Bond Characteristics

James Hymas

Fixed income takes many forms and is often misunderstood as an asset class. This series of columns will focus on bonds, which I will define as instruments paying a periodic rate of return that is known to the buyer at the time of purchase.

Why should one invest in bonds? One reason often given is "ballast" – the idea that bond returns will provide a stable base for a portfolio without the bubbles and crashes that are endemic to equities. Some might try to dress this up a little with talk of the "efficient frontier", which is essentially the idea that a reduction in volatility of monthly returns is a valuable portfolio objective in and of itself, but I have trouble with that theory on the grounds that upward spikes are regarded with the same consternation as the plunges.

An aficionado of efficient markets might claim, for instance, that a portfolio with 99 monthly returns of zero and one of 100% is equivalent to one with 99 instances of a two-percent return and one loss of 98% – after all, the expected return is the same (1% per month) and the standard deviation is the same (10%). I suspect that recent events in world capital markets will have diminished support for this thesis!

A better way of stating the same general idea is that one wants to invest in bonds to maintain a pool of capital that will maintain its value in adverse conditions and be available to meet a schedule of cash requirements or, importantly, an unexpected need for cash. One doesn't want to indulge in market timing, but one does not wish to be a forced seller into a dysfunctional market, either – and there has been no shortage of examples of dysfunctional markets in the past year.

Just as with all other things in life, attempts to categorize human inventions lead inevitably to grey areas. I consider a floating rate issue – paying a spread to prime, or three-month bills, or LIBOR, or some other well-defined rate – to be a bond, but I would not consider such issues to be bonds if the benchmark was "dividends on a portfolio of equities". I consider strip bonds (paying a single cash flow on a well-defined date) to be bonds, and I consider perpetual issues (no longer available in Canada, but still extant in the U.K.) to be bonds. A bank's GICs, senior debt, deposit notes and subordinated debt are bonds, but the same bank's "Innovative Tier 1 Capital" and preferred shares are not, since periodic payments and maturity value are not sufficiently secure.

But the main requirement to meet my definition of "bond" is there must be precise dates on which interest and principal repayment flow to the investor, in default of which an operating company is put into bankruptcy.

Securitizations, for example, in which a package of financial assets (such as credit card or automobile loans) are bundled and sold to investors (the "originate and distribute" model, which has attracted regulatory opprobrium due to the sub-prime mortgage fiasco) may be fine investments and may certainly be termed "fixed income", but they are not bonds, since the issuer is not an operating company with valuable real estate, goodwill and other assets; the issuer is merely a file folder in a lawyer's office.

Preferred shares are issued by operating companies, but are not bonds since default does not lead to bankruptcy; they are merely members of the broader "fixed-income" asset class.

If maintenance of investors' capital was the only consideration, then I could simply tell readers to invest in three-month treasury bills and this would be my shortest contribution to *Canadian MoneySaver* on record! But there are other considerations and the selection of a bond portfolio is more complex.

Three-month treasury bills don't pay very much – the flight to safety engendered by the credit crunch has brought yields down to below one percent, but even in the best of times one may be grateful if a treasury bill investment covers inflation, taxes and transaction costs. The other objective in fixed-income investing is to earn income, and to increase the level of projected income one must be willing to assume credit risk, term risk and liquidity risk.

Credit Risk

Credit risk is the risk that timely payments of interest and capital will not be made. The concept is simple, but like any other form of forecasting, rather difficult to apply in practice.

Credit analysis is so fundamental to fixed-income investing that I will not do much more than mention it briefly here; various aspects of credit analysis will be addressed in future articles.

Term Risk

Term risk is very poorly understood by most investors. Two aspects of term risk are generally seized upon to the exclusion of other factors: inflation risk and price risk.

One reason why inflation risk achieves such prominence when assessing fixed-income investments is the experience of the 1970s. From the commencement of the oil shock in 1972 to the turn of the tide in 1982, the Canadian Consumer Price Index increased from 22.3 to 56.6 (figures for November in each year), an increase of over 150% with an annual rate of 9.76%. Given that the average yield of long-term Canadian government bonds in November 1972 was only 7.08%, it is apparent that someone buying such a bond in 1972 found his investment income being inflated away, and after taxes it was worse.

This experience has scarred a generation and quite rightly, but has led in many cases to an exclusive focus on inflation as the big risk in fixed income. A risk ignored by many is reinvestment risk.

I heard a story in the late 90s about an elderly man who caused a disturbance in a bank. He had come in to do his annual renewal of one of his five-year GICs and was horrified to learn that the interest rate offered was far below that on the maturing instrument; interest rates had fallen dramatically and his income was taking a direct hit. He was of the view, not that he had made an unfortunate choice of maturity for his GIC, but that the bank was cheating him. A longer-term instrument than his original five-year GIC would have maintained his income through a period of low interest rates.

Investing in longer-term instruments brings with it increasing price risk, which acts to undermine the objective of capital maintenance. I examined the concept of Modified Duration in the *Canadian MoneySaver* of May 2007, in the context of preferred shares, but it applies to all fixed income. For a given change in the applicable interest rate, a 30-year bond will vary much more in price than a 5-year bond, and many people do not like the idea that a fixed-income security can change in price – even the relatively small changes that will occur on a day-to-day basis for a five-year instrument. Some find the idea so disturbing that they refuse to buy even five-year bonds.

Unfortunately, the market price of any stream of future income (or other promises of any kind) will change according to market conditions. Even three-month treasury bills change in price through the course of a trading day, and sometimes these price changes due to changes in yield outweigh the effect of the decreasing term to maturity of the paper.

Thus, investors are forced at the outset to weigh two mutually exclusive objectives when constructing a bond portfolio: security of income vs. security of capital.

To help resolve this dilemma and to address the general public's distaste for price changes when investing in fixed income, the financial industry often makes use of a technique that has proven very effective since its inception: we lie to you.

If you hold a GIC in a brokerage account, its price will almost certainly be shown at par on every statement – possibly with the addition of some accrued interest. But a five-year GIC has the same interest rate risk as any other five-year bond despite the comforting market convention that these price changes do not need to be reported. The practice of showing a constant price on public money market funds – despite the fact that it is nonsense, and leads to a requirement of limits on account activity in periods of rapidly changing interest rates – has even received regulatory blessing.

The Trade-Off

To summarize, we invest in fixed income generally for security of capital and security of income. All else being equal, bonds will generally have higher levels of both relative to other types of fixed-income investments.

To increase the security of income for a longer period, we need to extend term, which increases term risk and inflation risk. To increase security of capital, we need to decrease term, which will reduce inflation risk and term risk, but increase reinvestment risk – as well as decreasing expected return in normal times since the yield curve is normally upwards sloping (providing increased yields for longer terms).

And, it should be noted, we haven't yet begun examining the trade-offs to be made against the rest of the portfolio!

In this series of articles about bonds, I will attempt to explain the mechanics of the bond market and examine the trade-offs that must be made with each individual investment, with the objective of providing investors with the analytical tools required to construct a bond portfolio that meets their objectives – or, at the very least, to know what questions to ask when reviewing specific suggestions from their advisors. As always, feel free to let me know if there's a topic that urgently needs addressing!

James Hymas, CFA, Hymas Investment Management, Toronto, ON (416) 604-4204, jiHymas@himivest.com, www.himivest.com, www.prefshares.com.