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Which Pension Funding Method Is Right for You?

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Summary: Many actuaries find themselves using the projected unit credit funding method, in part because of the similarity to Financial Accounting Standard 87 accounting measurements. However, a number of other methods are available that might better meet plan characteristics or client objectives.

Mr. David R. Jarrett: I am a consulting actuary with Buck Consultants in the Pittsburgh office. Carol Zimmerman is also with Buck Consultants.

We are going to start by talking about a few basics. Just what are funding methods? Then we are going to look at a couple different funding methods and get into some detail on the formulas for those funding methods. Next we will look at some sample liability streams under different funding methods to see how they differ in their results. After that we are going to talk about some different things that you might want to consider when you go about selecting a funding method. Next we will talk about whether choice really matters. With all of the different rules that IRS and FASB have put out there, does choice really matter, or are we constrained to doing it just the IRS or FASB way? Then we are going to talk about changing funding methods and just how much flexibility there is in the requirements for automatic approval for those funding method changes. Finally, we are going to talk about practical considerations, things you might want to take into account for specific cases with the different plans you deal with. Just what is a funding method? Technically speaking, a funding method is simply a methodology that is used to allocate costs over different time periods.

Whenever I talk to a new employee who is just entering the actuarial field, many times I will use the example of a mortgage on a house to describe a funding method. It is just a way of taking the cost of the house and applying it to different time periods so that it is paid off over a certain period of time. In the case of a funding method we are taking the present value of all the benefits that are going to be paid by the pension or post-retirement medical plan, and we are going to come up with some methodology to assign that present value of benefits to different time periods.

One of the key elements to a funding method is that the funding method has to satisfy what is known as the equation of balance. The equation of balance is simply that the present value of all benefits to be paid has to equal the accrued liability (the present value for past benefits) plus the present value of future normal costs (the present value of benefits yet to be earned).

It is important to include in the definition of funding method that many times the definition is more than just the basic allocation throughout structure, especially according to the IRS. The IRS looks at a number of different things as being part of the funding method, even as detailed as the way you credit interest, whether you do simple interest or compound interest.

Ms. Carolyn E. Zimmerman: You mentioned a situation with the IRS in which that came into play; I think it was even more detailed than that. Maybe you could relate that story.

Mr. Jarrett: I had worked on a plan in which one office of a consulting firm took the plan over from another office. In taking it over, the new actuary revised the programming very slightly and ended up having to file for a funding method change with the IRS because, even though he was using the same general method, projected unit credit, he did not match dollar for dollar what had been done by the prior actuary. So at times the IRS rules and regulations can be quite onerous. The IRS ended up asking for no end of details as soon as they realized that small changes were made. So admitting to making small changes was probably a bad idea because it just opened up a can of worms.

Funding methods generally fall into two categories: methods that identify and amortize gains and losses, and methods that spread gains and losses. For the methods that identify gains and losses, those gains and losses are identified each time you recalculate your liabilities using new data. One example of those methods are the unit credit funding methods, both straight unit credit and projected unit credit, and entry age normal. The other example is methods that spread gains, that take gains and losses and roll them into future normal cost. Instead of identifying

them immediately and requiring a separate amortization, these methods take your gains and losses and require you to pay them off over the future lifetime of your plan. Examples of those methods are frozen entry age, which is frequently called frozen initial liability (FIL), frozen attained age, and the aggregate method.

Another way to think of these two types of funding methods is that methods that identify and amortize gains and losses are methods that calculate liabilities on an individual basis. You calculate accrued liability and a normal cost for each individual, and then you add them up over the whole group to get the total accrued liability. For methods that spread gains and losses, you generally calculate your liabilities for the whole group together.

The first funding method to look at is unit credit; this is really the simplest funding method. You simply take the benefit earned as of the valuation date and multiply it by an annuity factor. In that annuity factor you usually take into account mortality after retirement and the different decrements before retirement. To get the normal cost under the unit credit funding method you simply take the difference between the benefit at the end of the period and the benefit at the beginning of the period, the difference between the accrued benefit from one year to the next, and multiply it by the same annuity factor that you used for the accrued liability.

A slight variation to the unit credit funding method is the projected unit credit funding method. The difference is that under projected unit credit you want to take future salary increases into account in the accrued benefit. So the accrued benefit is not just a straight salary-to-date, service-to-date benefit. It is not salary-to-date of decrement but service-to-current date.

Another immediate gain method is individual entry age normal. The idea behind entry age normal is that you calculate, if it is a salary-related plan, a level percentage of pay for a person's career. Then you take that percentage and apply it to the salary in each future year, and that becomes the normal cost for that year. That level percentage, known as the normal cost percentage, is the present value of benefits valued at entry age divided by the present value of future salaries, also valued at entry age. The normal cost is simply that normal cost percentage that you determined, multiplied by your salary at your current age. Finally, the accrued liability is your present value of benefits at your attained age minus the normal cost percentage times your present value of future salaries at attained age. You can see that the equation of balance is guaranteed to work. You have the present value of benefits minus the present value of future normal costs. That has to equal the accrued liability.

The first spread gain method is frozen entry age, also known as FIL. For FIL, we start by calculating the entry age normal accrued liability, and from that entry age normal accrued liability we subtract the actuarial value of assets, which gives the initial unfunded accrued liability at time t equals zero. From there we never again explicitly calculate an accrued liability. We just keep rolling forward the unfunded accrued liability by taking the unfunded accrued liability, adding normal cost, subtracting any contributions, and then adjusting those three items by interest.

