



## **Request for Proposals to prepare an Educational Monograph on the Topic of Issues Associated with the Determination of Discount Rates for Financial Reporting Purposes**

### **1. Introduction and Background**

- 1.1. The International Actuarial Association (IAA) is an association of national actuarial associations. Our sixty-three Full Member actuarial associations represent more than 95% of all actuaries practicing around the world. The IAA promotes high standards of actuarial professionalism across the globe and serves as the voice of the actuarial profession when dealing with other international bodies on matters falling within or likely to have an impact on the areas of expertise of actuaries. The requirements for membership in the IAA are set out in the Statutes and Internal Regulations, which can be found on our website, [www.actuaries.org](http://www.actuaries.org). The IAA's strategic objectives are to:
- Identify, establish, and maintain relationships with key supranational audiences and provide them with actuarial input to improve the soundness of decisions being made on important issues with a global impact.
  - Facilitate the use and expansion of the scientific knowledge and skills of the actuarial profession, including beyond the traditional areas of actuarial practice, to help enhance the scope, availability, and quality of actuarial services offered by individual members of its member associations.
  - Establish, maintain and promote common standards of actuarial education, common principles of professionalism and model standards of actuarial practice for use by member associations worldwide.
  - Support the development, organization and promotion of the actuarial profession in areas of the world in which it is not present or is not fully developed.
  - Provide a forum for discussion among actuaries and actuarial associations throughout the world.
- 1.2. As part of its research and educational objectives, the IAA is interested in facilitating and providing educational material that is accessible to all actuaries everywhere.
- 1.3. As many of the contingencies with which actuaries deal with relate to cash flows occurring in the future, the time value of money is significant to the economics and in turn the current value of those cash flows. As a result, the reflection of the time value of money, often in the form of discount rates or discount rate curves applied to expected future cash flows can be significant. Since discounting those cash flows has been of fundamental importance in many actuarial practice areas, over the last few decades the discounting process has become more refined, particularly in response to developments in the capital markets and observable prices that are relevant to the assessment of the time value of money.

- 1.4. In addition, the growth of knowledge and available information in areas such as finance and the capital markets over the last few decades indicates that there is a need for a widespread understanding of important aspects of both conceptual and practical techniques relating to the discounting process in actuarial practice. Areas of application include financial reporting for insurance contracts and for certain pension/employee benefit plans, capital needs assessment and internal management decision-making. These applications call for more refined techniques than some actuaries have historically applied.
- 1.5. Regarding financial reporting, practical aspects of the selection of and measurement of elements of the decomposition of observed discount rates may prove valuable to many actuaries. For example, the International Accounting Standards Board (IASB) Discussion Paper on the IASB's preliminary views on accounting for Insurance Contracts (2007) indicated that discount rates should be determined "in a way that captures the characteristics of the liability...consistent with observable current market prices for cash flows whose characteristics match those of the insurance liability, in terms of, for example, timing, currency and liquidity" that may require adjustments for at least those factors. Also, the IASB has signaled its intent to carry out a fundamental review of IAS 19, *Employee Benefits*, in the near future, with setting discount rates forming a key part.
- 1.6. Relevant issues include, but are not limited to:
  - a) Extension of the yield curve past the period for which forward rates can be reliably observed on open and liquid markets.
  - b) Practical methods of measuring illiquidity premiums.
  - c) Alternative approaches of deriving "risk-free" rates, including the assessment of government offered security prices and swap rates.
  - d) Expected default losses and alternative approaches to measuring default risk margins.
  - e) Approaches to estimate the effect of illiquidity and foreign currency risks
  - f) Possible inclusion of the insurer's/sponsor's credit risk in setting discount rates (e.g., to non-insured pension plans where the benefit provided is dependent on the continued financial health of the sponsor and the non-performance risk of the obligation).
  - g) Use of replicating portfolios.
  - h) Applicable stochastic methods and option-pricing techniques.
  - i) Discount rate methods applicable to liability measurement where the application is directly related to the investment performance of a designated set of assets (e.g., participating life insurance and unit-linked/variable contracts).
  - j) Methods that might be used in jurisdictions in which there are no reliable observable market prices.
  - k) Methods that might be used in hyper-inflationary jurisdictions.
  - l) Practical approximations.
- 1.7. There has been a great deal of literature, particularly in the finance and actuarial areas (including articles, papers and books), on the topic of interest rates and their application. Nevertheless, there exists a need for a more comprehensive summary of

alternative approaches, directed specifically towards significant issues and approaches of actuarial interest.

