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July 18, 2016

Financial Stability Oversight Council
Attn: Mr. Jonah Crane
Deputy Assistant Secretary for the Financial Stability Oversight Council
1500 Pennsylvania Avenue NW
Washington, DC 20220

Re: FSOC Update on Review of Asset Management Products and Activities

Dear Mr. Crane:

The Investment Company Institute, on behalf of its U.S. fund membership,¹ wishes to respond to the Financial Stability Oversight Council's ("FSOC" or "Council") public update on its two-year review of asset management products and activities. In a 27-page statement ("Statement"), the Council explains that it "has identified certain areas of potential financial stability risk and is providing its views on key areas of focus and next steps to respond to these potential risks."² We direct our comments to the Council's work and conclusions to date regarding liquidity and redemption risk in mutual funds.

Effective liquidity risk management is central to the proper functioning of a mutual fund. ICI welcomes the attention of regulators, particularly the Securities and Exchange Commission ("SEC"), to strengthening what are already strong practices that have proved highly successful across the mutual fund industry for many years. Investors expect, and the law requires, that mutual funds have sufficient liquidity to meet redemptions. In its current rulemaking, we believe that the SEC can "raise the bar" for all mutual funds while allowing sufficient flexibility, because liquidity management is not a "one size fits all" proposition.

¹ The Investment Company Institute ("ICI") is a leading, global association of regulated funds, including mutual funds, exchange-traded funds ("ETFs"), closed-end funds, and unit investment trusts ("UITs") in the United States, and similar funds offered to investors in jurisdictions worldwide. ICI seeks to encourage adherence to high ethical standards, promote public understanding, and otherwise advance the interests of funds, their shareholders, directors, and advisers. ICI's U.S. fund members manage total assets of \$17.9 trillion and serve more than 90 million U.S. shareholders.

² FSOC, Update on Review of Asset Management Products and Activities (April 18, 2016), available at: <https://www.treasury.gov/initiatives/fsoc/news/Documents/FSOC%20Update%20on%20Review%20of%20Asset%20Management%20Products%20and%20Activities.pdf>. The Statement indicates that the Council "welcomes ongoing engagement with stakeholders as this work moves forward."

The Council provides no basis, however, for its conclusion that there are *financial stability* concerns that may arise from liquidity and redemption risks in mutual funds, particularly funds investing in less liquid asset classes.³ The Council suggests that fund investors may have incentives to redeem their shares ahead of other investors in times of market stress (a so-called “first mover advantage”) and that funds facing significant redemptions may be forced to sell portfolio holdings that in turn may result in “spillover effects” to other market participants and the broader markets that would threaten financial stability. A careful reading of the Statement, however, reveals that the Council has not substantiated its concerns.

FSOC raised these same suppositions about mutual funds in its December 2014 request for public comment.⁴ ICI and other commenters responded by providing the Council with extensive data and analysis demonstrating that (1) mutual funds collectively have a long and consistent history of modest redemptions, even in times of market stress, and (2) mutual funds’ historical experience is not mere happenstance but is grounded in the existing regulatory framework, the nature of the investor base, and the management of fund portfolios.⁵ Although the Statement gives an occasional nod to this data and analysis, it is disheartening to see the extent to which the Council appears to prefer what is essentially a conjectural narrative about mutual funds over the consistent—and very successful—experience of an investment product used by tens of millions of Americans to help achieve their most important financial goals.

In this letter, we briefly discuss the lack of support for FSOC’s contentions about financial stability concerns arising from a first-mover advantage in mutual funds. We then turn to the more important financial stability issue—whether redemptions from mutual funds can be destabilizing to the U.S. financial system—and explain that FSOC has failed to substantiate its concerns and, indeed, faces high hurdles to do so.⁶ Finally, we address the Statement’s discussion of recent experience in the high-

³ *Id.* at 12. The Statement sets forth several recommendations “[t]o help mitigate these financial stability risks” and further indicates that, “[t]o the extent that these or any other measures are implemented by the SEC or other regulators, the Council intends to review and consider whether risks to financial stability remain.” *Id.* at 12-13.

⁴ FSOC, Notice Seeking Comment on Asset Management Products and Activities, 79 Fed. Reg. 77488 (Dec. 24, 2014) (“2014 Request for Comment”), available at <https://www.gpo.gov/fdsys/pkg/FR-2014-12-24/pdf/2014-30255.pdf>.

⁵ *See, e.g.*, Letter to FSOC from Paul Schott Stevens, President & CEO, ICI, dated March 25, 2015 (“March 2015 Letter”), available at https://www.ici.org/pdf/15_ici_fsoc_ltr.pdf.

⁶ The Statement cites to selected academic studies. In Appendix A to this letter, we briefly examine each of these studies and explain why they provide little, if any, support for FSOC’s stated concerns.

yield bond fund sector and explain why this experience offers no support for FSOC's stated concerns.⁷ On these bases, we respectfully ask that the Council reconsider its conclusion about financial stability risks relating to liquidity and redemptions in mutual funds.

FSOC Concerns about a First Mover Advantage Leading to Financial Stability Risks in Mutual Funds are Unfounded

The Statement suggests that a first mover advantage in pooled investment vehicles may be attributed to (1) the mutualization of trading costs or (2) funds selling their most liquid assets first to meet redemptions. In our March 2015 Letter, we addressed why neither of these provides a basis for concern about risks to financial stability in the context of mutual funds.

First, we explained that while fund trading costs are indeed "mutualized" among all fund investors, there are regulatory and other fundamental characteristics of mutual funds that serve to restrict severely any benefit to "early" redeeming investors and mitigate the impact of redemptions on investors who remain in the fund. We also explained that fund managers use a variety of techniques to reduce the impact of this cost sharing and foster more equitable treatment of fund shareholders. Our letter also discussed the reasons why mutualized trading costs are unlikely to create systemic pressures.⁸

Second, we explained why a "waterfall theory" of liquidity management—the selling of more liquid assets first to meet redemptions—does not accurately depict how mutual funds actually manage liquidity.⁹ We provided a similar analysis to the SEC in response to its proposal on liquidity risk management. In particular, we provided data illustrating that short-term asset ratios, even among mutual funds typically thought of as holding less liquid assets (*e.g.*, alternative strategy funds, high-yield bond funds) do not deteriorate much, if at all, in response to net cash outflows. The data thus suggest

⁷ Appendix B to this letter examines this recent experience in more detail. It begins with some brief background on the U.S. high-yield bond market and the state of that market prior to November 2015. It then considers what happened with high-yield bond funds from November 2015 to February 2016, a time of significant stress in the high-yield bond market that also featured the high-profile announcement by a high-yield bond fund that it would suspend investor redemption rights. Based on empirical data regarding the behavior of investors in high-yield bond funds, the managers of those funds, and other participants in the high-yield market, we find that fund investors in aggregate reacted quite modestly during this period of market stress.

⁸ *Id.* at 36-43.

⁹ March 2015 Letter, *supra* note 5, at 25-36. The next section of this letter includes highlights from that discussion.

that mutual funds have managed their portfolios effectively by meeting redemptions without impairing their holdings of short-term assets.¹⁰

The Statement asserts that a September 2015 white paper by the SEC’s Division of Economic and Risk Analysis, entitled *Liquidity and Flows of U.S. Mutual Funds* (“DERA study”), “has shown that some mutual funds manage their liquidity in response to large redemptions by disproportionately selling their relatively more liquid assets.”¹¹ There is no explicit statement to this effect in the DERA study. The closest statement we found appears on page 46 of the DERA study, which says “we find that equity portfolio liquidity decreases for U.S. equity funds that experience outflows.” This is quite different from asserting that funds use their more liquid assets first to meet redemptions. In fact, this statement in the DERA study is consistent with fund flows and fund liquidity being driven *independently* by a third factor: overall market conditions. The DERA study did not control for this possibility.

We believe there may be a more compelling and more benign explanation for the empirical findings in the DERA study: (a) macroeconomic developments, such as a weak U.S. unemployment report or an economic slowdown in China, set off a general decline in the stock market; (b) the drop in the market is accompanied by a drop in market liquidity; (c) as the market declines, fund returns fall; and (d) investors react to the drop in fund returns by selling modest amounts of fund shares. We conducted a statistical analysis to test this explanation, and our results suggest that stock market returns

¹⁰ Letter to Brent J. Fields, Secretary, SEC, from Brian K. Reid, Chief Economist, ICI, dated Jan. 13, 2016 (“Research Letter”) at 32-35, available at https://www.ici.org/pdf/16_ici_sec_lrm_dera_comment.pdf. See also Sean Collins and Chris Plantier, *The “Waterfall Theory” of Liquidity Management Doesn’t Hold Water*, *Viewpoints*, ICI, March 9, 2016, available at https://www.ici.org/viewpoints/view_16_nyfed_bond_flows_03. A recent paper finds that a bond mutual fund experiencing a 15% outflow—which is sizeable—would reduce its cash holdings from an average level of 5.04% to 4.41%, its government bond holdings from 9.84% to 9.40%, and on average would increase its corporate bond holdings from 58.47% to 58.95%. Hao Jiang, Dan Li and Ashley Wang (2016), “Dynamic Liquidity Management by Corporate Bond Mutual Funds.” Even though the authors interpret their findings as providing evidence that fund managers are willing to use up more liquid assets to meet redemptions, the paper affirms just the opposite: when funds experience large outflows, the composition of their portfolios changes very little on average. In fact, the findings in Jiang, Li and Wang (2016) confirm that the ‘waterfall’ theory is not borne out in real-life experience in any meaningful way, and certainly not in a way that could lead to large-scale redemptions from funds.

