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Pensions

A. What approaches have been found most desirable to provide pension coverage for employees of small firms?
B. What are the current trends with regard to vesting arrangements?
C. Are "widows' pensions" becoming more popular? What plan design features are being used?
D. Are "final average salary" arrangements becoming more popular? What arrangements of this nature are in use?

Jacksonville Regional Meeting

MR. ISAAC ROSENBERG: At the Great-West, we favor the group annuity approach in providing pension coverage for employees of small firms, for the following reasons:

1. Accumulated benefits are guaranteed.
2. Plan provisions are simple yet sufficiently flexible for ordinary requirements.
3. Administration can be handled inexpensively.
4. Benefits can be provided at low going-in cost.

Initially, we offered a package plan with few variations. It included a limited choice of unit benefit or money purchase formulas. Pensions provided by the unit benefit formulas were funded by level premiums. This package plan was designed for sale by our agents without the assistance of group personnel.

When we changed over recently to our present "new-money" premium rate basis, which involves a discount, we discontinued the special small firm series. Our experience had indicated that more flexibility was desirable. We now offer our regular series to small firms. Since the discount varies by size of case, the previous distinction between small and large firms is no longer necessary. As a result of this change-over we now offer a wider choice of plan provisions and a going-in cost that takes into account new money interest rates.

However, we no longer offer to discount premiums for mortality where the annual premium is less than a minimum which is now $3,000. We have found that the previous pooling arrangement for small firms was difficult to justify when the reserves released on death in a small case were a large proportion of total reserves. We feel that any reserves released on death should either be paid as a death benefit or returned to the policyholder as a credit.

In addition, we have introduced higher surrender charges in the early years where the annual premium is less than the minimum. If premium payments cease within the first 15 years, all benefits are reduced by a surrender charge which varies according to the year in which premiums ceased. Prior to cessation, employer credits on termination of service are reduced by a surrender charge which varies according to years of coverage.

Some of the problems which must be solved in providing pension coverage for employees of small firms include the following:

1. Increasing competition for small firm business and interest of the principals in the lowest possible going-in cost.
2. Possible early termination of the plan because:
   a) small firms are more susceptible to adverse business conditions,
   b) principals may die or retire prematurely,
   c) ownership may change, and
   d) working capital is scarce.
3. Expenses may be large in relation to premiums because:
   a) sales compensation must be sufficient to encourage sale,
   b) more service is required in handling legal and tax requirements and administration,
   c) closer supervision of reporting of information is required,
   d) in small firms specialized personnel or facilities are not available, and
   e) premium dollars are of relatively small amount.

We feel that these problems can be handled more satisfactorily as a result of this change-over.

On section B, if I may substitute impressions for facts, the current trend appears to be towards earlier vesting. It has been encouraged by government interest in portability of benefits provided under private pension plans. The release by the Province of Ontario of a draft of its portable pension bill has had a particularly marked effect on vesting arrangements.

Ontario's bill would require full vesting of employer contributions if an employee is at least 34 years of age and has completed at least one year of service. This requirement would generally result in earlier vesting under plans operating in Ontario. A common vesting provision requires at least 20 years of service for full vesting.

The trend to earlier vesting has been accompanied by a greater interest in adequate funding of pension benefits. Under the Ontario bill, each employer would have to satisfy a pension commission that his plan provided a funding arrangement which was adequate and which would meet tests for solvency on the basis of its regulations.

Present vesting arrangements are either conditional on the employee's taking his own contributions in the form of pension or are unconditional. The Ontario bill would require that the employee take his own contributions in the form of pension. A cash payment of his own contributions would not be available when he has attained 34 years of age and has completed one year of service. However, there has been no evident movement to reduce the availability of cash payments. If anything, we are experiencing a greater demand than ever for cash benefits.

MR. DORRANCE C. BRONSON: Concerning section C, I suppose it can be said that widows' benefits in private pension plans are becoming more popular because, by gradual accretion, there are more and more plans in effect where some sort of "pension" designated for widow (or spouse) has been added. But I would not say that any great surge of action to adopt widows' pensions has occurred to warrant emphasis on the word "popular," especially in respect of a "full widow's pension," by which term I mean a feature which is not only a distinct additive to the employee's own pension value but one which provides for the widow at the employee's death both before and after retirement. Certain insurance companies offer, and have publicized, a form of group term coverage which would provide life income (pension, say) to widows; these companies could tell us of the sales results (popularity) to date, but my impression, or hunch, is that very few employers have signed up for this addition to basic group life insurance.

