Duration rates bond's volitility

finances and you
Sid Mittra

Recently I suggested to Mr. John Doe that he buy a AA-rated municipal bond with a 30-year maturity and 6.65 percent coupon. Mr. Doe's question: "That's well and good, but what is its duration?"

The bond rating does measure a bond's default risk, but it does not measure a bond's volatility, depending upon its maturity.

In general, given a change in the interest rate, the longer the time remaining to maturity of the bond, the greater is the price fluctuation.

For instance, if the interest rates rises from 8 to 10 percent, the price of a 5-year bond would drop by $76 to $924 whereas the price of a 20-year bond would drop by $170 to $830.

Duration is a measure of this volatility of bond prices relative to their maturity.

IN TECHNICAL jargon, duration is "weighted average of the time it takes to recoup your investment." Put differently, it measures the time it takes for you to recover your principal as well as the interest you expect to receive from the bond.

At the heart of the calculation of duration is the concept of present value, which is based upon the old cliche, "a bird in hand is worth more than two in the bush."

For example, the present value of a $100 interest payment received today is of course $100. However, the present value of the same interest expected to be received 10 years from today is only $46.30, if the current interest rate is 8 percent.

In calculating duration, the present value of each coupon payment to be received in the future is first calculated. Then "an average" of all payments is estimated which, in turn, helps to determine the duration of your bond. This concept helps you find out how much risk there really is in the bond you own.

THE ACCOMPANYING table provides the basis for a clear understanding of the value of duration. Suppose you own a 20-year municipal bond with an approximate yield of 7.55 percent and a duration of 10.2 years.

This means that if interest rate rises by 1 percent, the bond would decline by 10.2 percent. Alternatively, if the interest rate falls by 1 percent, the bond would gain 10.2 percent.

The same concept can be extended to a bond fund. Say the ABC municipal bond fund has the following average maturities: long-term portfolio: 10 years; intermediate-term portfolio: 5 years; short-term portfolio: 1 year. This implies that the long-term segment is twice as volatile as the intermediate segment, which has about five times the risk of the short term portfolio.

- Duration is a measure of the payback period. Since higher coupons pay back faster, the higher the coupon, the lower the duration.
- For short and intermediate-term bonds with a maturity of, say, less than five years, the number of coupon payments is relatively small and the bulk of the payment is received when the bond matures. Consequently, the duration and maturity are almost identical.
- As maturities increase, so does duration, because it takes longer to recover your investment. Also, beyond 25 years, duration increases little as maturity increases, because the present values of coupon payments to be received after 25 to 30 years are negligible.
- For zero-coupon bonds, duration and maturity are identical, because there are no coupon payments in these bonds.

Duration measures are not readily available, because this is not a concept easily understood. Consult the portfolio manager of your mutual fund for the duration of the portfolios in which you invest.

Seminar: "How to Invest Home Equity Safely; New Investment Opportunities; New Tax Law After One Year." The seminar, sponsored by the Observer & Eccentric Newspapers and Coordinated Financial Planning, will be 7-9:30 p.m. Wednesday, Oct. 21, at the Kingsley Inn, 1475 N. Woodward, Bloomfield Hills.

For reservations, call 643-8888.

duration

maturity years	yield*	duration years
1	4.55%	1.0
3	5.15%	2.7
5	5.65%	4.3
7	6.05%	5.6
10	6.60%	7.2
20	7.55%	10.2
30	7.65%	11.7

*AAA-rated municipal bond priced at par
Source: M.D.S. Investors Services Inc.

datebook

● BEGINNING SPREADSHEET
Thursdays, Oct. 15 to Nov. 5 — "Beginning Spreadsheet using IBM-PC and Lotus Symphony" offered 7-9 p.m. in Bloomfield Hills. Fee: $75. Information: June Fasang, 645-3635. Sponsor: Cranbrook Schools.

● INVESTMENT INFORMATION
Thursday-Saturday, Oct. 15-17 — Investors Gallery of stock investment information offered 2-6 p.m. Thursday, from noon to 6 p.m. Friday and from 10 a.m. to 4 p.m. Saturday in Detroit. Free. Information: 543-0612. Sponsor: National Association of Investors Corp.

● COMMERCIAL BROKERAGE
Friday, Oct. 16 — "The How-To's of Commercial Brokerage" continuing education class begins at 8 a.m. in Detroit. Non-member fee: $85. Information: Brenda Zimmerman, 259-0400. Sponsor: Detroit Board of Realtors.

● SMALL BUSINESS GROWTH
Friday, Oct. 16 — Growth strategies for the going concern conference held all day in Union Lake. Fee: $75. Information: 360-3041. Sponsor: Oakland Community College.

● CHRISTIAN MEN
Friday, Oct. 16 — Full Gospel Business Men's Christian Fellowship meets in Farmington. Information: Stanley Marentette, 464-7291.

● WOMEN IN MICHIGAN
Friday-Sunday, Oct. 16-18 — "Women Meeting the Challenge in Michigan" conference in Detroit. Non-member fee: $175. Information: 963-5088. Sponsor: Women's Economic Club.

● PERSONNEL CONSULTANTS
Friday-Saturday, Oct. 16-17 — Annual convention of Michigan Association of Personnel Consultants in Troy. Non-member fee: $200. Information: 759-6910.

● 50+ FINANCIAL PLANNING
Monday, Oct. 19 — "Financial Planning for the Nifty Fifties" class offered 7:30-9:30 p.m. at The Community House, 380 S. Bates, Birmingham. Fee: $12. Information: 644-5832. Sponsor: The Community House.

● FRANCHISE WORKSHOP
Monday, Oct. 19 — "Pros and Cons of Franchising" workshop offered at 2080 W. Big Beaver, Troy. Fee: $10. Information: 649-8646. Sponsor: Start A Business Store.

● FINANCIAL PLANNING
Monday, Oct. 19 — Free financial planning seminar for people within 10 years of retirement begins at 7:30 p.m. in the Bloomfield Township Library. Information: Shirley Peisner, 626-1600. Sponsor: IDS/American Express.

● BARRIER-FREE LAW
Monday, Oct. 19 — Free forum on changes in state Barrier-Free Design law and regulations from 8:30 a.m. to noon in Detroit. Information: Debbie Stabenow, 1 (517) 373-1770. Sponsors: Michigan Departments of Labor and Commerce, House Subcommittee on Small Business.

● TECHNOLOGY COUNCIL
Thursday, Oct. 22 — Michigan Technology Council meets in Southfield. Information: 763-9757.

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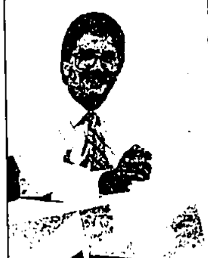

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