US Credit Strategy

A Sobering Message from ETF Discounts

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#liquiditysqueeze

We assess liquidity conditions in US credit markets and find that 1) the recent pickup in bond trading has paled in comparison to the increase in portfolio product activity, and 2) the recent large discounts to NAV for credit ETFs, especially in IG, are likely indicative of a worsening liquidity environment for bonds.

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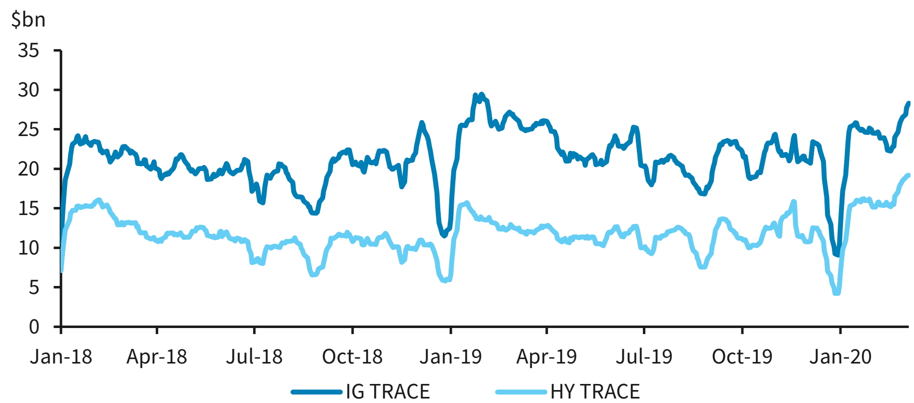
Amid the current selloff in US credit, a key investor concern has been centered around the proper functioning of the corporate bond market and whether there has been sufficient liquidity available to support risk transfer. Given there is no one measure that appropriately captures the availability of liquidity, we review several data points that we believe are indicators of the health of liquidity in corporate bond markets. We find that:

- Bond volumes have increased amid the selloff, with sectors/tickers that have experienced the greatest spread widening generally turning over the most.
- The increase in bond volumes, however, has paled in comparison to the spike in activity in corporate bond ETFs and the CDX indices.
  - We believe this is in part reflective of investors' increased reliance on portfolio products to manage liquidity needs, especially during periods of elevated volatility.
- However, while ETF valuations were largely trading close to net asset values (NAV) until recently, over the past few days a dislocation emerged, especially in investment grade (and Treasury) ETFs which traded at significant discounts. In periods of volatility, credit index NAV calculations can be off, but our analysis suggests that this would only explain a relatively small portion of the discount.
- Notably, the large discount to NAV for IG ETFs did not result in significant redemption volumes. The inability of investors to effectively trade the ETF arb could be an indicator that liquidity, at least at quoted bid/ask levels, is starting to becoming more constrained in investment grade debt.
- Interestingly, the HY ETF market has been much more well-behaved. We believe the divergence in outcomes between IG and HY credit is likely a function of the growth in the two markets – the market value for the Bloomberg Barclays US Corporate IG Index has grown 34% over the past five years compared to a 15% decline for the HY index.

Bond Volumes Have Picked Up, With Sectors That Have Widened the Most Also Being The Most Active

1. **Overall volumes** – a decline in corporate bond trading volumes would be an obvious sign of markets seizing, but IG and HY volumes have risen sharply (Figure 1), in line with previous periods of volatility. The 10-day average volumes for both markets have increased significantly over the past few weeks and are now in line with early 2019 levels, when volatility was also elevated.

FIGURE 1. TRACE Volumes for Both IG and HY Have Risen Amid the Selloff

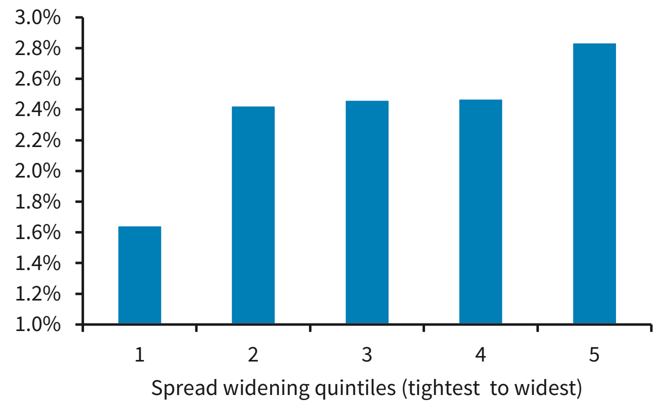


Note: 10-day average TRACE volumes including 144a.
Source: TRACE, Bloomberg, Barclays Research

2. **Volume distribution** – importantly, sectors/bonds that have widened the most have also been the most active (Figure 2 and Figure 3). Although that sounds a bit tautological – the most volatile tickers should trade more as investors reassess their positions in those credits – it is a healthy sign for the market that risk has been clearing in those names. An alternative scenario where these bonds/tickers are marked wider without trading is obviously much more problematic for investors as they would be unable to change positioning in the affected tickers.

