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An Analysis of Bond Mutual Funds' Role in the US Fixed Income Markets During March 2020

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* Throughout, “bond mutual funds” refers to bond mutual funds registered with the US Securities and Exchange Commission.

ICI Bond Mutual Fund Survey

- **Collection:** daily data on flows, assets, purchases, sales, and total value held of a wide range of asset classes for various categories of bond mutual funds during March 2020
 - **Asset classes:** Commercial paper, certificates of deposit, money market fund shares, T-bills, Treasury notes and bonds, US agencies (incl. MBS), domestic investment-grade and high-yield corporate bonds, municipal bonds, foreign bonds, bank loans, other bonds, and ETF shares
- **Respondents:** 38 complexes representing 77% of \$4.9 trillion in February 2020 bond mutual fund assets and 78% of \$255 billion in March 2020 outflows
- **Industrywide estimates:** based on survey results

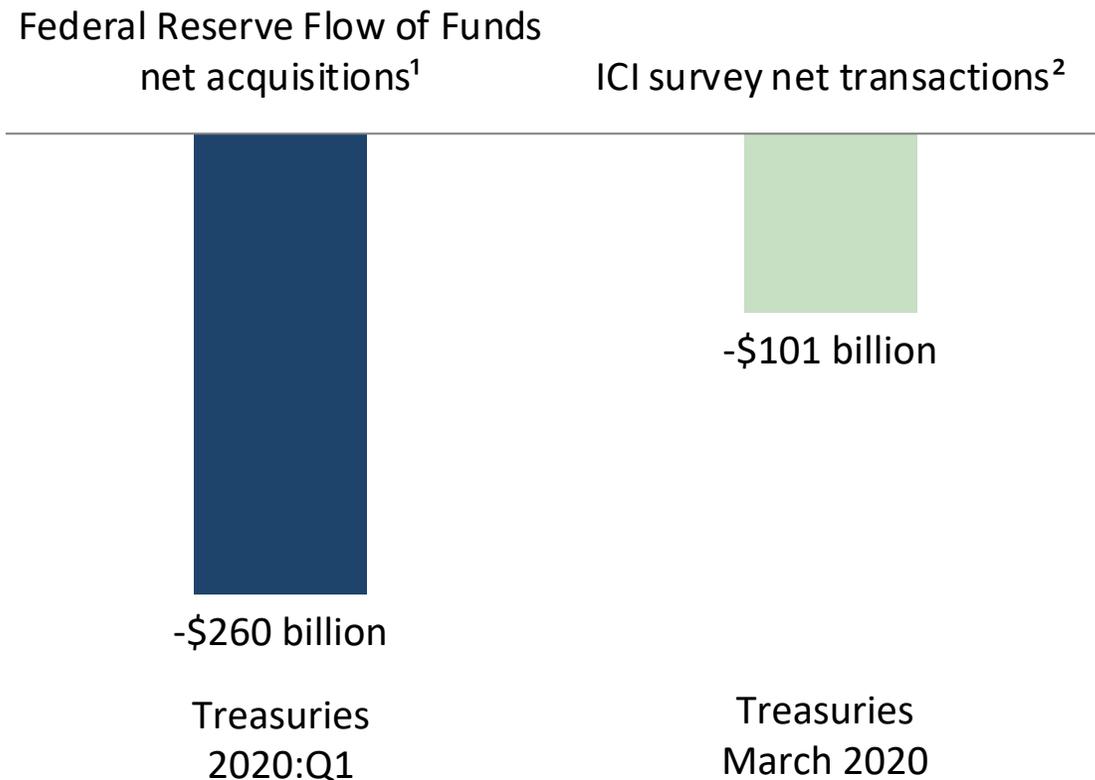
Key Findings

- Our survey results challenge views that bond mutual funds contributed significantly to the March 2020 turmoil in the Treasury and investment grade corporate bond markets
- Bond mutual funds sold, on net, \$101 billion Treasuries, not the \$260 billion often cited
- Non-US investors sold over four times as much Treasuries as bond mutual funds
- Treasury market became dislocated several days *before* bond mutual funds began selling Treasuries in any appreciable magnitude
- Investment grade (“Core”) bond mutual funds sold a total of only \$8 billion, on net, in IG corporate bonds through March 23rd
- Deteriorating macroeconomic fundamentals can account for nearly all the increase in investment-grade yield spreads through March 23rd

Part 1: Examining Bond Mutual Funds' Role in the Treasury Market in March 2020

Bond Mutual Funds' March 2020 Net Sales of Treasuries Have Been Overstated

Billions of dollars (not seasonally adjusted)



