

Discussion of

# Flow-Induced Trading: Evidence from the Daily Trading of Municipal Bond Mutual Funds

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\* Views expressed are those of the discussant and not necessarily those of the Federal Reserve Bank of New York or the Federal Reserve System.

# What the paper does

- Develops novel database of *daily* flows, *trading*, and *cash buffers* for open-end municipal mutual funds
- Uncovers new evidence on relationship between daily trading and fund flows
- Examines how the relationship depends on funds' cash buffers, expected future flows, dealer markup, and other variables
  - Also looks at characteristics of securities bought and sold
- Assesses how SEC proposal (to require funds to hold 10% of assets in cash & highly liquid securities) might have affected funds' selling in early 2020

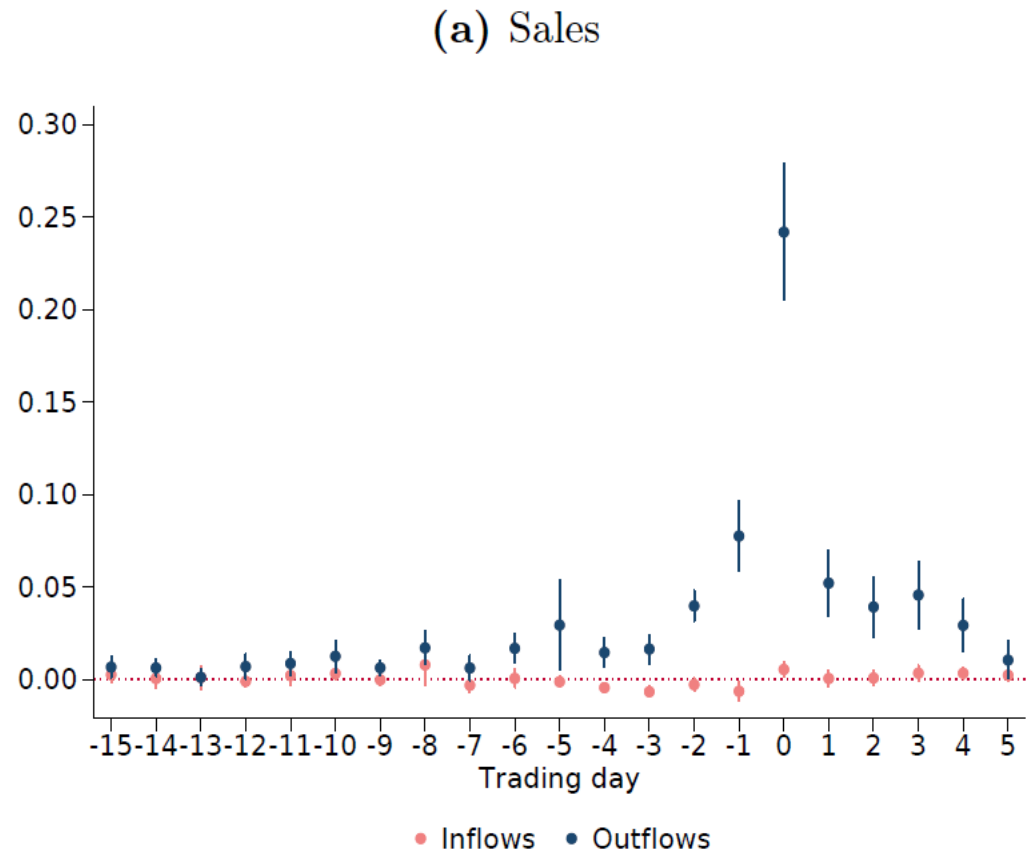
# Identifying daily fund trades

- Start with periodic holdings
- Adjust for “bond events”
- Remove insurance co. trades from MSRB muni sec. database
- Match remaining portfolio changes with remaining MSRB tx
- Excellent match rate
- Cash buffer inferred from trading activity

Type	<i>N</i>	Equal-weighted (%)
<b>Bond events</b>		
Maturities, calls, and redemptions	182,480	23.43
New issues and remarketing issues	49,636	6.37
Exchanges	15,497	1.99
Default distributions	324	0.04
<b>Fund mergers</b>	11,141	1.43
<b>Securities never in MSRB</b>	14,041	1.80
<b>Matched to MSRB</b>		
Single fund trade	325,895	41.85
Part of a single family trade	51,231	6.58
Split fund trade	25,772	3.31
Part of a split family trade	5,479	0.70
Part of a single larger MSRB trade	26,094	3.35
<b>Not matched</b>		
Cross trades	1,898	0.24
Others	69,204	8.89

