



INTERNSHIP PROJECT PROPOSAL

Title	DNB-01: Cash flow analysis as stress test instrument
Dutch language mandatory	No
Internship period	Flexible
For students in	MSc EME & MSC QFAS Other MSc's when student has sufficient quantitative skills.
Internship remuneration	Yes, €460 per month (based on a work week of 36 hours)
Organization and (sub)section	De Nederlandsche Bank
Internship supervisor(s)¹	To be announced

Short description internship project (incl. literature)

Since 2015 EIOPA (the European Insurance and Occupational Pensions Authority) conducts a stress test once every two years for the European pension fund sector ([report 2017](#)). In this test the resilience of the European pension fund sector is reviewed, for example by examining the impact of a stress scenario relative to a benchmark scenario. EIOPA developed an instrument which calculates the impact on the balance sheet of pension funds. In order to get a comparable balance sheet for all participating countries several valuation differences play a difficult role. Moreover, the balance sheet represents the position of the assets and liabilities of the pension fund at a single moment while the impact of a stress scenario is also relevant for future years, for example in case of benefit reductions. This is the reason why a cash flow analysis has added value.

A cash flow analysis examines how incoming and outgoing cash flows of a pension fund develop in a future scenario. The basic principles which must be satisfied are currently developed. Possible underlying research questions are: how should cash flows be analyzed? How can we ensure that the results between countries and regulatory frameworks are comparable?

What is the role of the horizon over which the cash flows are analyzed and how is the financial position at the end of the horizon taken into account? How does a stochastic approach of a cash flow analysis look like? These are examples of questions with regard to further development of a cash flow analysis as stress test instrument. DNB promotes an effective cash flow analysis for EIOPA and wants to use the research for that.

¹ Will not be made public. Students need to contact Netspar for intermediation.



Internship

This research topic is the basis of a graduate internship for an actuarial or econometrics student. The final research question (questions) will be determined jointly. The intended duration of the internship is 3 to 6 months, partly depending on the number of days per week (3-5) you are available.

Requirements

You are able to understand complex issues and translate them into clear and convincing analyses and policy recommendations. You have good conceptual and analytical skills.

- You are a Master student in actuarial sciences, econometrics or other quantitative study.
- You have affinity with quantitative models.
- You have good communication skills, both orally and in writing.
- You are eager to learn and like to work in teams.

Profile department

The Pensions department within the Supervision policy division is in the internal and external contact point for pension policy and is responsible for the development, implementation and evaluation of supervision policy for pension providers: pension funds, premium pension institutions and pension insurers. The department fulfils a bridging function between the legislator and the supervisors. The department consists of approximately 12 highly educated professionals, mostly with a financial-economic, legal or quantitative background.

Specifics

You are available for an internship of 3 to 6 months (exact internship period will be determined jointly). You are available for 3 to 5 days a week. An internship and travel allowance is available. Moreover, you will receive a laptop during your internship.