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Spelling out strategies

By Michel Jalbert

Pension fund managers are in the midst of an industry-wide introspection regarding the investment and risk management of their plans. And they should be. If the stock market fails to perform or pension fund liabilities increase, alpha, beta and delta strategies could help funds stay afloat.

The steep drop in stock markets from 2000 through 2002 wreaked financial havoc on pension funds worldwide. A recent study of Canadian public and private pension funds, completed jointly by three major consulting firms—Mercer Investment Consulting, Towers Perrin and Watson Wyatt Worldwide—estimated their total shortfall at about $225 billion. And according to the Régie des Rentes du Québec—the Quebec Pension Board—in its *Assessment of the Financial Situation of Defined Benefit Plans,* close to 70% of Quebec pension plans were showing deficits on a solvency basis.

IS THE STORM OVER?

Some believe that the recent downward market trend was but a cyclical phenomenon. However, certain clues may lead us to believe that more turmoil could be expected. To begin with, we have barely turned the page on the greatest speculative bubble in modern history, making it difficult to gauge all of its after-effects—such as the creation of excess capacity in the economic system—as of yet. Another clue that something may be amiss is the fact interest rates have reached lows not seen for more than 45 years.

This has reduced the ability of central banks to stimulate

a wavering economy and correspondingly limited the return potential of fixed-income instruments. And debt levels are at all-time highs. U.S. consumers, businesses and governments are in poor financial health, and currently carry high debt levels relative to historical norms. With so much debt, any increase in interest rates could have dire consequences. This outlook is supported by a survey by Aon Consulting in January 2003 of approximately thirty Canadian pension fund managers who were expecting, for a balanced portfolio, returns of about 6.5% for the next 10 years.

The current state of affairs has triggered an industry-wide examination of the design, financing, investments and risk management of pension funds. More specifically, pension fund managers have become preoccupied with how several investment policies specify a significant equity component, thus aggravating the asset-liability mismatch risk faced by plan sponsors. Consequently, another stock market debacle would have very adverse effects on the financial situation of pension funds. Plan sponsors are also weighing how a decrease in interest rates in the long-term part of the yield curve would mean a substantial increase in pension fund liabilities from a solvency perspective. This would trigger a substantial increase in required contributions.

Table 1

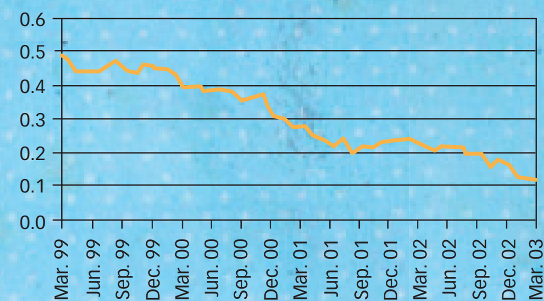
RETURN/RISK PROFILE OF A BALANCED PORTFOLIO

Hedge fund allocation	0%	10%	20%
Return (CAN$)	6.4%	6.9%	7.4%
Risk	8.0%	7.2%	6.5%

Time period: Jan. 1996-Apr. 2003
Source of hedge fund returns: EACM 100
Source: TAL Global Asset Management.

Graph 1

CANADA VS. U.S.



Correlation of the relative return of fixed-income securities vs. rate of change in underlying currencies
Source: TAL Global Asset Management, June 2003.

INVESTMENT STRATEGIES

Given these conditions, there are three categories of approaches worthy of pension fund managers' attention.

1. Alpha Strategies

These strategies can help improve the return/risk profile of a portfolio by implementing value-added strategies with low correlation to market movements and by benefiting from a managers' ability to exploit market inefficiencies.

Hedge Funds – Adding a hedge fund to a portfolio increases its level of diversification and decreases the volatility of its returns. Generally speaking, hedge funds aim to generate absolute returns by removing the markets' systematic risk and by actively exercising security selection strategies. In fact, hedge funds use several strategies designed to stabilize returns.

As an example, Table 1 shows that adding a hedge fund to a traditional portfolio improves its return/risk ratio.

