Jenny Ligthart

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1. CALL FOR PAPERS NAKE RESEARCH DAY 2004

The NAKE Research Day 2004 will be held on October 22, 2004 at the Dutch Central Bank in Amsterdam. As in previous years, the NAKE Day will be combined with the Tinbergen Lecture organized by the Royal Netherlands Economic Association.

Abstract Submissions

If you would like to present a paper in one of the parallel sessions, please submit an abstract (of less than 200 words) as soon as possible and no later than September 27, 2004. You can submit your abstract via the registration form (available at http://www.nake.nl) or, alternatively, e-mail your abstract (preferably in Word and not in PDF) to the NAKE secretariat at nake@uvt.nl.

Ph.D. students participating in the full NAKE program are especially encouraged to submit their paper with a view to fulfill part of the requirements toward the NAKE Diploma.

Participation Fee

A fee of 25 euro is charged, including your lunch and drinks, which is due (in cash) at the registration desk. Members of the Royal Netherlands Economic Association (KVS) pay a reduced fee of 10 euro.

Provisional Program

08.15 Registration
09.15 Opening
09.30 Parallel sessions
11.00 Coffee/Tea
11.30 Parallel sessions
13.00 Lunch
14.00 Parallel sessions
15.30 Coffee/Tea
15.50 Tinbergen Lecture: Introduction by Hugo Keuzenkamp
16.00 Tinbergen Lecture: Hans-Werner Sinn (University of Munich, CESifo)
16.50 Tinbergen Lecture: Aart Jan de Geus (Minister of Social Affairs and Employment)
17.40 Drinks

Registration

You can register now at: http://fewcal.kub.nl/nake/nakedayinfo_04.htm
More information can be found at the NAKE Day website via www.nake.nl.

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2. ASSISTANT/ASSOCIATE PROFESSORS AT UNIVERSITY OF AMSTERDAM

Faculty of Economics and Econometrics
The Faculty of Economics and Econometrics (FEE) has over 3,000 students in Management, Accounting, Finance, Economics and Econometrics. It also has research programmes in these areas. The Faculty employs approximately 400 people.

The following full-time positions are vacant at the Department of Business Studies:

Three Assistant/Associate Professors of Management (international business/management; strategy/organisation; marketing)

Job profile
Assistant/Associate Professors of Management(international business/management; strategy/organization; marketing)full-timejob reference number 04-5022

Function
The successful applicants will undertake and help coordinate research and teaching in the field of management broadly defined. The Department of Business Studies has a broad profile and includes strategy, organisation, marketing, international business, information management, sustainable management, finance and accounting.

Requirements
Requirements are a PhD, the ability to initiate and implement international standard research, demonstrated teaching excellence, and the ability to teach in English. The ability to stimulate and encourage the research of others and an international publication record are additional requirement for associate professors. Short listed candidates will be asked to give a seminar or lecture. If the appointee does not speak Dutch she/he is expected to acquire a reasonable knowledge of the language within two years.

More information
Information can be obtained from Prof.dr. A. Kolk, chair of the appointment committee, phone +31 20 525 4289, E-mail akolk@uva.nl; or from Prof.dr.B. Rees, director of the Amsterdam graduate Business School, phone +31 20 525 5338, E-mail w.p.rees@uva.nlThe university is located in the centre of Amsterdam. For more information on the FEE and its Amsterdam graduate Business School, please check respectively www.fee.uva.nl or www.agbs.nl

Appointment
The salary will be on the salary scale for assistant/associate professors at Dutch universities and in accordance with the collective agreement regulating employment conditions at Dutch universities. The date on which the appointment is to begin will be determined by mutual agreement, preferably early 2005. The appointments involve tenure-track positions, with an appointment for initially three years, to become tenured upon proven suitability.Official Dutch scales for assistant professorships run from Euro 38,024.00 (minimum scale 11) to Euro 59,356.00 a year (max scale 12) gross per annum. For associate professors they run from Euro 52,850.00 (minimum scale 13) to Euro 70,748.00 a year (max scale 14) gross per annum. Favorable tax agreements may apply to non-Dutch applicants. The newly appointed assistant/associate professors will participate in an attractive pension scheme.

Job application
Interested applicants should send their CV, and a cover letter describing their research and teaching interests to: Personnel Department, Faculty of Economics and Econometrics, University of Amsterdam, Roetersstraat 11, 1018 WB Amsterdam, The Netherlands, include the job reference number on both letter and envelope. You can also e-mail your application to: pz-fee@uva.nl. The closing date for applications is 15 October 2004.

