STEP 2

GLOBALIZATION FOR THE Duration

BY MAUREEN STAPLETON AND MARLENE K. PUFFER

Implementing a global fixed income strategy is easy to talk about, but tougher to do.

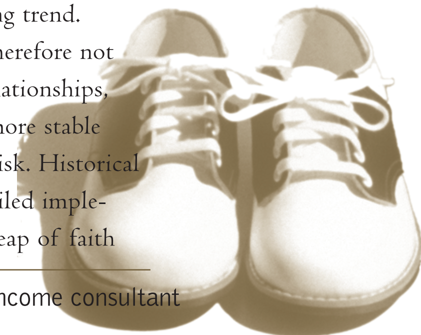
Last year's elimination of the foreign property limit gave Canadian plan sponsors the chance to implement the alpha-enhancing fixed income strategies pioneered by their counterparts in the U.S. and Europe. Expanding the fixed income opportunity set was seen as the obvious way for plan sponsors to reap the benefits of new legislation and harvest low-hanging fruit. However, there has been little guidance available on the practicalities of such an approach. During the year since the 30% limit was abolished, the shift to global diversification has been occurring at a glacial pace, partly due to the appreciation of the Canadian dollar and the strong performance of the bond market, which has undoubtedly curbed investors' appetite. At the same time, fiduciaries have had to undertake time-consuming evaluations before globalizing their fixed income portfolios.

Theory and Practice

The theory of global fixed income investing is relatively simple, and the same logic has been well accepted in the equity markets. Investors who diversify globally can expect to be rewarded by superior long-term results. The higher incremental yields available in some markets, when combined with the diversification and risk reduction benefits of a broader opportunity set, lead to an improved information ratio.

However, implementation is far more complex. Ideally it requires a detailed analysis of the risk and return expectations of various global diversification strategies within the context of overall liability funding and other plan risks. Unfortunately, data limitations make this analysis particularly difficult in fixed income. Many global fixed income asset classes have a short history. For example, the benchmark JP Morgan Emerging Markets Bond Index Global (EMBI Global) began in 1994, and high-yield benchmarks such as the Merrill Lynch US High Yield Index did not exist until the mid-1980s. These sectors exhibit low but variable correlations with other fixed income asset classes. With such a short history, it is impossible to discern long-term diversification benefits and risks or devise an optimal strategy with any precision.

Table 1 shows that foreign bond markets are more volatile than Canadian bonds, but low correlations make foreign markets a good diversifying asset class to reduce overall portfolio risk and/or enhance returns for a given risk profile. However, correlation data and optimization are notoriously sensitive to the time period used. Interest rates have been on a downward slide for the past two decades, and credit spreads have been on a general narrowing trend. Analysis based on recent periods may therefore not provide a reliable indicator of future relationships, particularly in a new regime of lower, more stable inflation coupled with potential event risk. Historical data can offer general insights, but detailed implementation decisions require a prudent leap of faith



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based on a combination of theory, historical evidence interpreted with a grain of salt, and expectations.

There is an alternative argument for including global fixed income based on the track record of active managers who use foreign and other specialty markets to add value relative to domestic U.S. and European bond indexes. Top-quartile global bond managers using a "core-plus" style have added more than 100 basis points with index-relative tracking errors that are comparable to plain vanilla, domestic active managers. Many managers who are expanding into new strategies point to this evidence, but few have a track record of measurement against Canadian benchmarks to support them.

It is difficult for plan sponsors to reach a comfort level with theoretical and intuitive reasoning and indirect evidence to support going global in fixed income. Educating boards is a significant hurdle but it is a critical step because inaction leaves money on the table.

There is a caveat to bear in mind. Global diversification can improve the long-term risk profile, but it may also increase the year-to-year variability of investment returns. Higher short-term volatility can have serious financial implications for defined benefit (DB) pension plans because deficits must be funded. Sponsors need confidence in the risk management processes of their managers to help alleviate this problem.

