

## ICI VIEWPOINTS

JULY 14, 2016

## Matching Models to Reality: The Real-World Challenges to Regulators' "First-Mover" Hypothesis

By Sean Collins

*Second in a series of ICI Viewpoints testing the hypotheses of academics and regulators about mutual fund and investor behavior during times of market stress.*

Commentators have long predicted that, one of these days, a market downturn will send U.S. mutual fund investors racing for the exits. Mass redemptions, they argue, would then force funds to liquidate huge chunks of their holdings, amplifying the downturn or even destabilizing financial markets. For examples of this hoary argument, see [Time magazine from June 1, 1959](#), or the [Kansas City Federal Reserve Bank Review, Second Quarter 1994](#)).

Time and again, these predictions have failed to come true—yet they remain popular to this day. In recent years, journalists, academics, and [even U.S. regulators](#) have predicted that U.S. regulated bond mutual funds—particularly funds that invest in corporate bonds (either investment grade or high-yield)—could threaten U.S. financial stability.

Now, the United Kingdom's vote to leave the European Union has set off another round of these predictions. [Some in the media are contending](#) that the recent requests for redemptions from some UK-domiciled "property funds"—and the actions of several of those funds' managers to protect the interests of the funds' shareholders—demonstrate that corporate bond funds, particularly high-yield funds, could pose risks to the financial system.

Yet there's little reason to think that investors in bond funds would behave like those in property funds. UK-domiciled non-UCITS property funds hold large portions of their portfolios in commercial real estate, which cannot be sold as quickly as stocks or bonds. So, when these property funds receive a large amount of redemption orders, they do sometimes suspend redemptions to protect their shareholders. In contrast, high-yield and investment grade bond funds invest in securities, the vast majority of which are highly liquid.

In fact, the data demonstrate that media predictions of the early demise of high-yield and investment grade bond funds simply got it wrong. In the week of the Brexit vote, U.S. high-yield bond mutual funds experienced net outflows of \$3.39 billion—barely 1 percent of their assets, hardly a crisis in the making. And in the next week, those [funds experienced inflows](#) of \$82 million.

### Challenging the "First-Mover Hypothesis"

Misperceptions about fund investors are deeply ingrained in the discussion of bond funds and financial stability. In years past, the concern was that fund shareholders were naïve, inexperienced, and ready to panic at the first sign of market distress. Now, the theory is that sophisticated investors might look to redeem at the first sign of market distress to beat other sophisticated investors out the door, forcing funds to sell securities and adding to the market distress.

This notion, termed the "first-mover hypothesis," comes up most often in discussions of U.S. regulated bond funds, especially investment grade and high-yield bond funds. Data and experience pose significant challenges that the first-mover hypothesis must overcome to justify U.S. regulators' interest—let alone before the hypothesis should serve as a basis for U.S. public policy.

Here are three of those challenges.

## Challenge No. 1: What's True for One Fund Isn't Necessarily True for All Funds

The first-mover hypothesis is essentially a prediction about shareholders in a single fund: shareholders in a given fund could redeem heavily if the fund underperforms similar funds. In the United States, investors do sometimes redeem significantly from underperforming funds—but without harmful systemic consequences..

Let's look at U.S. regulated high-yield bond funds, because commentators have suggested that they are less liquid than other bond funds and thus should be the kinds of funds where first-mover effects are most noticeable.

Consider a single month—December 2015—which included two significant market events: the sudden closing of Third Avenue Focused Credit Fund and the Federal Reserve's first tightening of short-term interest rates in nearly 10 years.

Figure 1 shows how individual U.S. regulated high-yield bond funds behaved during that month. Each dot is one fund. The vertical axis shows net flows to these funds (as a percentage of each fund's assets on November 30), plotted against each fund's return on the horizontal axis. Net flows, which are the difference between purchases of fund shares by investors less redemptions (including "exchanges" in and out of funds), are a measure of the change in investor demand for fund shares.

