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The Nature of the Pension “Promise”

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Not many years ago, defined-benefit pension plans were riding high. More recently, the literature in North America and in Britain and other countries has been full of talk of a retirement crisis, but on closer examination what is really being asserted is a crisis of defined-benefit plans. Any such crisis is not due to an inherent defect in such plans. Rather, this paper argues, it is due to a failure to appreciate, communicate and respond properly to the inherent *nature* of these plans, a failure which leads, in particular, to characterization of the defined benefits which are the essence of such plans, as unconditional promises.

Unfortunately, public discussion of pension issues often proceeds on one of two inconsistent bases: pensions are seen as an arcane branch of learning accessible only to an actuarial priesthood or, perhaps even worse, they are treated as simple straightforward matters at heart, needing nothing but common sense. The second approach leads to prescriptions for public policy which appear simple and straightforward in their turn but are often simply incoherent. Such prescriptions are often grounded on a “common-sense” model, which sees a pension fund as essentially a collection of savings accounts, one for each individual employee, into which the employer pours money and out of which that employee’s retirement needs are eventually met. This model is adequate for some purposes but should be treated cautiously since it can lead to serious distortions

Actuaries, who are the main stewards of defined-benefit plans, are primarily responsible for this possibly terminal situation. We produce esoteric papers which are often full of higher mathematics and incomprehensible to non-specialists, but we do far too little to educate the public. If the situation is to be corrected, actuaries are the ones who should take the labouring oar in public as well as in technical discussion. It is productive, therefore, to remind ourselves of some aspects of the basic nature of pensions which we should be communicating, and to examine possible ways forward - assuming it is not too late. Our objective, it is suggested, should be a relatively simple approach to retirement planning which can preserve a place for the defined-benefit structure, can minimize its problems, and can be taken out to a wider public. This is achievable.

In primitive societies providing for the relatively small number of people who survived into old age was generally left to the individuals themselves or their families. Where an individual worked on a farm or other small business, perhaps family-owned, retirement may have been little more than a transfer to some form of reduced or light duty: gathering the eggs, for example, rather than plowing or chopping down trees. However, in a conventional modern, long-term employment relationship, retirement issues must be faced on a far more systematic basis. If they are not, employers will have to face the prospect of retaining employees who are no longer productive or, alternatively, of being seen to push those employees into retirement without adequate resources. Either way, the result will be a loss of efficiency and / or a deterioration of employee morale.

The essence of a formal retirement program is that an employer recognizes an obligation to provide retirement income for former employees without expecting current services. However, such recognition is of value only if the employee feels reasonably confident that the employer will be there, and will be willing and able to deliver on his commitments at a retirement date which may be far into the future. Even if the employer earmarks funds in advance to meet these future obligations, there may be no guarantee: first, that this allocation will be continued; second, if difficulties arise, that the employer will not be tempted to “raid” the retirement fund; nor, finally, that unsatisfied creditors of the employer will not be able to reach the retirement-fund assets before they can be applied for the intended purpose. Hence the trend in many countries towards requiring more formal advance funding of retirement obligations aimed at protecting the asset pool from at least some of these threats.

Perhaps the simplest form of employer-funded retirement arrangement would be one under which each employee received directly from his employer, a special supplement to his compensation. This might take the form of a percentage of salary, a flat periodic payment of a fixed dollar amount independent of salary, or some other variant, such as a formula based on the employer’s profits or perhaps an estimate of the employee’s contribution to those profits. The employee might be encouraged to save these supplements for retirement but could hardly, as a practical matter, be required to do so. The most obvious drawback to such a simple, if not simplistic, individual savings program would be that now it would be the employer who would have no assurance that any such special supplements would in fact be saved, invested and eventually applied to retirement needs. There would be no practical way to require such application. Even if the employee did save the funds, his taxable income would be increased by both the amount of the payments and the earnings on the funds as they were invested. As a result, he would have additional income tax to pay and could, at best, be expected to save the net after-tax amount remaining from the supplements, plus the net after-tax investment earnings on the account. As the account built up, it would now be exposed to claims of the employee’s creditors; also, in many countries, an employee who became unemployed or disabled might have to expend much of his accumulated account for his and his family’s support before becoming entitled to social welfare benefits.