Refer to
Website Amsterdam graduate Business School (AgBS)website Faculty of

Economics and Econometrics (FEE)homepage Universiteit van Amsterdam (English language)salary scales conform CAO Vereniging van Universiteiten (VSNU) (Dutch language)
No acquistion

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3. FULL PROFESSORS OF MANAGEMENT AT UNIVERSITY OF AMSTERDAM

Faculty of Economics and Econometrics
The Faculty of Economics and Econometrics (FEE) has over 3,000 students in Management, Accounting, Finance, Economics and Econometrics. It also has research programmes in these areas. The Faculty employs approximately 400 people.

Job profile
Full Professors of Management(international business/management; strategy/organisation)full-timejob reference number 04-5021

Function
The successful applicants will undertake and help coordinate research and teaching in the field of management broadly defined. The Department of Business Studies has a broad profile and includes strategy, organisation, marketing, international business, information management, sustainable management, finance and accounting.

Requirements
Requirements are a PhD, a significant international publication record, the ability to stimulate and encourage the research of others , demonstrated teaching excellence, and the ability to teach in English. Short listed candidates will be asked to give a seminar or lecture. If the appointee does not speak Dutch she/he is expected to acquire a reasonable knowledge of the language within two years.

More information
Information can be obtained from Prof.dr. A. Kolk, chair of the appointment committee, phone +31 20 525 4289, E-mail akolk@uva.nl; or from Prof.dr. B. Rees, director of the Amsterdam graduate Business School, phone +31 20 525 5338, E-mail w.p.rees@uva.nlThe university is located in the centre of Amsterdam. For more information on the FEE and its Amsterdam graduate Business School, please check respectively www.fee.uva.nl or www.agbs.nl

Appointment
The salary will be on the salary scale for professors at Dutch universities and in accordance with the collective agreement regulating employment conditions at Dutch universities. The date on which the appointment is to begin will be determined by mutual agreement, preferably early 2005.Official Dutch scales for full professorships run from Euro 59,000.00 (minimum scale 2) to Euro 103,000.00 a year (max of scale 1) gross per annum. Favorable tax agreements may apply to non-Dutch applicants. The newly appointed professor will participate in an attractive pension scheme.

Job application
Interested applicants should send their CV, and a cover letter describing their research and teaching interests to: Personnel Department, Faculty of Economics and Econometrics, University of Amsterdam, Roetersstraat 11, 1018 WB Amsterdam, The Netherlands, include the job reference number on both letter and envelope. You can also e-mail your application to: pz-fee@uva.nl. The closing date for applications is 15 October 2004.

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No acquisition

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4. POSTDOC AT UNIVERSITY OF AMSTERDAM

The Faculty of Economics and Econometrics (FEE) has over 3,000 students in Economics, Econometrics, Fiscal Economics, Operations Research and Management, Actuarial Sciences and in Graduate and Master's programmes. Research is conducted in a wide range of areas. A large part of the research takes place within the Tinbergen Institute-UvA. The Faculty employs approximately 400 people.

The section Actuarial Science of the Department of Quantitative Economics of the Faculty of Econometrics and Economics has a vacancy for a postdoc – fulltime (38 h.p.w.).

The topic of research is
The theory of dependency of risks applied to Asset-Liability Modelling. The grant (by NWO) is for 2 years.

Requirements: PhD in actuarial science, econometrics, mathematical statistics or applied probability theory.

Description of the program
In the actuarial-financial approach of insurance business an important research question, introduced recently, is the behavior of financial insurance streams generated by insurance portfolios and insurance companies as a whole. Stochastic cash flows emerge, discounted with stochastic interest rate models. Until recently only numerical simulation generating empirical distributions by means of scenario testing was available, and to some extent applied, within a financial insurance context. This is because it is difficult to derive specific analytical or numerical schemes to compute the distribution functions of the cash flows under consideration. These difficulties can be circumvented by considering comonotonic risks, which have an economic financial justification. As a consequence, reliable tails for the distribution of cash flows are obtained which provides us with probabilities in the framework of the IAS19 standards with respect to fair value and supervisory value, taking into account financial pricing of the relevant cash flows.

The postdoc will continue the research on this topic, in close cooperation with researchers both at the Universiteit van Amsterdam and the KU Leuven.

