

An approach to valuing guaranteed minimum income benefit riders
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Abstract: This research considers an approach to pricing and hedging a typical Guaranteed Minimum Income Benefit (GMIB) rider available in the U.S. market. A GMIB is a rider offered on a variable annuity that guarantees the policyholder a minimum level of income for the rest of their life when the policy matures, protecting against poor market performance on the policyholder's annuity investment. Most GMIB riders offered in practice have complex payoff structures which are difficult, if not impossible, to value analytically. Simulation is used to value the payoff on a particular rider offered in practice, based on benchmark financial models.