"Buy the Rumor, Sell the News": Liquidity Provision by Bond Funds Following Corporate News Events

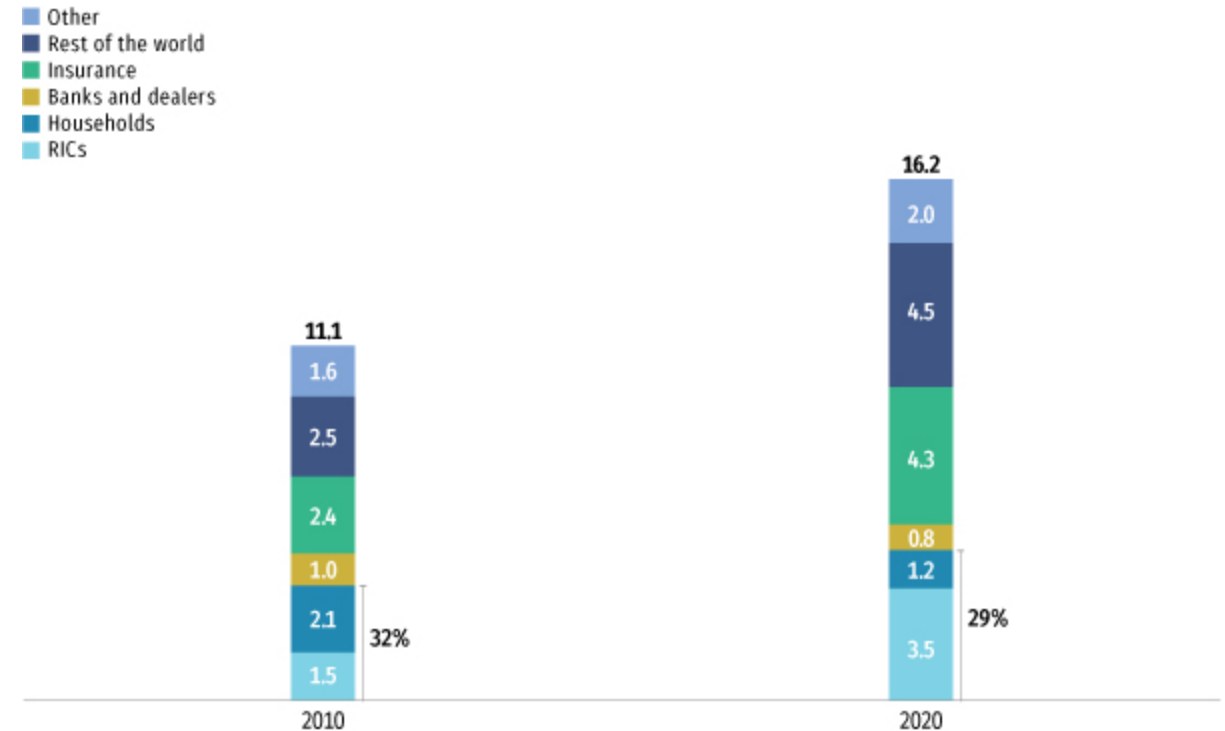Alan Huang   University of Waterloo
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Growth of Fixed-Income Mutual Funds

- Regulated Investment Company (RIC) holdings of corporate bonds grow from $1.5 trillion in 2010 to $3.5 trillion in 2020.

- Household holdings of corporate bonds are switching to RICs at the same time

- Banks and dealers also holding less on their balance sheets

- Corporate bond funds trade relatively frequently
  - The median turnover ratio is 79.5% in 2020 for all U.S. Fund Corporate Bonds funds

Legend:
- Other
- Rest of the world
- Insurance
- Banks and dealers
- Households
- RICs

2010: 11.1 (1.6, 2.5, 2.4, 1.0, 2.1, 1.5) — 32%

2020: 16.2 (2.0, 4.5, 4.3, 0.8, 1.2, 3.5) — 29%

Source: Investment Company Institute

Motivation

- **This paper: bond funds trading on corporate news**

- Funds trading on news as a major mechanism of price discovery in the **equity** market

  - Tetlock, Saar-Tsechansky, and Macskassy (2008); Engelberg, Reed, and Ringgenberg (2012); Hendershott, Livdan, and Schurhoff (2015); Huang, Tan, and Wermers (2020)

  - Institutional investors **sell** on **negative** news in the equity market.

