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Comments on the Preliminary Views on Pension Accounting and Financial Reporting

This commenter intends to testify in person at the public hearing in San Francisco on October 14th, 2010.

My name is Barton Waring. I am a financial economist, and have spent my career giving investment strategy advice to large institutional investors, the biggest portion of which were defined benefit retirement plans in the US and in the other countries where these plans are heavily used. Over a year ago, I retired from Barclays Global Investors, where I had been for many years, and I am now an independent financial economist engaged in research and lecturing. I have no money management firm, no consulting firm, and no financial stake in your decisions on these topics.

I do have an interest in the long term viability of the defined benefit pension institution, as it is by far the most efficient means of spreading a portion of one’s lifetime earnings over one’s retired life. They are under threat, largely because the accounting does not recognize economic reality, leading to bad decisions leading to underfunded plans and employers that think that such plans must always be too costly and too risky to sensibly sponsor. Neither the employer nor the employee gets the deal they expected, today.

I have had this interest for some time. Some twenty years ago, in 1990, I moved from my position leading the well-known investment strategy and financial economics consulting firm, Ibbotson Associates, to take a position as a practice leader for Towers Perrin’s Central and Western regional asset consulting practices, and a joint lead on the investment side of their asset-liability consulting practice. This was an eye-opener, as I saw that actuarial practice (not just at this firm, but at all actuarial firms) was following procedures completely at odds with modern portfolio theory. At that point I got interested in the situation, and have been engaged in the issues involved ever since, actively teaching financial economics perspectives to sponsors and speaking regularly on the use of the economic liability and on the use of surplus optimization as a replacement for the actuarial asset-liability study.

Over these years, I have learned much about actuarial practices. Using this knowledge, I have just completed writing a book on the subject of economically sound accounting for pension plans, which will be published by the CFA Institute this fall or winter. An early draft of this book has been circulated widely among actuaries through the Society of Actuaries website, and portions of it were excerpted and share with GASB in a previous iteration of this project.
September 14, 2010

I think it is then fair to characterize myself not just as a financial economist, but as a pension finance economist as well.

I learned some very valuable things in writing that book, and have included them in the book for the benefit of readers. The board will already appreciate that I have been an advocate of a market-based or risk-free rate discount rate for these benefit payments, which are intended to be risk free to the participants.

But the other thing that I discovered and documented is that the traditional means of risk control in pensions—smoothing, amortization, sticky discount rates, expected return assumptions in place of actual realized returns, etc.—are very limited in their effectiveness. The truth comes out, as the accounting invariably must follow the economics, sooner or later, and accumulated risk shows up.

But if one lets go of these risk control crutches, an entire new world of much more effective risk control opens up. If the liability is marked to market and if it is discounted with an appropriate market risk-free discount rate, then it can be hedged. And if you can hedge it, the deficit or surplus is stabilized, by itself a big victory.

But that isn’t the end of the story. If we understand the nature of the capital gains or losses in the accrued liability appropriately, this hedge also stabilizes normal cost. And if normal cost is stabilized, so are pension expense—and so are contributions! (The only parts of the liability that can’t be hedged, of course, are the demographic assumptions, which are not unimportant, but which are much smaller than the huge gyrations of the assets and the liabilities as interest rates move).

To stabilize the deficit or surplus, and to stabilize expense and contributions, have been goals given lip service by actuaries for decades. But their best efforts to do so have been frustrated because their front line risk controls—smoothing, amortizations, etc.—have hidden the hedgeability of the liability: you can’t hedge a smoothed liability; there is no hedging instrument.

Along the way, the nature of the present value of benefits as the objective that needs to be funded by normal cost stands out with perfect financial clarity, and the character of normal cost as just a “payment” (notional for expense and the accrued liability, actual for contributions) reveals itself. And the need to use just one method for normal costs throughout the accounting is also revealed, if for no other reason just to make the balance sheet (accrued liability), the income statement (pension expense), and the cash flow statement (contributions) articulate with each other as first principles of accounting require.

I observe today that the IASB and FASB are both moving closer to a market view of pension actuarial and accounting work (although they are stopping short, using credit risk premia in the discount rate). I see the public fund actuarial community valiantly and stridently fighting to keep traditional expected return-based methods. I think their efforts are good hearted, but misguided. Public pension plans, as all other public financing, are governed by market rules (absent some tax-free interest effects on certain public bonds). There is no difference between public and private organizations when it comes to financing anything—including pension benefits—very much contrary to some casual statements found in the GASB white paper.
And these plans are in very deep water, far over their heads, perhaps averaging only a 50% funding ratio when examined on an economic basis. Until that truth is acknowledged and recognized—which is in this Board’s power to require—all of these plans will continue to pretend that investment returns are going to somehow mean-revert and restore them to fully funded status. But that market outcome isn’t a reality, it is just a wish. And the added risk may well make the plan still worse off, not better off.

The only way to save these plans is with clear eyes focused on good information. And good information is market based, or economic, information. Yes, some plans won’t make it, but they won’t make it anyway. The plans that do make it will make it because wise heads on both the employer and employee side of the table got together and compromised both the contribution rate and the benefit levels until the plans were healthy enough to continue. That’s the only way. And it is a worthwhile way: the worst DB plan benefit level is far better at replacing retirement income than the best available DC plan.

It takes courage to face the truth, but we either face the truth and begin the painful way back from “the edge,” or we lose these plans over the edge. It is time to start telling ourselves the truth about pension finance.