Retirement professionals are familiar with the standard legal features of formal, pre-funded retirement programmes which have been introduced in most countries in response to the above problems. Nevertheless, it is appropriate to recap them briefly here. They are:

- the assets of the plan are segregated from the general assets of the employer and held by an independent stakeholder - often an insurance company or a trustee;
- these segregated assets are largely insulated from the claims of creditors of both employer and employee and have no effect on social welfare eligibility, at least until benefits actually commence;
- the employer receives a tax deduction for contributions made to the plan; but,

- the employee is not taxed on those contributions nor on investment earnings as they are received within the plan, and only has taxable income when he retires and begins to receive benefits; and, finally,
- when the employee is eventually taxed on benefits as paid out, he is likely to be in a lower tax bracket.

In exchange for these legal and tax benefits, governments typically impose design constraints, primarily to ensure equity among participants by controlling potential discrimination in favour of senior management.

It is probably fair to say that there is general agreement that private pension plans are socially desirable, and that governments should encourage them. However, much of the discussion on tax treatment overlooks or finesses a crucial threshold issue: is it equitable to provide tax concessions to retirement plans which benefit only those fortunate enough to have coverage; concessions which are subsidized by the citizenry as a whole? This apparent inequity fades, though it should not be totally ignored, where all or substantially all of the population is covered by a governmental programme, especially one heavily weighted towards the lower paid. This paper assumes a favourable answer to this **first threshold issue**; that is, that **tax encouragement to retirement plans is a defensible public subsidy**. That favourable answer should not, however, be taken for granted; rather, we should take every opportunity to reinforce it.

Retirement arrangements come in two basic incarnations: defined-benefit (DB) and defined-contribution (DC). The second type is simple in concept and largely follows the common-sense model discussed above. The plan sponsor allocates contributions, typically a fixed amount per head or a percentage of salary, to individual accounts, these accounts are invested, and the amount standing to the credit of the employee is applied to provide a pension at retirement. The major risk, other than discontinuance of contributions, is poor investment performance, and that risk is squarely on the participant, except to the extent that he can establish a breach of fiduciary duty leading to capital losses. The Enron situation comes to mind, but even there we see lots of liability but very little prospect of significant recoveries.

From the plan sponsor's point of view, however, the key feature of this uncomplicated structure - and its major attraction - is that the sponsor's commitment is essentially limited to making the required contributions.

In a DB pension plan, by contrast, the process works in the other direction. A benefit objective is established first, usually as a percentage of salary such as 2% of salary per year of service, and contributions are computed actuarially to fund those benefit projections. These contributions vary from employee to employee, primarily because the contribution required to fund a given pension is higher the closer the employee is to retirement and the less time available for investment build-up. More precisely, since contributions are not allocated to individual employee accounts, the marginal effect on total contributions of a particular employee varies in this way. The risk of poor investment performance is now on the plan sponsor; conversely, good performance will eventually lead to decreased contributions, perhaps even to contribution "holidays".

The key to understanding the DB / DC distinction is that each is based on the same three-step process: contributions flow into the fund; the resulting pool of assets grows (or declines) depending on investment performance; and that asset pool finances the final payouts. The investment performance is, unavoidably, unknown. This simply must lead to the conclusion that if contributions are fixed, the payout will fluctuate; conversely, fixed payouts can, over the long term, only be supported by an inflow which is adjusted to reflect favourable or unfavourable investment results. Again, we have not adequately communicated this, to us elementary, conclusion.

A **second threshold issue** now arises: is there a significant element of unfairness in the DB structure under which pension provision is more expensive the older the employee: **are contributions being diverted unjustifiably from younger to older employers?** If so, tax incentives may not be appropriate? However, this objection, if accepted, must apply equally to the historic practice of providing retirement income on a pay-as-you-go basis, a practice which is older than formal retirement programmes.

Responses to this issue typically focus on replacement ratios: the ratios between retirement income and the income level of retirees prior to retirement. Because of changes in expenditure patterns, 100% replacement ratios are neither practical nor necessary from the retirees' point of view. However, if post-retirement income proves totally inadequate, the retirement structure of which the plan is a part is obviously not performing its function. It is not necessary to venture into all of the issues of the three-legged stool - government plans, private plans and personal saving, and their interaction - but this discussion does take as a given that significant private-plan replacement ratios are desirable and deserving of tax encouragement.

