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# Publication Guidelines

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## 1 Introduction

These guidelines are given to prospective authors of papers intended for publication in the *Australian Actuarial Journal* (AAJ). It is envisaged, however, that these guidelines will also be of use to students doing research at universities and to members doing research for presentation at conventions and sessional meetings of the Institute of Actuaries of Australia (Institute).

The contents are arranged as follows:

**Section 2** discusses the selection of a topic for a proposed paper and the need to survey the relevant literature as part of this process.

**Section 3** deals with composing a paper by describing the components that form a typical AAJ publication.

Prospective authors are referred to the AAJ [Guidelines for Authors](#) for the Australian Actuarial Journal, which sets out the editorial policy of the AAJ and the required format for papers submitted for publication. This document can be downloaded from the [AAJ](#) section of the Institute website.

Authors are advised to read these instructions before deciding whether to submit their paper to the AAJ. It would be helpful to the Editor if authors complied with the standards of style applied as set out in *the Guidelines*.

## 2 Selecting a topic and surveying the literature

The topic of a proposed paper may be selected from the field of the author's interest and experience. The topic must be sufficiently specific to permit adequate treatment of acceptable length (see *Guidelines for Author*).

Questions that arise within the topic should be considered, and from one of these questions a research problem should be defined. Booth, Colomb and Williams (1995) suggest that the difference between a research question and a research problem lies in the authors' ability to convince the reader of its significance:

*Your readers will ... want to know how you think your research and conclusions will change their thinking and beliefs.*

Alternatively, gaps in actuarial knowledge, which the prospective authors consider could be filled by recourse to the literature in other fields or by review of actuarial literature, may be defined. To assist prospective authors, the Institute of Actuaries of Australia maintains databases and provides funding for specific research projects. These may be accessed via the [Research](#) section of the Institute website.

Additionally, international actuarial bodies have links to research resources that may aid in topic selection. Some of these links are:

- [UK Actuarial Profession](#)
- [Society of Actuaries](#)
- [Casualty Actuarial Society](#)

The aim of the research should be defined. It may be necessary to set the aim in the light of the review of the literature. However, unless the literature survey is based on a provisional aim the authors will have difficulty in confining its scope.

While actuarial research may extend knowledge through the development of financial models, it is more generally aimed at establishing and applying criteria for financial decision-making in the face of risk. The appropriateness of such criteria forms a substantial portion of actuarial debate, and is the subject of a correspondingly substantial portion of the actuarial literature. The mathematics and pragmatic problems involved in applying those criteria are also of fundamental importance.

Because of the interdisciplinary nature of actuarial science, developments in related fields may escape practising actuaries, either because they are published in other literature or because the terminology used is inaccessible to actuaries. Papers reviewing such developments are valuable to the profession. Papers that discuss alternative government policies in areas related to actuarial practice are also of value. Finally, papers that compile data, or the historical values of variables derived from data, that are of use to actuaries and are not otherwise available, are a useful component of the actuarial literature. At the outset it is important for the authors to be clear as to the category in which the proposed research falls.

Whatever category of research is contemplated, a preliminary survey of the relevant literature is imperative. It is presumptuous for authors to submit for publication---or for a publisher to publish---any work that ignores what has been published elsewhere. Research should not be pursued on the presupposition that the Australian context is unique. The literature survey may indicate that the proposed topic has already been dealt with, in which case another topic should be considered. It may give background information, or develop concepts, that warrant an amendment to the aim of the proposed research. It may reveal gaps that need to be pursued. But whatever it produces, it must be done. It is assumed that the authors are experts in their field, and if that is found to be untrue, it reflects badly both on the authors and on the Journal.

A literature survey generally necessitates a search of all the relevant journals. A list of actuarial journals is appended. Unfortunately, the actuarial literature is not generally indexed in the citation indices. Exceptions to this are the ASTIN Bulletin; Insurance: Mathematics and Economics; and the Scandinavian Actuarial Journal.

However, literature searches can be carried out by [Google](#) and [Google Scholar](#) or the search engine of the [International Actuarial Association](#).

A number of professional bodies have sites that may be worth searching:

- The UK Actuarial Profession [library catalogue](#).
- The Casualty Actuarial Society [database](#).
- [Publication and publication search facilities](#) of the Society of Actuaries.

A list of some more important current journals are given in the appendix. Particular care must be taken to ensure that relevant papers and books published during the last few years are identified: earlier work can be traced from their references and bibliographies, which may also be used to supplement the survey.

It is a challenge to identify important strands in previous research, and to alert readers to alternative approaches or controversies in the area being covered. New researchers should note the hierarchy of journals (as for instance provided by the Australian Research Council), although the best references may not be in the most reputable journals, or indeed in the most recent articles. Working papers of university departments or research organizations found on the internet may be useful references, but it should be noted that the standard of refereeing is likely to be lower than a formally published journal. In any event, authors need to make their own judgements as to the usefulness and quality of the research they cite.