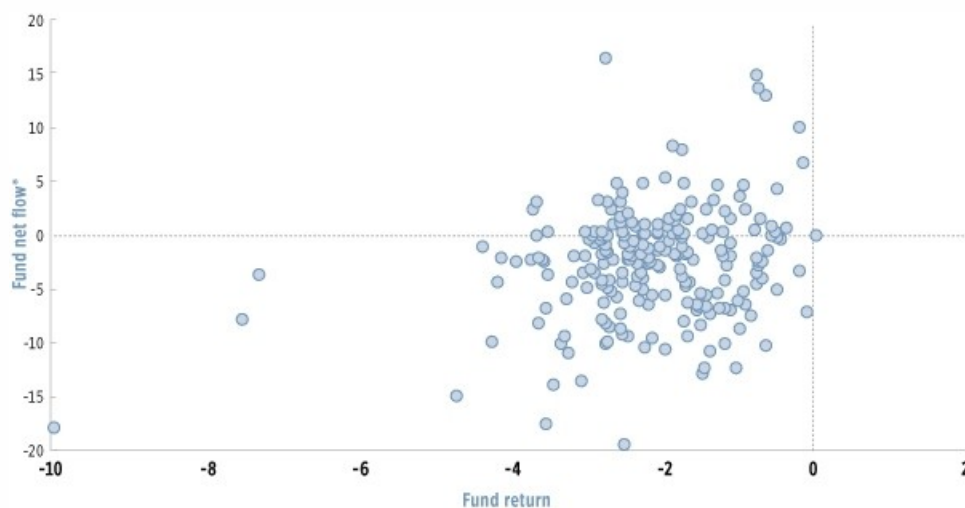
From the chart, we can see that:

- almost all of these funds had negative returns in December;
- most of these funds had net outflows; and
- investors apparently redeemed more heavily on net from funds that underperformed their peers.

### Figure 1

#### Investors in Individual U.S. Regulated High-Yield Bond Funds Responded to Returns in Those Funds in December 2015

*Each dot represents the net flows and returns to a given fund in December 2015 as a percentage of previous month-end assets*



\*Fund net flow is the estimated flow as a percentage of previous month-end assets.

Note: Data exclude mutual funds that invest in other mutual funds, variable annuities, any fund with less than \$10 million in total net assets, and funds specifically designed for frequent trading.

Source: Investment Company Institute tabulations of Morningstar data

To pose risks to U.S. financial stability, however, these net outflows would have to spark heavy net redemptions among high-yield funds in general, forcing massive sales of high-yield bonds and driving down their prices. That didn't happen. Although some funds had meaningful net outflows in December, others—including some with significantly negative returns—actually had net inflows.

The reason could be that money simply flowed from the worst-performing funds to those that didn't do quite as badly. If so, some funds would have been selling high-yield securities while others were buying, with little overall effect on the high-yield bond market. (Brian Reid, ICI's chief economist, will consider that possibility in a subsequent *ICI Viewpoints* post.)

Presumably, what is most relevant for bond market developments and U.S. financial stability is how aggregate net flows to U.S. bond funds react to bond market returns. This leads to the second data challenge to the first-mover hypothesis.