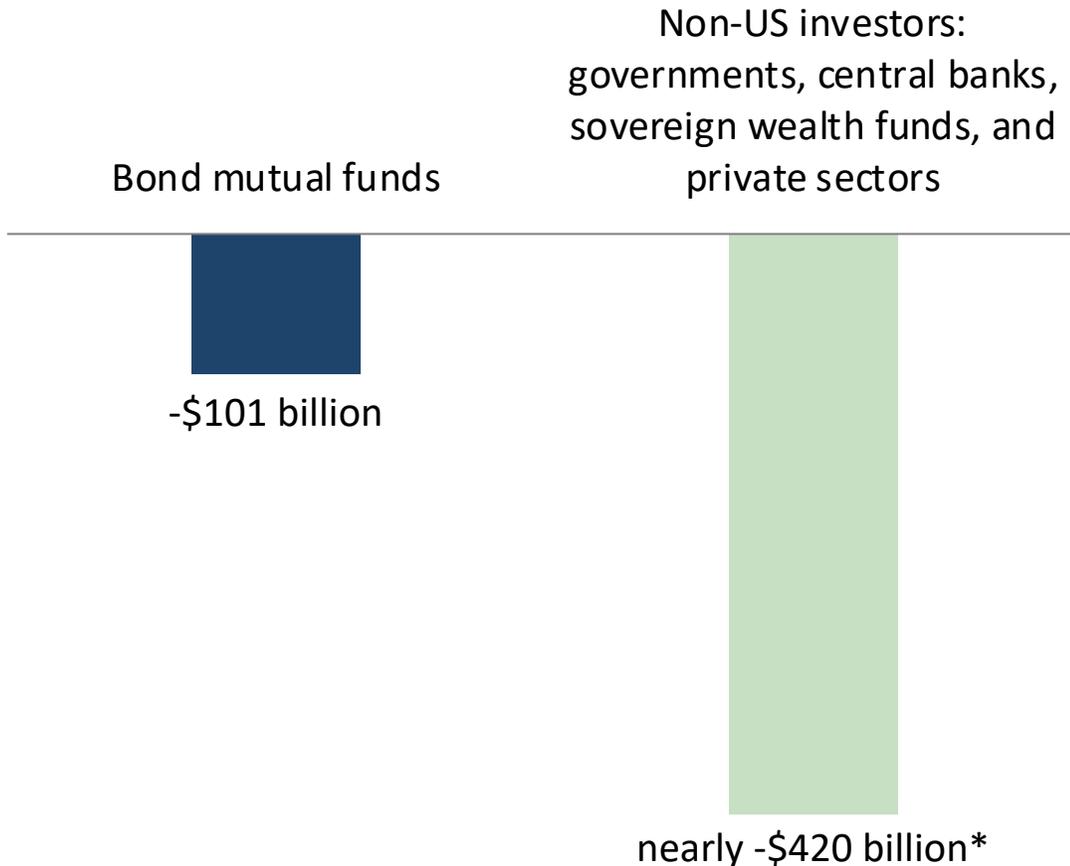
- Policymakers and academics relying on Federal Reserve Flow of Funds data infer that bond mutual funds sold Treasuries heavily in March 2020
- Challenges with the \$260 billion figure:
 - Quarterly frequency, not monthly or daily
 - Net acquisitions is not the same as net sales
 - Methodology uses layers of estimates
 - Does not use data on purchases and sales
- ICI's survey uses bond mutual funds' **actual** daily purchases and sales of Treasuries in March 2020

¹This category represents mutual funds' net acquisitions as reported in Flow of Funds. Net acquisitions in the Flow of Funds Accounts conceptually reflect purchases less sales, minus retirements of bonds that matured off the books of mutual funds during the quarter.

²This category represents industrywide estimates of bond mutual funds' net transactions (purchases less sales) of Treasury notes and bonds from a survey of ICI's members.
Source: Investment Company Institute and Federal Reserve Board