¹¹ Statement, *supra* note 2, at 8. The DERA study is available at <http://www.sec.gov/dera/staff-papers/white-papers/liquidity-white-paper-09-2015.pdf>.

drive market liquidity and fund flows, not the reverse.¹² On this basis, we believe it is incumbent for regulators to examine this alternative explanation carefully. If this alternative explanation is correct, the findings of the DERA study would provide no basis for the contention that mutual funds use their more liquid assets first to meet redemptions.

FSOC Has Not Substantiated its Concerns about Destabilizing Redemptions from Mutual Funds

FSOC’s concerns about destabilizing redemptions from mutual funds are strikingly similar to those voiced by the Office of Financial Research (“OFR”) in its widely-criticized 2013 report, *Asset Management and Financial Stability*, and by the Financial Stability Board (“FSB”) in its initial consultation in January 2014 on how to identify non-bank non-insurer global systemically important financial institutions. Both OFR and the FSB expressed concern that investment funds—particularly mutual funds—could transmit stress to financial markets through “forced” asset sales prompted by high levels of investor redemptions.

- According to the OFR report, investors and asset managers “crowd or ‘herd’ into popular asset classes or securities . . . contribute to increases in asset prices . . . and magnify market volatility.” Stock and bond funds then “face the risk of large redemption requests in stressed markets” forcing fund managers to sell portfolio securities at fire sale prices and transmitting risks across the financial system.¹³
- The FSB consultation described an “asset liquidation/market channel” in which an investment fund, as a significant investor in some asset classes, may be forced to liquidate positions. The FSB posited that, in times of stress, such liquidations “could cause temporary distortions in market liquidity and/or prices that cause indirect stress to other market participants.” The FSB further suggested that such effects may occasion a loss of investor confidence in a specific asset class, causing “runs” on other investment funds presenting similar features or conducting a similar strategy.¹⁴

¹² See Research Letter, *supra* note 10, at 35-41.

¹³ OFR, *Asset Management and Financial Stability* (Sept. 2013) at 9, 12-15, available at https://financialresearch.gov/reports/files/ofr_asset_management_and_financial_stability.pdf.

¹⁴ Consultative Document, *Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions: Proposed High-Level Framework and Specific Methodologies* (8 Jan. 2014) at 29, available at http://www.fsb.org/wp-content/uploads/r_140108.pdf.

As we explained in detail to OFR and the FSB, this hypothesis of destabilizing redemptions by mutual funds is not new—in fact, such claims have been raised from time to time since the Great Depression. Over the years since the mid-1940s, there has been tremendous growth in both stock and bond funds, and there have been several periods of severe market stress. And yet, across these seven decades, there is no empirical evidence of destabilizing redemptions by stock and bond funds. In fact, the historical data paints a remarkably consistent picture: (1) net redemptions from most individual mutual funds, and from mutual funds collectively, are modest even during times of severe market stress; (2) fund sales of portfolio securities during such periods also are modest; and (3) fund sales of portfolio securities never have risen to a level that impacted overall market prices. Our March 2015 Letter pointed FSOC to this historical data.¹⁵

The Council makes brief reference to this historical data but fails to appreciate its significance.¹⁶ The very consistency of the results, across different market cycles and different types of funds, suggests there are compelling and enduring reasons for mutual funds' long history of success in meeting investor redemptions. Our March 2015 Letter described these reasons and provided empirical data to support them.¹⁷ Briefly stated, they include the following:

1. Even in periods of net outflows, some investors continue to purchase shares in almost all mutual funds.¹⁸ Fully 95 percent of the assets in stock and bond mutual funds are held by retail investors. They often construct diversified investment portfolios by investing in different mutual funds to gain exposure to a number of asset classes and sub-asset classes. And they take the long view in saving for college or retirement.

¹⁵ March 2015 Letter, *supra* note 5, at note 68 and accompanying text.

¹⁶ *See, e.g.*, Statement, *supra* note 2, at note 26 and accompanying text.

¹⁷ Our March 2015 Letter provided data for high-yield bond funds throughout our discussion of liquidity and redemption risk. It also cited to additional empirical analysis for various other types of mutual funds: domestic equity funds, emerging market equity funds, investment grade bond funds, government bond funds, multi-sector bond funds, world bond funds, and tax-exempt bond funds. *See* March 2015 Letter, *supra* note 5, at note 21 (citing Sean Collins, *Why Long-Term Fund Flows Aren't a Systemic Risk: Multi-Sector Review Shows the Same Result*, *Viewpoints*, ICI, March 4, 2015, available at https://www.ici.org/viewpoints/view_15_fund_flow_04). In all cases, the data tell a similar story: mutual fund investors redeem only modestly, even during times of market stress.

¹⁸ March 2015 Letter, *supra* note 5, at 18-22.

2. Funds have sources of cash to meet redemptions, other than through sales of portfolio assets.¹⁹ These include proceeds from the sale of new shares, interest and dividend payments, proceeds from maturing debt instruments, and dividends reinvested by shareholders.
3. Funds typically have multi-faceted liquidity management practices.²⁰ These include active monitoring of the fund's overall liquidity profile, using quantitative tools to measure liquidity, understanding the fund's investor base and historical patterns of purchases and redemptions, communicating with intermediaries who sell fund shares, and potentially receiving advance notice of large redemptions. Funds may employ portfolio management techniques that mitigate the risk of having to sell portfolio holdings at a material discount. These include diversifying across holdings, issuers, sectors, countries and currencies; holding bonds that are close to maturity as a means of providing a predictable source of cash; and using highly liquid derivatives to gain investment exposure.
4. Portfolio rebalancing cushions the effects of redemptions.²¹ A fund must adhere to its stated investment strategy, irrespective of market events. This results in relative stability for funds' cash ratios, even during periods of net redemptions.
5. Funds can vary their purchases and sales of portfolio securities to accommodate redemptions.²² During two recent periods of stress in the corporate bond market, for example, high-yield bond funds met redemptions more by reducing their purchases of securities than by selling off their existing holdings.

FSOC has cited no evidence that long-established, historical patterns of mutual fund investor behavior have changed or are likely to do so. To the contrary, we continue to see modest net outflows from mutual funds in the aggregate, even during times of severe market stress. Without evidence that destabilizing redemptions are likely to materialize, FSOC's observations about "the potential for outflows [from mutual funds] to cause fund distress, and hence broader stress" remain mere conjecture.

¹⁹ *Id.* at 18, 22-23.

²⁰ *Id.* at 23-26. The SEC's proposal to require mutual funds to adopt formal liquidity risk management programs should further strengthen the industry's already strong practices.

²¹ *Id.* at 27-33.

²² *Id.* at 34-36.

Recent Experience in the High-Yield Bond Fund Sector is Instructive—But FSOC is Misconstruing Its Lessons

FSOC expresses particular concern about funds investing in less liquid assets.²³ The Statement asserts that “the potential for outflows to cause fund distress, and hence broader distress, may increase with the illiquidity of a fund’s investment portfolio.”²⁴ It points to the suspension of redemptions by the Third Avenue Focused Credit Fund (“FCF”), a high-yield bond fund, as a “useful example” to illustrate this concern.

The Statement describes the FCF experience in the following terms:²⁵

- FCF’s portfolio was less liquid and invested in more distressed assets than other high-yield bond funds. Eight of FCF’s top ten holdings were in firms that had been restructured over the past two years.
- FCF’s portfolio had become increasingly less liquid from June to December 2015.
- This was a period of volatility in the high-yield bond market, during which there were “significant outflows across the sector.”
- On December 9, 2015, FCF announced that it could no longer pay redemptions without resorting to sales at prices that would disadvantage remaining shareholders.

²³ In its 2014 request for comment, FSOC suggested that investor incentives to redeem “may be magnified for [pooled investment] vehicles invested in less-liquid asset classes.” 2014 Request for Comment, *supra* note 4, at 77490. It posed specific questions to this effect for public comment: “To what extent do pooled investment vehicles holding particular asset classes pose greater liquidity and redemption risks than others, particularly during periods of market stress? To what extent does the growth in recent years in assets in pooled investment vehicles dedicated to less liquid asset classes (such as high-yield bonds or leveraged loans) affect any such risks?” *Id.* at 77491, question 2. For this reason, we chose to include in our March 2015 Letter a range of empirical data about the experience of high-yield bond funds. *See also supra* note 17 and accompanying text.

²⁴ Statement, *supra* note 2, at 7.

²⁵ The Statement organizes these points in a different manner, but the content is the same.

- One week later, the SEC issued a temporary order permitting FCF to suspend redemptions.²⁶
- Other high-yield bond funds were able to meet redemption requests, despite the significant outflows across the sector amid this period of market volatility.

We strongly agree that the FCF example is a useful one. It provides relevant and recent market experience demonstrating that redemption difficulty at one mutual fund portends neither the same fate for other mutual funds nor destabilizing impacts for markets and market participants more broadly. In fact, this example is all the more compelling, because it occurred during a period of market volatility, and it involved mutual funds that invest in a less liquid asset class. In our view, the success of other high-yield bond funds in meeting redemptions during this period should serve to allay significantly FSOC’s concerns about “the potential for outflows to cause fund distress, and hence broader distress.”

And yet, FSOC refuses to be deterred from its narrative. Immediately after acknowledging the fact that other high-yield bond funds were able to meet redemption requests, the Statement pivots right back to conjecture: “The closure of FCF illustrates both liquidity and redemption risk in less-liquid mutual funds and raises questions about the implications for financial stability. If the problems that forced FCF to close had been widespread among other funds, or perceived to be widespread, its closure could have had spillover effects on other funds and asset markets.”

