Q2 2017

Credit Investing Beyond the Bond Market

GREENWICH ASSOCIATES

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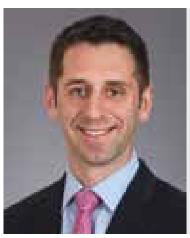

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90%

OF U.S.-BASED CREDIT INVESTORS SAY LACK OF LIQUIDITY HAS IMPACTED THEIR ABILITY TO TRADE AND/OR IMPLEMENT THEIR INVESTMENT STRATEGY

BUY-AND-HOLD CORPORATE BOND INVESTORS NEED TOOLS TO MANAGE MARKET AND LIQUIDITY RISK— A ROLE THAT DERIVATIVES PLAY

Executive Summary

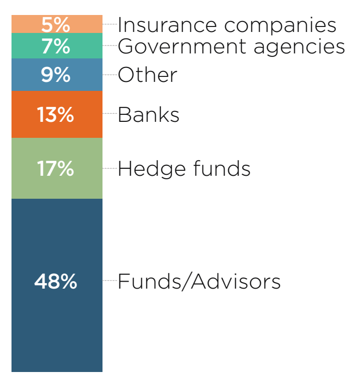
Credit markets are a critical part of not only the capital markets but of the global economy. They allow money to flow smoothly from those that have it to those with new and interesting ways to put it to work. The ability of investors to express views on various credit instruments and hedge their exposures is a critical element to the market's functioning.

Yet access to the tools needed to do just that remains surprisingly limited. This research examines investors' and liquidity providers' use of corporate bonds, credit default swaps, total return swaps, ETFs, and futures, and discusses the merits of each and the market's likely path forward.

METHODOLOGY

Between Februrary and April 2016, Greenwich Associates interviewed 998 U.S. institutional investors active in fixed income, including 200 credit investors. Interview topics included trading and research activities and preferences, product and dealer use, service provider evaluations, market trend analysis, and investor compensation.

RESPONDENTS BY TYPE

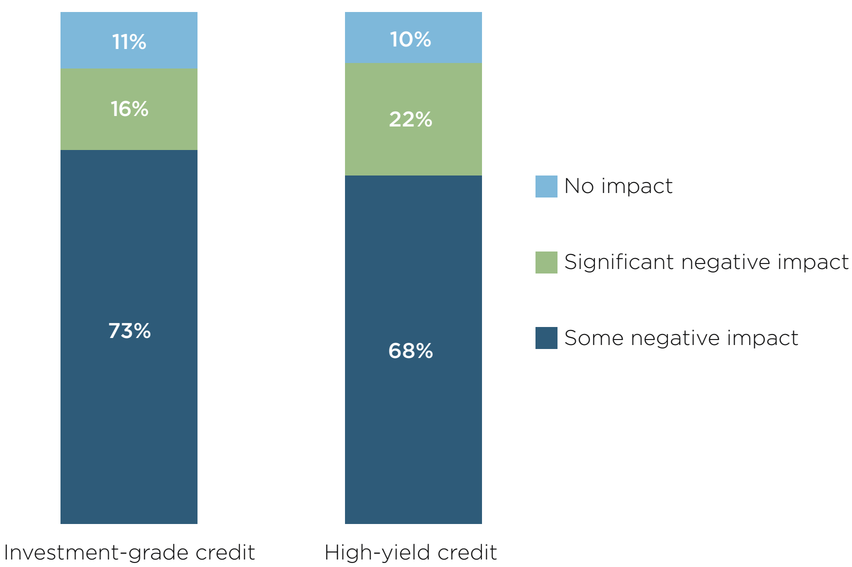


Credit Investing Beyond the Bond Market

The buy side is unsatisfied with their access to credit markets. Roughly 90% of the U.S.-based credit investors we interviewed in 2016 felt that their ability to trade and/or implement their investment strategy has been impacted by reduced liquidity in the credit market. Dealers are quick to explain that with capital more expensive and balance sheet more scarce, they can't offer principal liquidity in the credit markets as they once did. Clients—especially those not in the top tier—have no choice but to adapt.

High demand and low supply has catalyzed an uptick in credit-market product innovation.

REDUCED MARKET LIQUIDITY IMPACT ON INVESTORS



Note: Based on 70 responses from investment-grade investors, and 67 from high-yield investors.
Source: Greenwich Associates 2016 North American Fixed-Income Study

These liquidity concerns come at a time when demand for credit exposure is strong, with Greenwich Associates research finding that pensions, endowments and foundations will allocate nearly $120 billion to fixed-income fund managers in 2017. Low-yielding government bonds have increasingly driven fixed-income investors to riskier credit instruments in the hope of a more respectable return. Bond issuance is up, as corporate borrowers rush to capitalize on the access to cheap funding which, in theory, would satiate this demand.

