Fixed income ETFs show maturity in March market mayhem

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Introduction

The COVID-19 related sell-off in corporate bonds in the first quarter 2020 caused some commentators to express concern about the liquidity and functionality of fixed income ETFs, led by corporate bond ETFs.

Widening discounts between corporate bond ETFs and NAV pricing after COVID-19 was cited as further evidence of ETF illiquidity. But ETF NAVs use estimated prices for underlying cash bonds, not market trades, and may become stale quickly. In contrast, ETFs trade on exchange daily, and rapidly move to new equilibrium pricing, in the face of a shock, like COVID-19. This makes ETF pricing timelier than NAV calculations, as the Bank of England pointed out.

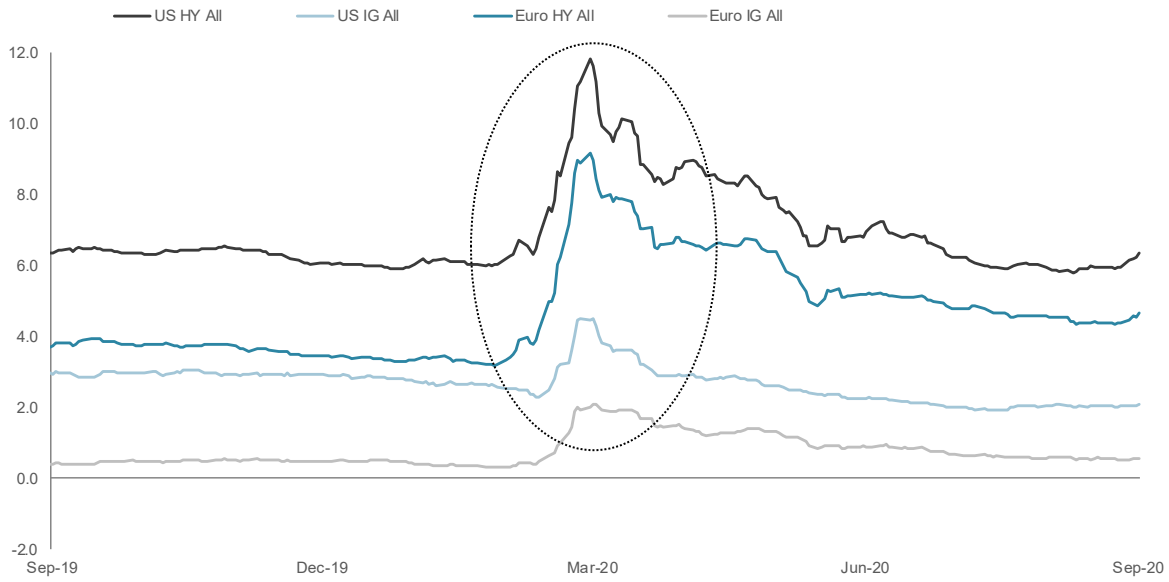
There is little evidence the liquidity infrastructure around ETFs, driven by authorized participants, failed during the March/April 2020 period, and trading spreads were much narrower in fixed income ETFs than the underlying bonds.

Fears about bond ETF illiquidity deepened after the COVID-19 crisis…

The COVID-19 related sell-off in corporate bonds in the first quarter 2020 caused some commentators to express concern about the liquidity and functionality of bond ETFs, and particularly corporate bond ETFs, after a financial or economic shock.[1] Chart 1 shows the extent of the corporate bond sell-off in Q1 2020, in both investment grade and high yield corporate bonds, in the US and Eurozone.

[1] See "Price gap triggers fears for bond ETFs," Chris Flood, Financial Times, March 30, 2020.
Bond ETFs will never be the same after coronavirus," Brian Chappatta, Bloomberg, March 23, 2020.
See "Why most index funds and ETFs are not good investments," Robert C.Lawton, Forbes, April 7, 2019.

Chart 1: Investment grade and corporate bond yields in 2020



Source: FTSE Russell, data as of September 25, 2020. Past performance is no guarantee of future results. Please see the end for important disclosures.

