

How the ETF market structure holds up during extreme volatility: Part 3

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Key takeaways

- Fixed income ETF discounts during March 2020 reflected challenges in underlying bond pricing, not a failure of the ETF structure.
- ETF market prices helped provide real-time price discovery at a time when bond market liquidity and NAV pricing mechanisms were impaired.
- Authorized Participants (APs) and exchange market makers remained active during the volatile period, supporting liquidity across ETF primary and secondary markets.

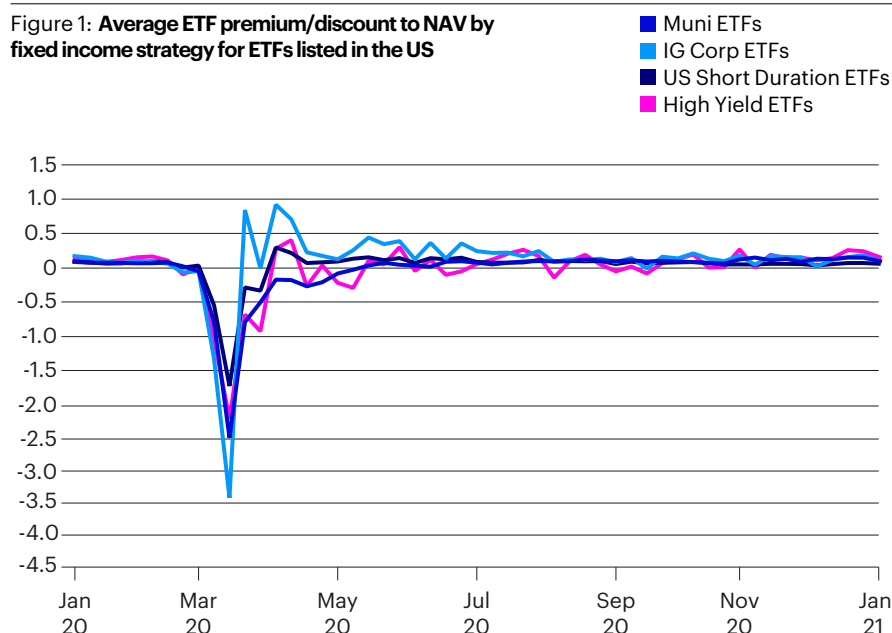
The premium discount narrative

Some market participants have pointed to dislocations between fixed income ETF prices on exchange and their NAV as a sign that the ETF structure broke down amidst Covid19-related market stress observed in the early parts of 2020. A broad range of fixed income ETF strategies traded at steep discounts to NAV during the month of March 2020 (Figure 1). However, our analysis suggests that it was not the ETF structure that broke down. Instead, price dislocations stemmed from the underlying bond prices which determine these products' NAVs.

Taking a closer look at how ETF NAVs are calculated highlights the issue at hand - third-party pricing agents failed to accurately adjust their pricing models used in NAV calculations. As shown in Figure 1, fixed income ETFs saw price-NAV dislocations across the board at the beginning of March 2020, which persisted for roughly 20 trading days until normalization began in April 2020. Price discounts versus NAV began to subside towards the end of March as pressure in certain parts of the underlying bond markets were supported by central bank interventions, including bond purchase facilities brought forward by the US Federal Reserve, the Bank of England and the European Central Bank. Notably, the Secondary Market Corporate Credit Facility (SMCCF), part of the US Federal Reserve's corporate bond purchasing program, had the flexibility to purchase US-listed investment grade and high yield corporate bond ETFs. The introduction of these new purchasing programs led to a material increase in demand for bonds. As a result, fixed income ETFs began trading with premia to their NAVs at the beginning of April for roughly two weeks, until the market normalized further.

October 2026

Figure 1: **Average ETF premium/discount to NAV by fixed income strategy for ETFs listed in the US**



Source: Bloomberg L.P., data as of January 2021

The average discount to NAV for investment grade corporate bond ETFs listed in the US reached 3.4% in mid-March, with some products seeing discounts of more than 8%.¹ As ETFs are traded in the open market and bound by arbitrage, it is fair to assume that if an ETF's price is too low versus its underlying basket, liquidity providers would have arbitrated away the discount to NAV. If these products' NAV prices were actionable, and market makers could have sold the underlying bonds at substantially higher prices than indicated by the ETF price in the market, any dislocation would likely have been normalized quickly.