But the majority of these new bonds are bought up quickly by large buy-and-hold investors, leaving smaller firms searching around for what's left. Even for those lucky enough to get the desired allocation, risk managing the resulting position remains difficult and the list of derivative instruments relatively limited.

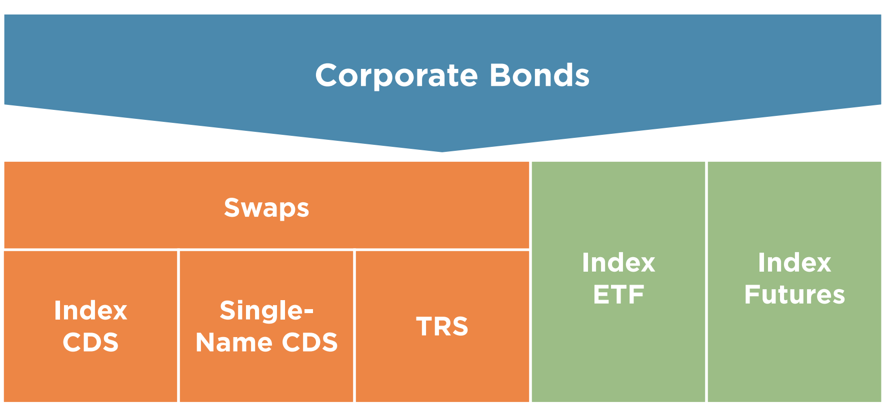
This demand has also been driven by a new and diverse universe of participants who recognize the importance of credit for risk management and the positioning of their portfolios. For these new entrants, however, access to credit can be challenging. Credit derivatives markets are uneconomical for some, while bond-market liquidity challenges create problems for others.

These and similar roadblocks have long kept a relative cap on the number of credit market participants, especially in comparison to much more accessible interest-rate, FX and equities markets. This has created an environment of high demand and low supply that has catalyzed an uptick in credit-market product innovation.

Corporate Bonds

The corporate bond market is critical to the global economy. In the U.S. and increasingly in Europe, it acts as a primary source of funding for businesses looking to expand, hire and grow more quickly than would be possible without the additional capital. As such, encouraging investment in this market is prudent. Technology has dramatically improved the efficiency of the corporate bond market over the past five years, with all-to-all trading and liquidity intelligence both making it easier for buyers and sellers to find each other. However, the ability to quickly get in and out of hedge positions remains a major barrier to entry for many potential investors and liquidity providers.

CREDIT PRODUCT LANDSCAPE



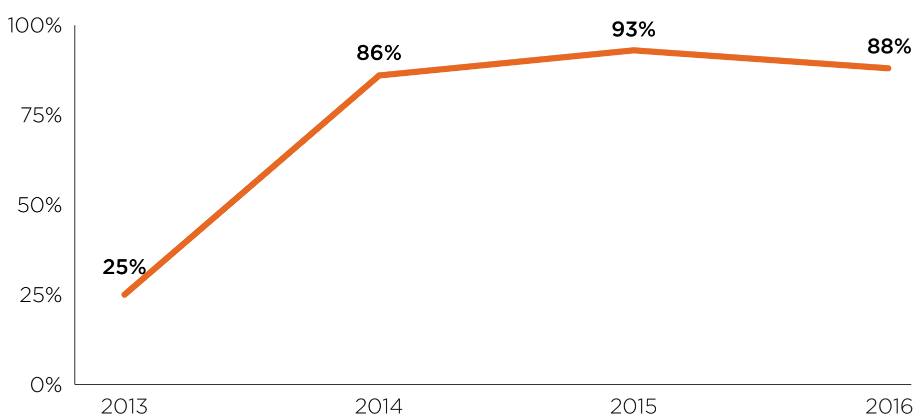
This is where derivatives enter the picture. Buy-and-hold corporate bond investors need tools to manage market and liquidity risk—a role that derivatives play. Swaps and futures can ease the flow of credit around the system, whether by limiting downside risk or by quickly putting inflows to work while the appropriate bonds are found at the right price in the secondary market.

