



SOCIETY OF ACTUARIES

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# Product Development

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## Ten Years Ago

by Deb Sloan

*Editor's Note: The following articles appeared in the December 1988 edition of the Product Development Section Newsletter.*

### The Surprising Impact of Smoking Assumptions on Mortality by Mel McFall

This article discussed the impact on mortality from different assumptions as to the percentage of smokers, and the relationship of smoker to nonsmoker mortality. Mel McFall stated that there was a decreasing percentage of smokers in the population and that the difference between smoker and nonsmoker mortality was narrowing. The following table was contained in the article.

The author suggests providing for some conservatism by using a lower percentage of smokers and a lower ratio of smoker-to-nonsmoker mortality to be used. He also stated that this problem would be eliminated when we develop separate mortality tables for smokers and nonsmokers.

Smoker Percentage	SM/NS Ratio	Nonsmoker Rates	Smoker Rates
45%	2.25	64%	144%
25%	2.00	80%	160%

### LIMRA Long-Term Lapse Survey by Lucian J. Lombardi

The article reported on the LIMRA lapse study that looked at the lapse experience between policy anniversaries from 1983 to 1984, from 1984 to 1985, and from 1985 to 1986. The study found that compared with prior long-term lapse studies, these periods had unusually high lapses for policies in their renewal years. The lapse rates were based on non-pension whole life products and excluded interest-sensitive business.

The following LIMRA Table comparison showing the increase in renewal lapse rates was included in the article. (While the article did not speculate as to any reasons, one wonders if this was partially impacted by policyholders replacing traditional policies with universal life policies.) See table below.

LIMRA Tables			
Policy Year	'71-'72	'77-'78	'83-'86
1	20.0%	16.4%	19.8%
5	4.9	5.5	14.7
10	2.8	3.6	12.3

### Accelerated Death Benefit Policies by Douglas C. Doll

In this article, the addition of accelerated death benefits to policies via riders or built into the contract was discussed. The article concentrated on the form of acceleration, lien, or partial surrender, and the potential impact with respect to Section 7702. In the discussion, the author showed that a policy using the cash value accumulation test could use either the lien or the partial surrender approach, but that a policy using the guideline premium test should probably use only the lien approach.

### Life Insurance Sales Illustrations by Anthony T. Spano

The article discussed concerns with illustrations, particularly the fact that interest rates had been trending downward, and universal life purchasers did not always understand the nonguaranteed nature of the contract. It described the proposal at the NAIC level concerning illustrations involving nonguaranteed elements. At that point in time there was debate over allowing for a range approach. This would allow the illustration to use interest rates greater than the current scale provided that values also would be illustrated values based on correspondingly less favorable assumptions. Mortality and expense were to be limited to the current scale. There was debate as to whether companies should be allowed to use anything greater than the current scale. It was

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expected that final action would have been taken at the December 1988 NAIC meeting. (We are all aware of the many changes since then with the Model Illustration Regulation that has been adopted by a large number of states. The concern with illustrations has been around for a number of years - since interest rates started to fall from their all time highs.)

### Playing "Chicken" with Ledger Illustrations by Roger R. Heath

This article raised the concern over some of the bonuses that were being illustrated by companies ten years ago on universal life products. These bonuses included retroactive bonuses on interest rate and mortality deductions as well as prospective bonuses of interest and projected mortality expense improvements. The author raised the issue of setting aside additional reserves to provide for these bonuses, as current earnings at the point the bonuses would be due might not be sufficient. He closed the article noting a concern that if bonuses are not paid the consequences to insureds and the industry might be disastrous.

### Development of a Product for the Last Survivor Market by Philip K. Polkinghorn

The author states that the last survivor market was very competitive among a small number of key players. He notes that other players were trying to make an entry to the market. A list of key product features was included that differentiated the competition, including things such as method of age calculation, form of coverage, treatment of contract upon first death, method for achieving premium flexibility, and special product features. He noted that flexibility was a key to success in this market with products normally being sold in one of two ways: as a short pay

sale or as a low net outlay case. Additional product development considerations were outlined.

### The Independence Assumption in Stochastic Modeling of Interest Rates by Harry Klarinstenfeld

The issue of whether interest rates are independent random variables is raised in this article. The author's company had examined this assumption in detail looking at the average monthly yields of Moody's Baa corporate bonds from 1918 through 1987. They found a high degree of serial correlation as to the direction in interest rate changes, with a pronounced bias toward "runs" or streaks of uninterrupted increases or decreases. Runs ranged in duration from one month to 21 months, and 12.6% of all runs had duration of seven months or more. They used the model to adjust interest rate scenarios to be more consistent with the historical patterns observed. He notes that actuaries who assume that month to month changes in interest rates are independent variables could inadvertently underestimate the risk they are attempting to quantify.

### SOA Task Force on Nonforfeiture by Douglas C. Doll

The article summarized work being done by the Society at the request of the NAIC with respect to how nonforfeiture benefits should consider the concepts of equity and solvency. The motivation was a desire to have a revised Standard Nonforfeiture Law that would address all life products, including universal life. The article included the executive summary of tentative conclusions. One particular conclusion still has discussions going today; that is, the task force is presently studying three alternatives for regulating cash values. These are:

- a. There should be no restrictions on setting cash values.

- b. There should be no minimum cash value standards. However, if cash values are provided, they must develop from year to year in a "reasonable" way.
- c. If a policy provides cash values, these values must exceed prescribed minimum values.

### Tax Notes by John J. Palmer

The article summarized highlights of a technical corrections bill dealing with single premium life insurance issues.

1. Definition of a category of contracts called MECs.
2. Distribution rules for MEC contracts.
3. Material changes initiating a new 7-pay test.
4. Limits imposed on mortality and expense factors.
5. Aggregation of all contracts issued in a 12-month period for purposes of taxing distributions.
6. Effective dates for various parts of rule.
7. Fact that Treasury was to do studies of the effectiveness of the rules and the justifications for continued favorable treatment of inside build-up.

John Palmer noted how the bill became increasingly complex and requires much study.

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