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Traded Longevity Risk: How Soon?

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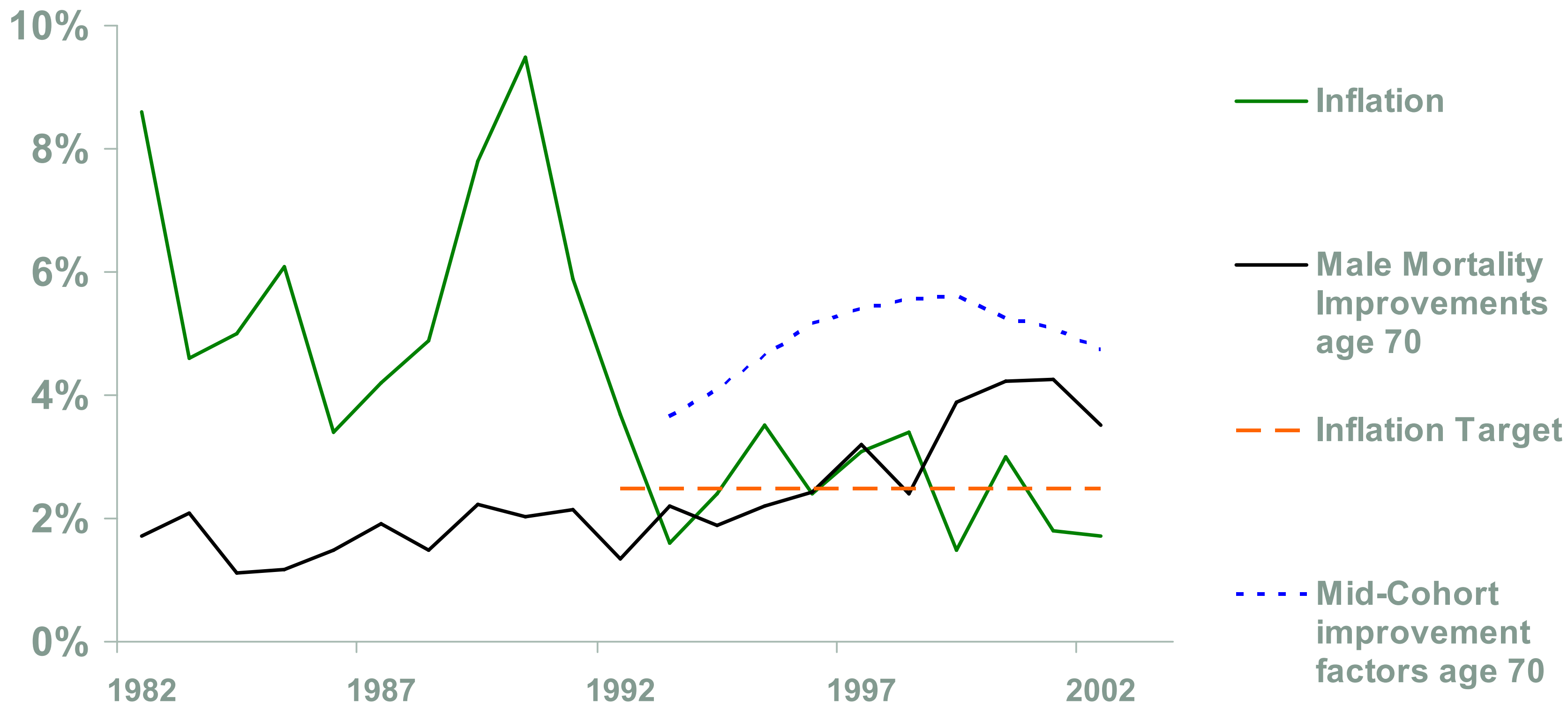
Mortality improvements vs. inflation

- Longevity risk becomes more significant when interest rates are depressed.
- Considerably more important given today's low inflation environment.



Source: Bank of England, Office for National Statistics (ONS), UK Continuous Mortality Investigation Bureau

Challenges Today (1)

- "High demand, weak supply": Capacity has not been sufficient despite the need:
  - Insurance companies: £100 bn liabilities from annuity business (of which ~10% has been transferred in the last 5 years).
  - Corporates: over £1 tr pension liabilities.
  - Highlights the need for the gap between "buyer" and "seller" to be narrowed.
- Longevity is acknowledged to be a significant risk but there are no established products available for effective risk transfer in scale.
  - Deficit of £36 – 40 bn in the final salary pension schemes of UK FT-SE 100 companies, roughly 3% of market capitalization[1].
  - Deficits are highly volatile due to market movements in the equity and long-dated gilt market.
  - Accounting rules (IAS 19) have obligated companies to recognize deficits on balance sheets; estimated to reduce total shareholders' equity by ~6%[2].

1. Source: Lane, Clark & Peacock, Deloitte & Touche LLP
2. Source: Lane, Clark & Peacock

Challenges Today (2)

- Longevity-type risk is not a natural risk to be held by traditional long-dated fixed income investors (e.g. insurance companies/pension funds).
  - Pension funds have exposure to longevity risk themselves.
  - Life insurers may have some offsetting ‘mortality risk’, but as retirement products have grown they are also taking on significant longevity risk in their core operations.
- Market needs a balance between standard longevity instruments to create liquidity and tailor-made solutions for individual organization.
- Acceptance of traded longevity bonds/derivatives has generally been slow.
  - EIB/BNP Paribas Longevity Bond (mid-2004) failed to attract significant interest.
  - Few fund managers have mandates to invest in longevity risk, although appetite can be expected to increase given the need for longevity risk transfer.