Credit Default Swaps: Indices

The most widely used credit derivative is the credit default swap (CDS), with roughly $11.8 trillion of contracts outstanding in the first half of 2016, according to the Bank for International Settlements (BIS). CDS allow participants to take a view on the probability of default of one or a group of credits. The most widely traded instruments are those tied to Markit's investment-grade and high-yield North American and European benchmark indices (e.g., Markit's CDX.NA.IG or iTraxx.EUR.Main).

By most measures, the index CDS market is liquid and efficient, with standardized contract terms and a market structure cemented by the passing of Dodd-Frank in 2010. At ICE Clear Credit, ICE's CDS clearinghouse, the 2016 average daily volume (ADV) for cleared CDX.NA.IG is over $10 billion, while cleared CDX.NA.HY is over $4 billion. Nearly 90% of trading in investment-grade index CDS is now done electronically, according to Greenwich Associates research—up from just one-quarter in 2013.

PERCENT OF INVESTMENT-GRADE INDEX CDS NOTIONAL VOLUME TRADED ELECTRONICALLY



Note: Based on 37 responses in 2013, 27 in 2014, 33 in 205, and 32 in 2016.
Source: Greenwich Associates 2016 North American Fixed-Income Study

But despite the CDS index market's liquidity, the cost of entry for those who have never traded swaps before and thus lack swaps-clearing broker relationships can be challenging if not prohibitive. Furthermore, the swaps-clearing business has proven to have a cost structure that can make it untenable to provide clearing services to all but the most active/largest swap participants, as evidenced by the exit of several global banks from the business. This double-edged sword of high costs for the sell side to clear customer trades and for smaller customers to get access to clearing has left the market all but inaccessible to mid- and smaller-tier firms. Whereas the bond market has a liquidity problem, the CDS market has an access problem.

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Credit Default Swaps: Single Names

The single-name CDS market—those tracking the probability of default of a single issuer—has faced an even tougher road. While trading and clearing mandates have not and will not play a role in the short term, the market has suffered from perpetually declining liquidity. The notional outstanding has fallen more than 75% since June 2008, according to ISDA data.

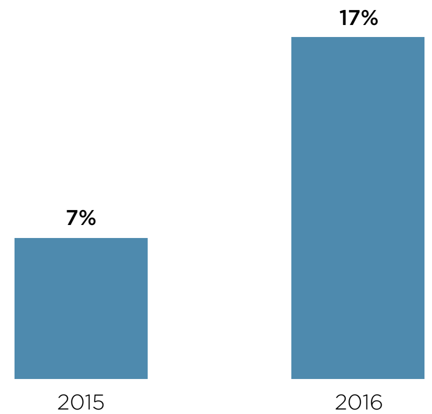
The decline of corporate default rates to their historic lows, coupled with the increase of regulatory challenges faced by sell-side participants, have acted as major headwinds against a broad resurgence of the single-name CDS market.

The single-name market has seen a recent renewed interest by credit-market participants, however, via voluntary clearing and industry initiatives, such as the move from quarterly to biannual coupon payments in an effort to improve liquidity. While voluntary clearing by buy-side investors has grown significantly in relative terms over the past year ($33 billion in 2015 to over $190 billion in 2016 and over $105 billion in the first quarter of 2017), it still remains a small fraction of overall dealer-to-client clearing volumes. Dealer-to-client activity represents over 80% of overall cleared index volumes at ICE Clear Credit, but dealer-to-client single-name clearing represents less than 50% of total single-name cleared volume. Nevertheless, limited liquidity and the continued need for bilateral contracts can provide a headwind for prospective new entrants into the single-name CDS market.

Total Return Swaps

Separate and distinct from the CDS market, total return swaps (TRS)—most commonly those tied to Markit's iBoxx bond indices—are bilateral contracts which have seen growing interest from participants looking for short-term, tactical hedges. Greenwich Associates research found that the number of U.S. credit investors using TRS jumped to 17% in 2016 from only 7% the year before. In short, TRS allows investors to swap a fixed payment with a counterparty in return for exposure to a particular basket of credit, thus gaining exposure to those credits (not the probability of default, as is the case with CDS) without actually owning the bonds.

USE OF TOTAL RETURN SWAPS BY INSTITUTIONAL INVESTORS



Note: Based on 87 responses from investment-grade credit investors in the U.S in 2015 and 72 in 2016.
Source: Greenwich Associates 2016 North American Fixed-Income Study

Despite this growth, the reach of bilateral TRS will have its limits over the long term. The phase-in of uncleared margin requirements for non-cleared swaps in conjunction with Basel III's punitive treatment of such instruments will increase the cost of trading TRS over time. Furthermore, with limited prospects for cleared TRS, trading these contracts will still require bilateral documentation, which often remains out of reach for small investors.

