

**Casualty Actuarial Society
Dynamic Risk Modeling Committee
Request for Proposal
Review and Comparison of Rating Agency Capital Models**

1. Casualty Actuarial Society (CAS)

The CAS was organized in 1914 as a professional society with the purpose of advancing the body of knowledge of actuarial science applied to property, casualty and similar risk exposures. This is accomplished through communication with the publics affected by insurance, the presentation and discussion of papers, attendance at seminars and workshops, collection of a library, funded research activities, and other means. The membership of the CAS includes over 3,800 actuaries employed by insurance companies, industry advisory organizations, national brokers, accounting firms, educational institutions, state insurance departments, the federal government, and independent consultants. Additional information about the CAS can be found at www.casact.org.

2. CAS Committee on Dynamic Risk Modeling

The Committee on Dynamic Risk Modeling facilitates research and provides direction, guidance, and support to the profession, regulators, and others regarding dynamic modeling of property/casualty risks. The committee is also responsible for monitoring and coordinating activities with other organizations or CAS committees working in the areas related to property/casualty dynamic risk modeling.

3. CAS Interest in the Subject

The CAS wishes to solicit original research on the topic of models used by rating agencies to calculate the amount of capital that is required by property and casualty insurance companies to achieve certain rating levels. The CAS is specifically interested in a study of the approaches taken and comparisons to stochastic modeling approaches such as Dynamic Financial Analysis (DFA).

4. Research Problem Description

The issue of rating agency opinions regarding capital levels has become even more important to property casualty insurers over the past several years. Issues such as adverse loss reserve development, asbestos reserves, and changing market conditions have put pressure on the capitalization levels of many insurers. Major rating agencies such as AM Best, S&P, and Moody's have risk based capital models, which they use to assess the capitalization needs of insurers.

There is an increasing interest in providing independent quantitative indications to insurers on necessary capitalization levels relative to the risks they assume. This is typically provided through stochastic simulation models, which produce risk distributions and use risk metrics such as VAR, EPD, and TVAR to impute capital needs.

The Committee on Dynamic Risk Modeling requests proposals from qualified researchers to produce a research document that addresses how the various capital models compare for the following items:

1. Insurance Product Segmentation
2. Asset Type Segmentation
3. Risk Categories
4. Risk Charges (Underwriting, Catastrophe, Credit, etc.)
5. Time Horizons
6. Risk Metrics
7. Risk Tolerance Level
8. Data Used in Parameterization
9. Diversification of Risk
10. Calibration of Results to Rating Levels
11. Output and Results

The research should also address the likely and significant differences in results between a capital needs analysis under a DFA and rating agency type approach. Issues to consider would include data sources, as well as the different approaches in the above categories and how the models would react to changes in economic, credit and insurance market pricing cycles.

The A.M. Best model and the Standard and Poor's model are publicly available, while the Moody's model is not publicly available. Completion of the research project will likely require discussions with the various rating agencies about the research being performed to obtain their cooperation.

5. Proposal Requirements

Proposals should include a clear outline of the work that will be performed and the time frame in which it will be performed, including key dates. The proposal should contain an abstract of around 200 words that provides the evaluating Committee with an overview of the proposed content and methodology.

The proposal must include a cost proposal. While a maximum budget of \$20,000 has been established for this project, the Committee will give preference to a lower cost proposal of otherwise equivalent merit to one or more higher cost proposals.

This proposal should be reviewed in conjunction with the attached research agreement, which defines the terms and conditions under which the work is performed.

Respondents should demonstrate their interest in and familiarity with the application of rating agency models and DFA analysis by including a resume (if a firm, of the principal consultant(s) performing or directing the work) showing relevant work/research experience and professional accomplishments (e.g., papers published).

The CAS will award the contract to the respondent who, in the judgment of the Committee on Dynamic Risk Modeling and entirely on the basis of his or her written proposal, is best able to perform the work as specified herein. If the Committee determines that no proposal meets the requirements of the RFP, then no contract will be awarded.

Receipt of proposals will be acknowledged. Respondents will be provided with a list of all respondents after the proposal submission deadline. Respondents not awarded the contract will be so informed shortly thereafter.