Investors Outside the US Sold Far More Treasuries than Did Bond Mutual Funds

Net transactions of Treasury notes and bonds, billions of dollars
March 2020

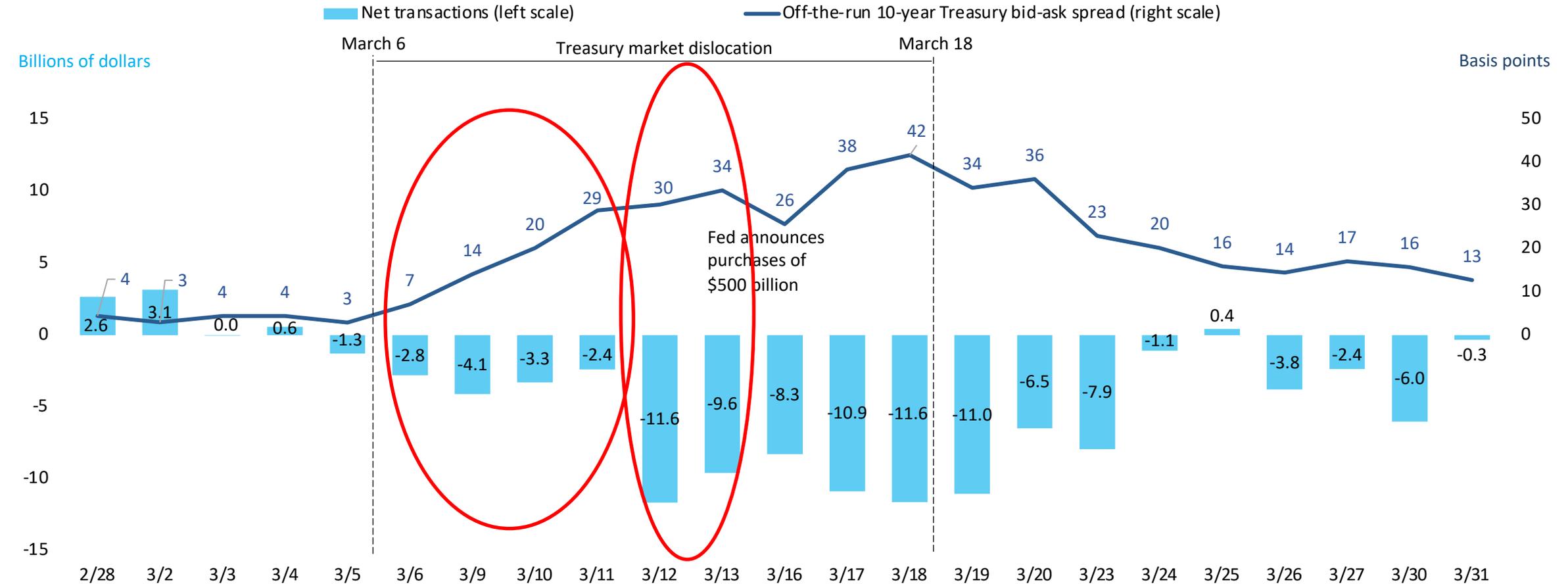


- ICI survey data provides new perspective on relative pressure in US Treasury market in March 2020
- Non-US investors had huge demands for US dollar liquidity, selling nearly \$420 billion in Treasuries in March 2020, over four times the amount sold by bond mutual funds

* This Federal Reserve estimate includes transactions between non-US investors and \$8 billion in net sales of Treasury bills

Treasury Market Dislocation (Represented by Size of Bid-Ask Spread) Began Several Days Before Bond Mutual Funds Sold Treasuries in Earnest

Daily, February 28–March 31, 2020

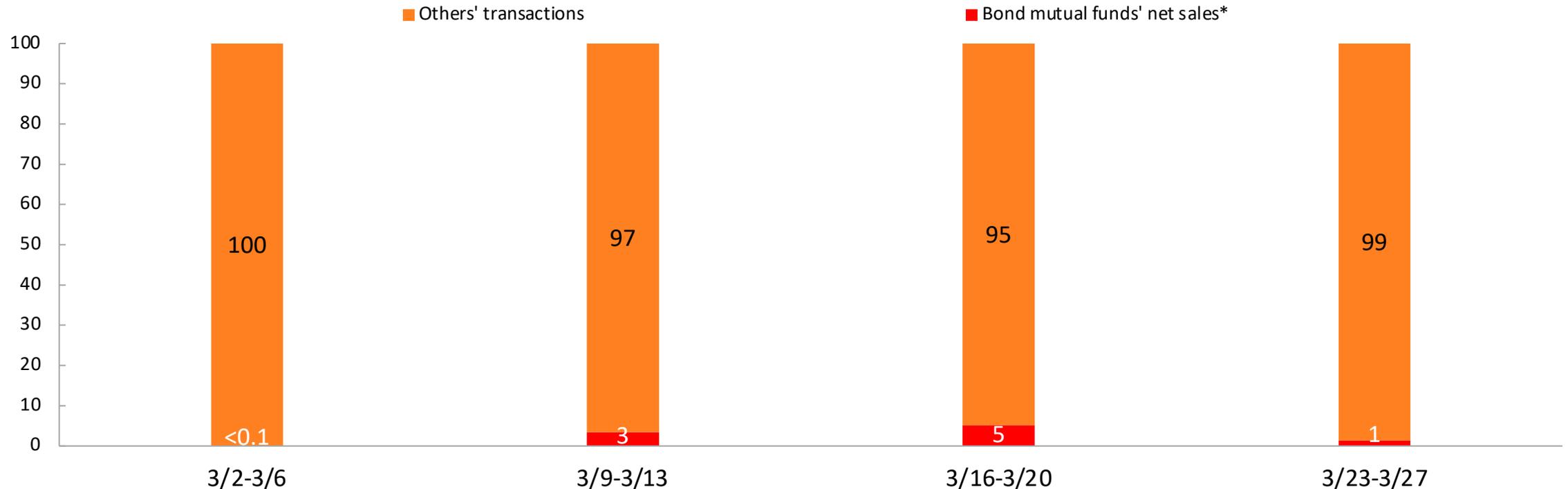


Memo: Taxable bond mutual fund net new cash flows (billions of dollars)

-17.8 -4.3 -1.4 -2.1 -2.3 -5.2 -12.8 -9.1 -8.1 -20.3 -18.6 -15.4 -17.4 -25.9 -18.6 -15.2 -16.7 -11.0 -2.6 -4.3 0.0 -7.5 -0.2

Bond Mutual Funds' Small Share of Treasury Trading Suggests Minor Impact From Sales

Bond mutual funds' net sales of Treasury bonds as percent of Treasury market trading volumes, weekly, March 2020



* Calculated as the absolute value of bond mutual funds' gross purchases minus gross sales divided by one half of total dealer-to-customer trading.

