

The background of the slide is a complex digital graphic. It features a dark blue grid with several data series: a red line graph with circular markers, a grey line graph with square markers, and a blue line graph with diamond markers. On the right side, there are two circular donut charts with segments in red, blue, and grey. A large red arrow points upwards from the bottom center. In the bottom right corner, there are white silhouettes of two business professionals, one holding a folder. The overall aesthetic is modern and data-driven.

Corporate Bond E-Trading: Same Game, New Playing Field



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Executive Summary

With a tumultuous mid-year 2013 correction in the bond markets heightening anxiety among corporate bond market participants, the industry continues to hold out hope that electronic trading (e-trading) will be the panacea for the market's ills. However, new research from McKinsey & Company and Greenwich Associates suggests that full-fledged e-trading in corporate bond markets will be slow to arrive (if at all). Despite the launch of several corporate bond trading platforms since spring 2012, the market is unlikely to ever resemble cash equities or even foreign exchange. A spring 2013 survey of 117 institutional corporate bond investors in the United States and Europe, underpinned by in-depth interviews with asset managers, leading banks and market operators, reveals that:

- Until mid-spring 2013, the liquidity shortage, a spur for many of the new e-trading platforms, was not as bad as many had feared. Around 30 percent of survey respondents said that liquidity had actually improved during the prior 18 months. But most respondents also felt that liquidity was not entirely healthy, as a rise in

issuance obscured some underlying problems. With the phase-in of post-crisis regulation, a clear majority expect liquidity to deteriorate further.

- Few participants foresee a revolution in e-trading. When asked about the next five years, 80 percent said the multi-dealer request-for-quote (RFQ) platforms on which most e-trading has been conducted for years will continue to prevail.
- Buy-siders are generally reserved about other e-market models. A surprisingly high number, 25 percent, expect crossing systems to dominate in five years. Not unexpectedly, the figure for single-dealer platforms is lower, at 10 percent, while fewer than 10 percent were enthusiastic about the prospects for exchange-operated platforms.

The skepticism we observed regarding corporate bond e-trading is a recognition of both the structural differences between the corporate bond market (historically quote-driven) and e-trading pioneer markets like cash equities (largely order-driven), and the profound changes in industry conduct that

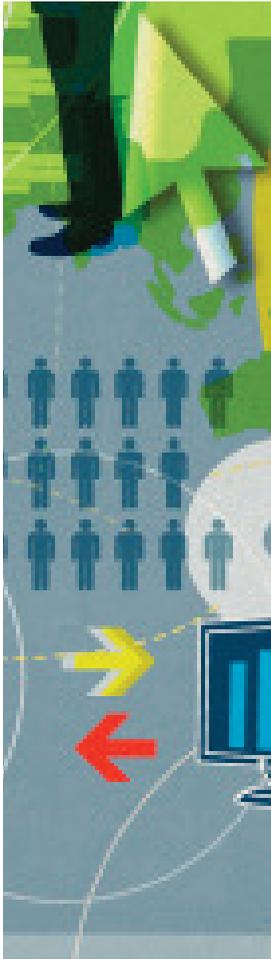
would be required to make bona fide match-based e-trading come to life.

Despite the launch of several corporate bond trading platforms since spring 2012, the market is unlikely to ever resemble cash equities or even foreign exchange.

Furthermore, the liquidity profile of the corporate bond market and the scarcity of desktop “real estate” on the buy side imply that the winning e-market models will accommodate only a few centralized platforms, as a proliferation of platforms

would likely result in harmful liquidity fragmentation.

Corporate bond e-trading may be off to a slow start, but a gradual transformation in how the market trades is underway, and market participants will need to adapt. Dealers must take steps—if they have not already—to, among other things, align the organization, harness the opportunity in better data management, transform the sales force and reduce cost per trade. Asset managers should rethink their investment decision-making process and revamp the trading function. And market operators must work to enhance their platforms to deliver more of the services that corporate bond dealers and buy-siders seek.



Introduction

Although anticipated by some, the mid-year 2013 sell-off that upended the bond markets nonetheless proved stunning in its ferocity. While some semblance of calm appears to have returned to the markets, corporate bond market participants remain concerned, as that market was already dealing with a raft of challenges prior to the sell-off. Regulatory reform had handcuffed dealers, some say, by raising capital requirements; dealers responded by cutting net inventory. The convergence of buy-side investment strategies and the proliferation of buy-and-hold investors cultivated a “one way” market, in which it was increasingly difficult to find sellers. As expected, that pattern inverted during the sell-off: instead of offers, bids became harder to find—though the massive repricing has begun to attract renewed buying interest from yield-hungry investors.

It looks like some big bills are coming due—even without taking the recent bond market correction into account. Historically low interest rates in recent years fueled an issuance boom, which was good for the debt capital markets (DCM) business and for “on the run” trading. But that same issuance boom, according to the Securities Industry and Financial Markets Association (SIFMA), also drove outstanding U.S. corporate debt to \$9 trillion by the end of 2012, a record high,

and 2.2 times higher than it was in 2002.

There is a tremendous and potentially unsustainable amount of paper in investors’ hands, and this harsh reality is causing much angst.

Anticipating the market’s next phase is vital to dealers. According to Coalition, sales & trading in cash credit accounted for \$4.5 billion of the \$17 billion generated by the 10 largest investment banks in overall credit sales & trading in 2012. Furthermore, interdependencies with other businesses, such as DCM, foreign exchange and rates, make it imperative for dealers to remain relevant in cash credit trading—cost challenges aside.