- Limited research on how institutional investors trade bonds on news

  - Jiang and Sun (2015) find that firm-specific news arrivals entail larger trading turnover and lower bid-ask spreads

- Low liquidity and high search friction in fixed income markets

  - Corporate bond trading is dominated by "over-the-counter" trades, not through central exchanges

  - Corporate bonds heavily held by insurance companies with relatively inelastic demand

  - Corporate bond funds as liquidity providers (Anand, Jotikasthira, and Venkataraman, 2021; Choi, Huh, and Shin, 2022) or liquidity demanders (Bretscher et al. 2022)

  - Christoffersen, Keim, Musto, and Rzeznik (2022): Active mutual funds supply liquidity when demanding it becomes uneconomical.

Results in a Nutshell

- Fixed income funds trade against news sentiment

  - Funds, in particular, "**sell** the news" when the news is **positive**

- Funds provide liquidity to other market participants

  - Results complemented by dealers and insurance companies

  - Bond price: plausibly due to overreaction-reversal in bond prices around (positive) news or to price-pressure effect of buying by insurance companies

  - Fund performance: trading against news produces fund alphas

News Sample

- Top Sources in the Factiva database on Dow Jones' Data, News & Analytics (DNA) Platform

  - More than 100 news sources (Dow Jones: 50.3%; Reuters News: 11.2%; Business Wire: 8.2%)

- Our primary sentiment measure of the news: *Neg_net*

  - Occurrences of negative and positive words from Loughran and McDonald (2011)

  - Negative minus positive word occurrences, divided by total number of words for each news article

  - Two components: *Neg* and *Pos*

Daily bond returns around news

Regress Returns on *Neg_net*

	All news				
	Excess return on day(s)				
	-1	0	1	[2, 5]	[6, 10]
Neg_net	-0.180***	-0.212***	-0.206***	-0.137**	0.018
	(-4.15)	(-4.78)	(-5.09)	(-2.06)	(0.27)

	Initial news only in news clusters				
	Excess return on day(s)				
	-1	0	1	[2, 5]	[6, 10]
Neg_net	-0.063	-0.108*	-0.243***	-0.079	0.125
	(-0.82)	(-1.72)	(-3.30)	(-0.91)	(0.91)

- News tone is negatively associated with a strong bond return on the same day and next couple of trading days.

- No evidence of negative association in the day before the initial news.

Morningstar Monthly Trading Data by Fixed-Income Funds

- **$\Delta w_{i,j,t}$:** month-*t* dollar value of share change of fund *i*'s holdings of bond *j*, scaled by lagged total net assets in corporate bonds.

- Morningstar monthly fixed-income fund holdings
  - Funds report quarterly 13(f) holdings to the SEC and report monthly holdings voluntarily (until recently required to file monthly with the SEC)
  - 664 (out of a total of 859) unique funds report monthly holdings

- Map news to corporate bond trading:
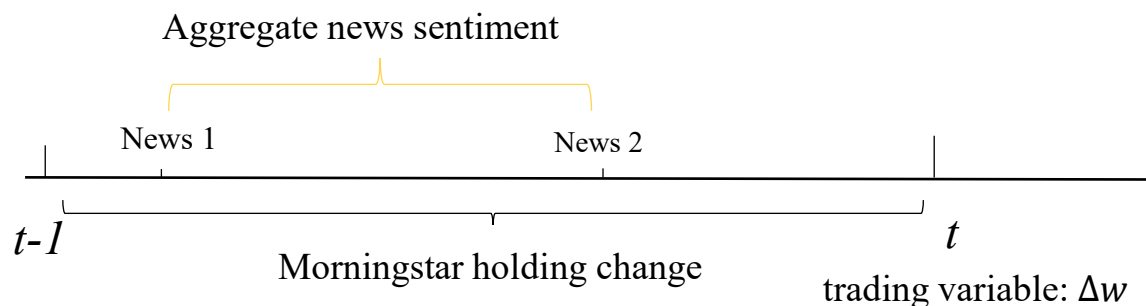
- Mapping premises:
  - Institutions react speedily to but do not predict news (Huang, Tan, and Wermers, 2020)
  - Institutions do not reverse their positions within the month (no need to buy the exact bond)

Univariate Sorting: Mutual Fund Trading and News Tone

Average Δ*w*'s (based on lagged AUM) are all positive since the fixed income mutual fund industry is growing.

