

Actuarial Education – alternative routes for new associations

Different routes to become an actuary

Around the world actuarial associations recognize a number of different routes to becoming an actuary; many of them recognize more than one route. The main alternatives can be summarized as follows:

- passing a recognized set of professional examinations (exams set and marked by an actuarial association);
- obtaining a waiver from some of the actuarial profession's exams by means of an accredited university course, followed by further professional examinations;
- completing a university degree in actuarial science, usually at Masters level, followed by work experience;
- completing a degree and then passing some exams controlled by the government or another official body, such as a regulator;
- completing a degree and then taking some practice-specific exams organized by the profession;
- admission on the basis of mutual recognition of qualifications from another actuarial association.

University education

In most actuarially developing countries, there are no universities with an established capacity to teach actuarial science. Most universities are able to offer courses in mathematics, statistics and economics, which are basic building blocks for actuarial programmes, but few are able to go beyond this, partly through lack of lecturers with appropriate knowledge and skills and partly, in many cases, through lack of awareness of actuarial science and the actuarial profession. One aspect of developing actuarial education in a new situation may be to encourage the involvement of one or more high quality universities, working with the mathematics, statistics, economics or finance faculties to develop some elements of actuarial education at the university.

Professional examinations

There are a number of actuarial associations which have traditionally offered their professional examinations not only in their own country but also more widely, in some cases in very many locations around the world. The main professional examination systems operating in a number of countries are those run by:

- Actuaries Institute (Australia)(AIA)
- Casualty Actuarial Society (CAS - United States)
- Institute and Faculty of Actuaries (IFoA - United Kingdom)
- Institute of Actuaries of India
- Society of Actuaries (SoA - United States)

A fuller list of actuarial associations which offer professional examinations is given in Annex 1.

The Society of Actuaries and the Institute and Faculty of Actuaries exams are offered in locations all over the English-speaking world and also in a number of other countries where English is not the national language. The Casualty Actuarial Society exams are also available outside North America but in a more limited set of locations. The Actuaries Institute (Australia) exams are available in a number of mainly Asian and Australasian locations (also in London, UK; individual

arrangements can be made for students to sit in other locations) and the Institute of Actuaries of India exams are available throughout the Indian subcontinent and in some adjacent countries.

Administering professional exams is a very labour-intensive process, normally carried out with the assistance of a large number of volunteers from among the qualified actuaries in the association. Some actuarial associations have opted for a strong relationship with universities in their country, so that a large part of the professional examination requirements can be met by attendance at university courses, with the exception only of the final Fellowship examinations. This is the case in Australia and in South Africa.

Options for individuals in actuarially developing countries

In general those in actuarially developing countries who are interested in studying to become actuaries have limited options, the main ones usually being the following:

- study by distance-learning and sit for the examinations of one of the international professional bodies
- go to an actuarially developed country to attend an actuarial course at a university

It should be noted that the SoA, CAS and IFoA professional exams are extremely demanding and take a long time to complete, even for students in North America and the UK respectively, most of whom have considerable support in their studies. Even with all these advantages, completing the Fellowship exams typically takes 6 or 7 years in the SoA or CAS systems and 5 or 6 years with the IFoA. Reaching the Associateship typically takes about two-thirds of the time needed to reach the Fellowship.

Students in actuarially developing countries will often be isolated, have very little support, financial or otherwise, from their employers, no face-to-face tuition opportunities, limited exposure to actuarial concepts in their work and no senior actuarial role models or mentors. In addition the costs of buying tuition materials, paying membership dues to the foreign professional association and meeting the examination fees all add up to a considerable financial burden. Many of them also have to study and take exams in a language which is not their mother tongue and struggle to understand the very different financial and business environment which is taken for granted in the study materials and the exams.

In order to assist students in countries with much lower salary levels than the UK, US and Australia, the SoA, CAS, IFoA and AIA have in place specially reduced exam fees and dues for students in countries which meet certain criteria regarding their GDP per capita or income levels. In the case of the US associations, annual membership dues only become payable on attainment of the Associate designation.