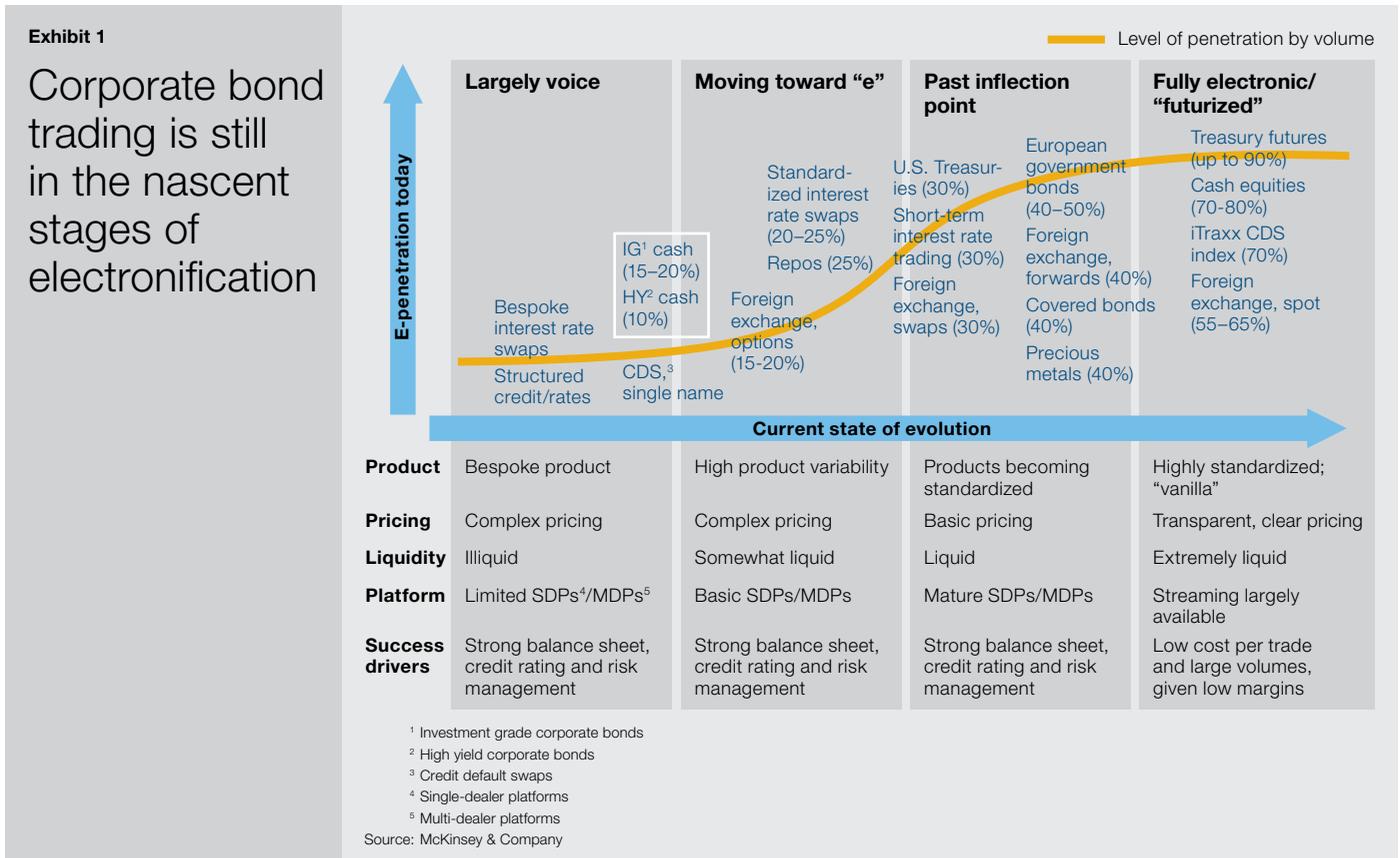
By way of proof, several market participants have announced or launched new e-trading platforms and systems. BlackRock announced plans in April 2012 to launch a crossing system called Aladdin Trading Network. In April 2013, it announced a new plan for the system, under which it would team up with MarketAxess Holdings, itself the operator of a corporate bond e-trading platform. In June 2012, Goldman Sachs brought GSessions, another crossing system, to market. Deutsche Bank has introduced the concept of a liquidity hub. Several other similar solutions are in the works. Many in the industry see these solutions as a potential antidote for the industry’s structural problems, and—now perhaps—even as a way to calm roiling markets.

Will the new e-trading platforms right the ship? Or are other steps needed? To find out, McKinsey and Greenwich Associates collaborated on a research effort on the future of corporate bond e-trading. In the spring of 2013, we conducted an online survey of 117 buy-side portfolio managers, traders and analysts (35 from the United States and 82 from Europe). We also conducted in-person discussions with leading buy- and sell-side participants, including 8 of the 10 largest dealers, as well as the operators of several major e-trading platforms.

This research revealed that true corporate bond e-trading is a long way from becoming

reality, with nascent “e” activity thus far predominantly dealer-driven. Other asset classes are further advanced (Exhibit 1). While e-trading will undoubtedly play an important role in the future of corporate bond trading, structural realities stand in the way of attaining the order-driven “nirvana” that the cash equities market has achieved. Corporate bond markets in the aggregate are unsuited to e-trading, and the market participants surveyed and interviewed are dubious about the prospects for bona fide match-based e-trading.

To be clear, no tweaks to market structure can slow down the massive repricing of corporate



bond portfolios ordained by the market from time to time, like the one fueled by Federal Reserve Chairman Ben Bernanke's May 22nd and June 19th (2013) remarks that the Fed could begin tapering its bond purchases later in the year. Barring a drastic reduction in capital requirements for corporate bonds, the sell side will be severely limited in its ability to backstop the market; the pendulum may well swing back in the other direction.

* * *

This paper first examines the recent liquidity developments in the corporate bond market, where several underlying problems may now be coming to a head. It then outlines the structural barriers that stand in the way of further electronification. Following this is a discussion of industry views on several e-trading models, including those that have recently debuted. Most respondents to the McKinsey-Greenwich Associates survey expect that

multi-dealer RFQ platforms will continue to dominate e-trading for some time.

The paper then outlines—under the assumption, however tenuous, that structural barriers can be overcome—the dramatic changes on the part of market participants that would be required for match-based corporate bond e-trading to come to life in the way it has in cash equities and a few other asset classes like U.S. Treasuries, CDS indices and foreign exchange. Absent those changes, we offer a view of how the market's dynamics are likely to favor certain participants, especially independent operators of quote-driven markets. Finally, the paper proposes a number of ideas for how dealers, asset managers and independent market operators can capitalize on the current situation, and lay the groundwork for the future of corporate bond e-trading. Throughout, the paper focuses primarily on the U.S. market.



Liquidity: Not So Bad, But Challenges Lurk

For all the long-standing worries about liquidity, it actually held up rather well through mid-spring 2013. In both the United States and Europe, in both investment grade (IG) and high yield (HY) corporate bonds, most survey respondents said they had not seen significant deterioration in the quality of liquidity—ease of execution, price impact of a trade, width of the bid-ask spread, and so on—over the previous 18 months. In fact, about 30 percent of respondents said they had observed some improvement in IG and HY corporate bond liquidity over that period. To be fair, 45 percent noted degradation, but only 10 percent deemed the deterioration significant.

Looked at another way, however, liquidity indeed weakened. In the United States, for example, IG and HY corporate bond turnover (the value of bonds traded divided by the amount outstanding) in the aggregate failed to keep pace with the issuance boom, falling around 20 percentage points from pre-crisis 2007 to around 85 percent in 2012.

However, with outstandings up 50 percent and net corporate securities inventory held by primary dealers—often informally referred to as corporate bond inventory—down around 80 percent since 2007, one might have expected U.S. IG and HY corporate bond

turnover to have slowed much more than it did (Exhibit 2, page 8). It appears that the expected impact on liquidity of the drop-off in net inventory was modest and was certainly less severe than some of the dire predictions.