Surprisingly, the fairness issue does not feature in the arguments of proponents of DC plans. Rather, much of that argument is just a naked assertion that a DC plan can do all that DB can, but without the disadvantages and uncertainties. Much of the pro-DC argument ignores the fact that DC plans which equalize inflow rather than outcomes may provide overly generous benefits to an employee who is only with the employer from, say, age 25 to 35 as compared to an otherwise identical employee who is with the employer from 55 to 65 and retires from that employer. The second, older, employee is likely to receive much less than one quarter of a reasonable replacement ratio from the employer which employed him or her for 10 years out of a probable working career of the order of 40 years. This inadequacy is highly visible since the older employee is now age 65 and ready to retire. If the DC plan performs as well as the proponents tend to assume, the first, younger employee is likely to receive substantially more than that quarter, assuming good investment results; assuming also, of course, that when the employee leaves employment, the funds remain committed to retirement.

An employer which offers a DB plan - weighted, by definition, towards the older employees - is arguably performing a public service by doing its part to reduce poverty among retirees. Equally importantly, it is acting responsibly from its own point of view, since it is less likely to run into the nightmare of any responsible employer: an employee who is being pushed out the door with little or no retirement income. The suggested answer to the second threshold question is, therefore, that **tax incentives to defined-benefit pension plans are defensible and desirable**; there is no implication, however, that such plans should be mandated in the private sector.

It is sometimes claimed by proponents that the uncertainty arising from asset risk in a DC plan can be largely eliminated by varying the mix of assets: in particular, by an increased emphasis on fixed-income securities as the participant approaches retirement. This is largely true in nominal terms, but the other side of the coin is that this may be the worst possible strategy, measuring by replacement ratios, in a time of heavy inflation. Heavy inflation, it must be noted, is just when higher replacement ratios are most needed to maintain living standards. Equity investment may be a better alternative at such a time to the extent that equities provide a hedge against inflation, but even this hedge is a long-run phenomenon. Keynes's *bon mot* that "in the long run we are all dead" comes to mind. At the risk of undue repetition, it should be noted that even if such inflation does not occur, the stabilizing effect of fixed-income investments does not address, and makes no claim to address, the basic problem - more basic, it is suggested, than asset fluctuation - of the disparate benefit outflows for the 25- and 55-year-olds discussed above.

This largely pro-DB discussion has focused, so far, on advantages to the participant. However, it is incomplete and one-sided until the very real disadvantages to the employer are spelled out. These can be stated very succinctly: the plan is necessarily "on the hook" to provide the *defined* benefit even if experience is adverse; that is, if such factors as investment yield, death and withdrawal rates and, if relevant, salary progression, depart significantly from the actuary's assumptions. It is the plan and not the employer which is *necessarily* "on the hook". Historically, the extent of an employer's obligation to stand behind benefits under a DB plan has been determined by contractual agreement, usually under collective bargaining, or by government regulation. In the absence of such obligation an employer

may, nevertheless, be inclined to take on some obligation, but may well consider obligations such as those to creditors as overriding. Indeed, loan indentures may well seek to impose such priorities.

If these concerns lead an employer to refuse to consider a DB plan and adopt DC, the employee is faced with the other side of the coin. Such an employee, or a union negotiating on his behalf, must expect fluctuations in the DC account as well as consequent fluctuations in payout after retirement unless a fixed-income annuity is purchased at retirement. **A key assertion of this paper is that proponents of DC plans are, of necessity, endorsing, and participants and unions negotiating such plans are accepting, fluctuations perhaps of the order of 30 to 40% or more in the eventual replacement ratios**, as compared to projections. Those projections will typically have been made and communicated based on reasonable assumptions, but there are no guarantees.

Within the current retirement plan universe, the plan sponsor does not have the opportunity to adopt or negotiate, nor even to consider, a plan combining cost stability with a weighting of cost which favours the older employee in the way that a DB plan does, though such hybrids as cash-balance and target plans may go some way in that direction.

One other unique feature of DB plans should be highlighted. When an employer adopts, or an employer and union negotiate, a new retirement plan, an even weightier **third threshold issue** arises: **what is to be done about past service?** How do we treat an employee who is, say, 63 now but was hired at age 25 and has spent virtually a full career with the employer? One approach is to adopt a DC plan, make the required contributions for a couple of years and provide, as all DC plans do, whatever benefit can eventually be produced from those two years' contributions plus investment income. Alternatively, a DB plan can be adopted providing a fixed benefit such as 2% per year of service reflecting future service only. The second alternative will provide a significantly more generous and expensive benefit to the 63-year-old employee than that provided to those much younger for those same two years of service. If the primary focus is on the older employees, this will clearly be the preferred alternative. Either way, however, if the overall objective is to provide a benefit adequate to reward a full career, both alternatives will come up woefully short.