Memo: Treasury transactions (billions of dollars)

Bond mutual funds (net)

-0.4

-31.0

-48.3

-14.7

Total dealer-to-customer

2,081

1,829

1,883

2,105

Part 2: Examining Bond Mutual Funds' Role in the Investment Grade Corporate Bond Market in March 2020

Bond Mutual Funds Sold Small Amounts of Investment Grade Corporate Bonds in March 2020

February 28 – March 23, 2020

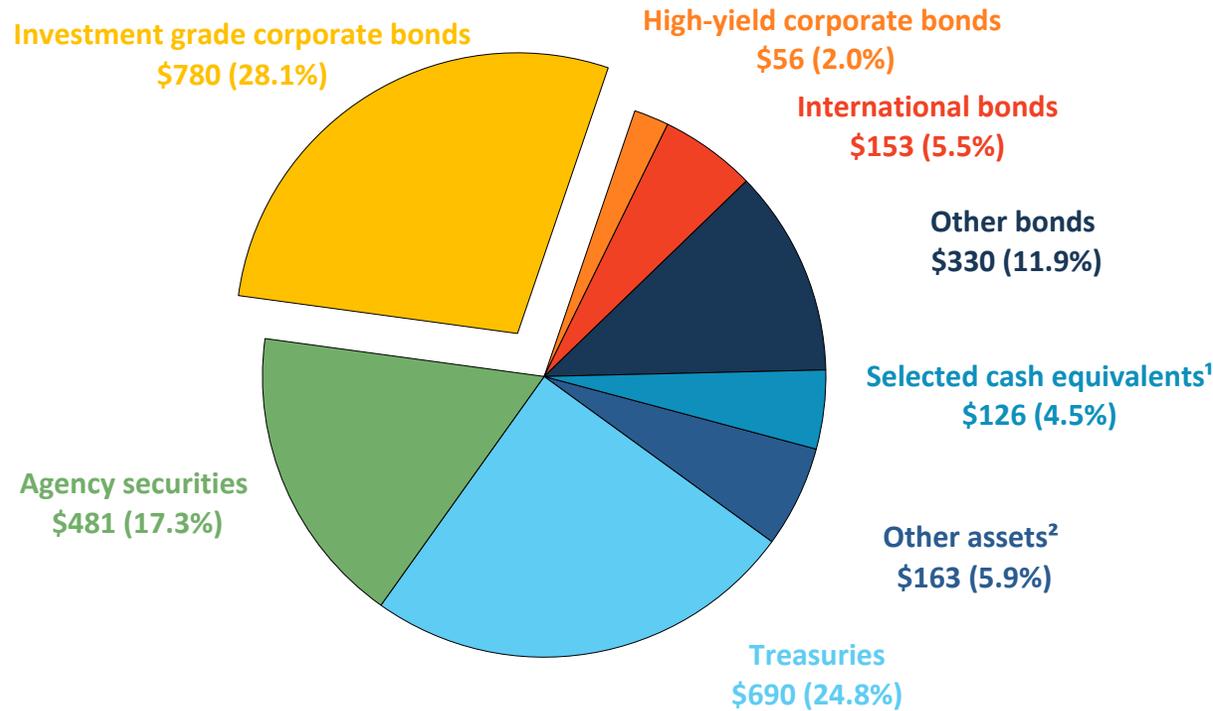
ICI bond mutual fund category	Net purchases of investment grade corporate bonds
<i>All bond mutual funds</i>	<i>-\$11.0 billion</i>
“Core” bond mutual funds	-\$8.1 billion
Investment grade bond mutual funds*	-\$9.1 billion
Multi-sector bond mutual funds	\$1.0 billion
Other bond mutual funds	-\$2.9 billion

* ICI Investment grade category includes ultrashort investment grade bond mutual funds
 Source: ICI survey

“Core” Bond Mutual Funds Hold Highly Liquid Assets and Sold Them For a Variety of Reasons