To be sure, some of the moves initiated by dealers to cut net inventory hurt liquidity. A regulation-induced wind-down of proprietary trading, exits by some bulge bracket dealers and a decline in basis trading of credit default swaps (CDS) and corporate bonds all made the market less liquid. But other inventory-reducing measures actually buttressed liquidity. As a case in point, for the remaining bulge bracket dealers, the velocity of their inventory turnover actually increased, allowing them to trade more with less inventory.

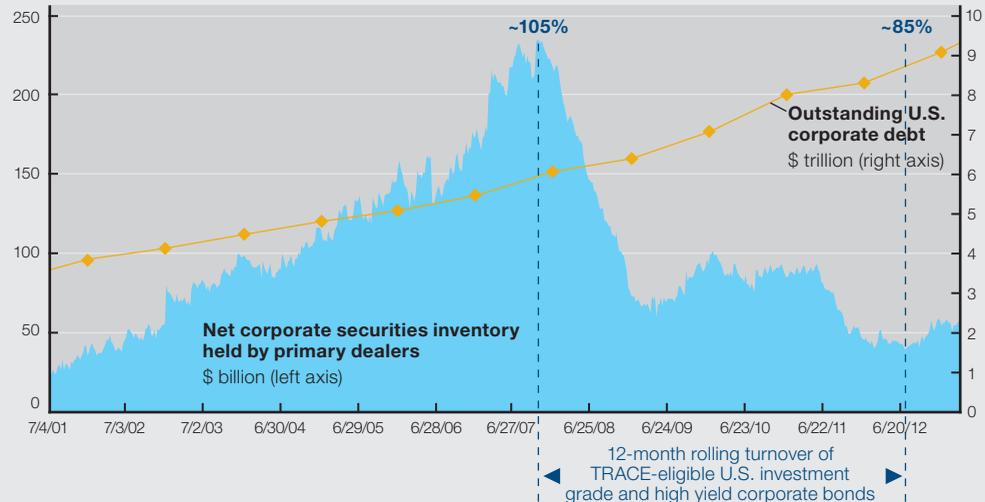
We would be remiss not to point out that the pre-crisis rise and post-crisis “fall from grace” of non-agency mortgage-related securities—which the Federal Reserve included in its definition of net corporate securities inventory until April of this year—played a role in the corresponding spike and drop in net inventory. It is safe to say that this change in net inventory did not have a direct impact on corporate bond liquidity.

Another sign of the liquidity challenges underlying the corporate bond market can be

Exhibit 2

Outstandings rose, net dealer inventory fell, but turnover dropped far less dramatically

Net corporate securities inventory¹ and outstanding U.S. corporate debt, 2001–13



¹ Comprises U.S. dollar-denominated debt securities issued by corporations incorporated in the U.S., including bonds, notes and debentures; commercial paper; covered bonds; privately placed securities (e.g., 144A securities); non-agency collateralized mortgage obligations and real estate mortgage investment conduits; and non-agency stripped securities. Data through March 27, 2013.

Source: Federal Reserve Bank of New York; Securities Industry and Financial Markets Association; MarketAxess Research

found in the significant share of trading in 2012 that was done in recent issues. In fact, according to BlackRock Investment Institute, highly liquid corporate bonds carried a premium (defined as the spread between liquid and less liquid U.S. IG corporate bonds of the same issuer with similar maturity) of about 16 basis points over their less liquid counterparts in mid-2012. That premium was about 10 basis points higher than the average of the preceding seven years—a premium that likely would have been even higher in the absence of a low-volatility environment, driven in part by the Federal Reserve’s quantitative easing campaign.

Is the tide turning?

In sum, liquidity fared better than expected despite the stresses that imperiled its foundations—MarketAxess bid-ask spreads in U.S. IG corporate bonds through mid-spring

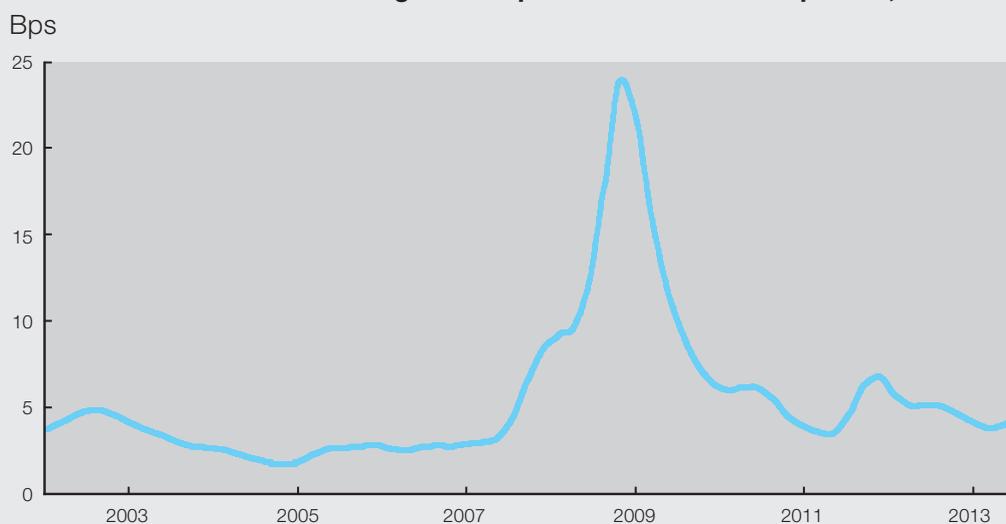
2013 were not dramatically higher than they were prior to the global financial crisis (Exhibit 3). During the recent sell-off, however, bid-ask spreads widened—not a huge surprise given the magnitude of the bond market correction.

Although the jury’s still out on how the mid-year tumult in the corporate bond market will ultimately play out, the liquidity skeptics may have the last word. The issuance boom and follow-on trading in these issues have likely buffered the market against a steeper drop in turnover rates. Consequently, the recent slowdown in new issuance in the United States—June 2013 levels fell almost 30 percent relative to June 2012¹—may not augur well for corporate bond liquidity. As financial market reforms continue to be phased in, liquidity could evaporate. Eighty percent of U.S. respondents to our survey took this downbeat view of liquidity, as did 55 percent

¹ Based on corporate debt issuance data from the Securities Industry and Financial Markets Association

Exhibit 3

Liquidity fared reasonably well through mid-spring 2013, but bid-ask spreads widened during the recent sell-off

MarketAxess U.S. investment grade corporate bond bid-ask spreads, 2002–13¹

¹ Based on investment grade corporate bonds that traded on both sides of the market on a given day on MarketAxess; a statistical process called a LOWESS function was applied to the data to create a line representing a smoothed-out average.

Source: MarketAxess Research

of European respondents, who may be less sensitive to the issue, having already experienced the pain of the sovereign debt crisis.

