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Adequate Funding for a Pension Plan

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The very word "funding" suggests a process whereby contributions are made to a trust to cover pension obligations. Because pension payouts may not begin for a number of years, a plan must be worked out to ensure that this asset build up process conforms to certain preset criteria. For these criteria to be applicable to the entire process, such a plan must include an ultimate funded goal and interim measures of progress. Such a plan can be regarded as the funding policy.

In setting the funding policy, the fact that the assets being accumulated are ear-marked to cover pension obligations must be recognized. Thus, both the ultimate goal and the interim measure must involve an asset plan, a liability plan, and a contribution plan that are fully integrated with each other. To set up a funding policy that only includes a liability and contribution plan is to lose sight of half of a balance sheet. To set up asset and liability plans that are independent of each other is not enough because of the impact of asset and liability performance on each other.

Once a funding policy has been established, assets and liabilities should be compared at regular intervals to determine whether the relationship between the two, typically referred to as the funded status of the pension plan, meets the expectation of the funding policy. A plan is adequately funded if:

- At each point of measurement, the interim funded status equals or exceeds that anticipated in the funding policy
- On a projected basis, if all the expected economic scenario materializes, the ultimate funding goal will be achieved.

Setting Funding Policy

The first step of the process is to establish a funding policy.

A funding policy must include an *ultimate* goal and an *interim* measure plan. The ultimate goal defines the target for the funding process. The interim measuring plan provides reference points at regular intervals to gauge the progress of the funding process.

ESTABLISHING THE ULTIMATE GOAL

The ultimate goal of a funding policy is to ensure that there will be adequate assets to cover the accrued liability at some projected time.

The time horizon of the ultimate goal depends on the nature of the pension plan. For a plan that may terminate in an expected number of years, the time horizon should be the expected termination date. For a plan that is expected to continue indefinitely, the time horizon may be the date when a matured situation is expected to occur. A plan is usually considered matured if the plan population becomes stable, that is, when the decrease in the number of active participants as a result of terminations and retirements is made up by the number of new entrants to the plan such that the characteristics of the active population remain stable in regard to age and service. Similarly, for a matured population, the ratio of active to inactive participants also remains stable.

For funding to be considered adequate with respect to the ultimate goal, the funded status at the target time horizon must show an asset level that will, under normal situations, be enough to cover all accrued liabilities. Furthermore, for periods beyond the target time, the expected future increase in assets is likely to cover the expected future increase in liabilities.

During the process of establishing the ultimate goal, a plan is also drawn up for systematic accumulation of pension funds. This plan consists of an investment policy and a contribution policy. Both of these policies need to reflect the financial constraints and planning of the plan sponsor. Some sponsors need to reflect the financial constraints and planning of the plan sponsor. Some sponsors require a more stable contribution pattern. For these sponsors on the liability side, level cost methods may be appropriate. On the asset side, duration matching of assets and liabilities should be considered. Other sponsors desire smaller initial cash layouts, with the understanding that there will be steeper cost escalation in later years. For such sponsors, on the liability side, accrued-benefit cost methods may be more appropriate. On the asset side, investments with greater growth potential should be considered. In any case, it is important that there be a planned system of accumulation of funds so that the funding goal will be achieved at the ultimate time horizon under the expected economic scenario.

A common method for establishing the ultimate goal is the forecast valuation method. Under this method, based on a realistic projection of the population statistics and future obligations of the pension plan, a target liability level is estimated at the projected ultimate time horizon. The target level of asset buildup is a certain percentage (for example, 110%) of the target liability. Using an interest rate reflecting a realistic expectation of investment return, level contributions as a percentage of pay are calculated for future years. With proper modifications, the method can be extended to reflect the actual contribution pattern desired by the plan sponsor. The assumptions used in this method are all based on the best

estimates of the planners. A margin of error should be included in the choice of the target funded percentage. While this method is useful in establishing the theoretical funding pattern of a plan, it lacks control over interim measures of funding progress. The forecast method is not an acceptable funding method under government regulations in the U.S. or Canada.

ESTABLISHING AN INTERIM MEASURING PLAN

In addition to a sound ultimate funded goal, a reasonable policy to ensure adequate funding must also incorporate a well-planned system to monitor the progress of fund accumulation on a regular basis. Because gradual and adequate funding is so important for public policy, governments also impose various requirements on contribution policies. Most government regulations provide for a comparison between pension assets and liabilities. The assumptions used in such calculations are the actuary's best estimate of future plan experience but may tend to be conservative and overstate the liabilities. If the funded status of the plan under such a regulatory basis is deemed deficient, additional contributions are required. The funding regulations in some jurisdictions in Canada require calculations be performed under both an ongoing basis, assuming the plan will continue indefinitely, and on a plan termination basis, assuming the plan is terminated on the valuation date. Under each basis, a funding deficiency attracts separate additional funding requirements.

On the one hand, regulatory funding requirements do provide a necessary interim measure of the funding progress of the plan. On the other hand, a contribution policy set strictly in accordance with the minimum requirements of these regulations has several undesirable effects. First and foremost, it does not focus on the ultimate funding goal of the plan. Strict adherence to minimum funding requirements may cause the plan to deviate substantially from the preset funding policy. Furthermore, the assumptions used in the regulatory calculations may be conservative, whereas the funding policy should be based on realistic assumptions. The funding patterns that emerge from the two sets of calculations are different. Finally, the regulatory funding contributions are calculated only for the valuation year. No insight into the future pattern of asset and liability accumulation is provided. Without such a projection, the planner may be at a loss as to where the entire process is heading.