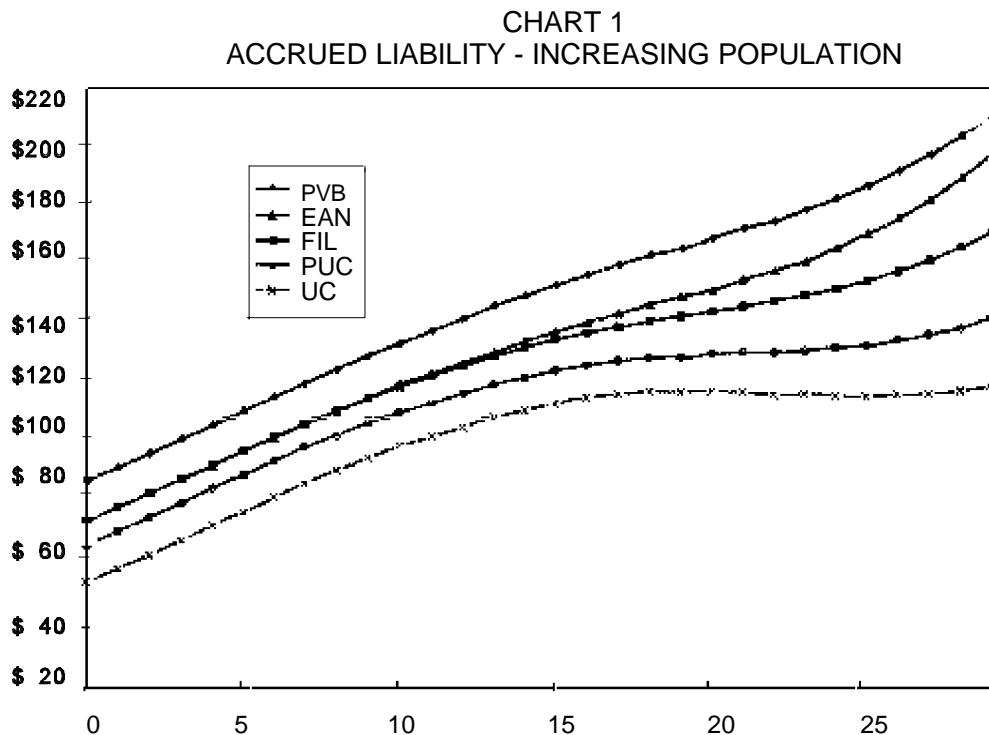
The normal cost percentage under frozen entry age or FIL is the present value of benefits at the valuation date minus your unfunded accrued liability at the valuation date minus your actuarial value of assets at the valuation date, that total amount divided by the present value of future salaries. As I mentioned earlier, the spread gain methods take a look at the group in total. When we calculate the normal cost percentage we are looking at the present value of benefits for the total group, the present value of future salaries for the total group. So we come up with not an individual normal cost percentage but a normal cost percentage for everybody. Then the normal cost itself is simply the normal cost percentage times total salaries.

Frozen attained age is just like frozen entry age except that the initial unfunded accrued liability is calculated under the unit credit funding method rather than the entry age normal funding method. I will not go through the rest of the calculations, because once that original unfunded accrued liability is set, the funding method works identically to frozen entry age.

Finally, the aggregate funding method. One of the key things about all these spread gain funding methods is that we have been defining an unfunded accrued liability, rather than an explicit accrued liability. The unfunded accrued liability for the aggregate method is always going to be defined as zero. So we are going to say that since there is no unfunded accrued liability, your actuarial value of assets is like your accrued liability. Under aggregate funding your normal cost percentage is simply the present value of benefits minus the actuarial value of assets divided by the present value of future salaries. Again, those amounts are summed for the whole group. Like the other two spread gain methods we have talked about, normal cost is simply the normal cost percentage times the total salaries for the whole group.

We have put together a couple charts of the different funding methods that I have just outlined. We took a group of manufacturing employees, with an average age of between 45 and 50, and an average service of between 15 and 20 years, and charted out the different accrued liability measures that we just talked about. The present value of benefits, shown as the top line in Chart 1, is not exactly a funding method accrued liability since it is the present value of all total benefits, but it is the

measure against which all the other funding methods can be compared. On the bottom is the unit credit funding method, the simplest of the funding methods. It generally produces the lowest cost.