Statistics on plans with more or less of a widow's pension are almost wholly lacking. Neither the IRS files nor those for the Disclosure Act have been processed for such figures; it would be a monumental task to bring out anything homogeneous enough to be meaningful, either as indicative of popularity trend or of plan design for this feature.

Coming to "plan design," there are—as in all aspects of private pensions—great numbers of different provisions for widows' pensions, where the feature is found at all, other than in the J&S option *after* retirement, which I am not counting as a widow's pension here. I have in my files a record of some actual plans with a widows' feature, some of the plans being all or partly insured and some being wholly trust fund; these are not confined to one consulting actuary's client list but come from many sources in general. While some of these cases include union employees, they are essentially unilateral pension plans. I thought it might be of interest to indicate the plan design of these cases as to the widows' feature and in the table on page D313 I have set these out by categories of my guess as to the descending order of employer cost for the widow's pension.

It will be noted in Groups I and II that four of the seventeen cases provide a widow's pension as a direct proportion of the employee's accrued pension. There are three plans (Groups III and IV) which base the widow's amount on the accrued pension reduced as if for early retirement at date of death. Six cases (Group V) use a portion of the employee's ac-

Widows' Pensions at Death before Retirement—Examples of 17 Pension Plans Having Such a Feature* in Groups of Probable Order of Added Employer Costs†

Company	
	Group I—Widow's Pension as Direct Fraction of Employee's Regular Accrued Pension
(a)	100% of accrued pension, payable for 20 years; 10 years service
(b)	40% of accrued pension (reduced for death below age 60); 20 years service; contributory at about $12.50 a year per $10 monthly potential pension for widow
(c)	25% of accrued pension ($75/mo. minimum before Social Security widow's benefit payable); age 60 and 15 years service; contributory at about $9.50 a year per $10 monthly potential pension for widow
	Group II—Same as Group I but Reduced for Widow's Social Security When Payable
(d)	50% of accrued pension, reduced by one-half of widow's Social Security when available; ceases at remarriage
	Group III—Widow's Pension as Fraction of Employee's Reduced (date of death) Early Retirement Pension, with No Social Security Offset
(e)	(The case here cannot be easily described beyond the heading shown)
	Group IV—Same as Group III with Further Reduction for Widow's Social Security When Payable
(f)	50% of the reduced early pension, minus one-half of widow's Social Security; age 55 plus service = 80; ceases at remarriage
(g)	50% of the reduced early pension, minus part (probably one-half) of widow's Social Security; age 50 plus service = 80; ceases at remarriage
	Group V—Widow's Pension as Some Function of J&S Option Applied to Employee's Accrued Pension or Early Reduced Pension
(h)	100% continuation under J&S option for accrued pension without applying early retirement factor; age 55 and must have elected the J&S option
(i)	Same as (h)
(j)	50% continuation under J&S option for accrued pension without applying early retirement factor; 20 years service; ceases at remarriage
(k)	50% continuation under J&S option for accrued pension after applying early retirement factor; age 55 and 20 years service
(l)	Same as (k) except age 50 and 20 years service, and ceases at remarriage
(m)	From 25% to 50%, by service, continuation under J&S option for accrued pension without applying early retirement factor; reduced by some portion of Social Security for widow when available; age 35 and 10 years service
	Group VI—Amount of Survivor Pension Provided from a Stipulated Sum
(n)	Amount of annuity which can be provided by two years' salary; 20 years service; widow or dependent
(o)	Amount of annuity purchasable for widow by two years' salary; 25 years service
	Group VIII—Widow's Pension as Fraction of Accrued Pension by Option to Reduce Employee's Own Pension
(p)	Fraction of accrued pension varies with age of wife—*e.g.*, 55% if same age, with 6% reduction in employee's pension if he retires at 65, when option ceases; age 60 start; intended to be actuarially equivalent
(q)	25% or 50% of accrued pension, at employee's option; with after-retirement deduction varying by age of wife when employee was age 60—*e.g.*, 50% for widow calls for 6.1% deduction if equal ages; age 60 start; intended to be actuarially equivalent

* This outline was not prepared from the actual documents of the 17 plans so some elisions or inexactitudes may be present.