The good news is, that if expected returns do really come in as promised, then the cost of these plans will be just as was hoped even in a market or economic accounting system based on the risk-free rate. But let’s count expected returns when they become realized returns, not when we decide to expect them. No other item of revenue gets to be “made up” as does expected returns, and yet expected returns are hugely volatile—and they aren’t mean reverting (on that there is universal agreement among economists).

In any event, I share here with you my comments on the Preliminary View, and I encourage you to include my book in your research after it comes out in due time (I earn no royalties on-book sales!).

(signed)
M. Barton Waring
Independent financial economist

cc: Karl Johnson
My discussion plan is to spend a good deal of time first on the discount rate issues, then to go through most of the chapters of the Preliminary View sequentially.

**DISCOUNT RATES, PART I: CUTTING TO THE CHASE.**

The board has indicated the following:

"The preliminary view of the Board is that the discount rate for accounting and financial reporting purposes should be a rate that reflects:

a. The long-term expected rate of return on plan investments to the extent that current and expected future plan net assets available for pension benefits are projected to be sufficient to make benefit payments

b. A high-quality municipal bond index rate beyond the point at which plan net assets available for pension benefits are projected to be fully depleted."

The board's reasoning and justification for the decision to use the "long-term expected rate of return on plan investments" as the primary discount rate are clearly stated, and give us an opportunity to cut right to the nubs of the argument. I copied and pasted the following language from three different places in the document, all three quotes to similar effect:

"In addition, although investment experience fluctuates from period to period, the Board believes that over the long term, investment returns above or below the long-term expected rate of return will tend to offset to a great extent. The Board notes that the experience of public pension plans over many years has been that the plans have achieved earnings that, on average, have approximated their long-term earnings assumptions, despite short-term fluctuations."

"The Board believes that to the degree that the assumption applied in the pension measurements is reflective of a reasonable expected long-term rate of return on plan investments, differences between expected and actual investment experience generally will offset over time. That is, in any one period actual returns may be different from expected returns, but over time, earnings in excess of expectations will be offset by earnings shortfalls in future years, and vice versa."

"However, the Board rejected use of these methods [such as the risk-free rate] because they are not consistent with its underlying belief that such differences are expected to offset over time, as generally has been demonstrated historically."

This argument, that market fluctuations tend to cancel out and give one the long term expected return over time, is technically described as an assertion that markets are mean-reverting. It has been the actuarial justification for the expected return assumption for decades.

But it is wrong. The discussion is too important for me to mince words: The argument is wrong.

Financial economists are virtually unanimous that markets are *not* mean reverting. The term "random walk" (and other terms with closely related meanings) is used instead. In a random walk it is true that many of the outcomes do cancel each other out. But it is anything but true that one can expect them to all cancel out over time: instead, the error tends to build up to one side or the other. This is a key tenet of efficient markets theory.
What this means in practice is that the average return over quite long periods of time is expected to be above or below the expected return, and sometimes substantially above or below. We might have two decades like the 1980's and 1990's, which had an average return well above expectation. And a decade like the one we've just finished, call it flat—well below those 7% and 8% expectations being used by public fund actuaries.


The closest thing you will find a financial economist say is that maybe markets are not perfect random walks; maybe there is some small amount of serial correlation, visible in the historic data. But this is nowhere near enough serial correlation to make them mean-reverting, far from it. The annualized standard deviation may go down somewhat when measured over longer periods than short periods. But that's it (I reference this research in my book).

So just to be clear, the belief that you get the expected return over the long term is a myth, and it isn't true. This myth goes back to the beginning of actuarial time, I think, well before the revolution that has happened in finance over the last decades—maybe the best starting point to use being William F. Sharpe's discovery of the capital asset pricing model in 1964.

What is correct? Over the long term, the most direct, simple, and substantially correct description is that the standard deviation of realized portfolio values goes up with the square root of time. That is, the standard deviation of ending wealth over a 25 year period will be 5 times as large as the standard deviation of ending wealth over a 1 year period. Given that the US equity markets have roughly a 15% standard deviation, that means a portfolio that is up or down from its expected return of say 8% by one standard deviation of 15%, or +23% and -7% over one year, over the long term of 25 years is up 8%+5*15%=83% or down 8%-5*15%=-67%. These are astounding numbers, completely inconsistent with the notion that risk goes away with time over the long term. (For simplicity I used standard normal calculations, but only to avoid explaining lognormal methods, which are more correct for this purpose. It doesn't matter much; the answers would be similarly astounding.)

I could just as well have stated this in terms of returns instead of in terms of ending wealth. Over the long term, the standard deviation of the cumulative average return declines with the square root of time. This means that our 25 year standard deviation will be 1/5th of 15%, or 3%. So the cumulative average return will be 8% plus or minus 3%. I think this is where the myth got started: it looks like risk is declining with time. But cumulative average returns aren't wealth, they're returns.

Here's what I mean by that: stop to think about a 3% cumulative average difference, over 25 years, compounded: the difference is HUGE. In fact, if applied to a beginning portfolio and extended out, you would find that the portfolio values diverge exactly as in my first example. It is mathematically equivalent to say that the standard deviation of wealth increases as the square root of time, and that the standard deviation of cumulative annualized returns decreases with the square root of time. So don't be fooled by declining cumulative annualized returns—it is wealth that matters, not returns.
So to conclude on this point: The board has no support from the field of financial economics for justifying the use of the long term expected return of the asset portfolio as the discount rate for the liability on the basis that over time the ups and downs of the markets tend to all cancel and the expected return is achieved. Many ups and downs do cancel, but many don’t, and that is why the standard deviation goes up with time. The fact that some consultant recently observed a long period where it came up about right is irrelevant: that’s just one period that happened to fall in the middle.

