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The Taper Tantrum—Take II

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Long-term interest rates in the United States have been on the rise since summer 2016—slowly creeping up from July through October, and then jumping after the presidential election. Thus far, the response from bond mutual fund investors has been subdued. Nevertheless, various commentators—from the vice chairman of the Federal Reserve Board to the multinational Financial Stability Board—have expressed concerns that bond fund investors may rush to redeem shares to avoid portfolio losses stemming from unexpected increases in interest rates.

In a new research report—"What Happens When Rates Rise? A Forecast of Bond Mutual Fund Flows Under a 2013 Taper Tantrum Interest Rate Scenario"—I weigh those concerns by applying the experience of the 2013 "Taper Tantrum" to examine potential outflows from such funds and the outflows' impact on the broader bond markets in such an interest rate scenario. The bottom line? Even a repeat of 2013's "Taper Tantrum"—one of the sharpest increases in long-term interest rates in recent US monetary history—wouldn't be expected to trigger destabilizing outflows from bond mutual funds or force "fire sales" of bonds by those funds. In fact, bond mutual funds would be expected to be net buyers of bonds in some categories.

What's Happening with Rates?

On July 8 of this year, the yield on the 10-year constant maturity Treasury bond hit a low point, of 1.37 percent. From July 8 through October 31, the 10-year yield rose to 1.84 percent. In November, it jumped further, to 2.37 percent. All told, from July 8 through November 30, the yield on the 10-year Treasury rose 100 basis points, a sizable increase.

When bond yields increase, prices on existing bonds—such as those that bond mutual funds hold in their portfolios—fall. Commentators who predict heavy outflows from bond mutual funds believe that these funds' investors will react quickly to redeem, forcing the funds to dump bonds at "fire sale" prices and driving the market down further (and yields higher) in a destabilizing spiral.

Yet so far in this rate cycle, bond mutual fund investors have barely reacted. Over the period from July through October 2016, domestic taxable bond mutual funds received net *inflows* of $61 billion. And in November 2016—despite the 10-year Treasury yield jumping an additional 53 basis points—investors redeemed, on net, only $3 billion from domestic taxable bond mutual funds. This $3 billion outflow represented a mere 0.12 percent of assets in these funds as of October 2016.

Skeptics might feel, however, that this real-world development fails to examine a primary concern: that investors might redeem heavily from bond funds if monetary policy were to tighten sharply and unexpectedly—a change in market perceptions like the one that occurred in 2013. They could argue that, unlike that episode, about half the increase in long-term interest rates since June is likely due to *expected* changes in monetary policy, while the other half likely reflects an unexpected change in the US political outlook.

Projected Flows of Domestic Taxable Bond Mutual Funds

As a thought experiment, we forecast how bond mutual fund investors might react to a sharp, unexpected change in monetary policy. Virtually all market participants expect that the Federal Reserve will increase the federal funds rate (the key overnight interest rate that banks charge to lend to each other) at the conclusion of its Federal Open Market Committee Meeting on December 14, 2016. Views are mixed, though, on how quickly and by how much the Fed may ramp up the federal funds rate going forward. Most observers expect the Fed to increase short-term interest rates slowly yet steadily over many months, to minimize the likelihood of harmful outcomes in financial markets and the real economy.

But what if the Fed instead tightened monetary policy sharply and unexpectedly? Would bond fund investors react more strongly than in the past several months?

One way to assess this is to use 2013 as a guide. In May and June 2013, incoming economic reports proved stronger than expected and statements by Federal Reserve officials tilted market expectations toward a more abrupt tightening of monetary policy. Long-term interest rates reacted by rising sharply. If interest rates were to follow the pattern of 2013—a "Taper Tantrum Take II"—would we expect bond fund investors to redeem en masse?

No. Based on our projections, we would anticipate moderate outflows from bond mutual funds. For instance, we project that over the eight months following the initial rise in long-term interest rates, domestic taxable bond mutual funds would see cumulative outflows of $105 billion—amounting to just 4 percent of the assets in such funds as of October 2016. Furthermore, our analysis indicates that mutual funds' sales of bonds in response to these projected outflows would have a minimal impact on the broader bond markets.

Figure 1

Taper Tantrum—Take II: Expect Only Moderate Outflows

Taxable bond mutual funds; projected flows based on October 2016 assets and flows, May–December 2013

Note: Flows were projected using the ratio of flows to assets for the period of May through December 2013 and applying it to the October 2016 asset level of each domestic taxable bond fund investment objective. Components may not add to the total because of rounding.
Source: Investment Company Institute

The projected outflows in dollar and percentage terms are close to those actually seen in 2013. Why is there so little difference? Two main reasons: first, assets in bond mutual funds today are little different from their level before the run-up in interest rates in 2013; second, the duration of bond mutual funds in 2016 is virtually the same as it was in 2013.

Duration matters because when interest rates rise, bonds with longer durations generally will have larger declines in their values. Similarly, bond mutual funds with longer durations tend to have larger declines in their net asset values than bond mutual funds with lower durations. If investors are sensitive to declines in net asset values and redeem their fund shares, one would expect bond funds with higher durations to have larger outflows as a percentage of their assets than bond funds with lower durations. In addition, we might expect short-term bond funds to experience *inflows*, as investors take defensive positions in a rising interest rate environment.

As shown in the table below, this was the pattern we saw in domestic bond fund flows from May through December 2013. Intermediate-term bond funds and long-term bond funds each had cumulative outflows of $67 billion from May through December 2013, while short-term bond funds had a cumulative inflow of $15 billion in the same period.

