

# ADDRESSING MARKET LIQUIDITY

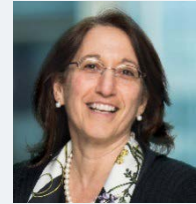
JULY 2015



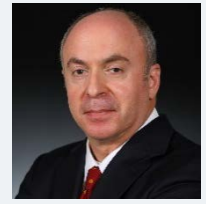
Post-Crisis, the fixed income markets have adapted to changes due at least in part to regulatory reforms intended to enhance the safety and soundness of the global financial system. Monetary policy, record new issuance, and financial regulatory reform have contributed to reduced dealer inventories and lower bond turnover. Issuers have been motivated by historically low interest rates to issue new debt in record amounts, which means that there are now many more bonds in the bond market. In this low rate environment, asset owners in search of income to meet their needs have increasingly “reached for yield” which has tended to push yields down across asset classes. As a result, there is debate about the extent to which liquidity risk premia (i.e., the cost of liquidity) are properly priced in to bond prices and whether the market liquidity of portfolios is appropriate in this market. The combination of these factors (some of which are permanent, while others are temporary) brings us to today’s focus on liquidity.

As we observe the global dialogue about “liquidity”, we find a tendency to conflate several different meanings of liquidity and to fixate on what has changed, with a relative lack of focus on finding a path forward. Looking back, the conditions leading into the 2008 Crisis were neither healthy nor sustainable. All market participants need to accept the changes that have occurred post-Crisis – in many cases intentionally due to regulation – and adapt by identifying new tools and strategies to achieve their objectives in a fundamentally different environment. BlackRock has been considering these issues and has been adapting for several years by making changes in our trading platform and capabilities, portfolio construction, and risk management. We have also made recommendations for how the financial system can be improved for the benefit of all market participants.

The purpose of this *ViewPoint* is to contribute to the liquidity dialogue by defining the different concepts that have been referred to as “liquidity” that are often conflated, highlighting some of the ways that market participants can adapt, and



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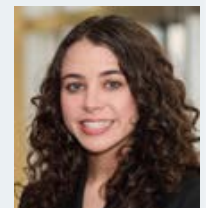
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## EXECUTIVE SUMMARY

- ▶ The term “liquidity” has several different meanings, making it important to clarify what we are discussing (e.g., market liquidity, liquidity terms of a fund, liquidity premium, etc.) in order to define appropriate solutions.
- ▶ The fixed income markets are fundamentally changed due to a variety of factors – some are cyclical and some secular. All market participants need to be involved in establishing a new market paradigm.
  - Market losses borne by investors should not be conflated with systemic risk. Investment losses occur in the ordinary course of a properly functioning market, whereas systemic risk does not.
  - Rather than focus on rolling back regulation, we need to adapt to regulatory change and its intended consequences.
- ▶ It’s time to shift the dialogue about liquidity to solutions.
  - Asset managers must evolve trading, portfolio construction, and risk management to adapt to market changes.
  - BlackRock supports a three-pronged approach:
    - (i) **Market structure modernization:** Encourage evolution of market structure to better reflect current dynamics.
    - (ii) **Enhance fund “toolkit” & regulation:** Endorse best practices for liquidity risk management and expand fund structural features to address regulators’ concerns about fund redemption risk.
    - (iii) **Evolution of new and existing products:** Support the development and adoption of new and existing products that help market participants address challenges associated with changes in fixed income markets.

providing recommendations for actions to improve the market ecosystem. Our recommendations take a three-pronged approach: (i) market structure modernization, (ii) enhance fund “toolkit” and regulation, and (iii) evolution of new and existing products. This *ViewPoint* is a companion to the July 2015 *ViewPoint*, “Bond ETFs: Benefits, Challenges, Opportunities”, which provides an in depth discussion of the important role played by bond exchange-traded funds (ETFs).

