Managing Volatility in a Mark-to-Market World: The Stochastic Funding Method

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Abstract

Measuring assets and liabilities at market will increase the volatility of pension contributions. In this paper we analyze the likely increase in volatility for a representative plan and then consider the implications of adopting a hedged portfolio as a means of reducing the increased volatility. The hedged portfolio approach, while effective, has another undesirable attribute: namely, substantially higher pension costs over time. We then analyze the effect of adopting a stochastic funding method, which represents a simple extension of traditional expected value funding methods. This method allows the use of market assets and liabilities without increasing contribution volatility. Additionally, the stochastic funding method brings into the funding equation yet another interesting component that is absent in traditional funding methods: an investment risk premium whereby contributions are increased—at least initially—for the increased risk associated with higher equity allocations.