In summary, it is clear that there are enormous barriers in the way of those from actuarially developing countries who want to pursue the profession. These barriers are financial, linguistic, cultural, intellectual and practical. It takes a seriously determined young person to overcome all these obstacles and qualify as a Fellow of the Society of Actuaries or a Fellow of the Institute and Faculty of Actuaries, or even as an Associate of one of these professional bodies. The number doing so is for the most part very small.

Options to assist associations in actuarially developing countries

Some experiments are under way to extend the use of these English language exam systems to other languages. The IFoA exams are now offered in Israel in the Hebrew language at the same

time as they are offered in English around the world. Israeli students can answer the questions in Hebrew and success in these exams is recognized by qualification as a Fellow of the Israel Association of Actuaries. The local examiners follow the guidelines laid down by the IFoA Board of Examiners. Students who opt to answer in English can have their scripts marked by the IFoA Board of Examiners and can gain passes in the IFoA exam system.

Several associations are using the IFoA subject ST9 (Enterprise Risk Management) to enable them to offer a CERA (Chartered Enterprise Risk Actuary) designation. As with the Israeli arrangements mentioned above, the exam is set in English but students can answer in their local language in order to get assessed towards achieving a pass in the local process for becoming a CERA.

Similar arrangements could be envisaged for other exams and other associations. The Russian Actuarial Guild is using some of the tuition materials for the IFoA exams, translated into Russian. The exams are set by the Guild in Russian, but they are using as models for this the past examination papers of the IFoA.

The SoA exams have for many years been made available also in French, in order to cater for francophone actuarial students in Canada. The SoA exams have also been used as the model for developing many of the exams of the China Association of Actuaries, which are offered in Mandarin.

Other options to consider include a one-off diploma programme, offered in a series of modules over two or three years, in order to deliver an initial level of actuarial education. This can be arranged in association with one of the larger actuarial associations, or implemented through Actuaries Without Borders (AWB), who are keen to use their volunteer resources to supply education assistance to actuarially developing countries. Usually it will be necessary to find a financial sponsor to cover the travel and accommodation costs, even though no fees are payable to the volunteers under these programmes.

The IFoA are now also offering a Certified Actuarial Analyst qualification (CAA), which is at a lower level than the IAA core syllabus requirement for a qualified actuary. There are five technical exams (including a mathematics entry test) and a practical exam on spreadsheet modeling. They are being rolled out from 2014 and will all be available on-line for computer-based testing in centres all round the world. It is expected that it would take someone two to three years to complete this qualification. The CAA qualification is not a qualification as an actuary but is intended for those who are in support roles to actuaries. However, it would be a much easier qualification to obtain as a first step. It is anticipated in due course, subject to demand, to provide a conversion route for CAAs to get onto the exam track towards Associate and Fellow of the IFoA.

A Training the Trainers programme is being implemented by French, Spanish and Portuguese universities to get university lecturers up to a level where they can run actuarial courses at local universities. This programme is being implemented in Senegal in West Africa and in Colombia in Latin America.

Help and advice on developing actuarial education may also be obtained through the Actuarial Educators' Network (www.actuaries.org/AEN)

Annex 1

Actuarial associations offering examinations for qualification as an actuary

Actuarial associations organizing professional examinations for their own members (and sometimes to a small extent more widely) include the following:

- Institute of Actuaries of Japan (in Japanese)
- Deutsche Aktuarvereinigung (Germany) (in German)
- Het Actuarieel Genootschap (Netherlands) (in Dutch)
- Instituto Brasileiro de Atuária (Brazil) (in Portuguese)
- Institute of Actuaries of South Korea (in Korean)
- China Association of Actuaries (in Mandarin)
- Israeli Association of Actuaries (in Hebrew)
- Actuarial Society of the Philippines (in English)
- Persatuan Aktuaris Indonesia (in Indonesian)

Actuarial associations offering professional examinations at exam centres in the home country and more widely around the region:

- Actuaries Institute (Australia)
- Institute of Actuaries of India
- Actuarial Society of South Africa

Actuarial associations offering professional examinations at exam centres in multiple locations around the world:

- Casualty Actuarial Society (specialism in general or property-casualty insurance and risk management)
- Institute and Faculty of Actuaries (all specialisms)
- Society of Actuaries (all specialisms – from fall of 2013 onwards a general or property-casualty insurance track is being made available in addition to the other traditional tracks)