



**First International Conference on Longevity Risk
and Capital Markets Solutions**

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The Longevity Bond

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Fixed Income

Introduction

- Corporate pensions and insurance company annuities contain significant interest rate, inflation and longevity risks.
- More sophisticated regulation and changes to accounting conventions have highlighted the economic importance of managing these risks.
- The Longevity Bond is the first financial product to offer longevity protection by hedging the trend in longevity.
- Payments under the Longevity Bond are based on the performance of an index constructed from data produced by the Office for National Statistics (ONS, a UK Government Agency). The maximum payment on the whole issue is £50m p.a. for 25 years
- The bond will be issued (and hence all payments “guaranteed”) by the European Investment Bank (EIB), under its EMTN programme.
- Whilst the EIB is rated, the Longevity Bond itself is not



European Investment Bank (EIB)

- The EIB will issue the Longevity Bond as part of its objective to promote economic and social cohesion within the EU
- The EIB is the EU's financing institution.
- The shareholders of the European Investment Bank are the 25 Member States of the European Union.
- Each Member State's share in the EIB's capital is calculated in accordance with its economic weight within the European Union (expressed in GDP)
- In total, the EIB's subscribed capital amounts to more than Euro 163.6 billion.
- The EIB is rated AAA by Standard & Poor's and Aaa1 by Moody



BNP Paribas In Partnership With PartnerRe

BNP Paribas

- acts as structurer, manager and book-runner for the Longevity Bond
- markets the Longevity Bond
- enters into a swap with EIB to convert its fixed interest, longevity-linked obligations under the bond into the floating obligations, free of longevity risk, that are required by the EIB when raising funding

PartnerRe

- provides the longevity expertise and reinsurance capacity for the Longevity Bond
- this component is key to the structure - longevity risk is essentially a one-way risk and natural takers are difficult to find



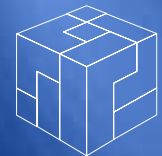
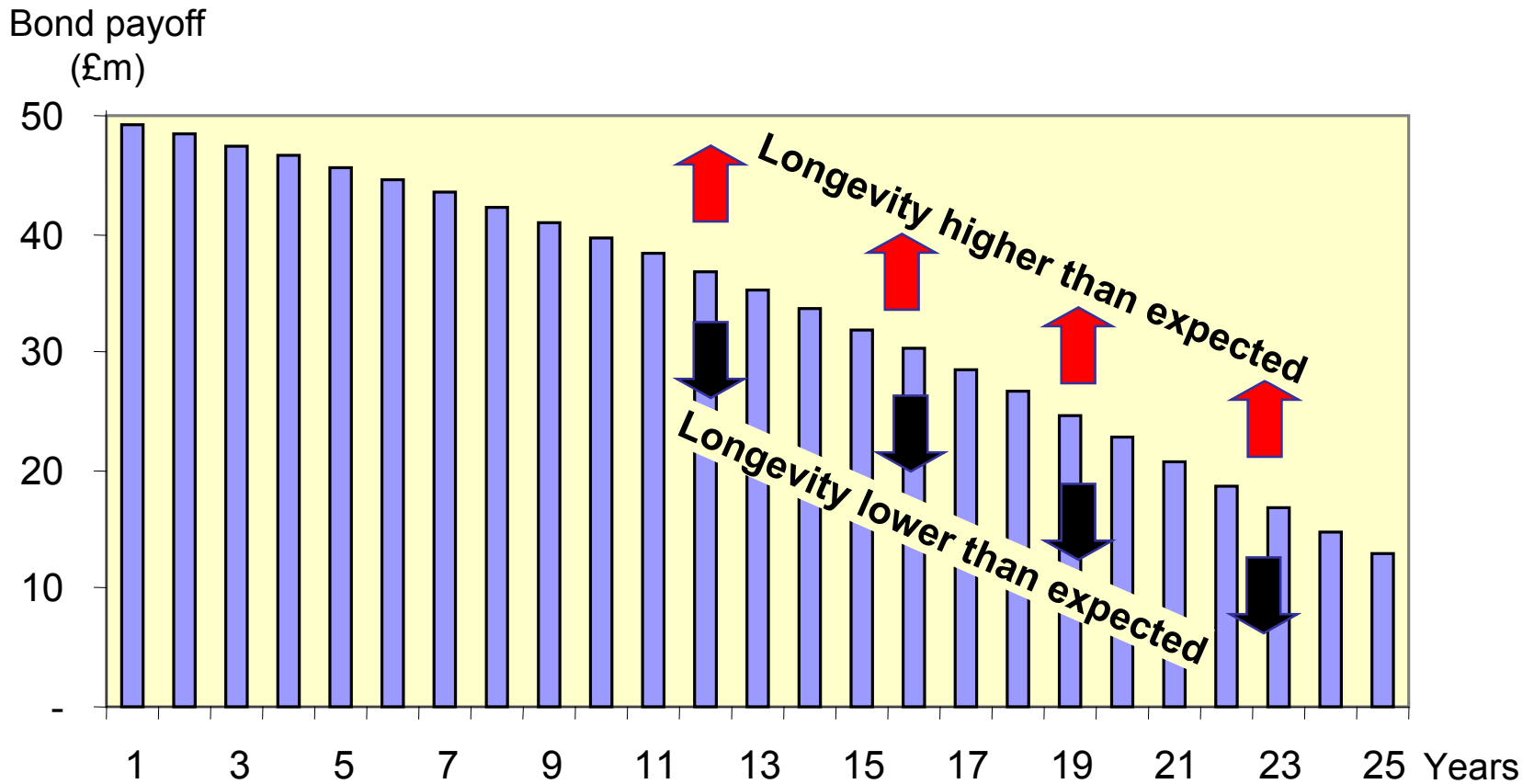
Longevity Bond - Summary Term Sheet