† Unless noted, employer pays full cost of the feature, even though plan proper may be contributory.

crued pension after reducing it for full or partial continuation to survivor by applying the J&S factors, thus bringing in age at death and age of widow, which actually have little or no rationale for *amount* of protection needed. In fact, two of these also apply the early retirement reduction factor, as well. Since there is no actuarial equivalence here (though talked about), these are just devices to hypothesize "if he had retired early and if he had elected the J&S option." Then there are two plans (Group VI) which break away from "accrued pension" altogether and determine the widow's pension as that purchased at the employee's death by a salary multiple (twice salary in these two cases). Finally, in Group VII, there are two plans with the "go-now-pay-later-if-alive" option under which protection for widow's pension is provided between age 60 and 65 but if you survive to 65 you take a lifetime deduction in your pension to pay for the protection you enjoyed but didn't use. This Group VII type is supposed to cost the employer nothing, being figured on actuarially equivalent values (but this assumes enough exposure to "get the averages").

Also, it should be noted that these examples apply only for death *before* retirement; we have to guess at the situation after retirement for these examples and my guess is that only the three cases in Group I provide any after-retirement widow's pension beyond the usual J&S or Certain Period options.

This discussion is already too long to include descriptions of the widows' feature after retirement in the recent automotive union settlements; these are rather like liberal J&S options; someone else will, no doubt, describe these. I believe the steel union plans, on the other hand, use a rather exact set of J&S factors.

In a paper in 1955 for the Fraternal Actuarial Association,[1] I pointed out the tremendous body of death benefit protection of various kinds existing for potential widows. The magnitude of this protection must be far greater today. Perhaps, as I felt then, pension plan costs and benefits should be kept in focus for old-age or disability *pensions* to employees and should not be too much diluted by costs which are essentially of a life insurance nature. The added costs for a full widow's pension at death both before and after retirement can run some 35% to 50% of the basic pension costs.

MR. STUART J. KINGSTON: On the subject under discussion, both individual and group coverages are a permissible topic—many pension plans and accident and health plans are written with individual policies.

[1] "Widows Pensions in Industrial Pension Plans"—Bronson; Fraternal Actuarial Association, March 23, 1955, New York City.

I wish to speak on behalf of individual policy pension plans. Considering group annuities, for example, I believe that most of them have no death benefit before retirement. Yet, for a great many small corporations which are closely held, the owner is interested in getting benefits out of that corporation for himself and his family on a tax-favored basis, and if he can, his rank and file employees will also benefit by virtue of the plan being installed. Suppose such a man with a large pension carrying a group annuity reserve of $100,000 dies at age 64. The thing that happens is that the next owner of the business gets the advantage of having a group annuity plan with a very big dividend, and the former owner hasn't gotten $100,000 out of the plan for his family—whereas if he had used an individual policy plan with life insurance in it, his heirs would have received an estate-tax-exempt benefit of $100,000. Therefore, I think that a standardized group annuity plan, even though it may carry a lower expense ratio, probably does so at the expense of needed benefits.

MR. HOWARD H. HENNINGTON: At the Equitable we sell individual policy pension trusts as well as group annuities. The thing that has always impressed me with group annuities is that it is quite a specialized operation as to the kind of service that is given to the employer and so a group annuity vehicle is expensive when you get down to small cases. We have been convinced for a long time that there is a real need for individual policy pension trusts. By pooling all such contracts, and by not trying to keep track of the expenses and other benefits specifically for each contract, you can achieve substantial cost-savings. Briefly, our company does not plug group annuities for small cases.

