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PENSION AND PROFIT SHARING

A. Does a "split-fund" arrangement involving both insured and uninsured funds have advantages over either? Under what conditions are any such advantages most apparent? What disadvantages are there in such an arrangement?

B. What are the recent trends as to compulsory as against optional retirement? In unilateral employer plans? In union negotiated plans? How do retirement rules affect postretirement mortality?

C. Is there a trend away from pension plans toward deferred profit sharing plans with retirement income features? How can the older employee problem best be solved under profit sharing? What are the best profit sharing vehicles?

D. What are the minimum standards for number of participants and for variation of benefits needed to secure satisfactory mortality averaging under an uninsured plan?

MR. R. M. PETERSON stated that pension funds may be split between an insurance company and a trust in several different ways, the pattern adopted in a number of cases today having these characteristics:

1. There is a general objective of a 50-50 split of total pension funds between an insurance company and a trust.

2. The pension benefit formula is in terms of dollars with a typical service and salary relationship; *i.e.*, this type of split arrangement does not involve the variable annuity concept.

3. All funds supporting benefits for retired persons and contributions of active employees (for contributory plans) are a part of the funds with the insurance company. A deposit administration group annuity contract is used.

The principal advantage sought by the employer by "split-funding" is a higher over-all investment return than is expected through an insurance company or a trust alone. The employer may also value, over a trusteed arrangement, the guarantees associated with employee contributions and income benefits for the retired. Furthermore, there are some important advantages of continuity where an employer has previously had a plan which was fully insured—pensions from one source, continued guarantee to retired lives, continuation of dividends under prior plan, etc. As distinguished from a group deferred annuity contract, flexibility of benefit formulas, rate of funding and funding assumptions have been mentioned as objectives, but these can be secured through deposit administration types of contract.

In commenting on the investment philosophy of "split-funding," Mr. Peterson said that the employer believes that equities should play an important role in his pension funding, not only for the expected higher average yield but also for the prospect of capital appreciation of "growth" stocks. Under present circumstances, equities in substantial amount can be secured only by using a trust. The fixed-dollar investment of a trust is virtually limited to bonds. There has come increasing recognition, even by bank officers, that a life insurance company, through private placement of bonds and the large investment in mortgages, will do better than a trust with fixed-dollar investments. (This has been true despite the Federal Income Tax life insurance companies must pay, but the great burden of this discriminatory tax may raise doubt as to the maintenance of this advantage.) Finally, the yield of a trust for a contributory plan will be depressed since it must have some investment in low-yielding easily liquidated investments in order to meet the possible demands for return of employee contributions. The "split-funding" devotee then expects that by investing funds with a trust substantially in equities and placing about 50% of the funds with an insurance company representing what would constitute primarily the fixed-dollar investment of the trust, a higher over-all return will be secured than by a trust or insurance company contract alone. Under present circumstances, this investment philosophy seems to have considerable validity for the larger pension fund.

MR. H. L. FEAY stated that "split-funding" may have disadvantages when compared with either insured or uninsured funds. Expenses must be paid to two investment agencies and it seems reasonable to assume that this will add to the investment cost.

With a split-funding arrangement, the employer takes the part of the fund on which the trust company's charges would be the smallest and places that part with an insurance company where he is charged the average investment expense of the insurance company. In addition, he is assessed with a portion of the Federal Income Tax of the insurance company. All of the fund for the retired lives is given to the insurance company so the Plan must, therefore, pay the state premium tax which, in the state of Missouri, is 2% of the premiums.

Mr. Feay mentioned two procedures used which could be classified as split-funding, but are not strictly in accordance with the split-funding procedures as originally outlined by the persons advancing the idea. Under one of these procedures, all of the funds are left with the trust company until retirement and are then used to purchase single premium annuities under a group purchase contract.

A second procedure is used in cases where an employer has a group annuity contract and desires to use a trust company. He has his group annuity contract amended so that future pension plan contributions are deposited with the trust company. At retirement sufficient money is taken from the trust fund to purchase, on a single premium basis, the balance of an employee's retirement annuity in excess of the paid-up annuity already purchased from the insurance company under the group annuity contract. This procedure avoids having two pension checks mailed to retired employees and also avoids the penalties of severe termination clauses included in some group annuity contracts. After a period of years, the case changes to a terminal funding method like the first procedure described.