It is not sound to conclude that the employer’s obligation is modified by an expectation that it will get the expected return. It probably won’t—it will do much better, or much worse.

**DISCOUNT RATES, PART II: THE CORRECT DISCOUNT RATE IS THE RISK-FREE RATE**

There is a long standing view in the actuarial community that the discount rate is one set by the actuary, using reasoned professional judgment. But in finance, we teach that discount rates are set by the market—they are observed, not decided.

A stream of cash flows—any stream of cash flows, but let’s use those included in the board’s appropriate description of what it might allow me to call the present value of benefits—has more or less market risk in it, depending on how it correlates to the markets. If it moves with market movements, it should have some market risk premium in its discount rate to reflect those correlations. If not, well, it should not.

The pension liability, as the board points out, is simply deferred wages, effectively borrowed from the employees. A portion of this may be explicit—the employee’s contribution. Another portion is implicit, the portion to be paid by the sponsor. But either way it is compensation.

The board has heard all the arguments about why the risk-free rate is the correct rate, to a small extent by myself, but to a larger extent from many that have testified more regularly in your process. It has rejected those arguments so far, although I know that a level of respect is building up for them. I’d like to argue it a different way, turning the problem on its head:

The discount rate to the employer is the same as the rate of return to the employee. If the employer makes a $10 normal cost or contribution for a day’s buildup of the pension fund for an employee, and then builds it at 8% expected return on assets to hold the PVB by the time of this employee’s retirement, then equivalently the employee is earning 8% per year on that $10 implicit wage deduction (implicit because the employee never sees it). That’s a pretty good rate of return for the employee on his wages.

But that’s not all. As the board agrees, funding the liability is the sponsor’s responsibility. So the money had better be there to fund that PVB when the employee retires. This means that the high 8% return is guaranteed to the employee by the employer! A better deal yet. I wish I could find such deals for myself—the return of the market, guaranteed. Wow!

But what rate of return should the employee be earning? Well, the benefits are supposed to be there for certain. They’ve been earned and contracted, and in our society wages have a very high priority. Workers should get their pay. Effectively the retirement benefits are expected to be free of risk; it is a risk-free asset to the employee.
What is the rate of return on a risk-free asset? Well, the risk-free return, of course.

My point is one of symmetry. The discount rate is the same as the expected return is the same as the cost of capital. It isn’t different between the two parties to the deal, regardless of what name we give it.

Sponsors like to oppose the reduction of the discount rate to the risk-free rate because they think it increases the liability. But the liability already is as large as it gets “increased” to with the risk-free rate; its true size simply isn’t recognized on-book. It is what it is. If the 8% returns don’t come in, the sponsor is expected to guarantee them and make them up. The value of that guarantee is what ties out the risk-free value of the liability to the value gotten by discounting at 8%.

The question I like to ask of employers is “why do you insist on paying your employees such a high (and guaranteed) rate of return on an obligation that is risk free?” And the question I can ask GASB, is, why should it be part of setting that rate of compensation at such a high level, when it agrees that the risk is supposed to be low or none?

The guarantee is a big deal, because of what was said in the prior section—you can’t expect to get the expected return. It is a statistical expectation, quite different than the expectation involved when you tell your teenage son that you expect him home by 10 pm. A statistical expectation is just the average of a distribution of possible realized values, as discussed above. So, agreed that the result is a distribution: What’s the chance that the 8% expected return won’t be achieved and that the discount rate will have to be guaranteed by the sponsor (think employee call option on the sponsor for makeup contributions)? Well, that one’s easy. If the 8% really is a fairly estimated expected return, then it is the true mean. Let’s ignore the fine points of lognormality and assume ordinary normal distribution again: There is a 50% chance that the employer will earn 8% or above—and possibly a lot above; and there is a 50% chance that the employer will earn less than 8%, and possibly a lot less than 8%—and in that case the guarantee is called in.

So the employer discounts the liability to a low value and maybe even funds it, but it isn’t required to buy the put option to protect the security of benefits. Is this any way to run a pension scheme that is supposed to protect the security of benefits? Wouldn’t it be better to just use the risk-free rate and forget about the need for a put option to protect the downside?

Let me close with a couple of thoughts. First, two full chapters of my book are devoted to discount rates, and another entire chapter to the expected return assumption. I commend them to you.

Second, nowhere in finance is the expected return on the asset of the debtor used as the discount rate to determine the value of the debtor’s debt—except in actuarial work. Nowhere. Not anywhere. Again, the board has no support from the field of financial economics for using the expected return on assets as the discount rate. None.

The use of the expected return on assets to discount the liabilities is an archaic method, dating back long before Sharpe’s 1964 article opening the field of modern finance—46 years ago. 46 years ago! Isn’t it time to bring pension finance current with what we know today, not what we knew then?
It actually didn’t work too bad back then, as the portfolios were bond portfolios. But with the push to hold down liability values by increasing risky assets such as equities and thus increasing the expected return discount rate, we’ve added risk. And that risk has happened, to paraphrase the bumper sticker. This is why pensions are in such trouble today. Let’s fix it before any more damage is done.

