TRANSACTIONS

JUNE, 1958

FUNDED SEVERANCE PAY PLANS

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THIS paper will attempt to describe certain principles and practices relative to the establishment and operation of funded severance pay programs, with particular reference to the actuarial aspects involved.

A "severance pay program" is an employee benefit plan of deferred compensation under which certain lump sum benefits (rather than immediate or deferred monthly pensions) are payable upon the occurrence of certain contingencies such as withdrawal or retirement. It is the lump sum nature of the benefit that distinguishes the severance pay plan. Monthly pension benefits may or may not also be available under such a plan: whether a combination plan of this type is more truly a "pension plan" or a "severance pay plan" is to some extent a matter of emphasis. Lump sum benefits may also be available upon the death of an employee—in fact, this is the case more often than not, in plans of this type with which I am familiar.

The term "funded" as used in connection with a severance pay program is intended to convey a meaning similar to its meaning in connection with a pension plan. In other words, an attempt is made to set aside funds on a regular basis in advance of the time when benefits are expected to become payable under the plan. There are a number of reasons for doing this, among which are the following:

(1) To level out the annual cost of the plan, by avoiding the wide year-to-year fluctuations in outlay which would arise if a pay-as-you-go type of financing were employed.

(2) To avoid the gradual increase in annual cost that arises under the typical unfunded program as the group matures, by prepaying a part of the future obligation in the early years of the plan through payments in excess of benefit requirements. It should be observed that this gradual increase in annual cost may be less pronounced than in the case of a pension plan. In fact, it is

theoretically possible, given sufficiently high rates of turnover among shorter service employees, and a benefit schedule sufficiently weighted in favor of these employees, for annual cash outlay to decline as the group matures. In the typical severance pay plan, however, where withdrawal rates are moderate except perhaps at very short durations of employment and where benefits increase at least in proportion to length of service, substantial increases in annual cash outlay occur as the group matures.

(3) To increase the assurance to covered employees that promised benefits will actually be paid, by setting up a reserve fund.

The above three reasons apply equally well to pension programs. There is a fourth reason for funding a severance pay program, however, which, while it sometimes has significance in regard to pension plans, has greater importance relative to the severance plan because of the lack of certainty as to when the obligations of such a plan will mature.

(4) To enable the employer to make a fixed and definite commitment as to his obligation to finance the plan, stated in terms of a fixed rate of contributions beyond which he has no financial liability. Typically, this is done by specifying in a collective bargaining agreement with a union that employer contributions will equal so many cents per hour worked, or such and such a percentage of covered payroll; that the employer has no obligation to contribute additional sums; and that its financial liability under the plan is limited to the amounts paid into the fund. It should be observed that very few, if any, severance pay plans have been established in the past except pursuant to collective bargaining agreement with a labor union—that is, if we exclude for the moment those profit sharing and pension plans which permit lump sum withdrawals of employee equity under certain circumstances.

Any program of this kind involves the making of contributions by the employer to a fund (which is usually a trust fund but which under some circumstances might be a deposit fund held under a deposit administration group annuity contract—I am aware of several insured severance plans of the latter type). Benefits may not be payable out of the fund to employees for an extended period of time. It will clearly be advantageous to all parties if

a) the employer's contributions are deductible from his gross income for income tax purposes at the time they are paid into the fund, and if at the same time

b) such contributions are not taxed as income to the employees until they are actually paid out of the fund to the employee in the form of benefits, and if

c) the interest and other income of the trust is not taxed.

These objectives can be largely accomplished if the plan is set up as a deferred compensation or annuity plan which will qualify under Section 401(a) of the Internal Revenue Code. Such approval confers additional tax advantages, in that severance benefits become taxable to employees only at the rates applicable to long-term capital gains. Further, where severance is by reason of the death of the employee, the first $5,000 of benefits is completely excluded from income (in effect this kind of death benefit is in the same class up to $5,000 as death benefits under an insurance policy). In order to do this, the plan may be nominally set up as a pension plan or as a profit sharing plan. If a pension plan, those employees who terminate beyond some stated age are usually given the option of receiving, in lieu of their severance pay, a monthly pension actuarially equivalent in value.