## The Current Environment

Bond markets are changing as a result of a number of different factors. To start, Central Banks have been employing extraordinary measures to maintain low interest rates for an extended period of time. Bond issuance has increased as issuers take advantage of borrowing at historically low rates. At the same time, de-leveraging across the financial system is ongoing and broker-dealers’ trading inventories have been markedly reduced, mainly due to the elimination of proprietary trading resulting from regulatory reforms such as the Volcker Rule in the US. Broker-dealers continue to make markets in fixed income; however, their market making activities are more constrained than before. Taken together, the result is that the number of bonds outstanding has significantly outpaced increases in trading volumes, therefore resulting in lower turnover (volume as a percentage of outstanding). Exhibits 1 and 2 show how this phenomenon has manifested in US investment grade and US high yield markets.

Further, as broker-dealers’ abilities to intermediate the fixed income markets have been reduced, the execution risk,<sup>1</sup> which has traditionally resided with the broker-dealer is increasingly shifting to the asset owner. The bond market has traditionally been a “principal” over-the-counter (OTC) market where the broker-dealer owns (in inventory) or acquires bonds and is compensated for market-making activity with a bid-ask spread (the difference between the purchase and sale price of a bond).

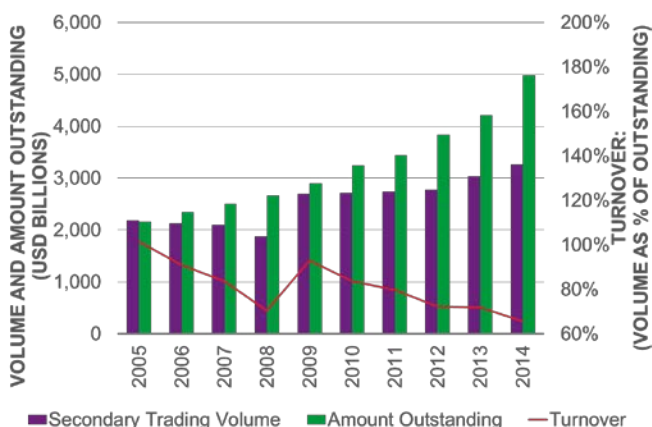
In principal markets, the broker-dealer bears the execution risk of the transaction. This is in contrast to most equity markets, which typically operate as an “agency” model where the purchase or sale of a stock is brokered, and the compensation for this brokerage is an explicit commission. In agency markets, the asset owner bears the execution risk. As the capacity of broker-dealers to conduct market making activities in fixed income is restrained, the bond markets are beginning to supplement the principal structure with more agency-like activities. Over time, we believe this will result in a more hybrid principal-agency bond market. Importantly, in a hybrid principal-agency construct, investors will need to become accustomed to explicit commissions, longer trading horizons, and greater uncertainty over the execution price in order to trade fixed income securities.

Primary issuance has remained strong as evidenced by both record issuance and an increase in the average size of new issuance. In contrast, secondary markets have become thinner (e.g., lower turnover) post-Crisis. In particular, there is more price impact for larger transactions in the secondary market. As an asset manager with a very well-developed trading platform, we have been able to respond effectively by breaking up secondary market trades into smaller sizes to minimize price impact.

While some commentators have pointed to more bonds outstanding and greater regulation as cause for concern, we view the shift as a natural evolution. Accommodative monetary policy has created conditions – including low levels of volatility – which are likely to change as interest rates rise. As a result, we should expect an increase in volatility and periods of discontinuous pricing going forward.

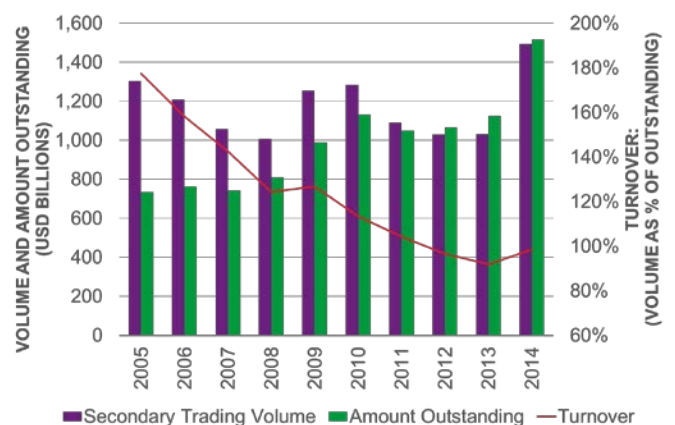
Further, some policy makers have raised concerns regarding the impact of rising rates given the current environment. However, we believe there is a need to separate concerns about market losses by investors from systemic risk. A rising

