



SOCIETY OF ACTUARIES

Article from:

# International News

June 2012 – Issue No.56



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## A Note on the Actuarial Profession in Switzerland

By Carlos Arocha

Swiss actuaries form a clearly defined profession. In 1905 the Swiss Association of Insurance Mathematicians<sup>1</sup> was founded. In 1995 it was renamed the Swiss Association of Actuaries (SAA). Well before the association's original foundation date, early scientists like Basel-born Leonhard Euler<sup>2</sup>, or the several members of the Bernoulli family<sup>3</sup> (who also lived in Basel), contributed in a meaningful way to the Swiss mathematical tradition. Today, Basel is closely associated with its tennis legend Roger Federer, or in banking circles, with the Basel Accords—which incidentally might have triggered the development of economic capital concepts in insurance, enterprise risk management, and ultimately the overhaul of solvency standards in Europe.

The Swiss actuarial education is a mixture of university-based courses, practical work experience and a final examination offered by the Swiss Association of Actuaries.

In the 1990s the Insurance Legislation Treaty between the European Union and Switzerland paved the way to the deregulation of the Swiss insurance market and the introduction of risk-based solvency regulation. The appointment of an actuary by insurance companies was discussed and the SAA decided to introduce a membership category of Qualified Actuary, based on the core syllabus of International Actuarial Association (IAA) and the *Groupe Consultatif* (GC), an association that brings together the actuarial societies in the European Union. With the establishment of the Swiss Solvency Test, the risk-based capital standard for insurance companies, the onus of adherence to principles was passed on to Senior Manage-

ment, and not to the Appointed Actuary, but the professional distinction between the Qualified Actuary and the Member of SAA had already been made.

The Qualified Actuary<sup>4</sup> is then a “full member” in the sense of both the IAA<sup>5</sup> and the GC. Such individuals will normally hold a degree in mathematics or actuarial science in a university where the syllabus has been agreed to by the SAA. To date, five universities have been approved: Basel, Berne, Lausanne, Zurich, and the Swiss Federal Institute of Technology Zurich.

Besides a university degree in mathematics or actuarial science, candidates must prove at least three years of work experience (usually at the actuarial department of an insurance or reinsurance company), and must pass a final examination on both a selected actuarial topic, and the SAA's Code of Conduct.

Most actuaries in Switzerland are affiliated with the insurance, reinsurance, and consulting industries, with a relatively high concentration working in the major Zurich area. As of this writing there are about 1,100 members of the SAA, of which some 600 hold the Qualified Actuary credential. The Society of Actuaries' headcount in Switzerland is 70, of which 32 individuals are FSAs. These numbers are seemingly high in a country with a total population of 7.7m.

As the insurance and consulting industries continue to evolve and new challenges in regulation, economic capital, and insurance financial reporting are to be faced—coupled with the emergence of developments in enterprise risk

management, extreme value theory, and quantitative finance—the actuarial profession in Switzerland is well positioned to forge ahead. □

#### END NOTES

<sup>1</sup> Or in German, *Vereinigung Schweizerischer Versicherungsmathematiker (VSVM)*

<sup>2</sup> Leonhard Euler (1707 – 1783) was a pioneering Swiss mathematician and physicist, who made important discoveries in fields as diverse as infinitesimal calculus and graph theory. He also introduced much of the modern mathematical terminology and notation, particularly for mathematical analysis, such as the notion of a mathematical function.

<sup>3</sup> For example, Jacob Bernoulli, one of the most prominent mathematicians in the family, who discovered the constant  $e$  by studying a question about compound interest which requires to find the value of the expression:

$$e = \lim_{n \rightarrow \infty} \left( 1 + \frac{1}{n} \right)^n$$

<sup>4</sup> Actuary SAA, or in German, *Aktuar SAV, Aktuar der Schweizerischen Aktuarvereinigung*

<sup>5</sup> Fully Qualified Actuary, or FQA in the International Actuarial Association's parlance.