DISCOUNT RATES, PART III: HIGH QUALITY MUNICIPAL BOND RATES

The only difference between high quality municipal bond rates and the risk-free rate is the yield spread for municipal credit risk. This is analogous to high quality corporate credit rates, used as the discount rate by FASB and IASB, as the board is clearly aware.

In the markets, credit risk is added to the discount rate if the debt owed is subject to credit risk and might not get paid. Applied to a set of cash flows, it gives an answer that states the market worth of the debt given the credit risk.

The face value of the debt is higher, however, reflecting the absence of credit risk. If we want retirement benefits to be paid with certainty, then we need to discount at the risk-free rate to find that higher face value PVB, from which we can calculate the normal cost or payment that amortizes that debt over time (kept track of with the accrued liability). If you assume the debt won’t be paid, then the payments won’t be large enough to pay it. Using the credit risk premium may give you a fair market value for unfunded liabilities, but it doesn’t give you a funding target measure that is consistent with security of benefits. How could you ever build up a full PVB, entirely protecting the benefits, if the payments needed to do so were reduced by use of the credit risk premium?

Moreover, if you are going to apply a default risk premium, it should be the default risk premium of the sponsor, which varies by sponsor, not the premium of the market as a whole. It isn’t the market whose risk of default the employees face—it is the specific sponsor and its risk of default.

DISCOUNT RATES, PART IV: EXPECTED RETURNS ON THE “FUNDED” PORTION; HIGH QUALITY MUNICIPAL BOND RATES ON THE UNFUNDED PORTION

This is quite interesting. If one imagines that the use of the high quality corporate bond rate in this role is the board’s attempt at compromise—close enough to the risk-free rate—then the scheme is completely upside down.

It is the funded portion of benefits, those that are secure, that clearly must be discounted at the risk-free rate, as discussed by me earlier. The unfunded portion of benefits, those that are insecure, might be discounted at the expected return on assets if the sponsor is not responsible to guarantee them—in that case their payment depends on the returns of the assets, and the risk of the markets—and it becomes the correct discount rate (but see prior section).

But the board has stated correctly that the employer is responsible, so the unfunded portion needs to be calculated as if it was not subject to credit risk.

So this scheme for discount rates doesn’t hold up.
The right discount rate is the risk-free rate. FASB and IASB have compromised by using credit rates, but that's a political compromise. GASB might make that same compromise, and use high quality corporate credit rates for the entire liability, but if so that also will be a political compromise. It wouldn't be correct; it will lead to problems; and it will eventually have to change. Might as well do it right the first time.

**DISCOUNT RATES, PART V: THE REAL ISSUE IS THE TRANSITION ISSUE**

The right discount rate is the risk-free rate. But undeniably there are dangers to the system from forcing an immediate adjustment to that level. We don't want to do this in a way that doesn't have a transition plan for easing the political issues faced by the plans themselves: we don't want legislators shutting down the plans, and we do want employee groups and employers to have time to understand the true economics of their plans, to get good numbers for them on a market basis, and to educate themselves enough to reach the conclusion that their pension “deal” was negotiated originally with bad information—benefits were on sale at half price—and come to the table to renegotiate them.

That takes a thoughtful transition plan.

GASB has tremendous respect and the opportunity to provide critical leadership here. Signal your intentions to move to market valuations and reduced or eliminated amortization and smoothing well ahead of time. Make the rule effective say a year out, and then give organizations the chance to start reducing the discount rate stepwise, a half percent per year, till they get to market risk-free rates. This is two levels of preparation, letting organizations and employees process the news without a “body slam.” We didn’t get where we are overnight, and we won’t fix it overnight. Mount a major education campaign: These changes are made to support and strengthen the pension system for the long term. They’ll reduce employer risk, raise employee benefit security, and in all ways be better. And it’s better to face realities on underfunded plans earlier, rather than later, when the accrued liabilities have built up unjustified expectations even more.

Hard questions require clear thinking. Pension liabilities really are already as big as they appear to be when using economic valuation principles—it is simply not true that they are really half that size, as GASB standards have allowed in the past. The accounting doesn’t change reality. And we are in crisis, because benefits are being awarded as if they were only half their true cost, and then only half the needed funding is provided. Accounting matters, as people use it as inputs for decisions, decisions about benefits, about required contributions, and about investment policy.

This is an accounting question, and accounting needs to represent hard numbers stated in money or money’s worth. Economic, or market values, do this. Values that have been arrived at by the actuaries’ traditional funding approaches do not. GASB seems to recognize this and seems to be looking for compromise— but halfway measures aren’t in order.

If you want to help pension plans, help them tell the truth to themselves about the size of the liability, don’t support them in believing a falsehood. They can still invest in equities, and if high
returns do come in as expected, well, congratulations — contribution costs will have turned out to be the same as under the current method. But in the meantime, no fooling oneself, nor denying the massive risk taken on in holding today’s high equity positions.

Good information leads to good decisions. In recent decades, bad information has led to bad decisions. Benefit levels are higher than they would have been had the true costs been known. And I suspect that sponsors have actually paid in the contributions that they were told to expect to pay—but market movements have proven them to be insufficient. Through no fault of the parties, the system isn’t working.

COMMENTS ON CHAPTER 1—OBJECTIVES OF THE POSTEMPLOYMENT BENEFIT ACCOUNTING AND FINANCIAL REPORTING PROJECT

"It is not within the scope of the Board’s activities to establish standards with regard to a government’s method of financing the benefits it has obligated itself to provide (that being a policy decision for government officials or other responsible authority to make) or to regulate a government’s compliance with the financing policy or method it adopts. Accordingly, the proposals put forth in this Preliminary Views are made solely within the context of accounting and financial reporting, not within the context of the funding of pension benefits".