These concerns are driven by the perceived decline in "market liquidity" in corporate bonds since the Global Financial Crisis (GFC), combined with the growth in assets in fixed income ETFs. The main argument cited has been that corporate bond ETFs are built from corporate cash bonds, which trade over-the-counter (OTC), in a fragmented market, with severely diminished liquidity since the GFC. Hence, it is argued, after a credit event, or market shock, ETFs will become un-tradeable with no "liquidity," since if all investors seek to sell at the same time, the underlying securities that compose them will become untradeable. The widening discount between ETF pricing and NAV is also cited as a failure of the arbitrage mechanism designed to eliminate the deviations of the ETF price from its NAV.

…based on the widening discounts between corporate bond ETFs and NAV pricing

Evidence for this claim is cited as the discount that can appear in bond ETF prices to the Net Asset Value (NAV) of these funds, based on the price of the underlying cash bonds, during periods of market stress. The related assumption is that discounts to NAV on this scale question the validity of bond ETFs as investment vehicles, since ETFs in other, more liquid, asset classes (like government bonds, or equities) generally trade much closer to NAV. This discount reached about 5% in some corporate bond ETFs during the March COVID-19 crisis, as the Bank of England pointed out.[2]

[2] Financial Stability Report, Bank of England, May 2020.

But ETF NAVs are based on estimated prices for underlying cash bonds…

But it should be noted that the NAV pricing for bond ETFs is based on estimated prices for underlying cash bonds, and not market transaction data. Underlying cash bonds may not trade at all on some days, reflecting the fragmented market and diminished market-making since the GFC (it has been estimated the inventory now held by dealer-brokers in corporate bonds is currently less than $60 billion, compared with $418 billion of the inventory held pre-GFC[3]). Nor is there an "official" price for these corporate bonds, with no exchange trading. Instead, NAV prices are estimated using pricing services and algorithms.

…and ETF liquidity is not determined solely by the underlying instruments

Also, bond ETF "liquidity" is distinct from the "market liquidity" of underlying instruments. The supply of bond ETF shares can be varied by "authorized participants" or APs—often banks, or institutional investors—who can create or redeem ETF shares in a bond ETF in response to changes in demand for the ETF. This is known as primary liquidity in the bond ETF. Secondary, or on-screen, liquidity is the trading of ETF units that already exist, which drives pricing data, volumes, etc. Overall, liquidity in the ETF will be driven by both primary and secondary market liquidity. Many bond ETFs have underlying assets, like high yield, which have poor primary liquidity, but this does not mean the ETFs become impossibly illiquid in the secondary market after a market shock. The whole purpose of an AP is to act as an arbitrageur and liquidity buffer between investors and the ETF provider, creating extra ETF units when demand is strong, and redeeming units when demand is weak. In a study conducted before the COVID-19 crisis, and focused on previous periods of credit market stress, the UK's Financial Conduct Authority found fixed income ETF liquidity in Europe to be resilient[4] and that lower activity APs acted as alternative liquidity providers, when large ETF discounts appeared relative to NAV.

Authorized participants act as arbitrageurs and market-makers…

Another argument cited is that because APs also carry inventory in the ETF in which they act as arbitrageurs, APs may widen the gap between the price of the ETF and underlying NAV[5], particularly during stressful market conditions. Thus instead of buying the ETF basket when it trades well below NAV, or intrinsic value in the underlying bonds, APs may seek to reduce inventory in the ETF by selling down ETFs, creating a kind of "doom loop" between the ETF price and underlying bonds. It is true APs are not obliged to create/redeem units in the underlying ETF immediately, when NAV and ETF prices differ sharply, and gaps in pricing between NAVs and ETF units have widened during stressful market conditions (as in March 2020). However, given that larger US corporate bond ETFs have 25-35 APs on average[6], it seems unlikely all APs would trade in the same way in these circumstances, even if there is an initial widening in ETF discounts to NAVs.

[3] Credit trends: How ETFs contributed to liquidity and price discovery in the recent market dislocation, S&P Global ratings, July 2020.