Among respondents who believe liquidity eroded during the 18 months preceding mid-spring 2013, over 80 percent cited post-crisis sell-side developments as drivers of this deterioration. Many noted a decline in the appetite of bulge bracket dealers to facilitate trading—primarily as a function of the rising price of risk-weighted assets. According to some of the largest buy-siders, it has become increasingly difficult to get quotes on block trades,² forcing them to break their blocks into smaller trades and take this business electronic where possible. Another factor cited was a drop-off in proprietary trading, which has hurt liquidity in “off the run” issues. Finally, market exits by some bulge bracket dealers have further reduced balance sheet capacity, and perhaps even competition.

The profile of the buy side has also given rise to concern. Until the recent sell-off, an increasing share of investors had been adopting a buy-and-hold stance, and investor strategies were converging as other strategies exited the market. During the sell-off, many of these same investors were dumping (or trying to dump) their holdings. In both cases, investors moved in lockstep, creating a liquidity-challenged one-way market. As a matter of fact, about 80 percent of European survey participants cited buy-side investment behavior as an underlying cause of worsening liquidity. However, only about 50 percent of U.S. respondents shared this view. Instead they singled out sell-side limitations as a driver of deteriorating liquidity. To some extent, the buy side’s greater dependence on bulge bracket dealers in the United States relative to Europe may explain this divergence.

² A block trade is a trade with a value greater than \$5 million.



Corporate Bonds and Order-Driven E-Trading: Not a Match

Two factors suggest that corporate bond trading is poised to become more electronic (Exhibit 4). First, post-crisis trade sizes are shrinking, a trend best seen in the decline in block trading. Dealers have less balance sheet capacity to take on these trades. As a result, trading frequency is on the rise—the second factor. Interestingly, both trade size and frequency appear to have stabilized at a new steady state over the past four years.

Many market observers see these trends as harbingers of an increase in electronic trading. Of course, some corporate bond trading is already electronic, in a sense. A 2012 Greenwich Associates survey of 550 institutional investment professionals found that in the United States, e-trading as a percentage of all trading volume in U.S. IG corporate bonds grew from 10 percent in 2011 to 14 percent in 2012. In Europe, e-trading is more prevalent, and expanded from 22 to 29 percent in the same period, primarily because e-trading eases cross-border activity. By far most of this e-trading takes place on multi-dealer RFQ platforms (Exhibit 5, page 12).

Not coincidentally, multi-dealer RFQ platform operators captured the lion's share of the spike in U.S. corporate bond e-trading volumes observed during the recent sell-off.

According to *The Wall Street Journal*, Bloomberg's corporate bond trading volume reached a record high for the company for the month of June, while MarketAxess Holdings's market share of overall U.S. IG corporate bond trading hit 16.6 percent, also a record for the company for the month of June. The imperative for highly motivated institutional investors to access a broader swath of dealers in an increasingly capital-constrained environment likely drove this development.

But true electronic match-based trading, like that seen in cash equities, remains a distant dream. Why?

To begin, the asset class is much more heterogeneous than equities. At its peak in 1997, the U.S. stock market boasted about 8,800 listed companies. That pales in comparison to the U.S. corporate bond market, which had 37,000 publicly traded, TRACE³-eligible bonds outstanding in 2012. The sheer number of issues greatly reduces the probability of multilateral trade matching.

The structural differences between cash equities and corporate bonds are manifest in the two assets' very different trading profiles. Whereas the average U.S. stock traded around 3,800 times per day in 2012, the 13 most liquid U.S. IG and 20 most liquid HY

³ Financial Industry Regulatory Authority's Trade Reporting and Compliance Engine (TRACE)

corporate bond issues traded only about 85 times and 65 times per day on average, respectively (Exhibit 6, page 13). There are, in fact, thousands of corporate bond issues that rarely or never trade. Some facts:

- In 2012, 38 percent of the 37,000 TRACE-eligible issues did not trade even once, with another 23 percent trading only a handful of times, as compared to the 1 percent that traded every day, according to MarketAxess Research.
- In 2011, again according to MarketAxess Research, 30 percent of the 32,000 TRACE-eligible issues did not trade once, with another 26 percent trading only a handful of times. Two percent traded every day.

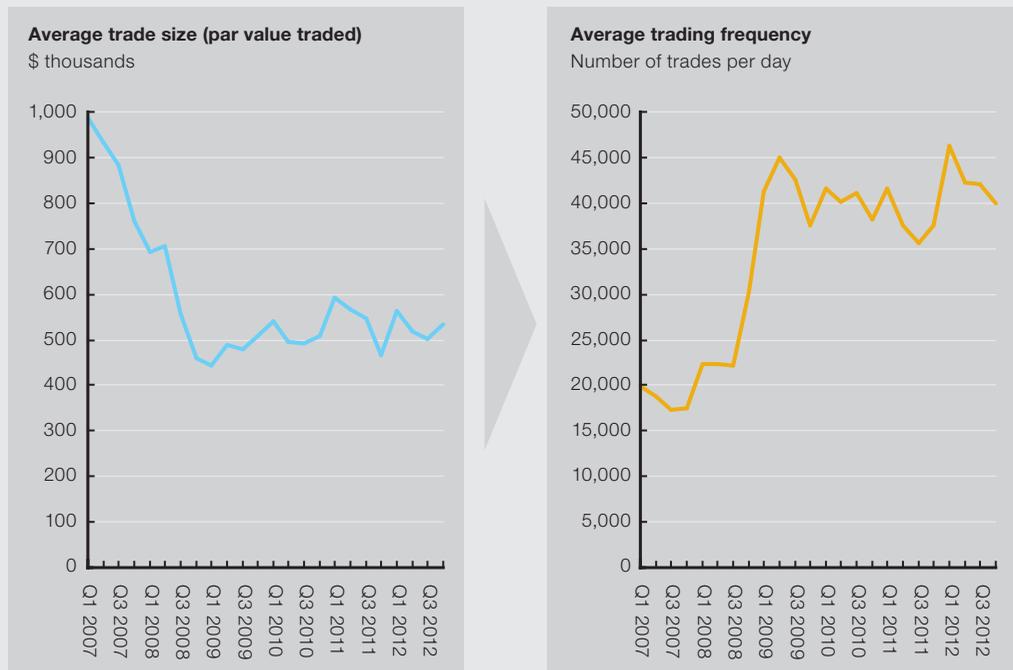
- Over a period of about 1,150 trading days between July 2002 and January 2007, 18 percent of the more than 47,000 TRACE-eligible issues did not see any action, according to research by Michael Goldstein of Babson College and Edith Hotchkiss of Boston College.

Furthermore, when they do trade, corporate bonds involve a great deal more money than the average stock trade. The average trade size for the most liquid U.S. IG securities is about 70 times that of the average U.S. stock trade. And according to McKinsey’s Capital Markets Trade Processing Survey, post-trade processing costs in corporate bonds dwarf those in cash equities. For e-trading to take off, trade sizes will likely need to be smaller.