If the employer's or the negotiators' basic objective is to provide a benefit which does reflect the full working career of our hypothetical 63-year-old, the new plan will obviously be written to provide a 2% benefit for all years of service, past and future, or, more likely, a lower benefit such as 1½% per year of service if 2% is too expensive. The drafting of the plan document to provide such benefits is easy. Coming up with the money to provide those benefits is not easy, and it is virtually impossible to come up with that money immediately. Even in the unusual situation where the employer is awash with cash, it is highly likely that a plan would have been adopted much earlier and might well have already accumulated much of the assets needed to stand behind the benefits. Typically, therefore, **a newly adopted DB plan defines its benefits first and finances them later**. The same is generally true of a plan amendment increasing benefits, an exception being where a plan has substantial surpluses which it applies to fund an amendment.

Obviously, responsible plan sponsors should not create benefit expectations unless they plan to systematically fund them, and the law can and should require this. It would be possible to require immediate funding of these expectations, but if this were done, the result would be to virtually eliminate the granting of such past-service benefits. Employers simply would not agree to grant such benefits, nor would they make future benefit improvements retroactive. They could not come up with the whole one-time cost on day one.

The alternative to such up-front funding – the only alternative – is to recognize that it takes time to fund past-service benefits and to accept the **inevitable corollary that if the plan folds up in the early years before the funding is in place, there will be benefit expectations which are not met**. It would be irresponsible to minimize the human misery that can result, but, nevertheless, we fail in our duty if we do not loudly proclaim that to prohibit past-service benefits, or to hedge them about with excessive restrictions which can make them prohibitively expensive, is far worse. Despite its inherent risks, an unfunded pension expectation is not an evil to be attacked, provided there is a solid intent to reduce and then eliminate the underfunding. Not communicating this fact to the broad public, it is suggested, our worst failure.

Some years ago this writer appeared at, and helped to prepare testimony for, a US Congressional hearing in which a client, a union president, made the statement that he was proud of his plan's unfunded past service cost (since paid off in full). It represented, he said, a commitment by the younger members to give high priority to the older members at or close to retirement, even if this put their own benefits at risk in the early years. He was right! If governments impose so many restrictions on DB plans that they wither and die, they are effectively prohibiting such younger members from making this altruistic and public-spirited choice.

DB plan critics are correct, however, in pointing out that many younger plan participants have this choice thrust upon them by employers and union negotiators; also, that many of them do not even realize that their benefits may not be secure. Broader disclosure is clearly called for, say those critics. Few proponents of DB plans would disagree – this writer certainly would not.

Actuaries have devised numerous funding approaches which can handle the problems of DB plans *over time*, many of them extremely ingenious as the actuarial literature demonstrates. On the other hand, the profession has failed to communicate and to address the **two major risks** of DB plans which are, to repeat:

- first**, the fact that contributions may prove insufficient to fund the projected benefits if assumptions are not met so that either the employee comes up short or the employer must raise additional contributions to cover the shortfall if the plan is to continue;
- second**, and usually more serious, the risks flowing from the granting of past-service benefits before funding them.

The clearest demonstration of this double failure is perhaps the widespread use of the term "promise" for the projected benefits which a DB plan establishes as *targets* before - as actuaries know well, but many participants do not realize - having accumulated the assets necessary to provide them. This deceptive term lies at the heart of the DB crisis. It implies - especially when the "promise" is asserted or assumed to be an *employer* promise rather than a *plan* promise - that the employer guarantees unconditionally the benefits which the plan document describes. That kind of unconditional guarantee is something which employers may well shy away from if they are properly advised.

If we are to preserve private-sector DB plans, we must address these two separate risks. We should not, however, overstate them. Rather, we should remind our public, also perhaps ourselves, that most DB plans have, in fact, delivered their benefits; only a minority have failed. If a relatively small number of failures are allowed to dominate our discussions, we run the risk of killing the goose that lays the golden eggs.

The first risk – the possibility that contributions will not prove adequate to support benefits even absent past-service credit – has a relatively easy solution, though it may appear radical in the pension context. That solution is to be found in traditional British life-insurance practice.