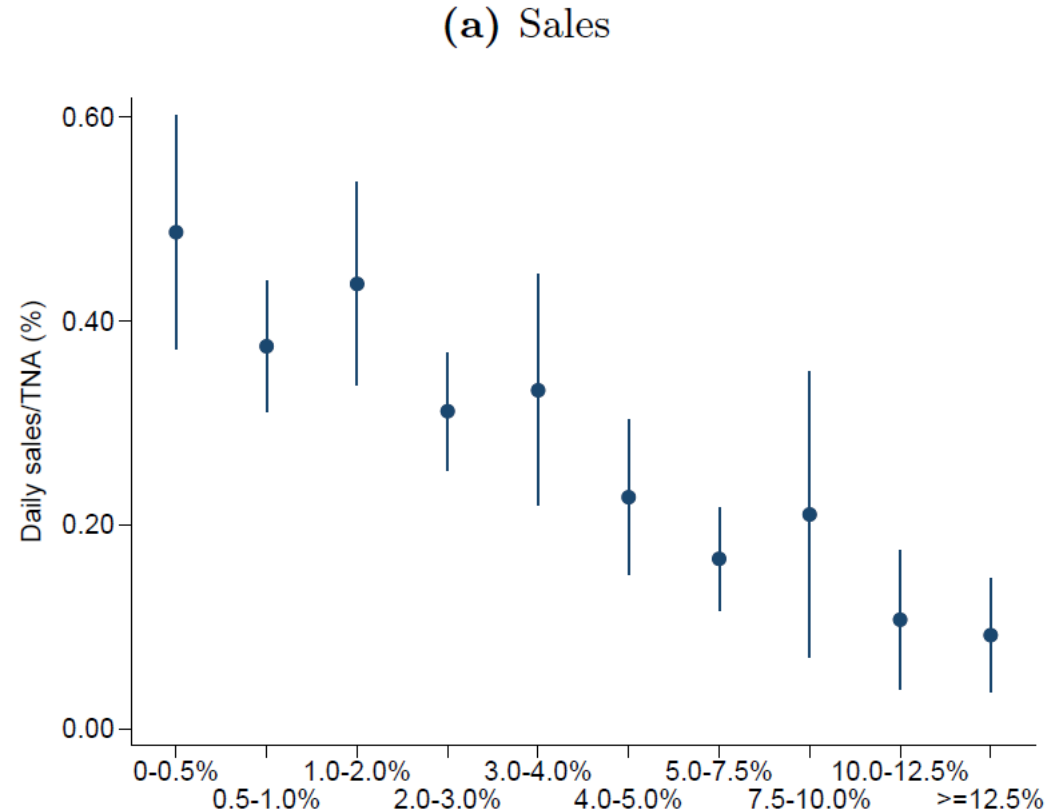
# Selling and fund outflows

- Regress daily sales and purchases on outflows and inflows
- Stronger short-term reliance on cash buffers than prior papers suggest
- Day 0: 0.24
- Days -15 to +5: 0.69
- Different short-term pattern for purchases



