



## SEC FIMSAC: A survey of academic research on Bond Funds during the Covid pandemic

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## Do Bond funds pose a risk to financial market stability?

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Significant growth in Assets Under Management by bond mutual funds and ETFs in the last decade.

Low interest rates have pushed bond funds to 'reach-for-yield' by holding less liquid assets.

Post-crisis banking regulations have reduced dealer capital for market making.

### Concern

Large investor outflows

Funds selling relatively illiquid assets

Price disruptions that will destabilize markets

Source: SEC's FIMSAC sub-committee, Financial Stability Board; International Monetary Fund.

## Liquidity mismatch in Bond Funds that hold illiquid assets

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Fund policy: Redeeming investors receive the end-of-day NAV.

- (1) NAVs do not capture the cost of liquidation.
- (2) Funds usually sell the most liquid assets first, making the fund's holding less liquid over periods of persistent redemptions.

Transfers liquidation costs and liquidity risk from redeeming investors to other investors who keep money in the fund.

(theory) Large **first-mover advantage** in funds holding illiquid assets → amplifying withdrawals from illiquid funds.

(Empirics) Poor performance leads to large flows out of the bond sector, particularly for funds with illiquid holdings.

Source: Chen, Goldstein and Jiang (2010, Journal of Financial Economics), Goldstein, Jiang and Ng (2017, Journal of Financial Economics).

# Bond funds: unprecedented outflows during Covid-19 crisis

## Between February and March 2020

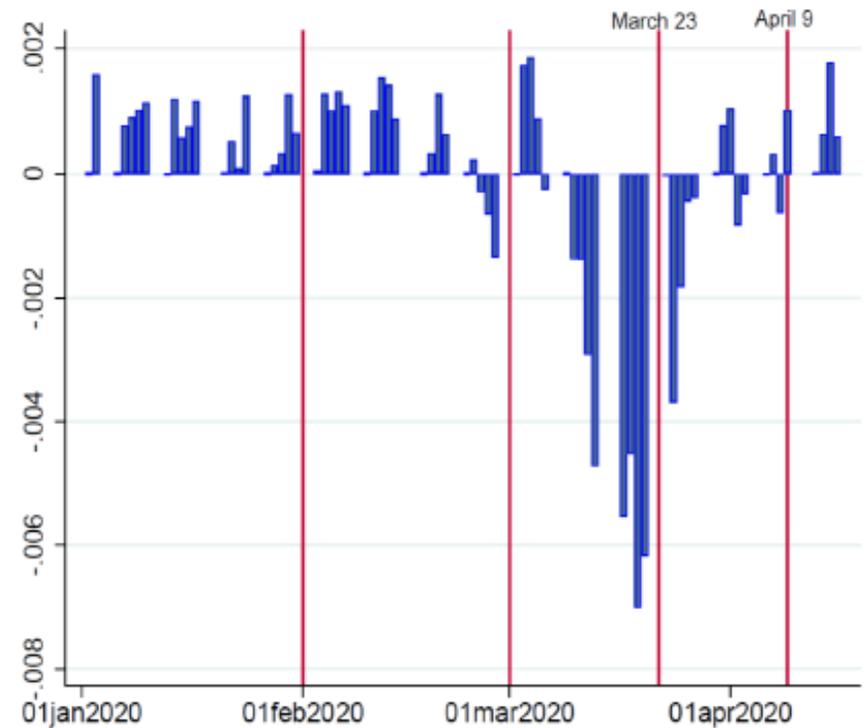
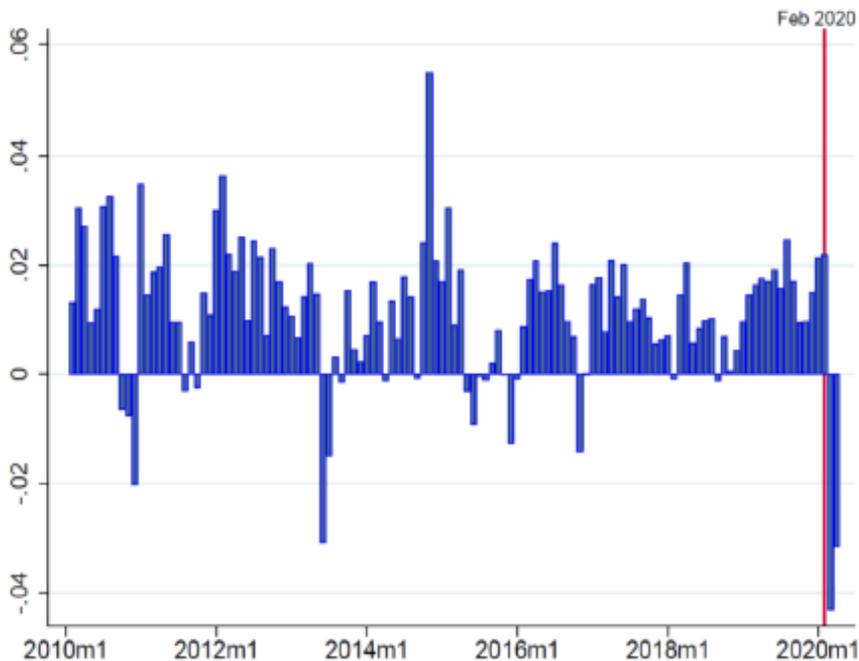
Cumulative outflows: 9% of Net Asset Value  
Large fraction of funds experienced extreme and persistent outflows.