The foregoing statements reveal FSOC’s ongoing concern with the possibility of widespread redemptions from mutual funds—however remote—and the market impact of such redemptions, if

²⁶ See, e.g., March 2015 Letter, *supra* note 5, at B-3 (“should a fund face a “perfect storm” of unusually heavy redemption pressures and difficult market conditions . . . the SEC has the authority under Section 22(e) of the Investment Company Act to allow a fund to suspend redemptions for such period as the SEC determines is necessary to protect the interests of the fund’s shareholders”). The need for such relief is rare. We have identified only six instances in which the SEC has allowed a long-term mutual fund(s) to suspend redemptions in situations outside the control of the fund’s adviser (such as weather-related emergencies). In three of those six instances, the SEC brought enforcement actions against the fund(s), fund adviser and/or other related parties. See Letter to Brent J. Fields, Secretary, SEC, from David W. Blass, General Counsel, ICI, dated Jan. 13, 2016 at 46-47 (discussing the SEC’s use of its Section 22(e) authority) and Appendix B (summarizing each of the six instances in which the SEC has issued orders permitting one or more long-term mutual funds to suspend redemptions). The letter is available at https://www.ici.org/pdf/16_ici_sec_lrm_rule_comment.pdf.

The Statement correctly observes that FCF’s portfolio had become increasingly less liquid over the six months prior to its suspension of redemptions. It is quite possible that FCF could have avoided the need for an SEC order by deciding to liquidate earlier. As discussed in our March 2015 Letter, mutual funds routinely liquidate; this process occurs in an orderly manner, as determined by the fund adviser and the fund board in accordance with their fiduciary obligations to the fund. See March 2015 Letter, *supra* note 5, at Appendices B and C.

they were to occur. In fact, recent modeling by economists at the Federal Reserve Bank of New York examines this very issue.²⁷ The economists sought to quantify the potential “spillover effect” from large-scale redemptions in high-yield bond funds. To do so, they apparently assumed that such funds immediately would experience outflows of 50% of their assets, over ten times as large as the greatest monthly outflows seen during recent periods of market stress, including the global financial crisis and the so-called Taper Tantrum in 2013. But even with this extreme assumption, the results of this research suggested that the spillover effects would be minimal: perhaps 7 to 23 basis points (0.07 to 0.23 percent) of potential losses on funds’ assets, depending on which funds are included. This is less than the average daily variability (*i.e.*, standard deviation) in 10-year Treasury bond returns (0.41 percent).

In other words, the New York Federal Reserve’s research suggests that even extremely large outflows from high-yield bond funds—assumed outflows far greater than ever seen in history—are simply too small to pose systemic risks. Their economists seem to agree, noting that “in this set of funds, no particular fund seems capable—by virtue of its size or asset holdings—to impose significant large fire-sale spillovers on its own.” We think that their research actually points to a stronger conclusion: outflows from all bond funds in aggregate don’t seem capable of generating the kinds of hypothetical fire-sale and spillover risks that the New York Federal Reserve’s research contemplates.²⁸

Conclusion

For the reasons outlined above, we respectfully request that the Council reconsider its conclusion about financial stability risks relating to liquidity and redemptions in mutual funds.

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²⁷ See Nicola Cetorelli, Fernando Duarte, Thomas Eisenbach, and Emily Eisner, *Quantifying Potential Spillovers from Runs on High-Yield Funds*, *Liberty Street Economics*, Federal Reserve Bank of NY (Feb. 19, 2016), available at <http://libertystreeteconomics.newyorkfed.org/2016/02/quantifying-potential-spillovers-from-runs-on-high-yield-funds.html#.V08Ss3T2aU1>.

²⁸ For a more detailed discussion of our views regarding this research, see Chris Plantier and Sean Collins, *New Research by New York Fed Confirms: Bond Funds Don’t Pose Systemic Risks*, *Viewpoints*, ICI, Feb. 23, 2016, available at https://www.ici.org/viewpoints/view_16_nyfed_bond_flows.

If you have any questions regarding the views outlined in this letter or would like additional information, please feel free to contact me at (202) 326-5901 or paul.stevens@ici.org, Brian Reid, ICI Chief Economist, at (202) 326-5917 or reid@ici.org, Rachel Graham, Associate General Counsel, at (202) 326-5819 or rgraham@ici.org, or Frances Stadler, Associate General Counsel and Corporate Secretary, at (202) 326-5822 or frances@ici.org.

Sincerely,

/s/ Paul Schott Stevens

Paul Schott Stevens
President & CEO
Investment Company Institute

Appendices

cc: The Honorable Mary Jo White, Chair
Mr. David Grim, Director, Division of Investment Management
Mr. Mark Flannery, Director and Chief Economist, Division of Economic and Risk Analysis
U.S. Securities and Exchange Commission

The Honorable Jacob Lew, Secretary
Mr. Richard Berner, Director, Office of Financial Research
U.S. Department of the Treasury

The Honorable Janet Yellen
Chairman, Board of Governors of the Federal Reserve System

The Honorable Timothy Massad
Chairman, Commodity Futures Trading Commission

The Honorable Martin Gruenberg
Chairman, Federal Deposit Insurance Corporation

Mr. Melvin Watt
Director, Federal Housing Finance Agency

The Honorable Thomas J. Curry
Comptroller of the Currency

The Honorable S. Roy Woodall, Jr.
Financial Stability Oversight Council

The Honorable Rick Metsger
Chairman, National Credit Union Administration

The Honorable Richard Cordray
Director, Consumer Financial Protection Bureau

The Honorable John Ducrest
Commissioner, Louisiana Office of Financial Institutions

The Honorable Adam Hamm
Commissioner, North Dakota Insurance Department

The Honorable Melanie Lubin
Securities Commissioner, Maryland Office of the Attorney General

The Honorable Michael McRaith
Director, Federal Insurance Office

Appendix A

Discussion of Academic Studies

In the April 2016 statement providing a public update on its review of asset management products and activities (“Statement”),¹ FSOC stated its belief that “there are *financial stability* concerns that may arise from liquidity and redemption risks” in mutual funds, particularly funds investing in less liquid asset classes [emphasis added]. The Council suggests that fund investors may have incentives to redeem their shares ahead of other investors in times of market stress (a so-called “first mover advantage”) and that funds facing significant redemptions may be forced to sell portfolio holdings that in turn may result in “spillover effects” to other market participants and the broader markets that would threaten financial stability.

The Statement provides no supporting evidence of its own. Instead, it cites selected academic studies.² In this appendix, we briefly discuss each of these studies and explain why they provide little, if any, support for FSOC’s stated concerns.

Qi Chen, Itay Goldstein and Wei Jiang (2010), “Payoff Complementarities and Financial Fragility: Evidence from Mutual Fund Outflows,” *Journal of Financial Economics*, 97(2) 239-262

The Statement cites this article in support of its contention that “[r]edemption options and pricing methods offered by pooled investment vehicles may create a potential ‘first-mover advantage’ if the costs of meeting investor redemptions are largely borne by remaining investors in the fund.”³

Chen, Goldstein, and Jiang (2010) provides a fund-by-fund analysis. It indicates that investors tend to redeem out of individual small-cap, mid-cap, or single-country international equity funds that underperform according to particular measures of market performance. This finding, while quite plausible, says nothing about whether such funds *in aggregate* are experiencing outflows or inflows. For example, some small-cap funds might underperform the markets and thus experience outflows while other small-cap funds outperform the markets and see inflows. On net, inflows and outflows to such

¹ FSOC, Update on Review of Asset Management Products and Activities (April 18, 2016), available at: <https://www.treasury.gov/initiatives/fsoc/news/Documents/FSOC%20Update%20on%20Review%20of%20Asset%20Management%20Products%20and%20Activities.pdf>.

² The Statement also cites to a white paper by staff of the Securities and Exchange Commission’s Division of Economic and Risk Analysis (“DERA”). We briefly discuss the DERA white paper in the letter on pages [3-4].

³ Statement at 5.

funds might balance with no net effects on the markets at large. The paper by Chen, Goldstein, and Jiang (2010) simply does not address this issue.

In addition, taking the results in the Chen, Goldstein, and Jiang (2010) as given, it is unclear whether the effects would be material even for investors in individual funds, let alone for the markets in general. For example, Chen, Goldstein, and Jiang (2010) report that “illiquid” funds with outflows of 5 percent or more experience a reduction in returns the following month of 13 to 19 basis points. Given that the stock market varies far more than this on a monthly basis—for instance, the standard deviation of monthly returns on the S&P 500 from January 2011 to May 2016 was 340 basis points—investors in such funds might well view the effects reported in Chen, Goldstein, and Jiang (2010) as at best incidental to their investment decisions.

Joshua Coval and Erik Stafford (2007), “Asset Fire Sales (and Purchases) in Equity Markets,” *Journal of Financial Economics*, 86(2), 479-512

The Statement notes that “destabilizing redemptions across mutual funds mostly invested in less-liquid asset class have not occurred historically.” It posits, however, that if such an event were to occur, “the resulting asset sales could lead to declines across the asset class, transmit stress to previously unaffected market participants, and ultimately could create broader market disruptions.”⁴ In support, the Statement cites Coval and Stafford (2007).

Coval and Stafford (2007), however, do not make the sweeping claims suggested by the Statement. They report empirical evidence supporting the conclusion that outflows at particular funds may cause those funds to sell portfolio securities, in turn putting additional downward pressure in future months on the prices of the particular securities a given fund sells to meet redemptions. A given fund may be selling securities in response to outflows but if other, similar funds are experiencing inflows, the overall effect on financial markets is uncertain and could be none at all. Coval and Stafford (2007) seem to acknowledge this possibility at least implicitly, stating “Funds experiencing large inflows tend to increase their existing positions, creating significant [upward] price pressure in the stocks held in common by these funds.”

As with Chen, Goldstein, and Jiang (2010) discussed above, it is unclear that the effects reported in Coval and Stafford (2007) are material even at the level of individual funds. Indeed, Coval and Stafford (2007) acknowledge this, noting that “considering that less than one percent of the stocks in our sample are subject to widespread flow-induced selling during a given quarter, a fund faces relatively *trivial ex ante expected costs* [emphasis added] from the possibility of being forced by fund

⁴ *Id.*

outflows to sell holdings at discounted prices.” In other words, from the perspective of an individual fund and therefore its investors, it is unclear whether the reported effects are economically material.