Correlations of Broad Canadian vs. Global Asset Classes — TABLE 1

	Standard Deviation	Correlations: Canadian Equity	Foreign Equity	Canadian Fixed Income	Foreign Fixed Income
Canadian Equity	14.96%				
Foreign Equity	12.60%	67%			
Canadian Fixed Income	5.01%	26%	3%		
Foreign Fixed Income	7.85%	-26%	6%	12%	
Cash	0.61%	10%	1%	42%	-2%

Canadian Equity	S&P/TSX Composite Total Return Index
Non-Canadian Equity	MSCI x Canada Total Return Index
Canadian Bonds	Scotia Capital Overall Universe Total Return Index
Foreign Bonds	CGBI WGBI World x Canada All Maturities Total Return Index
Cash	JP Morgan Canada Cash 3M Total Return Index

Source: State Street Global Markets. Monthly data from January 1992 to June 2006.

Alpha or Beta?

Canadian pension management has a home currency bias because pensions are paid in Canadian dollars. The implication is that most sponsors will retain a domestic benchmark for the majority of their fixed income assets. A key question is whether global fixed income should be used to gain beta exposure to foreign markets, or strictly as a way of adding alpha to domestic fixed income assets.

As illustrated in Chart 1, a core Canadian portfolio that uses global bonds or specialty sectors on a currency hedged basis to outperform a domestic benchmark is adding alpha. Alternative alpha strategies include investing in global macro or fixed income arbitrage hedge funds, or other fixed income strategies, combined with a total return swap into Canadian bonds via alpha transport. Hedge funds are pure alpha plays in theory, but individual managers' risk profiles must be carefully monitored for beta components that have high correlation with standard asset classes and changes in interest rates. Global bond and specialty mandates that are managed against a foreign benchmark are beta plays versus domestic liabilities.

The answer to the alpha or beta debate may be driven more by practical considerations than by theoretical arguments. Smaller pension plans may lack the scale required to make dynamic asset allocation decisions and to implement strategies that include multiple specialty managers. An attractive alternative may entail using a single manager to tactically invest in global markets to add value relative to a Canadian benchmark. Or, plans that are already comfortable with hedge funds in other asset classes may consider a global macro or fixed income arbitrage fund, while maintaining a domestic bias in cash fixed income assets.

Alpha transport strategies can be prohibitively expensive for plan sponsors to implement, particularly in specialty sectors, and the complexity of the necessary total return swaps can be intimidating. Broad implementation of these alpha transport strategies will require a competitive, liquid market in Canadian bond index total return swaps. The development of the S&P/TSX

Canadian Bond Index and its support from multiple dealers is facilitating this process.

Some large global managers are now approaching the Canadian marketplace with a package that combines global bonds with total return swaps to provide alpha relative to a Canadian bond index. The questions are whether the net result leaves enough consistent alpha to merit the potential added risk and complexity, and whether managers could add even more value managing global bonds on a relative value basis versus the domestic liabilities directly.

A Range of Possibilities

The easiest first step toward globalizing the fixed income portfolio is to address the lack of diversification in the Canadian bond market. Chart 2 shows that nearly half of our domestic corporate sector is comprised of banks and a few other financial issuers. Several investment-grade industry sectors—notably health care, information technology, materials and consumer staples—are absent or poorly represented.

Diversification can be increased immediately by expanding the range of permitted investments to include a rapidly growing category of bonds called Maples. These are Canadian dollar denominated bonds issued in Canada by foreign borrowers, including corporations and quasi-governments that have made up over 30% of corporate issuance in Canada so far this year, but remain concentrated in financials. Most are large entities with strong investment-grade credit ratings, offered at spreads greater than those available on comparably rated Canadian issuers.

To capitalize on Maples, plan sponsors have to sanction investment in the debt of non-Canadian, non-government issuers and reverse their ban on holding private bonds, which comprise the bulk of Maple issuance. Some consider these Maple issues to be domestic content because they are denominated in Canadian dollars and trade in the Canadian market. However, this misses an important point: the issuer is a foreign entity. Should there be any credit problem, the relevant jurisdiction is located outside Canada. Moreover, future supply is not assured because foreign borrowers will issue Canadian dollar bonds in our domestic market only as long as funding conditions (credit and swap spreads) are favourable.