Agreed: GASB’s probably properly characterizes its role as not being to set benefit levels, nor contributions, nor to determine investment policy. But it’s role is to provide usable information to all constituents — in dollars, not sasquatches. I think that all of those decisions will be set more wisely if the constituents all have market information based on risk-free discount rates. Benefit levels will be negotiated fairly based on a truer assessment of cost. Contributions required to support those benefits will be more apparent. And investment policy will clearly require hedging if the market movements aren’t hidden in the accounting: Market values are the key to risk controls, not smoothing and amortization.

CHAPTER 2—AN OBLIGATION TO EMPLOYEES FOR DEFINED PENSION BENEFITS IS CREATED BY THE EMPLOYMENT EXCHANGE

"Defined pension benefits are a component of an exchange transaction between an employer and its employees of salaries and benefits for employees’ services."

Agreed: The benefits are just deferred compensation, explicit in the case of employee contributions, implicit beyond that, for the employer’s contributions. As pay, benefits deserve diligent protection in order to make them as free of risk of default as is cash compensation.

Agreed: The employer is primarily liable for the pension debt, the fund being a means of providing for that debt. If the employer hasn’t made the fund sufficiently large to endow the debt risklessly, then it is on the hook for the difference. This is part of the logic of protecting employee compensation. Because the assets are subject to the employer’s investment decisions and may fluctuate independently of the liability, it is just as well to state it in my way as the board’s way: The sponsor isn’t just responsible for the unfunded portion, but is responsible for the entire obligation, with the offsetting benefit of the value of the funding assets. The outcome is the same, but my version takes into account the practical ability of the sponsor to control
investment strategy. (I.e., I don’t think the explanation in item 9, dismissing this view, adds anything).

CHAPTER 3—The Unfunded Obligation to Employees Meets the Definition of an Employer Liability

“The Employer’s Unfunded Pension Liability Is Measurable with Sufficient Reliability . . .”

Agreed: Of course it is measurable. The entire liability is measurable, with proper discount rates. Why shouldn’t the net unfunded liability be measureable. I’m surprised this is an issue. Only the salary growth assumption and demographic issues are uncertain, and actuarial science is no science at all if it can’t do a reasonably reliable job of the demographics. the discount rate is uncertain, but only because of the use of expected returns as the discount rate. If we are using the risk-free rate, the certainty goes up considerably, because the most important closer in time years can be very well hedged, for even greater certainty. This is discouraged, unfortunately, by use of the wrong discount rate. But yes, liabilities are measureable with sufficient accuracy for this type of financial reporting.

CHAPTER 4—MEASUREMENT OF THE NET PENSION LIABILITY BY A SOLE OR AGENT EMPLOYER

Why only show the net unfunded pension liability? The Nobel prize winning economist Robert Merton has eloquenty made the point that the assets, hidden behind a net figure, might vary greatly in their financial characteristics, and that much better analysis can be done by those reading the financial statements if the liability is stated in full and the assets are stated in full. An easy example: If the net is $20, is it a net of $30 and $10, or of $300 and $280? A followup: if the assets are invested 70% in equities, it makes a great deal of difference to the creditworthiness of the municipality if those assets are large relative to the wealth of the organization, or small (a 10% market loss on a small liability is much easier to recover from than a 10% market loss on a large liability).

On the next point, I strongly agree that things that will probably happen in the future should be valued in the liability. If I’m allowed to state it in an economist’s terms, the cash flows should represent the best estimate, a statistically unbiased best estimate, of the benefits that will actually be paid. Of course an ad hoc COLA policy that is granted in most years has risen to the level of highly probable and should be incorporated. I have taught that for application to “economic liabilities” for years. Ditto for the other items mentioned.

Discount rates were addressed first above, as a separate topic of their own, and don’t need to be re-addressed here.

Attribution of the Present Value of Projected Benefit Payments to Periods: Yes, the economic present value of projected benefits (inclusive of projected salary and projected service) is the “debt” owed ultimately to the employee, and the normal cost or payment on it can be accrued to create and accrued liability tracking progress on those payments. This accrued liability is the benefit security funding target, the debt owed today to the employees. But it is not a very useful measure of the funding target liability unless the risk-free rate is used as the discount rate, so that the PVB and the normal cost “payment” are figured correctly and so that enough money is there
to fund the earned liability if the employer were to go bankrupt tomorrow. If it is fully funded, at all times, all benefit will be paid as they come due.

I’d be very happy with both the PVB and the accrued liability on the balance sheet, but it is the accrued liability which needs to be funded in an economic system (in a conventional, expected returns-based system, better fund the PVB-a bit more funding, but still not enough to cover the economic accrued liability!).

And it is apparent from the prior paragraphs that there should be only one normal cost or payment method in use for all purposes – the accrued liability on the balance sheet, for pension expense on the income statement, and for contributions on the statement of cash flows. Multiple normal cost methods prevent proper articulation between financial statements, and confuse and confound users of financial statements. And let me repeat – this should be a market or economically calculated normal cost.

EAN is fine as a normal cost method, even perfect – if done truly equivalently to the calculation of a growing payment on a debt (back-solve for the payment from the valuation formula for a growing annuity). And if it is economically correct. You don’t get mortgage payments reduced because your 401k plan is invested in equities. Your normal cost payments shouldn’t be reduced either.