[4] ETF primary market participation and liquidity resilience during periods of stress, M.Aquilina, K.Croxson, G.G.Valentini, Lachlan Vass, Financial Conduct Authority, Research Note, August, 2019.

[5] ETF arbitrage under Liquidity Mismatch, Kevin Pan and Yao Zeng, SSRN Fourth annual conference on financial market regulation, April 2019.

[6] Report on the design of Exchange Traded Funds & Bond Funds implications, April 10, 2019, Securities and Exchange Commission.

…but little evidence of a doom-loop or major step-away risk

A related argument is described as “step-away risk,” where all APs in an ETF step away simultaneously from their arbitrage role in a highly stressed market. The US SEC[9] found no evidence in the GFC or in subsequent stressed market events, of any cases when APs all stepped away simultaneously. Other liquidity providers, like hedge funds, can enter the market to buy ETFs trading at sizeable discounts to NAV, and may well have done so in March 2020. Indeed, there is some evidence in a recent Blackrock report[7] that over 60 asset owners and managers entered the market for fixed income ETFs for the first time in the first half of 2020.

It is true bond ETFs with illiquid underlying securities, like high yield ETFs, are more likely to trade at wider discounts and premiums to NAV than bond ETFs for government bonds during severe market stress, where liquidity in the underlying securities is more reliable. This is often described as a “liquidity mismatch” problem. It arises because it may take APs longer to buy the underlying high yield cash bonds to create new ETF units in a rising market, and to sell the underlying cash bonds to redeem the ETF units sold in a falling market, after a shock like COVID-19. But evidence the arbitrage mechanism had failed in March, and a “doom loop,” are hard to find. In fact, there is evidence of net creation of units by APs during this period, and not redemptions, in some corporate ETFs[8]

ETF pricing may be a better guide to new equilibrium pricing than a stale NAV

Furthermore, given that NAV pricing is not based on market data, these sizeable discounts and premiums in ETF pricing, relative to NAV, may be a better guide to the correct pricing, or fair value, of the underlying bonds, as the Bank of England concluded after the Q1 2020 sell-off. [4] Faster price discovery in the ETF should not be confused with mispricing. Instead, this may be evidence ETF pricing has moved to the new, and lower, equilibrium pricing more rapidly, increasing price efficiency.

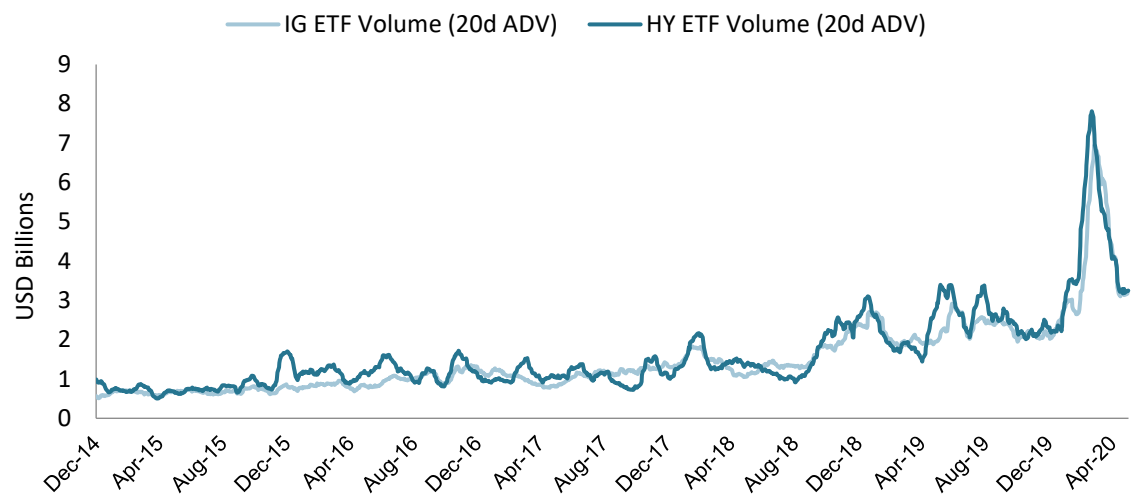
Higher market volatility also makes it likely NAV pricing will become stale quicker and take longer to respond to ETF prices. Indeed, there is evidence that surprises in ETF prices during March explained future unexpected NAV price dynamics better than NAVs do, suggesting information flows from ETF prices to NAVs. If both ETFs and NAVs incorporated new information rapidly, neither would be useful to predict future price or NAV returns. But the BIS finds[9] ETF price returns do predict NAV returns better at longer horizons, suggesting NAV adjustments take longer.

