TRANSACTIONS OF SOCIETY OF ACTUARIES
1960 VOL. 12 NO. 33

INDUSTRIAL INSURANCE

Mortality

A. Has the improvement in mortality been sufficient to show a need for a new legal standard? If so, is a separate table for extended insurance indicated?
B. How does the mortality experience of individual companies compare with recently published experience? Have the mortality rates for whites and nonwhites changed materially in relation to each other?

MR. EUGENE W. BATES first compared improvement in Industrial mortality with improvement in Ordinary mortality as exhibited in the tables that have been generally accepted as legal standards. Percentagewise, at the younger ages the 1941 Standard Industrial Table shows somewhat less improvement over the older Standard Industrial Table than does the 1941 CSO over the American Experience. However, in the middle and upper age ranges, such improvements are roughly equal and there are ages where Industrial has improved more than Ordinary.

As to experience subsequent to the period covered by the 1941 tables, Mr. Bates stated that in his judgment there had been sufficient improvement in Industrial experience to warrant the construction and adoption of a new legal Industrial table. To support this position, he presented data on his company's experience for the period 1932–36 and the period 1955–57 for both Ordinary and Industrial insurance. For Industrial the ratios of the later experience ranged from 12% to 69% of the earlier experience; the corresponding percentages for Ordinary were from 5% to 72%. For ages up to 35 the Ordinary mortality had shown more improvement, but for ages 35 and up the Industrial had shown the greater improvement.

Mr. Bates had computed net premiums and terminal reserves on his company's recent experience basis and compared them with the 1941 Standard Industrial basis. On the ordinary life plan, reserves were decreased by 15% to 20%. On the 20 payment life plan reserves were decreased by the later experience by about 25%, and on the 20 year endowment plan reserves were increased very slightly. He stated that on the basis of a model office he believed reserves would aggregate about 12% less on the modern table than on the 1941 Standard Industrial. The mortality of the Western and Southern Life Insurance Company for extended term insurance on Industrial business for the years 1955–57 was only about 80% of that under premium paying insurance. This resulted from an automatic benefit and there appeared to be no antiselection. The 80% figure was contrasted with the corresponding Ordinary figure of 140%.

While it would not appear that any provision for extra mortality might be needed on extended term, margins are needed because of the expense of administering small amounts of insurance involved on the extended term basis.

He concluded that some permissible extra margin in a table for Industrial extended insurance is justified and desirable. The amount and incidence might well be different from that in the Ordinary extended term table.

MR. L. JEFFERSON STULCE presented a study of the Weekly Premium mortality experience of the Life Insurance Company of Georgia. His study was separate by white and nonwhite lives and contained roughly half female lives and half male lives. Excluding the experience during the first $2\frac{1}{2}$ policy years, the white lives mortality experience was 34.7% of expected mortality based on the 1941 Standard Industrial Table. This was an improvement over a previous study of 1951–54 which showed a ratio of 40%. Nonwhite mortality showed an experience of 44.6% of expected mortality based on 1941 Substandard Industrial. This corresponds with a ratio of 52% for 1951–54 experience.

He stated that there had been improvement since the earlier study in nearly all age groups and the rate of improvement was greater for older ages than for young ages. It was indicated that the effects of selection had largely worn off after four policy years. Using this study, he computed margins provided by the valuation standards for his company's experience. He compared these margins with those contained in the 1941 CSO Table on the basis of Table X_{18} mortality. This comparison indicated that on the basis of his company's experience both the 1941 Standard Industrial and 1941 Substandard Industrial produced greater absolute margins at every age and greater percentage margins at most ages.

Mr. Stulce stated that his company's nonwhite mortality experience was nearly 20% higher than that of the Metropolitan. The white mortality experience was about the same as the Metropolitan's experience. He stated that the Metropolitan's experience had a slightly higher proportion of females than his company's. Using Life of Georgia's own age distribution, their nonwhite Industrial mortality is about 200% of white mortality, and he compared this with the 1949–51 U.S. population statistics which showed this ratio as in excess of 200% for ages 17 through 56. The Life of Georgia experience showed about the same relative improvement during the decade of the 50's between white and nonwhite mortality. Their 1955–59 white experience was 99% of 1949–51 U.S. Total Whites mortality, and their 1955–59 nonwhite experience was 91% of 1949–51 U.S. Total Nonwhites mortality.