Δ*w* of 0.53 bps for a $6 billion fund implies a $319K trade on a bond.
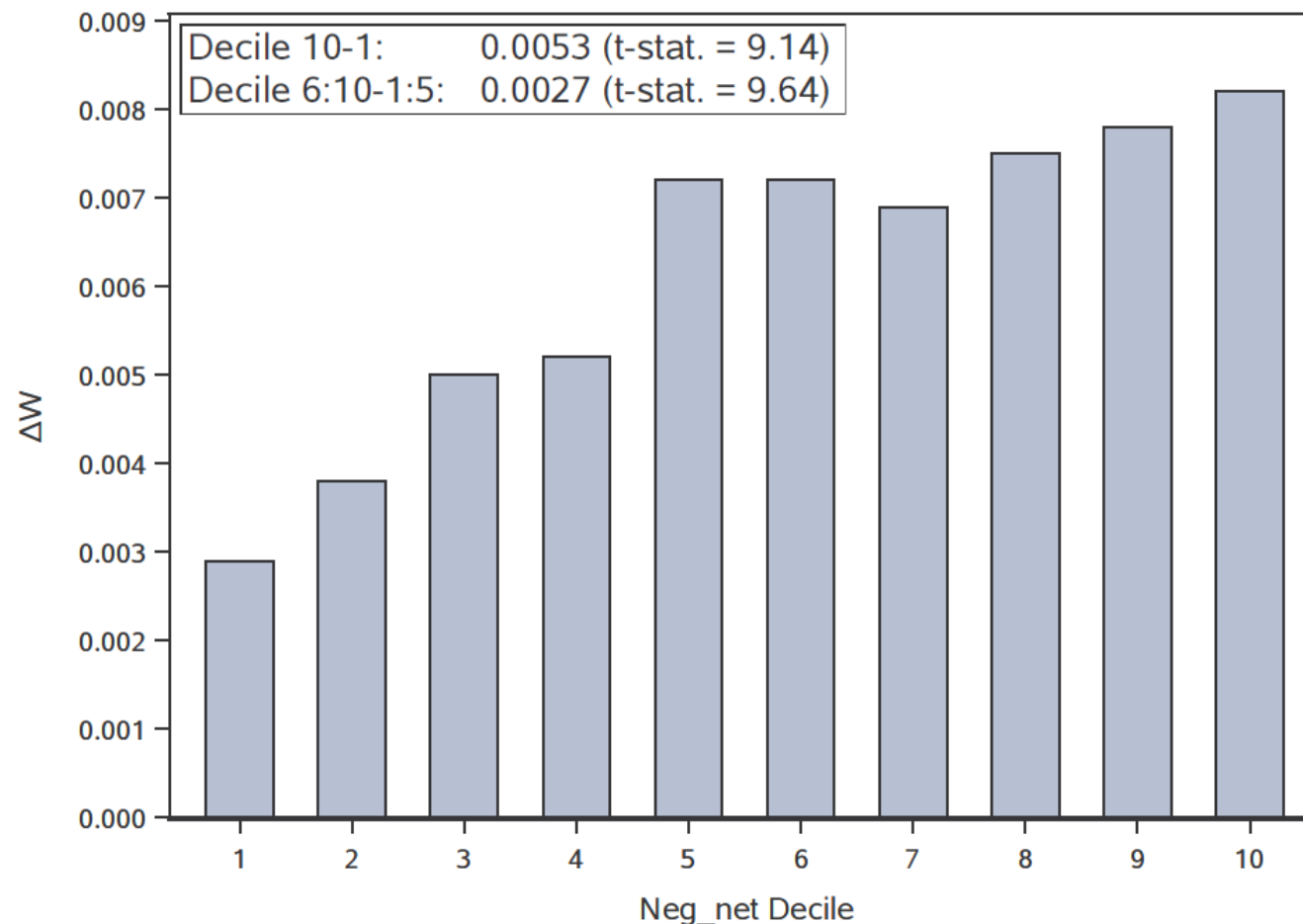
Mutual Fund Trading on News Tone

Increase (which takes the value of, respectively, -1, 0, or 1 for Δw less than, equal to, or greater than zero