CHAPTER 5—ATTRIBUTION OF CHANGES IN THE NET PENSION LIABILITY TO FINANCIAL REPORTING PERIODS BY A SOLE OR AGENT EMPLOYER

If I read it correctly, the Preliminary View would allow amortization over the remaining service life a great many items that economically happen today. They shouldn’t be amortized at all, but if they are amortized they should be amortized only for very short periods, as otherwise benefit security is compromised.

Prior service cost should be in the accrued liability today—it is only an accommodation to the employer to amortize it at all. Don’t amortize it is the strong form answer. A short 3-5 year amortization is the compromise answer.

Investment returns at variance from the expected return: Actual realized returns should be reported each period, not the expected return assumption. Where else in the accounting statements does the reporting party get to make a guess as to its revenues and report them as facts? Nowhere. This is an artifact of the false belief, discussed first above, that investments deliver the expected return over the long term. They don’t.

So you would allow a 15% corridor, and then anything outside that would get amortized forever? How does that meet the goals of accountability and clarity and accuracy of reporting? And note that it also discourages hedging of the liabilities with the assets, as even the asset returns are now smoothed and bear even less relationship to the movements of the liabilities.

And amortizing the deficit itself? Normal cost into the accrued liability was already an amortization of what is owed to the employees. When the employer gets behind and allows a deficit, it can then amortize it over the remaining service life of the employees? That’s an amortization of an amortization—again, how does this protect the employee’s fair expectation of security of benefits?
Interperiod equity is given large play in the Preliminary View, here. Interperiod equity would say that the accrued liability should always be fully funded. It doesn’t say that you can amortize things to make it less likely that the accrued liability is ever fully funded.

Really, almost nothing—maybe nothing—should be amortized.

CHAPTER 7—FREQUENCY AND TIMING OF PENSION MEASUREMENTS BY EMPLOYERS

In this day and age of computers, it is amazing to me that it is perfectly ordinary to be working with a pension liability valuation that is one and a half years out of date, or more. This would be intolerable anywhere else, and seems to be tolerated here only out of custom and habit. Not only should the pension measurements be available within the short periods of time after period end as are other accounting statements, but they should be able to be updated at any point in time and certainly monthly and quarterly.

Of course, if they were based on market discount rates, this would be much easier, and if would be very useful. It would certainly reveal the usefulness of hedging, and thus encourage its practice.

You can’t drive in forward gear when the rearview mirror is all you have and the picture you see there is a year and a half old. Decisions are impossible. Accountability is impossible. Few things reflect the arcane murkiness and mystery of the actuarial profession’s work as much as the fact that the data is routinely this far out of date. It is as if there were some magic process that was required in order to get the answer.

Were they allowed to, the accountants would have as much justification for slow results—their need to assemble business unit data into group data into division data into the organization’s overall top-level data is just as complex. But it never occurred to them to be so slow.

We can engineer whole new automobile models in that period of time.

It’s just data, and once set up it is largely repetitive—and that’s what computers are for.

Let’s put some timing pressure on this, and move actuarial work into the current standard of professional timeliness. “One of the principal objectives of this project is to improve accountability for the effects of pension and OPEB transactions and other events on elements of the basic financial statements of employers and plans.”
QUESTIONS FOR RESPONDENTS
Issue 1—An Employer’s Obligation to Its Employees for Defined Pension Benefits
1. It is the Board’s preliminary view that, for accounting and financial reporting purposes, an employer is primarily responsible for the portion of the obligation for defined pension benefits in excess of the plan net assets available for benefits. (See Chapter 2, paragraphs 5–10.) Do you agree with this view? Why or why not?
I do agree—see my discussion under the Chapter 2 header, above.

Issue 2—Liability Recognition by a Sole or Agent Employer
2a. It is the Board’s preliminary view that the unfunded portion of a sole or agent employer’s pension obligation to its employees meets the definition of a liability (referred to as an employer’s net pension liability). (See Chapter 3, paragraphs 1–8.) Do you agree with this view? Why or why not?
I do agree—see my discussion under the Chapter 3 header, above.
2b. It is the Board’s preliminary view that the net pension liability is measurable with sufficient reliability to be recognized in the employer’s basic financial statements. (See Chapter 3, paragraphs 9–13.) Do you agree with this view? Why or why not?
I do agree—see my discussion under the Chapter 3 header, above.

Issue 3—Measurement of the Total Pension Liability Component of the Net Pension Liability by a Sole or Agent Employer
3a. It is the Board’s preliminary view that the projection of pension benefit payments for purposes of calculating the total pension liability and the service-cost component of pension expense should include the projected effects of the following when relevant to the amounts of benefit payments: (1) automatic cost-of-living adjustments (COLAs), (2) future ad hoc COLAs in circumstances in which such COLAs are not substantively different from automatic COLAs (see also question 3b), (3) future salary increases, and (4) future service credits. (See Chapter 4, paragraphs 4–13.) Do you agree with this view? Why or why not?
I do agree—see my discussion under the Chapter 4 header, above.
3b. What criteria, if any, do you suggest as a potential basis for determining whether ad hoc COLAs are not substantively different from an automatic COLA and, accordingly, should be included in the projection of pension benefit payments for accounting purposes?
I haven’t studied this or formed an opinion. But the answer lies in what the probabilistic expectation is—what is the unbiased mean expectancy of the effect of each of these decisions on benefits? I think it may be better to have a principle-based rule rather than an attempt to specify the parameters—which would then be subject to gaming.
3c. It is the Board’s preliminary view that the discount rate for accounting and financial reporting purposes should be a single rate that produces a present value of total projected benefit payments equivalent to that obtained by discounting projected benefit payments using (1) the long-term expected rate of return on plan investments to the extent that current and expected future plan net assets available for pension benefits are projected to be sufficient to make benefit payments and (2) a high-quality municipal bond index rate for those payments that are projected to be made beyond the point at which plan net assets available for pension benefits are projected to be fully depleted. (See Chapter 4, paragraphs 14–23.) Do you agree with this view? Why or why not?
I don’t agree—see my discussion in roman numerals I through V, first above.