Figure 2

Bond Mutual Funds with Longer Durations Are Expected to Have Higher Outflows

May–December 2013

	Flow *Billions of dollars*		**Flow** *Percentage of total net assets*	
Duration category	**2013**	**Projected**	**2013**	**Projected**
Short-term[1]	$15	$18	4.3%	4.6%
Intermediate-term[2]	-67	-63	-3.8	-3.4
Long-term[3]	-67	-60	-16.5	-15.7
Total	-119	-105	-4.7	-4.0

[1]This category includes funds with the following investment objectives: investment-grade ultra short-term, investment-grade short-term, multisector short-term, and government short-term.
[2]This category includes funds with the following investment objectives: investment-grade intermediate-term, investment-grade multi-term, multisector intermediate/long-term, multisector alternative strategies, multisector multi-term, government intermediate-term, government multi-term, and high-yield.
[3]This category includes funds with the following investment objectives: investment-grade long-term, government long-term, inflation protected, and mortgage backed.
Note: Flows were projected using the ratio of flows to assets for the period of May through December 2013 and applying it to the October 2016 asset level for each investment objective. Components may not add to the total because of rounding.
Source: Investment Company Institute

If bond fund investors today react as they did in 2013, we would expect intermediate-term and long-term bond funds to have cumulative outflows of $63 billion and $60 billion, respectively, over an eight-month period. In contrast, we would expect inflows to short-term bond funds to amount to $18 billion over the same period.

Projected Purchases and Sales of Bonds by Domestic Taxable Bond Mutual Funds

Commentators who are concerned about the broader impact of outflows from bond mutual funds often assume that outflows from these funds directly drive sales of bonds from funds' portfolios on a one-to-one basis. This connection between bond fund flows and funds' bond trading activity, however, is not as tight as they might believe.

Would we expect our projected outflows from bond mutual funds to significantly disrupt the bond markets?

No. Based on our forecasts, we anticipate that trading by domestic taxable bond mutual funds would have a minimal impact on the bond markets.

The table below shows domestic taxable bond mutual funds' cumulative purchases and sales of US government bonds, domestic investment-grade bonds, and domestic high-yield bonds as a share of marketwide cumulative purchases and sales for January through October 2016 (reported data) and for the eight-month forecast period (projected data). We compare the most recent reported data with the projected data to get a sense of any potential impact on current bond markets. (See the report and its appendix for details on how we derived these results.)

In the first 10 months of 2016, domestic taxable bond mutual funds were net buyers of US government, domestic investment-grade corporate, and domestic high-yield bonds.

That doesn't change much in our forecast.

In US government bonds, we would expect bond mutual funds to switch from being marginal net buyers to marginal net sellers. Nevertheless, over the projection period, their sales of US government bonds would be expected to account for only 4.5 percent of marketwide sales at levels observed in 2016.

Figure 3

Expect Minimal Impact on Bond Markets

Purchases/sales of bonds by domestic taxable bond funds relative to marketwide purchases/sales[1] over period specified

	2016[3]			Projected[4]		
Bond category	**Purchases**	**Sales**	**Memo:**	**Purchases**	**Sales**	**Memo:**
US government[2]	3.7%	3.5%	Net buyers	4.4%	4.5%	Net sellers
Domestic investment-grade corporate	18.9	14.1	Net buyers	17.6	15.3	Net buyers
Domestic high-yield	9.3	7.3	Net buyers	11.3	9.5	Net buyers

[1]Marketwide purchases and sales are each estimated as one-half of marketwide bond trading.
[2]US government bonds are US Treasury bonds, US agency bonds, and mortgage-backed securities issued by the US government.

[3]Calculated using cumulative totals of actual data for the period from January through October 2016.

[4]Calculated using bond mutual funds' projected purchases/sales of bonds over the eight-month projection period relative to projected marketwide bond purchases/sales that were based on average purchases/sales for the period from January through October 2016.

Sources: Investment Company Institute, New York Federal Reserve Bank, and FINRA TRACE

Most importantly, domestic taxable bond mutual funds would be expected to continue to be net *buyers* of investment-grade and high-yield corporate bonds, despite accounting for a projected higher share of sales of these types of bonds.

How Can Bond Mutual Funds Have Outflows and Still Be Net Buyers of Bonds?

Bond mutual fund managers have many other means of meeting redemption requests besides selling bonds. Each day, bond mutual funds receive cash in the form of interest income from bonds held in the portfolio and from the proceeds from matured bonds. Also, on any given day, mutual funds in general have cash coming in from new sales of fund shares. During a period of net redemptions, bond fund managers often can fulfill the vast majority of redemption requests using these cash sources. In addition, bond fund managers employ a wide range of successful strategies to prepare to meet shareholder redemptions, including holding short-term assets or using highly liquid derivatives.

This is was what happened in 2013, and we see this pattern reflected in our forecast for domestic investment-grade bonds. We would expect domestic taxable bond funds to reduce their participation in the buyside of the investment-grade corporate bond market—their share of investment-grade bond purchases drops from 18.9 percent to a projected 17.6 percent.

In summary, if interest rates were to rise rapidly and unexpectedly, outflows from domestic taxable bond mutual funds would be expected, but anticipated to be modest and even a bit smaller than those experienced during the 2013 episode. In addition, we would not expect bond sales by mutual funds to have a sizable impact on the broader bond markets. Bond fund managers have other means of meeting redemptions requests than selling bonds, and often use a nuanced approach in their bond trading.

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