Mr. Feay noted that a partial or staggered retirement system has been advocated. Under such a system, instead of having an employee work full-time to a specified age such as 65 and then become completely idle thereafter, the employee commences at some age, such as 63, to work 4 days a week and then gradually reduces his work period until he completely retires three or four years later. Such a system helps the employee to adjust to retirement. As has often been stated, the critical period for a retired person is the first two years after he changes from a fully active working life to a completely retired life. Staggered retirement helps avoid this problem.

With regard to the minimum standards for the number of participants to secure satisfactory mortality experience under an insured plan, Mr. Feay stated that presumably the point is that a small employer is not in a position to absorb variations in costs due to mortality variations in an uninsured plan. This assumption could be questioned, at least prior to retirement. Salary changes and terminations of employees for causes other than death prior to retirement are larger factors in variations in pension plan costs than is mortality, and no insured plan will insure a small employer against variations for causes other than death. Despite these arguments, the employer for any case involving less than 50 lives should give careful consideration to the advantages and disadvantages of an insured plan of the usual group annuity type before deciding on a self-insured trusteed plan arrangement under which he takes all of the risk of mortality fluctuation.

Mr. Feay suggested that there is a field for insurance for these small trusteed plans that needs investigation. Some enterprising life company may want to investigate the possibilities of providing mortality and disability pooling arrangements to the smaller trusteed self-insured plans. In Europe, a procedure used for this purpose is known as nonproportional reinsurance.

MR. G. N. CALVERT stated that the main case for split-funding essentially springs from the arguments for using equities in pension-funding. If it were not possible, over a long period, to outperform insurance yields through the combined yield and growth elements inherent in equities, there would be no case in favor of split-funding.

Further, even the best invested trust, the pension fund, will generally be found to contain a considerable segment invested in bonds yielding substantially below the yields regularly earned by a good insurance fund. This is particularly true where the presence of employee contributions requires the use of safe and liquid investments. The thought there, of course, is that the employee contributions can always be withdrawn at a moment's notice and so a certain proportion of the funds must be kept liquid and ready to meet any run of that kind.

Investment portfolios of the typical trust fund, therefore, contain one segment invested for safety and liquidity at a cost of low yield and another segment, invested for growth, inflation hedge and high yield.

The aim of the split fund is to capture the advantages of both types of funding. It consists of combining the insured fund, operated on a deposit administration principle, with a trust fund utilizing but not restricted to equity investments.

Mr. Calvert stated that it is very important that the trustee have the power to get out of equities if the Dow-Jones average or some such index goes up to fantastic heights and a dangerous situation seems to exist.

This approach eliminates the drag on the yield of a trust fund necessitated by the need for the trustee to hold a large proportion of his funds in government bonds.

Another most important advantage of this method is the flexibility which it provides in a new dimension, namely the power to direct the deposits of new contributions into either the trust fund or the insured fund, depending upon investment conditions at the time.

Some insurance companies tend to place limits on freedom of action in that direction because it is felt that that opens up the way to investment selection. However, it doesn't follow that the stock market moves in the same direction at the same time as the field of investments that the insurance companies primarily are concerned with, hence investment selection may not be as serious as it may sound, and there might even be ways to overcome it.

Mr. Calvert said that he has found, in general, that profit-sharing plans have been rather unsatisfactory substitutes for pension plans, and that they have often been sold by banks on the theory that they do not require any actuarial service, that they do not involve any fixed commitment, and they do provide an incentive. Of course, sometimes that incentive backfires, because the employees want to know just exactly what the formula is that determines company contributions and what the profits are, and they want to see the books and all sorts of things. These plans have given very indefinite outlooks to the employees and, in general, they have not been too popular with the employees.

On situations of that kind his firm has generally done a job which has resulted in substituting a combined pension and profit-sharing plan in cases where the incentive problem is important. Sometimes they have limited the profit-sharing part of the plan to the salaried employees, getting the hourly paid employees onto a pension plan which gives them a definite benefit that they can measure and rely on.

MR. D. B. WARREN stated there is a new device which trust companies have developed for getting around all of the arguments of the insurance companies in favor of split-funding. This is the pool investment fund, which has recently been permitted to grow to any size. The Federal Reserve Board originally would not permit pool investment trusts in excess of a hundred thousand dollars. Now, for approved pension and profit-sharing funds, a pooled investment trust of any size may be maintained and, in that trust, mortgages can be handled very satisfactorily.

MR. J. A. ATTWOOD stated that he does not favor a specific, rigid formula for splitting contributions between an insurance company and a trust. However, a company does like to have general guides and principles with which to operate. A formula which he has found to be of interest is one which attempts to maintain the deposit administration fund and the trust fund at roughly the same level. This does not mean a fifty-fifty split of an annual contribution but it means a split such as to keep the two funds relatively the same.