Asset Mix Overlay – An overlay strategy aims to change a portfolio's exposure to certain asset classes, countries or currencies, without changing the actual underlying asset allocation. In fact, such a strategy, based on market inefficiencies, is more efficient when applied to a broader universe of opportunities. According to Richard Grinold's *The Fundamental Law of Active Management*, value-added is a function of the two following factors: the manager's ability to make predictions and the breadth in the number of investment decisions. It is therefore possible to access an additional source of return that is weakly correlated with traditional markets.

Currency Management Overlay – The analysis of currencies relative to traditional asset classes shows their low correlation levels with underlying capital markets. As an example, Graph 1 illustrates the moving six-year correlation between the relative return of Canadian and U.S. bonds and corresponding exchange rate movements. Of note is the fact that this correlation has diminished considerably, thus confirming that it is possible to decrease total portfolio risk by actively managing currencies.

2. Beta Strategies

In this case, risk management will focus on absolute portfolio returns or the impact on the overall financial situation of the pension fund, while taking into account the pension fund's liabilities. The result will lead to strategies that tend to alter the pension fund's exposure to various markets.

Immunization – An immunization strategy provides effective protection against interest-rate fluctuations, as asset management then takes into account the very nature of the fund's liabilities and respective values change at the same time.

Although such an approach may have seemed more appropriate when interest rate levels were markedly higher, it may still prove worthwhile, particularly for the sponsors of pension plans that cannot absorb any substantial additional losses. There are many commonly used immuniza-

tion styles, such as cash-flow matching, portfolio-duration matching according to the fund's liabilities (based on Macaulay duration: the weighted-average term to maturity of the cash flows from a bond), or horizon matching, which is in fact a combination of cash-flow matching in the early years of the mandate and subsequent duration matching. However, a new approach proves to be cost-effective and provides added value to the investor. This approach is the asset/liability ratio approach.

Asset/Liability Ratio (ALR) – According to this method, a fictitious portfolio is created according to the matching of cash flows. Thus, a perfectly matched benchmark portfolio will correspond to an ALR of 1.0, as defined by the following formula:

$$\text{ALR} = \frac{\text{Present value of assets}}{\text{Present value of liabilities}}$$

Through active sector selection (e.g., provincial and corporate securities) and duration management, and by anticipating possible changes in the shape of the yield curve, the manager will strive to raise the ALR above the 1.0 equilibrium value and thus create additional value for the investor.

Capital Protection – It is possible to add comprehensive or partial capital protection strategies to traditional portfolio management, by creating market-linked notes using either a combination of strip or principal-only bonds as well as call or put options.

Therefore, it is possible to implement a capital protection structure that nevertheless allows partial participation in upward market moves for one or more asset classes. With the existence of derivative products, the manager can also overlay a number of strategies to protect against market drops or adverse interest rate movements.

Although these capital protection strategies may seem attractive at first glance, it is important to understand that the level of protection, the level of market participation and the implementation costs vary considerably, according to market conditions. Moreover, the assets allocated to such strategies could be frozen for a predetermined period of time.

3. Delta Strategies

These are innovative investment strategies designed to address specific pension fund needs.

Protection against Inflation – As the liabilities of many pension funds are impacted, directly or indirectly, by the increase in inflation, institutional investors have shown a growing interest in real return bonds. In addition, some asset managers offer more sophisticated products that invest in real return bonds from multiple issuers, as well as futures contracts that replicate the returns of commodity indices.

Overall, plan sponsors should focus on two key points in managing their plan. First of all, it is important to accurately define the risk parameters acceptable to the pension fund manager. This is due to the fact that each pension fund has its specific needs, therefore requiring a tailor-made investment approach. And, given current business practices and the legislative environment, distinguishing oneself with innovative approaches is not always a simple matter. Therefore, pension fund sponsors and committee members need to justify their decisions.

As the famous British economist, Lord Keynes, said: "Financial markets can remain irrational longer than you can remain solvent." Thus, it is never too late to act. **BC**

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