**Exhibit 1: US INVESTMENT GRADE: VOLUME, OUTSTANDING, AND TURNOVER**



Source: Barclays Research. As of December 2014.

**Exhibit 2: US HIGH YIELD: VOLUME, OUTSTANDING, AND TURNOVER**



Source: Barclays Research. As of December 2014.

### Exhibit 3: DEFINING “LIQUIDITY”

The term “liquidity” has become a catch-all phrase for several different concepts. The definitions below highlight the different uses of the term “liquidity” and help explain the confusion when the term is used without clarification of which type of “liquidity” is being discussed. For example, a reduction in market liquidity may not equate to an increase in redemption risk in funds given the ability to tier portfolios and employ other liquidity risk management measures.

#### Markets

**Market Liquidity:** A market’s ability to facilitate the purchase/sale of an asset without causing a change in the asset’s price (e.g., market impact). An assessment of market liquidity is subjective. The level of market liquidity can fluctuate based on technical conditions in markets. The market structure and settlement cycle for an asset class can also impact market liquidity.

**Market Capacity/Depth:** The amount of assets that can be traded in a market at a “reasonable price” over a period of time. What is a “reasonable price” is a topic of disagreement. While in theory, a security may have an “intrinsic value,” in reality, a security can only be sold at a price a buyer is willing to pay.

**Market Breadth:** The distribution of liquidity across a market. A market with a large percentage of bonds that are liquid would represent high market breadth.

**Central Bank Liquidity:** Central banks can provide liquidity to markets through asset purchases or other means. Quantitative Easing (QE) programs, for example, have injected a significant amount of liquidity into markets.

**“Crowded” Trade:** Occurs when a large number of market participants investing in a given market have similar investment views and expectations and act on those views at the same time. This can increase demand for liquidity if market sentiment changes. Crowded trades can expose investors to potential losses; however, losses by investors are not the same as systemic risk.

#### Assets

**Liquidity Risk:** All assets fall on a spectrum between highly liquid and highly illiquid. Highly liquid securities tend to be benchmark issues, whereas the most illiquid securities are generally “traded by appointment”. Like other market risk factors such as duration or market beta, liquidity risk can impact an asset’s price.

**Liquidity Premium:** The excess return expected to be earned on an asset at a given point in time due to its relative market liquidity. In equilibrium, the market should compensate owners of less liquid assets with a liquidity premium relative to a more liquid asset. Given the prolonged period of low interest rates, it is unclear whether liquidity premiums have been appropriately priced into asset values.

#### Portfolios / Funds

**Portfolio Holdings Liquidity:** Liquidity of the underlying securities in a portfolio as opposed to fund liquidity. Holdings can be ranked or “tiered” by relative liquidity (e.g., a US Treasury security would be in a more liquid tier than a high yield bond).

**Liquidity Terms of a Fund:** The structural features of a fund that determine how often and under what conditions shareholders can redeem. This includes redemption frequency (e.g., daily, monthly), fund structure (e.g., open-end fund, ETF, closed-end fund, hedge fund, etc.), and redemption provisions (e.g., notice periods, ability to gate the fund, redemption fees, the ability to make redemptions in-kind).

**Redemption Risk:** Redemption risk is the risk that a fund might have difficulty meeting its investors’ requests to redeem their shares for cash within the timeframe required by fund constituent documents and/or regulation. Liquidity risk management is an important component of managing funds to address redemption risk.