Finally, we note that Coval and Stafford (2007) report results that directly contradict the suggestion in the Statement that a first mover advantage in funds may be attributable to funds selling their most liquid assets first to meet redemptions.⁵ On the contrary, Coval and Stafford (2007) state that “[f]unds experiencing extreme inflows or outflows do not appear to transact with any greater frequency in larger, more liquid, or better-performing holdings than funds that are subject to moderate flows. This suggests that funds experiencing extreme inflows or outflows do not mitigate the costs of their liquidity demands by transacting selectively in holdings.”

Itay Goldstein, Hao Jiang and David T. Ng (2015), “Investor Flows and Fragility in Corporate Bond Funds,” working paper

The Statement cites Goldstein et al. (2015) to support its contention that “[t]here are also indications that, in the aggregate, mutual fund investors may be more likely to redeem from less liquid asset classes following poor performance.” This paper, like most of the others the Statement cites, is primarily a fund-by-fund analysis, in this case analyzing how flows to individual bond funds respond to those funds’ returns. Goldstein et al. (2015) find corporate bond funds that underperform their peers tend to see outflows, while those that outperform tend to see inflows. Given the widespread recognition that investor flows generally respond to fund returns, at least to some degree,⁶ this result does not seem too surprising.

The relevant question for financial stability purposes, though, is whether aggregate net outflows from funds in response to market events are sufficiently material as to “create, amplify, or transmit risk more broadly in the financial system in ways that could affect U.S. financial stability.”⁷ The evidence in Goldstein et al. (2015) suggests not. In particular, Figure 5 in that paper suggests that returns of minus 5 percent on corporate bond funds might lead to an expected aggregate outflow of 1 percent of their assets. Put into context, that is a very mild response.

For instance, suppose that on a given day the Federal Reserve were to raise short-term interest rates by 2 percent and that on that same day longer-term interest rates similarly rose by 2 percent (*i.e.*, a parallel shift in the yield curve). Market participants probably would consider such assumptions to be extreme, on the view that the Federal Reserve is unlikely to raise short-term interest rates in increments

⁵ *Id.*

⁶ See, e.g., Investment Company Institute, *2016 Investment Company Fact Book*, Figure 2.7 at 38.

⁷ Statement at 3.

of greater than 0.25 percent. If, plausibly, the duration of the average corporate bond fund is 5 years, the Federal Reserve's actions could create a minus 10 percent return (minus 5 x 2 percent) for corporate bond funds, which—according to the results in Goldstein et al. (2015)—in turn would lead investors to redeem just 2 percent of those funds' assets. In other words, the findings of Goldstein et al. (2015) suggest that an implausibly sharp tightening of monetary policy leads investors in corporate bond funds to redeem only very modestly.

Luis Brandao-Marques, Gaston Gelos, Hibiki Ichiue and Hiroko Oura (2015), "Changes in the Global Investor Base and the Stability of Portfolio Flows to Emerging Markets," IMF Working Paper, WP/15/277

The Statement cites this paper, along with Goldstein et al. (2015) and Coval and Stafford (2007), as indicating that "in the aggregate, mutual fund investors may be more likely to redeem from less-liquid asset classes following poor performance ... [T]he potential for outflows to cause fund distress, *and hence broader stress* [emphasis added], may increase with the illiquidity of a fund's investment portfolio."⁸

The paper by Brandao-Marques et al. (2015), like many the Statement cites, is an analysis of fund-by-fund data. It presents results indicating that flows from individual funds (U.S. and non-U.S. mutual funds) to individual emerging market economies depend importantly on the returns in those markets and on global financial conditions.

That funds alter their purchases and sales of portfolio securities in response to changes in financial conditions in emerging economies or global conditions seems quite plausible. But the paper's fund-by-fund findings do not provide evidence that these effects, in aggregate, "create, amplify, or transmit risk more broadly in the financial system" in the United States. The paper focuses on the responses of capital flows provided by funds, whether organized in the U.S. or elsewhere, to emerging market economies, *not* capital flows provided by funds to the U.S. economy. Even if FSOC believes capital flows to emerging market economies could have implications for U.S. financial stability, this paper suggests that capital flows to emerging economies from U.S. mutual funds do *not* react sharply to financial market shocks. As the paper states, funds "differ in their behavior depending on their domicile: those located ... in the United States are *less* [emphasis in original] sensitive to changes in [global financial conditions as measured by] the VIX than funds domiciled elsewhere."⁹

⁸ Statement at 7.

⁹ The Chicago Board Options Exchange (CBOE) Volatility Index (VIX) is a key measure of market expectations of near-term volatility conveyed by S&P 500 stock index option prices.

Alberto Manconi, Massimo Massa, and Ayako Yasuda (2012), “The Role of Institutional Investors in Propagating the Crisis of 2007-2008,” *Journal of Financial Economics*, 104(3), 491-518

The Statement asserts that “Recent analysis by SEC staff . . . has shown that some mutual funds manage their liquidity in response to large redemptions by disproportionately selling their relatively more liquid assets, which might amplify first-mover-advantage by leaving remaining investors with an increasingly illiquid portfolio.” The Statement then cites the article by Manconi et al. (2012) as indicating that “Such practices have been shown to contribute to contagion across asset classes.”¹⁰

As an initial matter, the SEC staff analysis referred to above does *not* show—or purport to show—that funds manage their liquidity in response to large redemptions by disproportionately selling their relatively more liquid assets.¹¹

Moreover, Manconi et al. (2012), like a number of the other studies the Statement cites, is a fund-by-fund analysis. The paper argues that during the financial crisis, notably in the second half of 2007, mutual funds holding both securitized bonds and corporate bonds and experiencing outflows were likely to sell corporate bonds to meet redemptions. This would not be particularly surprising. Like other kinds of funds, bond funds that experience redemptions might sell a proportionate slice of their portfolios. A bond fund holding both corporate and securitized bonds thus might sell some of both types of bonds to meet redemptions (to the extent that the fund does not have other sources of cash from which to pay redemption proceeds). The paper argues, although it was the securitized bond market that initially was deteriorating, by selling both types of bonds, funds created contagion running from securitized bond market to the corporate bond market.

But this result, even taken at face value, does not necessarily have any implications for financial stability. Rather, to consider the potential for “contagion,” the paper should have examined the extent to which funds, in aggregate, were selling corporate bonds on net during this period. Although Manconi et al. (2012) suggest that mutual funds made heavy sales of corporate bonds (\$253 billion) during the last quarter of 2007, ICI data show something quite different. ICI data indicate that in 2007, long-term mutual funds’ net purchases (bonds purchased less bonds sold) of corporate bonds totaled more than \$100 billion, which was split rather evenly between all four quarters in 2007. In addition, these funds’ net purchases of corporate bonds were *higher* in 2007 than in 2006. Thus, as the securitized mortgage market deteriorated in 2007, funds were aggregate net buyers, rather than net sellers, of corporate bonds, contrary to the contagion hypothesis.

¹⁰ Statement at 8.

¹¹ As indicated in note 5 *supra*, we briefly discuss this SEC staff analysis on pages [3-4] of the letter.

Fang Cai, Song Han, Dan Li, and Yi Li (2016), “Institutional Herding and Its Price Impact: Evidence from the Corporate Bond Market,” Federal Reserve Board working paper

The Statement says that “there is evidence that certain types of institutional investors, such as insurance companies and pension funds, tend to act in concert, and in a way similar to mutual funds, and their collective behavior can amplify price distortions in market stress.” In support, the statement cites Cai et al. (2016).

This is essentially a prediction that institutional investors—including mutual funds—engage predominantly in one-way trading (*i.e.*, selling) in a down market. Appendix B provides evidence from recent developments in the high-yield market showing that that is not the case.

Appendix B
Experience in the High-Yield Bond Market: 2014–2016

Regulators and academics have advanced a variety of hypotheses for why there could be financial stability risks associated with redemptions from mutual funds, particularly funds investing in less liquid asset classes. One hypothesis attributes these risks to a “first-mover advantage”—the idea that fund investors may have unique incentives to redeem ahead of other investors to avoid possible future transaction costs¹ or a possible future decrease in portfolio liquidity.² Another hypothesis anticipates that funds may need to sell assets more quickly than expected in a stressed market, putting additional downward pressure on asset prices and leading to additional outflows.³ Yet another hypothesis envisions increased, possibly panic-driven, selling by fund investors in response to a triggering event (*e.g.*, sudden or unexpected closure of a single fund) that then transmits stress to additional funds and the broader market.⁴

These hypotheses share four testable predictions:

- **Prediction 1:** Mutual fund investors will redeem heavily across most funds within the affected asset class.
- **Prediction 2:** During this period of heavy redemptions, investors will refrain from purchasing new shares of funds within the asset class, creating a one-way market of sellers of fund shares.
- **Prediction 3:** Fund managers as a group will be forced by the heavy redemptions to sell portfolio assets and will not be in a position to buy assets, with the result that managers will be on one side of the trade in a down market.
- **Prediction 4:** Other investors will not enter the market to buy the portfolio assets that fund managers are trying to sell.⁵

¹ *See, e.g.*, FSOC, Update on Review of Asset Management Products and Activities (April 18, 2016) (“FSOC Statement”) at note 12 and accompanying text (citing Qi Chen, Itay Goldstein, and Wei Jiang, *Payoff Complementarities and Financial Fragility: Evidence from Mutual Fund Outflows*, *Journal of Financial Economics* 97(2), pp. 239-262 (2010)).

² *Id.* at note 13 and accompanying text (citing Paul Hanouna, Jon Novak, Tim Riley and Christof Stahel, *Liquidity and Flows of U.S. Mutual Funds*, SEC DERA white paper (Sept. 2015)).