Exhibit 4

Reduction in sell-side capacity for “balance sheet” trades is driving down trade size and boosting frequency

Trading in investment grade and high yield U.S. corporate bonds, 2007–12



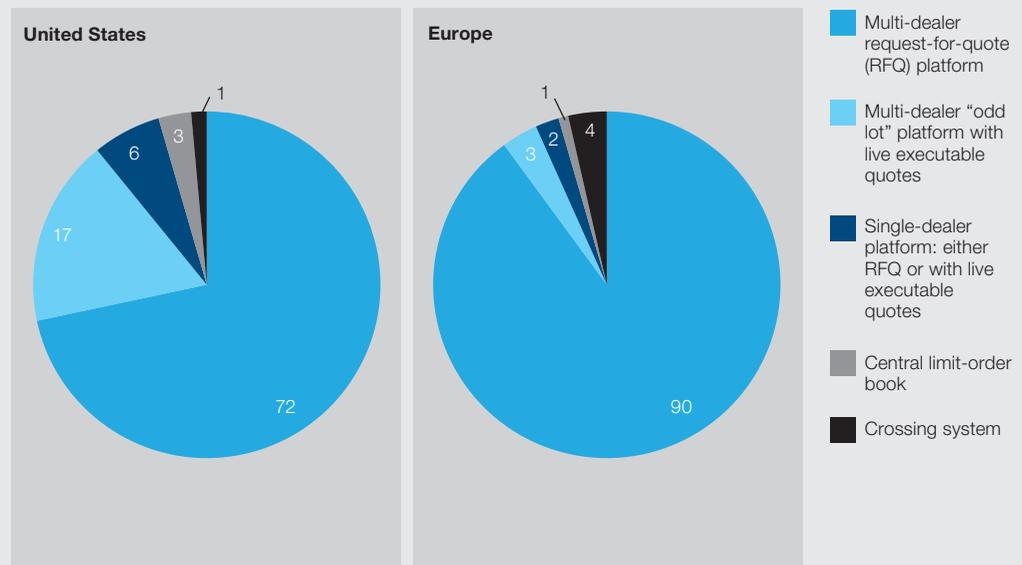
Source: Financial Industry Regulatory Authority’s Trade Reporting and Compliance Engine

Exhibit 5

Multi-dealer request-for-quote e-platforms dominate current corporate bond e-trading

Question: “What share of your corporate bond trading volume do you currently trade through the following channels?”

Percent, 2013¹



¹ N = 109 total, 34 in U.S. and 75 in Europe. Figures may not sum to 100% because of rounding. Averages not weighted by respondents' trading volumes.

Source: McKinsey-Greenwich Associates 2013 survey of institutional investors

But their higher inherent costs make it expensive to break down big corporate bond trades into smaller ones.

It is also worth noting that corporate bonds are not as amenable to shorting as cash equities. Consequently, it should come as no surprise that the corporate bond market is not as well suited for immediate two-way trading—a key requirement for match-based e-trading—as its cash equities counterpart.

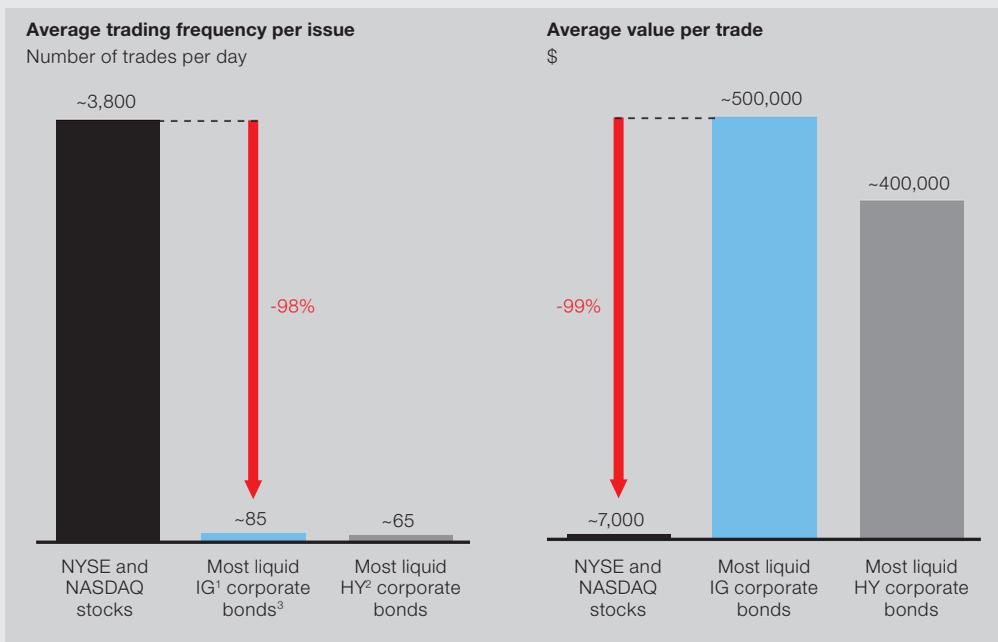
Finally, the attributes that the buy side values most are better delivered through current favored channels than through match-based e-trading. Buy-side respondents place the highest premium on *immediacy* (about 80 percent in the United

States and 85 percent in Europe) and *anonymity* (about 75 percent in the United States and 50 percent in Europe). As expected, a good portion of the buy side would welcome streaming executable pricing (about 50 percent in both the United States and Europe). But they appear to like the idea more in the abstract, when someone else is providing the streaming pricing, than in reality. Given the press and excitement around initiatives such as BlackRock's Aladdin Trading Network, Goldman Sachs's GSessions and UBS's Price Improvement Network (PIN), one might have expected more than 30 percent of respondents in both the U.S. and Europe to value multilateral trading. Tellingly, no

Exhibit 6

Even the most liquid corporate bonds are far less suitable for match-based e-trading than the average U.S. stock

U.S. cash equities and U.S. corporate bonds, 2012



¹ Investment grade

² High yield

³ Defined as corporate bonds listed among both the top 50 issues in terms of trading frequency and in terms of value traded; 13 issues for IG, 20 issues for HY. Assumes 230 trading days in 2012.

Source: NASDAQ OMX Group; NYSE Euronext; Financial Industry Regulatory Authority's Trade Reporting and Compliance Engine

one surveyed in the United States, and just 2 percent of Europeans, views the suitability of an e-platform for algorithmic trading as a critical attribute—a far cry from the world of cash equities, where algorithmic trading has become the norm.

At the end of the day, the corporate bond market is—and could very well remain—a quote-driven (that is, dealer-driven) one, in stark contrast to the largely order-driven cash equities market.



The Electronic Road Ahead

Buy-siders are cautiously optimistic about corporate bond e-trading. U.S. respondents believe that 40 percent of corporate bond trading volume can be executed electronically; European respondents take a more bullish view, coming in at 65 percent. By 2015, U.S. respondents expect to trade 30 percent of their volume electronically and Europeans expect to approach the limits of electronification, projecting a potentially unrealistic 60 percent—foreign exchange e-trading today tops out at 65 percent.

