Q1

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(i)

Stochastic modelling can be effective for evaluating risks in a term assurance policy, but its usefulness depends on the specific aspects being assessed:

- **Mortality risk evaluation**: Stochastic modelling may be of limited added value here. Mortality rates for term assurance policies are typically well-understood and stable over short to medium terms, making deterministic models often sufficient for pricing and reserving.
- **Extreme scenario testing**: Stochastic modelling becomes more useful when assessing the impact of uncertainty in mortality trends or rare events, such as a pandemic, particularly for long-duration term assurance. It allows the insurer to explore a range of potential future mortality scenarios rather than relying on a single deterministic assumption.
- **Economic scenario impacts**: If the policy includes elements affected by economic conditions—such as discounting future claims or reinsurance costs—stochastic modelling of interest rates or inflation may improve risk evaluation. However, for pure term assurance without investment or economic exposure, this is less relevant.
- **Portfolio-level risk assessment**: When considering a large block of term assurance policies, stochastic modelling helps evaluate the distribution of aggregate claims and capital requirements under solvency frameworks, such as Solvency II or IFRS 17.
- **Model calibration challenges**: One limitation is that stochastic models require reliable calibration data, and for term assurance, especially in smaller portfolios or newer markets, credible data may be limited, potentially reducing model accuracy.

Overall, while stochastic modelling adds value in stress testing, portfolio-level analysis, and regulatory capital assessment, it is less critical for individual policy pricing and straightforward mortality risk.