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Interest Rate Risk Hedging Strategies in an Individual DC Plan

An analysis using AEGON's ALM DC Model

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**Interest Rate Risk Hedging Strategies in an Individual DC Plan:
An Analysis Using AEGON's ALM DC Model**

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Abstract

Asset liability management plays a vital role in pension funds. The mismatch between duration of asset and liability calls for the need to hedge interest rate risk. Instead of investing more fixed income securities, a more efficient and low-cost way is to add interest rate derivatives to total assets. Currently Aegon achieves interest rate risk hedging at duration level, applies a pool of swaps with different maturities on all age-cohorts. However, due to different cash flow timing of age-cohorts, the current hedging method is a poor match to individual DC participants. The potential non-parallel shift in interest rate term structure can weaken the hedging effect. By using a sophisticated ALM DC model, this paper fully analyzes the current methodology and proposes a serial methods aiming to achieve cash flow matching. Benefiting from constructing a new variable, pension benefits certainty equivalent, I can proceed further comparisons and weigh pros and cons of each method. Restricted by current model setup and complexity, the perfect cash flow matching strategy is yet not implemented when this paper is finished, instead, I show a direction and give clear explanation on this advanced strategy for future improvement.

Keywords: interest rate risk hedging, duration matching, cash flow timing, pension benefits, certainty equivalent

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