In the situations where large reserves are available in the deposit administration fund, this formula may result in no deposits into the deposit administration fund for some period of years. However, at such point as the two funds become equal, the split of contribution is simply determined by reducing the annual contribution by the cost to apply and buy benefits for retired employees from the deposit administration fund. The remainder is then split equally between the two funds.

In certain studies that he has made, after a period of years, two-thirds of the annual contribution will go to the insurance company and about one-third to the trust. Based on certain 30-year projections, he has found that very little transfer of funds is ever necessary in most cases with the type of formula suggested. Actually, the trust fund becomes part of the advance reserve of the theoretical formula in pension funding which provides that the annual contribution plus the interest on the advance reserve will be equal to benefit disbursements after mature funding is reached.

Concerning the topic of flexible retirement, Mr. Attwood commented that a new book, *Flexible Retirement*, written by the National Committee on the Aging, has been published recently.

MR. M. L. GROVER stated that the obvious solution to the problem of past service benefits under profit-sharing plans is to have a past service retirement plan and a deferred profit-sharing plan to take care of future service benefits. You have a good deal of flexibility in funding a past service retirement plan and, if you want to, you can, in your own mind, relate it to profits.

In regard to the last question, as to what are the best vehicles for funding profit-sharing plans, it is rather important to understand the fundamental difference between profit-sharing and pension plans.

A pension plan defines the benefits that are going to be paid at retirement. However, a profit-sharing plan defines the amount of money that goes into the plan and that provides what it will at retirement. Because you have a guaranteed commitment under pension plans, this then requires a different type of vehicle—one with guarantees or conservative investing.

Under profit-sharing, there is a decided advantage in using a funding vehicle that will allow for inflation or growth of the funds and, therefore, there is much more reason to use a trust fund for a profit-sharing plan. Further, if you are really sold on the variable annuity principle, a trust fund would enable you to have variable annuities provided at retirement.

MR. STEFAN HANSEN stated that in the group pension plans now being written by Great-West Life there is a pronounced trend away from compulsory retirement at the familiar ages of 60 for females and 65 for males. It would not be right, however, to say that this means that the compulsory retirement concept is being abandoned. What it does mean is that retirement ages have been advanced from 60 and 65 to some higher age—most commonly 70 and frequently without distinction between males and females—and a new feature has been introduced. This new feature is that, whereas under the old type of plan an employee retiring before the compulsory retirement age received only the accrued pension *reduced for early commencement*, in the new type he is entitled to retire at any time after age 65 on the full pension accrued to the date of retirement.

In employer-initiated plans the Great-West finds employers receptive to the suggestion of the permissive retirement idea. Unless there is a specific stipulation to the contrary, they put the permissive retirement provision in all pension proposals.

While they have not yet any statistics to support it, their view is that postretirement mortality under permissive retirement contracts will be higher than that under contracts with compulsory retirement. It seems right that we should expect those who remain in employment under permissive plans after they would have had to retire under compulsory plans to be, on the average, the healthier lives. This means that the permissive plan withdraws the better than average lives from the pension roll for at least some few years. Or to put it another way, some period of better than average health is transferred from the pensioner group to the employee group. It should be noted that "average" here pertains to pensioners. Better than this average will still be worse than the average for employees below age 65, so that the expected higher pensioner mortality rate and consequent lower pension cost is likely to be accompanied by a higher group life insurance cost.

There is really no argument against compulsory retirement. The only question is "at what age?" If the cost of increasing longevity forces it beyond 65 to the economic benefit, we shall not be able to add a social gain, but instead from it we must subtract a social loss. There may be considerable social merit in encouraging if not actually requiring a man, no matter what his job level, to seek a change at 65—especially as the possession of even a modest pension income guaranteed for life makes it more possible. To secure and to accept such a change with his present employer is probably not practical—instead of new employment, it will be considered a demotion. From the social point of view, it may be a happy requirement that no later than 65 a healthy man is indeed required to seek a change—new employment, new undertakings, new challenges. It may be that a pension is the only thing that will enable him to seek that change, and a forced pension the only thing that will make him do it.

MR. C. L. TROWBRIDGE defined compulsory and optional retirement as follows:

> Compulsory Retirement means that the employee *can* be compelled, by the terms of the plan, to retire at a specified normal retirement age. Either retirement at normal retirement age is automatic, or late retirement requires the consent of the employer.
>
> Optional Retirement means that the employee, after reaching a specified minimum retirement age, can retire when and if he chooses.

