

To: CASTF
From: Stuart Klugman, FSA, CERA, PhD, SOA Staff Fellow, Education
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Analysis of SOA General Insurance Candidates

This report will be in two sections. The first section provides a summary of all individuals who have done something that identifies them with the SOA's General insurance track. The second part is an analysis of those who have taken exams or modules that are unique to this track.

SOA General Insurance Actuaries and Candidates

Transfer of CAS designations and/or exams

Shortly after approving the track, the SOA Board of Directors approved a policy that would allow those with fellowship or associateship in the CAS to obtain the equivalent designation with the SOA. In addition, waiver of equivalent SOA exams was offered to those with CAS exam credit. As of November 1, 2014, the following statistics relate to individuals who have selected these options. Approval occurs only at Board meetings, so these numbers will be unchanged until the next meeting, to be held in March of 2015.

FCAS -> FSA

There have been 68 such recognitions. The location breakdown is US – 51, Canada – 7, Other – 10.

ACAS -> ASA

There have been 34 such recognitions. The location breakdown is US – 28, Canada – 0, Other – 6.

The ACAS transfer provides waiver credit for the Introduction to General Insurance (INT), Introduction to Ratemaking and Reserving (IRR), and Financial and Regulatory Environment (FRE) exams.

Exam waivers

43 candidates have had some SOA exams waived based on CAS accomplishments (not including waivers based on ACAS, but there is overlap). The location breakdown is US – 27, Canada – 3, Other – 13.

Exam and module candidates

Not counting the FCAS -> FSA transfers, 122 individuals have entered the SOA track in some meaningful way. 11 can be discounted as they appear to be unlikely to be aiming for the FSA on this track.¹ Of the

¹ Two are FSAs who have taken the Applications of Statistical Techniques (AST) module and two are FSAs who have taken the INT exam. The AST module may have been taken for CPD credit. It is unclear why an FSA would take the INT exam. One is an ASA of the Group/Health track taking the AST module. Four others are FCASs, all who have taken the AST module. The tenth has no apparent affiliation (taking AST) and the eleventh is a candidate who has attempted several preliminary exams without success.

remaining 111, 46 have transferred CAS credits and have not yet done anything that is unique to the SOA track. The remaining 65 have done something in pursuit of an FSA on the General Insurance track.

To obtain a location distribution that may be representative of the future set of candidates, the following table reflects the 65 individuals mentioned above. With approximately 25% of SOA candidates overall reside outside the U.S. and Canada, having more than half of these candidates in the rest of the world reflects the SOA's emphasis on this market. However, there is also a sizable pool of domestic candidates.

Country	Number
United States	30
Canada	1
Australia	2
Bahrain	1
Bermuda	1
China	4
Dubai	1
Egypt	2
Hong Kong	4
Israel	1
Japan	1
Kenya	1
Malaysia	3
Mexico	1
Pakistan	1
Saudi Arabia	1
Singapore	3
Taiwan	3
Trinidad and Tobago	4
Total	65

SOA General Insurance track exams and modules

The remainder of this note provides information about the candidates who have written the four SOA exams that are specific to the General Insurance track as well as the one track-specific module. Various statistics are presented for each one. The SOA does not disclose the pass mark for its fellowship exams.

Note that all statistics are based on small sample sizes.

Introduction to General Insurance Exam

This is a 1.5 hour examination with 60 multiple-choice questions. It is based on material created by The Institutes. There have been two administrations of this examination (February and August 2014).

The following statistics apply to the two administrations:

	February 2013	August 2014
Number of candidates	15	17
Number of effective candidates*	15 (100%)	17 (100%)
Number of passing candidates	10 (67%)	6 (35.3%)
Range (high minus low)	27 (of 60 points)	26 (of 60 points)
Coefficient of variation	0.18	0.22

*An effective candidate is one scoring at least 50% of the pass mark

Introduction to Ratemaking and Reserving

This is a 5 hour examination with 20-25 written-answer questions. Most of the material is from the text *Fundamentals of General Insurance Actuarial Analysis*. There is additional material on catastrophe modeling, excess of loss coverage and retrospective rating. This exam has been administered two times. Results are in the following table:

	Fall 2013	Spring 2014
Number of candidates	11	10
Number of effective candidates*	10 (91%)	10 (100%)
Number of passing candidates	5 (45%)	4 (40%)
Range (high minus low)	59 (of 100)	30 (of 100)
Coefficient of variation	0.39	0.15

In Fall 2013 there were some exceptionally weak candidates (hence the wide range of scores and the higher coefficient of variation). There were no similar candidates for the Spring 2014 administration.

Financial and Regulatory Environment

This is a 5 hour examination with 20-25 written-answer questions. The primary reference is the text *General Insurance Financial Reporting Topics* with many additional readings from various sources including actuarial and regulatory organizations. There has been only one administration (Spring 2014) and there was one candidate. That candidate passed and exam statistics have little value.

Setting a pass mark for an exam with no prior administration and one candidate can be difficult. The first steps used were those employed for all SOA exams. The exam committee came to an agreement on the number of points a minimally qualified candidate should earn on each question. The sum forms a preliminary pass mark. Then, after reading candidate papers (one paper in this case) minor adjustments are made if it appears candidates attacked a question in a different manner than expected or that the question may not have been as clearly written as the committee believed. After grading is completed there may be minor adjustments of the preliminary pass mark. For this administration, the one candidate was well above the preliminary pass mark.

Advanced Topics

This is a 2 hour examination with 8 written-answer questions. The syllabus covers a variety topics using published papers or purpose-written study notes. There has been one administration of this exam, in Spring 2014. The relevant statistics are in the following table:

Number of candidates	4
Number of effective candidates*	4 (100%)
Number of passing candidates	2 (50%)
Range (high minus low)	5 (of 40 points)
Coefficient of variation	0.11

This was the most difficult of the exams for setting the pass mark. While one of the four candidates performed at an unacceptable level, the other three were in the vicinity of the preliminary pass mark. After considerable deliberation the pass mark led to two passing candidates.

Application of Statistical Techniques

Modules use a different process than exams. Candidates work through the content at their own pace. The only deadline is that the module must be completed within one year of purchase (a six-month extension may be purchased). As no candidates have reached the one-year mark it is not surprising that few have finished. The module ends with a graded exercise. No score is recorded, the graders assign a pass or fail to each paper. Failing candidates may resubmit their work.

This module introduces candidates to the R computing environment and applies it to generalized linear models (with an emphasis on classification ratemaking) and measuring reserve variability. Other advanced analytics techniques are also introduced.

Evaluating the candidate pool is difficult as it appears many of the registrants are using the module for continuing education rather than to pursue the General Insurance FSA. As of November 1, 2014 a total of 29 individuals have registered for the module and appear to be pursuing a General Insurance FSA. To date 6 candidates have submitted their exercise with 5 passing.