MR. CHRISTOPHER H. WAIN: I think there is a field for individual policy employee pension plans. I am puzzled, however, by the actions in the field of offering individual policies and then, in order to sell them, agreeing to run what is really a deposit administration contract in the form of the so-called supplementary fund agreement. This often includes undertaking the actuarial valuations that were spoken of as being so very complex and uneconomical for a group pension department. In addition to doing these very costly things, they are apparently being done without any charge and without having the benefit of interest earnings on the money. I don't understand how an individual policy department can undertake to do something that is prohibitively expensive for the group department and is essentially a group contract.

MR. KINGSTON: I agree with Mr. Wain that small cases requiring fancy actuarial calculations, the cost of which is absorbed by the case or by the insurance company itself, would be better off written as conventional group annuities.

Chicago Regional Meeting

MR. ROBERT C. TOOKEY: Our organization, Peat, Marwick, Mitchell & Co., finds a slight trend toward improvement of vesting provisions as well as a trend toward graduated vesting starting at 50% and increasing in annual increments to 100% vesting after 10 or 15 years of covered service.

From a social standpoint, widows' pensions help the widow through the preretirement period which is supposed to be covered by group insurance. However, under group insurance there is sometimes an estate tax problem and the widow's pension is exempt from the estate tax. Also this type of benefit will forestall some early retirements for unhealthy employees with a joint and survivor option. Some of these benefits become effective at age 55. Addition of the benefit normally increases pension costs by about 10%. If the employer is unwilling to accept this additional cost, it is not difficult in many cases because of its attractiveness to sell employees on the idea of a smaller normal retirement benefit in order to finance the widow's benefit. The reduction in the normal benefit is normally set up on the basis of 1/2 of 1% for each year under age 65 that the widow's benefit commences.

A "final average salary" plan avoids frequent updating of plans. The five-year final average seems to be somewhat more popular than the ten-year.

MR. B. RUSSELL THOMAS: Widows' pensions are more popular than they were 10 years ago when it was much more difficult to obtain Internal Revenue Service approval of a pension plan including these benefits. At the present time about 2% to 3% of pension plans provide for payment of such benefits without reduction in the pension payable to the individual. Any widows' pension provision being added to an existing plan should be integrated with the group life coverage in order to avoid duplication or gaps in coverage. We at The Wyatt Company have generally found it more satisfactory to provide for payment of widows' pensions only in the event of death after retirement. In general, we have found that a widow's pension equal to 50% of the employee's pension is satisfactory. Such a provision in conjunction with adequate group life insurance benefits which reduce to a nominal amount on the employee's retirement date is easy to administer and avoids duplication and gaps of coverage.

"Final average salary" plans are becoming more popular than they were 10 years ago, since new plans have been adopted which include final average salary provisions and some old plans have been amended to include final average salary provisions. There are several possible definitions of final average salary, but the average is usually based on 5 or 10 consecutive years' salary just before retirement or within a limited period prior to retirement.

The question also arises as to whether a unit credit floor should be placed under the final average salary formula or not. The answer to this depends on whether it is a new plan or not, whether it is contributory or not, and on the funding medium.

MR. LAURENCE E. COWARD: I agree in general with Russ Thomas; however, I do feel that widows' pensions are more important before retirement than after. Before retirement there are more apt to be children and group life insurance is normally inadequate. Joint and survivor options may be used to produce widows' pensions on death after retirement.

The problem arises as to whether the widow's pension should be half the accrued pension or half the expected ultimate pension. In Canada, until recently, the tax people had felt that 50% of the accrued pension was the proper amount, but more and more we are getting 50% of the full ultimate pension approved.

Another major problem is defining what constitutes a "wife." The pension plan which allows the committee to decide who is a wife is not likely to be popular with the employee or with the wife either, and most defining clauses are apt to be rather clumsy.

MR. ANDREW U. LYBURN: We are receiving more requests for information on widows' pension plans, but tax complications and the high cost seem so far to have prevented an increase in popularity. In the United Kingdom, however, where the tax situation is much more favorable, widows' pension plans are definitely becoming more popular.

We suggest three possible approaches, either separately or in combination. Considering the commuted value of the widow's pension to be straight life insurance and using fairly straightforward group life approach best provide a satisfactory pension on death during active service. The cost of a widow's pension equal to one-third of current salary is about 5% of payroll of married males if the pension does not cease on remarriage and about 3 1/2% of payroll if it does.