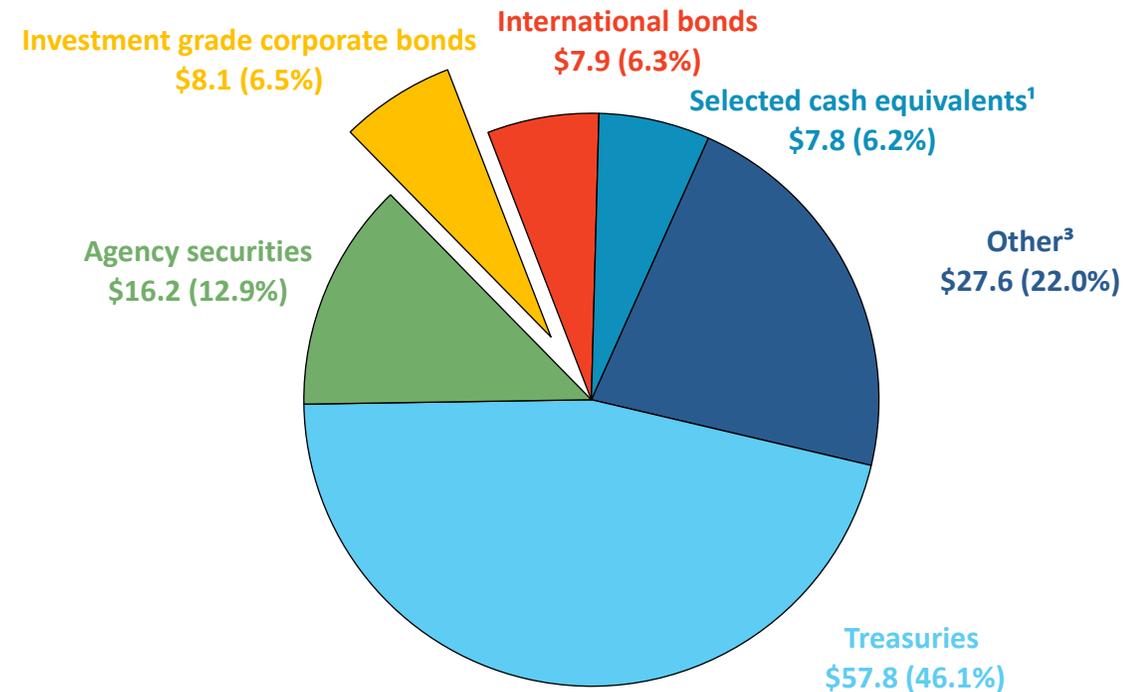
Billions of dollars

Holdings: Feb 2020



**Total net assets of “Core” bond mutual funds:
Feb 2020 = \$2,779**

Total net sales: Feb 28 to Mar 23, 2020



**Outflow from “Core” bond mutual funds:
Feb 28 to Mar 23, 2020 = \$125.4**

¹ Selected cash equivalents are the sum of commercial paper, certificates of deposit, money market fund shares, and Treasury bills.

² Other assets include other cash equivalents, bank loans, ETF shares, market value of derivatives positions, and any assets not represented in the other categories.

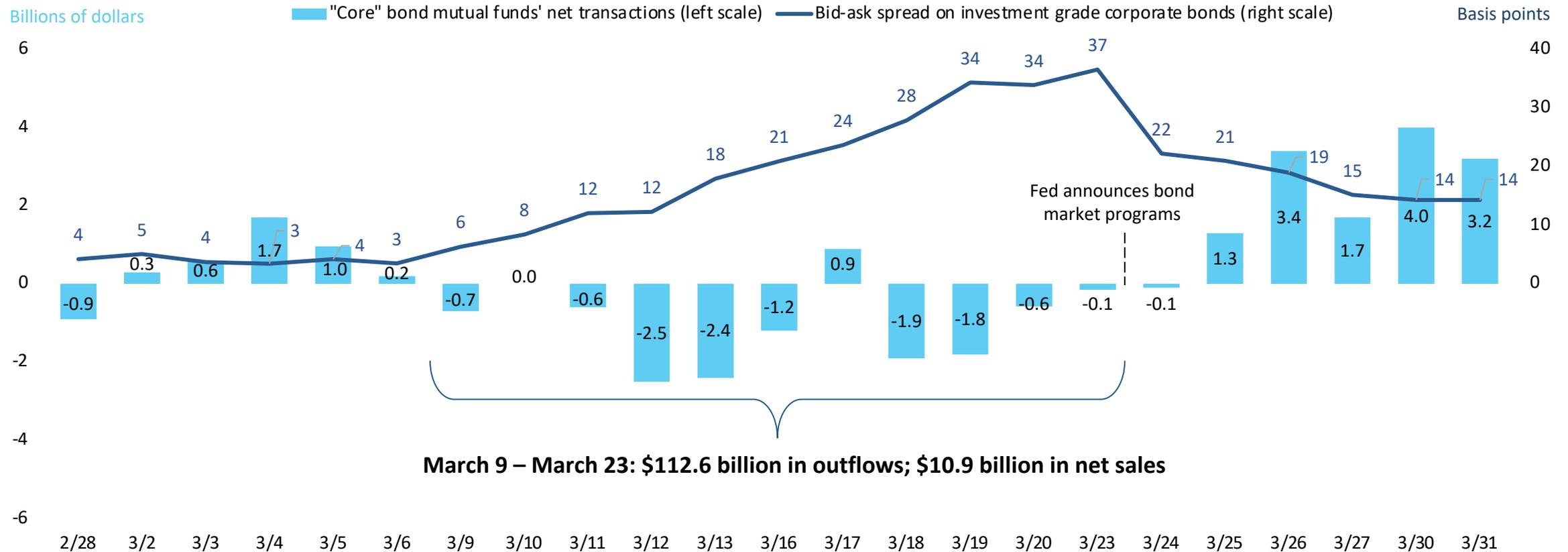
³ Other reflects other sources funds may have used to meet outflows, such as interest income, proceeds from matured bonds, rolling off repurchase agreements, using reverse repurchase agreements, and net sales of other assets.