As such, while the use of TRS will continue to grow, we expect credit-focused TRS to remain a tool primarily for larger investors. Conversely, we expect the rest of the market to look toward cleared-index CDS and increasingly to credit ETFs and credit futures.

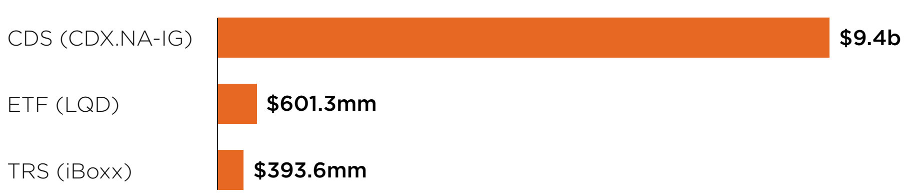
Exchange-Traded Funds

For participants who want to gain exposure to the credit market by investing directly in a basket of bonds, exchange-traded funds (ETFs) provide an efficient solution. As a result, fixed-income ETFs are and will continue to be a highly successful product with AUM in several of the top fixed-income ETFs approaching $30 billion. ETFs are by definition not derivatives, with a portfolio of assets sitting beneath the issued securities managed through the creation/redemption process.

In the case of credit-focused ETFs, for example, ETF shares represent partial ownership of a portfolio of corporate bonds held and managed by the issuer. This is in contrast to derivatives, which provide synthetic exposure—meaning no bonds are necessary for their creation. Nevertheless, institutional credit investors are increasingly looking to fixed-income ETFs as either a substitute for certain derivatives or as a complimentary product, with half of those already using credit derivatives considering their use.

All ETFs are not created equal, of course, with more than 300 fixed-income ETFs currently trading in the U.S. today. They represent a whole host of durations, credit ratings and directional strategies. Some of the most heavily traded credit-related funds are broad-based credit index ETFs, such as Blackrock's LQD and HYG (both tied to iBoxx indices) and SSGA's JNK (tracking the Bloomberg high-yield bond index). While trading volume in these ETFs is growing, with ADVs ranging from $645 million to over a $1 billion, they have not yet reached the volumes seen in the index CDS contracts.

AVERAGE DAILY VOLUME BY CREDIT INSTRUMENT



Sources: TRS: Markit, CDS: ICE, ETF: Reuters

As mentioned, ETFs are not actually derivatives. While that provides some advantages, such as their accessibility to a larger audience of users, it also means they lose some of the benefits derivatives can provide. Since fixed-income ETFs represent ownership in an actual bond portfolio, the ability to create and redeem fixed-income ETFs remains tied to the liquidity in the underlying bond market. Second, it continues to be difficult and costly to short fixed-income ETFs, leaving them as a tool primarily for expressing positive sentiment.

Lastly, margin requirements are less onerous for credit index futures and cleared CDS. Regulation T requires at least 50% margin for cash equities including ETFs (i.e., $5 million initial margin posted for a $10 million equity position). A similar position in the IG credit index futures would require less than 1% of margin (i.e., $60,000 for $10 million). While leverage isn't necessary or allowed for all funds, those that can utilize leverage to gain more exposure for less—such as quantitative hedge funds or CTAs—will continue to be drawn to cleared derivatives.