Widows' pensions can be incorporated in existing pension plans in such a form that the widow's pension is directly related to the current service pension secured from the later of the date of marriage or entry. A widow's pension unit of one-half the current service unit, ceasing on remarriage, costs close to 20% of the cost of basic current service unit. During early years of membership, this widow's pension is inadequate. In comparing the cost of these two benefits, it should be remembered that the incidence and duration of the risk differ radically.

It is also possible to provide a widow's pension, in the form of a reversionary annuity, equal to, say, 50% of the member's nominal pension.

Under Canadian tax law these three methods produce differing tax effects which must be considered, and the first and third are apt to pose underwriting problems.

Over-all, it is unlikely that a satisfactory widow's pension can be provided at under 5 1/2% of payroll and this cost holds only so long as interest rates stay at their present high level. When one remembers that the majority of contributory pension plans do not cost the employer as much as this, it is easy to understand why employer interest is more academic than practical.

I should perhaps add that the approximate costs quoted make no allowance for termination, which may well reduce effective costs by up to 30% or even more.

DR. ALAN A. GROTH: There is an unmistakable trend toward liberalizing vesting provisions under pension plans. The ultimate aim appears to be to provide portable pensions.

It is also known that the Internal Revenue Service is reviewing the problem of requiring vesting for qualification of pension plans and profit-sharing plans, and it is entirely possible, therefore, that the future may bring about the mandatory inclusion of vesting provisions in pension plans either by legislation or by regulations. Internal Revenue Service officers are already insisting upon the inclusion of liberal vesting provisions in profit-sharing plans.

In discussing the pros and cons of vesting requirements, I shall restrict my discussion to noncontributory pension plans, and to the employer-provided portion of benefits under the contributory plans, and my discussion will deal solely with the desirability of compulsory requirements for vesting rather than the desirability of vesting itself. Basically, we believe that provisions of pension and profit-sharing plans should be subject to free bargaining between the employer and his employees or their representatives.

In discussing vesting under deferred compensation plans, one must note that there are certain basic differences between pension and profit-sharing plans.

Profit-sharing plans provide an undetermined benefit whereby monies contributed are allocated immediately to the specific accounts of employees, while the pension plan (excepting the more and more infrequently used money-purchase plans which closely resemble profit-sharing plans) provides definitely determinable benefits under a prescribed formula for those employees who retire at the normal retirement age.

For these reasons, we believe that there is more justification for introducing vesting under profit-sharing plans than under pension plans.

The nature of pension benefits has not yet been clearly established. If we assume that pensions are mere gratuities, the vesting of benefits (except in case of termination of the plan as required by regulations) contradicts the basic concept of rewarding faithful employees.

If we assume that pension plans are unilateral contracts providing certain benefits payable in certain contingencies, the plans are binding only with respect to the benefits which were incorporated in the plan. Adopting this concept of pension plans, the employer should not be required to add benefits with regard to terminating employees.

Another theory frequently mentioned is that pensions are, in fact, deferred wages. If this were the underlying theory of pension plans, early vesting would be justified, but only to the extent of the assets attributable to the normal annual cost accruing with respect to the employees. If pension benefits are, in effect, deferred wages, the pension commitment underwritten by the employer consists of benefits accrued after the establishment of the plan, which is supplemented by the implied promise of the employer that, as long as the pension plan is in effect, the employer will supplement the benefits so accrued by additional payments to the retired employees on account of their service performed prior to the effective date of the plan. Once all employees who were in the employ of the company at the effective date of the plan have retired and died, the benefits promised under the plan would then, but only then, become fully vested.

To introduce vesting requirements into pension plans would create many practical problems, since, with the exception of certain pension plans negotiated by certain unions, there are no "standards" applicable to benefits under pension plans, and there are considerable differences in the actuarial valuation methods and assumptions used in determining cost requirements and in the extent of company contributions. These differences will profoundly affect the added cost of vesting of benefits and could also affect the employees' rights in case of termination, if the reserves were vested.

In the area of legislating working conditions, Congress and the states have apparently adopted the principle of not interfering with free bargaining except for the regulations pertaining to the hours worked, to the minimum wage, and to female and child labor.