Note: “Core” represents ICI’s categories of investment grade (which includes ultrashort funds) and multi-sector bond mutual funds.

Source: ICI survey

How Well Did “Core” Bond Mutual Funds’ Sales of IG Corporate Bonds Align with Stress Indicators?

Daily, February 28–March 31, 2020



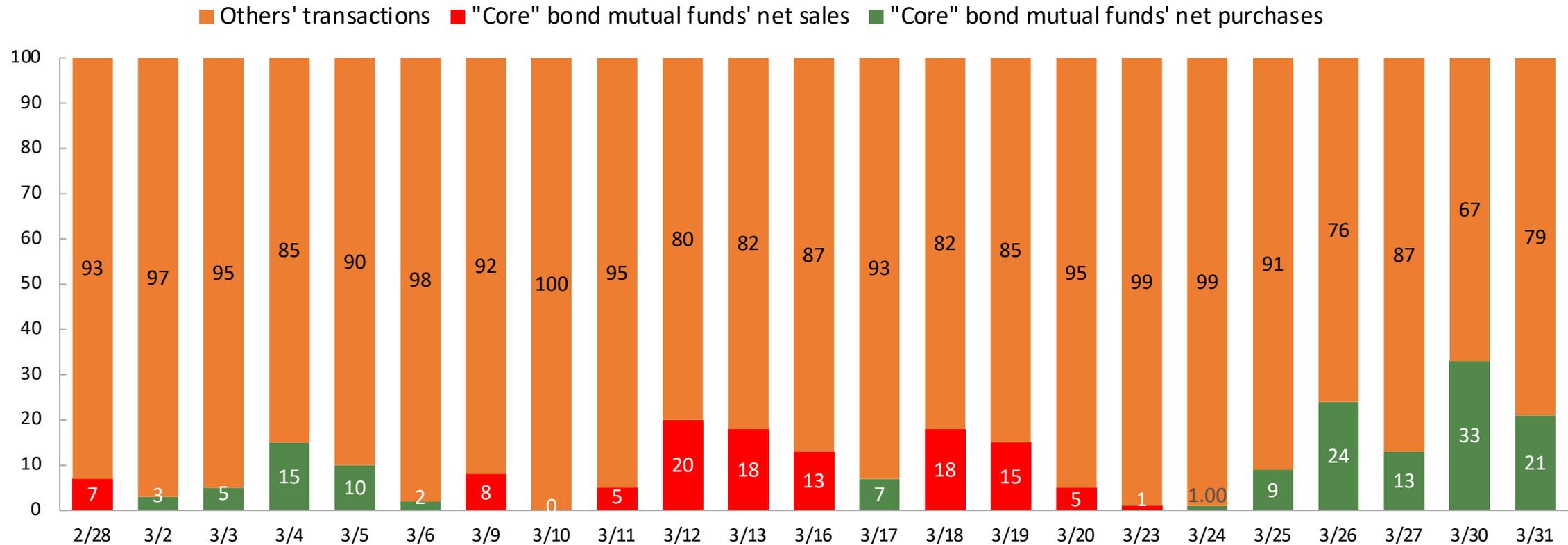
Memo: “Core” bond mutual funds’ net new cash flows (billions of dollars)

-7.1 -1.2 -0.2 -0.7 -0.2 -3.4 -6.1 -3.0 -4.6 -13.0 -11.3 -9.4 -12.4 -17.6 -11.0 -10.9 -13.3 -6.0 -1.2 -2.5 -0.6 -5.5 -3.0

Note: “Core” represents ICI’s categories of investment grade (which includes ultrashort funds) and multi-sector bond mutual funds.
Source: ICI survey and MarketAxess

Who Accounted for Trading Volumes in Corporate Bond Market?

Percent of daily trading volume in investment grade corporate bonds*, February 28–March 31, 2020



* Calculated as the absolute value of bond mutual funds' gross purchases minus gross sales divided by one half of total dealer-to-customer trading volume.

Memo: Net sales (billions of dollars) of investment grade corporate bonds by "Core" bond mutual funds

-0.9 0.3 0.6 1.7 1.0 0.2 -0.7 0.0 -0.6 -2.5 -2.4 -1.2 0.9 -1.9 -1.8 -0.6 -0.1 -0.1 1.3 3.4 1.7 4.0 3.2

Total dealer-to-customer trading volume (billions of dollars)

27.3 21.6 23.0 22.9 21.4 17.9 17.9 26.8 24.9 24.3 26.4 19.0 23.4 21.2 24.6 24.1 24.1 28.4 28.6 27.9 24.8 24.4 30.8

Note: "Core" represents ICI's categories of investment grade (which includes ultrashort funds) and multi-sector bond mutual funds.

