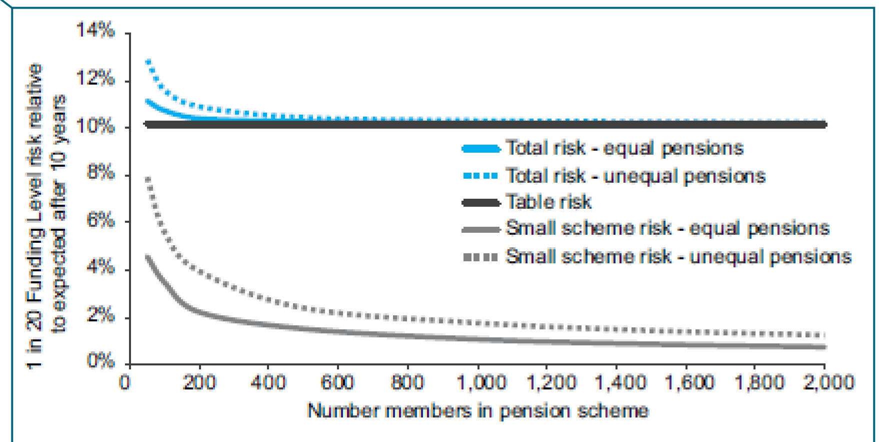


- Including trend-change risk makes a significant difference

The impact of scheme size

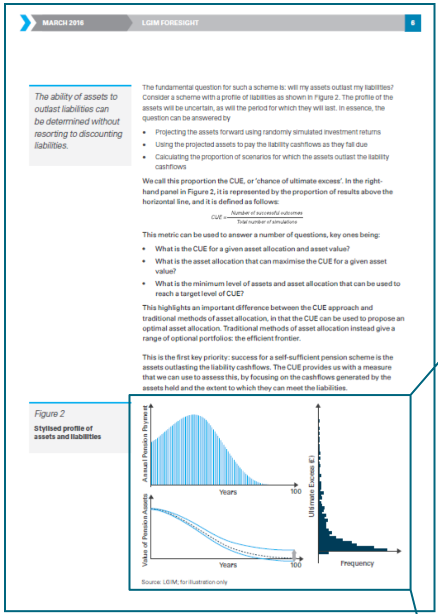


- Small scheme risk not generally an issue…
- …unless well under 1,000 members

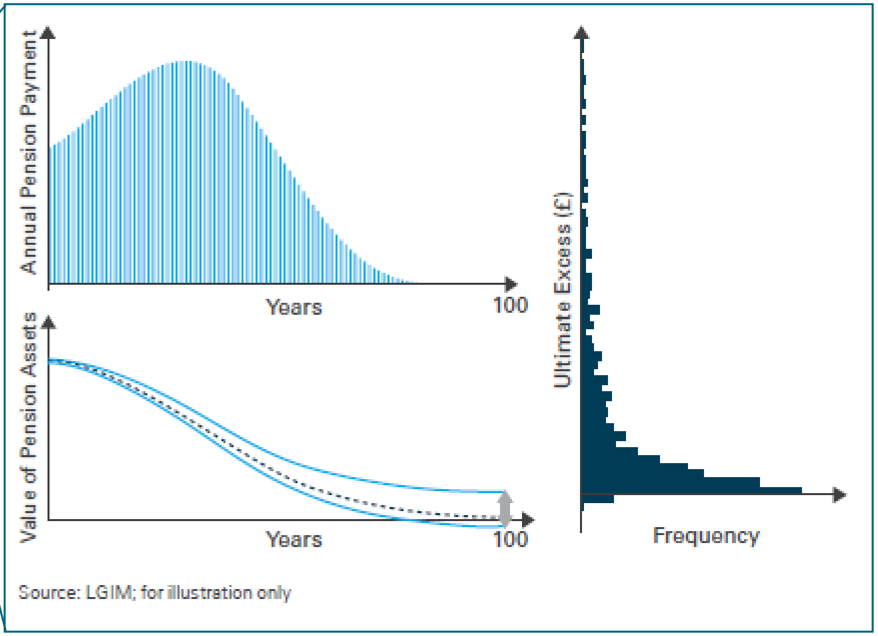


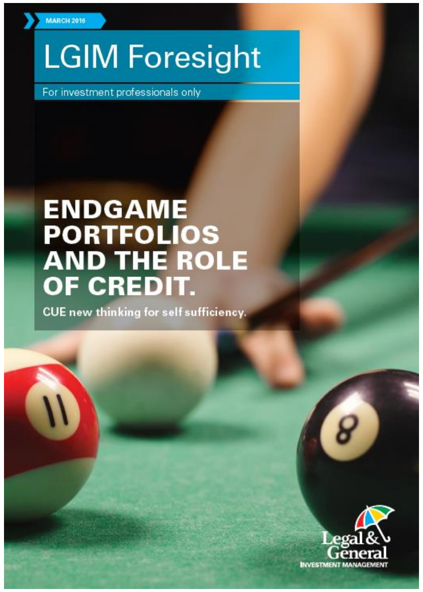
Source: LGIM calculations

The Chance of Ultimate Excess (CUE)

