

Spotlight

July 2005

Asset/Liability Matching: The Renewed Imperative in Pension Plan Management

By Chris P. Dialynas and Brent R. Harris, CFA

“Those who are required to select a performance bogey for their [bond] fund have a difficult choice. The bogey performs the role of directing the risk of the assets. The choice involves a tradeoff between a bogey that: 1) replicates the proportional distribution of bonds in the market, 2) has risk characteristics complimentary to the liability structure of the assets plan, and 3) has a relatively neutral market bias associated with it. Unfortunately, no bogey satisfies all of these requirements, and the tradeoffs can be costly.”

—Chris P. Dialynas

“The Active Decisions in the Selection of Passive Management and Performance Bogeys”, 1986

The decisions that pension plan sponsors make in choosing a performance benchmark—or “bogey”—for their plan assets can have a significant impact on the bond market, which is why PIMCO has spent more than 20 years attempting to understand that decision-making process.

Over time, plan sponsors’ migration from the relatively long duration Salomon Brothers Long Corporate index in the early 1980s to the intermediate duration Shearson Lehman Government/Corporate index and then, in the early 1990’s, to the Lehman Brothers Aggregate index (LBAG) has made little sense from the fiduciary necessity to manage toward their plan’s long-maturity (or duration) liabilities. It has always seemed instead that the duration of the plan liability should be the principal driver of the decision, yet most plan sponsors’ migration to an intermediate bond index has resulted in much lower bond portfolio duration.

As this bond portfolio duration reduction progressed, plan sponsors presumably relied more heavily on their equity portfolios for duration exposure. However, assets don’t change their stripes simply because you need them to. In fact, empirical equity duration has been low on average and highly unstable. As a consequence, the whole pension industry now understandably and starkly faces a shortfall in duration relative to their average long liabilities, raising the potential for another migration back to long duration bogeys.

Assessing the Impact of a Migration Back to Long Duration Bogeys

With corporate defined-benefit pension plan assets now exceeding \$1.8 trillion¹, the market implications of a migration back to long duration bogeys are greater today than

¹ Source: *Pensions and Investments Magazine*, based on Federal Reserve data showing \$1.81 trillion in assets for corporate defined-benefit plans, \$2.52 trillion for corporate defined-contribution plans, and \$2.08 trillion in public plans, most of which are defined benefit.

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they were 20 years ago. Such a migration could meaningfully impact 1) overall interest rates; 2) yield curve shape; 3) implied volatility of rates; and 4) bond sector spreads and other asset prices.

When assessing the market implications of a new shift in allocation to long duration, we must hold supply assumptions constant. We must also consider the potential for regulatory change and the probability of such a change. It is also important to understand corporate managers' asset-liability management incentives and the game theory dynamics of the system.

Take a government's pension guarantee as an example of the extreme of "regulatory change" in asset/liability management. Plans a government "inherits" are most likely heavily allocated to the equity markets since rational "almost bankrupt" companies may be incited to increase the risk in their investment portfolios. If the public guarantor operates more like an insurance company as a matter of policy, it will thus attempt to restructure the portfolio to better match the asset portfolio to the long liability. Normally, this requires selling stocks and the addition and extension of the interest rate duration.

The real dynamic is actually a bit more complex and interesting because a government has extensive disclosure requirements. Anticipating a drop in long rates, other funds considering extending duration may act early. We can extend this thought process to the entire defined benefit pension area as the asset-liability regulatory regime tightens, and if actuarial smoothing is ultimately repealed, or significantly modified toward mark-to-market accounting.

With the entire pension industry facing a duration shortfall, the dynamics of a shift by some early leaders in the sponsor community to a long-duration bogey approach could be very strong. One participant's decision to extend duration can further change the condition of all others, as declining interest rates create even larger liabilities. If plans then become more debilitated in an asset/liability match sense, the probability of plan assets being "put" to a government guarantor increases, which then again increases the probability of greater long duration bond demand.

In addition, the steady transformation from a defined benefit world to a defined contribution regime usually requires the purchase of annuities as an intermediate stop—adding another further reinforcing long duration demand. Again, early movers may be well advantaged...

And what about the impact on the yield curve and other sectors of the bond market? In a migration back to long-duration bogeys, we would expect spread products (corporate and mortgage bonds) to underperform. Spreads on mortgage-backed securities should widen because their durations are too short. Corporate bond spreads should also widen because corporate bonds often exhibit negative duration in a long-duration-friendly interest rate market.

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Yield curve forecasts are more complicated. Because of globalization, we would normally expect higher interest rates and a steeper curve in the country running trade and budget deficits. However, the global tightening of the pension regulatory regime is an effort to reduce a government's contingent liability, and because of the size of the assets involved, the duration extension required to achieve the asset liability objective could lower interest rates in the U.S. and flatten the yield curve—all else equal! But all else is not equal. Expect the Treasury to issue 30-year bonds to suppress the demand dynamics, but this will only be the beginning of the next chapter.

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In an environment where interest rates may trend upward, rising rates will negatively impact fixed income securities. Bonds with a longer duration (a measure of the expected life of a security) tend to be more sensitive to changes in interest rates, usually making them more volatile than securities with shorter durations. Salomon Brothers Long-Term High-Grade Corporate Bond Index includes nearly all Aaa- and Aa-rated bonds with at least 10 years to maturity. The Shearson Lehman Government/Corporate Index is an index composed of approximately 5,000 publicly issued corporate and U.S. government debts rated Baa or better, with at least one year to maturity and at least \$1 million par outstanding. It is weighted by the market value of the issues included in the index. Its rates of return reflect total return with interest reinvested. The Lehman Brothers Aggregate Bond Index is an unmanaged market index representative of the U.S. taxable fixed income universe.

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