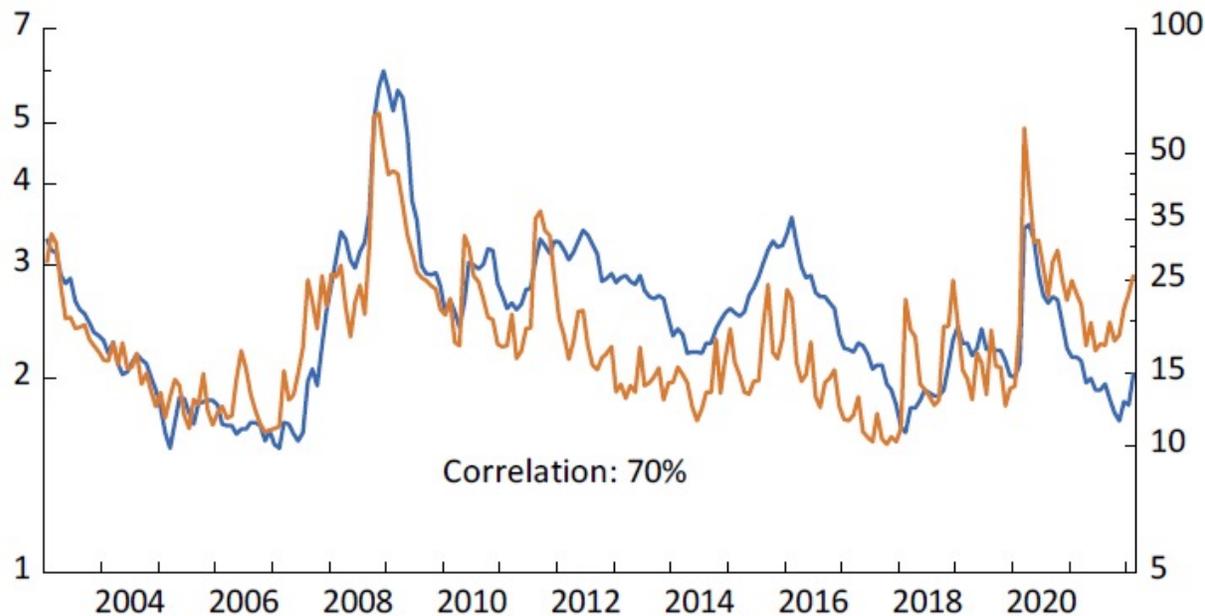
Source: ICI survey and FINRA

Corporate Bond Yield Spreads Are Highly Correlated with Macroeconomic Fundamentals

Yield spread and VIX

Monthly, Jan 2003 – Feb 2022, log scales

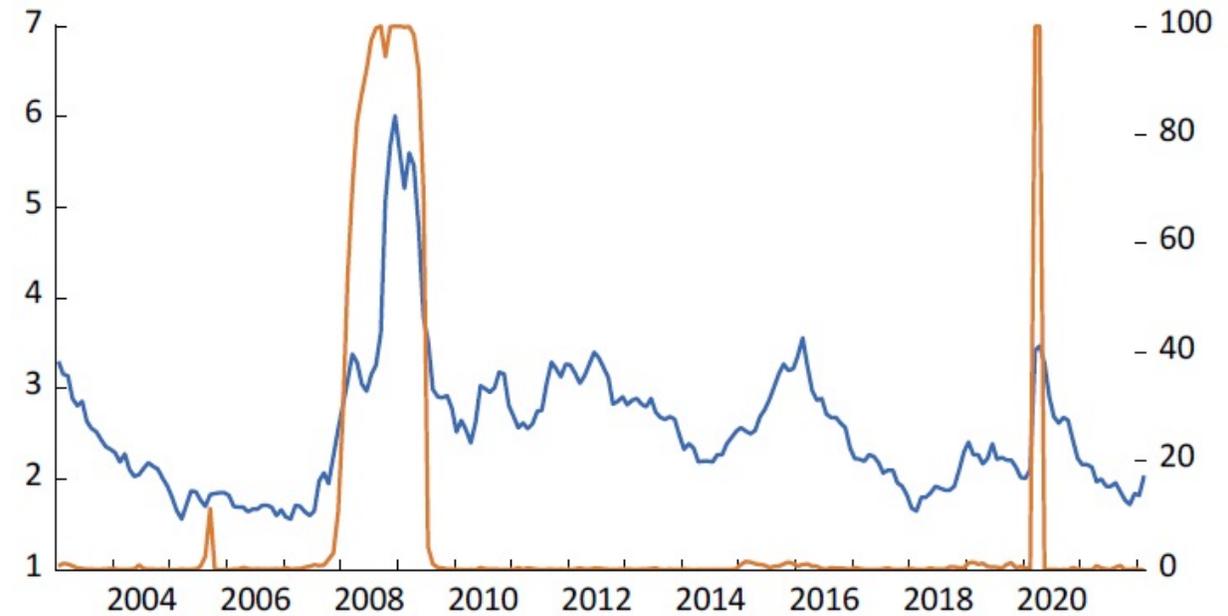
- Baa yield spread* (percent, left axis)
- VIX (right axis)