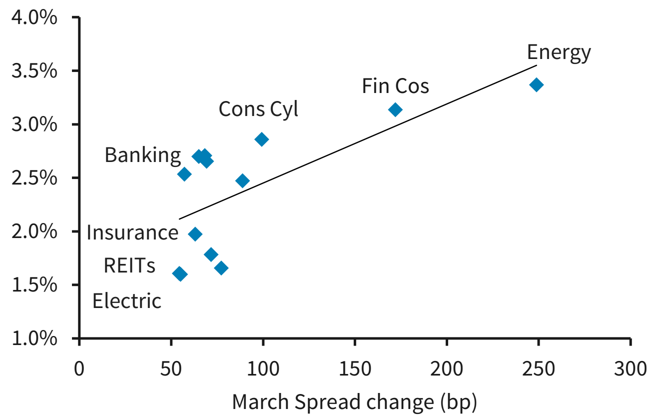
   Figure 2 shows March trading volumes for bonds bucketed by their performance in the current selloff. Bonds that have widened the most (ie. those in the fifth quintile) have also had the highest trading volumes as a % of amount outstanding. The same is also true on a sector basis as evident in Figure 3. Sectors that have widened the most have had the highest trading volumes.

FIGURE 2. **March Trading Volume (as % of Outstanding) vs. March Spread Widening***



*Bonds put into quintiles based on spread changes during this period.
Source: Bloomberg Barclays Indices, Barclays Research

FIGURE 3. **March Trading Volume (as % of Outstanding) vs. March Spread Change by Sector**

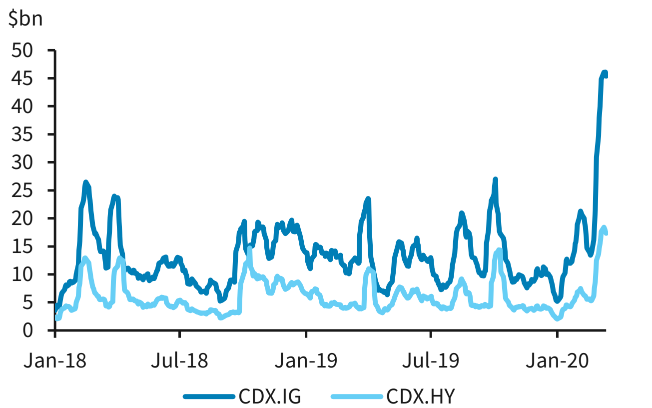


Source: Bloomberg Barclays Indices, Barclays Research

The Pickup in Corporate Bond Trading Pales in Comparison to the Spike in Portfolio Product Activity

While the pickup in corporate bond trading is a reassuring sign, it pales in comparison to the increase in activity in the CDX indices and ETFs. While TRACE volumes are up 25% versus three weeks ago (when comparing 10-day average volumes), CDX and ETF volumes are up approximately 200% over the same period (Figure 4 and Figure 5). This is consistent with what has occurred in previous selloffs (see Amid the Volatility, HY Portfolio Products Sub in for Bonds, 4 June 2019) as investors increasingly substitute bond trading with portfolio product trading during periods of elevated volatility. We view this as a deliberate shift on the part of investors as these products give them the ability to efficiently reduce risk without having to solicit bids for multiple line items. Although the growth of portfolio trading certainly mitigates some of the challenges with liquidating bond portfolios, ETFs and CDX are better-suited for rapidly changing markets.