North American life-insurance practice has little to teach in the pension area. The reason is clear: US and Canadian life insurance offers fixed-dollar benefits, and the law requires that the investments supporting those benefits be largely fixed-income. By contrast, DB pension plans usually provide salary-related benefits subject to inflation, and, in response, the assets standing behind them are heavily

weighted towards equities. Another difference – important, but less fundamental - between life-insurance and pensions is that a life insurance company does not commence business unless it has adequate start-up capital. This is not the case for a pension plan.

British life insurance companies, on the other hand, invest heavily in equities and have done so for many years, since well before the rise of equity linked products. Guaranteed benefits, however, have always been defined in pounds sterling. There is an obvious tension between the benefit guarantees which are the essence of life insurance and the variability of the assets, and this has been addressed through the terminal bonus.

Conceptually, British bonuses correspond to the dividends which North American insurers provide on participating life insurance in order to distribute surpluses to policyholders. In practice, there are significant differences between the two, but these differences are not relevant here. Both British and North American life insurers also offer **terminal bonuses / dividends** when a policy terminates, but here there is a radical difference. In North America the terminal dividend is usually small or even nominal. A British terminal bonus, by contrast, can be very large – well over 100% of the final payout for policies which have been in force for many years – but it is not guaranteed and can be changed frequently. Wide fluctuations can be expected, reflecting experience, primarily but by no means entirely on the asset side. Terminal dividends will be boosted or trimmed to bring anticipated payouts in line with favourable or unfavourable changes. The recent *Equitable Life* case in England has cast something of a pall over terminal bonuses, but again this case has little relevance to this discussion. It is probably fair to say that it did not cast any doubt on the actuarial concepts and procedures underlying terminal bonuses; rather, it turned on policy language which did not accurately reflect and communicate those concepts.

A provision in a DB pension plan permitting bonuses - perhaps of the order of 50% or more - to be paid, but allowing them to be reduced or eliminated on short notice, would minimize the risk of investment in equities by permitting the fiduciary to reduce or eliminate the strain on the plan if asset values fall. It is important to remember that the hardship to pension recipients would be of the same order as that which DC participants face now. However, in contrast to the DC situation, this approach would permit plan sponsors wishing to do so to offer a plan design under which benefit outflows rather than contribution inflows are equalized between participants of different ages. In the words of the union president mentioned above, this approach would preserve the ability of the younger members to give high priority to the older members at or close to retirement. It would do so, however, without thrusting the whole burden of unexpected unfavourable experience onto the employer. It seems surprising that British actuaries have not, at least to the writer's knowledge, suggested this.

The proposed DB design based on variable bonuses would also go some way towards addressing the second risk described above: the tension between participants' expectation of benefits granted initially based on prior service and the obvious fact that building up assets to meet those benefits takes time. It would not, however, be anywhere near a complete answer. A more complete answer would require major changes in the design of DB plans, specifically in the definition of accrued benefits.

Accrued benefits are the poster child for the earlier assertions that actuaries have not communicated adequately important concepts which are clear to them but are by no means obvious. Even many people with some familiarity with pensions - the writer's brethren at the bar may be the best example - simply do not understand some of these concepts. The reason for this lack of understanding is often the mental picture referred to above: a picture that visualizes, correctly in the case of DC plans but incorrectly for DB, an asset build-up earmarked, even if not physically segregated, for each employee to provide only that employee's benefits. This thinking was epitomized for the writer when an Oxford don explained to him, with infinite condescension, that the problem with pension funds was that they invested irresponsibly: the obvious answer was to buy an individual insurance policy for each participant guaranteeing his benefits, and all the problems would disappear. Suggestions that this might be somewhat impractical for the 63-year-old with 30 years of service were dismissed out of hand. More sensible people still have difficulty coming to grips with this issue. A concrete example of the mental picture which is "out there" might be an employee hired at age 35 covered by a DB plan providing a benefit of 2% of pay per year of service, 60% at retirement. It is often assumed that this employee's entitlement builds up over the working career reaching, for example, 40% at age 55; also that assets adequate to support those benefits are built up over the career. If the plan does not come into existence until the employee is 55, the actuary simply does some funding magic to catch up.

