

# British Actuarial Journal

Published for the Institute and Faculty of Actuaries

## Managing Editor

Cathy Robertson,

The *British Actuarial Journal* contains the sessional research programme of the Institute and Faculty of Actuaries along with transcripts of the discussions and debates. It also contains Presidential addresses; memoirs and papers of interest to practitioners. Three parts are published annually in March, July and September.

---

## Price information

is available at: <http://journals.cambridge.org/baj>

## Free email alerts

Keep up-to-date with new material – sign up at  
<http://journals.cambridge.org/alerts>



## British Actuarial Journal

is available online at:  
<http://journals.cambridge.org/baj>

## To subscribe contact Customer Services

### in Cambridge:

Phone +44 (0)1223 326070

Fax +44 (0)1223 325150

Email [journals@cambridge.org](mailto:journals@cambridge.org)

### in New York:

Phone +1 (845) 353 7500

Fax +1 (845) 353 4141

Email

[subscriptions\\_newyork@cambridge.org](mailto:subscriptions_newyork@cambridge.org)

For free online content visit:  
<http://journals.cambridge.org/baj>



**CAMBRIDGE**  
UNIVERSITY PRESS

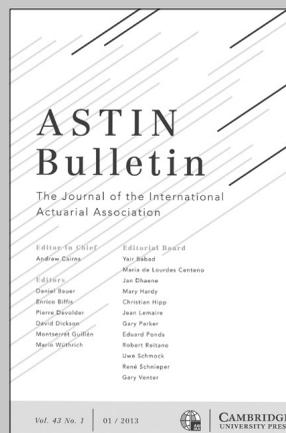
# ASTIN Bulletin

Published for the International Actuarial Association

## Editor

Andrew Cairns, *Heriot-Watt University, UK*

*ASTIN Bulletin* publishes papers that are relevant to any branch of actuarial science and insurance mathematics. Its papers are quantitative and scientific in nature, and draw on theory and methods developed in any branch of the mathematical sciences including actuarial mathematics, statistics, probability, financial mathematics and econometrics.



**ASTIN Bulletin**  
is available online at:  
<http://journals.cambridge.org/asb>

## To subscribe contact Customer Services

### Americas:

Phone +1 (845) 353 7500

Fax +1 (845) 353 4141

Email

[subscriptions\\_newyork@cambridge.org](mailto:subscriptions_newyork@cambridge.org)

### Rest of world:

Phone +44 (0)1223 326070

Fax +44 (0)1223 325150

Email [journals@cambridge.org](mailto:journals@cambridge.org)

## Free email alerts

Keep up-to-date with new  
material – sign up at

[journals.cambridge.org/asb-alert](http://journals.cambridge.org/asb-alert)

For free online content visit:  
<http://journals.cambridge.org/asb>



**CAMBRIDGE**  
UNIVERSITY PRESS

# Journal of Pension Economics & Finance

## Editors

Monika Büttler, *University of St. Gallen, Switzerland*

Olivia S. Mitchell, *University of Pennsylvania, USA*

J. Michael Orszag, *Towers Watson, London, UK*

The *Journal of Pension Economics & Finance (JPEF)* is the only academic journal focusing on the economics and finance of pensions and retirement income. The ageing population, together with the shrinking workforce, heralds a growing pensions crisis, which has become a key public policy issue in developed countries and elsewhere. *JPEF* provides a valuable and influential forum for international debate in this area.

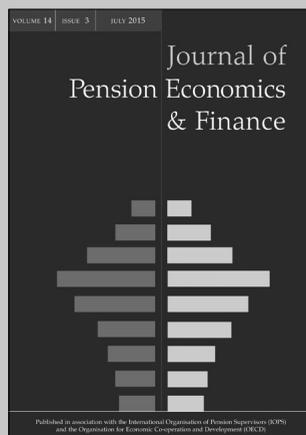
The journal publishes original research papers, covering a variety of topics, including pension fund management, the regulation of pensions, and pensions and labour markets.

## Price information

is available at: <http://journals.cambridge.org/pef>

## Free email alerts

Keep up-to-date with new material – sign up at <http://journals.cambridge.org/alerts>



## *Journal of Pension Economics & Finance*

is available online at:

<http://journals.cambridge.org/pef>

## To subscribe contact Customer Services

### in Cambridge:

Phone +44 (0)1223 326070

Fax +44 (0)1223 325150

Email [journals@cambridge.org](mailto:journals@cambridge.org)

### in New York:

Phone +1 (845) 353 7500

Fax +1 (845) 353 4141

Email

[subscriptions\\_newyork@cambridge.org](mailto:subscriptions_newyork@cambridge.org)

For free online content visit:  
<http://journals.cambridge.org/pef>



# Journal of Financial and Quantitative Analysis

## Editors

Hendrik Bessembinder, *Arizona State University, USA*

Jennifer Conrad, *University of North Carolina, USA*

Jarrad Harford, *University of Washington, USA*

Paul Malatesta, *University of Washington, USA*

The *Journal of Financial and Quantitative Analysis (JFQA)* publishes theoretical and empirical research in financial economics. Topics include corporate finance, investments, capital and security markets, and quantitative methods of particular relevance to financial researchers. With a circulation of 3000 libraries, firms, and individuals in 70 nations, the *JFQA* serves an international community of sophisticated finance scholars—academics and practitioners alike. The *JFQA* prints less than 10% of the more than 700 unsolicited manuscripts submitted annually. An intensive blind review process and exacting editorial standards contribute to the *JFQA*'s reputation as a top finance journal.