Current state of the project
In the two years since the project started, we succeeded in giving acceptable results for the calculation of the distribution of cash-flows and in obtaining both upper and lower bounds for the distribution of random cash-flow. The distribution of a general cash-flow (with both positive and negative terms describing income and liabilities) is approximated very efficiently by means of copula functions. Some interesting results on multivariate extreme value modelling have been obtained. The methodology for obtaining upper and lower bounds (based on comonotone and conditionally comonotone random variables and processes) has been implemented successfully, and resulted in a lot of interesting results in insurance models. Through our approach, we get analytical results (easily computable) for the distribution of present values of stochastic annuities without having to resort to numerical simulations. The results are not only valid for the classical Black and Scholes market model, but they can be extended to include general stochastic processes such as Bessel processes, providing more realistic tails for return distributions. We have deduced a new numerical algorithm that is the fastest and most accurate one for calculating Asian options. The results have been submitted to and accepted by journals on mathematical finance.

Based on a Markowitz approach, general results for optimal investment were obtained, indicating that many actuaries and people working in mathematical finance have a wrong understanding of the application of his concepts. We believe that very relevant results have been obtained which make it possible to connect economic capital and residual risk. Perhaps the most striking result so far of this research is the possibility to avoid time consuming scenario testing by direct evaluation of the distributions needed, which leads to a valuable tool in ALM techniques.

In addition to the items contained in the original research proposal, based on the same unifying concept of comonotonic approaches, this research has

created related results. Indeed, the basic concepts in the actuarial reserving and risk taking strategies rely heavily on the notion of economic capital. In the present approach we succeeded in providing the instruments for describing the role of economic capital and capital allocation taking into account diversification effects. These theoretical results in the mean time have had some influence on the RBC-approach from the IAA and the S&P rating agency. We have the impression that some of our theoretical results can serve as a basis (and are in fact a breakthrough) for the capital adequacy of financial conglomerates.

Information
Information can be obtained from, prof.dr. Rob Kaas, phone +31 (0)20 525 54230 or e-mail R.Kaas@uva.nl or prof.dr.Marc Goovaerts, phone +31-20-5254230 (Thursdays only) or +31(16)326738 or e-mail Marc.Goovaerts@econ.kuleuven.ac.be

Appointment
The position will be for 2 years. The salary is in accordance with the university regulations for academic personnel (Collective Employment Agreement), and will be dependent on the experience and quality of the applicant, with a minimum of 2,179 EUR (salary scale 10) before tax, up to a maximum of 4,027 EUR (salary scale 11) per month.

Applications
Please direct applications, including a cover letter, curriculum vitae and two reference letters before September 1, 2004 to the Personnel Department of the Faculty of Economics and Econometrics at the Universiteit van Amsterdam, Roetersstraat 11, 1018 WB Amsterdam, the Netherlands.

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5. PHD STUDENT AT UNIVERSITY OF AMSTERDAM

The section Actuarial Science of the Department of Quantitative Economics of the Faculty of Econometrics and Economics has a vacancy for a PhD student – fulltime (38 h.p.w.).

The topic of research will be Statistical aspects of non-life insurance. In particular, research will be aimed at the use of Generalized Linear Models in actuarial science. Apart from many rating problems, also IBNR-reserving can be tackled by using various types of GLM's.

This program will involve close cooperation with the actuarial and statistical research groups of the KU Leuven and possibly the City University, London.

Requirements: preferably an MSc in actuarial science, but applicants with a degree in econometrics or mathematical statistics and an interest in actuarial science and insurance models will also be considered.

Short description of the project
The Ph.D. student will do research on Generalized Linear Models in actuarial science. The research will aim to discover new applications of the technique, and variants thereof, to insurance problems, e.g., IBNR problems (determining a claims reserve to be held by an insurer), rating problems, risk classification, survival modelling (graduation, constructing life-tables), multiple state models, loss distributions,

Description of Generalized Linear Models
Generalized Linear Models in the sense of Nelder and Wedderburn have many applications in actuarial science. GLMs are used, for example, as the standard method for all premium rating for personal lines in the UK, for graduation, and so on. Also, in the US and in the rest of the world the use of GLM's is rapidly gaining acceptance. In general, actuarial problems do not fit smoothly in the framework of ordinary linear models: there is asymmetry (skewness), dependence of the variance of the observations on their mean, as well as multiplicative rather than additive effects of parameter level changes are the rule. The generalization with respect to ordinary linear models is that GLMs do not rely on normality, but may also use other distributions from the exponential dispersion family, including (multiples of) Poisson random variables, normal, inverse gaussian and gamma

distributions. Using this approach, one is able to describe a wide range of mean-variance relations, from constant variance to a variance proportional to the third power of the mean. Also, instead of assuming the mean observation to be linear in the collateral data, linearity on other scales such as logarithmic or probit may be modeled. GLMs are flexible enough to allow application in many situations, but on the other hand their formulation is tight enough to allow one general algorithm to maximize the likelihood. They do not require transformation of the data, and hence avoid the problems incurred when transforming the estimates back to the original scale.