#### Issuers / Borrowers

**Funding Liquidity Risk:** Some entities hold assets that are funded by temporary financing. Funding liquidity risk is the risk that the entity will be unable to renew the funding (i.e., rollover risk). There are many historical examples where funding liquidity risk significantly impacted financial institutions and Sovereigns (e.g., Bear Stearns, Drexel Burnham, Lehman Brothers, Argentina, Greece).

rate environment will likely lead to gains by some investors and losses by others which could impact performance of various investment strategies in different ways. This reflects a properly functioning market where investment returns result from the allocation of capital and the risk appetites of different investors. Losses experienced by investors are not the same as systemic risk nor does discontinuous pricing or volatility automatically mean systemic risks will arise (e.g., volatility or investment losses do not necessarily lead to scenarios where there are mass redemptions from mutual funds causing fire sales of assets). The market has observed and functioned properly through many cycles of monetary tightening. Clearly, massive losses by highly leveraged entities could lead to systemic risk (e.g., Lehman Brothers, Bear Stearns) regardless of liquidity conditions. However, the financial system is markedly safer and more robust today as a result of regulatory reforms which have effectuated significant de-leveraging across the financial system.

## Managing Portfolios In Today's Market Environment

As monetary policy and liquidity risk premia normalize, certain cyclical dynamics in fixed income markets may change. However, a return to pre-Crisis conditions is unlikely. Therefore, market participants need to adapt to the new market paradigm. Managers of assets – whether in-house portfolio managers (i.e., asset owners managing assets directly) or external asset managers – have been assessing their strategies, tools, and practices as the market has been changing post-Crisis. At BlackRock, adapting has been a cross-functional effort encompassing trading, portfolio construction, risk management, and many other functions across the firm. In this section, we describe the evolution of these practices at BlackRock over the past few years.

### Fixed Income Trading

We transact in the fixed income markets differently today than we did several years ago. Firstly, we have adjusted our trading behavior to not just be a price taker but also a price maker where it helps our clients obtain more market liquidity at a better price. A “price maker” is a market participant that expresses a price at which he or she is willing to buy (or sell) a particular security at a given time. To be clear, being a “price maker” is not the same as being a “market maker”. Market makers are traditionally on both sides of the market, thereby providing a price they are willing to buy at and a price where they are willing to sell simultaneously with indifference to which side of the trade they are on. When a buy-side trader is acting as a “price taker,” he or she will request quotes from several dealers and *take* the best price received. This is how buy-side traders have traditionally operated in the bond markets. In contrast, a “price maker” needs to determine what price he or she is willing to pay for a bond and then actively seek out that price. This type of trading

behavior is currently more predominant in the equity markets, which are traded on exchanges and other organized venues as opposed to over-the-counter (OTC) fixed income markets. At BlackRock adapting behavior from a price taker to a price maker has required supplementing our fixed income trading capabilities with new skill sets and analytical tools and we believe that other managers have already done or will need to do the same going forward. When asset managers become price makers, they contribute to price discovery and create an additional source of liquidity which enhances market structure for everyone.

Another important element of our evolving trading strategy is the use of electronic trading venues. In order to supplement the liquidity that is provided directly by broker-dealers, we have developed our technology systems to support more electronic tools and access additional pools of liquidity. In particular, we have focused on four key objectives in developing our technology systems to operate in today's environment: (i) connectivity to multiple electronic trading venues; (ii) aggregation of multiple sources of liquidity from different venues; (iii) streamlining trade workflow (e.g., reducing the number of steps to complete a transaction); and (iv) developing analytical tools to assess the cost to transact for different securities in various market conditions.

