This paper summarizes existing Vanguard research, *A primer on floating-rate bond funds* (Bennyhoff, Zilbering, 2013), showing that floating-rate bond funds introduce substantial credit risk and volatility to a fixed income portfolio.

With concerns over the recent rise in interest rates, and the potential for rates to rise even further, you may be examining specific bond allocations when advising your clients. They may be seeking alternative ways to protect against any additional rise in interest rates, and to improve their portfolios’ expected return. If so, how will their portfolios fare if interest rates continue to rise?

We consider whether floating-rate bond funds provide a solution, as many investors suggest. Can they offer both principal protection and above-average yields? We demonstrate that floating-rate bond funds indeed minimize interest rate sensitivity, though at the cost of significant credit risk. As a result, advisors might consider viewing these funds as similar to high-yield fixed income funds and not as an alternative to high-credit-quality bond holdings.

Floating-rate loans, as opposed to traditional debt offerings, are not issued by a firm directly to the public. Instead, banks extend loans to firms that have difficulty accessing the bond market directly. Typically these companies’ credit quality is rated below-investment-grade, or “junk.”

Banks then repackage these loans for sale to investors as floating-rate bonds. Unlike traditional bonds that characteristically have a fixed coupon rate determined at the time of issuance, interest on floating-rate bonds is tied to a floating reference rate, such as the LIBOR (London Interbank Offered Rate), plus a fixed spread. The rate is adjusted periodically, typically at 30-, 60-, or 90-day intervals.

Floating-rate bonds’ appeal to investors is threefold:

- Because the coupon rate changes with the market rate, floating-rate bonds have minimal price sensitivity to changes in interest rate levels, unlike traditional fixed-rate bonds.
- They enjoy seniority in the case of a borrower’s default.
- Their yields are higher than those of short-term fixed income investments.

This combination has encouraged some investors to substitute floating-rate bonds for fixed-rate bonds in their short-term investments. However, caution is required; floating-rate bond yields are higher for good reason.

One such reason is default risk. Given that the loans are typically to companies with lower credit ratings, floating-rate loans have a heightened risk profile. For example, default rates closely resemble those of speculative-grade bonds (see Figure 1 on page 2).
When investors substitute floating-rate bond funds for other short-duration investments, such as money market and short-term bond funds, they are not likely looking to add significant risk to their portfolios. However, returns of floating-rate funds are inherently tied to the considerable credit risk associated with junk-rated bonds. By contrast, most other short-term investments carry much lower credit risk because they invest in high-quality securities.

Figure 2 demonstrates that returns of floating-rate funds are directly inverse to those of an index measuring U.S. credit risk. The credit-risk index rises (and credit spreads widen) when the market fears the ability of marginal borrowers to repay their loans. It follows that returns fall—sometimes steeply—for investments tied to borrowers with low credit ratings.

As the volatility of credit spreads has increased in recent years, so has the volatility of floating-rate returns. When credit spreads widened during 2008, for example, the floating-rate funds’ benchmark dropped by –28.8%, underperforming the broad U.S. bond market (as represented by the Barclays U.S. Aggregate Bond Index) by 34 percentage points.

The relationship shown in Figure 2 does not hold for money market or short-term bond funds or for high-quality bonds, which have little correlation with floating-rate bonds, as shown in Figure 3.
Floating-rate bond investors face other risks as well:

**Liquidity risk:** The floating-rate loan industry is roughly half the size of the high-yield bond market and has been vulnerable to mass sell-offs, when traditional investors disappear and liquidity dries up, contributing to depressed loan prices.

**Market-timing:** In theory, floating-rate funds can provide a safe harbor in a rising-rate environment. Floating-rate funds have indeed outperformed the broader market during recent periods of rising rates; however, they underperformed in the 12 months following each period of rising rates. To benefit from rising rates, investors need to successfully time their entrances and exits from floating-rate funds, a notoriously difficult task.

**Inflation hedge:** Periods of rising rates have historically coincided with increasing inflation, suggesting that floating-rate funds can be used as an inflation hedge. As **Figure 4** shows, however, the attractive correlation between floating-rate bond returns and inflation provided when averaged over a 20-year period is hardly consistent within that period.

The positive correlations shown from 1992 to 2013 and from 2008 to 2013 indicate that, when inflation increases, floating-rate bonds’ returns also increased, meaning that floating-rate bonds did act as an inflationary hedge. However, that relationship broke down for the 16 years ended 2008, which is noteworthy because the period included three rising-rate periods. The near-zero correlation indicates no definable relationship between the movement of inflation and floating-rate bonds.

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**Figure 3.** Correlations of returns of a floating-rate benchmark and benchmarks of varying credit qualities (February 1, 1992, through June 30, 2013)

<table>
<thead>
<tr>
<th>Benchmark category</th>
<th>–0.4</th>
<th>–0.2</th>
<th>0.0</th>
<th>0.2</th>
<th>0.4</th>
<th>0.6</th>
<th>0.8</th>
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<tbody>
<tr>
<td>3-month T-bill</td>
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<td>TIPS</td>
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<td>Short-term Treasury</td>
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<tr>
<td>Long-term Treasury</td>
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<td>U.S. aggregate bond</td>
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<tr>
<td>U.S. corporate bond</td>
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<tr>
<td>Total U.S. stock market</td>
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<tr>
<td>Corporate high-yield</td>
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</tr>
</tbody>
</table>

Notes: Floating-rate returns represented by Credit Suisse Leveraged Loan Index. Benchmarks used in return calculations for each category listed in the table are represented, respectively by: Citigroup 3-Month U.S. Treasury Bill Index, Barclays U.S. Treasury Inflation Protected Securities Index, Barclays U.S. 1–5 Year Treasury Bond Index, Barclays U.S. Long Treasury Bond Index, Barclays U.S. Aggregate Bond Index, Barclays U.S. Corporate Bond Index, Dow Jones U.S. Total Stock Market Index, and Barclays U.S. Corporate High Yield Bond Index. Source: Vanguard calculations, based on data from Morningstar, Inc.

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**Figure 4.** Floating-rate funds have not historically served as a reliable inflation hedge

**CPI and floating-rate benchmark-return correlations**

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Before Oct. 2008</td>
</tr>
<tr>
<td>Since Oct. 2008</td>
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</table>


The take-away

Although floating-rate bond funds have mitigated price sensitivity to interest rate fluctuations and have offered, on average, yields that exceed those of money market funds, they have done so at the cost of increased credit risk. These funds primarily invest in floating-rate loans issued to firms with below-investment-grade credit ratings. Consequently, floating-rate bond funds exhibit risk-return profiles most similar to those of high-yield funds.

Advisors must ask whether floating-rate funds are appropriate substitutes for other short-term bond investments, given that this is not an area of the portfolio where their clients typically seek to assume significant risk.

In recent rising-rate periods, credit risks have remained relatively flat, leading to excess returns for high-yield and floating-rate bond funds (relative to various bond benchmarks). Given the unpredictability of credit markets, however, outperformance during future rising-rate periods cannot be guaranteed.

Clients interested in reducing their portfolios’ price risk from interest rate and/or credit-risk exposure might achieve more reliable benefits by investing in short-term U.S. bond and Treasury funds.

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<table>
<thead>
<tr>
<th>Vanguard ETF®</th>
<th>Ticker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Bond Market</td>
<td>BND</td>
</tr>
<tr>
<td>Short-Term Bond</td>
<td>BSV</td>
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<tr>
<td>Short-Term Corporate Bond</td>
<td>VCSH</td>
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</tbody>
</table>

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