Interested researchers should submit their proposals and any questions in writing to:
Casualty Actuarial Society
Attn: Mike Boa, Manager, Communications and Research
1100 N. Glebe Road, Suite 600
Arlington, VA 22201-4798
Phone: (703) 276-3100; Fax: (703) 276-3108; E-mail: mboa@casact.org

The proposals will be reviewed by members of the Committee on Dynamic Risk Modeling.
The 2004 membership of the Committee includes:

Mark Shapland, Chairperson	Craig A. Allen
Nathan J. Babcock	Peter Burchett
Thomas P. Conway	Patrick J. Crowe
Karl Goring	Richard W. Gorvett
Philip E. Heckman	Larry D. Johnson
Michael R. Larsen	Glenn G. Meyers
Timothy Pratt	James E. Rech
Yves Saint-Loup	Chester John Szczepanski
Run Yan	

6. Groups Invited to Participate

Copies of this RFP will be distributed to the following groups. Respondents do not necessarily need to be a member of one or more of these groups to respond. The list below is not exhaustive.

- The Casualty Actuarial Society (CAS).
- American Risk and Insurance Association (ARIA).
- Institute of Actuaries/Faculty of Actuaries (UK).
- Institute of Actuaries of Australia.
- Educational institutions affiliated with the CAS through the Academic Correspondent and University Liaison Programs.
- The Risk & Insurance Management Society, Inc. (RIMS).
- The Association for Investment Management and Research (AIMR).
- The Global Association of Risk Professionals (GARP).
- The Society of Actuaries (SOA).

7. Schedule

February 26, 2004
RFP distributed

March 25, 2004 (end of business day)
Deadline for questions (must be written) from researchers regarding the RFP.

April 2, 2004
All written questions together with their answers will be distributed to all who submitted questions.

April 16, 2004
Proposal deadline (end of business day).

April 30, 2004

Proposal selection by Dynamic Risk Modeling Committee.

May 18, 2004

Approval by CAS Executive Council.

Draft Report and Final Report due date to be decided by researcher and included in proposal

8. Compensation

A maximum total of \$20,000 is available to be awarded to one or more researchers. Payment of award(s) will be contingent upon delivery of an acceptable research product.

9. Presentation, Ownership and Publication of Report

The selected researcher(s) will be required to sign the attached research agreement, which defines the terms and conditions under which the work is performed.

If asked, the researcher(s) agree to be available to present the report at a CAS meeting or seminar. If travel is required, reasonable expenses will be paid in addition to the compensation provided in Section 8.

The report should be formatted using the template that will be provided by the CAS. The CAS intends to copyright the report, post it to the CAS Web Site, and submit it to the CAS Committee for the Casualty Actuarial Society *Forum* for consideration as a CAS *Forum* paper. The author may also wish to submit the paper to the CAS Committee on Review of Papers for consideration of inclusion in the *Proceedings* of the Casualty Actuarial Society. The *Proceedings* is the CAS's refereed professional journal. Guidelines for submitting papers for publishing in the CAS *Proceedings* are as stated on the CAS Web Site at www.casact.org/aboutcas/guides.htm, and in the CAS *Yearbook*. The time and effort needed for submission and inclusion in the *Proceedings* is outside the scope of this RFP.

It is intended that any interested party can use the results of the report freely. The research will be considered work-for-hire and all rights thereto belong to the CAS. However, appropriate credit will be given to the researcher(s).

10. Research Agreement

The following is the proposed agreement terms and conditions. The researchers should raise questions about the agreement along with other questions in accordance with the deadlines in Section 7. The researches should also note any changes they wish the CAS to consider as part of their response to the RFP.

Review and Comparison of Rating Agency Capital Models

Agreement is made effective the _____ day of _____, 200_ by and between the Casualty Actuarial Society ("CAS") and _____ ("CONSULTANT"). Based on mutual consideration, the receipt and adequacy of which are acknowledged, the CAS agrees to contract for the services of the CONSULTANT, and the CONSULTANT agrees to provide services under the terms and conditions of this Agreement.

I. STATEMENT OF WORK

The CONSULTANT shall provide consulting services on behalf of the CAS to produce a research document that reviews and compares various rating agency capital models, or any related areas the CAS may request during the period of performance, as specified in the Request for Proposal (RFP), the terms of which are incorporated herein by reference.

II. PAYMENT FOR SERVICES (To Be Determined)

In full consideration of the services provided hereunder, the CAS agrees to pay CONSULTANT a maximum fee of \$xx,000, plus reasonable expenses incurred at the request of, and subject to advance approval by, the CAS.

The CAS agrees to pay \$xx,000 of the fee at the time of contract award. A monthly statement describing services rendered and expenses incurred shall be submitted to the CAS Committee on Dynamic Risk Modeling at the end of each month in which services are rendered or expenses incurred. Final payment for such services and expenses (less the \$xx,000 payment to be made at the time of contract award) shall be rendered by the CAS within 30 days after acceptance of the final report.

III. PERIOD OF PERFORMANCE

CONSULTANT shall provide the services until the project as described in the RFP is completed. This period of performance shall not be changed without the written authorization of the CAS.