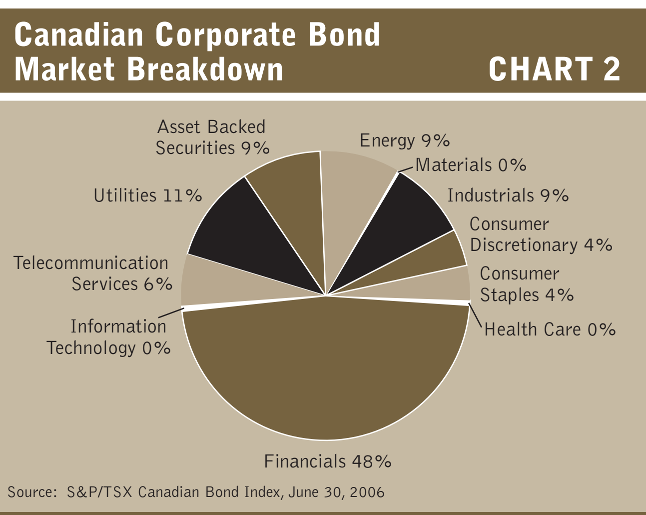
Alternatives to Maples include corporate credits denominated in U.S. dollars and other currencies. Investments can include bonds or credit default swaps (CDS), with or without currency hedging to offset foreign exchange exposure. Skillful managers can capitalize on profitable arbitrage opportunities, trading between CDS and underlying bonds in one or several markets. Global markets also provide access to a broader range of risk exposures through structured products, asset-backed securities (ABS), collateralized debt obligations (CDOs) and mortgage-backed securities (MBS).

Globalization also addresses the chronic shortage of high-yield bonds in Canada. Plan sponsors' investment in high-yield bonds has been limited by the impossibility of achieving prudent diversification in a Canadian high-yield portfolio. However, high yield does not currently offer much yield enhancement because spreads have compressed.

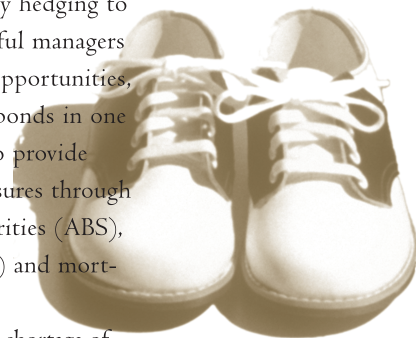
Global Bond Strategies – Alpha or Beta — CHART 1

Alpha	Beta
Core plus vs. domestic benchmark	Global bond manager vs. global benchmark (currency can be a big source value and volatility) Foreign core plus vs. foreign benchmark
Alpha transport of global or specialty managers vs. domestic benchmark or liabilities	Specialty managers vs. specialty benchmark e.g. high yield, emerging markets. Can use these asset classes for alpha transport, but can be expensive.
Hedge funds–pure alpha in theory, but often some beta in practice.	

Canadian Corporate Bond Market Breakdown — CHART 2



Source: S&P/TSX Canadian Bond Index, June 30, 2006



Currency exposure is not inherently beneficial to portfolio performance.

Despite the convergence of global yields that occurred in recent years, emerging markets still offer a yield pickup, combined with returns that are still weakly correlated with those of our domestic markets, along with generally improving credit fundamentals.

Aside from credit-related strategies, many bond managers have excellent track records with a focus on relative value in G10 government bond strategies, which are often executed through derivatives such as swaps and futures. Investors express views on relative interest rate movements across markets, both in terms of direction and relative curve shape changes. These are straightforward to implement in liquid markets and do not entail significant credit exposure. These tactics put the duration and curve eggs in more than one basket.

The benefits of globalizing the real return portfolio are driven more by supply constraints than potential return enhancement. Inflation-linked bonds are a popular asset class for DB pension funds whose liabilities are closely linked to inflation. They now comprise 4% of plans reported by PIAC. For Canadian pension funds, a shortage of available Canadian real return bonds makes it difficult to maintain portfolio weightings when assets are growing. Quarterly new issuance of Government of Canada inflation-linked bonds has averaged approximately $400 million, all with long maturities. Issuance by other entities, including the provinces, has been small and irregular. As of December, 2005, the Barclays Global Inflation Linked Bond Index included $30.3 billion in Canadian real return bonds or only 3.7% of the global market. Going global alleviates this supply shortage because real return bonds are a significant asset class in most major markets. Furthermore, global real return bonds cover a broader range of terms to maturity, thus providing Canadian pension funds with access to an inflation-linked yield curve.

The high correlation of global inflation, at least in Organization for Economic Co-operation and Development (OECD) countries over a long horizon, provides justification for offsetting Canadian inflation exposure in global markets, particularly in the U.S. market. However, investors who purchase foreign real return bonds, even on a currency-hedged basis, are exposed to the risk of changes in the level of nominal bond yields in that market and to short-term inflation differentials. Some of that risk can be avoided by using inflation derivative strategies, including purchasing inflation-linked swaps, which allow investors to pay a fixed rate and receive inflation. Alternatively, Canadian investors may purchase traded securities, which return the global inflation rate, as determined by the global inflation index.