The impact of underlying bond market structure

For equity ETFs, it is difficult for the market to disagree with the NAV published on every business day. The underlying stocks trade on regulated stock exchanges with an official closing price for every stock each day. ETF prices may on occasion deviate from their NAV or fair value; however, these dislocations are usually short lived given the arbitrage relationship between the ETF and the underlying basket of stocks. Bonds, in contrast, trade over the counter (OTC) and do not have official closing prices in the same way that stocks do. There is no single official price to use for bonds when valuing the NAV of a fixed income ETF or mutual fund. ETF issuers and mutual fund companies therefore rely on third party pricing agents that estimate prices to the best of their ability on any given day. In the US, corporate bond and municipal bond trades are reported daily to US TRACE (Trade Reporting and Compliance Engine) and MSRB (Municipal Securities Rulemaking Board), respectively, but some fixed income markets have no central reporting and prices are fairly opaque. In these markets where OTC traded prices are unreported, third-party pricing agents can gather quotes from dealers to help derive a fair value price for each security. This practice relies upon dealer quotes being timely and at executable prices. As markets sell off, dealers can be hesitant to mark down their inventory. These quotes, which are no longer actionable levels for the bonds, can lead to artificially inflated NAV prices.

We saw this dynamic during March 2020, when many bonds traded several percentage points away from indicative dealer bids. In the US corporate and municipal markets where OTC trades are centrally reported, pricing agents have much more data to work with. In theory, this transparency should help improve pricing, but the pricing agents still face challenges as a large portion of the bond market do not trade every day. If a bond does not trade, then there is no price reported to US TRACE or MSRB and pricing agents must again rely solely on dealer quotes to derive fair value prices.

1. Source: Bloomberg L.P., data as of January 2021

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October 2026

AP participation and primary market trading

A topic that frequently surfaces in times of market stress is the participation of APs and market makers given their central function in the ETF ecosystem and their ability to potentially step away. It should be said when looking at the period in March 2020, that the ETF infrastructure and lifecycle remained robust overall, with APs and market makers remaining active across our diversified range of ETFs and the wider ETF market.

Specifically, in March and April of 2020, we saw increased primary market activity from some of our mid-tier APs, contrary to the belief that APs may step away during periods of stress. There were also more active APs in the Invesco fixed income UCITS ETFs in March and April 2020 than the preceding January and February. Invesco's top three APs for both February and March 2020 remained the same; however, their market share of primary market activity fell from 80% to 67%. While this shows our top three APs remained competitive, it also illustrates that other APs were willing and able to step up and provide liquidity in our ETP range throughout the extreme bouts of volatility witnessed in 2020.

The same 16 APs were active in the primary market for our Irish domiciled ETPs in February and March 2020. At no point during the period of market volatility in March and April 2020 did Invesco have to suspend the ability for APs to place cash or create/redeem orders in any of our ETFs. Additionally, there were seven active APs in our fixed income ETFs in March 2020, which was an increase from four in the preceding January and five in February. This again signals that more APs were willing and able to provide competitive pricing during periods of underlying market stress, rather than stepping away during these periods.

As mentioned previously, we saw a significant spike in both primary and secondary market trading across our ETF range in March and April 2020. However, the primary to secondary market trading mix in March 2020 was not extraordinary compared with other months and was close to the average for the year. Similarly, the mix of on-exchange versus OTC turnover for secondary trading saw no meaningful deviation in March 2020 and was roughly in line with the average ratio of 6:1 over the course of 2020 (i.e. for every 1 USD traded in our ETFs on-exchange, there were 6 USD traded OTC).

In conclusion, whilst trading volumes spiked during the turbulent months of 2020, we saw more activity from our APs than during quieter market conditions. Both primary markets and secondary markets for ETFs continued to function, which enabled our clients to trade our ETFs even during challenging market conditions. There were also no meaningful deviations in the mix between primary and secondary market turnover or on exchange versus OTC trading ratios. This suggests that the narrative that ETF selling pressure during these turbulent months applied additional pressure on the underlying equity and bond markets, and that APs stepped away during this volatile period was not the case at all. Instead, ETFs saw a large increase in trading volumes while continuing to act as both a price discovery vehicle and a shock absorber during this period of market stress. ETFs really showed what they are capable of during that time.

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October 2026

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How the ETF market structure holds up during extreme volatility: Part 3

October 2026

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How the ETF market structure holds up during extreme volatility: Part 3

October 2026

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