Possible attachment levels for longevity risk

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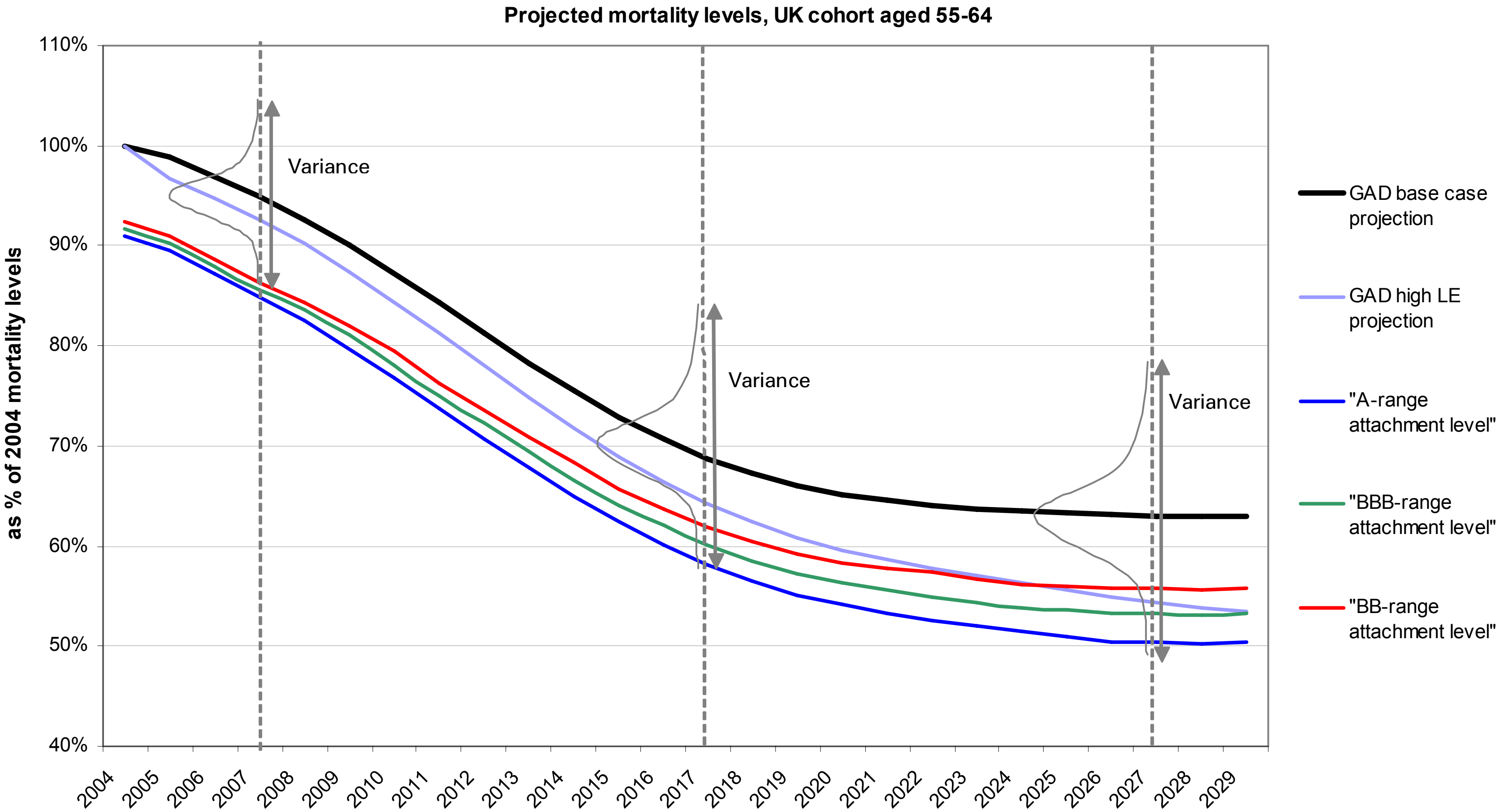
Projections are based on UK cohort aged 55-64, 75% male/25% female portfolio using the GAD´s central and high life expectancy estimates of future mortality.

Swiss Re Capital Markets has assumed that attachment levels are based on certain mortality volatility assumptions (around GAD´s central projection) and possible rating agency approaches in this illustration.



Source: UK Government Actuaries' Department, Swiss Re Capital Markets

- Uncertainty around mortality estimates increases as duration increases.

Where do we go from here? (1)

- Currently longevity risks are embedded in other life transactions and in broader corporate bond/equity markets (via pension plan deficits) rather than driven by standalone longevity pricing:
  - “By product” of other objectives.
  - Bulk annuity buy-out: Ability to make superior investment returns on assets. Asset return assumption and risk are key factors.
  - Life settlements, traded swaps/options: Platform to take a view on longevity and life expectancy trends; ability to price in longevity trends more accurately than the market. Underwriting and product origination are key risk factors.
  - Trading volume of stand alone longevity risk is still small and market largely illiquid compared to financial markets. Partially due to the gradual, long-term nature of any evolving changes in the longevity risk landscape.
- Trend towards capital markets investors gradually accepting higher risk (i.e. lower-rated) layers in life transactions.

Where do we go from here? (2)

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- A lot of potential for a large variety of longevity risks to be transferred and traded in the capital markets:
  - Few investors currently have mandates to invest in stand alone longevity risk; usually combined with the acquisition of assets.
  - **Investors need to be rewarded adequately for taking on what is still considered to be a novel risk.**
  - Transaction structures needs to address some of the risk/capital management issues of sponsors.
  - Sponsors are likely to get coverage starting at levels that are currently out-of-the-money (except for swaps), with some degree of basis and duration risk.
- Alignment of interests is therefore a critical success factor.
- Solvency II's economic balance sheet approach could accelerate primary insurers' and reinsurers' interest in transferring longevity risk in Europe.

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