Mr. Trowbridge stated that unilateral employer plans tend to be compulsory retirement plans, but the trend seems to be to include late retirement provisions subject to employer consent. Some unilateral employer plans may be almost optional in practice because late retirement is granted freely, but these are still compulsory plans under the preceding definition if the employer has the *right* to enforce retirement at normal retirement date.

Union negotiated plans tend to be optional retirement plans, although compulsory retirement features may cut in above a certain age. Where the union bargaining position is very strong the right to continue work may run indefinitely because, with some exceptions, unions strongly oppose compulsory retirement features. Nonetheless, unions have, perhaps reluctantly, accepted a number of compulsory plans.

Mr. Trowbridge reported that a survey of all group pension plans underwritten by Bankers Life Company shows:

a) Unilateral employer plans are 97% compulsory retirement plans—only 3% are optional. Of the compulsory plans, about 40% are automatic retirement plans; about 10% were originally automatic, but since issue have added late retirement provisions; and about 50% have made provision for late retirement from the start.

b) Union negotiated plans are 28% compulsory plans, 48% completely optional plans and 24% optional at an age, then compulsory. For the last type the most common compulsory ages are 68 and 70.

Mr. Trowbridge stated that ordinary common sense would tell us that retirement rules must affect postretirement mortality. It would seem almost axiomatic that under optional retirement plans proportionately more employees in good health would continue to work and a larger percentage of employees in poor health would retire. A similar result would be expected, perhaps to a lesser degree, in compulsory retirement plans where the employer rather freely permits late retirement as long as the employee continues to perform satisfactorily.

Relatively heavy mortality sometimes observed among recent pensioners under union negotiated plans can lead to fallacious conclusions. First we have the impression, which still exists in some quarters, that retired people tend to die faster. The truth probably is that unhealthy people tend to retire faster. A second feeling is that ex-blue-collar workers die faster than ex-white-collar. This may or may not be true, but it certainly isn't demonstrated by heavier retired life mortality under blue-collar optional retirement pension plans if many of the healthiest lives at the same ages are still actively at work.

DR. J. P. STANLEY stated that although a good deal of comment on this subject continues to appear from time to time in the press and elsewhere, the situation as regards the major unions seems to have become fairly stabilized in the last two or three years. The two unions most active in setting pension patterns are without much doubt the United Steelworkers and the United Auto Workers. The Steelworkers are continuing to resist any form of recognized compulsory retirement in negotiated plans. The Auto Workers, on the other hand, appear to be fairly well resigned to compulsory retirement at age 68, the pattern which was originally established in the Big 3 automobile companies in 1950 and which has since spread to nearly all the smaller suppliers.

Although a resolution opposing compulsory retirement was passed at the recent Auto Workers' convention, Dr. Stanley's opinion is that this does not reflect real basic opposition to the existing state of affairs. The fundamental position of the Auto Workers, and of several other major unions as well, is that as pensions approach an adequate level (whatever that may be), more and more retirements will take place voluntarily, and the compulsory retirement question will become moot. This approach is partially justified by the observation that in 1953 only 40% of employees reaching age 65 in the Big 3 automobile companies retired voluntarily before age 66, whereas in 1956, after a substantial increase both in negotiated plan benefits and in Social Security, the proportion had risen to 70%.

MR. D. B. WARREN stated that pension plans and profit-sharing plans are not competitive, but are complementary. Hence, there should not be a trend "away" from one and "toward" the other. If an employer really intends to provide adequately and substantially for his employees' retirement, he is ill-advised to adopt a deferred profit-sharing plan for the purpose. If, however, he wants to reward employees (and particularly the younger employees) for working hard to make the business a success, he may adopt a profit-sharing plan. Actually a *deferred* profit-sharing arrangement is somewhat of an anomaly and it really goes against the philosophy of profit-sharing. Profit-sharing is probably most effective when it provides an immediate tangible reward for extra effort to promote the business.

Statistics indicate that about one-third of all deferred compensation plans are profit-sharing plans and two-thirds are pension plans. Also, the profit-sharing plans tend to be adopted by smaller employers who cannot, or will not, underwrite the more stringent guarantees of a pension plan.