In fact, when the plan is installed at the employee's age 55, it makes far more sense to define his accrued benefit based on participation. The benefit at 65 remains 60% but if it is accrued over 10 years at 6% per year of participation rather than service, the build-up is obviously more gradual and a large unfunded benefit expectation is not created overnight. It would be hard to argue that the younger employees have not met the obligations which they undertook voluntarily - assuming full disclosure and understanding - if the plan has to be abandoned at our 55-year-old's age 60 with his entitlement at 30%, leaving those younger members with little or no benefits. Fair-minded commentators could hardly object to a benefit pattern under which the employee who worked half way to expected retirement, measuring "half way" from plan installation, earned half of the anticipated benefit; similarly, in the case of plan termination at the older employee's age 60. The union president mentioned earlier, and his membership, could hardly object to these outcomes. Even this benefit design may not provide a full answer to the extreme case of our 63-year-old, but it is convenient to defer consideration of possible modifications to deal with such extreme cases to of the discussion of guarantee funds below.

In combination, the redesign of DB plans to permit them: first, to express the benefit as a basic underlying benefit which can be supplemented up to, perhaps, 50% at the fiduciary's discretion; and, second, to calculate the accrual of the basic benefit on participation, would, it is suggested, go a long way towards eliminating the employer concerns which are causing the demise of DB plans. It is important to notice that absent a governmental guarantee fund, it is not suggested that the bonus-based approach be mandated, nor that accrual on the suggested basis be mandated either for the enhanced formula benefit including bonus, or for the basic underlying benefit. Nevertheless, it is highly likely that, even in the absence of a guarantee fund, employers would take advantage of the protection and flexibility suggested here if it were available. If a guarantee fund is offered, government would be well advised to insist on some or all of these protections.

If basic benefits were defined in this way, it would be reasonable for the law to require that they be essentially funded as earned, and that if a shortfall occurs it be funded quickly. The key to the recommendations presented here is that the bonuses, the excess of the more liberal formula benefit amounts over the basic benefits, should be payable only from plan assets available after the funding requirements for the basic benefits are met. If a plan became underfunded as to basic benefits, payment of bonuses would not be permissible unless supplemental contributions were made, over and above the required basic-benefit funding, to provide them on a year-to-year basis. It is suggested that "funded as earned" be taken to mean funded on a termination basis, also that early-retirement subsidies be excluded from the definition of basic benefit.

Guarantee funds are often offered as the definitive solution to all the risks of DB plans, primarily the two major ones raised above. They are, in the writer's opinion, an unfortunate development which actuaries should have resisted far more strongly. Guarantee funds are frequently defended as being essentially equivalent to bank guarantee funds such as FDIC in the United States. Not so! Those agencies insure businesses that are required to have assets which exceed their liabilities and are monitored – or, at least, should be monitored – to ensure that this is so. Assets can, it is true, fall below liabilities and generate a claim, but this should be the exception and not the rule. Absent such legislative problems as the excessive deregulation of investments which led to the US Savings-and-Loan crisis, claims will be exceptional when the regulators are functioning properly. If they are doing their job, there is a very good chance that the regula-

tors will spot problems early, and will be able to act, before those problems lead to insolvency. In many cases an institution which is in trouble but has not yet failed can be guided into a merger with a stronger institution.

By contrast, **in most DB pension plans, it is the exception and not the rule for the value of benefit expectations to greatly exceed the assets at least in the early years** and after amendments increasing benefits. (The use of the term benefit expectations rather than liabilities or especially, as noted earlier, benefit promises is deliberate and crucial.) It is hard to imagine a more obviously uninsurable risk, since plan sponsors can control the timing of a plan termination and thus the size of the gap between the value of benefits and the plan assets. Hence the need for restrictions on termination, and the need to protect the guarantee fund from manipulation by such devices as deferring the effective date of coverage and/or imposing "secondary liability" of the type seen in the US ie, passing to the employer more and more of the cost of a termination with insufficient plan assets by requiring solvent employers to reimburse the guarantee fund for losses.

It seems no coincidence that in the US premiums payable to the Pension Benefit Guaranty Corporation (PBGC) have skyrocketed and that legislation has imposed more and more limitations on coverage and more and more liability on employers with terminated plans. Proponents of PBGC argue that it is, or can be made, solvent. To the best of the writer's knowledge, even the most fervent supporter of PBGC does not claim that it is commercially viable. The notion that it could be sold in the marketplace is laughable. It seems highly likely that other countries which adopt guarantee funds will be faced with similar problems and will find themselves compelled to adopt more and more protective measures.