Issuer	European Investment Bank
Security	£[550]m Longevity-linked EMTN
Index	Based on publicly available ONS data of English and Welsh mortality for a cohort of males aged 65 in 2003
Longevity Risk Period	Calendar years 2003 to 2027 inclusive
Maturity	25 years
Bond payoff	£50,000,000 * CSR_t
CSR_t	Cumulative Survival Rate (i.e. proportion of survivors) in the cohort at time t
Index Published	ONS Publication DH1 Mortality Statistics Table 8
Payment Frequency	Annual
Pricing	T.B.A.
Issue Date	T.B.A.
Calculation Agent	BNP Paribas



Cash Flow Profile

Illustrative cash flows of the Longevity Bond based on the latest Government Actuary's Department (GAD) projections

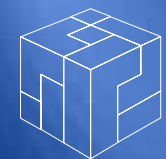


Annual Pay-off

Example based on hypothetical mortality data

Fixing date	2005	2006	2007
Mortality reference year	2003	2004	2005
Age of the cohort	65y	66y	67y
Annual mortality rate	1.50%	1.80%	2.10%
Annual survival rate	98.50%	98.20%	97.90%
Cumulative survival rate	98.50%	96.73%	94.70%
		[98.50% x 98.20%]	[96.73% x 97.90%]
£1,000 Fixed Annuity	£985 Bond pay-off Year 1	£967.3 Bond pay-off Year 2	£947.0 Bond pay-off Year 3

In the current interest rate environment, each £1,000 of Fixed Annuity equates to approximately £11,000 of bond notional