Profit-sharing by its very nature (and by Regulation of the Internal

Revenue Service) is not a good vehicle for retirement benefits. An employer is practically estopped by the Internal Revenue Code and the I.R.S. Regulations from using a deferred profit-sharing plan for retirement purposes. The Code and the Regulations set up four important roadblocks in the path of a profit-sharing retirement plan. They are:

1. A profit-sharing plan must base contributions and benefits on profits. Hence, there is no certainty that an employer can build up the requisite funds to provide adequate retirement benefits.
2. Past service cannot be adequately provided for under a profit-sharing plan.
3. Lifetime retirement benefits cannot be paid directly by a profit-sharing plan.
4. A profit-sharing plan may not be a feeder for a pension plan.

The prime reason for adopting a profit-sharing plan is its absence of a fixed commitment. However, it is only with a fixed commitment that it is possible to provide adequate retirement benefits for every employee.

With respect to providing benefits for past service, a profit-sharing plan is by its very nature absolutely useless for employees close to retirement age. For other employees, with substantial periods of past service, adequate credit cannot be provided. Some past service credit can be provided by using a formula weighted for service as well as salary, but there is a very real danger that the Internal Revenue Service may find a heavily weighted formula discriminatory.

There are also ways of providing lifetime benefits under a profit-sharing plan. This is done by purchasing annuities or retirement income policies with some or all of the funds of the plan. However, this method creates double administrative cost, and if the insurance is purchased prior to retirement some of the potential profits from capital gains are lost. The proceeds of a profit-sharing plan can, of course, be paid out as an annuity-certain, but this can embarrass the retired employee who is unfortunate enough not to die prior to the expiry date of the annuity-certain.

A combination of pension and profit-sharing plans may be the real answer for many employers. For the elderly employees, the pension plan can provide heavily weighted past service benefits. For the younger employees a modest pension benefit for future service can be supplemented by a profit-sharing plan.

MR. L. G. LOGAN stated that it is probably not correct to say that there is a trend away from pension plans toward deferred profit-sharing plans. Rather, his impression is that the number of pension plans continues to grow at a steady rate and that, among a different class of employers, there has been of late a definite increase in new deferred profit-sharing plans, many no doubt with retirement features. Pension plans continue to be the chief retirement vehicle among the large employers, and among long-established employers of whatever size. Nor have pension plans lost their popularity with union negotiators. The smaller, more recently established, employers are now also adopting retirement systems, and deferred profit-sharing appears to have great attraction for this group.

As for the problem of the older employee, the regulations effectively prevent adequate recognition being given to past service in the profit-sharing formula itself, and this applies with particular force to the highly compensated older employee. To solve this problem, some employers have adopted supplementary pension plans providing for past service benefits only. Such plans must be carefully drawn in order to qualify for the usual tax advantages. For example, it must be demonstrated that the profit-sharing plan is likely to produce at least as much for future service as the pension plan promises for past service.

Mr. Logan said that the experience of the Continental Assurance Company has been that employers are far from convinced that a group annuity is the best profit-sharing vehicle. The combination of ordinary life and a supplementary fund has been more popular. But there seems little doubt that most new plans are being directly invested. Substantial commitments in common stocks are being widely recommended, yet it is difficult to see how the profit-sharing contribution pattern will result in equity purchases at favorable average prices. Moreover, the typical participant may be dismayed by the occasional shrinkage in his account value because he is not conditioned to this kind of thing.

MR. C. E. NELSON stated that it will be difficult to obtain agreement on what constitutes satisfactory mortality averaging. You can hardly talk about an average case in the pension business; there are so many variations.

Without supplying any answers, here are some of the factors to consider on this question, which could be put in a more direct way, as "On what size cases should the consulting actuary advise his client to use insurance contracts?"

1. Are there any death benefits prior to retirement? There is more risk without such benefits than with benefits of limited size. The mortality risk is zero where the reserve is the death benefit, as under most retirement annuity contracts. The employer under a small case may prefer to have his costs computed on an interest basis only, even though there is no death benefit.
2. Are benefits payable for a certain period and life at retirement? A 10-year certain period reduces the mortality risk as compared to a life annuity. And

there is always the possibility of purchasing a single premium immediate annuity on the retirant at the end of the certain period.