	(1)	(2)	(3)	(4)	(5)	(6)
					Δw (traded only)	Δw (traded only)
	Δw	Δw	*Increase*	*Increase*		
Neg_net	0.0396***	0.0344***	0.1275***	0.1156***	0.1270**	0.0993*
	(4.31)	(3.59)	(4.02)	(3.33)	(2.40)	(1.72)
Controls	No	Yes	No	Yes	No	Yes
Issue FE	Yes	Yes	Yes	Yes	Yes	Yes
Fund type - month FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,251,636	2,398,070	3,274,247	2,415,135	538,932	392,914
Adj R-squared	0.027	0.029	0.031	0.035	0.084	0.096

Heterogeneity in Trading against News

- Fund categories: our finding is stronger in funds' primary investment asset categories
  - Corporate concentrated (~80% in Corp) vs. broad fixed income funds (20%-30% in Corp)
  - High turnover funds
  - Trading against news probably **requires skills.**

- Bond characteristics: our finding is stronger in
  - Longer duration/maturity bonds
  - Higher bond turnover
  - Larger firm size and smaller return volatility
  - Funds exploit the opportunities of **bigger price impacts but less information asymmetry**

Negativity and Positivity Legs of News

	(1) Δw	(2) Increase	(3) Δw	(4) Increase
Neg	-0.0087	-0.0281		
	(-0.87)	(-0.76)		
Pos			-0.1435***	-0.5042***
			(-6.29)	(-7.09)
Controls	Yes	Yes	Yes	Yes
Issue FE	Yes	Yes	Yes	Yes
Fund type - month FE	Yes	Yes	Yes	Yes
Observations	2,398,071	2,415,136	2,398,071	2,415,136
Adj R-squared	0.0211	0.0287	0.0211	0.0288

- Results more on tone positivity than tone negativity.

Funds Provide Liquidity to Other Market Participants

- Dealers are generally considered liquidity providers (e.g., Choi, Shachar, and Shin, 2019)

  - Dealer inventory costs rise post-financial crisis (Bessembinder et al., 2018)

  - Asymmetric inventory management in satisfying **idiosyncratic** buy versus sell customer demands

  - Solicit liquidity provision from mutual funds (riskless principal trades)

- Mutual funds serve a valuable complementary role in providing liquidity (e.g., Anand, Jotikasthira, and Venkataraman, 2021; Choi, Huh, and Shin, 2023) and benefit from

  - Improved quotes, and

  - Bond price reversals

Trading against News: Subsample results

Dependent variable: Δw	(1)	(2)	(3)	(4)	(5)	(6)
	2002.01 - 2007.06			2007.07 - 2009.04		
	Before crisis			Crisis		
Neg_net	-0.194*** (-4.73)			0.098** (2.04)		
Neg		-0.241*** (-5.19)			0.032 (0.58)	
Pos			0.061 (0.72)			-0.280*** (-2.99)

	(7)	(8)	(9)	(10)	(11)	(12)
	2009.05 - 2014.03			2004.04 - 2020.12		
	Post crisis			Volker Rule		
Neg_net	0.099*** (4.57)			0.053*** (4.64)		
Neg		0.087*** (3.60)			-0.000 (-0.01)	
Pos			-0.106*** (-2.76)			-0.187*** (-6.06)

Bond Dealers and Insurance Companies

- Dealers trade against the news.

	Dealers			
	Net-buy on day(s)			
	0	1	[2, 5]	[6, 10]
Neg_net	0.0535***	0.0507***	0.0693***	0.0315
	(4.27)	(4.05)	(2.79)	(1.17)

- Insurers trade along the direction of the news.

	Insurance companies			
	Net-buy on day(s)			
	0	1	[2, 5]	[6, 10]
Neg_net	-0.0507**	-0.0396**	-0.1326**	-0.1683***
	(-2.56)	(-2.37)	(-2.31)	(-3.50)

Bond Price: Daily Returns around News

- We have shown that *neg_net* does not predict bond returns in [6,10] days.
- Price reverses in week 4 (pos).