IV. NOT-TO-EXCEED TOTAL LIMIT (To Be Determined)

Total payment under this contract including reasonable expenses incurred at the request of the CAS shall not exceed \$xx,000, unless authorized in writing by the CAS.

V. INDEPENDENT CONTRACTOR

It is understood and agreed that CONSULTANT is an independent contractor in the performance of this Agreement, CONSULTANT is not an agent or employee of, or partner or joint venturer with the CAS, and CONSULTANT is not authorized to act on behalf of the CAS.

CONSULTANT shall assume full responsibility for payment of all federal, state and local taxes with respect to performance of the CONSULTANT's obligations under this Agreement, and the CAS shall not be responsible for any benefits, insurance, or other payments not specifically agreed to in writing or under this Agreement.

VI. RIGHT TO ACT AS CONSULTANT; REPRESENTATIONS

CONSULTANT warrants to the CAS that he/she is not subject to any obligations, contracts, covenants or restrictions that would prevent him or her from entering into or carrying out the provisions of this Agreement. CONSULTANT represents and

warrants that the work prepared under this Agreement is the CONSULTANT's own original work; that the CONSULTANT is the sole owner of the work and all the rights being granted to the CAS in this Agreement; that the CONSULTANT has full right and power to make the assignment in this Agreement; that the work does not violate any copyright, proprietary, or personal rights of others; that the work shall contain no material from other copyrighted works without the written permission of the owner of such copyrighted material; that the work is factually accurate and contains no matter scandalous, libelous, unlawful, or otherwise actionable; that the CONSULTANT has not previously in any manner disposed of any of the rights granted to the CAS or previously granted any rights adverse or inconsistent with such grant of rights; that there are no rights outstanding which would diminish, encumber or impair the full enjoyment or exercise of the rights granted to the CAS under this Agreement; and that nothing contained in the contents of the work shall be injurious to the health of the user.

VII. TERMINATION

This Agreement may be terminated by the CAS at any time by giving written notice of such termination to CONSULTANT and paying to CONSULTANT any amounts owed for the pro-rata performance of the services under this Agreement. Upon receipt of such written notice, no further charges will be made under this Agreement. Termination shall not affect the CONSULTANT's obligations under articles IX, X, XI, and XII. CONSULTANT shall not terminate this Agreement except upon material breach by the CAS of its obligations under the Agreement.

VIII. HOLD HARMLESS

CONSULTANT shall indemnify and hold the CAS harmless from any and all suits, claims, damages or losses whatsoever, resulting from any act or omission or breach of any representation, warranty, or obligation under this Agreement by the CONSULTANT, his employees, agents, and subcontractors.

IX. CONFIDENTIALLY

CONSULTANT warrants that, to protect the privacy of respondents to surveys conducted, CONSULTANT will collect only the data needed for the purpose of their inquiry and inform each potential survey respondent about the general nature and sponsorship of the inquiry and the intended uses of the data. CONSULTANT also acknowledges that information it obtains in the performance of this Agreement is valuable and confidential. Accordingly, CONSULTANT agrees not to disclose any such information to any person not authorized by the CAS to receive it. Upon completion of the work, CONSULTANT shall deliver to the CAS all data, documents, reports, surveys, or other materials prepared by CONSULTANT in his performance under this Agreement.

X. COPYRIGHT

CONSULTANT hereby assigns to the CAS all right, title, and interest in and to the

work resulting from the services under this Agreement, including but not limited to all copyright and all rights subsumed thereunder.

XI. DISCOVERIES

CONSULTANT will promptly disclose to the CAS all discoveries made and ideas conceived by CONSULTANT in his performance of the services under this Agreement. CONSULTANT assigns to the CAS all right and title to such discoveries and ideas, and agrees to execute any and all such documents, as the CAS deems necessary to secure to it all right, title and interest in such discoveries and ideas.

XII. PATENTS

CONSULTANT hereby grants a perpetual royalty free license to any of CAS members or other users of the CAS' publications for use of any patents or other procedures described in the work.

XIII. AMENDMENT

This Agreement may be amended only by a written document, signed by both the CAS and CONSULTANT.

XIV. ASSIGNMENT

CONSULTANT may not assign this Agreement or any right hereunder. Any such attempted assignment shall be void.

XV. GOVERNING LAW

This Agreement shall be governed by the laws of the Commonwealth of Virginia, and CONSULTANT hereby agrees to the exclusive jurisdiction of the courts of Virginia.

CONSULTANT

CASUALTY ACTUARIAL SOCIETY

by
Name _____

by
Name _____

Title _____

Title _____

Date _____

Date _____