³ *Id.* at 5.

⁴ *Id.* at 8.

⁵ *Id.* at 9 (citing Fang Cai, Song Han, Dan Li, and Yi Li, *Institutional Herding and Its Price Impact: Evidence from the Corporate Bond Market*, Federal Reserve Working Paper (Mar. 1, 2016)).

In this appendix, we test these four predictions using publicly available data. We begin with some brief background on the U.S. high-yield bond market and a description of the state of that market prior to November 2015. Then, to test the predictions, we look at the experience of high-yield bond mutual funds from early 2014 to early 2016, with particular attention to the period from November 2015 to February 2016, a time of significant stress in the high-yield bond market.⁶ This period included the December 2015 announcement by Third Avenue Focused Credit Fund (FCF), a high-yield bond mutual fund, that it had suspended investor redemption rights.⁷ We provide empirical data regarding the behavior of investors in high-yield bond funds, the managers of those funds, and other participants in the high-yield market.

Contrary to these predictions, the data show that investors were purchasing (as well as selling) shares in high-yield bond funds during this period of market stress. Similarly, fund managers and other investors not only sold but also purchased high-yield bonds. The net result was that trading volumes of high-yield bonds actually *rose* during December 2015—when the high-yield bond market was under the greatest degree of stress.⁸ We conclude by urging regulators and academics to reexamine their hypotheses, in accordance with these findings.

An Initial Word on the U.S. High-Yield Bond Market

The U.S. high-yield bond market is generally considered less liquid than U.S. Treasury and agency bond markets.⁹ Companies that issue below investment grade bonds have weaker balance sheets and, during periods of slower economic growth, are more likely to default on their bonds than are investment grade issuers. For example, more than 10 percent of high-yield debt in the United States is issued by oil and gas producers and distributors, firms that are vulnerable to fluctuations in oil and gas prices. As a result, yields on below-investment grade bonds are more volatile, creating larger potential capital gains and

⁶ ICI data on high-yield bond funds includes two types of bond funds: (1) funds that primarily invest in high-yield fixed-rate bonds, and (2) high-yield floating-rate funds that largely invest in high-yield floating-rate loans and other floating-rate debt securities. In May 2014, for example, \$293 billion was held in funds that primarily invest in high-yield fixed-rate bonds, and \$147 billion was held in high-yield floating rate funds (for a total of \$440 billion in high-yield bond funds).

⁷ See FSOC Statement, *supra* note 1, at 7 (pointing to FCF’s suspension of redemptions as a “useful example” to illustrate “the potential for outflows to cause fund distress, and hence broader distress”).

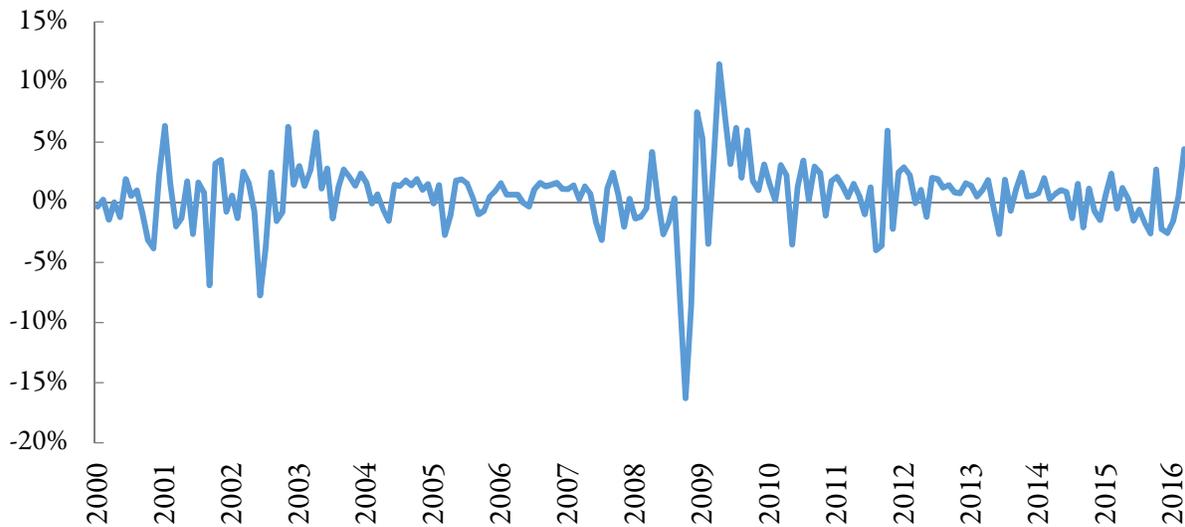
⁸ Some may find it counterintuitive that trading volumes in the high-yield bond market rose during a time of severe market stress, expecting instead that trading would freeze up. Mortgage-backed bonds, for example, often are identified as an instrument that ceased to trade during the financial crisis. In the case of mortgage-backed bonds, however, investors were unable to value the pool of mortgages backing many of these bonds. The opacity of the bonds obscured their risk features and even the nature of bondholders’ claims on the underlying pool of loans. In contrast, a high-yield bond is issued by a single company, which makes it easier for investors or analysts to evaluate the likelihood of default.

⁹ See *e.g.*, FSOC Statement, *supra* note 1, at note 21 (citing Barclays, Liquidity Cost Scores Report (Mar. 2016)).

losses for investors relative to investment grade bonds. For this reason, investors in high-yield bonds, including those who invest through funds, can and do experience sizeable monthly fluctuations in total returns (Figure 1).

Figure 1
Monthly Total Returns of U.S. High-Yield Bonds* Are Volatile

Percent; monthly, January 2000–March 2016



*Index represents the BofA Merrill Lynch US High Yield Total Return Index Value©, retrieved from FRED, Federal Reserve Bank of St. Louis.

Note: The variation (standard deviation) in monthly returns for U.S. high-yield bonds was 2.81 percent over the given period. Investment-grade bonds experienced less volatility, with a variation of 1.51 percent over the same period.

Source: Investment Company Institute tabulations of Federal Reserve Bank of St. Louis data

State of the U.S. High-Yield Bond Market Prior to November 2015

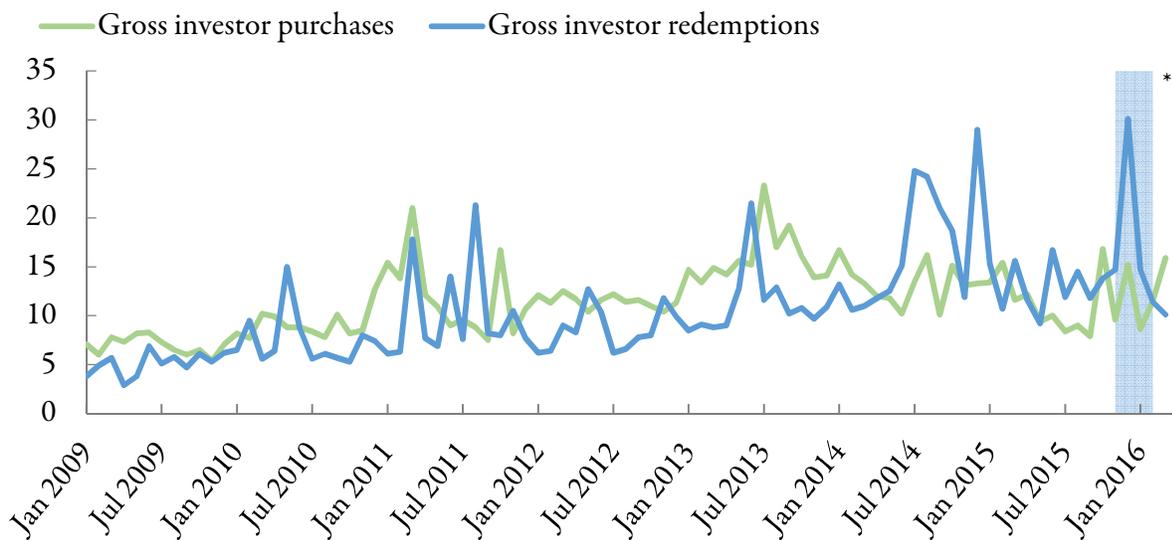
Corporate revenues and profits rose in the aftermath of the global financial crisis. As expected, default rates on below-investment grade bonds declined, bond prices rose, and yields fell sharply. By the end of June 2014, effective yields on high-yield bonds had fallen to 5.28 percent, nearly an 18 percentage point

drop from their peak in late 2008.¹⁰ Yields on debt rated CCC or below had declined 37 percentage points to 8.0 percent.¹¹

The falling yields and rising prices of bonds produced substantial capital gains for investors and attracted investors to high-yield bond funds. Beginning in early 2009, high-yield bond funds began to experience net inflows as investor purchases outpaced investor redemptions (Figure 2). From January

Figure 2
Investor Purchases and Redemptions of High-Yield Bond Funds

Billions of dollars; monthly, January 2009–March 2016



*The shaded region represents November 2015 through February 2016.

Source: Investment Company Institute

2009 through May 2014, high-yield bond funds received \$162 billion in net inflows, and assets in these funds reached a record \$440 billion by the end of May 2014.¹²

¹⁰ BofA Merrill Lynch, *BofA Merrill Lynch US High Yield Effective Yield*®, retrieved from FRED, Federal Reserve Bank of St. Louis, at <https://research.stlouisfed.org/fred2/series/BAMLH0A0HYM2EY>.

¹¹ BofA Merrill Lynch, *BofA Merrill Lynch US High Yield CCC or Below Effective Yield*®, retrieved from FRED, Federal Reserve Bank of St. Louis, at <https://research.stlouisfed.org/fred2/series/BAMLH0A3HYCEY>.

