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SOME THOUGHTS ON POPULATION AFTER A TRIP TO INDIA

by Frederic Seltzer

Marble palaces inlaid with precious jewels shimmering in the moonlight, sparkling fountains playing in Moghul gardens, crumbling forts commanding forgotten cities, soaring temple towers carved with myriad aspects of strange gods, ephemeral visions on dusty desert roads, the eternal Buddha of frosty mountain slopes

Much of the countryside was stripped of trees and erosion was much in evidence. A long drought in some areas and a cyclone in others had driven people from their homes to find food and water in already overcrowded cities, where power and water supplies were sometimes rationed or entirely cut off. People slept in the streets or in shanties amid new skyscrapers thrusting up to often polluted skies. Attractive figures painted on signs promoting family planning looked down upon a multitude of naked children playing in squalid surroundings. Recent gains in public health and reductions in mortality had increased the population to over 550 million, but the quality of life seemed little different from that of my last visit to India in 1965.

Populations growing, spiraling out of control. Cities unable to cope—to provide housing and employment, clean water and air. As I walked city streets and drove through rural villages my thoughts returned to the United States. Is the American future to be found somewhere in the confusion assailing my senses? Many of our cities are crowded and lack necessary housing and some have already experienced water and power shortages. In addition, *Current Population Reports P-25 No. 470* of the Bureau of the Census has forecast a

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INSTITUTE OF ACTUARIES

The Institute of Actuaries celebrated its centenary in 1948 and on that occasion E. M. McConney presented to the Institute, on behalf of the Actuarial Society of America and the American Institute of Actuaries, a silver pitcher and tray. The presentation is recorded with an accompanying photograph on pages 14 and 15 of *Volume 1* of the *Proceedings of the Centenary Assembly*. The Institute reports that the pitcher and tray have been useful as well as ornamental and have been used at sessional meetings and other appropriate occasions.

Unfortunately, in August 1971, there was a burglary at Staple Inn during which the pitcher and tray were stolen together with several other gifts of silver. The Board of Governors decided to replace the gift and this was transported to England by President Bowles and presented to the Institute when Mr. Bowles attended the meeting where Geoffrey Heywood gave his presidential address. The gift was suitably acknowledged by Mr. Heywood.

The Society is glad to restore this form of insurance against possible excessive dryness at Institute discussions.

SEMINAR STUDY MANUAL

Richard L. London F.S.A., and Steven B. Russ A.S.A., *Study Manual for the Society of Actuaries Examination Part 7*, Graduate School of Actuarial Science, Northeastern University, Boston, pp. 209. \$12.50.

by Linden N. Cole

Students returning to their companies after experiencing "total immersion" in an actuarial seminar at Northeastern University have been enthusiastic about the value of the seminars to them. Now the staff at Northeastern has decided to share the study materials with the actuarial world, and has published a series

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TOMORROW'S ACTUARY

by Tim Giles

At the Dec. 14 meeting of the Baltimore Actuaries Club, I reported on a seminar for actuaries held by IBM at Poughkeepsie, N. Y. on Nov. 13-15. Presentations were made by IBM personnel on storage devices, terminals, virtual storage, virtual memory, multiprogramming, new programming languages (BASIC and APL), and the valuation modules (ALIS and CFO II). Presentations were also made by actuaries on how they were using these new techniques: corporate modelling, pension proposals, pension valuations, and ratebook revisions.

The main inference drawn from the seminar was that actuaries can now program without suffering the drawbacks of FORTRAN: the core limitations, key punching, turn-around time, decimal placement, output arrangement, etc. The new languages use a typewriter, are in commonly understood notation and plain English, and handle basic decisions like decimal placement on an exception basis. The new equipment enables many people to program at the same time and offers direct access to policy record files.

Creativity will surely be enhanced by this new opportunity to converse directly with the computer without waiting to get a test run returned. We will be less timid to pursue questions that occur in mid-project. The weary frustration marking the attitude of today's actuary toward computers will be overcome by new students entering the profession from colleges that have terminals available for homework assignments.

Besides doing mortality and lapse studies directly from a terminal in the actuarial department we can look forward to greater computational facility. Claim distributions can be calculated di-

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Seminar Study Manual

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of study manuals for the actuarial exams. It appears to me, after examining the Part 7 manual, that candidates will not necessarily have to buy the manuals to stay in the competition to pass the exams. The manuals may, however, help students who are not sure how to approach the syllabus for a particular exam.

