

Pension Valuation

As a British actuary with an interest in pension cost accounting, I found the articles by Lawrence Bader and Eric Klieber in the September/October issue fascinating. Congratulations to these gentlemen for contributing to the debate in a more civilised and enlightening fashion, I regret to say, than we have been able to manage in the United Kingdom.

I agree with Mr. Bader that the discount rate used to value pension liabilities should be independent of how the liabilities are funded. This is unavoidable if similar liabilities in different plans are to be valued in a consistent manner. The use of a discount rate linked to bond yields is consistent not only with financial economics but also with the “prudence concept” of accounting. The equity risk premium is real enough, but it should not be anticipated in financial statements.

I disagree with Mr. Bader that accruing pension liabilities should be based on current salaries rather than projected salaries. This would only be justified if the employees were contracted to work for the company on a yearly renewable basis, without any right or expectation of continued service. The reality, I believe, is that most employment contracts are long-term in nature, so that the pension rights accruing in any year must be based on projected salaries. Calculating pension liabilities as the obligation arising on the termination of the plan is not consistent with the “going concern” accounting concept.

Mr. Bader’s separation of the pension cost into a service cost and a financing cost is a useful idea, but I foresee a potential problem. If the plan invests in assets that generate higher returns than the discount rate, the service costs will exceed the contributions required to fund the plan. This will result in the build-up of spurious debts to the plan unless investment gains can be used to offset the service cost, as in FAS#87. It is not clear whether this will occur under the formulation presented by Mr. Bader.

Lastly, Mr. Bader advocates the full and immediate recognition of all gains and



losses in the financing cost, which appears to be a popular view among financial economists. This is very different from the treatment of gains and losses in the funding of pension plans and could result in huge volatility in the financing cost. The fact that gains and losses can be gradually amortized in funding reflects an economic reality, which is that pension assets and liabilities are different from other balance sheet items. A plan deficit is unlike other debts because it does not entail contractual interest and capital payments; a plan surplus is not an asset immediately available for use in the business. It is reasonable for financial statements to reflect these economic realities in spreading the recognition of gains and losses over future periods.

In summary, I would suggest that accounting standards such as FAS#87 have made a reasonable attempt to deal with pension plans in a manner that reflects the reality of these complex financial entities.

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Larry Bader’s and Eric Klieber’s articles demonstrate the kind of critical thinking actuaries should be doing more often. In order to begin to understand the true value of the pension plan, we have to look at it as an integral part of the company’s capital structure. This outlook is also necessary if we want to show our pension clients that we can consult like business partners. Reading these articles

prompted the following thoughts:

Many people who deal in the world of corporate business transactions (investment bankers, M&A consultants, financial managers, etc.) believe that discounted cash flow (DCF) is the most useful and accurate method for discerning the potential value of a company. Several of these practitioners treat the pension plan two different ways, depending on whether the balance sheet accrued liability/prepaid asset under FAS#87 is material.

If it’s not material, they treat pension expense as a general expense in calculating free cash flow and exclude it from invested capital. If it is material, they reclassify a portion of the expense (interest cost and return on assets) as interest expense (interest income) on a long-term debt (negative debt) if an accrued liability (prepaid asset) exists.

In this case, the pension plan is recognized as an element of invested capital, which is the capital invested in the operations of the business. So it seems that the pension plan can be treated as operating or non-operating capital. Post-retirement medical plans are analyzed the same way.

We can make a few observations from the above. First, materiality determines how we use financial economics to value the pension plan. This is consistent with applying the rules of accounting under GAAP. However, if the pension obligation is material, it should be valued as a set of separable assets and liabilities.

In applying DCF, the assets should be valued at market, since their value will normally (notwithstanding the current market climate) be considerably higher than their book value. Further, the liabilities should be valued at *their own* market value, as any other debt instrument is valued in applying financial economics. This means that the market values of the assets and liabilities may be different. If that’s the case, so be it. If we want them to be equal then we have to massage the asset portfolio, not value the liabilities under assumptions used for the assets.

Second, the extent to which a plan is over-funded or under-funded, and there-

fore treated as material for DCF, is determined with respect to the PBO, not the ABO. This is neither right nor wrong by itself. It's simply a reflection of how the accounting machinations under FAS#87 dictate that we record an asset/liability.