As evidence of our commitment to developing additional sources of liquidity, we have invested in the success of electronic communications networks (ECNs) through several strategic partnerships. Initially, we tried to develop and promote a proprietary alternative trading system (ATS) of our own. However, we discovered that ATS's require a very large number of heterogeneous market participants to be successful. After testing the platform, we found that while the concept was viable, it did not have a broad enough participant base (including sufficient participation by the sell-side) to meet the needs of participants. As a result, we withdrew our Form ATS application from consideration by the SEC.<sup>2</sup>

As a next step, in April 2013, BlackRock formed a strategic alliance with MarketAxess, a leader in electronic credit trading. This alliance was designed to reduce fragmentation and improve pricing for our clients. MarketAxess' ECN aggregates liquidity provided by an institutional community of over 1,000 different market participants including broker-dealers, asset managers, insurance companies, and others. This ECN allows all of these participants to interact with one another at the same time.<sup>3</sup> In January 2015, this alliance was expanded to incorporate European credit markets.<sup>4</sup>

Similarly, in May 2014, BlackRock formed a strategic alliance with Tradeweb Markets LLC to enhance our electronic trading capabilities in the interest rate and associated derivatives markets.<sup>5</sup> This alliance has resulted in an additional source of liquidity in these markets and has provided us with access to Tradeweb's trading tools, all of which benefits our clients.

Lastly, we have begun to participate in a few inter-dealer broker (IDB) trading venues. Historically, buy-side market participants have not been able to participate in IDBs because IDBs have primarily served broker-dealers. However, in an environment where the market is moving towards greater adoption of all-to-all trading venues, the IDBs have begun to open up to some non-broker-dealers.

### Portfolio Management

BlackRock has over 100 independent investment teams that are each solely responsible and accountable for decisions within the portfolios that they manage. Those portfolio managers are managing over 6,000 portfolios with distinct mandates specified by our clients. These portfolios represent a small subset of the many thousands of independent and distinct investment strategies undertaken by various in-house and external asset managers around the world.

BlackRock does *not* have a “house view” with respect to portfolio management decisions. Portfolio managers manage the level of liquidity in each portfolio they manage based on their views of relative value, anticipated fund redemptions, underlying investors’ needs, and market liquidity of the mandate (e.g., a Treasury mandate is more liquid than a bank loan mandate). It is difficult to generalize across over 100 different investment teams, however, where necessary, many of our portfolio managers have adapted their investment processes to ensure they can effectively construct portfolios in the current environment for fixed income. A few examples of changes that various portfolio managers have made to their investment processes include: longer holding periods, holding more liquid securities, maintaining higher liquidity buffers and adjusting them to current conditions, reducing portfolio turnover and velocity, adopting liquid derivative products as overlays to permit larger cash holdings, and incorporating liquid ETFs into their portfolios.

### Liquidity Risk Management

Liquidity risk management is not new to BlackRock. Since BlackRock’s inception in 1988, we have been measuring and managing liquidity risk (along with interest rate duration risk, convexity risk, credit risk, and currency risk) in fixed income portfolios that we manage for clients. BlackRock’s independent risk management function, RQA, provides risk monitoring and analysis of all portfolios and maintains an ongoing dialogue with portfolio managers to ensure each portfolio is being managed appropriately to its guidelines. In the current market, where liquidity risk has become a more important element of risk in fixed income, RQA regularly discusses various aspects of liquidity, including potential redemption risk, with our portfolio managers.

RQA has developed daily liquidity risk reports that capture key metrics for risk managers and portfolio managers to assess liquidity risk in individual funds. Key risk metrics

include flow history, composition of portfolios based on relative liquidity (i.e., liquidity tiers) of portfolio holdings, and the estimated normal market costs to liquidate a portion of the fund or the entire portfolio at a given time.

RQA also evaluates potential backup sources of temporary liquidity available to meet either a spike in redemptions or a mismatch in settlements. These sources may include repurchase agreements, bank credit facilities, and interfund lending. Many of our funds incorporate securities that are eligible collateral for repurchase agreements. Numerous US mutual fund complexes have established bank credit lines and/or interfund lending facilities as an additional source of liquidity. These backup sources of liquidity are not new and have been made available to US mutual funds for many years.<sup>6</sup>

RQA regularly defines and applies market-driven scenario analyses to assess the impact of macro scenarios on the risks and returns of BlackRock managed portfolios. RQA also stress tests liquidity coverage of adverse redemption scenarios under European regulatory guidance (i.e., Alternative Investment Fund Managers Directive (AIFMD)). We have been vocal proponents of regulation that would extend similar stress testing to funds in other jurisdictions and we are working to expand the scope of existing stress tests across all of our funds globally.