Where the profit sharing route is used, it is difficult to give much recognition to past service before the effective date of the plan. Furthermore, although most deferred profit sharing plans are in reality severance pay plans to a high degree, they are not generally understood as such and, furthermore, are of relatively limited interest to the actuary. In what follows, we will limit our discussion to funded plans which qualify under Section 401(a) as pension or annuity plans. Nor will we further consider those plans financed through so-called "individual policy pension trusts," which are severance pay plans to the extent that a terminating employee is given the right to surrender his contract for cash—this would be an unusual and expensive way of financing a severance plan if, at the outset, it were expected that most terminating employees would receive lump sum benefits and few if any would retire on monthly pensions.

Considering now only funded plans which qualify under Section 401(a), it can be seen that the severance pay plan might be considered as a special type of pension plan under which the "pension" consists merely of a single lump sum payment rather than a series of monthly payments. In fact, if desired, this lump sum payment may be expressed as the "actuarial equivalent" of such a series of monthly payments. One may well ask, "Under what circumstances would an employer consider setting up a plan of this sort?"

1. Where tenure of employment is subject to political whim, involuntary termination of employment can occur at any age if the employee (or the organization sponsoring him) is defeated at the polls. In this type of employment the usual variety of pension plan, which provides full benefits only upon retirement at a fairly advanced age, and which grants vested rights (usually on a deferred basis) only after a considerable period of service, is not very attractive to the employee. A

severance pay plan offering immediate or almost immediate cash vesting of accrued benefits may meet a real need here. Labor unions, most of which are political organizations in the above sense, have established quite a number of these plans.

2. Certain types of employment involve a high degree of risk of occupational disability at a relatively early age. For example, consider those businesses which employ outside drivers to sell or deliver their products, such as breweries and milk companies. After age 50 or so it may be difficult to continue this relatively heavy work, and there may be insufficient inside jobs available to place all the men involved. At the same time, the employee may be well able to perform other jobs if they could be found. Because of the difficulty in finding other positions for men in their fifties, a severance pay plan may meet a real need by providing these employees with the capital necessary for establishing themselves in self-employment. A number of such plans have been established in organizations of this type.

3. A severance pay plan may serve a useful employee relations function in those organizations which employ a high proportion of young females. A conventional pension plan may mean little or nothing to these women. On the other hand, a severance pay plan is, in effect, a means of forcing savings to be used to offset some of the capital cost of establishing a household upon their "retirement" to housewife status.

GENERAL TYPES OF SEVERANCE PAY PLANS

Pure Severance Pay Plans

The pure severance pay plan provides a lump sum benefit of a certain number of weeks pay for each year of service, payable upon retirement, permanent disability, death or withdrawal. Weekly pay may be determined on a career average basis or may be an average taken over a period of ten years or five years or perhaps only one year prior to termination of employment. Alternatively, the benefit may be a flat dollar amount per year of service, regardless of earnings. Sometimes the plan formula calls for accumulation of benefits at a stated rate of interest—*i.e.*, after n years of service, the benefits may be $s_{\overline{n}|}$ weeks pay. Although this approach has merit from the standpoint of equity, it has the disadvantage of making the plan more difficult to explain to the employees.

In some plans, a period of from one to five years of service may be required before an employee is eligible for a severance benefit. In others, a percentage vesting schedule may be applied to short service terminations. In others, employees who are discharged for cause may be denied benefits. Usually, when employment is terminated beyond a stated age the em-

ployee will have the option of taking an actuarially equivalent monthly pension in lieu of severance pay.

Combination Plans

Severance pay plans may be, and often are, combined with conventional pension plans. This is most commonly done in one of two ways.