Credit Index Futures

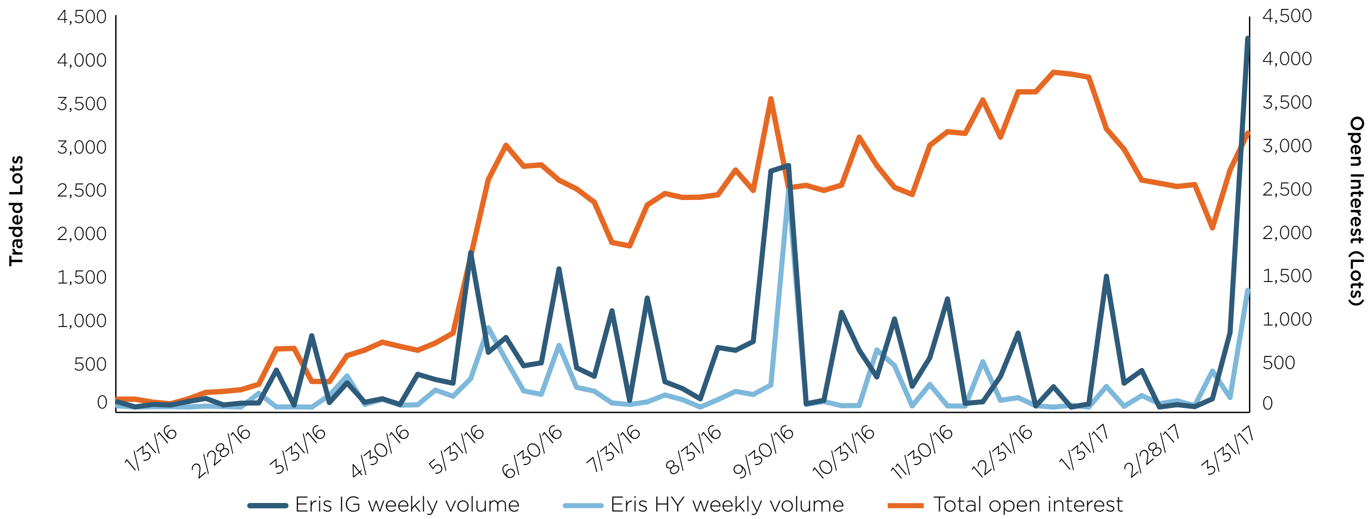
The credit market remains one of the only major capital markets without a robust futures market. However, regulatory and market structure changes over the past few years are fighting harder than ever to change that. While credit futures launched in the past have failed to catch the industry's imagination for a variety of reasons, the current iteration of the credit index futures appears to be off to a promising start.

Recent adoption of the IG and HY Eris Credit Index Futures has proven there is an audience and growing appetite for credit exposure in futures form.

Intercontinental Exchange (ICE) has created a cash-settled future utilizing the Eris Methodology, which allows for the replication of the economics and OTC conventions of investment-grade and high-yield CDS index contracts. The Eris Credit Index Futures, which trade on ICE Futures U.S., offer credit exposure identical to that gained via a cleared CDS index contract with lower margin requirements (approximately $60,000 on a $10 million trade), a less expensive "short" than is available with ETFs, and access through the widely distributed futures infrastructure.

Adoption over the last several months of the IG and HY Eris Credit Index Futures has proven there is an audience and growing appetite for credit exposure in futures form. With the majority of trading of the Eris Credit Index Futures coming from those who are not trading and do not wish to trade the swap, these contracts have successfully drawn new participants to the credit market. Finally, the cash-settled nature of the contract and the broad liquidity in the underlying benchmark indices promote sustained scalability for these products despite moderate trading volumes today.

ERIS CREDIT FUTURES VOLUME AND OPEN INTEREST



Source: Eris Exchange

New Strategies

Increasing accessibility to the credit market should, over time, improve liquidity, bring in new market participants and open up new trading strategies. The use of ETFs and credit index futures does not have to be mutually exclusive and in fact, trading them together can provide a variety of interesting opportunities. Trading the capital structure, which in this context equates to equities and related credit instruments, has long been a difficult proposition to smaller investors. Equity index futures alongside credit futures provide a more easily accessible entry point to this trade than does the swaps market.

ETF market makers could look to credit index futures for hedging or arbitrage opportunities, and investors could use both to fine tune the exposure in their portfolio. Remember that ETFs track the movements of the underlying bonds via a number of indices, whereas credit index futures track the probability of default via a different set of indices—with the differences presenting new opportunities for both dealers and investors.

Conclusion

The increased demand for credit exposure has been driven by non-traditional credit participants' recognition of the importance of credit for portfolio risk management. Innovation has been driven by the concern this group has around the liquidity of corporate bond and the unwillingness to trade swaps. Even among the existing credit investors, larger investors continue to find the bonds they need and retain the ability to trade cleared swaps; the rest of the market still finds their ability to execute credit-related strategies limited.

The increased demand for credit exposure has been driven by non-traditional credit participants' recognition of the importance of credit for risk management for portfolio risk management.

Continued growth in these alternative structures would greatly enhance the liquidity and opportunity within the credit market by offering more of the multi-product liquidity and hedging access afforded other asset classes. Credit index futures and fixed-income ETFs tied to standard benchmarks are both viable alternatives for these new and existing participants to pursue.

This not a situation in which one solution is right for everyone, but one in which appropriately designed products geared toward different participants will interact with one another to enhance both liquidity and access overall. Within this, participants are increasingly seeing the exciting possibilities now before them.

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