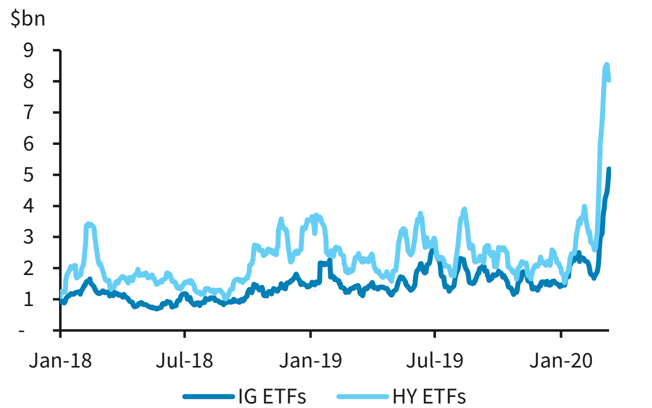
FIGURE 4. **CDX.IG and CDX.HY Volumes Have Spiked Amid the Selloff...**



Note: Average 10-day volumes based data from the Bloomberg SDRV.

Source: Bloomberg SDRV, Barclays Research

FIGURE 5. **...As Have ETF Volumes**



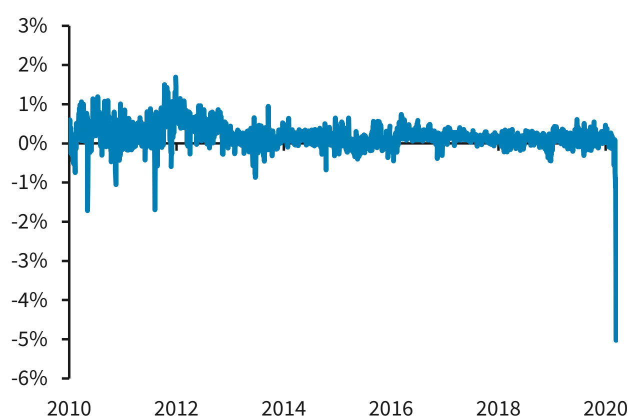
Note: Average 10-day volumes. IG volumes based on LQD, VCIT, VCSH, IGSB, IGIB. HY volumes based on HYG, JNK, SHYG, USHY, HYLB.
Source: Bloomberg, Barclays Research

The Preference for Portfolio Products Has At Times Driven Valuations Before NAV

Despite the pickup in volumes, ETFs were largely trading fairly close to NAVs until a few days ago. But recently, one development in particular that has been viewed as a red flag in terms of corporate bond liquidity is the fairly large discount to NAV that some corporate bond ETFs have experienced. For example, on March 12, LQD, the largest US investment grade corporate ETF, closed at a 5% discount to NAV, the largest for the fund since the financial crisis (Figure 6).

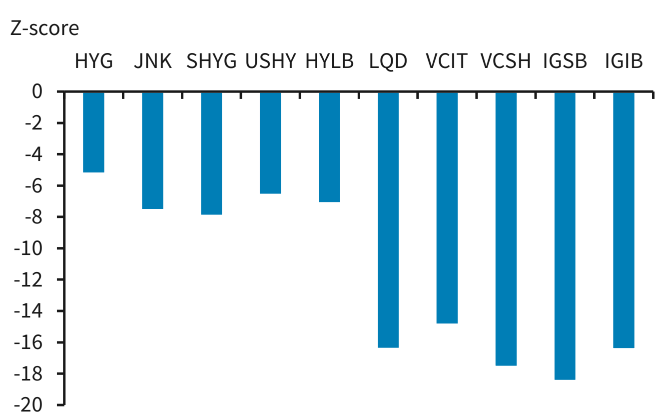
This development was not unique to LQD as many fixed income ETFs also traded at a discount to NAV over the past week. In Figure 7 we compare the discounts to NAV for the largest IG and HY ETFs in z-score terms (z-score in this chart indicates the number of standard deviations away from the mean since 2018 that the March 12 discount to NAV represented). All ten of the ETFs in our sample were quite dislocated form their typical premium/discount to NAV, but the dislocation was most pronounced for the investment grade ETFs.