(i) *Direct Combination:* Here the severance and retirement benefits are completely additive; the employee who terminates before he has any vested pension rights receives his severance pay only, while the employee who terminates with a vested pension right, or who retires on normal or early retirement, receives both his monthly pension and also his lump sum severance benefit. This type of plan may appear somewhat illogical, and its benefits may seem redundant in part; nevertheless, this is a popular type of plan from the employee standpoint, and many existing examples could be cited.

(ii) *Modified Combination:* Here a terminating employee receives either a lump sum severance benefit or a monthly pension, but not both. However, the monthly pension exceeds the actuarial equivalent of the corresponding severance benefit. For example, such a program might provide severance pay of $100 per year of service upon death or termination of employment prior to age 65, and a pension of $2 a month per year of service upon retirement at or after age 65. Payment of this pension for at least 50 months would be guaranteed, in order to assure retiring employees at least $100 per year of service in total pension payments.

VALUATION OF SEVERANCE PAY PLANS

The general principles underlying the valuation of severance pay plans are quite different from those involved in conventional pension plans, but similar valuation techniques may be used. As a matter of fact, in the United States the present Internal Revenue regulations tend to force the use of these techniques to a large extent. Actuarial assumptions as to future interest, mortality, disability, withdrawal and retirement rates may be made, after which any of the standard valuation methods may be used. However, in practice certain reservations must be made. To begin with, where the plan gives credit for past service and where the benefit formula itself makes no provision for interest (and these two characteristics are found in most severance pay plans), the valuation results may be quite sensitive to the withdrawal assumptions. From the point of view of conservatism, the actuary, if in doubt, should lean in the direction of assuming:

a) Relatively high rates of withdrawal, particularly where, as in most severance plans, little or no service is required in order to become eligible for benefits on withdrawal.

b) A relatively modest rate of interest—note in particular that more liquidity may be required in a severance fund than in a conventional pension fund.

c) Relatively high retirement rates. In particular, early retirements cannot, with safety, be disregarded—although they may still be relatively negligible.

d) Disability rates, either recognized directly or included in the withdrawal rate. In the latter case, a U-shaped distribution of withdrawal rates by age will result. In some cases where there is a fairly long service requirement before termination benefits are payable, a fairly flat scale of rates may be used, taking into account the offsetting financial effect of (1) lower benefits payable more frequently to shorter service terminations and (2) higher benefits payable less frequently to longer service terminations.

It must be pointed out that any valuation of a severance pay plan must assume continuation of the company as a going concern. A drastic curtailment in employment, resulting in many terminations of employment, may be a catastrophe of the first magnitude in a plan of this kind if it occurs in the early years of the plan, and requires special treatment and reflection by the actuary where the plan itself is continued, as well as special plan provisions in most cases.

It may be of interest to consider here the valuation of two specific pure severance plans:

Type I

The first and simplest plan will provide one week's pay per year of service, accumulated at interest rate i to date of termination of employment. Thus, after n years of service, the benefit is $\sum_{j=1}^{n} S_j (1+i)^{n-j}$ dollars, where S_j is the average weekly earnings in the jth year of employment. This type of plan can be valued as a banking proposition. So long as we use a valuation rate of interest of $i\%$, our results will be completely independent of the mortality, withdrawal and other assumptions. The past service liability will be equal to the severance pay liability if all employees terminated on the effective date, and the annual current service cost will be one week's total payroll. As noted above, this plan, although simple actuarially, is

difficult to explain to employees as a practical matter. We will, therefore, consider it no further, but go on to consider the much more common Type II pure severance pay plan.

Type II

This plan provides one week's pay per year of service, without interest, on termination of employment for any reason. In general, weekly pay will involve some sort of "final pay" idea, so that the actuary will need to assume a salary scale for valuation purposes.