### 3 Writing the paper

In composing a paper, all claims made by the author should be convincing to the reader, which means that the evidence on which they are based must be seen to be reliable. It must be accurate, precise, clear, and sufficient to persuade the reader. If inferences are made from a sample, the sample must be representative of the population for which they are made. The most authoritative possible sources should be used (Booth, Colomb & Williams, 1995).

The material should be organised so as to convince the reader. A possible order comprises the following sections:

- an introduction;
- a survey of the literature;
- the exposition of the research;
- a conclusion;
- acknowledgements;
- references; and
- appendices

Depending on the nature of the research, some of these sections may be omitted or combined. If the problem is divided into sub-problems, each sub-problem may necessitate a section of its own, in which case one or more of the sections listed above may need to be included as a subsection in each section. This outline is a guide only and may not be appropriate for certain research topics. It should not be adhered to unnecessarily rigidly.

### 3.1 Introduction

Booth, Colomb & Williams (op. cit.) suggest that the introduction should contain:

- a sketch of a context of understanding that the problem challenges;
- a statement of the research problem, including something we do not know or fully understand and the consequences we experience if we leave that gap in knowledge or understanding unresolved; and
- a statement of the response to that problem, either as the gist of its solution or as a sentence or two that promises one to come.

The abstract will generally be a condensed version of this portion of the introduction. Portions of the introduction may be repeated verbatim in the abstract if so desired, but the introduction should stand on its own; it should not be presumed that the reader has read the abstract.

If in addition, particularly if the paper is long or if the normal structure has not been followed, an outline of the content of each succeeding section should be given.

### 3.2 Survey of the literature

The literature survey should comprise a brief critical review of previous investigations of this and closely related problems. The purposes of the literature survey are :

- to present a résumé of the history and present status of the problem;
- clarification of the contribution made by each such investigation to the question as a whole; and
- if applicable, an identification of the fallacies or inadequacies in those investigations that give rise to the present research.

It should not necessarily refer to all the documents that are referred to elsewhere in the paper.

### 3.3 Exposition of the research

Much actuarial research relates to the relative advantages of alternative methods or models that may be used in actuarial practice. Other

actuarial research is descriptive, such as reviews of research or practice in actuarial or related fields. Some shows the implications of certain models for financial decision-making. Some is hypothetico-deductive. The exposition depends on the nature of the research. In general it will comprise a number of sections as discussed in the following paragraphs.

In the case of methodological research, it requires a detailed explanation of the proposed method. This may include a discussion of criteria for evaluation of the merits of the proposed method and a comparison with other methods on the basis of such criteria.

In the development of models of actuarial relevance, the usual empirical and hypothetico-deductive methods of science are required. Clarity is required as to the hypotheses to be tested, the collection and processing of the data required to test those hypotheses, and the methods and criteria used to test them. Methodological research may also require the collection of data for the purposes of measuring the criteria used for the evaluation of the method. If a questionnaire has been used, it should be appended to the paper and referred to in this section.

In all cases, an explanation of the method used in obtaining and processing the data and in establishing the results is required. It is important that the author scrutinises the data for biases and limitations, and discusses the quality of the data used. Any results obtained in the research should be replicable by the reader from the data used. If the data are too voluminous for tabulation either in the body of the paper or in an appendix, they should be summarised in a suitable form. If this summary is not adequate to enable the reader to replicate the results, the authors should retain the data for a reasonable period after publication and, provided the data is not confidential, inform the reader that they are available from them at the contact address given.

The results of any tests conducted should be given in detail, together with the inferences made. Implications of those inferences may be discussed here or in the conclusion.

Any weaknesses in the method used or in the results obtained should be acknowledged and discussed. If the research suggests new actuarial methods or criteria, or a change to the legislative or regulatory environment, counter-arguments should be fully and convincingly stated and discussed.

If the exposition of the research is extensive it should be summarised in a separate section.

### 3.4 Conclusion

The conclusions drawn may be briefly stated and an outline given of any implications that have not already been discussed. Suggestions may be made for further research.

### 3.5 Acknowledgements

Any significant assistance given by persons other than the authors with regard to certain aspects of the paper should be acknowledged. It is not necessary to be explicit as to which aspects were involved, but the authors should not give the impression that persons whose assistance is acknowledged carry any responsibility. Acknowledgement of scrutineers' assistance is not necessary, and should not be added until after the paper has been finally accepted.

### 3.6 References

All references quoted in the text should be listed. Unless one of the stated purposes of the paper is to compose a bibliography of a particular field, no items that are not referred to in the text should be listed here. Every effort should be made to give complete references (i.e., authors' names, date of publication, title (of article, report or book), and place (being journal name, publisher, or website) so that readers can immediately find the sources.

### 3.7 Appendices

Any material that is too lengthy to include in the body of the paper without disturbing the flow of the text should be included in appendices. Unless a major purpose of the paper is to present a mathematical proof, such proofs should also be relegated to appendices. However, material that needs to be repeatedly referred to while reading a certain portion of the text should, if possible, be retained in the body of the paper near that portion. Each appendix should be referred to in the text; it should not be presumed that the reader has read an appendix that has not been referred to in the text.