## Journal of Financial and Quantitative Analysis

is available online at:

<http://journals.cambridge.org/jfq>

## To subscribe contact Customer Services

### in Cambridge:

Phone +44 (0)1223 326070

Fax +44 (0)1223 325150

Email [journals@cambridge.org](mailto:journals@cambridge.org)

### in New York:

Phone +1 (845) 353 7500

Fax +1 (845) 353 4141

Email

[subscriptions\\_newyork@cambridge.org](mailto:subscriptions_newyork@cambridge.org)

## Free email alerts

Keep up-to-date with new material – sign up at

[journals.cambridge.org/jfq-alerts](http://journals.cambridge.org/jfq-alerts)

For free online content visit:  
<http://journals.cambridge.org/jfq>



**CAMBRIDGE**  
UNIVERSITY PRESS

# Guidelines for Contributors

## Annals of Actuarial Science

*Annals of Actuarial Science* (AAS) is published twice yearly by Cambridge University Press for the Institute and Faculty of Actuaries. AAS accepts manuscript submissions through the ScholarOne Manuscripts system at: <https://mc.manuscriptcentral.com/aoas>

Papers on any area of actuarial research or practice are welcome and will be considered for publication. Suitable topics include, but are not restricted to: new developments in actuarial practice; original research in actuarial science and related fields; or reviews of developments in a field of interest to the actuarial profession.

All papers should be written in English (UK). The style should be reasonably formal, but should be as clear and understandable as possible. Enough information should be included to allow a reader to reproduce any mathematical or numerical results.

All submitted papers are peer-reviewed by anonymous referees appointed by the Editor. Papers may need minor or major revisions before they can be accepted for publication, or they may be considered to be unsuitable for AAS. The Editor's decision is final.

Each paper must include an abstract, keywords and contact details of relevant authors. The abstract, which should be about 100–200 words, should be written so that others are encouraged to read the paper. It should give the main objectives and conclusions of the paper.

All published work should be acknowledged, and references given. The author is responsible for securing written permission to include any copyrighted material. Notwithstanding any scrutiny and any alterations made, authors remain solely responsible for the accuracy of all material provided and views expressed. Submitted papers should not have been copyrighted or submitted for possible publication elsewhere at the same time as being submitted to AAS. Any previous publication, for example in conference proceedings, should be notified to the editor at the time of submission. If the paper is accepted for publication the author(s) must sign a copyright declaration, transferring copyright to the Institute and Faculty of Actuaries.

Please visit <https://cambridge.org/core/services/open-access-policies> for information on our open access policies, compliance with major funding bodies, and guidelines on depositing your manuscript in an institutional repository.

Any enquiries should be addressed to the Editor,

Professor Angus Macdonald  
Department of Actuarial Mathematics & Statistics Heriot-Watt University  
EDINBURGH EH14 4AS  
United Kingdom  
E-mail: [a.s.macdonald@hw.ac.uk](mailto:a.s.macdonald@hw.ac.uk)  
Direct Line: +44 (0)131 451 3209 Fax: +44 (0)131 451 3249

For more information on contributing, please see <http://cambridge.org/aas>

## Contents

Page

Optimal strategies for a non-linear premium-reserve model in a competitive insurance market <i>Athanasios A. Pantelous and Eudokia Passalidou</i>	1
Mortality forecasting using a modified Continuous Mortality Investigation Mortality Projections Model for China I: methodology and country-level results <i>Fei Huang and Bridget Browne</i>	20
Mortality forecasting using a modified Continuous Mortality Investigation Mortality Projections Model for China II: cities, towns and counties <i>Fei Huang</i>	46
A note on the optimal dividends paid in a foreign currency <i>Julia Eisenberg and Paul Krühner</i>	67
Yet more on a stochastic economic model: Part 3A: stochastic interpolation: Brownian and Ornstein–Uhlenbeck (OU) bridges <i>A. D. Wilkie and Şule Şahin</i>	74
Yet more on a stochastic economic model: Part 3B: stochastic bridging for retail prices and wages <i>A. D. Wilkie and Şule Şahin</i>	100
Yet more on a stochastic economic model: Part 3C: stochastic bridging for share yields and dividends and interest rates <i>A. D. Wilkie and Şule Şahin</i>	128
Papers from actuarial journals worldwide	164

### Cambridge Core

For further information about this journal  
please go to the journal website at:  
[cambridge.org/aas](http://cambridge.org/aas)



**MIX**  
Paper from  
responsible sources  
**FSC® C007785**

**CAMBRIDGE**  
UNIVERSITY PRESS