Days after news	Neg_net Estimate	Neg_net t-stat	Neg Estimate	Neg t-stat	Pos Estimate	Pos t-stat
11	-0.0470	(-1.11)	-0.0427	(-0.80)	0.0622	(0.93)
12	-0.0620	(-1.44)	-0.1129*	(-1.84)	-0.0536	(-0.74)
13	0.0531	(1.19)	0.0321	(0.63)	-0.1022	(-1.44)
14	-0.0073	(-0.21)	0.0087	(0.19)	0.0543	(0.77)
15	0.0327	(0.83)	0.0276	(0.56)	-0.0412	(-0.56)
16	-0.0030	(-0.08)	-0.0060	(-0.14)	-0.0044	(-0.07)
17	0.0351	(0.89)	-0.0115	(-0.25)	-0.1528**	(-2.30)
18	0.0775*	(1.90)	0.0965**	(2.27)	-0.0360	(-0.47)
19	0.0993**	(2.25)	0.0654	(1.21)	-0.1907**	(-2.33)
20	-0.0380	(-0.97)	-0.0903	(-1.64)	-0.0790	(-1.19)
[11,15]	-0.0127	(-0.16)	-0.0500	(-0.44)	-0.0581	(-0.46)
[16,20]	0.1527*	(1.91)	0.0678	(0.72)	-0.3623***	(-2.59)

Fund Tendency to Trade Against News

- Define a fund's trading "style" on news by looking at its historical trading records on news

  - Trade level: 1/0 dummy:

    - Buy (sell) with negative (positive) Neg_net

  - Fund level: $TradeAgainstNews$ is the mean of volume-weighted historical trade dummies

    - "Trading-against-news" style of the fund

- Similarly define fund style of news-trading:

  - $BuyAgainstNews$, using buy trades only

  - $SellAgainstNews$, using sell trades only

Fund Performance: Fund alpha
(at fund-month level)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	TradeAgainstNews with L=12 months						TradeAgainstNews with L=18 months					
	Fund alpha (bps) in month(s)						Fund alpha (bps) in month(s)					
	[0]	[0, 2]	[0]	[0, 2]	[0]	[0, 2]	[0]	[0, 2]	[0]	[0, 2]	[0]	[0, 2]
TradeAgainstNews [-L,-1]	5.60*	14.71*					4.41	14.23*				
	(1.92)	(1.94)					(1.35)	(1.72)				
BuyAgainstNews [-L,-1]			0.83	0.76					-2.31	-4.69		
			(0.36)	(0.12)					(-0.87)	(-0.66)		
SellAgainstNews [-L,-1]					9.06***	22.04***					10.07***	25.46***
					(4.57)	(4.13)					(4.19)	(4.01)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	30,982	31,206	30,830	31,053	30,469	30,692	31,032	31,256	30,915	31,138	30,626	30,849
Fund type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R-squared	0.138	0.155	0.139	0.156	0.142	0.161	0.138	0.155	0.139	0.155	0.141	0.160

- This evidence is against the reaching for yield story.

Fund Performance: Return gap
(at fund-month level)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	TradeAgainstNews with L=12 months						TradeAgainstNews with L=18 months					
	Fund return gap (bps) in month(s)						Fund return gap (bps) in month(s)					
	[0]	[0, 2]	[0]	[0, 2]	[0]	[0, 2]	[0]	[0, 2]	[0]	[0, 2]	[0]	[0, 2]
TradeAgainstNews [-L,-1]	16.23*	45.69*					20.69**	69.39**				
	(1.71)	(1.66)					(2.03)	(2.21)				
BuyAgainstNews [-L,-1]			4.29	1.09					-0.34	3.44		
			(0.54)	(0.04)					(-0.04)	(0.13)		
SellAgainstNews [-L,-1]					9.28	28.06					15.02**	42.38**
					(1.50)	(1.47)					(2.39)	(2.24)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	20,580	20,911	20,541	20,867	20,372	20,692	20,602	20,935	20,574	20,904	20,449	20,771
Fund type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R-squared	0.661	0.616	0.662	0.615	0.661	0.615	0.661	0.615	0.661	0.616	0.661	0.614

- Bond prices reserve in 3~4 weeks.
- Liquidity provision through news selling can constitute part of the short-term trading benefits, captured by the return gap measure (Kacperczyk, Sialm, and Zheng, 2008).

Conclusion

- Examine how fixed-income funds trade on corporate news.

- Funds trade contrary to the direction of the news, consistent with the traditional wisdom of "sell on news."

- Fixed income funds' trading against news is a manifestation of liquidity provision.

- Funds with a style of trading against news enjoy a higher alpha.

thank you