Barclays Global Inflation-linked Bond Index Characteristics — **TABLE 2**

31 Dec. 2005	Market Cap $ bn	Weight % of overall	No. of Issues	Average Real Yield	Average Life	Average Mod Duration
U.S.	352.78	43.02	17	2.04	9.61	8.26
U.K.	197.06	24.03	9	1.15	16.36	11.91
France	121.48	14.81	9	1.25	10.39	9.20
Italy	59.61	7.27	4	1.42	9.09	7.93
Sweden	30.87	3.76	6	1.59	12.11	10.24
Canada	30.33	3.70	4	1.46	23.00	16.43
Japan	21.13	2.58	6	0.71	9.31	8.98
Australia	6.81	0.83	3	2.20	10.47	8.50
Global IL Govt Index	**820.25**	**100.00**	**58**	**1.54**	**11.14**	**9.65**

Source: Barclays Capital "Global Inflation Linked Products: A User's Guide" January 2006

Top global managers have added more than 100 basis points with index-relative tracking errors comparable to plain vanilla, domestic active managers.

Currency Exposure

Currency exposure is not necessarily beneficial to portfolio performance. Most evidence suggests that currency returns have a low correlation with asset class returns and that mean reversion models have little value in predicting currencies.[1] Currency exposure has no long-term expected return, but some active currency managers do have consistent track records. This implies that policy decisions on currency should ideally be made at the overall portfolio level in the context risk budgeting and tolerance for short-term volatility versus liabilities. However, practical data and analytical considerations often make currency management by asset class more feasible.

Commonly, the currency exposure of a foreign bond is offset by rolling short-dated forward contracts. But this can be cumbersome unless it is part of an overlay strategy. Combining foreign bonds with a currency swap is a simple way to fully eliminate currency exposure, leaving only foreign credit exposure and counterparty risks associated with the swap. Managers can easily evaluate the relative merit of swapped foreign bonds versus the domestic alternatives on a fully hedged basis.

A word of warning on currency risk. Beware of unintended currency exposure. Some active global bond managers have a policy of nearly perfectly hedging currency risk to focus on relative value in bonds. Others tactically manage currency. Since currency volatility can vastly outpace fixed income volatility, currency exposure can be a significant contributor to performance, both good and bad.

Implementation ABCs

Decisions on allowable investment alternatives and exposures must be incorporated into investment policy statements. Required amendments include procedures to monitor and control a broader range of risks and exposures to currencies, countries and credits. Since global strategies frequently employ derivatives, plan sponsors must also define allowable counterparty risk and ensure that International Swaps and Derivatives Association (ISDA) agreements and other required documentation are in place.

Finally, the plan sponsor must make decisions on how assets will be managed. Should assets allocated to global fixed income be delegated to existing managers or to a newly hired global specialist? Should asset allocation among fixed income asset classes be handled at the plan level, or tactically by external managers? We suggest that managers should have significant flexibility to add value through a variety of strategies subject to their expertise and experience in order to take advantage of shifts in relative value across various markets.

Global government bond strategies can be skillfully managed by a small team located anywhere. Global investment-grade strategies require in-depth credit expertise, but Canadian players with modest resources can effectively manage some. During the past decade, credit expertise has developed in Canada as the corporate sector tripled to nearly 30% of the market, and corporate bond weights exceeded 50% in many domestic fixed income portfolios. High-yield, emerging markets, MBS, and CDOs require additional specialized resources, but beware of making large permanent "beta" allocations to some of these more volatile markets.

The need for adequate manager expertise is also key in the areas of risk management and derivative instruments, including futures, forwards, swaps, options and other tools used to manage currency exposure and implement various elements of an active global fixed income strategy. Many Canadian investment managers did not develop deep expertise in these areas when fixed income mandates were constrained and are now working hard to establish track records while their clients are only beginning to investigate new strategies. Look for continued change as Canadian funds and managers get more active on the domestic front and go global. ■

Endnotes

1. "Using Currency to Add Value to Global Fixed Income Returns," Ronald G. Layard-Liesching, Pareto Investment Management Limited, from CFA Conference Proceedings Quarterly, March 2006.