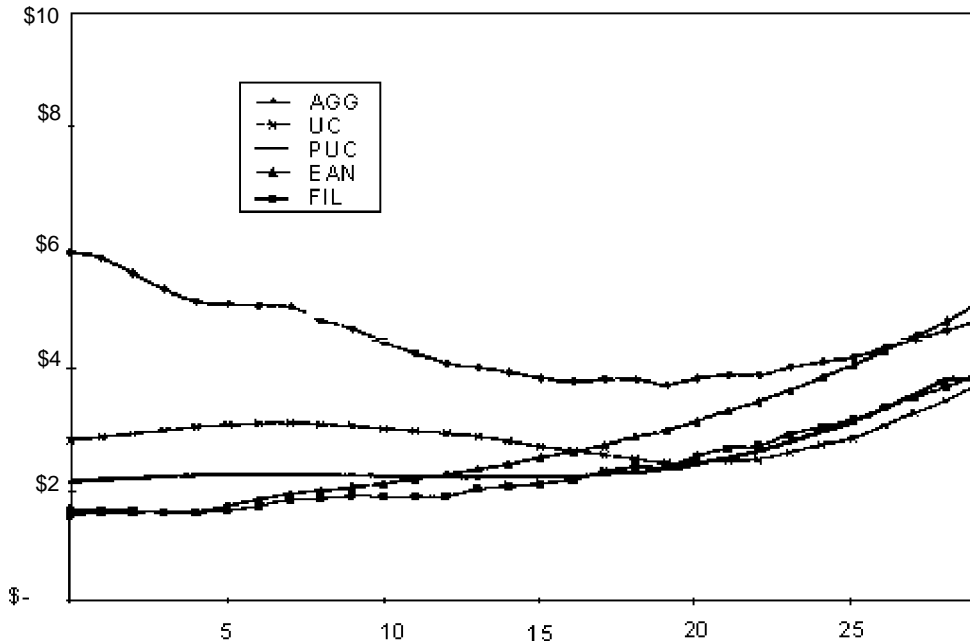


The line that starts out and then diverges is FIL and entry age normal. They are starting out together, but as we get gains and losses in the group, they diverge. The reason they diverge is that entry age normal recognizes gains and losses up front since it is an immediate gain method. FIL recognizes gains over the lifetime of the plan population. So it spreads gains and losses. In this situation we are getting losses because we have an increasing population. Entry age normal turns out to be higher after a while because those losses are directly reflected. The other interesting thing to note is that for the first ten years under this chart the funding methods all look the same. They are just at different ultimate dollar levels, and they all have the same slope. It is not until after ten years that they actually diverge.

The normal cost for that same population over the same time period varies much more than the accrued liabilities do (Chart 2). Again, if you look at the top line which is the aggregate method, that gives you your highest cost, whereas it is hard to say under the other funding methods which will produce the highest normal cost. It seems to vary over time. An interesting thing to note here is that the unit credit normal cost for this group starts out higher than projected unit credit, and then eventually projected unit credit normal cost turns out to be higher than the unit credit normal cost. Early in my career someone told me that the unit credit normal cost could never be higher than the projected unit credit normal cost because the

projected unit credit normal cost included future salaries. So that should obviously make it higher. That is not always the case. It depends upon where the employees are in their career.

CHART 2
NORMAL COST - INCREASING POPULATION



We are done with the technical part. The next topic is the different things to consider when determining what funding method to use. Obviously the first thing is the purpose of the valuation. We do valuations for numerous reasons. In the pension arena you have to do an annual valuation to determine your contribution. You have to do valuations under *FAS 87* to determine the accounting costs for the plan. You might be doing a valuation of the termination liability for the plan, or you might be doing a valuation for a merger or a spin-off situation. So the first thing you want to take a look at is just what is the purpose of the valuation? The second thing to look at is the plan sponsor's financial objectives. Does the plan sponsor have a certain goal to get the plans funded at a certain level by a certain date? I ran into a client whose goal was to get their plan fully funded by the year 2000, but they continuously make benefit improvements, so that was almost impossible.

The third thing to consider is the plan sponsor's business or industry. For example, if you have a plan sponsor in a manufacturing industry, the money might be better put toward equipment that is very costly instead of overfunding the plan. So you want to use a funding method that keeps your accrued benefits funded at 100% in

case the plan would terminate, but you do not want to overfund the plan because that extra money could be better used elsewhere. Alternatively, in the health care area, hospitals have been reimbursed for contributions that they make to pension plans. So there might be some reason there to overfund that pension plan because reimbursement exists for it.

Ms. Zimmerman: Another example might be if you have a business in a cyclical industry in which some years you have cash and other years you do not, and in that case you might want to make sure that you build enough flexibility into the funding method that you can adjust to the changing economic circumstances.

Mr. Jarrett: You also want to consider the type of plan that you have. One of the most obvious things is that if you have a pay-related plan, you probably want to include a future salary increase in your funding method; otherwise in the later portion of a participant's career you get skyrocketing cost. Also, if the plan is a collectively bargained plan, you may want to use a more or a less conservative funding method. The reason to use a less conservative funding method might be that if you overfund the plan, that might give the union cause for bargaining for greater benefits the next time the contract is due. Alternatively, if you are about to go into bargaining, you might want to use a more conservative method so that the cost of any bargained increases look greater. Certainly if you are the actuary for the union, you would do the opposite.

The other thing you might want to look at is the pattern of benefit accruals. For example, if you have a floor offset plan, you might want to use some type of method like entry age normal that spreads your costs over an employee's career because under a floor offset plan you can not take into account future contributions that will go into the defined-contribution plan. So your current liability or unit credit accrued liability could be very great, but your present value of benefits could be very small because future contributions will impact that present value of benefits.

You must consider regulatory constraints. Certainly the IRS has more than enough rules that make you do different things for funding methods and limit your choice. The FASB has their separate rules that may limit your choice, and the PBGC has their rules. Also, there may be different reporting requirements that will factor into what you want to select as your funding method. When I refer to reporting requirements, I am thinking of things like PBGC reporting for large underfunded plans. If you have a large underfunded plan, you have to test for whether you have greater than \$50 million of unfunded benefits.

Ms. Zimmerman: We have looked at some funding methods, and we have looked at the considerations that might influence your decision to use one over another,

but you might ask yourself at the end of the day, How much does this choice really matter? We know that many of our calculations are impacted by current liability calculations, and, of course, current liability is calculated the same way regardless of what you use for an underlying funding method. First and foremost, I see in my practice, living in steel country, the additional funding charge, and those of you who have come across the additional funding charge know that it can very easily override your pure funding method. Particularly for very unfunded plans, it can substantially increase the minimum funding requirement.