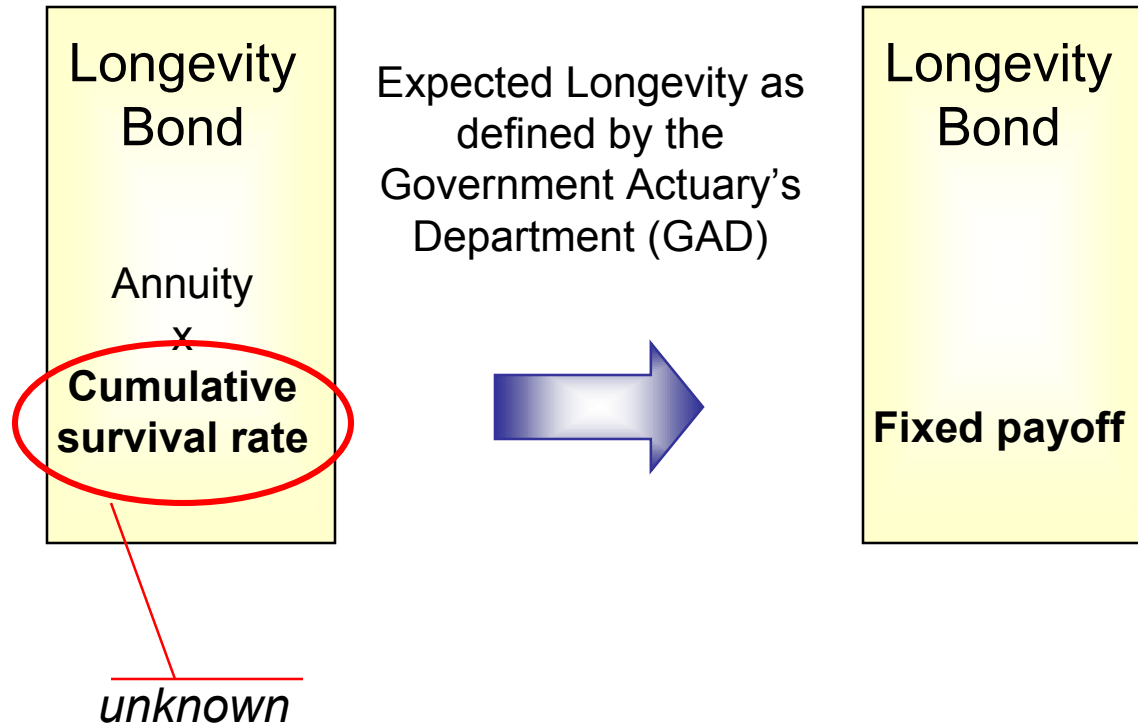


Longevity Basis Risk

- The Longevity Bond covers 97% of the expected longevity risk for level pensions in payment to the cohort referenced by the bond although there will also be some scheme-specific basis risk.
- Basis risk arises as the difference between a given pension fund population and the cohort of 65 year old males in the English & Welsh population (“Reference Population”)
- Main sources of basis risk:
 - Different trends in longevity among populations of the same age
 - Age distribution of the pension fund different from that of the Reference Population
 - Pension fund population includes males and females whereas the Reference Population is male only
 - The Reference Population weights all lives equally
 - The pension fund may have liabilities for reversionary pensions and escalating payments
- The larger the pension fund the less the basis risk.

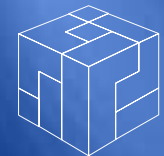


Indicative Pricing



Pricing vs. swap curve
 EIB funding rate
 Cost of longevity swap

- Approx Libor -35 bp
- Libor - 15 bp
- Approx 20 bp



Value for Money

- The cost of the longevity hedge embedded in the Longevity Bond is 0.20% per annum, equivalent to 1.70% upfront. Based on latest projected GAD mortality for the cohort of the population referenced by the Longevity Bond:-
 - A 0.20% increase in yield is equivalent to an increase in life expectancy of 0.39 years, relative to the GAD's projection, during the 25 year period covered by the Longevity Bond
 - An increase in life expectancy of 1 year, relative to the GAD's projection, during the 25 year period covered by the Longevity Bond is equivalent to a 0.50% increase in yield
 - A decrease in projected mortality of 6.64% at each age, relative to the GAD's projection, will recover the 0.20% cost of the longevity hedge
 - Similarly, a 1% fall in mortality is equivalent to a 0.03% increase in yield
- The average life of the bond is approximately 8.5 years, therefore if interest rates fall by 0.01% the price of the bond increases by 0.085%



Key Advantages of the Longevity Bond

- The Longevity Bond
 - embeds a hedge against longevity risk
 - covers virtually all of the longevity risk but is much cheaper than bulk buyouts
 - is much easier to implement and administer than bulk buyouts
 - carries the highest possible issuer credit level (AAA)
- The payoff is similar to a pension in payment
- The longevity index is completely transparent and independent - data are published by the UK Government



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