

Forget About Bond Ratings. Time to Maturity Is the Risk to Watch.



SATOSHI KAMBAYASHI

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BY DEREK HORSTMAYER

MANY INVESTORS think the riskiness of their bond portfolio is in the default risk or the country of origin of their holdings. But, in fact, the main source of risk in your bond portfolio is the length of time to maturity of the bonds or bond funds.

To study this issue, my research assistants (Huzaifah Shafique and Arnav Pradhan) and I pulled all U.S. dollar-denominated fixed-income mutual-fund data going back 40 years. We then took the average monthly returns across the following fixed-income groupings: short-term Treasury funds (average maturity of six months), long-term Treasury funds (average maturity of 20 years), intermediate Treasury funds (average maturity of six years), world debt funds (average maturity of six years), high-yield corporate debt (average maturity of five years) and investment-grade corporate debt (average maturity of 10 years).

With this in hand, we considered two measures of risk: volatility of the bonds, or the standard deviation of monthly returns, and the difference between returns in the 75th percentile of returns and the 25th percentile, where a wide spread equals high risk.

Where the risks lie

The first interesting finding is how much riskier long-term U.S. government debt is than short-term government debt. The average volatility over the past 40

years for long-term Treasuries has been 8.04% annualized; the average volatility for short-term Treasuries, by contrast, has been 1.10% annualized. This produces a difference of 6.94 percentage points in volatility between the two groupings (the largest difference in risk of all comparisons made in our study).

The difference between returns in the 75th and 25th percentiles affirms those findings. For long-term U.S. government debt, this so-called interquartile spread over the past 40 years was 2.55 percentage points; for short-term U.S. government debt the spread was 0.45 percentage point. That is a difference of 2.10 percentage points between the two fixed-income groupings.

Next up on the risk spectrum: the country of origin for one's debt holdings. To explore this, we compared the average world bond portfolio to the average intermediate U.S. government debt.

For the average world bond fund, we found that the volatility averaged 7.20% annualized over the past 40 years. For the average intermediate U.S. government bond fund, we found that volatility averaged 4.62% annualized over the same period. This leads to a difference of 2.58 percentage points in risk profiles of the two groupings. Similarly, the difference in interquartile spread between these two groupings was 0.70 percentage point.

Finally, we examined the difference between companies with strong credit quality (investment-grade debt) and companies with low credit quality (high-yield corporate debt rated of triple-B-minus and below), matching both groupings on the maturity of their debt to control for that factor.

For the high-yield debt grouping, we found that volatility averaged 7.51% over the past 40 years. For the average investment-grade corporate debt fund, we found that volatility averaged 5.80% a year over the period. This gives us a difference in volatility of 1.71 percentage points between the two groupings based on credit quality. Looking at the difference between returns in the 75th and 25th percentiles of these two groupings gives us a similar picture.

Tangible example

To demonstrate these relative risks, consider the performance in 2022 when the Federal Reserve raised interest rates by 4 percentage points. In this year, if you had been in the average long-term Treasury fund, you would have lost about 30%. On the other end, if you had been in the average high-yield debt fund, you would have lost only about 9% in the same year. This again highlights that it is the length of time of your debt holdings that is the real risk contained in your debt portfolio.

With all of the uncertainty in U.S. markets, investors who wish to reduce risk should make sure they are in short-dated debt funds (under a year in maturity) as opposed to adjusting the credit quality or looking for other regions to invest in. It could save you several percentage points in a down year.

Derek Horstmeyer is a professor of finance at Costello College of Business, George Mason University, in Fairfax, Va. He can be reached at reports@wsj.com.