Yield spread and recession probability

Monthly, Jan 2003 – Feb 2022

- Baa yield spread* (percent, left axis)
- Probability US economy in recession (percent, right axis)

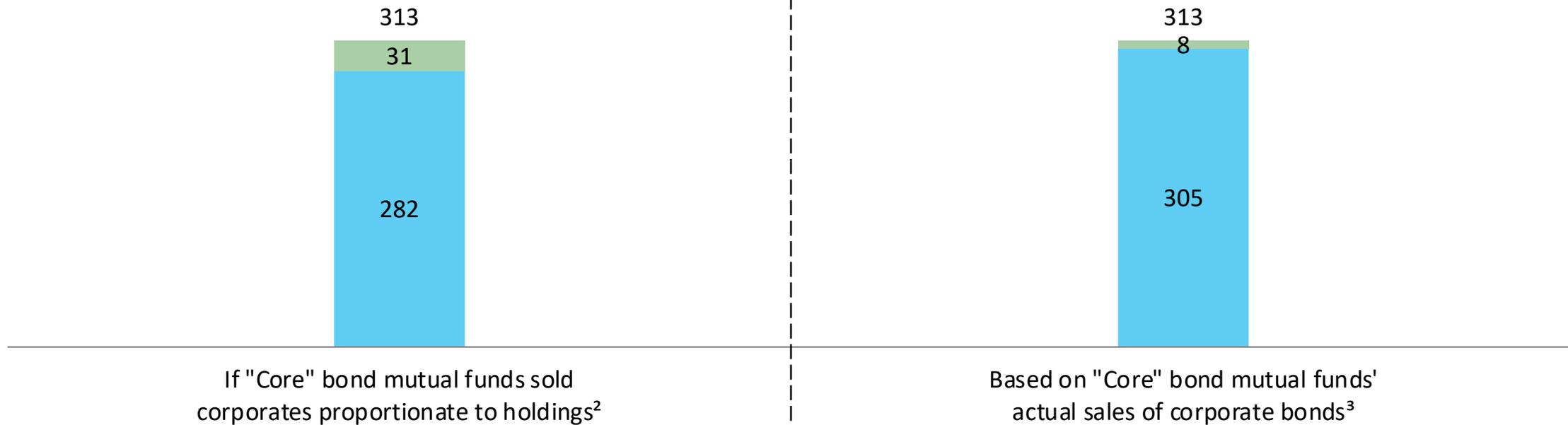


* Baa yield spread is the difference between the effective yield on the ICE BofA BBB US Corporate Index and the market yield on the constant maturity 10-year Treasury.
Sources: Federal Reserve Bank of St Louis FRED

Fundamentals Can Account for the Increase in IG Yield Spreads in March 2020

Increase in investment grade corporate bond yield spread relative to Treasuries, basis points, Feb 28 - Mar 23, 2020

- Due to "Core" bond mutual funds' net sales of IG corporate bonds¹
- Due to market factors and bond characteristics¹



¹Estimates based on V. Haddad, A. Moreira and Tyler Muir, "When Selling Becomes Viral: Disruptions in Debt Markets in the COVID-19 Crisis and the Fed's Response," *Review of Financial Studies*, 34, 2021, table 6, page 5342 and appendix table IA.1 on appendix page 73. Haddad et al. (2021) use daily data on individual corporate bonds for March 2020 to assess the influence of various factors on corporate bond yields spreads in March 2020.

²Assumes that to meet redemptions in March 2020, core bond mutual funds sold proportionate slices of all the asset types in their portfolios. Their results indicate mutual funds' net sales of corporate bonds accounted for about 10% of the total increase in yield spreads of IG corporate bonds over Treasuries from Feb 28 to March 23. Thus, their results would suggest 31 basis points (10%) of the rise in investment grade bond yield spreads is attributable to bond mutual funds' sales of IG corporates.

³Estimate based on Haddad et al. (2021), corrected for the fact that core bond mutual funds sold a less-than-proportionate slice of their portfolio holdings of investment grade corporate bonds in March 2020.

Summary

- Claims that bond mutual funds contributed significantly to the March 2020 turmoil in the Treasury and investment grade corporate bond markets lean importantly on data that are inadequate to the task.
- Our daily survey data *are* up to the task and do not support such claims.
- Bond mutual funds sold, on net, \$101 billion Treasuries, not the \$260 billion figure from the Federal Reserve's Flow of Funds Accounts that policymakers lean on. And these sales happened largely after the Treasury market had already dislocated.
- “Core” bond mutual funds, on net, sold very small amounts of investment grade corporate bonds during the critical weeks of March 2020. Our analysis indicates these small sales at best added immaterially to stress in that market. Instead, yield spreads rose because of the highly visible macroeconomic stresses on the US economy.

Thank You!

Please join us March 18 for the second webinar in this series:

New Research Shows “First-Mover” Is a Universal Investor Response — Not Unique to Open-End Mutual Funds

Christof Stahel, ICI Senior Economist will present his paper, which will be discussed by distinguished economists Mark Flannery, Craig Lewis and Laura Starks