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The Actuary

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SOCIAL SECURITY VICTORY?

President Carter has signed into law significant changes in the Social Security system. Considering the possible alternatives the business community did well, as the joint committee accepted the costly proposals.

Without getting into details, the following are the more important decisions:

1. The over-indexing of benefits provided under prior law was revised through a method designed to offset inflation and stabilize replacement ratios.
2. Parity was maintained for both the taxable wage base and the tax rate. The President's original plan proposed removal of all limits on the taxable wage base for employers while the Senate bill called for a much higher tax on employers than on employees.
3. Persons applying for dependents' and survivors' benefits in the future will have their benefits offset if they are also covered by any government pension not under OASDI.
4. The earnings test for retired persons was liberalized but not eliminated.
5. The disability payment offset when workmen's compensation is also received was continued; the Senate bill would have eliminated it.
6. The use of general revenues during periods of high unemployment or for standby loans was rejected.

Nonetheless, this apparent victory is damaging to the insurance industry and leads to further encroachment of the federal government on the insurance business. The taxable wage base applicable to employers and employees alike will rise above $40,000 in the next 10 years with the maximum tax increasing to more than $3,000 per annum for both. This rapid growth in Social Security taxes will lead to higher Social Security benefits which, acting through the design of integrated pension plans, will in turn leave a smaller proportion of the business to the private sector. The substantial level of benefits under the disability and survivorship provisions will also reduce the portion provided by the private insurance market.

When Social Security goes beyond the floor-of-protection level, it damages the private sector and becomes part of the welfare program. The removal of billions of dollars from the private sector damages business competitiveness through increased prices needed to offset these higher costs without productivity gains and by giving greater impetus to inflationary trends. While the private pension system accumulates funds for investment, Social Security acts as a transfer of income from workers to retirees, thus reducing capital formation.

Because the impact of the rise in the taxable wage base and of the increased tax rates is gradual but unrelenting, increased pressures to alleviate the burden will be brought to bear on the Congress. President Carter has already promised tax relief and various Congressmen will be proposing palliative legislation at the next session of Congress. Most commonly mentioned, and probably least objectionable, is the financing out of general revenues of the Medicare part of Social Security and perhaps the Disability part. The problems associated with the Social Security system, as well as with Railroad Retirement, Civil Service Retirement, Military Retirement, Unemployment Insurance, Workmen's Compensation, and local and state pension programs, will increasingly demand the attention of actuaries in the next few years. We should be prepared.

Frederic Seltzer

TO BE CONTINUED

Editor's Note: This article is submitted by the Committee on Health Insurance. Comments will be welcomed by the Committee and by the Editor.

Group Insurance Programs— Special Financing Arrangements

by Steve Carter

The increasing cost of providing medical benefits for employees is forcing many group insurance policyholders to examine their group insurance programs with an eye to possible cost savings. An obvious consideration is to reduce the level of benefits provided by increasing plan deductibles and coinsurance and this is what many smaller policyholders are doing. Requests for medical plans with a $200 or $300 deductible are becoming quite common. Indeed, from strictly a financial point of view, it seems reasonable to argue that if $100 deductible medical plans were appropriate in the late 1960's, then $200 deductible plans should be appropriate today.

For the larger policyholders, a reduction of employee benefits is not normally a practical alternative because of competition, negotiated benefits, etc. Such policyholders appear more interested in special financing arrangements which will reduce state premium taxes and/or allow them more use of reserve monies normally held by an insurance company. Since these arrangements affect the amount of investment income earned by the insurance company, a charge is often made in the retention formula for this loss of income.

Reductions in Reserves

A number of financing arrangements are being used by insurance companies to make reserve monies available to policyholders.

Deferred Premium Approach

One of the most common is a deferred premium approach under which the insurance company will agree to extend the grace period from the traditional 31-day period to either 60 or 90 days. This, in effect, gives the policyholder the use of the reserve funds held by the carrier.