## Taper Tantrum (June-July of 2013)

Cumulative outflows: 2.2% of Net Asset Value

Large outflows in the week prior to March 23 (Fed announcement)

Investment-grade funds and ETFs experienced large and sustained outflows



Source: Falato, Goldstein and Hortacsu (2020): Financial Fragility in the Covid-19 crisis, working paper, NBER.

## Evidence from COVID:

### Fund Illiquidity amplifies fragility, as predicted by theory

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Evidence consistent with investor panic is first observed in

- Funds with less liquid holdings
- Funds exposed to higher fire-sale risk (commonality in holdings)
- Funds experiencing bad fund performance.

Fed's announcement of corporate bond purchases stopped the outflows by calming the market.

Next time around .....

Swing pricing – mitigates the run dynamics.

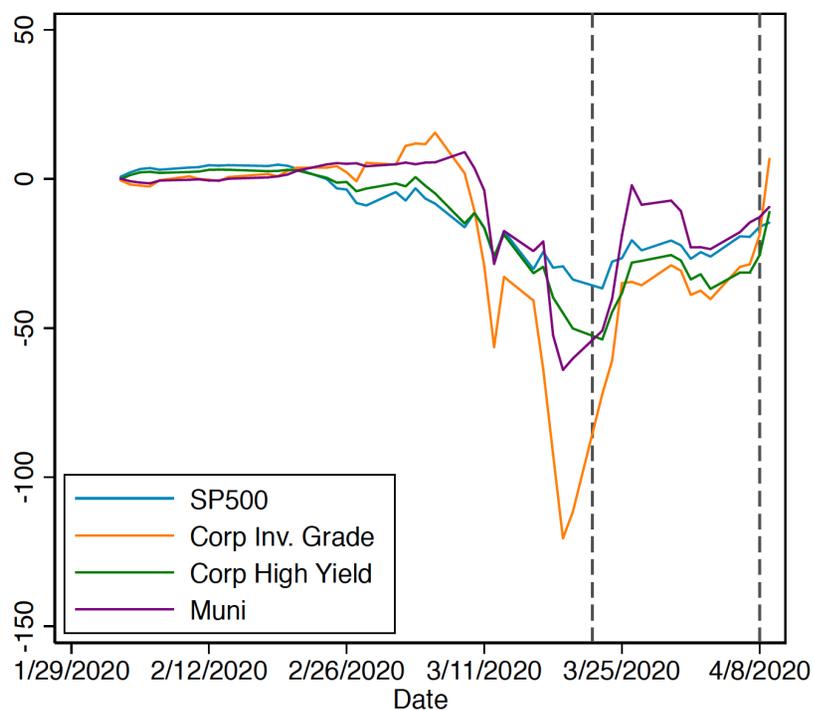
- Introduced in 2018 but is still not implemented in US.

Evidence from UK – corporate bond funds

- Significantly reduced redemptions during stress periods.

Source: Falato, Goldstein and Hortacsu (2020); Jin, Kacperczyk, Kahraman, and Felix (2020) – available on SSRN.

# Safer assets faced larger price disruptions



## Interpretation

Large and persistent selling pressure from bond investors trying to obtain cash by selling the safer and more liquid securities.

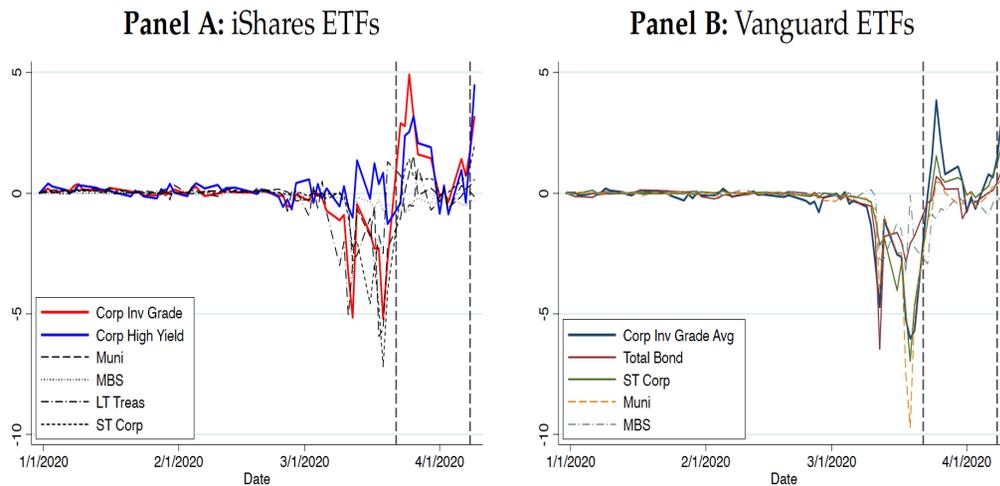
Prices recover after the Fed announcement to purchase assets.

