

CEPAR Summer Scholarship Project Nomination Form 2018/19

Project title

Provide a short descriptive title of no more than 20 words.

Economic Scenario Generators for Modelling Retirement Income Product Cash Flows

Supervisor (s)

Name:	Location:	Email:
Mengyi Xu	CEPAR, UNSW Node	m.xu@unsw.edu.au
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Project summary

This project will use Australian and US data to develop, assess and implement economic scenario generators for modelling cash flows of retirement income products. The aim is to implement vector autoregressive (VAR) models for the main asset classes as well as inflation and gross domestic product (GDP), combining with mortality and health status models to simulate product cash flows for a range of retirement products. Various characteristics of these cash flows will be modelled including risk characteristics and different product portfolio outcomes. The main tasks will be to develop and test code to implement models as well as assessing the model performance. Innovative product structures will be considered in the project.

Role of the scholarship holder(s) in the project

The scholarship holders will update economic and investment return data for the models. They will develop and test code to implement the models providing a full testing and documentation of the coding. They will also carry out a literature review on ESG models used in industry for comparison with the models implemented in the project.

Required knowledge, skills and/or training

Background in actuarial studies, strong computational skills, attention to detail and team skills.

Preference

We are looking for actuarial students in 3rd or 4th year who are interested in honours in 2019 or 2020.

Work period

The work period may be broken into two parts as students will not be expected to work during any university shutdown period over Christmas/New Year. You may either specify dates the student

must be available to work over the summer period (i.e., to fit in with any leave you may have planned) or leave the exact dates open to negotiation with the successful applicant.

<p>Total work weeks:</p> <p><input type="checkbox"/> 4 weeks</p> <p><input type="checkbox"/> 5 weeks</p> <p><input type="checkbox"/> 6 weeks</p> <p><input type="checkbox"/> 7 weeks</p> <p><input checked="" type="checkbox"/> 8 weeks</p>	<p>Please tick one box</p> <p><input checked="" type="checkbox"/> Exact dates will be decided in consultation with the successful applicant</p> <p>OR</p> <p><input type="checkbox"/> The project must be conducted during the following period: --/--/-- to --/--/--</p>
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