Vesting requirements are closest perhaps to the minimum wage provisions. The minimum hourly wage, as presently prescribed by law, is set at a very low level; thus, this law, in practice, regulates only the smallest employers in certain, mostly rural, areas of the country.

Should Congress adopt legislation covering employer-employee relations, such legislation should be first concerned with requiring all employers to adopt a retirement program containing certain minimum provisions. We do not believe, of course, that such legislation would be contemplated.

Should the Federal Government or Congress try to influence or legislate provisions of pension and profit-sharing plans, there are areas where such influence would be more readily acceptable than by requiring liberal vesting or portable pensions. These areas are:

a) Where employment of the employee terminates because of circumstances beyond his control. Treating these employees as a preference class would be consistent with public policy. Unfortunately, Internal Revenue Service rules do not permit such discrimination.

b) Where the employment of the employee terminates because of disability, whether it be partial or total, permanent or of long duration. The payment of full normal retirement benefits immediately upon the commencement of disability should be encouraged rather than discouraged as it now is.

c) The payment of substantial benefits at advanced ages should be encouraged when finding new employment is difficult or impossible. The IRS requirement for actuarial reduction upon earlier retirement does not permit such benefits.

In closing, we may state that we believe it is contrary to the principles of free economy to influence contracts established pursuant to free negotiations unless it is in the interest of public policy. For this reason, vesting should be encouraged if it is restricted to termination of employment beyond the control of the employee; and in cases where it occurs at advanced ages, where the employee will have difficulty in finding new employment, and/or to accumulate a retirement income for his old age.

The only area where the Federal Government or state governments presently regulate employment conditions is the relatively narrow area of working conditions and minimum wages. These provisions cover all employers. The regulation of vesting provisions would affect only those employers who have established a retirement program. Any such regulation, therefore, would be discriminatory. It would, further, discourage rather than encourage the establishment of new pension plans.

DR. ROBERT E. LARSON: A disadvantage of 100% vesting after a certain number of years with no vesting until then is that an unhappy employee may feel tied to the pension plan. Using 50% after some number of years with no vesting until then and graduated vesting thereafter reduces this disadvantage but does not eliminate it. This disadvantage could be almost eliminated by a graduated vesting of, say, 10% after 5 years, 20% after 6, increasing by 10% a year to 100%. Last year I recommended something similar to this to the Nebraska Division of Employment. The plan was well received by both the Division and the people in the U.S. Department of Labor who were involved because the plan was federally financed.

MR. WILLIAM A. HALVORSON: Widows' benefits are becoming more popular, at least from what we have seen in Milwaukee recently. Five plans we are currently developing have elected to include a widows' benefit. In all five plans the benefit is being made available at the early retirement age. It is simply a benefit to the widow equal to what she could have been provided by the employee if he had retired early prior to his death and had chosen a joint and survivor option. I think this is a fairly common plan and it is easy to understand.

The only complication is whether it is going to be paid for by the employees through benefit reductions, or by the employer, but there is always a way to find an answer to that.

We find that the actuarial cost varies tremendously by the age of the employee, depending upon how close he is to retirement. It ranges from 13% at age 55 to about 2% at age 64.

There could be some question as to whether the Internal Revenue Service will permit full service widows' pension benefits under qualified pension plans unless they are limited to benefits already accrued and which the employee is eligible to receive. However, group term life plans can be purchased which will fully fund the anticipated pension benefit, although there appear to be estate tax advantages of running the benefits through a qualified pension plan.

MR. LYBURN: Final salary plans are attracting increasing interest in Canada and this has led me to have a look at the more common ways of funding insured plans.

The first common method is to cost a pension based on current salary on the level annual premium method. It is argued that the excess of the true theoretical paid-up pension over the scale paid-up pension (*i.e.*, current unit times years of service to date) should give sufficient overfunding (based on current salary) to keep costs from rising too rapidly on account of subsequent salary increases. This, of course, is all relative and the actual position will depend on individual salary histories as well as on premium rates applicable to increments.

