

# DYNAMIC ASSET ALLOCATION ON A HYBRID PENSION FUND

Denise Gómez<sup>†</sup>

<sup>†</sup>*Universidad Autónoma de Querétaro, Mexico.*

*Email: denise.gomez@uaq.mx*

## 1. Abstract

The risk of receiving an inappropriate level of pension on retirement in a Defined Contribution scheme is unacceptably high for many individuals. The aim of this research is to propose a model that compensates the investment and the annuity risk assumed by these individuals. A Hybrid Pension Fund that is accumulated similar to a Defined Contribution plan but with non-constant contributions, adjusted at each point time  $t$  depending on the value of a notional target which is based on a Defined Benefit fund, is proposed in this research. The main results show that by varying the value of the contributions, any differences between the value of the fund and the value of a pre-defined target are counteracted. Varying the value of the contributions and reviewing the value of the pre-defined target every time  $t$ , allows for a conservative asset allocation through the working life of an individual.

*Keywords: Hybrid Pension Fund, Stochastic Rates, Modified Spreading, Dynamic Asset Allocation.*

## References

- D. Dufresne. Moments of pension contributions and fund levels when rates of return are random. *Journal of the institute of actuaries*, 115:535–544, 1988.
- M.I. Owadally. Pension funding and the actuarial assumption concerning investment returns. *ASTIN Bulletin*, 33 (2):289–312, 2003.
- E. Vigna and S. Haberman. Optimal investment strategy for defined contribution pension schemes. *Insurance: Mathematics and Economics*, 28:233–262, 2001.