



SOCIETY OF ACTUARIES

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Modeling of Economic Series Coordinated with Interest Rate Scenarios Project

by Steve Siegel

Editor's Note: the following is reprinted with permission. It last ran in Issue No. 18, June 2002 small talk newsletter.

Last year, the SOA and the CAS partnered to jointly sponsor a request for proposals on research involving the modeling of economic series. Both organizations recognized the extreme importance to actuaries of appropriate modeling techniques for generating economic scenarios in a dynamic financial analysis model or a cash flow test. As a consequence, the organizations concluded an end result of this project should be a model for projecting economic indices in a correlated manner.

Of the proposals received, the one submitted by the research team of Kevin Ahlgrim of Bradley University, Stephen D'Arcy of the University of Illinois and Richard Gorvett of Zurich North America was selected.

The researchers initiated their work in January 2002. The broad plan for the project includes the following items:

- **Literature Review**—A comprehensive survey and review of the literature relevant to the topic. The review will include articles from actuarial, financial and other available sources such as econometric and/or statistical journals. A summary of the primary findings and procedures appearing in the review articles will be written. As of the publication of this newsletter, the researchers have largely completed this item.

- **Development and Presentation of an Economic Scenario Generator Model**—There are three aspects

associated with this phase of the project. Work is currently underway on each of these:

- a) **Development of a model to represent economic and financial series**—Specific series include the term structure of interest rates, inflation, stock market levels, real estate price levels, unemployment rates and economic growth rates.

- b) **Parameter Estimation**—Relevant historical data will be used to parameterize the model.

- c) **Provision for Extreme Conditions**—Included in the model will be a provision to represent extreme financial and economic conditions through either appropriate parameter values or other means.

- **Creation of software that allows users to model economic and financial series**—Application of the model described above will be available through use of a software program created as part of the project.

- **Report and Articles**—A final report describing all aspects of the project will be written as well as articles intended to appear in pertinent actuarial publications.

The research team expects to complete its work by June 2002. With this and other research projects, the SOA is always interested in your feedback and suggestions as well as ideas for new projects. Please feel free to contact Steve Siegel, SOA research actuary at (847) 706-3578. ☛



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R&R Announcement—Biannual Award

The Investment Council is pleased to announce the winner of The first bi-annual award for best article in *Risks and Rewards*. Due to the high quality of the articles in the publication, the committee had a difficult time reaching a decision on the winner. Three articles: "Dynamically Hedging Insurance Product Risk" by Marshall Greenbaum in issue 34; "Exploring C-1 Risk in Issues 37 and 38" by Thomas Merfield; and "Understanding Equity Risk Premium" by Richard Wendt in Issue 38 were the three finalists. The winner was Understanding Equity Risk Premium by Richard Wendt. All the authors of *Risk and Rewards* articles are to be congratulated for their excellent contributions to the education of their fellow actuaries. ☛