

Dear Actuary:



My governmental pension plan's assets have really taken a hit recently. I am already using asset smoothing as part of my funding policy. What else can I do to minimize the impact of the market downturn on my contributions?
– Looking for ideas in Lakeview

Dear Looking:

Kudos on being proactive! Given the decline in the markets, now is a good time to take a look at your funding policy, your projected contributions, and some alternative options.

As I mentioned in my last column, a plan's funding policy describes how pension benefits will be financed over time. Your pension plan has promised to pay benefits to the members and the ultimate cost of the plan is the total amount of money that will be needed to provide those benefits (plus the expenses of administering the plan). A funding policy determines how that cost should be spread out, so that contributions are made to the pension trust in a rational and systematic way over the years.

The promised benefits are the plan's liability and, ideally, you have a dollar of assets for every dollar of liability. But when you have a shortfall, you need to fund it over time. The Past Service Cost, which is an important component of the Actuarially Determined Contribution, is the annual payment to fund this shortfall. You can think of the Past Service Cost as a loan payment. How that "loan" is structured is called the amortization policy.

Thus, if your plan's assets have taken a hit lately, the size of that "loan" you're paying off just got bigger, and you might need to think about how to restructure it so that you can manage the payments. In pension terms we talk about "amortizing the

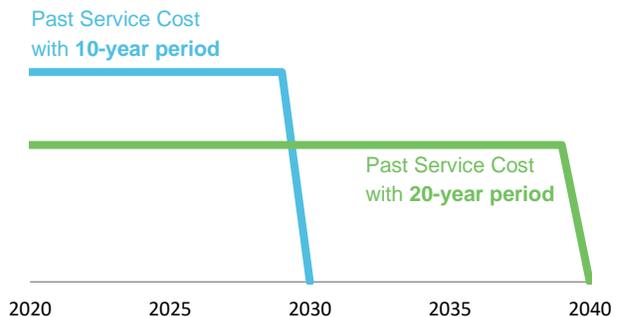
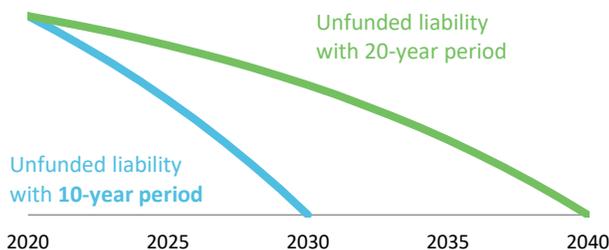
unfunded liability," but it's really just the same thing as saying "paying off the loan" or "paying off the mortgage"! Some ways to help think of your options are shown in Figure 1.

FIGURE 1: YOUR OPTIONS - PENSION SPEAK VS. MORTGAGE SPEAK

PENSION ACTUARY LANGUAGE	THE MORTGAGE EQUIVALENT
What is the amortization period?	Do you want a 15-year mortgage or a 20-year mortgage?
Is the amortization period "open," "closed," or "layered"?	Do you set the mortgage period at the beginning and pay it off steadily each year, do you refinance each year but keep using the original number of years, or do you take out new home equity loans each year as the size of the unfunded liability ebbs and flows?
What is the amortization growth rate?	Is this a traditional fixed payment mortgage versus a graduated payment mortgage, which starts out with lower payments that increase annually?

The effect of changing the amortization period is the easiest to understand, because it's just like deciding what length of mortgage to get. With a shorter period, you will pay off the unfunded liability faster but each annual payment will be bigger. The graphs in Figure 2 compare the impact of 10-year versus 20-year amortization periods on the unfunded liability and the Past Service Cost for a plan with a closed amortization period and no amortization increase rate.

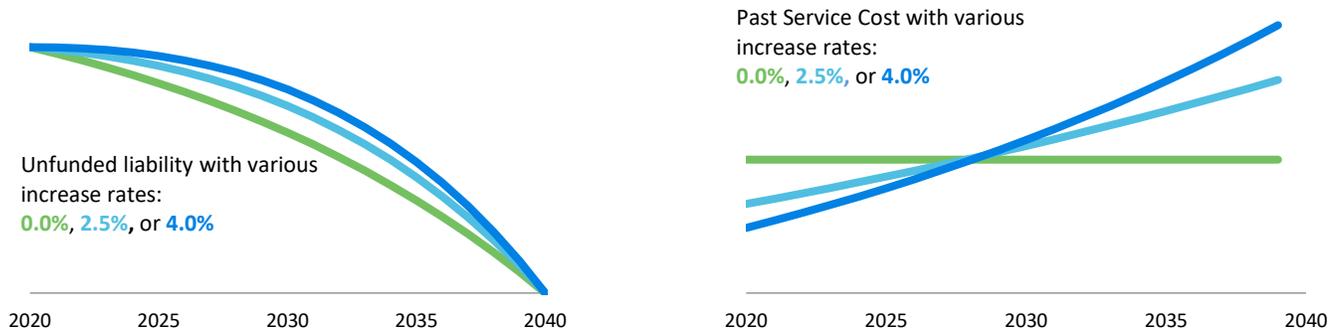
FIGURE 2: AMORTIZATION PERIODS, 10-YEAR VS. 20-YEAR



Unfunded Liability = outstanding loan amount | Past Service Cost = loan payment amount

Now let's look at what the unfunded liability and Past Service Cost patterns are when we vary the amortization growth rate. The graphs in Figure 3 compare a plan with a closed 20-year amortization and various amortization growth rates.

FIGURE 3: VARYING AMORTIZATION GROWTH RATES, 20-YEAR CLOSED



You can see how a higher amortization growth rate results in lower payments at first but higher payments later. No matter which growth rate you use, the plan will still be 100% funded at the end of the period, but your annual cost will follow different patterns to get you there. Lower contributions in the early years may sound really attractive, but you should think about whether your budget will be able to cope with those annual cost increases in the later years.

As you consider changes to your funding policy, remember that it should:

- Fully fund the cost of the plan over time
- Keep contributions relatively stable
- Fairly spread the costs over the employees' service

So there is a limit to the changes you can make and still have a prudent policy. Also, it is important to assess your funding policy as a whole and not just each aspect individually. You definitely want to examine what your pension costs and funding levels will look like over the coming decades before you make changes now. Pension funding is often a matter of "pay me now or pay me later," so any payments you put off now will just mean higher contributions in the future. You don't want to make funding policy changes that you'll come to regret down the road! You should talk things over with your actuary to make sure you fully understand what makes sense for your plan.

Your Milliman Actuary

P.S. Thanks so much to Yelena Pelletier, ASA, for providing the actuary/mortgage translations and some spiffy graphics!



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To brush up on your asset smoothing options, see prior letter [here](#).

Do you have a question about your defined benefit pension plan? Write to us at dear.actuary@milliman.com.