Some venerable actuarial rating techniques are actually instances of GLMs, see Kaas et al. (2001, Ch.8). For instance the so-called `direct method' is actually maximum likelihood in a multiplicative GLM with gamma-errors, the `method of marginal totals' has Poisson errors, whereas the Bailey-Simon method uses minimal chi-squared estimation rather than maximum likelihood. In this direction, research is possible into models with a different structure, like GAMs (Generalized Additive Models), see for instance Verrall (1996, 2000).

A prime example of successful application of GLMs in actuarial problems is in estimating IBNR-reserves (provisions to be held for claims that have been incurred, but are not yet reported, or as yet not fully paid). This is a recurring problem in actuarial practice; see for instance Kaas et al. (2001, Ch.9) for a description of the problem. The basic data generally consists of past payments, broken down by policy year and by development year, and grouped into a so-called IBNR-triangle. To project future payments, hence to set up a suitable provision, one postulates that the random incremental payments satisfy a multiplicative model E[Xij] = ?i?j?i+j-1, and either a lognormal model (the log(Xij) are normal with known weights and fixed variance of the errors), or a Generalized Linear Model in the sense of Nelder and Wedderburn for the Xij. Note that time plays a role in three forms: an effect of policy year i (portfolio growth), of development year j, and of calendar year (`inflation') i+j. One approach to reduce the number of parameters involved is to assume that, e.g., the ?j are derived as the probability that claims are reported in a certain time interval after inception of the policy, and that this elapsed time follows some waiting time distribution like a gamma with only a few parameters. In the GLM case, the observations are assumed to be independent drawings from a distribution in the exponential dispersion family. To obtain a prudent provision like the 80% or 99% quantile, or an interval estimate rather than just a point estimate, the distribution of the sum of all the unobserved Xij (discounted or straight) must be determined, including both the process and the parameter uncertainty. For the latter, analytic techniques may be derived, but also bootstrapping techniques are available. This is a non-trivial problem because of the correlations between the parameter estimates. One may estimate these correlations from the data, but there are in general as many of those as there are observations. One may also replace the correlation structure by an `optimistic' or a `pessimistic' one, relying on the results of Dhaene et al. (2002). In Hoedemakers et al. (2003) it is shown that this approach is very promising.

Some references

- Dhaene, J., Denuit, M., Goovaerts, M.J., Kaas, R. & Vyncke, D. (2002). "The concept of comonotonicity in actuarial science and finance: Theory". Insurance: Mathematics and Economics, 31(1), 3-33.
- Haberman, S., Renshaw, A.E. (1996). "Generalized linear models and actuarial science". The Statistician, 45(4), 407-436.
- Hoedemakers, T., Beirlant, J., Goovaerts, M.J. & Dhaene, J. (2003). "Confidence bounds for discounted loss reserves". Insurance: Mathematics and Economics, 33(2), 297-316.
- Kaas, R., Goovaerts, M.J., Dhaene, J. & Denuit, M. (2001). "Modern Actuarial Risk Theory". Kluwer Academic Publishers, The Netherlands.
- Verrall R. (1996). "Claims reserving and generalized additive models", Insurance: Mathematics & Economics, 19(1), 31-43.
- Verrall R. (2000). "An investigation into stochastic claims reserving models and the chain-ladder technique", Insurance: Mathematics & Economics, 26(1), 91-99.

Information

Information can be obtained from, prof.dr. Rob Kaas, phone +31 (0)20 525 54230 or e-mail R.Kaas@uva.nl

Appointment
The positions will be for a maximum of 4 years. Monthly salary will be 1,702 EUR in the first year, increasing to 2,283 EUR in the fourth year.

Applications
Please direct applications, including a cover letter and CV before September 1, 2004 to the Personnel Department of the Faculty of Economics and Econometrics at the Universiteit van Amsterdam, Roetersstraat 11, 1018 WB Amsterdam, the Netherlands.
