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LINKAGE OF NONFORFEITURE VALUES WITH VALUATION RESERVES

by John R. Gardner

Editor's Note: This report was prepared for the use of the Committee on Nonforfeiture Values. Mr. Gardner is Vice Chairman of the Committee.

The following commentary, after highlighting the strong linkage that currently exists between valuation reserves and nonforfeiture value requirements, discusses the origins of this relationship. It is concluded that this linkage is undesirable and should be severed.

Standard valuation and nonforfeiture laws tie closely together minimum required nonforfeiture values and policy valuation reserves on both a policy by policy basis and on aggregate basis. The linkage is forceful in that the required relationships between mortality and interest assumptions and expense allowances cause the policy reserve generally to be not less than the minimum nonforfeiture value applicable to that contract. Typically, the minimum nonforfeiture value is the policy valuation reserve less the unamortized balance of an initial expense allowance. The valuation law also requires that aggregate reserves be not less than aggregate reserves calculated on the nonforfeiture mortality and interest basis.

The 1941 Report of the Committee to Study Nonforfeiture Benefits and Related Matters commissioned by the National Association of Insurance Commissioners stated clearly that this linkage should be broken. Among the conclusions in Chapter XI one finds:

"There is no necessity for the requirement that valuation of policy reserves and determination of nonforfeiture benefits be made on the basis of the same mortality table and rate of interest. Such a requirement is unnecessarily awkward and does

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SYMBIOSIS

This issue of *The Actuary* is being distributed to all members of the Casualty Actuarial Society. We are glad of this opportunity to exchange periodicals with our Casualty colleagues and we invite their comments and subscriptions. *The Actuary* is published monthly except for July and August. The annual subscription is $4.50.

EXPERT WITNESS

Joseph G. Van Matre and William N. Clark, *The Statistician as Expert Witness*: The American Statistician, Vol. 30, No. 1, February, 1976.

by Frank L. Griffin, Jr.

"The Statistician as Expert Witness," (an article that appeared in the Feb. 1976 issue of The American Statistician), has general application to anyone serving as an expert witness in a court of law, especially in its remarks about the ethical responsibilities of such a person and in its advice on preparing to give testimony.

For these points in particular the article is a worthy reference for actuaries, who are frequently called to testify on matters involving life contingencies — such as life estates and reversionary interests, and measures of lost earnings over work-life expectancies in personal injury cases. In fact, the entire article might well have been written by substituting the word "actuary" for the phrase "economist statistician."

The article points out: "Expert Witnesses may be men of science educated in the art or persons possessing special or peculiar knowledge acquired from practical experience. One need not have years of graduate work and several de-

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Reports of Consultants on Actuarial and Definitional Aspects of Social Security Disability Insurance, U.S. Government Printing Office, Washington, D.C., 1976, pp. 176.

by Robert B. Shapland

This publication presents the reports of three consultants to the Subcommittee On Social Security of the Committee On Ways and Means, U.S. House of Representatives along with a copy of a proposed draft of HEW regulations regarding the use of nonmedical factors in determining disability. All of this material is concerned with the disability portion of the Social Security Act and more specifically, with certain aspects of the definition of disability and the increases in benefit utilization that are taking place under this disability program.

The proposed regulations regarding the use of vocational factors in the disability determination process are a formalization of current operating instructions. They involve a detailed classification of age, education, and work experience, and define the level of each which, in conjunction with the various levels of medical impairment, produce a finding of disabled or not disabled. For example, an individual limited by medical impairment to sedentary work, age 55 or over, with limited education (7th through 11th grade), and skilled or semiskilled work experience that is not transferable to other occupations, is defined as disabled.

The report by Edwin Yourman, formerly the Assistant General Counsel, Social Security, is entitled *Feasibility Of A More Objective Test For Disability Under the Social Security Act.* Here, Mr. Yourman discusses the pros and cons attendant upon the current and proposed rules for disability determination. He recommends that consideration be

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Expert Witness

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grees to qualify as an expert; he need only have special skill in or knowledge of a particular subject."

On matters of ethics, a person asked to testify as an expert is cautioned to "insure that he understands fully the nature of the subject matter about which he is expected to testify." Messrs. Van Matre and Clark add: "The expert may find it necessary to advise the lawyer that the subject matter is so commonplace as to be beyond the need of expert testimony, or so at variance with the expert's own field of knowledge that another expert should be consulted." This will sound very familiar to actuaries whose ethical standards require expertise in a given field before rendering advice in it.