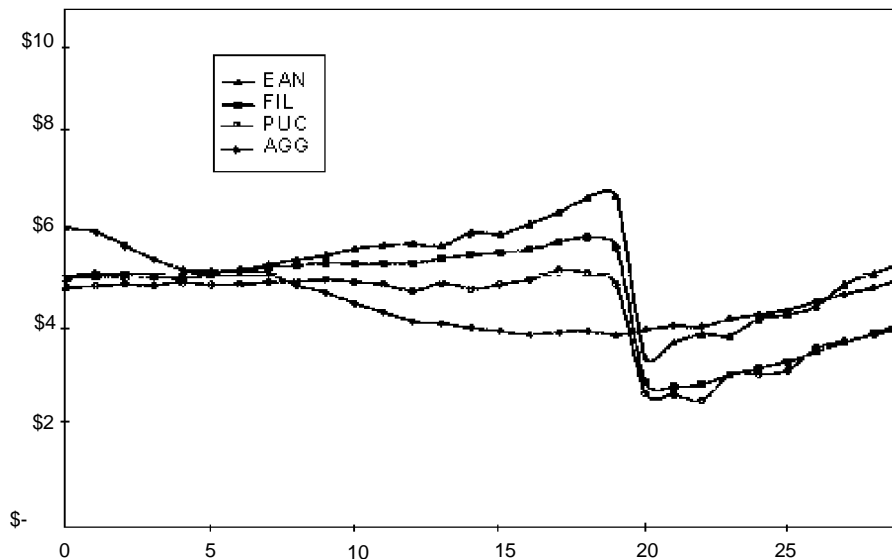
At the other end of the spectrum, you see plans that are limited by the 150% current liability limit. That is particularly troublesome in the case of a newly established plan in which you might have the objective of getting a good start on the funding, but you might find your best intentions thwarted by having to fund no more than 150% of a benefit that has no projection in it. We also have the 90% of current liability limit imposed by Retirement Protection Act (RPA) 1994. It basically says that even if you look fully funded according to your funding method, you can not stop putting contributions in until you have covered 90% of the current liability. I have a plan where this has a very real impact. It is a floor offset plan where we expect the offsetting defined-contribution plan to eventually provide most of the total benefits that are promised to those participants. So if I project out my total present value, I have a relatively small number, but if I look at my current liability now where I can not project future defined contributions, I have a good-sized current liability. So I expect to have my total present value fully funded in the next couple of years, but I will have to continue putting money in so that we can cover 90% of the current liability. There is not much need to worry, this is a collectively bargained plan, and I think the union is going to help to spend that excess.

A specific method is prescribed in some other areas. In the calculation of PBGC variable rate premiums we have to use the vested current liability which is, again, a unit credit calculation. In addition, we have to use projected unit credit for *FAS 87* and unit credit for *FAS 35* accounting. Even though these particular directives do not directly affect what you use to fund the plan, they do have an indirect influence. We noticed in our practice that a number of employers changed to projected unit credit when *FAS 87* was issued just to avoid the expense of an extra actuarial calculation.

One way to judge the appropriateness of a method is to look at the outcome. Chart 3 is of the same population that David was talking about; it is a relatively mature plan. The population is increasing by about 2% a year. For the purpose of this example, the plan is about ten years old and about 70% funded. We certainly acknowledge that the outcome of these different funding methods can be different if

you have a different population. It just goes to show that there is no one right answer. It really depends on your plan's circumstances.

CHART 3
ANNUAL CONTRIBUTION - NO AFC INCREASING POPULATION



We looked at four of the more common funding methods. One of the things that struck us was the remarkable similarity of three of the methods: entry age normal, FIL, and projected unit credit. These are dominated by the amortization of the initial liability, which then drops out in the twentieth year when we say the plan would be 30 years old. After that point we are really just funding normal cost and gains and losses. Then we see that the FIL method produces a fairly constant stream in terms of percentage of pay because the gains and losses are amortized over the person's future compensation. On the other hand, we see some more volatility in projected unit credit and entry age normal because we have to recognize those gains and losses over only a five-year period. One of the surprises in looking at this was the pattern on the aggregate funding method. Traditional wisdom says that the aggregate method would produce a higher cost than any of the other methods, and if we extrapolate the aggregate line to the left, we can see that would indeed be the case in the early years of this plan. However, during the portion of the plan's life cycle that we see here, we see that the aggregate method actually produces a very stable cost pattern. It changes only very gradually, and for many of the years involved, it is actually the lowest cost method. So, looking at this, if you have the objective of having stable cost and lower cost, it might appear that the aggregate method is the way to go, but one thing that this chart does not show is the lack of flexibility in the aggregate funding method. If we were ignoring the 100% of

current liability deduction, the aggregate funding method really does not give you any flexibility from one year to the next. You have your normal cost, and that is your minimum and your maximum. So from a flexibility standpoint that makes it less desirable than it might appear from this chart.

Chart 3 was looking at just the pure funding method with additional funding charges. Next consider Chart 4 where we add in the current liability calculations. You can see some vestige of the same pattern where we have the amortization dropping out. I want to point out that in, the first couple of years, it really does not matter what method I pick because the deficit reduction contribution is larger than the contribution produced by any of the other methods. So for this period it would not matter which one I chose, and, of course, that would be more pronounced in the case of a plan that is less well funded than the one we are looking at here. As time goes on, the basic funding methods begin to reassert themselves, the aggregate coming out first because it has a higher contribution level. As you go along, each method starts to split out. We do drop out the initial unfunded liability, but we drop it out that much earlier now because higher funding levels in previous years mean that we are now running up against full funding. Full funding makes the volatility in the contributions afterward more pronounced because now we are right up against the full funding limit. You can have situations where you might find yourself funding the full amount of a loss in one year because you are up against that limit. One thing that also bears mentioning is that we show the entry age normal falling off because we funded so much through the early years that we have actually hit the Omnibus Budget Reconciliation Act (OBRA) full funding limit, 150% of current liability. Once again we see that the aggregate method produces the most stable cost period during this time frame, but, the trade-off is the flexibility.

