Learn dynamics of bearproofing bond portfolio

First of two parts.

MORE THAN MONEY

SID MITTRA Ph.D

An old Chinese curse admonishes: "May you live in interesting times." All of 1994, and so far this year, the times have certainly been interesting for bond investors. During 1994, the Federal Reserve raised interest rates several times to forestall inflation, driving down prices on existing bonds as their yields became less valuable than new issues. The move stirred excitement among bondholders, and these investors bailed out in droves in fear of further losses.

Although the bond market has calmed down since the last rate hike, it is by no means out of the woods. The Federal Reserve is threatening to raise interest rates again, and bond investors should understand the basics of this market before deciding what to do next.

What is Fixed About Fixed Income Securities?

The frequently misunderstood term "fixed income" securities originates from the basic nature of the bonds: The maturity price (face value), the coupon rate and the year of maturity remain fixed for the life of the bond with annual coupon payments.

Furthermore, the annual dollar amount can be calculated by multiplying the fixed coupon rate by the bond's fixed face or par value, usually $1,000. Thus, a $1,000 bond with a 7 percent coupon rate will pay $70 each year. Unfortunately, this notion of "fixed-income" creates a great deal of confusion in the minds of those investors who fail to recognize the potential for loss resulting from a decline in the bond's price. A brief discussion of several important features of fixed income securities is presented below.

The Coupon Rate: Coupon rates generally vary with the bond's maturity and risk. For instance, the longer the maturity, the higher the coupon rate carried by the bond *(see Figure 1)* when inflation rate is not likely to fall.

If the inflation rate is expected to fall — as was the case in the late 1970s — the long-term rate would most likely be lower than the short-term rate. In addition, the higher the quality of the bond's issuer, the lower is likely to be the coupon rate of the bond.

Yield to Maturity: The yield-to-maturity (YTM) indicates the rate of return an investor will receive if the bond is held to its maturity date. It takes into account the purchase price, redemption value, term-to-maturity, and the size and timing of the coupon payments.

Simply stated, YTM accounts for the fact that the bondholder pays now for the bond, but the coupon payments and the principal are received only at a future time. The YTM can be easily calculated by discounting the future expected cash flows by an appropriate rate. This rate, in fact, is the return earned by the bondholder on this investment.

Examples of several bonds with different coupon rates (with coupons paid semiannually) and different current market prices — but all yielding the same 10 percent return — are presented in *Table 1*.

In this example, ignoring taxes, an investor expecting a return of 10 percent can purchase Bond A for $1,153.72, which is a 15-year, 12-percent bond, collecting $60 every six months and $1,000 at maturity. Another investor can purchase Bond D, currently trading at $239.39, which makes no coupon payments (zero coupon bond), returns $1,000 upon maturity and yields 10 percent.

Yet a third investor may be interested in selecting Bond C, which has a coupon of 5 percent but has a YTM equal to the other bonds. While all these bonds have the same maturity and YTM, they are by no means perfect substitutes. *For one thing, these* bonds may carrying varying degrees of risk. For another, tax considerations may lead investors to prefer some bonds over other bonds.

Yield-to-Call: A fly in the ointment is the third concept known as yield-to-call (YTC). A "call" is an early redemption of a bond that slashes bond investors' income by forcing them to reinvest the principal at a time when interest rates have dropped. Depending on the prices investors have paid for their bonds, a call can also result in a capital loss. The YTC takes these factors into account and hence is generally lower than the YTM.

Call features are common on corporate bonds as well as municipals, and related problems adversely affect holders of mortgage-backed securities. Early redemptions can also affect the income of bond mutual funds and unit investment trusts.

In addition, there is a special twist that affects unit trusts, which are pools of bonds not actively managed by money managers. The advertised returns on new trusts are calculated in such a way that sponsors who load up on the bonds most likely to be called get to quote higher, more enticing returns. Consequently, investors in units trusts do get higher income initially, but those payments can fall sharply later.

In any investment situation where the potential for a call exists, it is more appropriate to judge the attractiveness of the investment on the basis of the YTC rate, which, as mentioned, is almost always lower than the YTM.

Total Return: Many investors focus only on the current yield offered on fixed-income securities. This is shortsighted, because interest income is only one component of total return, the other component being the price appreciation or depreciation.

For instance, a bond which paid a 7 percent coupon rate for a particular year and also gained 2 percent in price would post a total annual return of 9 percent. A 2 percent price decline would have reduced the total return to 5 percent for that year. Consequently, investors need to pay attention to the price risk associated with a fixed-income security.

For long-term bonds, and bonds purchased at prices significantly above or below their face value, other factors will often dwarf yield in determining total returns. That is true even when the bonds are of AAA credit quality and are "non-callable." This point requires elaboration.

It should be recognized at the outset that interest-on-interest easily becomes the biggest factor in returns for buy-and-hold investors in long-term bonds, especially if interest rates rise during the life of the bond.