The authors also caution that the expert witness may be easily caught up in the zeal of the advocate who employs him, and state that he should remain an independent agent. The expert witness is not an advocate and "can best serve himself as well as his employer by being neutral. If the results of his study fail to support the lawyer's position, the lawyer will not likely use the data or the expert."

Speaking with benefit of some experience in this area, the reviewer can add that in the case of actuarial testimony (as in other highly technical fields) the witness frequently may find his role to be largely an educational one. This may come about through helpful suggestions to the attorney in preparing proper and meaningful questions having clear answers. But the educational role is most evident in the rendering of answers from the stand in as simple and unambiguous language as possible for the benefit of the court and of the jury (when there is one). The communicating of technical concepts so as to be comprehensible to laymen is the key to effective testimony, and can be a deciding factor in the outcome of a case.

But an actuary who is a purist may sometimes shake his head in frustration at the precision expected in his answers, only to find that the settlement awarded bears no obvious relationship to his carefully researched figures. That, is because his testimony is only one of many guides to the jury or the judge who often have the habit of averaging testimony, or even claims and testimony!

One case illustration in the article under review demonstrated a use of probabilistic evidence by a mathematician that, to a down-to-earth actuary, seems a little far out. It concerned a criminal case where defendants were convicted largely on the basis of unsubstantiated probabilities introduced by a mathematician. It had been established that the assailant in the case was a white female with blond ponytails, and her companion a black male with a mustache and beard, and that they had escaped in a yellow automobile. Defendants answered to these descriptions and had a yellow car. The expert computed that the joint probability of observing these various characteristics was one in twelve million, on his own assumptions, which helped "clinch" the case. Fortunately, in this reviewer's opinion, the State Supreme Court reversed the decision, pointing out (1) there was no statistical support for the assumed probabilities of the various characteristics, and (2) the probabilities were assumed to be independent and such was not true for certain of the factors involved.

All in all, the article would make helpful reading to anyone facing his first experience as an "expert witness."

The American Statistical Association has kindly given the Society of Actuaries permission to reproduce the article and copies may be had on request to the Chicago office. □

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review; but they are expected to state their biases. It is therefore incumbent upon this reviewer to acknowledge that he was one of a five-member group of consultants to the 1975 Advisory Council, and is clearly associated with the solution proposed by the Council. Since the four-man panel responsible for this new report can be viewed as challenging the conclusions of the Advisory Council's consultants, this reviewer's objectivity may be suspect. He admits to continuing to hold his original views as to the superiority of the Advisory Council approach; but he considers this new report to have merit and to be worthy the attention of any actuary interested enough to delve into an extremely interesting analytical problem.

In form the two competing proposals are much alike. Both would index benefits for those on the beneficiary rolls as under current law. Both would introduce the principle that the social security wage records are also to be indexed before they are averaged, thus replacing the AMW (average monthly wage) in current law by an AMIE (average monthly indexed earnings). Both would replace the complicated multi-step formula now defining the PIA (primary insurance amount) in terms of average wages with a simpler two or three step formula. In both cases this formula would be designed to fit as closely as possible the PIA's for those becoming beneficiaries on or near the effective date of change. In both cases the breakpoints in the formula would be dynamic, being themselves indexed. Moreover, both approaches would leave unchanged the slowly lengthening averaging period, the five-year drop-out, and the other details of what earnings a taken into the calculation of averaging earnings. Both would maintain the present "automatic" procedure for keeping the taxable wage base current.

The technical differences are largely concentrated in the indexing of the wage records (for the calculation of the AIME) and in the indexing of the breakpoints (for the calculation of the PIA).

The Advisory Council would base the indexing of both of these quantities on "average earnings in covered employment," consistent with the indexing of the taxable earnings base, but different from the CPI indexing of benefits for those already beneficiaries.

The consultants submitting this new report (hereinafter called the Hsiao panel) base the indexing of both quantities on the CPI, consistent with the indexing of benefits for those on the beneficiary rolls, but different from the indexing of the taxable earnings base.

The difference is therefore in the handling of any differences between wage change and price change, which difference may be called the "gain in real earnings." The Advisory Council indexes the potential benefits for those still working to include gain in real wages, while

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