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THE EQUITY PREMIUM AND RISK

A pension fund's return on investment can soar with proper diversification.

HISTORICAL DATA ON NON-TRADITIONAL ASSETS, SUCH AS PRIVATE EQUITY, SHOW A RISK-RETURN RATIO THAT IS MUCH BETTER THAN THAT OF TRADITIONAL ASSETS.

Over the past century, the real return on bonds has been 1.8% in Canada. For equities, the real return was 6.4%, for an excess return over bonds of 4.6% with an annual volatility of 18%. However, equities are expected to return less in the next decade.

According to the simple but popular "breakdown of return" model, the expected long-term real return on equities will be 4.5%. This return is the sum of the current dividend yield of 1.9% on the TSX, and projected real earnings growth of 2.6%. Hence, the real return on bonds currently being 3%, the projected return on equities is only 1.5%. This model suggests that the equity premium went from 8% at the end of the 1970s to about 0% at the end of the 1990s and stands at 1.5% today.

A second projection relies on the Edwards, Bell, Ohlson (EBO) model, which calculates the implicit discount rate on equities, which is also the expected return. This return is consistent with both the current price of the stock market and projected earnings.The projected equity premiums of 3.8% in Canada and 4% in the U.S. are double what is projected by the "breakdown of return" approach.

Historical data on non-traditional assets, such as private equity, show a risk-return ratio that is much better than that of traditional assets. The results underestimate the risk, however. If one adjusts to offset the price-smoothing effect that is apparent in those markets, the measure of risk doubles. Also, these assets introduce the important element of manager risk. For example, for a 10-year span, a first-quartile private equity manager would typically generate a return 50% higher than that of a fourth-quartile manager. That is about 10 times what one could expect in the traditional asset management industry for Canadian or U.S. equities. Thus, price smoothing, manager risk selection, low liquidity, leverage and complexity of operations contribute to the risk presented by non-traditional asset classes such as private equity, real estate and hedge funds. Looking forward, one can see that each of these three asset classes represents risk that is at least twice what was observed in the past.

A diversified portfolio with 50% invested in real estate and equities shows a risk of 8% and an expected return of 6.6%. Thus it would be optimistic to project a return above 7% for a diversified global portfolio. For a five-year horizon, the probability of the portfolio's returning less than 4% is 24%. Furthermore, the risk of the surplus is 10%. Thus, for a fully-funded plan, the probability that the funding ratio will decrease from 1 to 0.9 in the next five years is 25%, which represents a great deal of risk for the plan sponsor.

How can one achieve a return above 10% for the next five years? First, one could hold a diversified portfolio and be lucky. The stock market might surprise investors. However, the probability of such a scenario is less than 20%. Second, one could reduce diversification and increase risk. Increasing the weight of private equity (venture capital) and investing in riskier hedge funds will increase the chances of a portfolio return above 10% but the lack of diversification will also increase the probability of a negative return. A pension investment board must be comfortable with these risks.

It is crucial in the optimization process to consider liability, not just assets. For most plans, liability behaves like a combination of long-term bonds and real return bonds adjusted for duration. Modelling your plan and optimizing the surplus is a process that will help ensure the asset mix best meets the plan objectives. ▮