FIGURE 6. **LQD Closed on March 12 at the Largest Discount to NAV of the Past 10 Years**



Source: Bloomberg, Barclays Research

FIGURE 7. **March 12 Z-score of Premium/Discount to NAV for 10 Largest HY/IG ETFs**



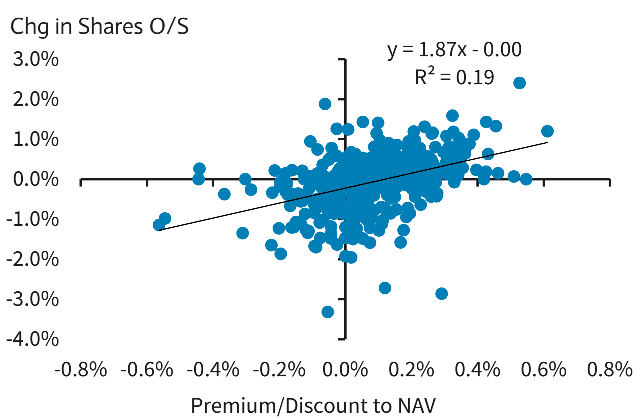
Source: Bloomberg, Barclays Research

NAV Discounts Have Not Resulted in Significant Redemptions

Historically, the level of the premium or discount has had a fairly strong relationship with flows. Figure 8 shows the daily premium/discount to NAV for LQD versus change in shares outstanding from the beginning of 2018 to the end of February 2020. The relationship appears intuitive: when the ETF trades at a large enough discount to NAV, authorized participants will purchase the shares and redeem them with the administrator (creating an outflow) to acquire the bonds below market price. However, on March 11 and March 12, LQD traded at 3.3% and 5% discounts to NAV, respectively, which would imply much larger outflows based on the this relationship than what actually occurred (1.2% decrease in shares outstanding on March 11; 1.6% on March 12).

Why have NAV discounts not led to more redemption activity? One potential explanation could be that the discount is not real and is caused by the benchmark NAV calculation being off. This could happen in periods of elevated volatility given that a significant portion of the underlying indices are not as liquid and therefore their marks may be stale. But, as an example, looking at the difference in spread change over the past two weeks between illiquid and liquid bonds in the Bloomberg Barclays US Corporate IG Index by sector, the numbers are relatively small (Figure 9). This, combined with the fact that most ETFs are benchmarked against the more liquid sub-segments of the markets, suggests that the NAV discounts are only very partially driven by potentially stale pricing of illiquid bonds.

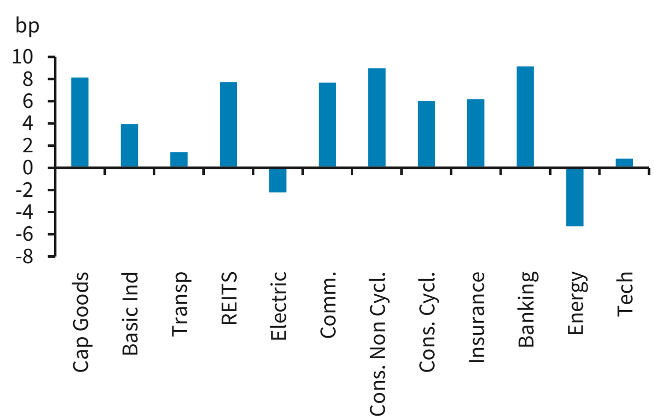
FIGURE 8. **Historically, There Had Been a Fairly Strong Relationship Between LQD Premium/Discount to NAV and Flows**



Note: Daily data from 2018 until the end of February 2020.

Source: Bloomberg, Barclays Research

FIGURE 9. **2wk Spread Change Differential Between Liquid and Illiquid Bonds Has Been Relatively Small**



Note: Liquid bonds are those with turnover less than the median for the sector. Calculations based on the bonds in the Bloomberg Barclays US Corporate IG Index.
Source: Bloomberg Barclays Indices, Barclays Research

Rather, we believe that the fact that arbitrageurs have been unable to monetize what looks like very significant discounts to NAV is symptomatic of a worsening liquidity environment in the corporate bond market. Liquidity, at least at quoted marks, appears to be constrained. While there may be more liquidity available, the magnitude of the ETF discounts suggests that it is likely at levels meaningfully worse than index marks.

As we show above, these stresses are beginning to emerge to a much larger extent in IG than HY. We think this is partly due to Treasury ETFs (for example, TLT) also trading at extreme discounts to NAV, which affects IG debt more than HY (IG debt is part of the Agg index and many investors hold IG debt hedged with Treasuries). Another explanation is the divergent trend in terms of size for the two markets. High yield market value is $1.17tn (based on the Bloomberg Barclays US HY Index), which is down 15% over the past five years. In contrast, amount outstanding for the Bloomberg Barclays US Corporate IG Index is $5.64tn, up 34% over the same period. Furthermore, despite the growth in the investment grade market, there is little evidence to suggest that the capacity of dealer balance sheets has changed much with regards to investment grade market-making.

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