

# Goal-based investments with target priorities

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A Dynamic Stochastic Programming model applied to long-term Asset and Liability Management portfolio selection faces the challenge to satisfy an investor's personal goals. Since not all the targets have the same priority, we ask the model to take the investor's expectations into account.

These kinds of problems are of particular interest to the insurance industry, where they are commonly applied to pension fund customers with time horizons that can span decades.

The model addresses uncertainty in asset returns and liabilities through a stochastic scenario generation process for key financial variables, as detailed in [1]. The objective function is designed to optimize the risk-return tradeoff, incorporating investor-specific targets and constraints within a multi-period stochastic programming framework, as proposed in [2].

The proposed novelty here is the possibility to adapt the desired goals to the personal preferences of the investor.

Our proposal lies in the model's ability to dynamically adapt investment goals to the investor's individual preferences and priorities, providing a personalized and flexible approach to long-term portfolio planning.

## References

- [1] M. Kopa, V. Moriggia, and S. Vitali. Individual optimal pension allocation under stochastic dominance constraints. *Annals of Operations Research*, 260(1-2):255–291, 2018.
- [2] G. Consigli, V. Moriggia, and S. Vitali. Long-term individual financial planning under stochastic dominance constraints. *Annals of Operations Research*, 292(2):973–1000, 2020.

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