Dear Actuary:

My governmental pension plan's assets have really taken a hit recently. How is this market downturn going to impact my pension contributions? – Concerned in Columbia.

Dear Concerned:

The big decline in the markets is certainly not good news for your pension plan, but the impact may not be as significant, or at least not as immediate, as you might think.

First, let's discuss timing. Pension valuations are usually prepared once a year, and the asset value as of the valuation date serves as a starting point for the actuarial calculations. The asset values between valuation dates don't matter. So depending on your plan's valuation date, there may be time for the market to recover before your next valuation is prepared.

Also, the timing of when you feel the impact on your budget will depend on when you make your contributions relative to the valuation date. Due to budget timing, many municipalities use any given valuation to calculate the contribution for the fiscal year that starts one year after the valuation date.

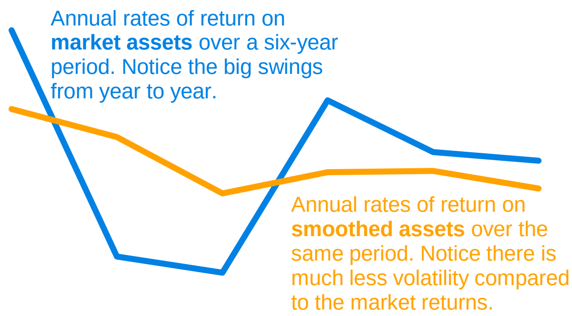
For example, using this "delayed" approach, the July 1, 2019 valuation determines the contribution for the fiscal year that starts on July 1, 2020. So, if your plan uses this approach (or adopts it going forward), the market gyrations we're experiencing now won't be reflected until the July 1, 2020 valuation is prepared. And they won't impact your contributions until the fiscal year that starts on July 1, 2021.

But, of course if the market downturn continues, it will eventually have an effect on your contribution. To understand the effect, and ways to mitigate it, let's discuss your plan's funding policy. A plan's funding policy determines how the cost of the plan is spread out over the years. One of the goals of a plan's funding policy is to keep contributions relatively stable (even if the plan's assets fluctuate significantly). Several policy components could help accomplish this goal.

The component that is most relevant in our current market climate is the asset smoothing method. Your plan's assets have a concrete market value, but for purposes of calculating the annual contribution, your actuary may use a "smoothed" asset value. This asset value only exists on paper, and we refer to it as the "actuarial value of assets." So, if your funding policy uses a smoothed asset value, your actuarially determined contribution is calculated based on that smoothed value, and not the market value as of the valuation date.

The asset smoothing method recognizes market gains and losses gradually over several years. In other words, the poor returns you are seeing this year won't hit your actuarial assets all at once. (Of course, great returns don't get recognized immediately either, but remember, the goal is stability).

A visual is best for capturing the effect of asset smoothing. This graph compares the rates of return for the market value and the actuarial value of assets for a plan that uses five-year smoothing.



You can see that the yellow smoothed returns are, well, smoother than the blue market returns. This particular plan had one year with really good market returns followed by two years of darn poor returns, followed by two years of pretty normal returns. Because this plan uses asset smoothing, the smoothed value only fell slightly in the year the market fell sharply. And even after two years in a row of poor market returns, the smoothed value didn't move down too much. And then when the market recovered in year four, the yellow line didn't jump up a lot. It held steady. Hopefully we'll see some years with great returns in this plan's near future!

Here are three ways to smooth the plan's assets. You can decide:

1. How many years the gains/losses are spread over
2. Whether there is a limit on how big the gap between market and actuarial values can get (such as 30% of the market value of assets)
3. Whether the gains/losses are calculated based on the expected market value or the expected actuarial value

For many pension plans, five-year smoothing is the sweet spot in terms of the number of years to use. With five-year smoothing, you feel one-fifth of the pain of any asset losses in any given year. Usually, five years is not too long or too short, but plans and risk tolerances vary so you should consult with your Milliman actuary.

Limiting the gap between the market value and the actuarial value may be appropriate so that your smoothed assets are not too far removed from your market assets. However, this may limit the amount of relief the smoothing provides. So again, chat with your actuary on what is "just right" for you.

If you're still confused or want to learn more, email me! Also, stay tuned for my next column. I'll share other steps to minimize the impact of the market downturn.

Your Milliman Actuary

P.S. Thanks to Yelena Pelletier, ASA for her technical assistance!

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