A second method, which is becoming more common, is to estimate the final salary (or final average) and thus the total final pension. At any time the pension unit equals estimated pension minus pension actually purchased (or credited) divided by years to normal pension age. There is, therefore, substantial overfunding in relation to current salary in the early years, so that single premium unit cost funding is usual.

The accompanying table highlights the difference in the two methods. It is based on a male entering at age 25 with a $1,000 salary increased by 15% compound every five years. Normal pension age is 65 and the pension of 1 1/2% of the average of the last five years' earnings for each year of service (*i.e.*, in this case 60%) is payable for five years certain and life thereafter. Employee contributions are 5% of actual salary and are returnable with interest on death; the employer contributes the balance on a nonreturnable basis. The mortality and expense assumptions in the premiums are in line with those currently being used in Canada. Under A the level annual premiums are based on 3 3/4% interest and the pension unit is based on current salary. Under B and C the units are based on final salary and remain level at $39.90. The interest in the single premium under B is 3 3/4% throughout for comparison with A, and under C the interest is:

5% for the first 5 years
4 1/2% for the second 5 years
4% for the third 5 years
3 3/4% for the fourth 5 years
3 1/2% for the fifth 5 years
3 1/4% thereafter.

Common guarantees of the rates are 1, 3, or 5 years for single premiums and up to normal pension age in respect of the level of benefits attained for a five-year period for annual premiums. Examination of the table shows:

(1) level annual premiums based on current salary can lead to a rapid and substantial increase in employer cost—in this case from $21.66 at ages 25 to 29 to $711.35 at ages 60 to 64;

(2) the amount of "overfunding" under level annual premiums decreases with duration and can in fact be negative as in this case at age 60;

(3) the common annual premium rate guarantee mentioned above is not as valuable as may appear on the surface and becomes even less valuable when withdrawals are taken into account;

Attained Age	Projected Pension at N.P.A.	Employee Contribution	A			P.U.P. Based on Final Earnings	B	C
			Employer A.P.	True P.U.P. at End of Year	Scale P.U.P. at End of Year		Employer S.P.	
29	600.00	50.00	21.66	133.99	75.00	199.50	60.19	26.69
34	690.00	57.50	27.64	265.21	172.50	399.00	75.18	43.73
39	793.50	66.13	38.94	399.58	297.56	598.50	93.86	82.11
44	912.53	76.04	59.35	545.52	456.26	798.00	117.29	117.29
49	1,049.41	87.45	96.32	712.06	655.88	997.50	147.09	160.25
54	1,206.82	100.57	165.99	913.00	905.12	1,197.00	186.04	215.00
59	1,387.84	115.65	311.27	1,177.47	1,214.36	1,396.50	238.79	266.20
64	1,596.00	133.00	711.35	1,596.00	1,596.00	1,596.00	314.43	340.65
Total 25–64	....	3,431.70	7,162.60	....	....	....	5,440.67	5,568.98
Present Value of Total at Age 25 (discounted at 3 3/4%)			2,173	....	....	....	2,173	2,025

NOTE.—When comparing A and C it should be remembered that if the rates of interest fall as in C, the rate of interest in annual premiums in A, applicable to increments, will also fall, leading to an even greater increase in the later total annual premiums.

(4) the current historically high interest rates make single premium unit cost funding based on final earnings no more costly than annual premium funding based on current earnings with correspondingly lower costs in the future. As already pointed out, single premium funding has the added advantage that a considerably higher pension unit is bought in the early years.

General conclusions are that single premium unit cost funding based on estimated final salaries is sounder, less costly and produces a more stable cost than level annual premium funding based on current earnings.

It may be as well to add that the remarks directly concerned with funding apply to deposit administration plans as well as to group annuity plans.

No mention has been made of entry age normal funding, as this method is not very common in Canada and, anyway, as it envisages deficit funding, it is hardly in line with my general theme.

On a different aspect, a point that is often overlooked is that once a final average salary pension plan is installed, human nature is such that it soon becomes taken for granted. In many cases, it could be preferable to update benefits every few years with a view of maintaining, in effect, a final salary plan. This approach has the added advantage that total costs and the incidence of these costs are more under the employer's control, and also such updating is recognized and accepted by the employees as a further benefit given by the employer.