

**INTERNATIONAL ACTUARIAL ASSOCIATION
PRESIDENTS' FORUM
PARIS, 28 MAY 2006**

EDUCATION

The proposals of the Task Force on the Feasibility of a Global Actuarial Qualification are presented at item B11 of the IAA Council Agenda for Paris, with some of the background to the relatively short Task Force report contained in Annex 2 to the Report. Key features of the Task Force report include:

- the IAA should not issue credentials or qualifications directly;
- the award of qualifications must remain a matter for member associations;
- the IAA should develop an education and examination programme (IAEP);
- this should include developing a network of entities, probably mostly universities, to teach actuarial science;
- it should also involve the preparation of tuition materials to cover the whole of the IAA education requirements;
- the IAA should retain overall control of the examination process in order to ensure consistent quality, although the actual examinations could be delegated to various organisations;
- member associations could rely on individuals passing modules of the IAEP in order to demonstrate compliance with the relevant parts of the IAA education requirements;
- the IAEP would be one of a variety of routes for attaining the education level necessary to be compliant with the IAA education requirements; and
- the development of the IAEP would be financed by the World Bank and other donor agencies over the first 5 years but would need to be self-financing after that

These proposals from the Task Force are designed to take advantage of the offer from the World Bank to work with the IAA on the development of the actuarial profession in countries where the profession is not yet established. They meet the concerns that have been expressed about subsidiarity, allow for a diversity of systems of education that are able to satisfy the IAA education requirements and yet provide the opportunity to develop a cost-effective, neutral (and hence not culturally or politically threatening) international education and examination system, which will be available for any association that wants to use this, rather than developing (or maintaining) its own independent process for educating and setting qualification standards for actuaries.

On the assumption that the Task Force report receives the support of the IAA Council, a number of important issues will then need to be addressed as we move towards implementation of the project to develop an IAEP. These will include the following questions:

- will the IAA education requirements need to be updated before the IAA embarks on the IAEP?
- can the IAA commission tuition materials for each subject area based on the syllabus and guidelines as currently promulgated, or will it be necessary to develop first a more detailed curriculum or a set of "core reading"?

- what criteria will need to be met by 'new' universities and other organisations interested in participating in the IAEP?
- how can a network be developed to provide new actuarial science departments with academic and practical support from longer established departments?
- will it be possible to develop regional centres of excellence to teach the more advanced subjects, such as Principles of Actuarial Management, for which access to experienced actuaries to help with the teaching is essential?
- to what extent will it be possible for the IAA to rely on universities or other organisations to examine the subjects of the IAEP?
- if the IAA is to develop a set of professional examinations, would they cover all the subjects in the IAA education requirements and how would such an examination system be governed and administered?

These and other questions will require detailed consideration by the International Education Programme Committee (IEPC), which is expected to be set up by the Council if the Task Force report is approved in Paris. This paper is intended to stimulate some initial discussion of the principles at the Presidents' Forum, in order to provide a steer to the IEPC.

IAA Education Requirements

The education requirements are due to be reviewed by the IAA Education Committee. On the one hand it would seem essential to ensure that the requirements are fit for purpose, if they are to form the basis for an education programme that will contribute to the underlying objective of the World Bank, namely to produce well-qualified professional actuaries in countries where there are none (or very few) at present, so that they can play a key role in helping to develop a stable financial sector. On the other hand, it could be argued that the current education requirements were designed to be appropriate for just this sort of purpose, and that any move to strengthen the education requirements now, immediately following the 2005 assessment process, will impose new burdens on associations that have already achieved the status of Full Member Associations (FMAs).

However, the Education Committee was already of a mind to review the education requirements, having achieved the implementation of the accreditation process which was foreseen from the start of the new IAA, and they are keen to ensure that the requirements do not become ossified. The IAEP proposal has simply brought a greater element of urgency into this process.

Aspects to be considered include:

- is there sufficient coverage of finance and financial economics?
- are the necessary tools included for actuaries to be regarded as equipped to analyse and manage a wide range of risks and not just insurance risks?
- is the required knowledge of investments and of asset/liability modelling at the right level?
- is it clear that all the important concepts underlying actuarial practice in all of the main application areas are covered? And that successful candidates would be equipped with sufficient practical knowledge to be able to perform effectively and autonomously as qualified actuaries, with adequate

competence in pricing, reserving, reporting, accounting, actuarial risk management and solvency control?

- does there need to be some requirement to be educated to a higher level in the application of actuarial techniques in at least one practice area? What about country-specific knowledge in the relevant applications?
- is it accepted that there may be actuaries with general skills who do not have specific advanced technical competence in one of the traditional fields of actuarial endeavour?
- how do the IAA education requirements compare to the requirements for the Chartered Financial Analyst and international risk manager designations (FRM from GARP and PRM from PRMIA)? Could we develop the IAA requirements so as to be able to demonstrate that these other designations cover just a subset of the IAA education?