¹² Out of concern about the volume of these flows, some in the policy community flagged the growth of high-yield bond funds as a potential source of risk for the economy, based on fears that when yields rose and these funds suffered losses,

Beginning in mid-2014, yields on high-yield bonds began to rise on expectations that falling oil prices, slower global growth, and a rising dollar would slow issuers' revenue and profit growth and increase the default rate on these bonds. Effective yields on high-yield debt rose more than 2 percentage points during the second half of 2014, reaching 7.28 percent by mid-December. Bond yields declined in the first part of 2015, but resumed their rise during the summer and early fall as investors became increasingly concerned that slower global economic growth could lead to higher default rates.

From June 2014 through October 2015, high-yield bond funds in the aggregate fluctuated between modest net outflows (i.e., redemptions exceeded purchases) and weak net inflows (i.e., purchases exceeded redemptions).¹³ Averaged over the period, high-yield bond funds had net outflows of about 1 percent of assets per month. The share of outstanding high-yield bonds held by high-yield bond funds declined slightly, from 21.3 percent in June 2014 to 19.9 percent in October 2015.¹⁴

Test of Predictions 1 and 2: Fund Investor Behavior from November 2015 to February 2016

All of the hypotheses of investor behavior that regulators and academics have put forth predict that fund investors will redeem heavily from an asset class during a period of market stress affecting those assets (Prediction 1). According to these hypotheses, fund investors may redeem to avoid losses or transaction costs or because they fear a contagion. Similarly, during this period of heavy redemptions, investors will refrain from purchasing new shares of funds within the asset class (Prediction 2).

The fourth quarter of 2015 provided an opportunity to test these predictions. Sentiment among investors in the high-yield bond market had turned noticeably more negative in November 2015. Declining oil and commodity prices along with further signs of slower growth in Brazil, China, and other emerging market economies increased investor concerns about corporate profits and revenues. Yields on below-investment grade debt rose sharply. In early November, average yields on high-yield bonds were about 7.5 percent.¹⁵ Yields increased to 8 percent by the beginning of December, and to

investors would react by quickly redeeming their fund shares. *See, e.g.*, International Monetary Fund, *Global Financial Stability Report*, Ch. 1: Improving the Balance Between Financial and Economic Risk Taking (Oct. 2014).

¹³ We note that net outflows were elevated in December 2014. One explanation for this may be that investors were redeeming shares to realize tax losses.

¹⁴ We use as the measure of outstanding high-yield bonds the market value of the bonds in the BofA Merrill Lynch US High Yield Index. Our calculation of high-yield bond funds' market share excludes high-yield floating-rate funds. These funds predominantly hold bank loans and are not included in the BofA Merrill Lynch US High Yield Index.

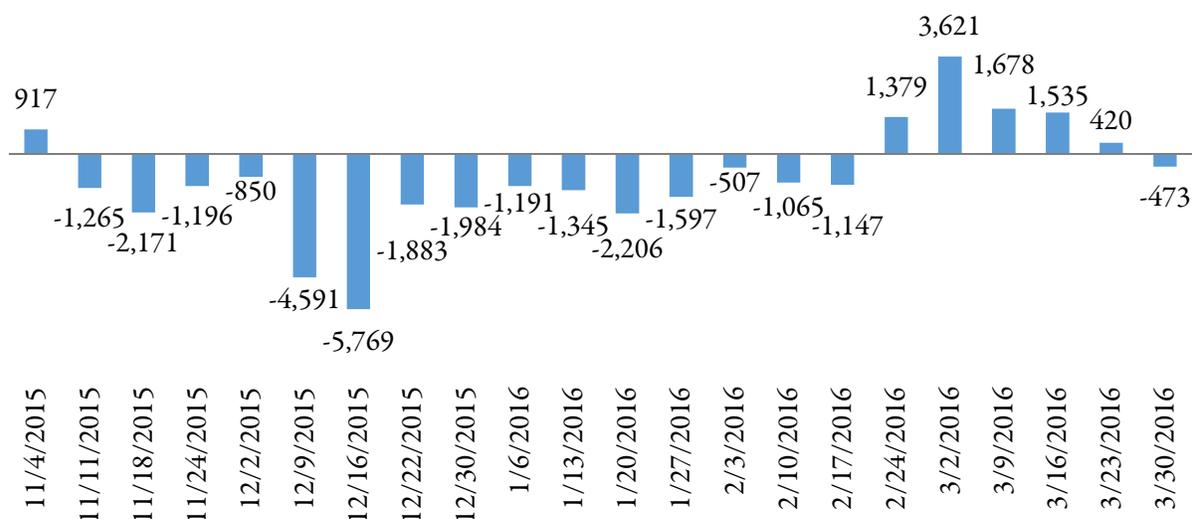
¹⁵ *See supra* note 10.

nearly 8.5 percent by December 9. For bonds rated CCC or below, yields rose from 14 percent in early November to 17 percent by December 9.¹⁶

Net outflows rose in early December. For the week ending December 2, 2015, outflows totaled \$850 million, or about 0.2 percent of these funds' assets. The next week, ending December 9, net outflows increased to \$4.6 billion, or 1.3 percent of fund assets (see Figure 3).

Figure 3
U.S. High-Yield Bond Fund Net Outflows Deepened, but Quickly Tapered Off In December 2015

Millions of dollars; weekly, November 4, 2015–March 30, 2016



Source: Investment Company Institute

Late on December 9 came the announcement that FCF, a high-yield bond fund, had suspended investor redemption rights and would liquidate.¹⁷ News services carried the story on December 10,¹⁸

¹⁶ See *supra* note 11.

¹⁷ Mutual funds routinely liquidate for a variety of reasons (*e.g.*, investment strategy no longer in favor, insufficient interest from investors, departure of portfolio manager), but they very rarely suspend redemptions. Rather, consistent with their obligations under the Investment Company Act of 1940 and applicable state law, a fund announces its plan to liquidate on a certain date, and investors are able to redeem some or all of their shares in the fund at any time before the liquidation date.

¹⁸ See *e.g.*, A Junk Bond Fund Will Liquidate, and Reimburse Investors Slowly http://www.nytimes.com/2015/12/11/business/dealbook/high-yield-fund-blocks-investor-withdrawals.html?_r=0 and Junk Fund's Demise Fuels Concern Over Bond Rout <http://www.wsj.com/articles/as-high-yield-debt-reels-mutual-fund->

and it made the front page in some major newspapers on December 11.¹⁹ Some market commentators anticipated significant fallout from the fund's closure during a period of heightened pressure in the high-yield bond market.²⁰

FCF's problems did not arise suddenly. Over the prior 18 months, the fund's cumulative return was *minus 34 percent*, and the fund experienced outflows, according to Morningstar, during much of this period. In four of those months, the fund had outflows exceeding 10 percent of fund assets. By November 2015, FCF's assets were \$942 million, down from \$3.5 billion at its peak (a decrease in assets of 73 percent).²¹

Certainly, all the elements for the type of fund investor-driven contagion that academics and regulators have hypothesized were in place:

- The high-yield bond market was under stress;
- High-yield bond funds were experiencing moderate outflows even prior to FCF's announcement;
- FCF suspended investor redemptions—a rare occurrence for a mutual fund;²² and
- News reports were predicting further fallout in the high-yield bond market.

According to Predictions 1 and 2, net outflows from high-yield bond funds should have grown, amplifying pressure in the high-yield bond market. In the week ending December 16, net outflows picked up a bit as investors redeemed, on net, \$5.8 billion or 1.7 percent of high-yield bond fund assets.

[blocks-holders-from-redeeming-1449767526](#).

¹⁹ See e.g., Junk Fund's Demise Fuels Concern Over Bond Rout <http://www.wsj.com/articles/as-high-yield-debt-reels-mutual-fund-blocks-holders-from-redeeming-1449767526>, which appeared on A1 of the *Wall Street Journal* print edition.

²⁰ See e.g., "A Junk Bond Fund Freezes Out Investors, and the Chills Spread" <http://www.nytimes.com/2015/12/12/business/dealbook/a-junk-bond-fund-freezes-out-investors-and-the-chills-spread.html> and "Third Avenue Fund's Eerie Financial-Crisis Echo" <http://www.wsj.com/articles/third-avenue-funds-erie-financial-crisis-echo-1449785807>.

²¹ Morningstar Direct.

²² See, e.g., SEC, *Open-End Fund Liquidity Risk Management Programs*, 80 Fed. Reg. 62274, 62283 at n.82 (Oct. 15, 2015) ("The Commission has rarely issued orders permitting the suspension of redemptions for periods of restricted trading or emergency circumstances but has done so on a few occasions."); Letter to Brent J. Fields, Secretary, SEC, from David W. Blass, General Counsel, ICI, dated Jan. 13, 2016, at 46 and Appendix B (identifying six instances since 1940 in which the SEC has granted such orders to one or more stock or bond mutual funds, and describing the limited and unusual circumstances in each instance). Likewise, the Council acknowledges on page 86 of its 2016 annual report that suspensions of redemption rights "have been rare."

But despite continued pressures in the high-yield market, net outflows from high-yield bond funds quickly tapered off in the second half of the month, totaling \$4.2 billion or 1.2 percent of fund assets over this two-week period (see Figure 3).

One reason for the slowdown in net outflows is that, while some high-yield bond fund investors were redeeming their shares in December, other investors were purchasing shares of high-yield bond funds to such an extent that the total dollar volume of investor purchases of high-yield bond funds increased (see Figure 2). Some of these purchases may be attributable to investor flows from defined contribution plans. But such plans account for only a small percentage of the assets in high-yield funds, and accordingly other investors were an important source of fund share purchases.²³

Investors weren't just buying shares of a few high-performing funds. In December 2015, 98 percent of high-yield bond funds received new investor purchases. As Figure 4 shows, the purchases (solid blue bars), measured as a percentage of assets, were significant, even for those funds with the most negative returns (the horizontal axis).

