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## Editorial

## Twenty-five years of forecasting

Twenty-five years ago, the International Institute of Forecasters (IIF) was founded, the International Symposium on Forecasting was launched and the first journal dedicated to forecasting (the *Journal of Forecasting*) was born. A few years later, the *International Journal of Forecasting* (*IJF*) became the second journal in the field of forecasting. Over those 25 years, much has happened to change the world of forecasting, and the *IJF* has been at the forefront of many new developments.

Looking back, it is hard to recall the days when large-scale empirical comparisons of forecasting methods were unknown, either because of limited computing facilities or because they were not valued as much as theoretical developments. Twenty-five years ago, prediction intervals were almost never used in some fields, judgemental forecasting was largely unstructured and poorly understood, and the only neural networks were biological.

This special issue provides an opportunity to review some of the most important advances in forecasting over the past 25 years as well as to outline the state of the field and consider potentially fruitful topics for future research. We have sought papers which examine the past, comment on the present and both speculate upon and forecast the future. The papers are not intended to be exhaustive reviews, but rather selective snapshots of each area.

The first two articles are by two of the four founders of the IIF, Robert Fildes and Scott Armstrong, both former Editors-in-Chief of this journal. Fildes first looks at the impact of the journals on forecasting research using citations and other quantitative measures, and then together they consider what progress has been made and what needs to be done to make more progress in the future. They provide many suggestions for how we can improve. We are pleased to report that one of their suggestions has already been taken up by the *IJF* editors: a data and code repository has been established at the *IJF* website (http://www.forecasters.org/ijf) and all *IJF* authors are asked to contribute their data and code to allow other researchers to replicate, test and extend their work.

The next four papers review various areas of forecasting methodology. De Gooijer and Hyndman provide a tour of time series methods, which have been the subject of more than one-third of all papers published in the journals in the past 25 years. Allen and Morzuch complement this general tour with an exploration of econometric forecasting. Lawrence et al. provide a review of progress in judgemental forecasting and Meade and Islam consider forecasting the diffusion of innovations.

Forecasting population has long been one of the public faces of forecasting (along with the weather and the stock market), and so we invited Heather Booth to provide a review of forecasting in demography. Her paper contains an impressive and comprehensive critique of the past and potential future of demographic forecasting.

A constant theme over the past 25 years has been the importance of empirical evidence in evaluating forecasting methodology. This theme is taken up by Armstrong in his review of which methods reduce forecasting error, along with an appraisal of the potential benefits of different research directions.

Forecasting research is largely disseminated via software and textbooks. Consequently, it is appropriate

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to review the changes in both over the last 25 years. The papers by Küsters et al. (on software) and Cox and Loomis (on textbooks) provide a remarkable contrast, with software changing beyond recognition over the period, while forecasting textbooks have undergone a much slower evolution.

Finally, we conclude with Fildes and Nikolopoulos who interview Spyros Makridakis, one of the other founders of the institute and journal. Spyros provides some interesting personal reflections and the distilled wisdom of considerable experience.

All of the papers included in this special issue were subject to the usual refereeing process of the journal. We hope that this special issue provides a stimulating review of the field of forecasting, encouraging reflection on the past and giving new impetus to future forecasting research.

Rob J. Hyndman J. Keith Ord

E-mail address: ijf@buseco.monash.edu.au.