Let us assume for valuation purposes a multiple decrement table from which we have built up commutation functions D_x and $_s\bar{C}_x$, where $_s\bar{C}_x$ is equal to $v^{x+1/2}$ multiplied by the total eligible decrement for age x last birthday. Also assume a salary scale where $S_x =$ ratio of salary at age x to expected final salary at retirement. Let

$$D'_x = S_x D_x \quad \text{and} \quad _s\bar{C}'_x = S_{x+1/2} \cdot _s\bar{C}_x$$

Then the present value of a severance benefit of one week's pay to an employee with current weekly wage \$1, service n years, and age x, is

$$\bar{A}_x = \frac{1}{D_x} \sum_{t=0}^{\infty} S_{x+1/2+t} \cdot _s\bar{C}_{x+t} = \frac{_s\bar{M}'_x}{D'_x}$$

The present value of a severance benefit of one week's pay per year of service to this employee is

$$\overline{IA}_{x,\,n} = \frac{1}{D'_x} \sum_{t=0}^{\infty} (n + \tfrac{1}{2} + t)\, S_{x+1/2+t} \cdot _s\bar{C}_{x+}$$

$$= \frac{1}{D'_x} [\, \bar{R}'_x + (n - \tfrac{1}{2})\, _s\bar{M}'_x]$$

$$= _s\overline{IA}_x + n \cdot _s\bar{A}_x$$

Let

$T_x =$ Total number of employees aged x. Let $\sum\limits_{\text{all } x} T_x = T$.

$T'_x =$ Total current weekly earnings of all employees aged x, $\sum\limits_{\text{all } x} T'_x = T'$.

$Y'_x =$ Total of products of weekly earnings times service for all employees aged x.

$\bar{a}'_x =$ Present value of service annuity of one week's pay.

The usual valuation methods produce the following results:

Entry Age Normal Cost: Assuming a single average entry age E, we have

$$\text{Normal Cost} = T' \cdot \frac{{}_s\overline{IA}_E}{\bar{a}'_E} = T \, (NC) \text{ , say}$$

$$\text{Past Service Deficiency} = \sum_{\text{all } x} T'_x \cdot {}_s\overline{IA}_x + \sum_{\text{all } x} Y'_x \cdot {}_s\tilde{A}_x - \sum_{\text{all } x} T'_x \bar{a}'_x \, (NC)$$

Attained Age Normal Cost:

$$\text{Normal Cost} = \sum_{\text{all } x} T'_x \cdot {}_s\overline{IA}_x \bigg/ \sum_{\text{all } x} T'_x \bar{a}'_x \qquad \text{week's pay}$$

$$\text{Past Service Liability} = \sum_{\text{all } x} Y'_x \cdot {}_s\tilde{A}_x$$

Unit Credit Method:

$$\text{Past Service Liability} = \sum_{\text{all } x} Y'_x \cdot {}_s\tilde{A}_x \qquad \text{as for attained age method}$$

$$\text{First Year Future Service Cost} = \sum_{\text{all } x} T'_x \cdot {}_s\tilde{A}_x$$

Aggregate Cost Method

$$\text{First Year Cost} = \left(T' \bigg/ \sum_{\text{all } x} T'_x \bar{a}'_x \right) \left(\sum_{\text{all } x} T'_x \cdot {}_s\overline{IA}_x + \sum_{\text{all } x} Y'_x \cdot {}_s\tilde{A} \right)$$

All of the above methods have the drawback that the so-called "past service liability" differs from the quick liability which would arise if all employees terminate on the effective date. In fact, it is less than this quick liability under all of these methods, except under the entry age normal cost method where an artificially young average entry age is assumed. A modified method under which the past service liability is *defined* to equal the quick liability on the effective date would seem to have a certain merit. Thus,

Modified Attained Age Normal Cost Method:

$$\text{Past Service Liability} = \text{quick liability} = \sum_{\text{all } x} Y'_x$$

Normal Cost $= NC$ week's pay is such that

$$\sum_{\text{all } x} Y'_x = \sum_{\text{all } x} T'_x \cdot {}_s\overline{IA}_x + \sum_{\text{all } x} Y'_x \cdot {}_s\tilde{A} - (NC) \sum_{\text{all } x} T'_x \bar{a}'_x$$

whence

$$NC = \frac{\sum_{\text{all } x} T'_x \cdot {}_s\overline{IA}_x - \sum_{\text{all } x} Y'_x (1 - {}_s\bar{A}_x)}{\sum_{\text{all } x} T'_x \bar{a}'_x}$$

The following numerical examples of the above may be of some interest. The plan is assumed to provide benefits of $100 per year of service on severance. Here we need no salary scale and thus all $S_x = 1$. The distribution of employees (all males) by age and service is given in Table 1.