The Part 7 manual consists of outlines and practice exam materials. The outlines are generally good, although some are not as good as others. The outline of the "Expense Analysis" study note, for example, takes seven pages, hardly a helpful summary of only 18 pages in the original study note. On the other hand, the outline on dividends brings together at least four partially overlapping sources into a single outline, which is quite an achievement and very helpful.

The practice exam materials are of some value for review. Short answer quizzes are always helpful, as are practice multiple choice exams. Students cannot rely entirely on these particular materials, of course, since they will confront questions on the actual exam that differ materially from the emphasis and scope of the Study Manual.

The section which contains old exam questions and illustrative solutions is of questionable value. For one thing, old exam questions may have been based on study material that has since been revised. For another, the Society provides illustrative solutions for the last three exams already, and it should be easy to accumulate material for years prior to that by asking recent students of the particular exam. Finally, all old exam questions are printed in the Society's yearbooks, and it would appear most helpful for the student to take these questions and develop his own answers from the study material.

Outlines have their uses but the person who benefits most from outlines of this sort is the person who prepares them. The discipline of organizing material into outline form, with the need to identify primary and secondary points and their inter-relationships, serves to fix the material in the outliner's mind, in addition to providing him a summary of the material for his review. The warning in the preface of the Study Manual

about the dangers of studying the outlines instead of the original readings might be extended to cover the dangers of relying on any outlines prepared by someone else.

The Northeastern outlines might be useful as auxiliary aids to the student's independent study. They provide a good model for the student who wants to undertake an outlining project. Also, the student who has prepared his own outlines can compare his outlines with the Northeastern outlines to locate areas where he (or Northeastern!) has missed important points. Thus the student who has strengthened his knowledge of the syllabus already by working through it for himself can make his grasp on the study notes even stronger by using these outlines wisely. The same result can be accomplished, of course, if two students work on outlines independently, and then compare the results.

Approaching the syllabus by attempting to answer questions drawn from it is especially valuable to the student who develops his own practice test materials. The method is to analyze a section, or a paragraph, by identifying the central points; to determine what questions might be asked to test those points; and to invent variations which might be added to the questions to see if the student really understands the central points or not. Students working together can write questions for each other, thus further testing their own understanding of the study material. If someone has the Northeastern study manual around, it will provide still more review questions, but the most helpful work to the student will be the work that he does in developing his own practice test material.

These outlines are no substitute for individual study and while they can be helpful the student should remember that they were developed for an intensive study course at Northeastern University. The successful examination record of Northeastern students may well owe more to the study habits than to the manuals.

The author is Education Vice-Chairman of the E & E Committee and was formerly Chairman for Part 7 of the examinations. This review represents only the author's personal opinions; it does not represent the official view of the E & E Committee.

Actuarial Meetings

Feb. 21, Seattle Actuarial Club
 Feb. 26, Chicago Actuarial Club
 March 8, Baltimore Actuarial Club
 March 19, Chicago Actuarial Club
 March 21, Actuaries Club of Des Moines
 March 22, Seattle Actuarial Club
 March 27, Actuaries' Club of Hartford
 April 5, Central Illinois Actuarial Club
 April 9, Chicago Actuarial Club
 April 12, Baltimore Actuaries Club
 April 18, Actuaries Club of Des Moines

Deferred Taxes

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vided on policyholders' surplus unless payment of taxes on these amounts is imminent. Also, it will not be necessary to recalculate policyholder's surplus using GAAP amounts.

(4) Companies preparing financials on a GAAP basis for the first time will need to retroactively adjust for deferred taxes. As a result, as much as 48% of the one-shot increase in GAAP surplus could be set up as deferred taxes.

The approach to deferred tax account which has been adopted is more pragmatic than theoretical. For example, discounting for time of payment of taxes seem to be more consistent with the reserving for other future expenses and benefits. However, discounting for deferred taxes is presently prohibited by the APB.

Tomorrow's Actuary

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rectly from basic probabilities so that risk analysis can be better understood by the many actuaries who are not comfortable with statistical theory. Implications for group insurance are obvious, but perhaps even asset shares can be jazzed up a bit by introducing a random element so that we will be talking about the range of profit, not just the expected value. "The Release from Risk Method" of adjusted earnings would get a boost from that.

If programming becomes as easy as driving an automobile, then tomorrow's actuary had better learn where the highways go.