Why is it that, contrary to Prediction 2, some investors were buying shares of high-yield bond funds—even as prices were falling and other investors were selling? One reason is that when bond prices fall, yields rise—compensating investors for the possibility of higher bond default rates.²⁴ A related point is that if some investors sell into a down market—and help to drive bond prices below their fundamental value—investors who step in can reap the rewards when bond prices recover. Thus, investors may be attracted by depressed bond prices because of higher yields or the prospect of rising bond prices.

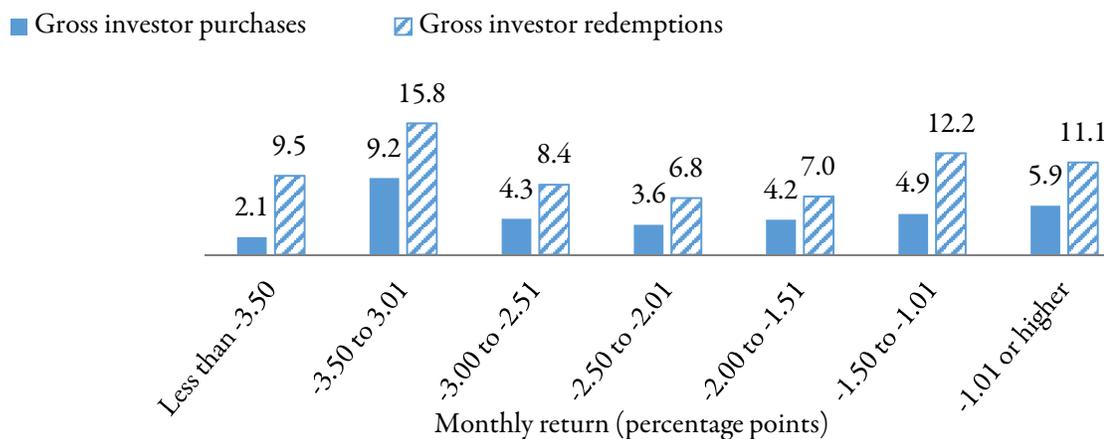
Irrespective of the reason, these facts—that investors increased their purchases of shares of high-yield bond funds during December 2015 and that net outflows tapered off—provide evidence that the hypotheses advanced by academics and regulators do not take into account an important component of investor behavior: that some investors step in to purchase fund shares even for funds investing in less

²³ Investors hold about 15 percent of taxable bond fund assets through defined contribution plans. The share of high-yield bond fund assets held through such plans is even less. Hence, flows from defined contribution plans typically account for a small share of high-yield bond fund flows and assets.

²⁴ This is a factor that the first-mover hypothesis overlooks when seeking to explain investor redemptions during periods of market stress. If investors redeem out of funds to avoid future mutualized trading costs, they also forego future interest income. Sitting out of the market in December 2015 alone would have cost investors 60 to 80 basis points in interest income, based on prevailing yields on high-yield bond funds. Such lost income would have exceeded the trading costs, even for the funds that had significant outflows.

Figure 4
U.S. High-Yield Bond Funds Had Investor Purchases and Redemptions in December
Regardless of Performance

Gross purchases and redemptions as a percentage of assets, by fund return, December 2015



Number of funds:	12	15	42	40	39	30	35
Assets* (Billions of dollars):	\$17.4	\$10.2	\$91.6	\$40.8	\$69.1	\$71.8	\$34.3

*Assets are as of November 30, 2015.

Sources: Investment Company Institute and Morningstar

liquid securities, and even in a highly stressed market. In effect, this two-way trading in fund shares disrupts the destabilizing spiral that the hypotheses predict.

Test of Prediction 3: Fund Portfolio Manager Trading From November 2015 to February 2016

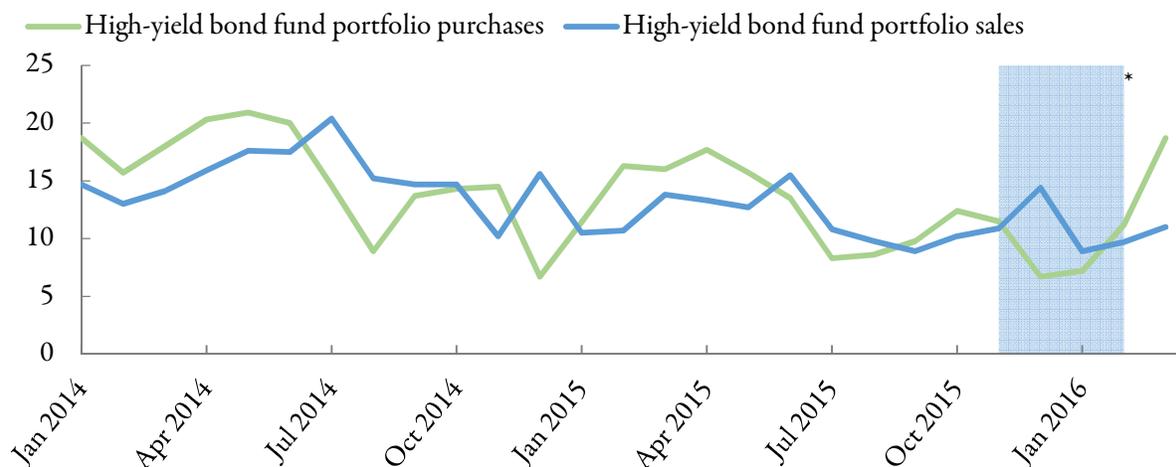
According to the hypotheses advanced by regulators and academics, not only will fund investors make one-sided trades to get out of their funds, but fund managers will be forced into one side of the market, only *selling* portfolio assets (Prediction 3). These sales would then cause a negative feedback loop, pushing the prices of those assets lower, sparking further redemptions by fund investors, and prompting further sales of portfolio assets by fund managers.²⁵

The data tell a different story. Contrary to Prediction 3, fund trading activity provides evidence that fund managers were both selling and *buying* portfolio assets—primarily corporate bonds—during

²⁵ The FSOC Statement acknowledges that “the extent to which fund redemptions might contribute to financial stability risks also depends on the behavior of various types of investors...[F]orced asset sales may not create a feedback loop if other investors step in to buy the assets.” FSOC Statement, *supra* note 1, at 8.

Figure 5
U.S. High-Yield Bond Fund Managers Continued to Buy Corporate Bonds Even During the 2015 Sell-Off

Billions of U.S. dollars; monthly, January 2014–March 2016



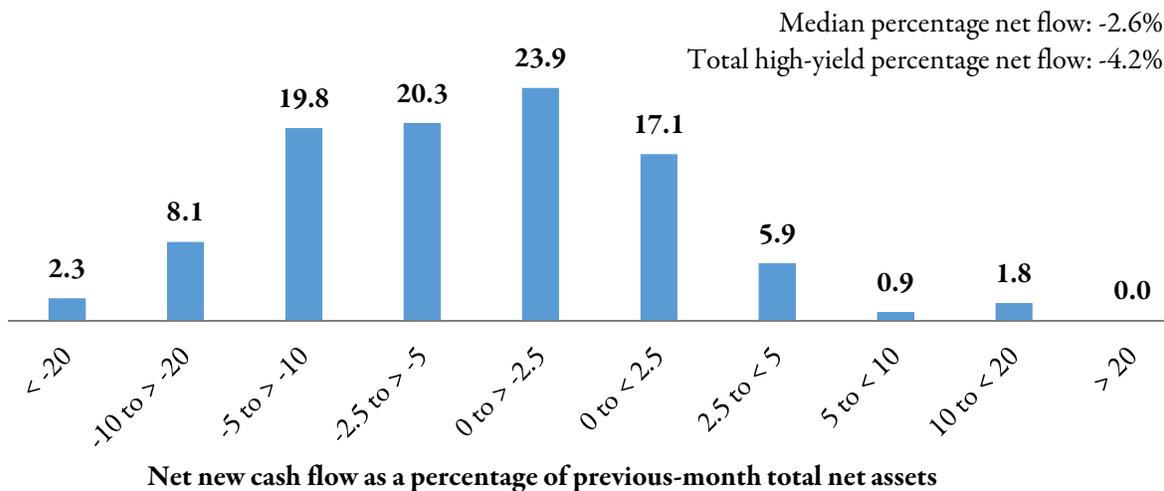
*The shaded region represents November 2015 through February 2016.

Source: Investment Company Institute

December 2015 (Figure 5). Some funds had new cash to invest. About one-quarter of high-yield bond funds were in net *inflow*—meaning investors were buying more shares of these funds than they were selling (Figure 6). Even funds with modest net outflows would have had proceeds from maturing bonds and interest income to put to work in the market. As a result, 85 percent of high-yield bond fund managers were buying corporate bonds, including managers of funds that had some of the weakest performance in December 2015 (Figure 7).

