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Application of the Benchmark Approach for Retirement Funding

Prof Eckhard Platen (University of Technology Sydney, Australia)

DATE: Monday, 14 July 2025 | 16h00–17h00 SAST

VENUES:

- Neelsie Cinema, Stellenbosch University
- Room P215, 2nd Floor, Physics Building, University of the Witwatersrand
- Online

--- A recording of the talk will be published on the NITheCS YouTube channel afterwards ---

ABSTRACT

Is it possible over long periods to generate risk-free retirement payments via investment strategies by using a fraction of the traditional retirement savings? It will be shown how through dynamic asset allocation almost risk-free payouts can be produced even over extremely long periods. The uncertainty of the targeted payout is very small, which results from the application of the benchmark approach. The latter derives from mathematical principles a realistic financial market model, and the minimal possible prices and hedges of contingent claims. The financial market is interpreted as a communication system where the prices communicate information. The key assumptions of the benchmark approach are the existence of the growth optimal portfolio and the maximization of the relative entropy of the pricing measure.

BIOGRAPHY

Eckhard Platen is a mathematician, financial economist, academic, and author. He is an Emeritus Professor of Quantitative Finance at the University of Technology Sydney. Prior to his appointment at UTS he was Head of the Sector Stochastics at the Weierstrass Institute at the Academy of Sciences Berlin and Head of the Centre for Financial Mathematics at the Institute of Advanced Studies at the Australian National University in Canberra. He is most known for his research on numerical methods for stochastic differential equations and their application in finance along with the generalization of the classical mathematical finance theory by his benchmark approach. He has authored and co-authored more than 200 publications including five books. His current research focuses on the less expensive pricing and hedging of long-term contracts with applications for pensions.



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