



SOCIETY OF ACTUARIES

Article from:

The Actuary

June 1972 – volume 6 - Issue 6



The Actuary

The Newsletter of the Society of Actuaries

VOLUME 6, No. 6

JUNE, 1972

THE STATE OF STATE TAXES

by Marvin Weisbrod

Editor's Note: The subject of State Taxation was discussed at the October meeting of the Actuarial Club of the Pacific States and we are pleased to present the discussion given by Mr. Weisbrod who is Second Vice President and Tax Officer with the Occidental Life of California.

There are seven objectives to be sought by a tax structure:

- (1) Consistency with economic growth, avoiding dependence on taxes which deter or distort desirable economic activity or depress consumption of legitimate goods and services;
- (2) Uniformity (rather than selectivity) of application to portions of the tax base upon which it falls;
- (3) Equitable distribution between taxpayers;
- (4) Effective administration at a reasonable cost;
- (5) A minimum of compliance cost and inconvenience to taxpayer;
- (6) The capability to grow as the economy of the state grows;
- (7) Provision of an adequate source of revenue.

Four elements enter into premium tax:

- (1) The tax *rate*; it varies by state from 0% to 4% and even within a state may vary by line of business.
- (2) The taxable *base*; that is the definition of premiums and the deductions such as dividends which may be allowed in arriving at the base. The allowance or disallowance of dividends as a deduction can cause distortions as between stock and mutual companies.

(3) *Offsets*, credits or other reductions, e.g. the deduction for real estate

(Continued on page 2)

TIME MARCHES ON

A conference on Time Series Analysis and Actuarial Applications, sponsored jointly by the Department of Statistics of the University of Waterloo and the Committee on Research of the Society of Actuaries, will be held at the University of Waterloo, Waterloo, Ontario, on September 28-30, 1972.

The aims of the conference are (1) to provide an overview of Time Series Analysis; (2) to explore applications of time series analysis to actuarial problems; (3) to gain insight into research work on models of capital markets and stock price series. Applications of time series analysis to insurance operation data such as claim numbers, claim costs, policies issued, investment value changes, cash flow, policy loans, surrenders, etc. will be made.

The invited lecturers in each of the three areas indicated above are (1) George C. Tiao, University of Wisconsin; (2) Robert B. Miller, University of Wisconsin; (3) Eugene F. Fama, University of Chicago. These individuals are eminently qualified by their past and present work in the areas indicated, and the conference will provide a thorough indication of the use of time series analysis in actuarial work.

All members of the Society of Actuaries have received a registration form for this meeting with the mailing for the spring meetings. However, if this form has been mislaid, copies may be obtained from Dave Halmstad, Area 22-Z, Metropolitan Life, One Madison Ave., New York, N. Y. 10010. □

PENSIONS AND FUTURE CHANGE

by E. Allen Arnold

Editor's Note: We are pleased to publish this excerpt from a talk given at the New Orleans meeting.

The economic forces which affect the development of pensions are those which affect nearly all economic activity. The principal factor which determines a nation's ability to support an adequate, comprehensive pension system is its productivity. The rates of inflation and the amplitude of the swings in the business cycle affect both the pace and the form of the system's development.

Rather than explore these economic factors affecting pensions separately, let us create in our minds a hypothetical situation—not a prediction, but more of a "for instance"—to see what our economic system might have to come up with to finance one kind of full-scale retirement system.

We have to start with some assumptions, and the assumptions selected are improbable enough to dispel the idea of prophecy. They do have the advantage of producing results which relate to present-day scales of magnitude. Let us assume:

- U.S. population stabilized at 1970 level
- No immigration
- Mortality according to the 1971 Group Annuity Table
- Investment earnings of 6% annually
- All employees hired at age 25 and retired at age 60
- 95% of the population (both male and female) working between these ages and obtaining benefits at age 60
- No inflation
- Social Security benefits of \$3,000 annually (at age 60)
- Social Security on a pay-as-you-go basis

(Continued on page 6)

Pensions and Future Change

(Continued from page 1)

- Additional pre-funded pensions averaging \$3,000 annually
- Pre-funded benefits fully funded using the entry-age normal method.

The results are startling. 47.4 million pensioners would receive an aggregate of \$284 billion annually, half from Social Security and half from pre-funded sources. The work force would consist of 83.9 million people, about the same as now, but the ratio of retired to actives would be 56%.

The pre-funded annual normal cost would be \$22 billion, while the earnings of the pension funds would produce the additional \$120 billion required to pay the total pre-funded pensions of \$142 billion.