A proper interim measure funding policy should provide a trend of the asset/liability accumulation and show the expected funded status at regular intervals. This policy must recognize the security needs of the participants, financial needs of the sponsor, and the demographics of the population. This policy will ideally govern both the pace of contributions, as well as asset investment policy. Furthermore, it must provide a means of monitoring progress, as well as a mechanism for corrective actions.

DETERMINATION OF THE ADEQUACY OF FUNDING

A well-formulated funding policy provides a yardstick for measuring *adequacy* of funding at any specific point of calculation. Such a calculation must compare actual liability, contribution, and investment experience against the expectations set in the funding policy. A plan is considered adequately funded if actual experience measures favorably against the original policy set.

Under this criterion, at a point of measurement, even when a plan is fully funded on a plan termination basis, if the funded status falls short of expectation, corrective actions may be required.

For example, consider a pension plan providing final average pay benefits to young employees with high expected pay increases in the future. The plan termination liability on a valuation date is substantially smaller than the ongoing funding actuarial liability based on projected pay. Adequate funding would require plan assets to exceed plan termination liability in such circumstances.

On the other hand, for an hourly plan that provides substantial plant closure benefits and is expected to terminate in the near future, it is also inadequate to provide funding in accordance with the minimum funding rules. The pension plan would be considered adequately funded if there is a systematic plan to fully fund all plan termination and plant closure benefits by the target date. Such a plan must involve both assets and liabilities. It is inadequate merely to try to contribute towards the termination liability. The plan must include asset policy to ensure against the deterioration of the funded status of the plan as well. Asset/liability matching may be required. Where evolving experience of the pension plan deviates from the funding policy, the planner must decide whether some adjustments are needed. If the actual experience deviates from expectation only as a result of temporary fluctuation in investment performance or in liability development, then a small adjustment in the contribution pattern is usually considered sufficient. If there are radical changes in the population demographics, financial position of the sponsor, or investment climate, then major adjustments to the funding policy may be called for. At its most extreme, a complete restatement of the funding policy may be required.

SOLVENCY REQUIREMENTS

Because of fiduciary responsibility towards participants, most actuaries would include the solvency requirement as an integral part of funding adequacy. However, the amount of funding needed to ensure solvency of the plan may be subject to interpretation. Some actuaries may equate the requirement to an asset accumulation that keeps pace with the accrued benefit value as suggested by *FAS 35*. Others equate the requirement to an asset buildup that exceeds the plan termination liability at every point in time. Some actuaries even want the assets to cover all plant closure benefit enhancements upon a plan termination, as implied in the Pension Guaranty Fund calculations of Ontario, Canada.

I believe that funding adequacy should reflect both the solvency requirements on a plan continuation basis, as well as the solvency requirement under the drastic plan termination and plant closure scenario. However, each scenario should be reckoned to the probability of occurrence of the event. Thus, recognizing such a solvency requirement does not mean building up an enormous amount of assets in excess of benefit security needs *under all circumstances*, since it is impossible that all possible economic events will each have 100% probability of occurrence. To require funding to fully cover all liabilities under any circumstance would lead to inappropriate use of the financial resources of the plan sponsor, which may result in deficient funding for other projects and an undesirable impact on plan participants.

Responsible funding policy should assess the probability of occurrence of each extraordinary event in addition to the plan continuation scenario. Based on the probability of each occurrence, the solvency requirement under such circumstances should be accounted for. This probabilisitic solvency requirement must further be tested at each interim measure to ensure continuous secured position for the participants.

ADEQUATE FUNDING HAS DIFFERENT MEANINGS FOR DIFFERENT GROUPS

Funding adequacy is not a static concept. Rather, it must stay focused on the plan participants at each point of measure, reflecting the benefit needs of the participant group and the economic reality of the time.

For a group of young participants, the emphasis may be on future benefit improvements to keep pace with inflation. The asset policy and funding policy then must reflect such projected needs. The time horizon for the funding adequacy measurements should be considerably longer than for a more matured group. The funding policy should also be geared toward measuring the potential asset increase to cater to the growth needs of the group.

On the other hand, the need for a matured group is more toward benefit security. Funding and asset policies must reflect a steady cash-flow requirement. Funding adequacy for such a group must also place considerably more emphasis on the solvency of the plan on both plan continuation and plan termination bases.

In addition to reflecting the characteristics of the underlying population, funding policy requirements are also affected by the economic reality of the plan sponsor. For a plan sponsor with ample resources, the benefit security of the participants is further guaranteed by the financial strength of the company. For a plan sponsor undergoing financial retrenchment, even the ability to provide future contributions may be restricted to a limited level. In such circumstances, tolerance for fluctuating contribution patterns is minimal. Asset and liability funding policies must fully recognize such constraints. Funding adequacy measurements must also reflect such

immediate needs and the lack of tolerance for any severe deterioration in the funding status of the plan at any point of measurement.

Furthermore, the concept of funding adequacy is dynamic in the sense that it changes as either the characteristics of the population or the economic outlook changes. As the group matures, the time horizon for funding adequacy measurement shortens. As the economic outlook improves, the solvency constraints relax.

CONCLUSION

Funding adequacy of a pension plan is of paramount importance to both plan participants and the plan sponsor. It requires careful planning at the inception of the plan as well as diligent monitoring at each interim measurement point. It must reflect the characteristics of the plan population and the economic outlook of the plan sponsor. It is dynamic and changes as the underlying population or the economic environment changes. It is the responsibility of the plan sponsor to perform studies at regular intervals to ensure the funding adequacy of the plan.

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