Many critics, including the writer, argue vehemently against guarantee funds, but few expect that they can actually be abolished once they are in place. The most obvious reason for this is that the relatively small number of people who lose benefits because of plan failure can be identified and even paraded on television. The far larger coterie of people who have not received DB plan coverage and have been left with no plan or just a DC plan offering relatively meager benefits to the older employees, who are usually the prime target group, is diffuse. That coterie cannot be identified easily, much less turned into an effective pressure group. The same factors mean that opposition is likely to be swept away once a guarantee fund is proposed.

Even conceding this, the above proposals are not weakened. Indeed, all of the advantages to an employer asserted above are at least as applicable to the guarantee fund if one is in place or seems inevitable. The suggested accrual structure would go a long way to ensuring that the value of benefit expectations can be kept basically in line with the build up of assets. The ability to reduce or eliminate the bonus component of plan benefits would provide a large degree of additional protection to the fund assuming that only basic benefits (as defined above) were guaranteed. The proposed modified DB structure described above would be just as protective of a guarantee fund as it would be of the plan and of the employer in the absence of such a fund. It was suggested earlier that in the absence of guarantee funds, the recommendations offered here should not be mandated. If a guarantee fund is in place or is being considered, the opposite is true. Indeed it may not be an exaggeration to say that those recommendations represent the only way to avoid the eventual demise of both guarantee funds and defined-benefit plans.

Assuming that getting rid of guarantee funds is a pipedream, it might also be appropriate to define the basic benefit with reference to a retirement age later than normal retirement date (NRD) for the oldest employees – 56 and older, perhaps - covered under a new plan. One possibility might be to accrue basic benefits for these employees over a period ending at age at plan inception plus 10. Another possibility, along the same lines, might also be to exclude subsidized early retirement benefits from the definition of basic benefits. All of these are merely additional suggestions, not crucial to the analysis.

In **summary**, what is proposed here is a national regimen which recognizes and preserves the structure of defined-benefit plans in order to ensure that employers and/or employee representatives are able to equalize benefits as opposed to contributions, if their objective is to weight contributions towards older, long-service employees. The proposed bonus structure would largely avoid the problems arising from the possibility that actuarial assumptions are not realized, by letting DB benefits be maintained at a basic level if the plan is subject to financial pressure and enhanced to a higher "with bonus" level when the asset performance permits. The resulting benefit fluctuations, to repeat, would be comparable to those which can be expected in a DC plan as investment performance fluctuates. Particularly with the additional modification of the accrual rules, the proposal would also avoid heavy strain on an employer which decided to recognize service before the inception of a plan, thus limiting the employer's financial exposure to a premature termination.

In the absence of a guarantee fund, there would be a possibility of some formula benefits being lost under the proposed regimen, but, except under the most exceptional circumstances, basic benefits, as defined above, should be reasonably solid. Where there is a guarantee fund, its exposure would be limited to such exceptional circumstances, and premiums should, therefore, be relatively modest. It might even be practical to eliminate the kind of secondary liability which is seen in the US, although waiting periods for coverage seem essential to avoid flagrant abuse.

The key to the proposal set out in this paper - with or without a guarantee fund - is avoidance of a situation where (a) benefit expectations are created at the stroke of a pen, and (b) those benefits are treated as employer promises rather than as targets, either immediately or after a relatively short phase-in period..

Clearly a national legal system can turn benefit expectations into unconditional employer promises, and thus into liabilities of the employer, if it chooses to do so, but if there is none of the flexibility recommended above, this inevitably puts an adopting employer at great risk. American experience demonstrates that employers will often back away from such risks by avoiding new DB plans and by terminating existing plans. If this happens, prospective plan participants and the nation as a whole will be the poorer for it. If actuaries let it happen, they will, it is submitted, be guilty of professional negligence.

If the above recommendations were addressed only to a Ruritania emerging from an evil empire and, therefore, writing on a clean slate, they could be adopted easily assuming that the argument is found convincing. Where current-style DB plans are already in place, adoption would involve complex transition rules. Depending on the legal climate, a wear-away approach would probably be required. It is suggested, nevertheless, that these approaches do represent a practical way forward. DB plans certainly have serious problems, and this approach would not make those problems go away instantaneously. It would, however, ameliorate the problems going forward, would certainly not do anything to increase them, and might perhaps save DB plans from oblivion.

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