Figure 6
Most U.S. High-Yield Bond Mutual Funds Had Modest Net Outflows; More than One-Quarter Had Net Inflows in December 2015

Distribution of net flows as a percentage of total number of funds, December 2015

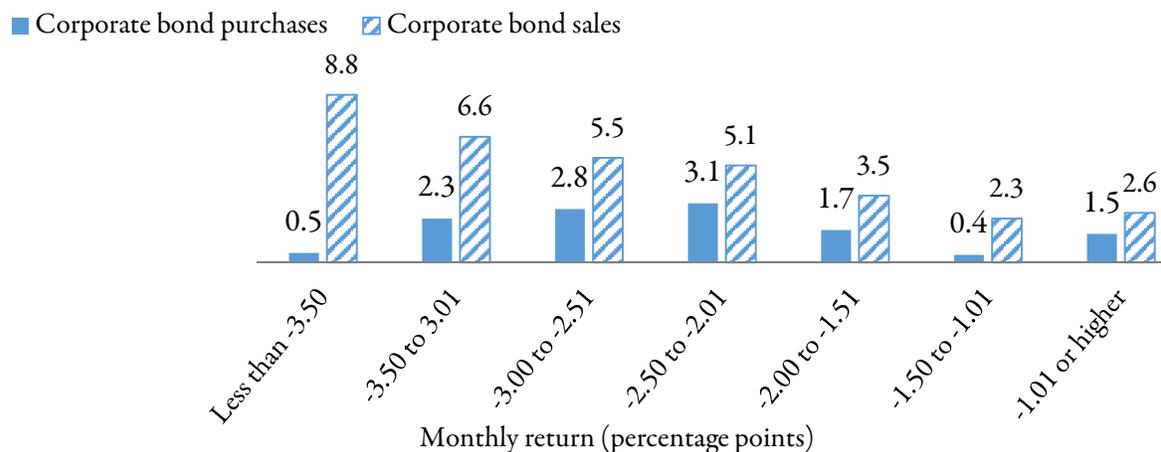


Note: Data exclude mutual funds that invest in other mutual funds, funds specifically designed for frequent trading, funds without a full year of history, and any fund with a merger between November 1, 2015 and December 31, 2015.

Source: Investment Company Institute

Figure 7
U.S. High-Yield Bond Funds Both Purchased and Sold Corporate Bonds in December 2015
Regardless of Performance

Purchases and sales of corporate bonds as a percentage of fund assets, by fund return, December 2015



Number of funds:	12	15	42	40	39	30	35
Assets* (Billions of dollars):	\$17.4	\$10.2	\$91.6	\$40.8	\$69.1	\$71.8	\$34.3

*Assets are as of November 30, 2015.

Sources: Investment Company Institute and Morningstar

Test of Prediction 4: Other Investors Trading Behavior from November 2015 to February 2016

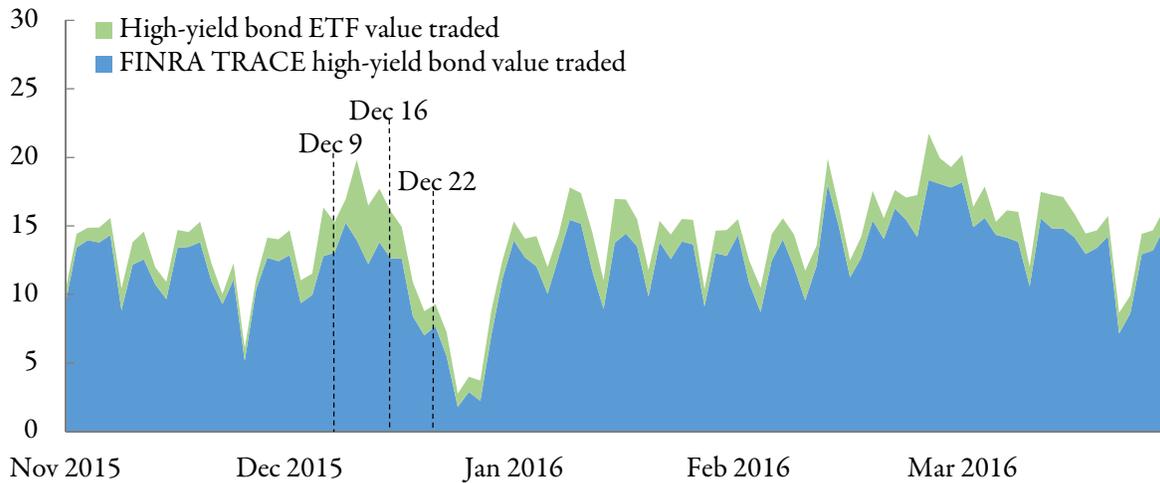
According to Prediction 4, other investors, including institutional investors, would not enter the market to buy the portfolio assets that fund managers were trying to sell.²⁶ This prediction would suggest that overall trading volumes would decline as buyers failed to step into these markets during periods of stress and that bond funds' share of the overall trading in the high-yield market would rise. Neither occurred.

As shown in Figure 8, high-yield bond trading volumes held up well in December 2015 (until the normal seasonal decline over the year-end holidays), particularly during the most stressed period in the first half of December when investors' expectations of higher default rates were changing quickly and bond yields were rising. Trading of high-yield bonds actually rose slightly during the second week of December. In addition, during the period of greatest market pressure, secondary market trading of shares in high-yield bond exchange-traded funds (ETFs) rose, providing an additional means for market participants to buy and sell exposure to the high-yield bond market.

²⁶ See *supra* note 5.

Figure 8
U.S. High-Yield Bond Trading Volume Rose in Mid-December 2015; ETFs Added Market Liquidity

Billions of U.S. dollars; daily, November 2, 2015–March 31, 2016



Note: Data exclude high-yield bond ETFs designated as floating-rate. Data also exclude Veteran's Day, the Friday after Thanksgiving, Christmas Eve, and New Year's Eve.

Sources: FINRA TRACE and Bloomberg

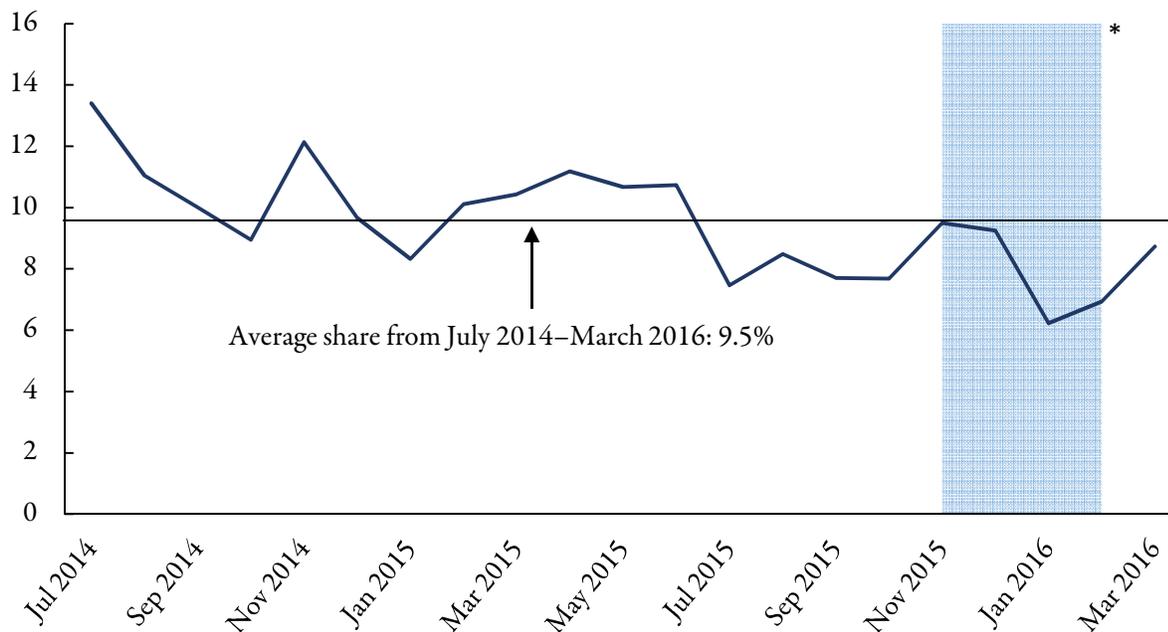
The share of trading volume in the high-yield bond market attributable to high-yield bond funds also did not spike (Figure 9). In December, bond funds' buying and selling of corporate bonds accounted for 9.2 percent of the trading volume in the high-yield bond market, *less than* funds' average share from July 2014 through March 2016.

Nor did trading volumes collapse, as the hypotheses would predict, in January or February 2016. Bond prices continued to fall until late February, but there is nothing to suggest that this was anything more than normal market dynamics, in which buyers and sellers were repricing the default risk of these securities. High-yield bond trading volumes were in line with their levels a year earlier. Bond funds were buying and selling roughly equal volumes of bonds (Figure 5), and their share of market trading fell somewhat.

Figure 9

U.S. High-Yield Bond Mutual Funds' Share of High-Yield Bond Market Trading Remained Steady in 2015

Percentage; monthly, July 2014–March 2016



*The shaded region represents November 2015 through February 2016. The simple average cumulative total return was negative 8 percent for U.S. high-yield bond funds between mid-September and mid-January.

Note: Data exclude high-yield bond funds designated as floating rate funds. Aggregate data for high-yield 144A transactions are only publicly available starting in July 2014.

Sources: Investment Company Institute and FINRA TRACE

Conclusion

The empirical evidence presented in this appendix raises serious doubts about the validity of the current hypotheses underpinning FSOC’s perception of the behavior of mutual fund investors, mutual fund managers, and other investors. The Council acknowledges that the extent to which fund redemptions might contribute to potential financial stability risks depends on the behavior of various types of investors, and if other investors step in, a negative feedback loop will not materialize.²⁷ This is an important observation, and one that the Council and others have not sufficiently explored.

This case study provides just one example of the dozens of times that the hypotheses that the FSOC relies on have been tested for stock and bond funds in the past 75 years. In the past decade alone, other

²⁷ FSOC Statement, *supra* note 1, at 8.

tests of these hypotheses and their predictions include the 2007–2009 financial crisis, the European debt crisis of 2011, the so-called Taper Tantrum of 2013, the 2015–2016 sell-off in the U.S. high-yield bond market, and, most recently, in the market turmoil following the United Kingdom’s surprising vote on June 23 to leave the European Union (“Brexit”). Economists seldom have the opportunity to repeatedly test the predictions of their hypotheses. In each case, the hypotheses set forth by the Council failed to predict actual investor behavior.

We therefore urge the Council—as well as other regulators and academics—to step back and reexamine these hypotheses based on empirical evidence. Failure to do so could result in the development of regulatory policies that are misguided or even harmful to investors and the broader markets.