Another way to test the outcome of a method is just to look at the end results. How well funded is the plan? We see in Chart 5 that when we look at these methods, all four of them produce a very healthy funded current liability percentage. The lowest one is still significantly above 100%. One thing that this shows is that over the time period of the chart, we can see that the entry age normal, which is the top line, produces the very highest funding level, and it would have been even higher had it not been for that OBRA 1987 limit. That also shows that over this time period, entry age normal would have produced the highest required contributions. One thing that you would want to look at in connection with this chart is, philosophically, Where do I want that pension plan to be funded? Do I want to tie up enough assets to have the current liability funded at 150%, or am I more comfortable with something like the projected unit credit that would put me a bit above 100% funding?

CHART 4
ANNUAL CONTRIBUTION WITH AFC INCREASING POPULATION

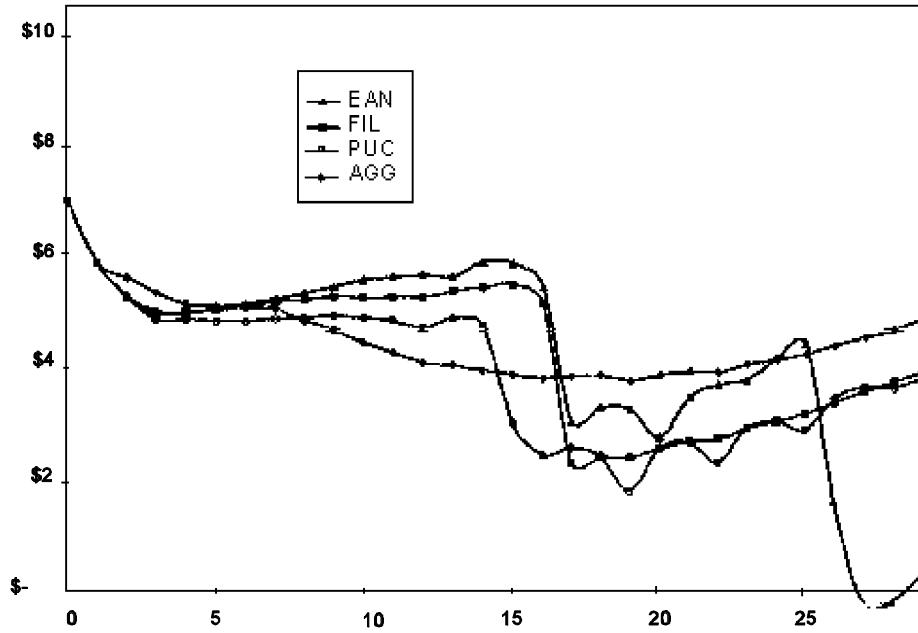
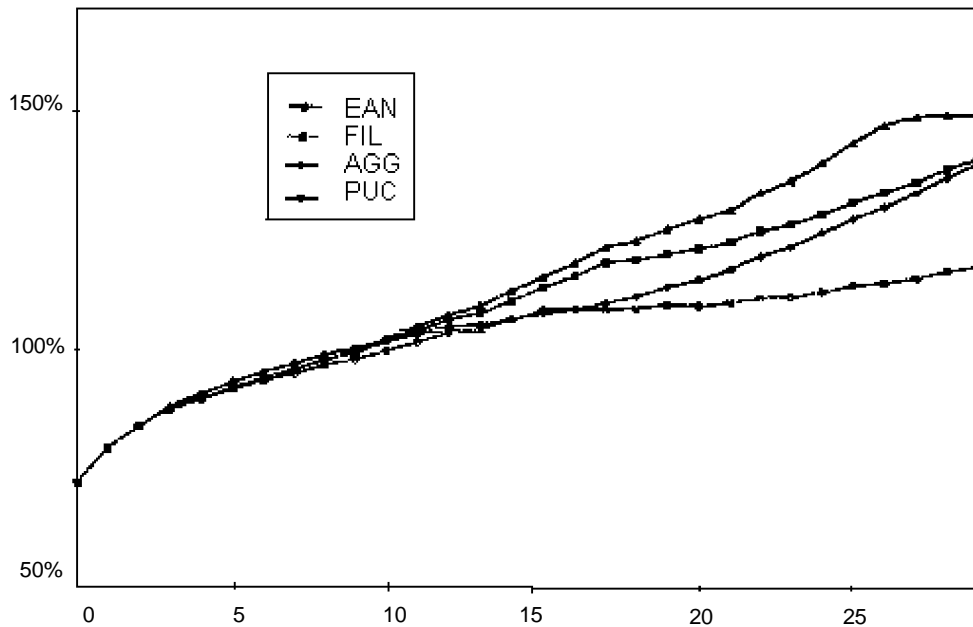


CHART 5
CURRENT LIABILITY FUNDED PERCENTAGES INCREASING POPULATION



Changing focus just a bit, say that we choose a funding method, we go on our way, and then we find that it really does not do the job that we thought we wanted it to do or circumstances have changed. How much flexibility do we have to change that method? Automatic IRS approvals are available for a number of changes that we will talk about. First are valuation cost methods, and I want to defer those for a second. There are some automatic changes for asset valuation methods, however. You can go to the market value, or you can go to the average market value that is specified in the regulations either with or without a phase-in. This is an area where I have seen a good deal of interest in the last couple of years because, with the run-ups in the market, employers are anxious to try to capture some of those gains in their assets for valuation methods so they can reduce their contributions. We have done a fair amount of work in that area. The other automatic approval category is the valuation date. You can change to the first day of the plan year.

