# Actuarial Methods and Public Pension Funding Objectives: An Empirical Examination

Norman L. Jones, FSA, MAAA, EA, FCA, MA
Brian B. Murphy, FSA, MAAA, EA, FCA, Ph.D.
Paul Zorn, MAPPS

**Reply to Ryan Lab Asset Management's Comments on our Paper**

We are pleased that Ryan Lab Asset Management's comments confirm the descriptive nature of our analysis and the volatility resulting from the application of the MVL approach to public pension plans. One goal of our research was to develop empirical data about the impact of the MVL that could be agreed upon by all observers.

We disagree that the results of our analysis make a "clear case that the market values should be used so that the underlying volatility of both assets and liabilities is clearly communicated to all interested parties." Rather we believe that the MVL measure itself, through its use of the "risk-free" discount rate, introduces unnecessary volatility that distorts the measures of public pension plan liabilities and contributions. For example, Chart 3 of our paper shows that the decrease in the MVL discount rate in 2003 would have increased the public pension plan's liabilities under the MVL approach by $1.6 billion (approximately 20% of accrued liabilities), even in the absence of benefit changes. This, in turn, would have increased plan contributions from 30% of payroll to 40%. Then, in 2004, the increase in the MVL discount rate would have caused plan liabilities and contribution rates to fall, again in the absence of benefit changes. In our opinion, the MVL approach does not reflect the underlying dynamics of the plan but rather the volatile nature of the MVL discount rate.

In addition, while we agree that investment returns rarely come without risk; we also note that smoothing does not prevent gains and losses from ultimately being included in plan costs. Smoothing allows offsetting gains and losses to cancel each other out over the smoothing period; however, if the gains and losses do not cancel out, they are ultimately included in plan costs. Moreover, we believe actuarial valuations that seek to determine plan contributions as a level percentage of payroll are more likely than the MVL approach to achieve interperiod equity among taxpayers. Under the MVL approach, the investment losses resulting from the 2008 financial downturn would have been immediately passed on to taxpayers. Had this been done, we believe history would ultimately judge it as an unwise overcorrection that helped to further destabilize the economy. Indeed, at the time of this writing (November 2009), the capital markets appear to have begun a substantial recovery.