For instance, if an investor purchases a 30-year Treasury bond yielding 7.9 percent today, and interest rates subsequently rose so that average reinvestment rate was 9 percent over the life of the bond, almost 80 percent of this investment's total return at maturity would come from income or reinvested interest. Interestingly, at a 6 percent reinvestment rate, interest-on-interest on that 30-year Treasury would still represent about two-fifths of its total return.

There is another important concept associated with bond investment. While interest-on-interest dominates bond returns for long holding periods, price change dominates total return for short-term investors. This concept is of great importance because most individuals who invest in bond mutual funds are short-term bondholders even if they stay invested in mutual funds for a long time.

The reason is that a bond fund does not buy and hold bonds until maturity but instead actively trades them — and the value of the fund's shares directly reflects the daily price swings of bonds in its portfolio. Consequently, depending on what happens to prices by the time an investment in a bond fund is liquidated, investors generally end up with price gains or losses on their holdings. As a result, price change becomes an important part of their total return.

The relevance of total return in investing in fixed income securities is presented in *Figure 2*.

Sid Mittra, Ph.D., CFP, is professor of finance, Oakland University, Rochester Hills, and owner, Mittra Associates, a Troy financial consulting firm. This column was critically reviewed by Professor Jerrold Grossman, Oakland University.

FIGURE 1

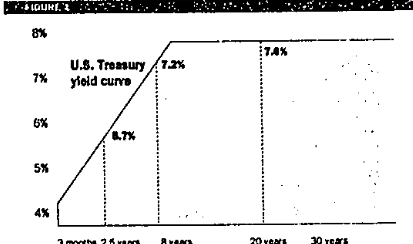
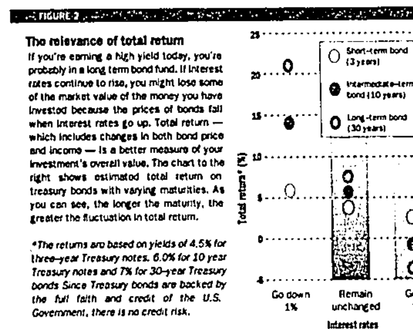


TABLE 1

Bond	Current price	Coupon rate	Term-to-maturity	Yield-to-maturity
A	$1153.72	12%	15 years	10%
B	1,000.00	10	15	10
C	615.69	5	15	10
D	239.39	0	15	10

FIGURE 2



SECURITY

Financial planner returns as columnist

BY CATHERINE M. PACINI
SPECIAL WRITER

Sid Mittra, a Troy-based certified financial planner and professor of finance at Oakland University, is returning to the Observer & Eccentric Newspapers as a financial columnist.

The Rochester Hills resident brings many years of experience in finance and financial planning to the column, "More Than Money," which will appear each Monday in the Observer & Eccentric Newspapers' Oakland County editions.

Mittra received his doctorate in finance with a minor in economics from the University of Florida. He has been a full professor at Oakland University in Rochester Hills for nearly 10 years.

The professor publishes extensively in premier finance journals, and has written several books including, "Personal Finance-Lifetime Management by Objective" and "Practicing Financial Planning-A Complete Guide for Professionals," which is in its fifth edition.

He's a member of the International Association for Financial Planning (IAFP) and the Institute of Certified Financial Planners (ICFP).

"My primary objective for the column is to educate the reader on the important topics of financial planning. To take complicated issues and present them in such a way that readers can understand, while arousing their curiosity to probe further in that particular area. And to also dispel the myths that sometimes surround certain issues," says Mittra.

Additional sources of information will be offered, including addresses and phone numbers that readers can contact.

"I want to tie in the fact that areas of financial planning don't stand in a vacuum. Financial planning is intimately related to other things that are happening in the economy and the world around us — politics, the deficit, as well as the world market," says Mittra.

"We're delighted to have Sid returning to the Observer & Eccentric," said Robert Sklar, managing editor for The Eccentric Newspapers. "He brings a popular following among readers and lasting respect among his peers.

"With so much interest in personal finance nowadays, we're confident readers will find Sid's easy-to-read column purposeful, insight and, most of all, relevant to their everyday lives."

Mittra has developed the acronym "SECURITY" that he uses as a road map when discussing the areas of financial planning:

S-Safety, through risk management planning.
E-Educational planning.
C-Credit and budget planning.
U-Ultimate disposition through estate planning.
R-Retirement planning.
I-Investment planning.
T-Tax planning.
Y-Yearning, for financial independence planning.

Mittra has a rare combination of an extensive academic background and practical experience that enables him to relate to the beginning finance student as well as the seasoned CEO. In his column, he will discuss a variety of topics from complex technical issues to basic principles.

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Mike Jenkins, Director, Investment Marketing - Fidelity Investments
Bruce Rockwell, Senior Vice President - First of Michigan Corporation
Date: May 9, 1995 Time: 7:30 p.m.
Location: Southfield Radisson
at Prudential Town Center
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