3d. It is the Board’s preliminary view that for purposes of determining the total pension liability of a sole or agent employer, as well as the service-cost component of pension expense, the present value of projected benefit payments should be attributed to financial reporting periods over each employee’s projected service life using a single method—the entry age actuarial cost method applied on a level-percentage-of-payroll basis. (See Chapter 4, paragraphs 24–34, and Chapter 5, paragraphs 6 and 7.) Do you agree with this view? Why or why not?

I agree with this view, conditioned on the calculation being done on an economic or market basis. This gives a normal cost or payment that is a constant percent of pay so long as interest rates don’t change, and will do so even if interest rates do change if the liability is properly hedged with the assets.

Issue 4—Attribution of Changes in the Net Pension Liability to Financial Reporting Periods by a Sole or Agent Employer

4a. It is the Board’s preliminary view that the effects on the net pension liability of changes in the total pension liability resulting from (1) differences between expected and actual experience with regard to economic and demographic factors affecting measurement, (2) changes of assumptions regarding the future behavior of those factors, and (3) changes of plan terms affecting measurement should be recognized as components of pension expense over weighted-average periods representative of the expected remaining service lives of individual employees, considering separately (a) the aggregate effect on the liabilities of active employees to which the change applies and (b) the aggregate effect on the liabilities of inactive employees. (See Chapter 5, paragraphs 8–10.) Do you agree with this view? Why or why not?

I do not agree, for the reasons discussed under the Chapter 5 header, above.

4b. It is the Board’s preliminary view that the effects on the net pension liability of projected earnings on plan investments, calculated using the long-term expected rate of return, should be included in the determination of pension expense in the period in which the earnings are projected to occur. Earnings on plan investments below or above the projected earnings should be reported as deferred outflows (inflows) unless cumulative net deferred outflows (inflows) resulting from such differences are more than 15 percent of the fair value of plan investments, in which case the amount of cumulative deferred outflows (inflows) that is greater than 15 percent of plan investments should be recognized as an increase or decrease in expense immediately. (See Chapter 5, paragraphs 12–15.) Do you agree with this view? Why or why not?

I do not agree, for the reasons discussed under the Chapter 5 header, above.

Issue 5—Recognition by a Cost-Sharing Employer

5a. It is the Board’s preliminary view that each employer in a cost-sharing plan is implicitly primarily responsible for (and should recognize as its net pension liability) its proportionate share of the collective unfunded pension obligation, as well as its proportionate share of the effects of changes in the collective unfunded pension obligation. (See Chapter 6.) Do you agree with this view? Why or why not?

5b. The Board is considering basing the determination of proportionate shares of the collective net pension obligation on employers’ respective shares of the total annual contractually required contributions to the plan and believes that would provide a reliable basis for measurement. However, the Board is seeking constituent input regarding other
potential bases that might exist for this determination. (See Chapter 6, paragraph 8.) What basis, if any, do you suggest for determining a cost-sharing employer’s proportionate share of the collective net pension obligation? The only economically accurate and fair method would be proportionally to the economic or market measure of each employer’s liability-relative to the total of all employers’ liabilities.

**Issue 6—Frequency and Timing of Measurements**

6. The Board’s preliminary view is that a comprehensive measurement (an actuarial valuation for accounting and financial reporting purposes) should be made at least biennially, as of a date not more than 24 months prior to an employer’s fiscal year-end. If the comprehensive measurement is not made as of the employer’s fiscal year-end, the most recent comprehensive measurement should be updated to that date. Professional judgment should be applied to determine the procedures necessary to reflect the effects of significant changes from the most recent comprehensive measurement date to the employer’s fiscal year-end. Determination of the procedures needed in the particular facts and circumstances should include consideration of whether a new comprehensive measurement should be made. (See Chapter 7.) Do you agree with this view? Why or why not?

I do not agree, for the reasons discussed under the Chapter 7 heading, above.
Barton is dually trained as both a lawyer and as a financial economist. He is an independent researcher and writer on investment strategy and policy topics, with special background and expertise on the interface between financial economics and actuarial and accounting work for pensions. He is the author of *A Pension Finance Rosetta Stone: Reforming Pension Actuarial Science Using Economic (Market) Methods*, a forthcoming book being published by the CFA Institute. The book is a clean-sheet rewrite of every aspect of pension accounting, including valuing the liability, computing normal costs, computing pension expense, computing contributions, and managing investment policy. It demonstrates that market value (or economic) accounting, fully implemented, gives sponsors the nearly complete ability, to control volatility of normal cost, expense, and contributions by appropriate use of liability hedging in the investment policy. It is written with both public and private pension plans in mind.

Barton retired as a Managing Director from Barclays Global Investors (recently merged with Black Rock) in January of 2009, where he was the Chief Investment Officer for Investment Policy and Strategy, *Emeritus*. He headed the firm’s Client Advisory Group since starting it in 1995 until going into semi-retired status at the end of 2006.