TABLE 1

DISTRIBUTION OF EMPLOYEES BY AGE AND SERVICE

CENTRAL AGE	YEARS OF SERVICE			TOTAL EMPLOYEES	TOTAL YEARS OF SERVICE
	0–2	3–7	8–12		
22..........	13	2	....	15	23
27..........	8	3	....	11	23
32..........	5	3	....	8	20
37..........	3	5	....	8	28
42..........	8	1	....	9	13
47..........	1	3	....	4	16
52..........	1	4	....	5	21
57..........	....	4	1	5	30
62..........	....	3	....	3	15
67..........	....	3	....	3	15
Total....				71	204

The valuation assumptions, from which the valuation factors ${}_s\overline{IA}_x$, ${}_s\bar{A}_x$ and $\bar{a}'_x$ shown in Table 2 (p. 167) are derived, are as follows:

Interest and Mortality: The a–49 Table and 3% interest.

Retirement: Rates used are as follows:

	Probability of			Probability of
Age	Retirement		Age	Retirement
60.......	.0030		65.......	.4000
61.......	.0032		66.......	.1600
62.......	.0036		67.......	.1800
63.......	.0042		68.......	1.0000
64.......	.0050			

Withdrawal: Rates used (including disability) are indicated by the following:

Age	Withdrawal Rate	Age	Withdrawal Rate
20.......	.4003	45.......	.0121
25.......	.0721	50........	.0085
30.......	.0335	55........	.0065
35.......	.0222	60........	.0090
40.......	.0164	64........	.0222

Results under each of the above methods may be summarized as follows:

Method	Current Cost for Future Service	Past Service Liability	Maximum Contribution
Entry Age Normal Cost.	$4,382	$15,855	$5,968
Attained Age Normal Cost.................	$4,559	$13,573	$5,916
Unit Credit...........	$4,497	$13,573	$5,854
Aggregate Cost........	$5,611		$5,611
Modified Attained Age Normal Cost........	$4,030	$20,400	$6,070

The final column of the above table indicates the maximum first year contribution which the employer may deduct from gross income for tax purposes under one Internal Revenue criterion (normal cost plus 10% of past service liability). We are immediately struck by an odd anomaly: even if the maximum allowable contribution is made, the net quick deficiency (defined as the excess of the quick liability if all employees terminate at once over fund assets) will be greater at the end of the first year than at the outset. For example, at the end of the first year the net quick deficiency will be *at least* $20,400 plus $7,100 minus $6,070 minus $180 interest, or $21,250, where a contribution of $6,070 is made at the beginning of the first plan year. This state of affairs is typical of this type of plan, and indicates the desirability of using initially conservative assumptions in order to increase the employer's maximum allowable contribution if any of the above valuation methods are employed. In the above example, however, even the use of a $2\frac{1}{2}\%$ interest assumption would not, under the 10% rule, permit a contribution of $7,100, which is the least contribution which will assure no increase in the net quick deficiency at the end of the first plan year in the event no interest is actually earned by the fund. A considerable increase in the assumed withdrawal rates would be required as well if a $7,100 deductible contribution is desired.

