



SOCIETY OF ACTUARIES

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ONE LIFE, TO JOBS . . .

by Joseph R. Brzezinski

The New York Times last year published an article with the above title, on the job changes of American workers (November 25, 1980). The writer relied on disparate studies by the National Bureau for Economic Research, the Personnel Journal, and the National Personnel Associates.

The Times article tags the average worker as a "job jumper," holding ten jobs during his or her career. Frequency of this jumping has been increasing; average tenure is said to have declined from 4.6 years (1963) to 3.6 (1980).

LIMRA's 1979 Agent Termination Tables, reported in *The Actuary* (January 1981), can be used to calculate average tenures for life insurance agents, with the results shown below.

The criterion in the Times article is working for one employer in any job; the LIMRA study applies a stricter test,

working for one employer as an agent.

While agent turnover is widely recognized as an expensive industry problem, the Times article does help to place the matter in clearer perspective. It is not isolated, let alone unique; job changing by the American worker in general is shown to be substantial and becoming more so. Even though the comparability of these figures must be rated as flimsy, the life companies with the lowest agent turnover rates may take heart.

Ed. Note: We await with interest a definitive study of job tenure among actuaries. For whatever the snippet be worth, we find that the fifteen Society members in Canada and the U.S.A. whose obituaries printed in the Transactions, Vol. XXXI (1979) give sufficient information for calculating, seem to have experienced average job tenure of about 12.7 years, i.e., fewer years than Mr. Brzezinski's study attributes to agents of multiple line companies. □

Distribution System	Average Job Tenure
Ordinary Cos., not Multiple Line — Best One-Third of Agents	3.9 years
Middle " " "	2.3 "
Worst " " "	1.4 "
Combination Companies	2.1 "
Multiple Line Companies	16.6 "

ACTUARIAL SOFTWARE OUTLINES WANTED

by Matt B. Tucker

This enquiry is directed to readers who have information about an actuarial software system or who work for a vendor or supplier of such a system, and who would like to have the system listed in an Actuarial Software Catalog being planned by the Society's Computer Science Committee.

The list would cover programs that can be bought or leased, whether for a computer, minicomputer or time-sharing; the time-sharing items will be listed separately. Our catalog will be compiled as soon as we have enough particulars, and will be revised regularly.

We seek the following particulars:

1. A 50-word-or-less description of what the system does.

2. How it may be acquired—purchase?, lease?, usage charge?
3. Whether it is available for in-house, mini-, or micro-computers or via time-sharing.
4. If for in-house computers, who are the hardware vendors.
5. The system's price range.
6. Name and address of the software vendor or supplier.

Please send your response to me, Matt B. Tucker, at my *Year Book* address. □

Deaths

- George W. Bourke, F.S.A. 1925
 Reginald Catling, A.S.A. 1965
 Charles Mehlman, A.S.A. 1930
 Franklin C. Smith, A.S.A. 1949
 Andrew M. Stiglitz, F.S.A. 1962

GOVERNMENT BORROWING

Our April Query, on the assertion by two Harvard economists that government deficits are being exaggerated unless allowance is made for the declining value of the dollar, brought us nine welcome responses which we undertake to summarize here in the order received.

John C. Maynard believes that subtracting the inflation rate from the interest rate emphasizes the borrower's viewpoint to the neglect of the lender's. If the lender has aimed for a 4% real yield (rather than the 2% that the economists' post hoc arithmetic has given him) he will raise his future interest rate, thus aggravating the inflation. The government, unlike the ordinary borrower, is in a position to lower the borrower's real rate of return after the borrowing terms have been set—but to the extent they do so they push up future financing costs and future inflation.

Charles M. Underwood, III, perceiving an analogy to the AICPA's insistence upon constant dollar footnotes to corporate financial statements, regards the view as sound provided it gets only a footnote's-worth of emphasis, but he thinks such reasoning likely to lead to further excesses. "To say 'The government is not really living beyond its means' is not to say, that it isn't living beyond OUR means."

Albert K. Christians says that the phrase "living beyond its means" (rather than, e.g., "financing its activities by illegitimate means") isn't conducive to reasoned discussions of such complex issues. He by no means concedes that the intuitively reasonable relationship, Increase in Debt = Expenditures - Income, holds true when the measure is a dollar of constant purchasing power.

If economic conditions cast doubt upon inter-temporal comparisons of financial quantities, then actuarial science is greatly impaired, for such comparisons are fundamental in almost all actuarial work. If actuarial science is unsound, so are the financial institutions that stand upon it. There are two great challenges to actuaries here. The first is to adjust actuarial thought to inflationary times so that we don't become confused by the paradoxes in the non-Euclidian world of the rubber ruler. The second is to

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Government Borrowing

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create an awareness in those who create economic policies that insurance arrangements depend upon some predictable store of wealth, some reliable mechanism for inter-temporal financial transfers.

