

Investing for Retirement with an Explicit Benchmark

“Non-constant risk aversion in investment reduces uncertainty about pension capital”

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A disadvantage of defined contribution schemes, like those in the new Dutch pension deal, is the considerable uncertainty about pension capital at retirement. This is caused by the investment strategies used, which maximise the return with a constant relative risk aversion. This study explored the impact of using a non-constant relative risk aversion, which allows investment strategies that explicitly try to achieve the benchmark pension capital at retirement. We found that this approach gives a high chance of obtaining the desired benchmark, thereby reducing participants' uncertainty about their pension income.

Principal Findings

- Dynamic investment strategies that alternate between risky and safe investment significantly improve the probability of attaining replacement ratios of 90% or 100% at retirement.
- The utility-function used for risk aversion should not be stated in money-terms but relative to the benchmark, which takes the employee's desired standard of living upon retirement into account.
- An optimal trade-off between combining risky investment strategies when the pension fund is underfunded and safe investment strategies mitigates the effect of the underfunded investment problem.

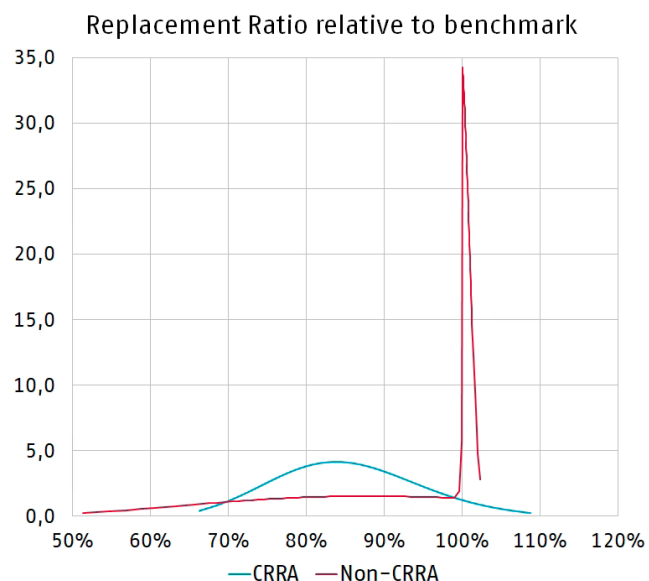


Figure: The probability distribution of the replacement rate at retirement for a standard life-cycle investment strategy (blue line, “CRRA”) and the non-constant investment strategy (orange line, “Non-CRRA”). By alternating between risky and safe investments, the probability of attaining replacement ratios of 100% at retirement is significantly improved using the “Non-CRRA” utility function.

Key Takeaways for the Industry

- Direct contribution pension schemes that use a stochastic benchmark with a non-constant risk aversion provide significantly lower uncertainty about pension capital at retirement compared to traditional life cycle investment strategies.



Want to know more? Read the paper

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