MAINTAINING THE SOLVENCY OF A SEVERANCE PAY PLAN

Even where a severance pay plan is in a solvent condition actuarially—in other words, where funds on hand plus the present value of expected future contributions exceeds the present value of future benefits—it may become financially unable to make benefit payments if an unusual number

TABLE 2

VALUATION FACTORS

Age x	T_x	Y_x	$\ddot{a}_x'$	$_s(\overline{IA})_x$	$_s\bar{A}_x$
22.........	15	23	10.93	6.22	.692
27.........	11	23	16.26	9.38	.534
32.........	8	20	16.97	10.24	.513
37.........	8	28	16.45	10.52	.528
42.........	9	13	15.22	10.35	.565
47.........	4	16	13.41	9.72	.619
52.........	5	21	11.04	8.50	.688
57.........	5	30	8.14	6.60	.774
62.........	3	15	4.72	4.34	.875
67.........	3	15	1.77	1.72	.963
Total....	71	204	Average age 34		

From which

$$\sum_{\text{all } x} T_x \ddot{a}_x' = 916.16$$

$$\sum_{\text{all } x} T_x \cdot {}_s\overline{IA}_x = 588.27$$

$$\sum_{\text{all } x} T_x \cdot {}_s\bar{A}_x = 44.967$$

$$\sum_{\text{all } x} Y_x \cdot {}_s\bar{A}_x = 135.73$$

of terminations occurs. This is particularly true in the early years of operation of the plan, before any sizable fund has been built up. Short of immediately paying the full quick deficiency into the fund regardless of tax consequences, there is no way of guaranteeing against this contingency except by including suitable provisions in the plan. Such provisions usually maintain solvency in one or several of the following ways:

(1) By providing for an increase in employer contributions if insolvency threatens, in the form of a special payment or payments by the employer. This is often not a practical possibility, however.

(2) By reducing or eliminating benefits of short service employees who terminate. This may be a permanent provision (for example, a three years of service eligibility requirement for benefits) or may operate only in the first few years of the plan.

(3) By providing for an over-all reduction in benefit levels if the fund drops below a certain level.

(4) By paying no benefits from the plan until contributions have been made for a certain length of time.

(5) By permitting the employer or the administrative committee to defer payment of benefits to terminating employees for a period of time, or to require such employees to accept periodic payments in lieu of a lump sum. While this does not reduce the ultimate liabilities of the plan, it does reduce the short term financial problem.

Even where the initial financial problems have been successfully surmounted, it may be advisable to defer benefit payments for terminating employees for a short period of three to six months. This will tend to eliminate the thoughtless terminations which may otherwise occur among employees who are hard pressed for cash. Furthermore, it will permit a more equitable division of fund assets in the event a complete termination of the plan becomes necessary. If such a termination occurred at a time when fund assets were still insufficient to pay all benefit claims, in the absence of such a provision the early terminations might receive a disproportionate share of these assets or even all of them, to the disadvantage of those employees who remain to the bitter end.

The points noted above should emphasize the caution that is required in embarking on a program of this kind. Probably this type of plan is practical only for the very stable employer where there is real assurance that the plan will be continued for a long period of years, or in a multi-employer situation where it can be assumed that the employer group as a whole will continue even if individual members drop out.

DISCUSSION OF PRECEDING PAPER

ROBERT J. MYERS:

Dr. Stanley is to be congratulated on presenting this interesting paper on a type of employee fringe benefit that is quite properly susceptible of actuarial analysis. Severance pay benefits are apparently becoming somewhat more popular in this country although, of course, by no means as much so as pensions, death benefits, health benefits, etc. Sometimes these payments are made regardless of cause of termination, but in other plans only upon involuntary separation—a vastly different matter from both policy and actuarial standpoints.

In a number of countries, severance pay benefits—frequently termed "service indemnity" benefits—are common, often being required by law and sometimes being administered by a Government agency. In general, these programs provide benefits at a considerably higher level than mentioned by Dr. Stanley, namely, often one month's pay for each year of service rather than only one week per year of service as is apparently often the case in this country. Also, many foreign plans base the payment on final rate of pay rather than on the average over the entire period of employment or even the average over a recent period. Some foreign programs have limitations that hold down costs, such as a maximum number of years of service to be used in computing the benefits or such as providing for offsetting certain other benefits—including Social Security benefits—against the severance pay benefits.