Focusing a bit more on some of the valuation cost methods, you can change to the unit credit method as long as you include the salary projection for pay-related plans. So you would not be able to use straight unit credit for a salary-related plan. You would have to use projected unit credit to get the automatic approval. You can use FIL, or you can go to the individual entry age normal method as long as you have not used the alternative minimum funding standard account in the previous five years.

Continuing with methods for which you have automatic approval, you can move to the aggregate method, or you can move to the individual aggregate method. For individual aggregate, because it involves allocating assets to individuals and then calculating individual normal cost, there are a few more restrictions exist. You can not do this unless you have enough assets to cover the liability for your inactive people, and you can only do this if your net adjusted assets are at least equal to zero, where net adjusted assets are your valuation assets adjusted for any amortization bases that you are carrying and the credit balance and, of course, deducting the assets that are earmarked for inactive.

Now, there are no free rides with the IRS. There are a number of restrictions, one of which is that you can get this automatic approval only once every five years. There has been some confusion on this standpoint because the number that actually appears in the IRS procedure is four years, but note that only four years are free of such a method change. So it works out that you can get this automatic approval only once every five years, but a change in one category does not keep you from making a change in the other. So, for instance, if you change your asset valuation method this year under automatic approval, you can go ahead and change your funding method next year. You have several clocks running, and you have to worry only about a change in one category at a time. The other restriction involved here

is that your normal cost can be a percentage of compensation only if your benefit is pay related. You can use a level-dollar approach any time, which basically means that the IRS will approve it if you front-load your cost, but you can not back-load.

In certain circumstances you cannot get an automatic approval. First of all, you can not get automatic approval if your change in method is associated with a spin-off or a merger, and, in fact, in a merger you are really deemed to have a change in method. In a merger, some aspect is going to change, and you have to file for that with the IRS. You can not get automatic approval. Generally, you cannot get automatic approval for a change in method in a frozen plan. There is one exception specified in the IRS procedure, RPA 95-51. If you have a plan that is frozen throughout the year, no benefit accruals occur during the year, and you do get an automatic approval to change to the unit credit method. Also, generally you cannot have an automatic change in funding method in the year of plan termination. Again, there is one exception. If you have a fully funded terminating plan, then you can change your valuation date to the termination date. You can also change the method so that you are reflecting only benefits that are earned up to the termination date.

Another important one is you cannot get automatic approval to change a funding method if you have already filed your Schedule B or if you have passed the due date, including extensions. So, if you have already filed the Schedule B, you can not revise it to reflect an additional method change and hope to get automatic approval. Another case in which you can not get automatic approval for a change in method is if your plan was involved in a termination reestablishment. Those are not as popular now that we have lower interest rates, less favorable annuity purchase rates, and, of course, the excise taxes on reversion, but in the early to mid-1980s a number of these transactions took place, and some of those plans will still be within the 15-year mark.

Another restriction is that you can not change to a method that would produce a negative normal cost or a negative unfunded accrued liability. The IRS has held to the position that any method that produces these results would be an unreasonable method, and, of course, they are not going to give automatic approval to those.

Mr. Jarrett: Carol, don't you get automatic approval if you are using a spread gain method and you end up with a negative unfunded accrued liability or normal cost?

Ms. Zimmerman: Right. There is another category of miscellaneous changes that allows you to fix problems, and that is one of them. If you drift into a situation in which you have a negative normal cost, you have an automatic buy on restarting your method or, in some cases, going to the aggregate method, and you are not

restricted there on that five-year cycle either. The change is permitted whenever you encounter that situation. That starts the clock for the next five-year cycle on a voluntary change if you are going to be changing funding methods.

If you go through all that, and you want to make a change that is not on the list, you are not out of the water. You can file for IRS approval. The filing is really not very onerous. You have to gather Schedule B's and information that is usually already put together, and then you need to do a pro forma funding standard account to show what the net charges would be before and after your proposed change of method. Our experience has been that it is generally not very difficult to get IRS approval for a change in funding method, unless you happen to bump up against a policy issue. I still have a filing with the IRS from the 1995 plan year because I made the mistake of including the General Agreement on Tariffs and Trade (GATT) rule that has you do advanced recognition of your collective bargained increases, and I tried to argue that it did not have to be amortized over ten years. I am still waiting for that one, but in the meantime I have had a number of favorable responses on changing the asset valuation methods. So, generally they sail right through, and I really have not had any problem.

From the Floor: I have a typical situation where you have a union, an hourly plan and a salary plan, and the people move from the hourly to the salaried when they are promoted. What we want to do is to be able to transfer the assets to that salaried plan along with the liability. Reading the approvals, that is considered a change in funding method when we make that transfer. So we filed earlier this year for an approval for that, including each future year, just not a one-time change, but to allow us as part of our funding method to make this transfer annually, and we have not heard back yet on that.

Ms. Zimmerman: How long has that been?

From the Floor: They filed at the end of February, 1997.

Ms. Zimmerman: Well, typically, even in the routine ones, their turn-around time is not fast. Four or five months is not uncommon. On that same topic, I asked an IRS agent who was processing one of my change in funding methods whether they expected to have a filing in that situation. I was told that as long as it is de minimus, they would not expect one. You can treat it just as a merger in the true sense.

