NavigatorInsights

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Chief Investment Officer

As Clark Capital's Chief Investment Officer, Sean oversees all of the Firm's investment activities and heads the Firm's portfolio team. Sean joined the Firm in 1993 and is responsible for asset allocation and investment selection for Navigator Investment Solutions as well as directing ongoing market research and contributing to the development of proprietary products. Sean is a member of the Clark Capital Management Committee and the Board of Directors. He graduated from the University of Delaware, earning a B.S. and an M.A. in Economics. Sean is a Chartered Financial Analyst and a member of the CFA Institute (formerly AIMR) and the Financial Analysts of Philadelphia, Inc. Sean is considered an industry expert and is often asked to appear on CNBC and Bloomberg television to share his views on the market. In addition, Sean has been quoted in a number of articles in nationally distributed business journals and newspapers.

Understanding Duration ...

Can Help You Navigate a Rising Rate Environment

Investors who own fixed income securities should be aware of the relationship between interest rates and a bond's price. As a general rule, the price of a bond moves inversely to changes in interest rates: a bond's price will increase as rates decline and will decrease as rates move up.

Typically when duration is quoted it is referring to a bond's modified duration. Modified duration attempts to estimate how the price of a bond will change in response to a change in interest rates and is stated in terms of a percentage change in price.

In simple terms, modified duration gives an idea of how the price of a bond will be affected should interest rates change. A higher duration implies greater price sensitivity upward should rates move down and vice versa. Duration is quoted as the percentage change in price for each given percentage change in interest rates. For example, the price of a bond with a duration of 2 would be expected to increase (decline) by about 2.00% for each 1.00% move down (up) in rates.

The duration of a bond is primarily affected by its coupon rate, yield, and remaining time to maturity. The duration of a bond will move higher in the following circumstances:

- The lower its coupon,
- The lower its yield,
- The longer the amount of time left to maturity.

The duration of any bond that pays a coupon will be less than the maturity, since the yield from the coupon payments effectively shortens the amount of time it takes to receive payments.

The following scenarios comparing two bonds should help clarify how these three traits affect a bond's duration:

- If the coupon and yield are the same, duration increases with time left to maturity.
- If the maturity and yield are the same, duration increases with a lower coupon.
- If the coupon and maturity are the same, duration increases with a lower yield.

Example: 5.00% Coupon Bond at Par

Price Change for a Given Rise in Rates

If Rates Move Up ...	2-Year Bond	10-Year Bond	30-Year Bond
1.00%	-1.0%	-6.9%	-13.7%
2.00%	-1.9%	-13.2%	-24.7%
3.00%	-2.8%	-19.0%	-33.6%

These are hypothetical examples for illustrative purposes only. They are not intended to reflect the actual performance of any security.

For portfolio managers, it is crucial to understand the duration of a bond portfolio. By comparing a bond's duration with an existing portfolio's average duration, a portfolio manager can poten-

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tially anticipate the effect that buying or selling a particular bond would have on the portfolio's volatility.

Recognizing that the bond market is potentially at the end of a 30-year bull market and a rising rate environment could be on the horizon, portfolio managers of individual bond portfolios can use duration with the goal of reducing downside risk by buying high-coupon, premium bonds. On the other hand, a portfolio manager would buy discount bonds with the goal of maximizing price appreciation in a falling rate environment. A third option for a portfolio manager would be to buy intermediate-term, current coupon bonds because they offer the best value.

In any market environment, duration analysis helps the portfolio manager understand the effects of various portfolio changes and to act with the goal of minimizing volatility while maximizing total return.

Glossary:

Types of Duration*

While duration comes in many forms, the following are the more common calculations used by investment companies:

Macaulay Duration: Measures the number of years required to recover the true cost of a bond, taking into account the present value of all coupon and principal payments received in the future. This form of duration is the only one expressed in terms of years.

Modified Duration: This builds on Macaulay duration to measure the responsiveness of a bond's price to interest rate changes. It is reflected as the percentage change in price for a 100 basis point change in interest rates.

Effective Duration: This is a refinement of modified duration and is particularly useful for portfolios containing callable securities. Effective duration utilizes a bond's yield, coupon, final maturity and call features to calculate a single number that indicates how sensitive a bond or portfolio price is to changes in interest rates.

Definitions

Convexity: A measure of the rate of change in duration, accounting for the dynamic relationship between prices and rates.

Coupon: The interest rate stated on a bond when it's issued.

Duration: A measure of the sensitivity of the price (the value of principal) of a fixed income investment to a change in interest rates.

*Source: Understanding Duration, 2010 BlackRock, Inc.

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