[7] Global survey of Fixed Income ETFs, July 15, 2020. Blackrock Report.

[8] Bond ETFs and underlying price uncertainty, MSCI, April 2020, Refinitiv/Lipper data.

[9] The Recent Distress in Corporate Bond Markets, cues from ETFs, Sirio Aramonte and Fernando Avalos, BIS Bulletin No.6, April 2020.

Chart 2: ETF trading volumes



Source: Bloomberg, May 29, 2020.

The surge in ETF trading volumes suggested bond ETF liquidity held up well…

Trading volumes in both investment grade and high yield bond ETFs confirm there was no suggestion of a freeze in the secondary ETF market in Q1 2020, as Chart 2 shows. Some investment grade and high yield ETFs showed volumes more than doubling on a daily basis over March (UCITS high yield ETF had trading volume of $620 million daily compared to $290 million daily in 2019[10]).

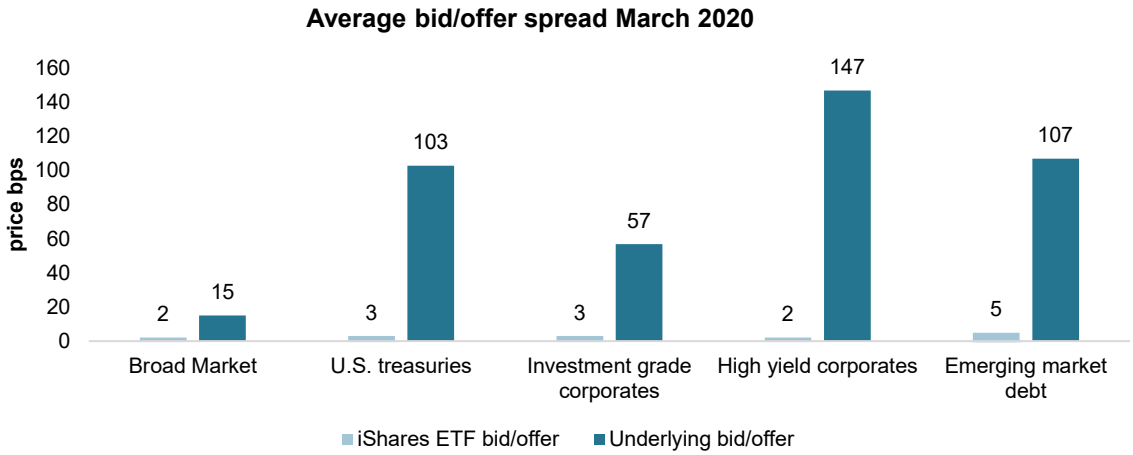
…and ETF trading spreads widened far less than underlying cash bonds

Similarly, although trading spreads in ETFs widened, they moved far less than spreads in underlying cash bonds, as Chart 3 shows. This is further evidence the liquidity infrastructure around bond ETFs held up well, during the crisis, and confirms the diminished liquidity and wide trading spreads in underlying cash bonds. In fact, The FTSE Russell market price/liquidity ratio in corporate bonds[11] shows a pronounced deterioration during the March/April 2020 period, both in the March sell-off, and during the rally in April/May, after the Fed announced the broadening of its QE program to include corporate bonds and high yield ETFs.

[10] Blackrock data.

[11] "Crisis? What Crisis? US dollar corporate bond liquidity since Covid", FTSE Russell, August 2020.

Chart 3: Trading spreads in ETFs and underlying bonds



Source: BlackRock, average observed spreads during March 2020.

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