Mr. Jarrett: As we get into the practical considerations, we hope you will share some different ideas with us. The first thing you might want to consider doing for your client, especially if you are doing a normal pension valuation, is to actually use the lowest cost method, the method that produces the lowest contribution. With

the IRS rules that allow us to deduct the amount up to the unfunded current liability, we can have the largest range of contribution by using the lowest cost funding method, and then your client has the greatest choice about how much to actually fund for the plan.

There is also a nice side effect that happens. Because you are using the lowest cost funding method, any amount that you put in above the minimum goes to build a credit balance, and that credit balance will maximize your flexibility in the future. For example, if your client is in a cyclical industry where there might be downturns and they do not have cash in the future, you have that credit balance to cover those contributions that they will not be able to make. The other thing that the credit balance does is if you run into a situation where you develop an additional funding charge, that credit balance can be used to pay off that additional funding charge. So even though you might have some volatility from year to year in your funded current liability percentage, and you might have to develop an additional funding charge, that additional funding charge really never hits the bottom line. It never hits the minimum contribution because it gets erased by the credit balance.

The other thing you might want to consider is doing some advanced funding for plans that pay lump-sum benefits, either a cash balance plan or plans that just have an optional retirement benefit that provides for a lump sum. The problem that you frequently get with these plans is that because the lump sums are calculated using very conservative interest rates, you tend to underfund these plans, and this occurs because the current liability, when it is calculated, requires you to not take into account the low lump-sum interest rates. You have to treat all the benefits as though they are being paid as annuity benefits, and so you end up underfunding this plan on a termination basis. You might want to consider using a funding method that puts a little more money in up front so you do not run into a shortfall later.

Another thing to consider is, if you are going to use a spread gain method, you might want to be very careful if you are in a situation where a negative unfunded accrued liability or a negative normal cost is likely. Previously I worked for a firm where we had many spread gain funding methods, and invariably every year a plan developed a negative unfunded accrued liability or a negative normal cost. This was before the IRS ruling came out that gave you a solution, but the time spent trying to solve that problem made the funding method much less useful, especially from the client's perspective since they were paying the bill.

Another thing you might want to try is to attempt to avoid fluctuations in your funded current liability percentage. If you have an underfunded plan, and you have to calculate an additional funding charge for that plan, you might want to be careful

to keep your funded current liability percentage below 90%, because if it goes above 90%, it would eliminate your unfunded old liability, and the unfunded old liability is being amortized over a longer period than your unfunded new liability. The unfunded new liability might be paid off over a 3–5 year period, whereas the old liability maybe is being paid off over 10 years. So you might want to be careful. In this case you are not looking to fund the plan so much as you are looking to keep it underfunded.

Ms. Zimmerman: I did a study for a client that found themselves with some extra cash and were looking to put some of it in the pension plan. We discovered that if they put it in and got the plan over 90% funded and then allowed it to drift back below 90%, then over a five-year period they would actually end up spending more in required contributions than they would have had they not put anything extra into the plan, simply because by getting over 90% they lost the advantage of that unfunded old liability. So our advice to them was if you plan to get the plan over 90% funded, you are best to plan to keep it over 90% funded; otherwise you can find yourself significantly increasing your funding requirements.

Mr. Jarrett: On the flip side, just as you might not want to go above 90% funded, you probably do not want to go below 80% funded because in that case you are going to have to calculate an additional funding requirement. If you are between that 80% and 90% threshold, you may or may not have to calculate it, but by going below 80% you are definitely in trouble.

Another practical consideration is your plan sponsor has multiple plans, you want to make sure that the funding level for the plan that you are dealing with is balanced with the funding levels for the other plans. First of all, you need to take a look at the overall affordability. You certainly do not want too many years in which all of the defined-benefit plans are fully funded, and then they all come out of full funding at the same time, and your plan sponsor gets hit with a huge contribution. The other thing you want to look at is the Section 404(a)(7) maximum deduction limit, which is the 25% of total pay limit. If you are putting too much money into one plan, you may run up against that limit with your other plan and run into a problem.

Ms. Zimmerman: I have a plan that is an Employee Stock Ownership Plan (ESOP), and the employer is spending maybe 18–20% of compensation on the ESOP contributions. So, not much is left for pension funding. They also have a defined-benefit plan that is in the early years in which they are phasing in current liability. Looking ahead, we can see that when the plan is maybe four or five years old, contributions will be at their peak. At that point, they will start to interfere with the deduction for the ESOP. As a result, we projected out the contribution and persuaded them to put in as much extra as they could in the early years so that we

could have enough of a credit balance to cushion the impact of the higher contribution in later years. If we have done our job correctly, when they get there they can just draw on their credit balance and not interfere with the deduction for the other plan.

From the Floor: I have a question about something I have never done. I want to know if my reasoning for never having done it is correct. The frozen attained age method sounds appealing compared to frozen entry age or entry age normal since it tends to have lower contributions overall, but the reason I have not tried to move our group in that direction is that you need to run also an individual entry age valuation to use for the regular full funding limit.

Ms. Zimmerman: You are right about that, and I agree with you. Theoretically, it would seem to call for use of the unit credit method. What the IRS says is that if your method does not specifically produce an unfunded actuarial liability, then you have to use entry age normal, and I think you are right, that method would fall into that category.