## Challenge No. 2: Aggregate Net Flows to U.S. Regulated Bond Funds Are Moderate Even in Stressed Markets

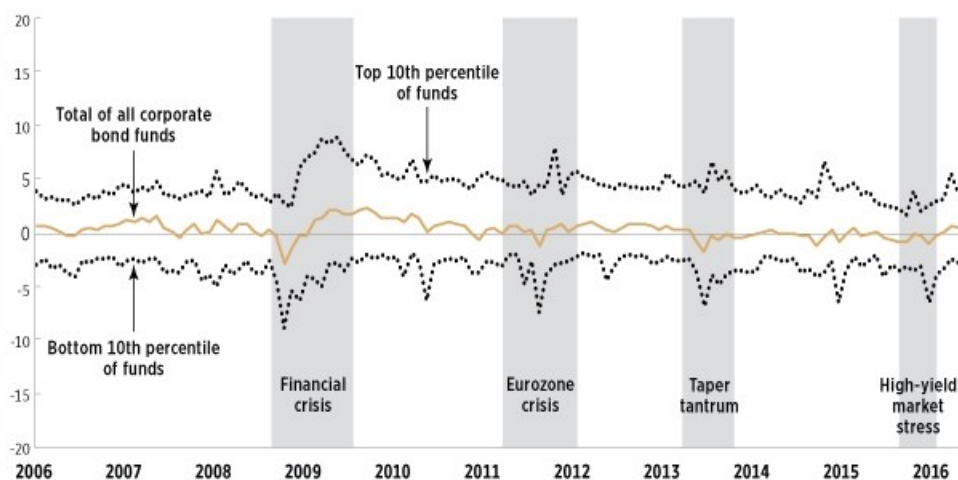
Perhaps the most enduring and salient fact about investors in U.S. long-term funds is that—on net and in aggregate—they redeem only modestly, even during severe economic shocks.

Figure 2 shows the flows to and from U.S. regulated corporate bond funds (combining investment grade and high-yield funds) for each month since 2006. The dotted black lines indicate, roughly speaking, the funds that within a given month were near the highest net inflows and greatest net outflows relative to their assets (technically, the funds at the 90th and 10th percentiles when ranked by net flows).

### Figure 2

#### Investors in U.S. Regulated Bond Funds Redeem Only Moderately: Evidence from Aggregate Corporate Bond Fund Net Flow

Net flow as a percentage of assets; monthly, January 2006–April 2016



Note: Corporate bond funds include high-yield and investment grade bond funds. Data exclude funds with less than \$10 million in average total net assets, mutual funds that invest primarily in other mutual funds, and data for funds in any fund month where a merger or liquidation takes place.

Source: Investment Company Institute

In any given month, some funds see net inflows and others see net outflows. For example, in December 2015, some funds saw heavy net outflows—but others saw equally strong net inflows. In many months, net flows to individual funds vary widely, as shown by the vertical distance between the two dotted black lines.

The center tan line is the asset-weighted average of the net flows to all such funds in any given month. That line demonstrates that net inflows and outflows to individual funds within a given month tend to balance out, on net, creating very modest aggregate flows—never exceeding 5 percent (either positive or negative) of the assets of U.S. regulated corporate bond funds.

Notably, aggregate net flows are quite modest even during significant market shocks. For example, in May and June 2013, the Fed's talk of "tapering" its monetary stimulus led to the so-called Taper Tantrum, one of the sharpest run-ups in bond yields in decades. But corporate bond funds on average saw net outflows of just 2.6 percent of their assets.

The research challenge is to explain why U.S. investors, in aggregate and on net, redeem only modestly from funds, even in the face of strong market shocks. A number of factors are probably at work:

- The vast majority (95 percent) of the assets in U.S. long-term mutual funds are held by U.S. households, not institutional investors. Retail investors do not typically spend their days staring at Bloomberg screens waiting to trade on every market wiggle. Indeed, it's safe to say that the vast majority of retail investors have never seen a Bloomberg screen. Recent economic research refers to this as "rational inattention"—retail investors don't trade much because they have day jobs (see for example, [Duffie 2010](#) or [Abel, Eberly, and Panageas 2013](#)).

- Most U.S. households are saving for long-term goals. More than half of the assets in long-term mutual funds are in retirement accounts. These shareholders have long investment horizons—perhaps 10 to 40 years—and are able to look through market cycles. They also tend to contribute consistently, month in and month out, often through automatic payroll withdrawal.
- Some investors might view a steep market decline as a buying opportunity—particularly in bond funds. As bond prices decline, yields rise, attracting new investors or encouraging current investors to buy more shares in bond funds.
- Even if the hypothesized first-mover advantage is real, its effects might be so small that U.S. fund investors ignore it. This is the focus of the next challenge.