### 3.8 Additional Considerations

The checking of the contents and style of the paper is the responsibility of the authors. It is recommended that this article be used as a checklist before submitting a paper to ensure that everything is in order. Finally, the numbering of sections and all cross-references should be checked. Authors should not submit papers that they still intend to amend.

Spelling and grammar is also the responsibility of the authors. Papers that are submitted to AAJ with poor spelling and grammar will be returned to the author for corrections prior to the referee process commencing.

Backups should be taken at all times. When a draft paper is submitted to the AAJ, backups should be taken of all corresponding files (including not only the paper itself but also all data files compiled and all program files written) and the names of the files should be recorded. The backup files corresponding to each version submitted should be retained until the paper has been published.

An example of a paper conforming reasonably to the guidelines in this section is Huber & Verrall (1999), which combines methodology and review, but without data. Hardy (1996) is an example of a paper that shows the implications of a particular model for financial decision-making. Renshaw & Hatzopoulos (1996) is an example of a methodological paper that uses data for evaluation purposes.

#### 4 References

- Booth, WC, Colomb, GG & Williams, JM (1995). *The Craft of Research*. University of Chicago
- Hardy, MR (1996). Simulating the relative solvency of life insurers. *BAJ* 2 (IV), 1003--19
- Huber, PP & Verrall, RJ (1999). The need for theory in actuarial economic models. *BAJ* 5 (II), 377--95
- Renshaw, AE & Hatzopoulos, P (1996). On the graduation of `amounts`. *BAJ* 2 (I), 185--205

## 5. Appendix: Actuarial Journals and Transactions

| Name (and abbreviation)  | Publisher   | Publisher's address   |
|--|---|---|
| Applied Mathematical Finance ( <i>App. Math. Fin.</i> )                        | Routledge Journals                                | Taylor & Francis Ltd, Customer Services Dept, Rankine Road, Basingstoke, Hampshire RG24 8PR, UK <a href="http://www.tandf.co.uk/journals/">http://www.tandf.co.uk/journals/</a>   |
| Astin Bulletin ( <i>ASTIN</i> )  | International Actuarial Association               | Peeters Publishers and Booksellers, Bondgenotenlaan 153, B-3000 Leuven, Belgium   |
| Australian Actuarial Journal ( <i>AAJ</i> )                                    | Institute of Actuaries of Australia               | Level 7, Challis House, 4 Martin Place, Sydney, NSW 2000, Australia <a href="http://www.actuaries.asn.au/TechnicalResources/ActuaryJournals.aspx">http://www.actuaries.asn.au/TechnicalResources/ActuaryJournals.aspx</a> |
| British Actuarial Journal ( <i>BAJ</i> )                                       | Institute of Actuaries and Faculty of Actuaries   | Napier House, 4 Worcester Street, Oxford, OX1 2AW, United Kingdom. <a href="http://www.actuaries.org.uk">www.actuaries.org.uk</a>   |
| International IAA Colloquia ( <i>AFIR</i> )                                    | Varies according to conference venue              | Varies according to conference venue  |
| International Association of Consulting Actuaries ( <i>IACA</i> )              | International Association of Consulting Actuaries | Varies according to conference venue  |
| Journal of Actuarial Practice ( <i>Jnl. Act. Prac.</i> )                       | Absalom Press                                     | P O Box 22098, Lincoln, NE 68542-2098, USA (No website available as at February 2011)   |
| Journal of Pension Economics and Finance ( <i>Jnl. Pen. Econ. &amp; Fin.</i> ) | Cambridge University Press                        | c/o Nina Paklina, 37 bis Boulevard Suchet, 75775 Paris 16 France <a href="http://journals.cambridge.org/">http://journals.cambridge.org/</a>  |
| Journal of Risk and Insurance ( <i>Jnl. Risk &amp; Ins.</i> )                  | American Risk and Insurance Association           | Graduate School of Business, University of Texas, Austin, TX 78712, USA <a href="http://www.journalofriskandinsurance.org/">http://www.journalofriskandinsurance.org/</a>   |
| North American Actuarial Journal ( <i>NAAJ</i> )                               | Society of Actuaries                              | 475 North Martingale, Suite 800, Schaumburg, Illinois 60173, USA <a href="http://www.soa.org">http://www.soa.org</a>  |
| <i>The Geneva Papers on Risk and Insurance - Issues and Practice.</i>          | Palgrave Press                                    | <a href="http://www.palgrave-journals.com/gpp/index.html">http://www.palgrave-journals.com/gpp/index.html</a>   |
| Scandinavian Actuarial Journal ( <i>Scand. Act. Jnl.</i> )                     | Taylor & Francis Ltd                              | Taylor & Francis Ltd, Customer Services Dept, Rankine Road, Basingstoke, Hampshire RG24 8PR, UK <a href="http://www.tandf.co.uk/journals/">http://www.tandf.co.uk/journals/</a>   |
| South African Actuarial Journal ( <i>SAAJ</i> )                                | Actuarial Society of South Africa                 | P O Box 4464, Cape Town 8000, South Africa  |
| Transactions of the International Congress of Actuaries ( <i>IAA</i> )         | International Actuarial Association               | Varies according to conference venue  |