## The Way Forward: 3-pronged Approach

While there has been extensive dialogue around the current state of market liquidity and continued speculation on the potential consequences, only a limited amount of attention has been paid to mapping the way forward from here. We believe both market participants and policy makers can act to improve the fixed income markets. While some changes can be effectuated relatively quickly, other changes will take more time to implement. Based on the challenges facing market participants and the concerns that have been raised by policy makers, we outline below several recommendations to move the market forward using a 3-pronged approach:

1. Market structure modernization
2. Enhance fund toolkit & regulation
3. Evolution of new & existing products

### 1) Market Structure Modernization

Bond markets are an important source of capital and financing for the global economy. As other sources of funding have been restrained (e.g., bank lending), it is inevitable that market finance (funding obtained via fixed income or equity markets) will play a larger role. Given that many of the world’s largest economies are struggling to promote long-term sustainable growth, this is all the more reason to focus on how funding flows through the economy.<sup>7</sup>

Changes to the bond market structure have not kept pace with changes to market participants and the overall growth in the number of bonds outstanding. We note a contrast with the reforms to derivatives markets where necessary changes to the market infrastructure were identified and required by regulation. In particular, regulators mandated that all “standard” swaps will be cleared and executed on swap exchange facilities (SEFs). In addition to mandatory clearing, the regulators also mandated the structure of SEFs to facilitate trading of centrally cleared swaps. Likewise, changes to regulation in US equity markets (e.g., Regulation NMS) facilitated the evolution to today’s equity market structure. For the credit markets, changes for banks and broker-dealers have been prescribed but parallel changes to the market structure to account for changes to broker-dealers have not been fully established or implemented. Specifically, policy makers have not acknowledged the need to supplement broker-dealer intermediated OTC fixed income markets by encouraging broader market participation with more agency-like structures such as all-to-all electronic trading venues.

We believe that the regulators’ expectations are that the market will identify solutions to address fixed income market structure. We agree with this assessment. We also believe that regulators could encourage and/or incentivize these changes to occur more quickly by calling for market participants to work together to modernize aspects of the fixed income market structure and create better alignment with the structural changes that have taken place.

#### [More Large Liquid Benchmark Issues](#)

The number of bonds outstanding has grown immensely over the past several years. To illustrate this point, Exhibit 4

shows the number of bonds outstanding for the top ten largest issuers in the US and Europe. While these companies typically only have one common equity security outstanding, they collectively have over 18,000 bonds outstanding. Exhibit 4 further illustrates that most of these bonds do not have sufficient liquidity to be included in benchmarks such as the Barclays US Corporate Index or the Barclays Euro Corporate Index.

Going forward, there needs to be a reduction in the number of distinct bonds. We believe this could occur via a greater use of benchmark issues (i.e., larger, consolidated issuance as opposed to smaller, sporadic issuance) by larger issuers. While benchmark issues are less applicable for smaller issuers or those that do not issue bonds frequently, the market would benefit from larger issuers incorporating a greater use of benchmark issues into their capital structures. Issuers have benefitted from the flexibility afforded by the current accommodative market environment. However, as monetary policy normalizes and interest rates rise, this flexibility will be reduced with multiple bonds that trade infrequently translating into higher borrowing costs for issuers over time. Therefore, we believe issuers need to start to think through the economic cycle and potentially act as stewards of the market by moving towards more benchmark issues, as this will ultimately be in their best interests.