3. The ages of the employees with a new company may all be under 40 and the benefits such that the mortality risk is inconsequential for many years. This is in the nature of deferred unsatisfactory mortality averaging.
4. One employee, usually the president and owner, may have benefits that are 5 to 10 times the average of the others. An insurance company with such a disproportionate risk would reinsure. This is seldom done by a trusteed plan, but it could be considered.
5. What weight should be given to future growth possibilities of the employer? Perhaps even some consulting actuaries might admit that the present size is subject to unsatisfactory mortality averaging. Would it not be contrary to the best American tradition to assume a static size?
6. What is the effect of turnover in relation to mortality? There may be relatively few employees expected to reach retirement age. In this connection, he has seen cost estimates based on the CSO mortality table apparently on the theory that the excess mortality is offset by turnover. If this is the expectation, then it might be better to reverse the q's, say from ages 30 to 65, so that they descend in value. The cost estimates will be more realistic.
7. It is quite unorthodox, but could unsatisfactory mortality averaging be offset by satisfactory interest averaging, turnover averaging, and even expense averaging? Or maybe even if all factors are unsatisfactory standing alone, could they be satisfactory standing together?

MR. R. L. MILLMAN stated that there are other factors besides the pooling of mortality risks after 65 which determine exactly what the employer does or does not do. One of the most important is whether or not he has a brother-in-law in the insurance business. Sometimes the local bank puts the pressure on him and he will wish to deposit money in the local bank because of the influence that will have when he wishes to borrow.

Another factor that you have to consider is the ego of the employer. Many of them feel that they can realize a higher return handling the money themselves, rather than having a bank or insurance company do it. Sometimes an employer is disillusioned with insurance companies, agents or both. In such a frame of mind, he wants to handle the plan himself regardless of the actuarial risks involved.

Finally, possibly the philosophy of life has a lot to do with this. Many employers have built up their business from nothing. Many of them probably mortgaged their homes and futures in order to make their business a going business and so they are not going to be deterred because one individual, in the next fifteen years, might outlive his life expectancy somewhat.

MR. R. G. DEAS stated that some genuine scientific attempts have been made to find yardsticks to show the limits of safety within which small groups may be self-insured. These have been helpful, and we are glad to have them, but they do not take us very far in modern conditions. They seem to be generally confined to immediate life annuities. We have some doubts as to how far we can rely on the customary statistical tests, as the mortality curve of error is quite skew. In practical work, also, we often have to allow for varying amounts of annuity. The distribution of the exposed can depart widely from the usual statistical assumption of identical exposures; further mathematical calculations are needed to find yardsticks which allow for unequal exposures. If death benefits are attached to a pension plan, there are extra complications.

CONTINGENCY RESERVES PER DOLLAR OF ANNUITY

Number of Lives	Immediate Annuity Age 65 Standard Deviation: 5.871		Annuity Deferred to 65 at Age 40 Standard Deviation: 3.780	
	90% Safety	99% Safety	90% Safety	99% Safety
1,000......	$0.24	$0.43	$0.15	$0.28
500......	0.34	0.61	0.22	0.39
100......	0.75	1.37	0.48	0.88
20......	1.68	3.05	1.08	1.97

CONTINGENCY RESERVES AS PERCENTAGE OF CORRESPONDING ANNUITY VALUES

Number of Lives	Immediate Annuity Age 65		Annuity Deferred to 65 at Age 40	
	90% Safety	99% Safety	90% Safety	99% Safety
1,000......	2.1%	3.7%	3.1%	5.7%
500......	3.0	5.3	4.5	7.9
100......	6.5	11.9	9.8	17.9
20......	14.6	26.5	22.0	40.1

The accompanying tables were prepared to give some idea of the contingency reserves which would be required, in modern conditions, per dollar of annuity payable to a male life from age 65. The basis used was the Prudential 1950 Group Annuity Valuation Table at $2\frac{1}{2}\%$. It was assumed that the same amount of annuity would be purchased for each person in the group.

It will be evident from these figures that reasonable contingency reserves represent, for small groups with equal benefits, a high percentage of the basic reserves.

There is little published material available about contingency reserves during the active life term. The above figures indicate that such reserves, as a percentage of the basic reserves, should be about 50% larger than those for a similar group of immediate annuities. A trusteed plan facing up to these contingency reserves must require higher contributions than if the risks had been included in a large pool.

As often as not, the termination of a pension plan will be due to setbacks in the employer's business. If the plan is trusteed and the mortality has not "averaged out," *i.e.*, if the funds available are insufficient to provide the accrued benefits by some other funding medium, the financial problems will arise at a most inconvenient time for the employer.

It is obvious that some large groups can be self-insured with reasonable safety; it is equally obvious that most small groups cannot. Apart from the variability of individual benefits, many factors have to be taken into account, such as the financial soundness of the concerns which will have to meet the costs, whether or not they really understand the general principles, and so on. In pension plans, as in all transactions depending on probabilities, the person advising those who have to decide on the funding medium must have the "feel" of the business and be free from bias in his judgment.