The Golden Rule: Assets should grow at least as fast as liabilities

By: Gordon Latter – EVP Pension Specialist
Ryan Labs Asset Management
GLatter@ryanlabs.com
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In our first article, "The Big Squeeze", we discussed how declines in interest rates have driven up the cost of funding retirement benefits. In Part Two, "The 7.5 percent solution", we discussed how using an unrealistic interest rate assumption to value liabilities can mislead plan trustees about the real cost of benefits and lead them to chase returns that, in the current environment, are a stretch. Taking a non-market-based approach to liability valuation gives you the wrong framework for decision-making.

In this article we want to discuss what we think is the right decision-making framework. We believe that the primary purpose of a pension plan funding and investment strategy should always be: to make sure assets grow at least as fast as liabilities. In this article we describe a strategy that achieves that objective.

Assets that match the liability ...

Let's start with a simple example. You sponsor a plan that owes Participant A a benefit that, in 20-years, will be worth $1,000. How much you contribute to the plan, and the money that contribution earns over the next 20-years, should add up to $1,000. There is an asset you can buy today that will be worth $1,000 20-years from now -- a $1,000 zero coupon 20-year bond. And the simplest way to make sure that your assets will match your liability in 20 years, is to buy that bond. Assuming no default, if you buy the 20-year bond, you are sure to have the $1,000 needed in 20 years, when you need to pay the benefit. That's the great thing about using a bond to finance a pension benefit -- even if interest rates change, the bond will always be worth $1,000 20 years from now.

... or, assets that don't match the liability

Now, you could, instead of buying the bond, buy equities (or some other, riskier, non-bond asset). The idea behind taking this asset-liability mismatch is that the expected outperformance of equities (and other non-bond asset classes) will over the long term exceed fixed income returns. The risk of this strategy is that you lose the direct correspondence-in-value that a bond has with your plan liabilities.

Here's an interesting way to demonstrate that. It's 1993 and you have a pension plan that has to pay a benefit that will be worth $1,000 in 2013. Let's compare two strategies: buying equities vs. buying a bond to finance that benefit. And let's compare each strategy to the value of that benefit over time.

The following chart shows the value of the benefit, the value of the stock and the value of the bond over the period 1993 to 2013.
Exhibit 1: Funding: Equities vs. Fixed Income -- S&P 500 vs. a 20-year zero coupon bond

At the end of the period (2013), under the S&P 500 strategy, you would have $1,046 (before fees); under the bond strategy you would have $1,000. Close enough. Indeed, for some periods the stock strategy outperforms the bond by a lot. But if you had had to settle this benefit in 2007 or 2008, you would not have had the money. It's a simple point: non-bond investments may (emphasis on the "may") outperform fixed income assets. But they carry a lot more risk.

In that regard, consider, for instance, the same analysis for the last 10 years, instead of the last 20. Interest rates were lower in 2003 (than in 1993), so you start with a larger amount. Here's the same chart, for that period.

Exhibit 2: Funding: Equities vs. Fixed Income -- S&P 500 vs. a 10-year zero coupon bond
Over that 10-year period, with an equity strategy, you start out great -- but in the end you lose money -- you are $141 short of your $1,000 goal when it comes time to pay the participant.

Here's the bottom line: If you compare equity and bond strategies over different periods, you find that sometimes equities outperform; sometimes they underperform. But they are always completely uncorrelated with the value of the liability you are funding. On the other hand, a (custom-tailored) bond portfolio tracks the value of the liability.

**Increasing the likelihood that assets grow at least as fast as liabilities**

Remember: in a pension plan, the risk free asset is not cash. As we showed in our examples, it's a portfolio of fixed-income securities that match the profile of your liability. If you understand the relationship between your asset portfolio and your liability portfolio, then you understand the risks in your funding and investment strategy and most importantly, the solvency of your plan.

So, should you sell all your stock and buy duration-matched bonds? Not necessarily. But remember the golden rule: you want assets to grow at least as fast as liabilities. Lengthening the duration of your portfolio can help you do that. You may not even have to change your equity-fixed income split. If you have the typical short duration bond portfolio, lengthening the duration of that portfolio -- buying longer-term bonds rather than shorter-term bonds -- will increase the correlation between the performance of your assets and your liabilities.