Pension assets would amount to about \$2 trillion! Currently, all the stocks and bonds listed on the New York Stock Exchange are worth only about 3/4 of a trillion dollars. Total marketable securities are worth something like \$1.5 trillion. The total "financial assets" of the United States, according to the Federal Reserve System, amounted to \$3.8 trillion in 1968, but not all of these assets are pertinent.

The current contributions and taxes for this combined system of Social Security and pre-funded pensions, after funding the latter, would equal about 24% of total individual earnings, including both regular payrolls and the earnings of the self-employed. If all the benefits were paid by Social Security, then the percentage would be 41%.

The annual transfer of sums amounting to 41% of the earnings of all individuals would require a strong economy, regardless of the medium of transfer. Increased productivity would be needed to preserve living standards, and increased productivity means technological growth sufficient to overcome environmental problems, including resource depletion. High employment levels would be desirable to help provide financing of benefits, to avoid the burden of maintaining a large unemployed group, and to cover the largest possible segment of the population. Boom-and-bust cycles and persistent inflation, if not properly anticipated, would interfere with the healthy development of pensions.

The demographic conditions envisaged in our example should lead to greater

economic stability, since the higher predictability of the demand for goods and services would reduce the over-optimism and the over-pessimism of entrepreneurs. Money no longer would be required for demographic investments. The fluctuations in the size of the work force due to earlier fluctuations in birth rates would disappear. It would take at least 70 years, however, to obtain the full benefits of demographic stability, and it might take much longer.

The larger the aggregate pension payments, the greater would be the feedback to the economic system in the form of stabilized purchasing power. Adequate, assured pensions would convert our aged population into potent consumers.

The existence of two breadwinners in the typical family of the future would also contribute to economic stability. The temporary loss of one job would certainly reduce purchasing power, but unemployment insurance added to the full earnings of the working spouse would maintain the economic viability of the family unit. The family's spending would constitute a fairly high proportion of its prior level.

Pension growth of the kind contemplated in our example almost surely would mean the complete dominance of the investment markets by pension funds. Alternate forms of saving might be drastically reduced because of a lack of investment opportunities and because of reduced individual incentives to save.

The pension investor's emphasis on equities might cause corporate long-term financing to shift mainly to stocks; if so, the resulting avoidance of fixed commitments should strengthen both individual corporations and the economic system. As common stock leverage became reduced, the earnings of corporations would not fluctuate proportionately nearly so much as they have in the past. Unprofitable years and bankruptcies would be at rates equal to a small fraction of the rates experienced so far. With virtually all stocks and bonds in pension portfolios, the advantages of stock leverage ultimately would disappear. Corporate tax laws might need to be changed to accommodate the new conditions.

If these extrapolations of current trends should prove correct, then our future economy should be conducive to the growth of pensions. The greater stability of aggregate purchasing power and of corporate structures should strengthen

the economy generally, relieve inflationary pressures, and help maintain high employment levels. Productivity still would be the key to the maintenance of adequate standards of living.

When we look at this hypothetical future of ours, we see that pre-funding of pensions can be the means for transferring a large share of the wealth of a country to its workers and retirees. If you doubt it, compare the assets of some existing, well-funded pension and profit-sharing plans with the net worths and total assets of the sponsoring corporations.

Tax laws are mainly responsible for channeling money into pension funds. Income taxes reduce the capabilities of individuals and other taxed entities to accumulate wealth, thus encouraging, if not mandating, the development of pension funds. Inheritance taxes force the partial liquidation of individual estates, freeing assets for purchase by pension funds. The assets of the latter, however, are passed intact from generation to generation automatically as retirees die and new employees are hired. □

BOOK REVIEW

Counting the People

Henry S. Shryock, Jacob S. Siegel, and others, *The Methods and Materials of Demography*, pp. 959, Bureau of the Census.

This two-volume publication offers a systematic and comprehensive exposition, with illustrations, of the methods currently used by technicians and research workers in dealing with demographic data. They are intended to serve as texts for courses in demographic methods and as references for professional workers who use population data.

The volumes deal with the sources, limitations, underlying definitions, and bases of classification of demographic data, as well as with techniques and methods that have been developed for summarizing and analyzing them. Topics covered include formal demography and the study of many social and economic characteristics of the population.

A full review of this work will be published in an early number of the *Transactions*.

Copies of the two-volume set are available for \$7 (paper) from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.