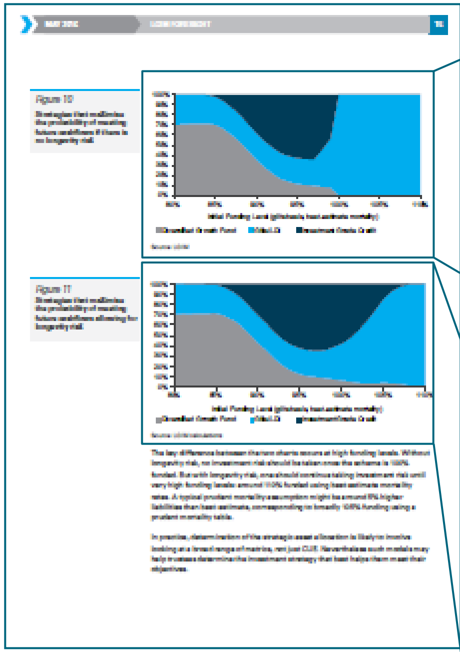


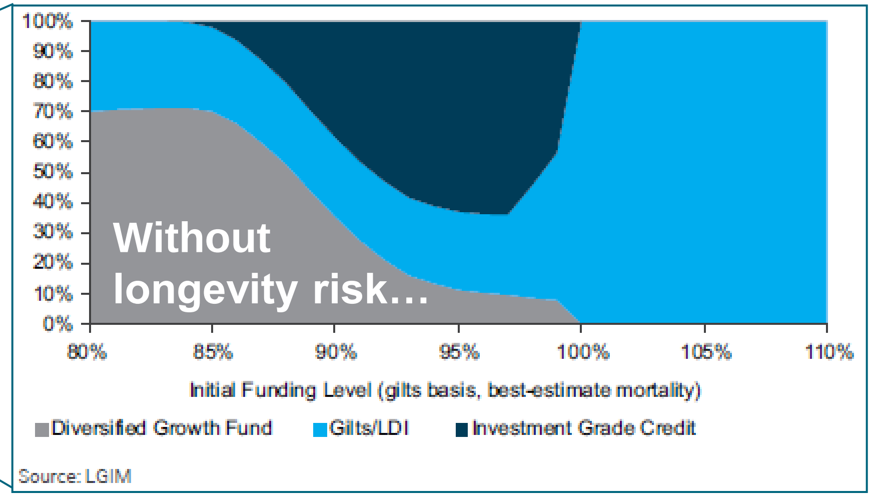
- Key concept – solvency is about the chance of ultimate excess rather than present values

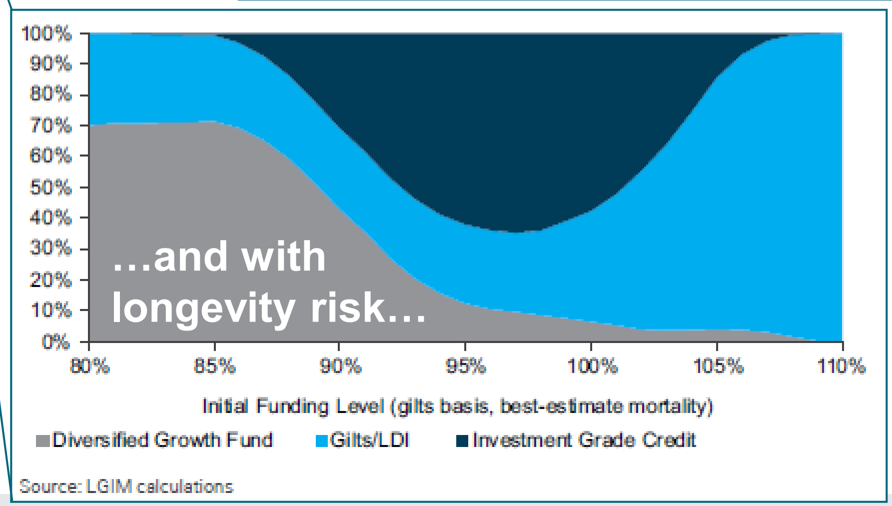




The impact of longevity risk on asset allocation







Q & A

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