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Retrospective Premium Approach

Another approach which may, in effect, reduce the amount of reserve monies held by the insurer is the retrospective premium arrangement (retro) which gives the insurer the right to bill an additional amount of premium at the end of the policy year if the plan is in a deficit position. The amount of the retro (for the amount of the margin for claim fluctuation that is usually included in group insurance rates) may be unlimited, or it may be equal to the difference between the rate increase the insurance company requested and that which the policyholder and/or consultant felt was appropriate.

Letter of Credit

Some insurance carriers will accept a letter of credit which is obtained by a policyholder from a mutually acceptable bank in lieu of health insurance reserves. The letter of credit would be executed so as to give the carrier the right to draw funds from the bank up to the maximum amount stipulated in the letter itself without any qualifications being placed on the carrier's right to do so. Normally there would be a side agreement or understanding with the policyholder outlining the conditions under which the insurer would call any funds under the letter of credit. Typically, a letter of credit is for a one-year period and the carrier must take steps to be sure it receives a new letter of credit each year. Subject to State Insurance Department approval, the letter of credit could be considered as premiums in course of collection on the insurance company's books.

Waiver of Group Life Disability Provision

Another area where reserves can be reduced involves the waiver of premium provision in the group life insurance plan. With respect to future claims, the policyholder can be allowed to carry disabled employees as active employees by paying premiums for them. Under this type of arrangement, the insurance company must delete the waiver of premium provision from the contract, certificates, and booklets to protect itself against the possibility of having to assume the liability for the disabled employees in the event of termination of the contract.

Elimination of Extended Maternity Benefits

A decrease in claim reserves may be accomplished in some states by eliminating extended maternity benefits which are normally provided upon cancellation of the policy. Upon termination, the new carrier would agree to pick up such claims.

Flexible Funding

A relatively new financial arrangement which has been used with larger groups is Flexible Funding of Employee Group Life Insurance. Under this approach premium payments for each month are the sum of claim charges during the prior month plus a retention charge. These premiums would not exceed the amount which would have been paid under a conventionally insured basis. Although it is still necessary to fund the usual claim reserves, this arrangement may improve the policyholder's cash flow situation.

State Premium Tax Savings

There are some arrangements which, in addition to improving the employer's cash flow situation, will provide substantial state premium tax savings. The most popular of these are Minimum Premium Plans and Administrative Services Only (ASO) Plans.

Minimum Premium Plan

A Minimum Premium Plan is a plan under which virtually all of the health care benefits are paid directly from the group policyholder's funds so that these benefits become uninsured benefits and are normally exempt from state premium taxes. However, the insurance company continues to stand behind the entire plan, including the uninsured portion, and it guarantees that benefits for losses incurred while the plan is in effect will be paid if the group policyholder fails for any reason to pay the benefits or terminates the plan. Since the insurer is responsible for this liability, reserves are required for incurred but unreported and unpaid claims.

A Minimum Premium Plan often includes a "stop loss" provision with the stop loss limit typically being equal in amount to what the conventionally insured premium would have been. That is, once the policyholder's total outlay for health care benefits during a policy year reaches this level, the carrier would assume liability for any further claims in excess of this limit. These excess claims would enter into the experience rating process and any deficits would be carried forward into subsequent policy years.

Administrative Services Only

An Administrative Services Only (ASO) Plan is one which requires the policyholder to assume full liability for payment of all health-care claims on a self-insured basis. There is no contract of insurance with respect to the benefits placed under this arrangement, and the insurance company would act solely in the capacity as Administrator of the plan.

Under an ASO arrangement, the self-insured benefit payments would usually become exempt from state premium taxes, thus eliminating that element of cost. In addition, since there is no contract of insurance and the insurance carrier has no liability for payment of benefits, reserves for incurred but unreported and unpaid claims would not be required.

In connection with ASO plans, it is quite common to be requested to provide a separate aggregate stop loss contract of 125% or 130% of expected level. This contract is usually totally pooled.