In my opinion, severance pay benefits have a certain usefulness but only if they are of a relatively restricted nature. A plan involving benefits of one month's pay for each year of service without limitation, and with "pay" being defined as the last rate of pay, does not seem advisable. The relatively large cost involved could be used much better for a more rational type of benefit structure, involving retirement and survivor benefits. Furthermore, at least as the experience has developed in certain countries, a situation can develop that is very unfavorable to the general functioning of the national economy. If adequate resources have not been established, as is so often the case, because actuarial guidance has not been obtained, an employer who is not too prosperous can often be on the twin horns of a dilemma, since he must either have the continuing financial burden of maintaining an inefficient employee on the payroll or put up a very sizable sum at one time to meet the severance pay benefit.

Dr. Stanley has indicated a most important point in bringing out that the financing of a severance pay plan is extremely sensitive. In this respect a pension plan is relatively stable because the number reaching retirement age each year and the number surviving thereafter can vary only within relatively narrow limits in the early years of operation. Likewise, a plan involving life insurance is also rather stable, although somewhat less so. Normally, we can predict within relatively narrow limits the number of deaths that will occur from year to year, but there is the slight probability here of a catastrophe. Under a severance pay plan, on the other hand, there can be wide fluctuations in year by year outgo so that there may be need for any liability for past service to be funded to a considerable extent as soon as the plan is established. Of course, one solution to the problem, which might be an overwhelming financial one for the employer, is to credit only service after establishment of the plan.

The cost aspects and valuation problems of a severance pay plan based on final salary are interesting. In Peru, where for a number of years there has been an annual rate of inflation of 10%, a system for salaried employees provides one month of final pay for each year of service regardless of cause of termination. The reserves are often maintained on the books of the employer, and the annual "cost" is determined as the difference between (1) the total accumulated severance pay (*i.e.*, the amount that would be paid if all employees terminated) computed at the end of the year and (2) that at the beginning of the year less actual payments made. The resulting "cost" is frequently shown to be in the neighborhood of 20% of payroll.

This method of portraying "cost" is erroneous and misleading because no account is taken of the interest earnings on the book reserve, which certainly should be at a rate at least equal to the rate of inflation. Under such an assumption of the interest rate and the rate of inflation being equal, the real cost for these benefits on a level premium basis is about 10% to 11% of payroll (higher, of course, than the $8\frac{1}{3}\%$ that would apply if the salary scale by length of service were assumed to be level). The preceding assumption yields the same results as if there were no inflation and the interest rate were taken as zero.

Supplementing the illustrative example given by Dr. Stanley, it is interesting to note that in his case if the benefit were one month's pay per year of service (with a level salary scale), the cost would be 6.6% of payroll under the aggregate cost basis (at 3% interest).

HOWARD H. HENNINGTON:

I have just one comment to make on Dr. Stanley's very interesting paper. This comment relates to the point about whether severance benefits should be paid in the event of death or whether they should be restricted to termination of employment other than by death.

The author has suggested that most plans involve severance benefits paid in the event of death but he has suggested, by implication, that there are some which do not.

The experience that I have had with severance pay plans has put me in touch with a few where the severance benefit is not paid in the event of death. It seems to me that this creates a very important "deathbed election" problem of the sort that many of us have seen in connection with joint and survivor benefits under pension plans.

If an employee finds himself in poor health and knows that if he were to die as an active employee he would get no severance benefit, then he can usually find some way to accomplish the technicality of terminating employment and receive a substantial additional benefit. This situation has administrative pitfalls. It also creates problems of obvious implications of inequity or unfairness as between employees who die suddenly and employees who have a certain amount of time of illness and can terminate employment before death. I think that in some instances these points are alleviated (but only partially) by group life insurance death benefits which may be in force for an active employee and may be reduced for a terminated employee. Perhaps Dr. Stanley would care to comment on this problem. I should be interested to know whether in his opinion this is just a theoretical problem or whether it does present some practical difficulties.