### Challenge No. 3: If a First-Mover Advantage Really Exists, Is It Material?

In its recent [update on asset management](#), the Financial Stability Oversight Council (FSOC) stated it had reviewed potential risks and considered the materiality of those risks. One risk it points to is first-mover advantage. The evidence we have seen, however, suggests that first-mover advantage—if indeed it exists in the real world, and not just in theory—might have such a small effect on investment returns of U.S. fund investors that it wouldn't materially influence their investment decisions.

There's economic evidence to support this view. Here's one example. The FSOC, along with other advocates of the first-mover hypothesis, cites a [2007 \*Journal of Financial Economics\* article](#) to suggest that asset sales by U.S. equity mutual funds “could lead to price declines across the asset class, transmit stress to previously unaffected market participants, and ultimately create broader market disruptions.” The article does indicate that U.S. equity funds' sales of individual securities can depress those securities' prices for a time.

But the authors themselves question whether the effect is material. “[C]onsidering that less than 1 percent of the stocks in our sample are subject to widespread flow-induced selling,” they write, “a fund faces relatively *trivial* ex ante expected costs from the possibility of being forced by fund outflows to sell holdings at discounted prices” (emphasis added). In other words, the effects might be so small that they are hard to perceive or can simply be ignored.

Here's another example. In a [recent series of blog posts](#), economists at the Federal Reserve Bank of New York sought to assess the economic significance of the first-mover hypothesis. In doing so, they appeared to assume that U.S. regulated high-yield bond funds are likely to suffer massive net outflows—perhaps 50 percent of the total assets in such funds, which would be far in excess of anything seen in history. (See our [earlier ICI Viewpoints](#) post in response.) They concluded that such a massive net outflow—nearly 10 times greater than any monthly outflow since January 2000—would depress high-yield bond prices, creating losses of \$9 billion among the U.S. funds holding such securities.

By our calculation, a \$9 billion decline in high-yield bond prices would push down U.S. regulated bond fund returns by at most 0.30 percent of assets (30 basis points), depending on which funds are included in the calculation. Is this large enough to get U.S. retail investors to react—let alone react strongly? That's doubtful. Bond markets routinely move up and down by similar amounts in a single day. For example, the average daily variability (i.e., standard deviation) in U.S. corporate bond returns from 2010 to 2015 was 28 basis points; for Treasury bonds, the daily swing was 41 basis points.

In other words, if the 30-basis point movement in bond fund returns that the New York Fed research suggests as the impact of first-mover advantage (under extreme assumptions) is sufficient to trigger panic among fund shareholders, then workaday variability in bond returns should trigger panic among U.S. fund shareholders *almost every day*—and we should see huge daily aggregate net flows in and out of U.S. regulated bond funds. That's not consistent with the data—yet another challenge for the first-mover hypothesis.

### A New Research Agenda

All of this suggests that academics and regulators might want to reconsider the research agenda in this area. In ICI's view, researchers need to adjust the assumptions and structures of their models so that the predictions from such models are at least broadly consistent with the most enduring and salient feature of U.S. regulated fund data: the fact that investors in aggregate and on net redeem only modestly even when faced with massive economic shocks. One possibility might be to start with some of the recent models of “rational inattention” that explain why retail investors don't trade much.

If researchers can build such models, regulators might be better able to gauge whether U.S. long-term regulated funds pose risks to U.S. financial stability. For example, if it turns out that the modest net inflows and outflows to U.S. mutual funds are linked to the lifecycle savings behavior of U.S. investors, that's unlikely to change soon or quickly.

### Other Posts in This Series:

- [Matching Models to Reality: Doomsayers Are Disappointed—Again—as Funds Weather Brexit Shock](#)

- Matching Models to Reality: The Real-World Challenges to Regulators' "First-Mover" Hypothesis
- [Matching Models to Reality: In a Falling Market, the Real "Movers" May Be...the Buyers](#)
- [Matching Models to Reality: Bond Market Investors Don't Follow the "First-Mover"](#)

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