Barton’s research and his many published articles have focused on helping today’s investors control their risks and enhance their returns, particularly for pension plans. While most of his client work was for BGI’s “strategic” clients, the largest of the world’s institutional investors (defined benefit retirement plans, foundations, endowments, social security systems, and central banks), his research was also often directed at the investment strategy needs of individuals. He has published over three dozen articles on surplus asset allocation and pension accounting/management issues, manager structure optimization and risk budgeting, and on defined contribution/individual investor investment strategy. Five of these articles have won “outstanding article” awards from their respective journals, and these and many others are widely cited as setting today’s standards of practice. Mr. Waring serves on the editorial board of the Financial Analysts Journal, as an associate editor of the Journal of Portfolio Management, and on the advisory board of the Journal of Investing.

His background prior to BGI in 1995 also dealt intensively with classical investment strategy and policy issues. He was the manager of the well-known investment strategy consulting firm Ibbotson Associates, co-leader of Towers Perrin’s defined benefit pension plan asset-liability practice and the head of two of its regional asset consulting practices, and he started and led the original defined contribution business for Morgan Stanley Asset Management in 1992, implementing the lifestyle fund concepts that he invented in 1989 and which he has written about frequently.

Barton received his BS degree in economics from the University of Oregon, his JD degree from Lewis and Clark, with honors, and his masters degree concentrating in finance from Yale University.
Investment Strategy and Policy: Pension Funds (but with general implications)


"Between Scylla and Charybdis: Improving the Cost Effectiveness of Public Pension Retirement Plans," in Olivia S. Mitchell and Gary Anderson, eds., The Future of Public Employee Retirement Systems, Oxford: Oxford University Press 2009. A careful comparison of DB and DC plans, with a call to action for taking the steps necessary to make them more successful than they are today. This article is similar to "Don’t Kill the Golden Goose in its import, but is written from a different perspective.


"The Black and Tepper Tax Arbitrages, Revisited and Updated," white paper, June 21st, 2005. This paper demonstrates the fallacy of the Black and Tepper pension tax arbitrage arguments.
which suggest that an all-bond portfolio is the only sensible portfolio for a corporate pension plan (others have extended it to include public plans as well). Manuscript available from the author; a final version intended for publication is in process.


Investment Strategy and Policy: General

"An Asset–Liability Version of the Capital Asset Pricing Model with a Multi-Period Two-Fund Theorem," with Duane Whitney, Journal of Portfolio Management Vol. 35 No. 4, Summer 2009, http://www.iiijournals.com/doi/pdfplus/10.3905/TPM.2009.35.4.111. This article extends the concept of surplus optimization, explains the behavior of the efficient frontier in the presence of a liability, and goes on to develop a full equilibrium version of the CAPM for a world where investors have plans to spend their money – a liability – and this, of course, is our world. At the end of the day, the efficient frontier reduces to a version of the
familiar Tobin/Sharpe two-fund theorem, but in this case the risk-free asset is the liability-matching asset, and the risky asset is all assets other than those in the collective liability-matching asset portfolio.

"Five Principles to Hold Onto (Even When Your Boss Says the Opposite!)," with Laurence B. Siegel and Mathew H. Scanlan, The Journal of Portfolio Management Vol. 35 No. 2, Winter 2009, http://www.ijournals.com/doi/pdfplus/10.3905/jpm.2009.35.2.025. Young practitioners with fresh MBAs and CFAs are often told to "forget all that nonsense." This article tells them what they must hold on to.


"Is Small-cap Investing Worth It? Two Decades of Research on Small-cap Stocks," with Laurence B. Siegel and Eric Clothier, Investment Insights, Barclays Global Investors, San Francisco, December 1998. An authoritative and exhaustive summary of all the serious research that has been conducted exploring the small stock risk premium.


Investment Strategy and Policy: Defined Contribution Plans and Individual Investors


“Wake Up and Smell the Coffee: DC Plans Aren’t Working. Here’s How to Fix them,” with Laurence B. Siegel, The Journal of Investing Vol. 16 No. 4, Winter 2007; republished from Investment Insights Vol. 9 No. 6, Barclays Global Investors, San Francisco, June 2006. The last in a series of articles by the authors showing how to make DC plans much more effective as retirement investment vehicles than they have been to date.

“Mind the Gap! Why DC Plans Under-perform DB Plans, and How to Fix Them,” with Laurence B. Siegel and Tim Kohn, Investment Insights, Barclays Global Investors, San Francisco, January 2004 (updated edition; original edition in same publication April 2000). Financial engineering and communications principles in support of bringing sophisticated investment strategy to individuals in DC plans through well-engineered pre-mixed strategic asset allocation funds (“lifestyle” funds). This is the most recent of a long series of articles I have written on this topic.


"A Strategic Plan for Selecting Plan Investment Options," with Michael V. Assaf, Profit Sharing, December 1992. The first of a long series of articles that I have written on the topic of lifestyle fund investing and individual investor strategy, a now ubiquitous fund category that I invented in 1999.

Using Active Managers


“Debunking Some Myths of Active Management,” with Laurence B. Siegel, Journal of Investing, Summer 2005; republished from portions of “Understanding Active Management,” Investment Insights, Barclays Global Investors, San Francisco, March 2003. Street wisdom advocates many insights about active managers that are not only not true, but harmful to those who listen to them. This article debunks those myths.