James H. Murta also contrasts the differing viewpoints of borrower and lender. The borrower may look at the illustrated transaction in any of at least four ways, each with its own implications, viz., (i) comparing the debt's future value in today's dollars with current income; (ii) comparing it with expected future income; (iii) same as (i) but with emphasis on the borrower's ability to repay; (iv) comparing the debt's future value in today's dollars to expected future income, which is the Harvard economists' way. A weakness in (iv) is that it diverts attention from the borrower's ability to repay the debt.

Frederick J. Sievert views the true dollar cost of borrowing as the difference between the interest paid on the borrowed funds and the interest earned on their reinvestment. He offers this example:

Suppose an automobile is purchased for \$10,000 at 12% simple interest, and sold one year later for \$9,500. The interest paid is \$1,200; the interest earned is -\$500. This makes the true cost \$1,200 - -\$500, ie. \$1,700. This translates to a 17% rate; inflation is immaterial except to the extent that it has affected the resale value of the automobile.

One would be hard pressed to determine the earnings rate for investment of the national debt. If it's positive it does reduce the deficit below the stated \$59.5 billion level. But to suggest that the earnings rate is even close to the inflation rate is preposterous.

Edward H. Friend is inclined to agree with the Harvard economists, seeing a parallel between their approach and the PRNCHLAR ("pension reform normal cost and half-life amortization of the ratio") designed as a funding method for public sector pension plans and presented by him in Vols. 28 and 29 of *Proceedings of the Conference of Actuaries in Public Practice*. The argument he then made is that funding is consistent with

the underlying objectives if this ratio is diminishing by at least 50% over a designated half-life such as 35 years. The point he was making in the pension discussion (which he considers applicable here also) is that the absolute dollar growth in the unfunded obligation is not ominous in an inflationary economy if the underlying payroll is growing perhaps twice as fast and the ratios of unfunded obligation to payroll are the same in both the non-inflationary and inflationary environment.

Godfrey Perrott considers the economists' adjustment correct as far as it goes, except that it raises two other problems: first, the budget, even adjusted, isn't balanced; second, a large component of the inflation rate is the expectation of future inflation. The government, using inflation-adjusted accounting, tends to institutionalize the inflation that none of us wants.

Bruce E. Nickerson takes issue with the economists' arithmetic in dividing the 12% into 2% interest and 10% debt repayment; he finds the interest to be 1.82% and the repayment 9.09% under the circumstances specified. But the critical question to him is what "true" interest rate is needed to produce adequate savings and capital formation. If, as he suspects, this rate is about 3.5% rather than 1.8%, then the government is making a 1.7% profit by accelerating inflation beyond lenders' expectation and by discouraging savings to the extent necessary to reduce that "true" rate to 1.8%—a smart, if unethical, debt management practice. Smart in the short term but destructive of both nation and government in the long term.

Allan W. Ryan regards the economists' concept, that what appears to be a level amortization is really one of decreasing payments, as acceptable, and possibly having applications in the structure of mortgages and other long-term private debt. He sees the effect as a disproportionate burden to the borrower in the early years, and proposes that the principal be amortized using a "true" interest rate—say, 3%, and that both the monthly payment and the outstanding balance be increased by an inflation factor (measured by either an index or an agreed-upon rate). The result would be equal instalments to the borrower in real terms.

E.J.M.

ALFRED N. GUERTIN

An Appreciation by W. Harold Bittel

When I first visited Al Guertin in his office in the New Jersey Insurance Department in 1943, he was in the spotlight for his recent key role in developing the new approach to statutory non-forfeiture and valuation requirements that had become known as the Guertin legislation. Al pointed out the extent to which such activity had been possible for him in the system set up by F. Bruce Gerhard and developed further by the late Bruce E. Shepherd into the Department's Actuarial Division. Al successfully stimulated my interest in becoming part of a regulatory system in which an actuary could be engaged in more than technical matters; though Al was never unduly modest in discussing his activities, his description of these opportunities was, if anything, understated.

Al was a prodigious worker, never content unless he had at least one project "in the works." He was deliberate in personal matters—I am told that he "kept company" with Rhoda for almost four years before they were married. She died in December 1980; they both had been in poor health for years. Her personality was a perfect complement to Al's—he could work at home on his projects as often and as long as he wished provided he made himself available for the joint activities that she decided were desirable.

Aside from Al's major professional attainments, two consequences of his many activities deserve special comment. The first is the impact that his campaign for the legislation that bore his name had on Insurance Commissioners around the country. I am satisfied that this and the work he did on numerous NAIC committees laid the groundwork for later recognition by most Insurance Departments that qualified actuaries are essential for proper regulation and supervision of insurers. The other item is the work he did for small member companies after he went with the American Life Convention. Many of them needed actuarial guidance but would not otherwise have sought or obtained it. These activities caused unfavorable comments at the time but I have always considered any efforts to improve insurer operations and safety commendable.

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