Mr. Jeffrey C. Rose: I am still formulating my thoughts on what funding methods would be most appropriate for my clients. When I started out in the late 1970s, most of the plans I worked on at that time were using FIL, and when *FAS 87* came out, most of them switched to projected unit credit or unit credit to try to get contributions as close as possible to pension expense. I think we have had enough time now to realize that just is not going to happen. I thought I might see a little more variability on your chart due to the 5-year instead of the 15-year amortization of gains and losses. My thought at this time is that moving back to something like FIL will provide greater smoothing. I want to know your thoughts on that.

Ms. Zimmerman: That is one thing that we noticed when we were going through this study. We did not just look at an increasing population. We also looked at a stable population—a decreasing population—and saw fairly the same conclusions. We did not want to drag you through all those charts, but I would agree with you. We saw more variability in the entry age normal and the projected unit credit from the standpoint that you had to pick up those gains and losses and spread them over a five-year period, or if you got up to full funding, you would be even more volatile. As long as your future working lifetime is more than five years you would probably do better on something like FIL.

Mr. Jarrett: It seems like a situation in which actually the funding method you could use for your Schedule B is a low-cost funding method like a unit credit funding method. You could fund according to FIL or some other method and use the idea of generating a credit balance by funding higher than the lowest cost

funding method, and then that credit balance could get used to offset that variability.

Ms. Zimmerman: That is a good point, that it is not necessarily just the funding standard account entries that we are looking at smoothing. It is really the actual cash that the employer has to contribute.

Mr. Jarrett: Yes. So you run two different contribution calculations at the same time, a minimum and a recommended.

From the Floor: When you began you said you were going to discuss both the pension funding and post-retirement health. To what extent are companies out there funding post-retirement health? I have a client that is looking at doing some funding, and we are looking at a couple of different analyses. Going to FIL will have a very dramatic effect on funding, as you have shown, because as long as you have that initial liability being funded, your contributions are significantly higher. Then you reach a point at which you are fully funded. You effectively have a cliff, and the contributions may fall by 50% or 70%. I am wondering to what extent companies out there are funding and what type of funding methods generally are in use for things like post-retirement health. Also, to what extent are actuaries trying to take away some of the variability that may be in there by using different asset methods and things like that?

Ms. Zimmerman: As I think most of you know, there is not a very good way to fund post-retirement health care. Application to that is very limited. I have not seen too many of my clients actually fund that.

Mr. Jarrett: I haven't either.

Mr. Edward M. Pudlowski: The experience that I have had with funding of post-retirement medical benefits has been fairly limited. In most cases, it has been with hospital plans that are not-for-profit. Therefore they are not subject to the same rules as other employees. For hospitals, they can fund well beyond any limit. So, I do not think it matters what funding method you use. They can get reimbursed. At one point they were getting reimbursed by Medicare, and I think that has changed. Previously, the more they funded, the more they got. They were also getting reimbursed by insurance carriers.

Mr. James J. Avery, Jr: I suppose this is a different question in that it is clear that the funding policy and the funding method go hand in hand, and usually the policy comes before the method, but how much consideration do people give to how the

investment policy goes with the funding method and how much thought on the aggressiveness on the asset side as to what funding method you are going to use?

Mr. Jarrett: For years people did not spend very much time looking at the liability and asset side together, and so I would say in general they are not. I do not know too many people who are looking at the investments when they are selecting a funding method.

Ms. Zimmerman: I would say that we do take that into account, and we are looking at some of the assumptions but have not really seen that applied so much in the methods. By far most of the clients I work with use the projected unit credit method just because it is easy and because they have to do it anyway for *FAS 87*. Actually, I would be curious to see if there is anybody who uses funding methods other than projected unit credit for more than a handful of their clients. Is it true that everybody uses projected unit credit? I see some are using entry age normal and aggregate.

Another aspect of funding that we talked a bit about was the additional funding charge. Many of the plans that I work with are heavy manufacturing plans in which the additional funding charge is a big influence. How many people work with the additional funding charge on a regular basis? About one-third.

From the Floor: There has been talk at my firm that the IRS does not want you to use projected unit credit for cash balance plans. They say there is only one type of funding method, a unit credit method, and since the cash balance is not a final average pay plan, you can not use projected unit credit.

Ms. Zimmerman: I have heard that generally the IRS is holding up approvals. They seem all of a sudden to be uncomfortable with the very concept of a cash balance plan. We are seeing some difficulty even getting plan provisions approved.

From the Floor: I have heard that for career average, too, they do not really want you to use projected unit credit for career average.

Ms. Zimmerman: Yes. I have seen career average plans done on unit credit as opposed to projected unit credit. I guess I have not tested the waters myself.

I know that a couple of issues have surfaced recently with cash balance plans, including a court case in which the participants successfully got the court to mandate lump sums larger than the cash balance.

From the Floor: That is a Section 417(e) problem.

Ms. Zimmerman: Right, it was a 417(e) problem. I think in general people are starting to see some issues with cash balance plans, I hope not enough to do them in, but there is generally a feeling of discomfort with the IRS, and so that may well have extended to the funding methods. I have not seen that myself. I do know that RPA 95-51 specifically excluded cash balance plans from automatic approval of projected unit credit or unit credit, and so that may be indicative of the IRS thinking. That does not always mean that they would preclude that method. Sometimes it means that they just want to see the impact before they say OK, but it may be indicative of their thinking.

From the Floor: When you were going through the formulations for frozen attained age, you said the initial unfunded liability would be based on unit credit. You actually used the projected unit credit. Was that intentional?

Mr. Jarrett: Yes, that was intentional. If it is a salary-related plan, the IRS requires you to reflect future salary increases, and, hence, you would be using the projected form of unit credit. If it is not a salary-related plan, it would just be straight unit credit.