**Figure 4: Returns during the COVID-19 crisis across asset classes, normalized by beta.**

This figure reports the cumulative log returns for the stock market (S&P500), an investment-grade corporate bond ETF (LQD) and a high-yield corporate bond ETF (HYD) through the COVID-19 crisis, from February to early April 2020. Returns are scaled to all have a market beta of 1 based on the previous two years of data.

*Source: Haddad, Moreira and Muir (2020): When selling becomes Viral, working paper, NBER.*

# Liquid ETFs traded at a discount to NAV



**Figure 11: ETF-NAV discounts.**

Panel A plots the discount of ETF price relative to NAV for iShares ETFs: an investment-grade corporate bond ETF (LQD), a high-yield corporate bond ETF (HYG), a Treasury ETF (TLT), a municipal bond ETF (MUB), a MBS ETF (MBB), and two ETFs that track separately short- and long-term investment grade corporate bonds (IGSB and IGLB). Panel B plots discounts between matched Vanguard ETF and mutual fund shares trading the same portfolio for corporate bonds, municipal bonds, mortgage-backed securities, and a total bond index (70% Treasuries, 30% Investment grade bonds). Discounts are given in percent, with negative value indicating that an ETF price is lower than its NAV.

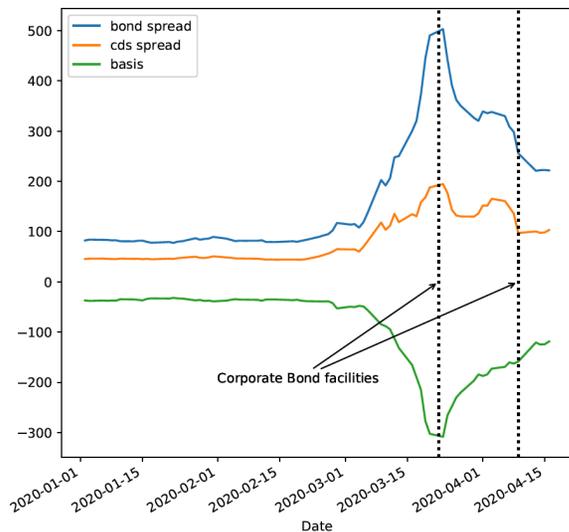
Investment-grade  
**ETFs** trade at a large discount  
(5%) to **NAV**. Similar discounts  
are observed between large  
ETFs and identical “**twin**”  
**mutual funds**.

High-yield ETFs  
do not exhibit such dislocation.

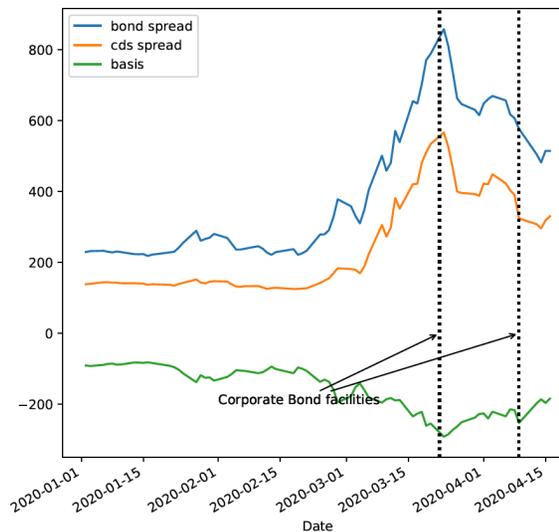
Source: Haddad, Moreira and Muir (2020): When selling becomes Viral, working paper, NBER.

# Selling pressure and not information?

**Panel A: CDS Bond Basis: Investment Grade**



**Panel B: CDS Bond Basis: High Yield**



**Figure 7: CDS-bond basis.**

The figure plots the median CDS-bond basis — green line — for investment-grade bonds in the LQD portfolio that have CDS contracts present in the CDX IG basket (Panel A) and high-yield bonds in the HYG portfolio with CDS contracts present in the CDX HY basket (Panel B). The blue line is the bond spread, and the orange line is the CDS spread. See text for data construction.

*Source: Haddad, Moreira and Muir (2020): When selling becomes Viral, working paper, UCLA and NBER.*

## Future Research

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*New Fed policy as a financial stability tool? Is it beneficial in the long run?*

*Who drove the selling pressure?*

- *Bond funds*
- *Insurance companies*

*Source of structural fragilities & how to fix them*

- *Swing pricing.*

*ETF prices versus NAV (evaluated) prices*

- *Where is the real price?*