Since both Minimum Premium Plans and ASO Plans involve self-insurance, they are not normally used for life and AD&D coverages because of unfavorable federal income tax consequences to the beneficiaries. Sometimes weekly accident and sickness benefits are not included because of uncertainty as to the need for withholding income tax from the self-insured benefit payments and because of reporting requirements.

Split Funding

One major group insurance company has introduced a hybrid Minimum Premium Plan called Split Funding. Under this approach, the policyholder agrees to be financially responsible for any run-out claims after termination of the contract, but the carrier guarantees to the insureds that if the policyholder does not pay the run-out claims then the car-

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Joint Life Annuity Formulations

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Mr. Edelstein and Mr. Becker, et al, report that approximations of this latter type lead to anomalies like

$$\ddot{a}^{(12)}_{x:\overline{n}|} > \ddot{a}^{(12)}_{\overline{n}|}$$

and

$$\ddot{a}^{(m)}_{x} > \ddot{a}^{(m)}_{\overline{x:\overline{n}|}}$$

at high interest rates and low issue ages. The first "inequality" is equivalent to the second because $\ddot{a}^{(m)}_{\overline{x:\overline{n}|}}$ is identical to $\ddot{a}^{(m)}_{x} + \ddot{a}^{(m)}_{\overline{n}|} - \ddot{a}^{(m)}_{x:\overline{n}|}$.

After substituting this expression in the second inequality and rearranging terms, one obtains the first. As Mr. Becker, et al, conjecture, the anomalies occur when p_x is close to one and i is high. Mr. Mereu proves this, at least for the case of continuous payments. The case of payments m times per year is similar. For example, the common approximation will lead to the absurdity $a^{(m)}_{\overline{xy}:\overline{1}|} > a^{(m)}_{\overline{1}|}$ exactly when

$$p_{\overline{xy}} > 2m(1+i)\left(d/i^{(m)} - (m-1)/2m\right)/(m+1).$$

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LETTERS

Theory of Interest

Sir:

Your readers might find the following problem entertaining:

Prove using the theory of interest techniques the following inequality:

For n an interger $e^{n} < \dfrac{(n+1)^{n+1}}{n!}$

The solution is to show that if the force of interest at time t is $\delta_t = 1/1+x$ then the present value of an *n* year continuously increasing annuity paid continuously is $n - \ln(n+1)$ and the present value of an *n* year annuity paid continuously where payments in the t'th year total $\$\,t$ is $\ln\left[\dfrac{(n+1)^{n}}{n!}\right]$

And since the former is less than the latter, the solution follows.

Ralph Garfield

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rier will. The insurance certificates must be changed to incorporate this type of wording. No reserves are required of the policyholder by the insurance carrier. It remains to be seen as to how popular this approach will become.

The Future

The demand by policyholders for some type of special financing arrangement is continuing, and we may well expect that in a few years a substantial portion of group medical business will be on this basis.

Group insurance has become a large and complex industry with a myriad of new and sometimes complicated financial terms. Undoubtedly in the future many more financial arrangements will emerge. ☐

International Congress

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are five general subjects on which papers by individuals are requested:

(1) Generalized models of insurance business (Life and/or Non-Life), (2) Testing hypotheses by statistical investigations (Life and/or Non-Life), (3) Statistical bases and experience under Disability, Sickness and Accident insurance, (4) Estimating the value of insurance companies and insurance portfolios, (5) Interrelationships between demographic and economic development and social security (including occupational and private insurance).

Detailed descriptions of the above topics will be sent out to members of the International Actuarial Association early in 1978.

Papers may be submitted any time up until January 31, 1979, to the appropriate National Correspondent, Lawrence Coward in Canada and John Wooddy in the United States. If the paper is to be submitted after September 30, 1978, (but by January 31, 1979), the author or authors should notify the appropriate National Correspondent of the title of the paper prior to September 30, 1978. Papers may be submitted in English, French, German, Spanish or Italian.

Attendance at the Congress will be limited to 1,000 members from outside Switzerland. ☐