Importantly, many commentators have incorrectly characterized the discussion of market structure as an investor issue. Investors will continue to transact in fixed income markets regardless of the market structure, albeit they will want to be compensated for buying less liquid securities. Ultimately, this will translate into higher borrowing costs for issuers whose bonds stop trading or experience high volatility

**Exhibit 4: TOP US AND EUROPEAN INVESTMENT GRADE BOND ISSUERS**

US				EUROPE			
Issuer	Bonds in Barclays US Corporate Index	Share of Dollar Amount Outstanding*	Total # of Bonds Outstanding	Issuer	Bonds in Barclays Euro Corporate index	Share of Euro Amount Outstanding**	Total # of Bonds Outstanding
General Electric	40	54%	797	General Electric	19	57%	797
JP Morgan	44	57%	1,671	Intesa	14	11%	735
Bank of America	51	64%	1,066	Rabobank	18	48%	776
Goldman Sachs	28	57%	1,783	Credit Agricole	15	17%	2,326
Citigroup	46	58%	1,736	BNP	20	22%	2,183
Morgan Stanley	30	67%	1,366	HSBC	11	39%	1,625
Wells Fargo	40	54%	340	ING	13	21%	894
AT&T	42	69%	102	BFCM	14	19%	342
Verizon	47	86%	86	VW	24	54%	209
Comcast	34	80%	58	Telefonica	12	42%	96

Sources: Barclays and Bloomberg, July 2015. Note: Table shows issuers with the largest notional amount outstanding in the Barclays US Corporate Index and European Corporate Index.

Reference to issuers is for illustrative purposes only, and should not be construed as investment advice or investment recommendation of those companies.

\*Represents the percent of USD-denominated bonds that are eligible for inclusion in bond indexes.

\*\*Represents the percent of EUR-denominated bonds that are eligible for inclusion in bond indexes.

or discontinuous pricing as a result of the proliferation of bonds. Therefore, this issue is a broader and longer-term economic issue as opposed to a near-term investor issue that will result in fire sales or systemic risk related to monetary policy tightening. Regulators could encourage greater use of benchmark issues by issuers via economic or other incentives such as cheaper or streamlined regulatory requirements for the registration of new benchmark issues.

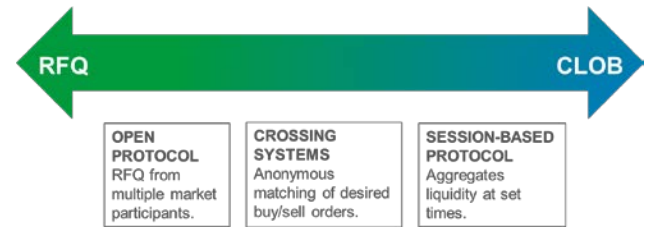
### Greater Use of All-to-All Venues

Historically, the trading of bonds occurred primarily via bi-lateral OTC transactions between a broker-dealer and a customer or between two broker-dealers. As broker-dealers' inventories have diminished, so has the ability to obtain liquidity solely via this bi-lateral model. While we do not believe that the principal-based market that is intermediated by broker-dealers will disappear, we think this form of liquidity needs to be supplemented with more agency-like trading venues. Greater use and acceptance of "all-to-all" trading venues, where multiple parties, from both the buy-side and the sell-side, can come together to transact (e.g., MarketAxess' ECN) would provide opportunities to increase liquidity. Greater use of "all-to-all" venues, including exchanges, clearinghouses, ECNs, and similar platforms would enhance liquidity by enabling greater connectivity to both source and seek liquidity than the current bi-lateral framework.

### Expanding Trading Protocols

In addition to expanding the use of all-to-all trading venues, there is a need to broaden the number of trading protocols that are used. Currently, trading in the bond market is primarily conducted via the request for quote (RFQ) method, where a trader from the buy-side will communicate an interest in buying or selling a particular bond to a broker-dealer and ask the broker-dealer for a price. A buy-side trader may ask several broker-dealers for a price quote and then select a dealer with whom to conduct the transaction. In comparison, a central limit order book (CLOB), one of the primary trading protocols used in the equity markets, allows buy and sell orders for a particular stock that is listed on an exchange to be matched up, and facilitates efficient execution for these securities. The use of CLOBs has also been introduced in the market for centrally cleared interest rate swaps. While RFQ and CLOB are often thought of as the two main trading protocols, we believe there could be many different protocols somewhere in between the RFQ and CLOB that could help increase the number of ways that market participants can interact with one another to find additional means of sourcing liquidity. Exhibit 5 shows several examples of different trading protocols. MarketAxess has been a thought leader in defining new protocols, and offers both open trading and list-based all-to-all RFQ protocols. We believe that the existing

Exhibit 5: EXAMPLES OF TRADING PROTOCOLS



protocols have solved many of the issues for small to mid-size trades. That said, there is more work to be done on larger block trades.

