非寿险精算总结与展望

高光远

中国人民大学统计学院

Contents

- SOA GI Track: Introduction to ratemaking and reserving exam (fellowship exam)
  `https://www.soa.org/education/exam-req/`
  `edu-exam-intro-ratemaking-reserving.aspx`
- CAS:
  - Exam 5 Basic techniques for ratemaking and estimating claim liabilities (associate exam)
    `https://www.casact.org/admissions/syllabus/index.`
    `cfm?fa=5syllabi&parentID=163`
  - Exam 7 Estimation of policy liabilities. insurance company valuation, and ERM (fellowship exam)
    `https://www.casact.org/admissions/syllabus/index.`
    `cfm?fa=7syllabi&parentID=167`
  - Exam 8 Advanced ratemaking (fellowship exam)
    `https://www.casact.org/admissions/syllabus/index.`
    `cfm?fa=8syllabi&parentID=168`

Top journals

- ASTIN Bulletin: The Journal of International Actuarial Association `https://www.cambridge.org/core/journals/astin-bulletin-journal-of-the-iaa`
- Scandinavian Actuarial Journal `http://www.tandfonline.com/loi/sact20`
- Insurance: Mathematics and Economics `https://www.journals.elsevier.com/insurance-mathematics-and-economics`
- North American Actuarial Journal (the journal of SOA) `https://www.tandfonline.com/loi/uaaj20`

Hot topics

- Machine learning in actuarial science. Eg. `https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2870308`
- Telematics data analytics. Eg. `https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3070069`
- Individual claims reserving. Eg. `https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2867897`

Figure 1: Gauss (Germany) and Fisher (England)

Contribution: Gaussian distribution, Fisher information.

Figure 2: Poisson (France) and Pearson (England)

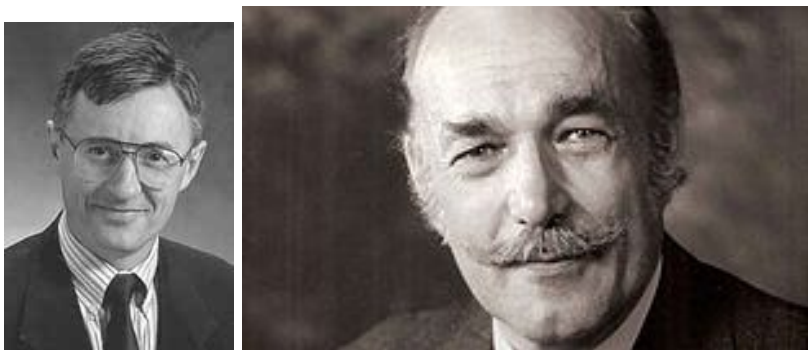Contribution: Poisson distribution, Pearson residuals.

Figure 3: McCullaph (Ireland) and Nelder (England)
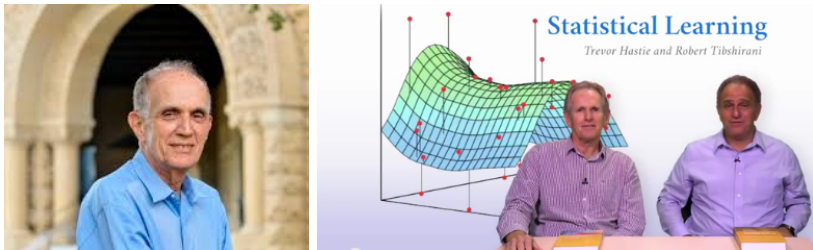
Contribution: Generalized linear model.

Figure 4: Efron, Hastie and Tibshirani (USA)

Contribution: Bootstrap, Generalize Additive Model, Lasso.

Figure 5: Bühlmann (Switzerland) and Straub

Contribution: Credibility theory.

Figure 6: Bornhuetter and Ferguson

Contribution: B-F claims reserving method.