Commissioning of tuition materials

The current IAA education requirements are very skeletal in nature, giving little idea in some cases of detailed content or of the depth or breadth of coverage of a subject that is expected. Tuition materials developed by the IAA will need to go to a considerable level of detail if they are to be suitable for distance-learning – and even for use by universities who are starting to teach actuarial science for the first time.

The IAA could simply commission tuition materials for each subject from different potential authors (those likely to be interested in bidding for this work would include university actuarial departments, individual academics or non-academic actuaries, FMAs, commercial tuition providers or even actuarial consulting firms). However, in order to be able to exercise any degree of quality control, it seems probable that it will be necessary to expand the current syllabus into a much more detailed curriculum or even go first to the stage of a set of core reading, which might be seen as defining the knowledge which students will be expected to acquire, and will be the basis on which the examinations are set.

The tuition material would then build on this core reading to develop a full distance-learning course of study. In some cases this might be achieved by identifying specific text-books that could be said to define the detailed syllabus requirements (or combinations of several text-books). However, experience with using text-books to define the detailed requirements is that they rapidly become out-of-date.

Criteria for university participation

For a university in a developing country to be able to introduce an actuarial science course, they would need to have strong existing capabilities in mathematics and statistics, and preferably access to economics and finance departments. It cannot be expected that many (if any) such universities will have professors or lecturers who have any actuarial qualifications, but professors who are strong in mathematics and statistics could pick up the material required for a number of the subjects in the IAA education requirements, particularly with access to the full set of tuition materials of the IAEP.

It will be a challenge for some of them to be able to implement the more specifically actuarial subjects, such as actuarial mathematics of life insurance, general insurance and pensions, investment and asset management and the Principles of Actuarial Management subject. For these subjects, more direct involvement of well-

established universities or other organisations with a track record in these subjects will be essential. It will also be desirable to try to identify universities or other organisations in different regions of the world that could be better placed to develop a capability in these subjects and to create regional centres of excellence in strategic locations

Reliance on universities and other higher educational entities

Many FMAs rely substantially, or even completely, on universities to deliver actuarial education at a level necessary to satisfy the IAA education requirements. Others allow for university education in certain subjects to be considered for exemption from some professional examinations. However, in general this happens only with universities that have a long track record of actuarial education and much experience of handling actuarial topics. It will be an entirely different matter for many of the new university actuarial science departments that we anticipate will be set up in developing countries, or countries where there is currently little actuarial presence. It will not be possible, at least for some while, for the IAA to rely on these new teachers of actuarial science to be able to examine to a reliably high standard so as to ensure the credibility of a global system. Greater reliance may be able to be placed on these new departments in subjects with which they are already familiar (and which are perhaps not so critical to the achievement of credibility for the IAEP), such as basic statistics and economics.

Otherwise it will be necessary either to subcontract the examining role to universities or other organisations with experienced actuarial science departments, or to run a set of global professional examinations. The latter might be the most satisfactory from the point of view of quality control, but would also involve the greatest level of direct participation in the process by the IAA.

Governance and administration of an IAA professional exam system

Several FMAs have substantial experience of running a global professional exam system, involving a mixture of paid staff and actuarial volunteers. Arrangements are already in place to administer examinations in over a hundred locations around the world (outside the 'home' countries of the FMAs). These include appropriate examination centres, arrangements to courier exam papers and completed scripts around the world, invigilation, security controls, marking processes and so on. The IAA will certainly be able to learn directly from these experiences, or perhaps buy in to them by sub-contracting many of the tasks to these organisations.

One could envisage, for example, a future world in which there was an actuarial examination centre in every major city, at which students would be able to sit the IAEP examinations. However, the same centres might also offer examinations of the Society of Actuaries, the UK Actuarial Profession, the Institute of Actuaries of Japan, the European Actuarial Academy, the Casualty Actuarial Society and the Institute of Actuaries of Australia. Students would be able to sit exams from the different systems as they wished, and there would be substantial levels of mutual acceptance of exam passes between the systems. Indeed some of the papers might be common between some or all of the different systems!

Discussion

This short paper has not sought to cover comprehensively the arguments for and against different aspects of these key questions, or to come up with any recommendations for the best way forward, but has simply raised a few issues to encourage discussion. In the early days of the IEPC, it will be important to have as much input from FMAs as possible, so that the IEPC can discern the directions of future development that will carry most support from FMAs. It will be the task of the IEPC to develop the main principles and guidelines for the development of the IEPC, and for the full-time project team, established once the donor funds begin to flow, to work out in detail how to implement the IEPC in accordance with these principles and guidelines.

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