DORRANCE C. BRONSON:

I had not intended to comment on this paper but it seems to me that something is required to be said about the trend of putting together into one fund these various types of benefits—such as setting up severance pay benefits as an obligation of the pension fund.

We have the pension fund already pretty well along in the disability field. Mr. Niessen has just mentioned the much wider disability benefits that are in the Railroad Retirement Act and we are getting some cases where the employer wishes to retire people on occupational disability rather than total and permanent. Some time ago, I wrote a paper on the subject of termination problems in pension plans and it seems to me, while a case can be made in one sense for merging all these benefits into one

fund, that we may be opening up a great many problems ahead, in the case of termination of plans, mergers, etc., in unscrambling the equities—amount and incidence—with respect to all of these different potential beneficiaries.

Just for example, in connection with Dr. Stanley's topic of severance pay plans, one could conceive of a company which was gradually going downhill, whose pension fund was obligated, in one sense (the correct one, it seems to me), to a group of old-age pensioners already retired, and yet here comes a great mass termination of employees well below retirement age; question: do they get paid off and invade the equity of the people already retired?

The same thing would be true with respect to a widows' benefit. Are the widows of active employees who died before retirement to take precedence over the pension fund interests of the already retired employees themselves?

This sort of thing, it seems to me, raises the question as to whether separate funds might not be better for these different pieces of benefits—perhaps merged for investment purposes, but with some sort of legal separation made for the potential unscrambling that can be required some day in the future.

We have a somewhat similar situation in Social Security, where the new disability provision is alimented by one-quarter percent matched contributions, but this is put into an entirely separate trust fund from that of the old-age and survivors matched contributions.

RONALD LEROY:

I have just one comment to make which relates to the statement that such plans will qualify in the New York and Chicago areas. We do not believe that such plans would qualify in Los Angeles. If an employer wishes to provide a lump sum retirement benefit we would use a regular benefit formula with the employer being allowed the option of granting a cash benefit in lieu of a regular pension. It would be interesting to find out what the experience has been in other jurisdictions with this type of plan.

(AUTHOR'S REVIEW OF DISCUSSION)

J. PERHAM STANLEY:

I want to thank Messrs. Myers, Hennington, Bronson and LeRoy for their comments.

I agree with Mr. Myers that one should avoid going overboard in paying substantial lump sum severance benefits on all types of termina-

tions, where retirement or survivor benefits might serve a more useful social need. However, you cannot disregard the impetus which is given to this type of plan by the current tax laws. Certainly it is true with respect to the more highly compensated employees that they may be better off financially, after taxes, by taking a lump sum payment at retirement in lieu of a series of monthly payments.

Mr. Hennington highlighted the administrative problems that may arise if severance benefits are paid on voluntary separation from employment but not on death. It is for this reason that most of the severance plans with which I am familiar do in fact pay severance benefits on all terminations, including death. It is felt that it would be otherwise rather embarrassing to have to explain to the employee's widow why his severance benefit was not paid. This is true in practice even where a substantially larger group insurance benefit is paid. However, if it is nevertheless decided not to pay severance benefits upon death, the administrative problems would appear to be largely avoidable if a provision is included in the severance plan prohibiting payment of severance benefits if group life insurance benefits (and perhaps death benefits arising from a group conversion) are also paid within a stated period, say 90 days, following termination of employment. It is then necessary, of course, to wait ninety days after termination of employment before paying severance benefits under any circumstances—but such a practice may be advisable in any event.

Mr. Bronson has pointed up the necessity for careful drafting in plans of this type. It is very true that the problems that arise when a plan of this kind is terminated are difficult to resolve, particularly at a time when no actual termination is contemplated.

With reference to Mr. LeRoy's difficulties in qualifying severance plans in the Los Angeles area, I might point out that the approach which he has found it necessary to adopt has also been used in most of the New York and Detroit plans to which I referred, particularly those established some years ago. Recently, however, Treasury has approved several large labor-negotiated severance plans in Detroit which do not involve this round-about approach, so that apparently they are becoming more liberal in their attitude toward these plans.