The Mispricing of Bond ETFs in Relation to FOMC Announcements

Abstract:

Passive and active bond ETFs face mispricing due to discrepancies between the NAV and the current price of the underlying bonds. This paper examines the relationship between the mispricing of fixed-income ETFs and positive, negative, or constraining Fed announcements. Using Bloomberg data, we analyze the price fluctuations of aggregate, corporate, and high-yield bond ETFs; we run OLS regressions using the sentiment ratings of FOMC announcements as independent variables. We utilize the logarithmic premium by Thirumalai (2003) to find a correlation between bond ETFs' mispricing and the outlook of FOMC sentiments. We find that coefficients on constraining announcements are positive and significant, providing evidence that aggregate and corporate passive bond ETFs mispricing is influenced by constraining Fed announcements. We also find that the "bond ETFs" Google Search Volume Index (SVI) is negatively significant for aggregate and corporate passive bond ETFs. We find that neither Google SVI, positive, negative, nor constraining sentiment ratings influence the mispricing of active bond ETFs assets.

Bond ETFs are attractive to retail and professional investors and are traded daily on major stock exchanges such as NASDAQ and the New York Stock Exchange (NYSE). Commonly traded bond ETFs include aggregate, corporate, and high-yield funds. This study focuses on bond ETFs' price responses exogenously affected by monetary policy surprises. We analyze discrepancies between a fund's NAV and its current price around FOMC announcements for active and passive bond ETFs. [1]

Ben-David, Franzoni, and Moussawi (2016) show that the market price of ETF shares often diverts from the NAV due to the asynchronous trading of the ETF and its underlying assets.[2] Thirumalai (2003) compares the liquidity and pricing efficiency of basket securities with an arbitrage mechanism (passive ETF) to ones without an arbitrage mechanism (active ETF). Thirumulai (2003) finds that active ETFs face a larger deviation from NAV than passive ETFs. [3],[4]

Natural language processing leads to the ability to perform sentiment analysis, which allows us to determine if FOMC announcements are classified as positive, neutral, or negative.[5] Many researchers have applied text-mining techniques to FOMC transcripts to analyze tone and sentiment (Boukus and Rosenberg (2006), Mazis and Tsekrekos, 2017, Jubinski and

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[1] Understanding the pricing of bond ETFs in relation to FOMC announcements will provide key insights into the management of ETFs (active or passive) and the liquidity of the underlying securities. "Corporate bond ETF's have been flagged by regulators and practitioners as a potential systemic threat due to the sharp contrast between the liquid and transparent ETF market and the illiquid over-the counter bond market." Dannhauser, (2017).

[2] This discrepancy generates arbitrage between ETF shares and the underlying basket of securities when it exceeds the initial transaction costs, Ben-David, Franzoni, and Moussawi (2016).

[3] Petajisto (2017) quantifies this fluctuation in price by measuring the cross-sectional standard deviation of ETFs premiums and states that these deviations are larger in funds holding illiquid or international securities where NAVs are most difficult to measure in real-time. Petajisto (2017) finds that ETFs holding liquid domestic currencies remain at a relatively efficient price.

[4] Duval (2015) finds that during times of increased fund flows, market volatility, and illiquidity there will be an increased impact on the mispricing of ETFs.

[5] The Federal Open Market Committee (FOMC) is a policy-making body of the Fed that outlines changes made to monetary policy and other open market operations within the country.

Tomlijanovich, 2016) and have found that different asset classes have varying responses to FOMC announcements. [6],[7]

After removing all U.S. government bond ETFs (treasury, agency, inflation, local/municipal, mortgage-backed), our final list contains 118 passively managed ETFs and 33 actively managed ETFs in the U.S. market. We download the FOMC announcements for 2016-2022 and analyze fifty-eight FOMC announcements made from January 2016 to December 2022 (due to the pandemic, there were ten statements in 2020). We use the Loughran – McDonald dictionary and match these FOMC announcements to those dictionary words classified into three sentiment categories: positive, negative, and constraining.

All six regressions contain the same values for the control variables in the model that are collected from the Bloomberg terminal (Tables 5A-5F).[8],[9] In order to measure the significance of FOMC sentiments, we create a positive dummy variable where the sentiment variable consists of 0 for two days before the announcements and 1 for the day of and two days following the FOMC announcements.

This study uses OLS regressions with heteroscedasticity and autocorrelation-consistent (Newey-West) standard errors to show a significant rise in corporate and aggregate passive bond ETFs mispricing when FOMC statements contain constraining remarks.

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[6] Hausman and Wongswan (2011) analyze the response of interest rates, foreign equities, and exchange rates to FOMC announcement surprises.

[7] We position our paper within the context to how varying themes within the FOMC announcements impact interest rates, global assets, equities, and bonds.

[8] This includes the fund flow (flow), bid ask spread (b_a_spread), current market cap (mkt_cap), volume (volume), volatility (volatility) and correlation coefficient (corr_coef). In addition to the fund's variables, we include the benchmark's variables (B_Px_Last, B_Mkt_Cap, B_Volatility and B_Corr_Coef).

[9] Houweling (2012) shows that corporate bonds and high-yield ETFs underperform their benchmarks, with the underperforming of high-yield ETFs exceeding that of the investment grade ETFs. This underperformance is explained by the transaction costs of the underlying bonds (the higher transaction costs for high-yield bonds compared to investment-grade bonds). In the eurozone sovereign debt market, Drenovak, Urošević, and Jelic (2014) examine ETFs prices' tracking errors and report that they underperform their underlying indices.