However, it does imply that the pension plan is a far more important part of the capital structure of the company than we currently assume under GAAP principles. By treating the pension plan as an element of operating capital (when material), the inherent goodwill in valuing the plan is evident. That is, DCF uses FAS#87 principles to align the plan's value with the past *and future* work product of employees, as reflected in future assumed salary increases embedded in the PBO.

There are two points that can be made: First, the pension plan assets and liabilities may not be so separable from other "intangible" parts of the capital structure. Even though we can put a value on the "sale" of a pension plan, we don't account for the impact such a sale could have on our most valuable

asset: our people. (Sound familiar?)

We can assess the effect it would have by taking the plan away for a few years (or selling it), not giving anything to employees in return and seeing how poorly our company performs vs. pre-sale forecasts. The plan, more likely than not, represents a more important part of the true value of the company than can be gleaned from a stand-alone valuation, no matter what explicit assumptions are used.

Second, our current accounting system (built several hundred years ago) does a poor job of dealing with 21st-century corporate valuation. We've evolved to become a more people intensive economy where the value of a company is more dependent on its human capital than ever before. Unfortunately, accounting systems only reflect human capital in intangible assets, and even there it's inadequately valued. Perhaps that's one reason why the businesses around the world are finding pension plans easy shutdown targets.

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Term Limits

It is ironic that John Adams, whose greatest political fear was aristocracies, was the first president to benefit from the rise of political parties, against which both he and George Washington both spoke and wrote. For the transitions described by Mr. Armor ("Til Death Do Us Part," September/October 2002) have established the aristocracy in which the presidency is the only elected office not potentially for life.

The numbers in this article are most interesting, and I must agree with the "gloomy conclusion" that "this is a disaster."

There are other things that contribute to the problem. One is the committee structure. With its emphasis on seniority, it contributes to both gerrymandering and fund raising. Those who perform the reapportionment and those who raise the funds are well aware that seniority brings more impressive committee assignments, and that those are saleable.

While it's more operative in local elections than in national ones, the fragmen-

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tation of polling tends to favor incumbents. By that I mean that in our last two primaries here, the first was a very limited one for only one party. There were few races, and few voters showed up. The next primary included both parties, and we were busy at my precinct. When there is little to vote for, people just don't bother.

We had a flagrant example of reapportionment that made a mess of that latter primary this year. It involved one House district 200 miles long. It was so closely divided that our precinct, like many others, had some voters in one, some in the other. Our FAQ was why a voter couldn't vote in both. It didn't, apparently, work. The lady from Brentwood easily defeated the lawyer from Memphis. The trouble is that the redistricting won't be changed again for a decade.

And just in case you thought that G. Rouch has lost his sense of humor, Tom Bakos's proposal for "soul insurance" reminds me of a late friend. Ernie Fennell

was ordained an Episcopal priest and appointed acting insurance commissioner of the Arkansas insurance department on the same day. He had been in charge of the property-casualty division of that department. When I saw him a few days later and congratulated him, he said that it only meant that now he was in fire insurance 24 hours a day.

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Homeland Insecurity

There have been many items in the mainstream media suggesting that some terrorist is apt to use smallpox as a biological weapon (*Contingencies*, "Homeland Security Insurance," September/October 2002). Yet, we have been told that the United States and Russia are the only countries that have a supply of the smallpox virus. It is also suggested, and the means has been obtained, that the United States can protect its population

against smallpox through vaccination.

Pat Buchanan's book, *The Death of the West*, notes that the number of children born per woman is below the replacement level among European populations, including those in America. This is not the case in non-European populations. Thus, unless this changes, Europeans will become a small unimportant minority in the world.

If the European population has the means to visit a plague upon the world, that they can immunize themselves from, and does so, it would change the prognosis. If they can blame it on a terrorist in Baghdad or in a cave in Afghanistan and mobilize humanitarian but ineffective efforts to help other countries, they could achieve this while seeming to be heroes.

I worry more about this than that some actual terrorist will obtain and use the smallpox virus. After all, Europeans in the United States are known to have used smallpox as a weapon against non-Europeans in the past. They distributed unwashed blankets from smallpox hospitals to the Indians. This showed how they were humanitarian.

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Open Wide and Say Ha!

I just wanted to let you know that I really enjoy reading [Tom Bakos's] articles. The last one I read, from the January/February 2002 edition ("If Fears Were Applesauce") was hilarious. The part about the nail clippers had me laughing out loud. I was at the dentist's office reading it and my daughter was embarrassed because I couldn't stop laughing.

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