However, buy-siders foresee an evolution, rather than a revolution, and expect the market to remain predominantly dealer-driven in the foreseeable future, albeit with multiple e-trading models to meet their needs. And the evolution will be narrow in scope. With the most liquid two deciles of outstanding U.S. corporate bond issues accounting for over 90 percent of overall dollar-trading volume, corporate bond e-trading is unlikely to feature the very long tail of issues that actually constitute the liquidity challenges.

In our survey, we asked respondents which of the five e-channels they expect to predominate within the next five years: multi-dealer RFQ platforms, crossing systems, single-dealer platforms, multi-dealer odd-lot⁴ platforms or central limit-order books.

The buy side expects the status quo, with 70 percent of U.S. respondents and 85 percent

of Europeans saying multi-dealer RFQ platforms such as those operated by Bloomberg and MarketAxess Holdings will continue to prevail. These systems provide investors with what they need in the post-crisis era—the ability to: trade efficiently at somewhat smaller size with a broad pool of dealers; execute fairly quickly; fulfill “best execution” obligations (although potentially with greater information leakage relative to traditional voice- or messaging-based trading); and move toward straight-through processing. For dealers too, these systems work well. With balance sheet constraints limiting block trading, multi-dealer RFQ platforms are a more economical channel for transacting with the long tail of small buy-side clients, trading in and out of positions, and processing smaller trades.

Market participants identified—albeit indirectly—the potential to improve upon the multi-dealer RFQ platform. More than 40 percent of the bigger traders on the buy side are open to the idea of providing quotes to RFQ platforms in an all-to-all environment, while some major dealers expressed some interest in receiving quotes from the buy side. In light of these developments, a further expansion of complementary all-to-all functionality on multi-dealer RFQ platforms—something a few operators have already begun experimenting with—could unlock additional liquidity. Armed with such function-

⁴ An odd-lot trade is a trade with a value ranging from \$100,000 to \$1 million.

ality, both buy- and sell-side participants can anonymously broadcast RFQs, with automated alerts sent to participants with an interest in providing anonymous quotes for the underlying issues. Of course, a cadre of clearing intermediaries would be needed to maintain post-trade anonymity.

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However, one obstacle to the successful adoption of this all-to-all functionality is the buy side's limited willingness to disclose its trading inventory to other buy-siders (even anonymously); only one-quarter of respondents on both sides of the Atlantic expressed a willingness to do so.

Surprisingly, almost one-quarter of respondents (and 45 percent of the bigger traders) believe that crossing systems such as Aladdin Trading Network, GSessions and PIN will play a meaningful role in the future. Although dark pool operators in other asset classes have disdained corporate bond trading in the past, given the low likelihood of natural matching, over 50 percent of the bigger traders still believe that a multilateral platform open exclusively to the buy side can succeed. Ultimately, the absence of a broadly accepted price discovery mechanism that does not emanate from dealers (notwithstanding the efforts of independent vendors)

and the lack of a robust two-way market are the twin elephants in the room.

With buy side-only crossing systems seemingly dead on arrival, what tweaks can be made to give this e-market model—one with the potential to limit information leakage and, hence, support trading in larger round-lot⁵ and perhaps even block sizes—a fighting chance? First, the platform must enlist sell-side “specialists” (as the cash equities market has) to support price discovery and potentially sop up some of the buy or sell overhangs in assigned issues. Second, such systems should employ a call auction rather than a continuous-crossing format. Auctions at designated times of the day will engender bursts of liquidity, albeit primarily in the more actively traded corporate bonds, especially around liquidity-driving events (for example, earnings announcements and upgrades or downgrades in an issuer's credit rating). Within this construct, the specialists providing the winning quotes in a competitive bidding process (i.e., the highest bid and lowest offer) for a specific auction could be compensated through trade value-based markups or markdowns, with all trades crossed at the midpoint of the bid-ask spread. The trade-off for the liquidity improvement is that call auctions would require the buy side to sacrifice some immediacy.

Dealers in such systems run a risk from promoting greater price transparency, which might allow the buy side to “free ride” and trade amongst themselves at the midpoint of the bid-ask spread. To protect them, the platform would need to take steps, perhaps seeking binding commitments from buy-siders to refrain from such activity.

⁵ A round-lot trade is a trade with a value ranging from \$1 million to \$5 million.

As for platform governance, almost no one thinks a single dealer is the best owner/operator of a crossing system; the perception of conflicts of interest may account for the buy side's resistance. Nor does leadership by a consortium of buy-side players improve their outlook; no one surveyed in the United States, and just 5 percent of Europeans, likes this model. Instead, 60 percent of the buy side in the United States and 50 percent in Europe prefer a centralized platform run by an independent operator, either as a single owner or in partnership with a consortium of market participants, perhaps because they believe that such a system minimizes liquidity fragmentation.

Critically for those in the industry who hope for a rapid shift to bona fide e-trading, very few respondents were enthusiastic about the prospects for central limit-order book systems such as NYSE Bonds and Xetra Bonds.

Less than 15 percent of U.S. respondents and less than 10 percent of European respondents think that single-dealer platforms (either RFQ or with live executable quotes) such as Barclays Automated Realtime Execution (BARX) can become significant fixtures. The buy side's desire for best execution and the inefficiency of this platform for price discovery weigh heavily against the viability of

this market model. Furthermore, the capital-light post-crisis environment makes such platforms difficult to sustain; most banks are opting instead to focus their e-efforts on multi-dealer platforms or, in a few cases, proprietary crossing systems.

Just 10 percent of traders in either region see a dominant future for multi-dealer odd-lot platforms with live executable quotes, such as BondDesk. But the institutional focus of the survey may partially explain the low tally for this historically retail-focused platform. Dealers may not have the appetite to provide firm quotes to informed investors, who for their part may not be interested in smaller-lot trading.

Critically for those in the industry who hope for a rapid shift to bona fide e-trading, very few respondents (3 percent in the United States and 10 percent in Europe) were enthusiastic about the prospects for central limit-order book systems such as NYSE Bonds and Xetra Bonds. Exchanges have tried many times to launch or revive such platforms, but success has proven elusive. Fewer than 15 percent of respondents say they are willing to provide firm quotes on such systems, making it difficult to attract liquidity.

Irrespective of which e-market models ultimately win, the corporate bond market is not liquid enough and the buy side does not have enough desktop real estate or the infrastructure investment appetite to support more than a couple of platforms—centralized platforms, that is—for each winning model.



Equities-Like Trading: What It Would Take

In light of structural barriers, it is currently difficult to imagine a path forward for equities-style corporate bond e-trading. However, if there were such a path, it would be an arduous one requiring behavioral and strategic changes from all market participants: dealers, institutional investors, issuers and regulators.

