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## Participating Payout Life Annuities: Lessons from Germany

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Goethe University Frankfurt


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### Abstract

This paper analyzes the regulatory framework of German immediate participating payout life annuities (PLAs), which offer guaranteed minimum benefits as well as participation in insurers' surpluses. Our particular focus lies on the mechanics of sharing surpluses between shareholders and policyholders. We show that the process of surplus determination, allocation, and distribution mostly follows transparent and clear rules, and that an insurance company's management has limited leeway with respect to discretionary decision making. Subsequently, we develop an Asset Liability Model for a German life insurer that offers PLAs. Based on this model, we run Monte Carlo simulations to evaluate benefit variability and insurer stability under stochastic mortality and capital market developments. Our results suggest that through PLAs guaranteed benefits can be provided with high credibility, while, at the same time, annuitants receive attractive Money's Worth Ratios. Moreover, we show that it might be difficult to offer a fixed benefit annuity providing the same lifetime utility as a PLA for the same premium and a comparably low insolvency risk. Overall, participating life annuity schemes may be an efficient way to deal with risk factors that are highly unpredictable and difficult to hedge over the long run, such as systematic mortality and investment risks.

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