# Mortality-Indexed Annuities
## Avoiding Unwanted Risk

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**Abstract**

Longevity risk has become a major challenge for governments, individuals, and annuity providers in most countries, and especially its aggregate form, i.e. the risk of unsystematic changes to general mortality patterns, bears a large potential for accumulative losses for insurers. As obvious risk management tools such as (re)insurance or hedging are less suited to manage an annuity provider's exposure to aggregate longevity risk, the current paper proposes a new type of life annuities where benefits are contingent on actual mortality experience, and details actuarial aspects of implementation. Similar adaptations to conventional product design exist in investment-linked annuities, and a role model for long-term contracts contingent on actual cost experience is found in German private health insurance so that the idea is not novel in general, but it is in the context of longevity risk. By not or re-transferring the systematic longevity risk insurers may avoid accumulative losses so that the primary focus in an extensive Monte-Carlo simulation is placed on the question of whether such products could also be advantageous for policyholders and to what extent this would be the case in contrast to a comparable conventional annuity product.

**Keywords:** Longevity risk, systematic risk, risk avoidance, mortality-indexed annuities.