Dealers

The support of dealers (especially bulge bracket dealers) would be essential. Interestingly, about 60 percent of U.S. respondents expect the smaller dealers, those with regional and local franchises, to step up and fill the liquidity gap (versus only about 30 percent in Europe, where several national champions already play a more important role). However, the top 10 dealers accounted for the same share of overall dollar-trading volume in U.S. corporate bonds in 2012 as they did in 2009 (52 percent), demonstrating that any match-based solution will require the price discovery and quoting support of the bulge bracket. As such, the bulge bracket dealers would need to assume the role of designated specialists or market makers on multilateral platforms, and find ways to lower clearing and settlement costs to make smaller-lot trading economically feasible. However, they will have little incentive to

support unbridled, spread-compressing price transparency, unless one of the following scenarios were to occur:

- Smaller dealers or other players (such as independent “prop shops” and hedge funds) seriously threaten to displace the top tier. That movement may have already begun: according to Bloomberg, credit-focused hedge funds have attracted more than \$100 billion in recent years and hired top traders away from the sell side. These less-regulated players are now in a position to compete with the big banks—ready and willing to provide intraday liquidity. But to succeed, they will have to overcome the bulge bracket’s advantage in DCM and its experience in transacting with the buy side, which translate into superior issue knowledge and sourcing know-how.
- Bulge bracket dealers “get religion” and begin to believe that volumes will rise exponentially, thereby offsetting the anticipated spread compression associated with match-based trading.

Even with the support of bulge bracket dealers, smaller dealers would need to provide supplemental liquidity, taking advantage of their lower capital requirements to carry more inventory.

Institutional investors

Institutional investors would have to collectively change their behavior in several ways. They would have to provide meaningful liquidity—for example, by placing firm quotes in central limit-order books. They would have to accommodate “blotter scraping,” in which they anonymously share their buy and sell requests to increase the probability of finding a counterparty. Investors would need to trade in smaller lots, which would increase trade frequency. Investors in the aggregate would need to diversify their pool of investment strategies to support a two-way market. Finally, they would have to show more discipline in backing new issues; ultimately, investors are the consumers of these products and are in the strongest position to influence issuer behavior.

Issuers

Issuers would need to standardize their products. Match-based e-trading requires a high degree of standardization to reduce issue fragmentation. But it will likely take a significant liquidity-damaging event (such as a panicked and protracted sell-off in the corporate bond market) or a concerted effort by the buy side to spurn non-standardized issues, either of which would raise issuers’ effective cost of funding, for companies to begin standardizing their issues. Even then, 60 percent of U.S. respondents and 45 percent of Euro-

pean respondents are not convinced that a rise in liquidity premiums would convince companies to standardize their issues.

Regulators

Some industry insiders believe that regulation will ultimately break the bottleneck, as was the case for cash equities, where Regulation National Market System (Reg NMS), Regulation Alternative Trading Systems (Reg ATS) and decimalization spurred e-trading. However, the cash equities market was already well suited to match-based e-trading, and the regulation simply removed the shackles from a market ready for change. As discussed earlier, corporate bond trading is not even close to being similarly ready. And even in cash equities, the uniform approach to large- and small-cap stocks may have hurt liquidity in the smaller securities, as fragmentation and insufficient market maker incentives continue to take a toll.

But some change in regulation is required if true e-trading is to get going. Mainly, regulators would have to be convinced that their recent reforms are in fact constraining a market that is a vital cog in the financial system. Markets in Financial Instruments Directive (MiFID) II’s pre-trade price-transparency provisions are just such a hindrance, in the eyes of many, and Basel III’s capital requirements are another.



Winners and Also-Rans

All in all, the changes described here seem like a tall order for the corporate bond market. Most respondents to our survey expect only a gradual evolution over the next several years. Barring a significant discontinuity, how will that slow change favor the various players in the game? Primarily, we think it will mean that independent operators of quote-driven markets could find more success over the next five years. In particular, of course, multi-dealer RFQ platform operators appear well positioned not only to capture the lion's share of the continued migration from traditional voice- or messaging-based trading, but also to launch complementary centralized crossing systems, as their relationships with liquidity providers and the buy side, and their installed base, could prove valuable. But operators of multi-dealer RFQ platforms that are contemplating the introduction of central limit-order books might want to think twice.

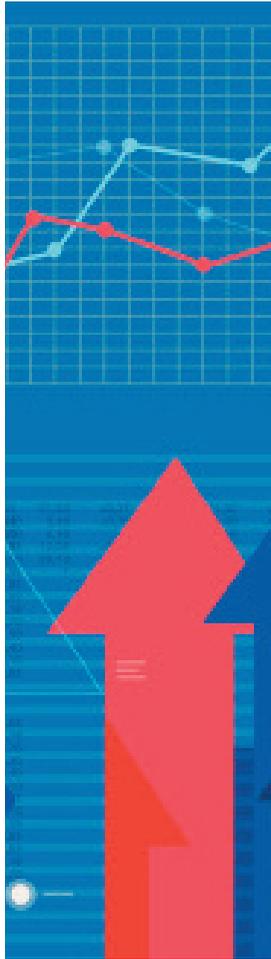
In spite of the pessimism about central limit-order book trading, exchanges could still play a role as potential operators of multi-dealer RFQ platforms, a not-so-distant cousin of quote-driven cash equities market models, and crossing systems. Exchanges already enjoy credibility from their operations in other asset classes and from their reputation for market neutrality. However, exchanges would likely need to enter joint

ventures with key stakeholders such as major dealers in order to gain their support. On a different but related note, exchanges are best positioned to benefit from the exchange traded fund (ETF) opportunity.

Bulge bracket dealers (and major buy-side participants) that have recently invested in their own trading platforms (for example, crossing systems) will likely need either to re-trench or accept subscale prospects. That being said, dealers and buy-side participants can still shape the future of both multi-dealer RFQ platforms and crossing systems, as well as other initiatives, by providing feedback, serving on user advisory boards and taking ownership stakes (where appropriate) to align their interests with those of operators.

Although the developments sketched above do not appear to favor operators of odd-lot/micro⁶ trading platforms, such platforms will remain part of the market structure, as they provide liquidity to a segment (retail investors) that cannot access larger-lot pools. It is also conceivable that as institutional investors sharpen their trading capabilities, they will increase their usage of smaller-lot platforms to complement their core activities. Furthermore, growth in corporate bond ETFs may give them an additional boost, as authorized participants may need to make smaller trades to create and redeem shares.

⁶ A micro trade is a trade with a value less than \$100,000.



Preparing for the E-Trading Future

E-trading may be slow in coming, but this plodding evolution, along with post-crisis regulatory reform, is far-reaching, and already fundamentally altering the business of corporate bond trading. The inventory-driven model that market participants grew to rely on during the pre-crisis era continues to give way to a new paradigm that mandates a set of skills and a technological infrastructure consistent with a capital-light world. Moreover, the steep sell-off of late may reset competitive dynamics in unforeseen ways. Consequently, all market participants would be well advised to take steps now to ensure optimal positioning for the range of directions the market might take. The following are actions that dealers, asset managers and operators of multi-dealer RFQ platforms should consider.