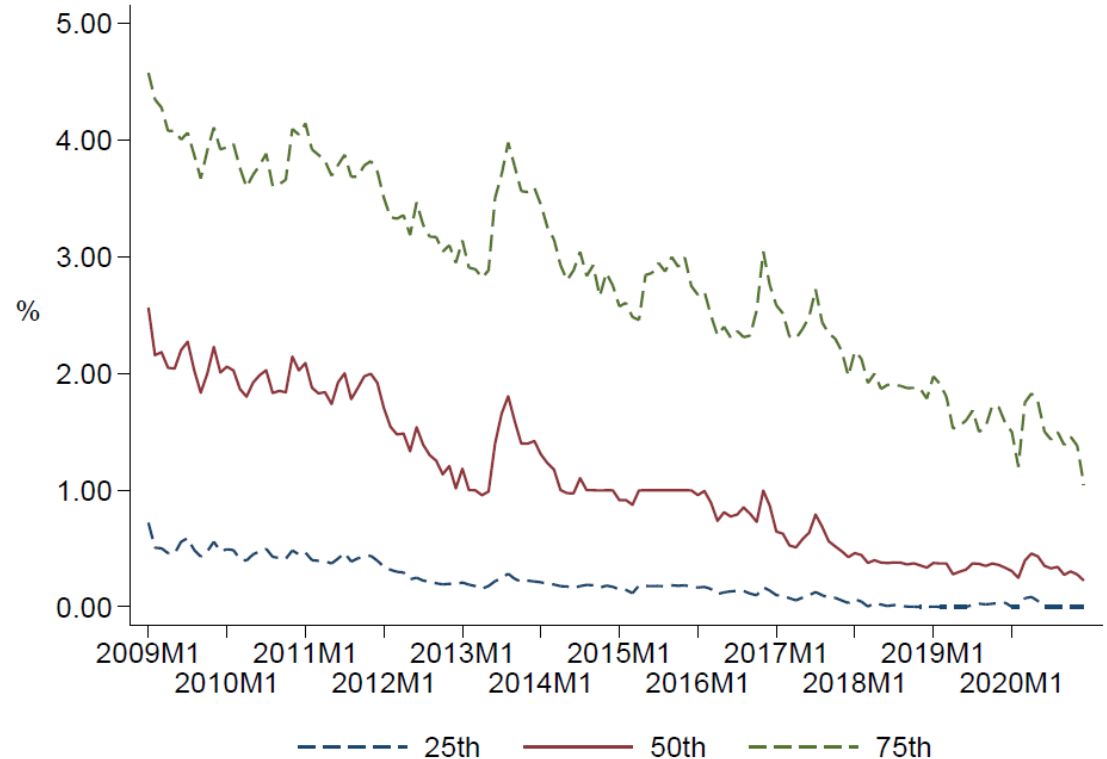
# Relationship depends on cash buffer

- Funds sell less on day 0 when they hold more cash (as of the preceding day)
- Cash buffers more important than suggested by typical monthly/quarterly regressions



# Relationship depends on market conditions

- (Dealer markup used to be very high!)
- Day 0 selling decreases with dealer markup
- Helps explain rising sensitivity of selling to outflows over time
- Day 0 selling increases with expected future outflows



# Evaluation of SEC rule

- Paper estimates that SEC proposal would have reduced market selling by only 18% in the early stages of the pandemic
- Paper uncovers interesting dichotomy of results
- Cash buffers are more important than previous evidence suggests
- But cash buffers were relied on less in early 2020 (as funds sold holdings in response to outflows, given expected future outflows)

## Do the paper's results generalize? (1 of 2)

- The paper's approach to identifying trades works because the market is so illiquid
- Does the illiquidity of the market mean that the results don't generalize to other markets?
- Some evidence suggests the results do generalize
  - Monthly response of sales to flows is similar to that found for corporates
  - When the analysis considers cash buffers as of the last monthly or quarterly snapshot, rather than the preceding day, the cash buffer coefficient halves to a level similar to that found in a study using monthly data
- These results deserve greater prominence



## Do the paper's results generalize? (2 of 2)

- A slightly different and potentially useful robustness test is ...
- Replicate results of a (prominent) corporate bond market study using monthly/quarterly data for the muni market
- That is, not only use cash buffer as of last monthly/quarterly snapshot but monthly/quarterly holdings to infer activity

# How do unmatched portfolio changes affect results?

- Paper finds 9-12% of portfolio changes are not matched to trades or other events (slightly more including securities never in MSRB)
- Paper proceeds with the analysis of flows and trades without any mention of these unmatched portfolio changes
- Results (reported on page 42) suggest that results are robust
  1. Findings similar for subset of fund-months with 100% match rate
  2. These results should be mentioned early on
  3. What share of the sample remains for this robustness test?
  4. Are there other checks that could be done, even back-of-the-envelope ones?

# Motivation/clarity issues

- Mutual fund purchase/redemption cycle is on a daily basis
  - Should be mentioned as motivation for use of daily data!
- Dealer markups: for fund buys,  $markup = trading\ price - average\ interdealer\ price$  (same day and security); opposite for sells
  - Should be mentioned in text
  - Is there sufficient data to estimate these for all transactions? These details could be discussed in the appendix (and referred to in text)
- Are primary market transactions reported in MSRB tx data?
  - Paper discusses using issue price and date if transaction not in tx dataset
  - Primary market transactions not in Treasury TRACE

## Technical details

- Funds buying and then selling the same securities within a month would be missed by the algorithm identifying trades, right?
  - I assume the authors are confident that such instances are rare, but this deserves mention nonetheless
- The algorithm links specific trades to specific funds, but for most if not all purposes, identifying the trade day would be sufficient
  - There may be instances in which the trade day associated with a position change can be identified, even if the specific trade cannot
  - I assume this would only help identify a very small share of additional trades
- Scaling flows and activity by total net assets sounds appropriate, but justification does not
  - I think this affects influence of observations, not interpretation of coefficients

## In sum

- Excellent paper: novel, interesting, policy relevant, well executed
  - Implements new methodology for tracking mutual fund behavior
  - Finds cash buffers are relied on more to manage flows in short term than existing literature suggests
  - Finds that relationship between flows & trading depends on cash buffer and market conditions, especially dealer markup and expected future outflows
  - Estimates that SEC proposal would have reduced selling by modest amount in the early stages of the pandemic
- Modest suggestions offered to clarify the extent of the paper's contributions and to explain certain aspects of the market structure and the paper's approach