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Commentary

BUFFIN PARTNERS INC. ECONOMIC INVESTMENT AND ACTUARIAL RESEARCH

A Critical Review of the Actuarial Profession

In its January 26, 2006 edition, *The Economist* published an article on the topic of *Actuaries and the Pensions Crunch.* The article, based mainly on the experience of United Kingdom pension funds, explores the task of forecasting pension funds' future liabilities and assessing the corresponding accumulation of assets to meet the future liabilities. The following selective quotes from the article serve to characterize the main points of the review by *The Economist:*

"Since the mid-1990s, the profession has completely recast its ideas and practices, such that Britain is arguably now the world's most sophisticated forum on how to price long-term financial promises and guarantees. Many of these ideas came from academic work in America, where the application of modern finance theory to companies and their balance sheets flourished from around 1970. In essence, actuaries make forecasts across the many variables that affect pension funds, such as inflation, interest rates, and rates of return on assets and how long people will live. Such multivariate forecasting is notoriously difficult, far more so than forecasting the future growth of an economy's gross domestic product. In actuarial exercises, the right question to ask is not whether the overall forecast will be wrong, but by how much it will be wrong. Most pension schemes held 80% or 90% of their assets in equities, which rose strongly in an inflationary era. Accounting conventions allowed companies to post profits derived from the future expected returns on these equities. Before the arrival of a robust mark-to-market culture during the 1990s, actuaries would smooth equity values by not writing them down during tough markets and understating them during bull markets. They also endorsed the practice of assuming that holding equities reduced a fund's net liabilities which meant that the sponsoring company could justify lower contributions. First, pension funds held assets that, despite outperformance during a period of robust inflation, proved a poor and risky long-term match for liabilities that are bond-like in that they span many years and require reasonably predictable cashflows. Second, by embracing the idea that high returns from equities would lead to lower net liabilities, actuaries set the scene for an overall level of funding that left many schemes vulnerable when equity markets crashed, as they did in 2000-03. A defining moment was the presentation to Britain's Institute of Actuaries in 1997 of a paper *The Financial Theory of Defined Benefit Schemes* that systematically analyzed pension funds as part of overall corporate finance theory. This paper laid the foundations for a completely new actuarial school of thought. According to the new thinking: a pension fund should be seen as part of the sponsoring company's balance sheet and risk profile; when a company has a pension scheme and accrues pension liabilities, it is in effect issuing long-dated bonds; the natural assets for a pension scheme are deferred annuities. Supposedly healthy pension schemes suddenly had huge deficits, not just as a result of lower share prices, but also because falling real interest rates pushed up the present value of their liabilities. Actuaries have also been surprised by an unprecedented increase in the longevity of pension schemes' members, particularly a cohort that is now in its 60s and 70s. That is one of several trends embraced by actuaries that have gradually encouraged pension schemes to become more conservative in the assumptions they make and the assets they hold. Many schemes have been lowering their exposure to equities, investing more in property, private equity, hedge funds and commodities, as well as buying more bonds. The solution is to look more closely at the risks embedded in pension liabilities and then to reduce the funds' riskiness with *Liability Driven Investing* (LDI). LDI springs from the new actuarial thinking in that it puts the risks in a pension scheme in the context of the sponsoring company's overall risk profile."

The Economist article is critical of traditional actuarial methodology and is supportive of new methodology based on the principles of financial economics. This reasoning leads to the pricing of liability-outgo and asset-income cash flow streams on a true risk-free economic basis and to the implementation of investment strategies with a primary focus on LDI. The actuarial profession, like Shakespeare's Hamlet, has experienced the slings and arrows of outrageous fortune. But it is now embracing the discipline of financial economics in the sincere hope that the remaining defined benefit arrangements will survive and regain the confidence of sponsors, participants and public policy officials. The profession believes that defined benefit pensions represent a viable medium for the provision of old-age economic security. If managed prudently, employer-sponsored defined benefit pension arrangements will continue to play a significant role, together with state-run Social Security systems, and personal savings and investments, in the provision of retirement income for future generations.

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