Dealers

In the capital-light era, dealers must think carefully about how to make the most of the e-trading opportunity. Dealers should consider the following six moves—to the extent they have not already done so:

- **Align the organization.** Dealers must break down remaining resistance in the business to electrification, and get people thinking more broadly about how to

use e-trading to compete better in flow products. This effort must start with unambiguous commitment from top management toward the e-trading business.

Furthermore, dealers will need to adopt an e-trading governance model that balances centralized governance of e-trading activities and related infrastructure (such as connectivity) with decentralized control over product-specific elements (such as pricing, coverage and hedging strategies). Of course, dealers must take the costs and benefits associated with each governance model—that is, the mix between centralized and decentralized governance—into account. Ultimately, strong leadership and a willingness to evolve in sync with the markets will play a key role in determining success.

- **Centralize the trading infrastructure.** Dealers should develop central pricing and trade-processing infrastructure that serves both traditional and electronic channels, thereby minimizing vendor-specific infrastructure, reducing time to market and lowering costs. Ultimately, this central infrastructure should help dealers efficiently navigate the market landscape, as well as maximize crossing opportunities.

- **Harness the data opportunity.** Dealing houses should consolidate their myriad data interfaces (for example, interfaces with internal systems, clients, market venues and data providers) and store data in a centralized, accessible manner, ideally in a single “golden source.” This will help firms feed pricing engines more quickly and effectively, and develop new trading strategies. Similar efforts to harness data can drive other benefits. Dealers should use their data to better inform sourcing and placement with clients and increase their share of “riskless principal” trading (in which they simultaneously find both sides of the trade). Data sources that firms should cultivate include trade history, public disclosures of portfolio holdings and RFQ history. Such a tracking system should be integrated with sales tools to improve sales-force effectiveness. Superior data management can also improve post-trade processes.

Motivating the right sales behavior will free reps to deliver more valuable services such as exploring client needs, generating trading ideas, providing market commentary or “color,” and offering counsel on complex trades.

- **Transform the sales force.** Banks can provide incentives to sales reps that reward them for shifting uneconomical trades and clients from voice to e-trading channels. Such incentives can be as simple as additional sales credits for boosting e-usage by

uneconomical clients, and reduced sales credits for reps who continue to book these trades through voice. Motivating the right sales behavior will free reps to deliver more valuable services such as exploring client needs, generating trading ideas, providing market commentary or “color,” and offering counsel on complex trades. However, banks will need to attract, cultivate and retain a new breed of sales talent with the skills to meet the demands of a new era—one far removed from the paradigm in which dealer inventory largely drove the sales function.

- **Develop a content-rich e-interface for clients.** The continued electrification of corporate bond trading will reduce opportunities for dealers to engage in dialogue with clients. As a result, dealers will need to work harder to differentiate themselves. While pricing consistency (that is, quality of quotation) will remain paramount to success in sales & trading, dealers that deliver value-added services through channels other than the telephone can capture additional share. To this end, top-tier dealers should consider developing a client portal—not to be confused with the single-dealer trading platform described earlier. Such a portal—facilitated by the central pricing and trading infrastructure referenced above and linked to the parameters upon which the client trades—could integrate pricing and other analytics, credit perspectives, insights into liquidity and market flows, and perhaps even trade ideas. In this context, the potential provision of connectivity to all trading venues would allow for the direct linkage of trade ideas and their execution in the market. Furthermore, the integration of this portal

with other client-facing technology could provide a front-to-back solution—from pre-trade to settlement. Last but not least, a client portal could help dealers serve the long tail of smaller clients more efficiently.

- **Reduce cost per trade.** As noted above, firms can leverage e-trading to maximize straight-through processing and cut post-trade costs. Doing so is critical in a market with smaller trades and increased trading frequency.

Ultimately, asset managers need to ensure they are paid for the liquidity risks underlying the corporate bonds in which they invest.

Asset managers

We recommend that asset managers revisit their approach to corporate bond investing and trading by taking these actions:

- **Reassess the investment decision-making process.** Asset managers should factor liquidity more prominently, and embed related metrics more rigorously, into investment decision-making in both primary and secondary markets. Ultimately, these managers need to ensure they are paid for the liquidity risks underlying the corporate bonds in which they invest. Naturally, firms must equip their portfolio management teams with the skills and tools necessary to operate in the post-crisis corporate bond world—one in which the ability to systematically price liquidity risk could mean the difference between success and failure.

- **Revamp the trading function to more efficiently navigate a fragmented market landscape and economically transact in smaller sizes.** To begin, firms should decide which market venues and dealers to engage with to execute their trading strategy. They should also define their appetite and approach for providing liquidity to the market as a price maker, and for disclosing trading interest to a broader swath of market participants.

With respect to technology, firms need to institutionalize front-office infrastructure. They should align the architecture of front-end systems (the order management and execution management systems) with trading specs to ensure that traders can easily shift across liquidity venues, thereby minimizing missed opportunities. The buy side must also redefine middle- and back-office workflows and install systems that process higher-frequency trading and corresponding allocations to the underlying fund vehicles in a scalable manner.

Organizationally, buy-siders with sufficient scale in corporate bond trading should consider separating investment and trading functions—if they have not yet done so—to assure sufficient specialization on the trading side. Asset managers with multiple fund vehicles that invest in corporate bonds could consolidate corporate bond trading desks across funds to maximize scale economies and crossing opportunities. Furthermore, larger players might create an “odd lot” trading desk equipped to trade more frequently in smaller round-lot, odd-lot and micro sizes. Ultimately, firms will need to assemble teams of traders suited to trade in a world with a dwindling number of inventory-driven dealers.

Market operators

With multi-dealer RFQ platforms expected to remain the winning institutional corporate bond e-trading model for the next few years, it will be interesting to see how current operators fend off new “e” initiatives launched by dealer/buy-side consortia, exchanges and information providers. While current multi-dealer RFQ platform operators are well positioned, they must continue to enhance their value proposition to maintain that strong stance.

One way to do this is through the continued development of functionality that allows the buy side to safely and anonymously syndicate its buy-and-sell interest with other buy-siders, as well as dealers. Platforms also need to more effectively reach buy-siders and dealers that have, or should have, a propensity to transact in those underlying issues.

Operators can also tap into nonbank sources of liquidity beyond the buy side; for example, by attracting independent proprietary trading firms. They can provide better tools and services to facilitate pre-trade activity and post-trade processing for market participants. And they can optimize connectivity through better management of their APIs.

More boldly, multi-dealer RFQ platform operators can innovate, potentially by developing and launching a crossing system before new entrants can conquer the space. To achieve success, it will be essential to gain early buy-in from influential dealers and buy-siders. Operators can strengthen their relationships with such market participants by inviting them to take advisory board roles and, where appropriate, equity stakes.

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