- 1.8. As a result, the IAA is anxious to facilitate the development of educational material on the topic of concepts and practical methods that can be used in the application of the discounting process for the purpose of (insurance company) financial reporting, capital assessment and internal management reporting of (i) insurance companies and (ii) pension and employee benefits obligations on the sponsor entity.

## **2. Existing Work on the Topic**

- 2.1. Many of the issues associated with the topic are discussed in section 5 of the IAA's "Measurement of Liabilities for Insurance Contracts: Current Estimate and Risk Margins" (April 2009). It is strongly suggested that this should be reviewed prior to submission of a proposal.
- 2.2. Many other papers or books are relevant, including:
  - a) "Theory of Interest" by Stephen G. Kellison, third edition (2008) Society of Actuaries.
  - b) "Task Force Report on the Liquidity Premium" (March 2010) Committee of European Insurance and Occupational Pensions Supervisors.
  - c) "Summary of Liquidity Premium Estimation Methods" by Barrie & Hibbert (October 2009).
  - d) "Actuaries and Discount Rates" by Chris Daykin and Chinu Patel (May 2010).

## **3. Anticipated product**

- 3.1. This RFP is intended to produce a monograph of between 100 and 200 pages, covering both the conceptual framework for determining discount rates and practical techniques of their measurement.
- 3.2. The audience for the monograph is intended to be primarily practicing actuaries who have a basic statistical background, as provided by the education programs of actuaries, e.g., those of the Institute of Actuaries (U.K.) or the Society of Actuaries (North America).
- 3.3. The monograph must contain three main sections:
  - a) Background / conceptual framework / methods (see paragraph 3.4 for more detailed issues to be covered). This section should provide practicing actuaries a firm foundation in the concepts underpinning the measurement of the time value of money. This would include a decomposition of the discount rate, and methods that have historically been used to construct those rates. In particular, these should relate to the determination of discount rates applicable to the measurement of liabilities and assets for the purpose of financial reporting.
  - b) Practical examples / case studies, including illustrations of a selection of successful and practical measurement techniques that can be used in this area. Illustrations of these successful applications should be included,

including transparent case studies of each. The monograph should include examples of model usage that have been generally accepted, if not as standard practice, in the areas of general purpose and regulatory reporting, economic valuation, and/or other areas of (insurance) financial reporting or financial management. It is accepted that standard practice needs to be looked at on a country by country basis recognizing difference in law or market or social practices. Examples of cross-jurisdictional standard practice are preferred.

- c) References to supporting technical papers or texts and any other base material that is relevant to the subject matter addressed.

3.4. Topics included in the background/conceptual framework/methods section (see paragraph 3.3.a) must include at least:

- a) The time value of money and discount rates/discount rate curves
- b) Alternative approaches to the discount rate process, e.g., fair values
- c) Market observable and modeled values
  - Sources of inputs
- d) Decomposition of the discount rates
  - Term effects, especially for long terms
- e) Possible bases for "risk-free" rates, e.g., those indicated in the IAA (2009) paper
- f) Approaches to incorporate currency and sovereign risks
- g) Credit and illiquidity risks
  - Components (expected value and risk/uncertainty margin)
  - Interrelation
  - Limitations of each technique
- h) Stochastic methods
  - Development of probability distributions useful in the application of these techniques
  - Economic scenario generation
- i) Treatment of investment-related expenses
- j) Determination of benchmark rates, e.g., how to determine a high quality corporate bond rate
- k) Construction of variability indicators and correlations
- l) Own investment assumption rates
- m) Own credit adjustment (non-performance risk) if done through discount rates
- n) Methods of communication of methods, assumptions and results.

3.5. The application / case study section (see paragraph 3.3.b for possible overall structure of the monograph) must include at least:

- a) Approaches where observable market data is not available
- b) Replicating portfolio examples
- c) Illiquidity premium determination methods
- d) Treatment of currency risk

#### 4. Request for Proposal

- 4.1. The IAA invites appropriately qualified and experienced respondents to submit proposals to prepare the requested monograph.
- 4.2. Both the proposal and the end product will be in English.
- 4.3. Proposals are expected to expand upon the brief outline provided in paragraphs 3.3 through 3.5.
- 4.4. Proposals must include at least the following sections:
  - a) Statement of qualifications, including resumes of the principal authors. This section should indicate how the background, education and experience of the principal authors and the resources of the firm/entity responding relate to their qualifications to undertake this work. Specifically, proposers should indicate their qualifications and expertise in the areas of insurance financial reporting and capital assessment, statistics, finance, and stochastic modeling. This section of the proposal should include a list of relevant work, publications and applications conducted.
  - b) A proposed outline for the background section, listing main topics and first-order sub-topics. In addition, provide a current estimate of the approximate number of pages allocated to each topic expected to be covered.
  - c) A draft proposed list of issues and corresponding techniques that are anticipated to be included in the practical examples / case studies section, with the understanding that this may be modified as the project progresses. This section of the proposal should include a description of the firms' and principal authors' experience with the issues to be addressed in the monograph.
  - d) Total cost, including all applicable loads and taxes.
  - e) If any deviation is made to the above described proposal or approach taken to the monograph, please indicate what they are and why they have been proposed.
  - f) Statement of agreement to sign a research agreement with the IAA, if selected, within 30 days of the award of the project.
  - g) Contact information.
- 4.5. In order to be considered, all proposals must be received at the contact address in paragraph 6.1 **no later than close of business on July 15, 2010**. Receipt of all proposals will be acknowledged.
- 4.6. If proposers have questions before submission of the proposals, they should be sent electronically to the e-mail address or by phone to the person indicated in paragraph 6.1. All efforts will be made to provide a prompt response.

## 5. Critical proposal and project dates

Date	Step
May 12, 2010	1. Release of RFP
July 15, 2010	2. Proposals received by IAA
August 30, 2010	3. Award of project
September 30, 2010	4. Contract signing deadline
November 15, 2010	5. Outline of monograph received by IAA
December 2010	6. Comments on monograph outline returned to authors
April 2011	7. Draft of the monograph due
May 2011	9. Comments on the draft returned to authors
July 2011	9. Final monograph due

## 6. Address to use for submission of proposal

- 6.1 Proposals should be received no later than the **close of business on July 15, 2010** at the address below. Proposals may be submitted as Word or Adobe PDF files to:

Mrs. Katy Martin  
Project Manager, Technical Projects  
International Actuarial Association  
800-150 Metcalfe Street  
Ottawa, Ontario  
Canada K2P 1P1  
Phone: 1-613-236-0886  
Fax: 1-613-236-1386  
E-mail: [katy.martin@actuaries.org](mailto:katy.martin@actuaries.org)

## 7. Evaluation and Selection Process

- 7.1. Proposals will be evaluated on the following criteria:

Criteria	Approximate weight
Technical qualifications of the principal authors and their firm	25%
Experience in the use of the models discussed in the application/case study section	25%
Publication qualifications of the principal authors, i.e., demonstrated ability to write clearly for a non-technical audience	25%
Cost	25%

- 7.2. The IAA Committee on Insurance Accounting will appoint an ad hoc project oversight group, including several of its members and representatives of the funding organizations to evaluate the proposals received. This group may request clarification

or additional information during the evaluation process. It is the current intent to have the ad hoc group recommend to the IAA Committee on Insurance Accounting with respect to the proposals received. It is expected that a decision regarding acceptance or refusal will be reached in about 30 days from the due date for the proposals. In addition, the ad hoc project oversight group will be responsible for providing guidance to the authors relating to the outline of the monograph, advising the authors of any required changes to the monograph, and providing approval in respect to the final product.

- 7.3. The IAA reserves the right not to award a contract for this purpose. Reasons for not awarding a contract could include, but are not limited to, a lack of acceptable proposals or a finding that insufficient funds are available to proceed. The IAA also reserves the right to redirect the project as is deemed advisable.

## **8. Proposal Funding**

- 8.1. Funding for this work is being provided primarily by both actuarial organizations and the IAA itself. It is expected that the successful proposal will be given on a do-not-exceed fixed fee, plus reasonable expenses incurred at the request of, and subject to advanced approval by the IAA. The IAA understands that the price may not completely fund the entire expected cost of preparing the monograph. In recognition of this, the selected individuals / firms will be publicly recognized as part of the distribution of the monograph.
- 8.2. The IAA anticipates that it will pay 25% of the fee at the time of contract award, 25% of the fee upon receipt of the draft of the monograph, and the remaining 50% within 30 days after acceptance by the IAA of the final report.

## **9. Presentation, Ownership and Publication of the Report**

- 9.1. If asked by the IAA, the principal authors agree to be available to present their work at one or two actuarial meetings, to be agreed upon. If travel is required, reasonable expenses in accordance with IAA policy will be paid in addition to the compensation provided in the research agreement.
- 9.2. As a condition of selection, the IAA will require that the intellectual property in the monograph, including copyright, patent, titles and all rights and interests in any country or language, will belong to the IAA. The selected authors/firms must sign a formal Agreement that assigns the intellectual property and all ownership rights to the IAA. Of course, in any publication of the monograph, the authors and their firms will be given appropriate credit. The IAA retains the right to publish the monograph electronically and/or in hardcopy, and will bear all costs of such publication.