### Revisit Reporting for Large Blocks

BlackRock has long been a proponent of transparency in financial markets. To that end, we are supportive of appropriately calibrated post-trade reporting in fixed income.<sup>8</sup>

This means that careful thought should be given to the reporting regime around large block trades, since it is important that post-trade reporting be supportive of well-functioning markets and not hinder the liquidity of larger trades. In the US, the Trade Reporting and Compliance Engine (TRACE) reporting regime requires post-trade reporting of corporate bond trades within fifteen minutes of execution time.<sup>9</sup> For investment grade, the TRACE threshold for large block trades is \$5 million, meaning that any trade greater than \$5 million is publicly reported as greater than \$5 million on TRACE and available for the market to see almost instantaneously. The impact is that the marketplace is now almost immediately alerted that a large trade has occurred which reduces market depth by making it more likely that larger trades will have a market impact because large block disclosures are seen as market moving indicators. In Europe, the development of a reporting regime under the Markets in Financial Instruments Regulation (MiFIR) for fixed income is proving to be challenging given the lack of existing data on the market and the idiosyncratic and dynamic nature of fixed income issues.

We believe that there are two ways that policy makers could address this issue, either of which would likely result in an immediate improvement to market depth where post-trade reporting is already in place. First, reporting for certain asset classes could be delayed – particularly where market depth is more challenged (e.g., high yield) – until the end of the day. Alternatively, the threshold for large block reporting could be reduced. For example, for investment grade bond reporting in TRACE, the threshold could be decreased from \$5 million to \$2 or \$3 million. This would make the occurrence of large block trades more frequent, making it less likely that the market will view a large block disclosure as a market moving indicator.

### Standardize Settlement of Bank Loans

BlackRock supports initiatives to operationally transform bank loan assets into “security-like” instruments to allow for greater standardization of the settlement process for bank loans. Bank loans are structured as contracts rather than registered securities and bank loans can have a much longer settlement period than other asset classes. One of the key changes required to standardize the settlement process for bank loans would be to standardize the settlement window to a consistent number of days to settle. This provision would significantly improve the market liquidity for bank loans and reduce the risk of a mismatch where bank loans are held in US mutual funds.<sup>10</sup> In the absence of a market-based solution to standardize the settlement cycle for bank loans, we believe that bank regulators could mandate such changes.

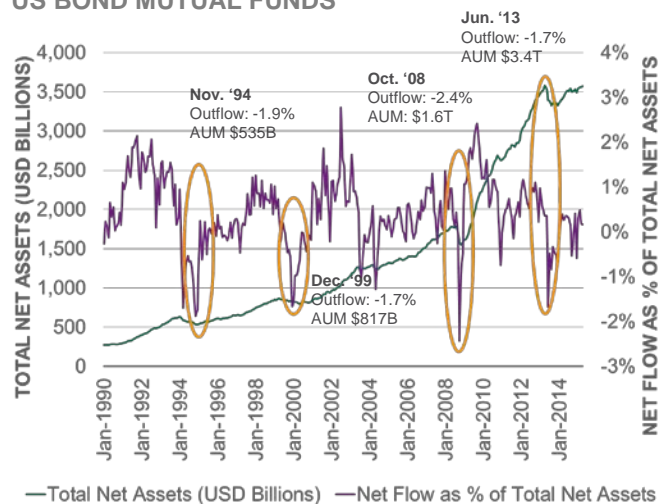
Further, for several years, investors have proposed changes in the structure of bank loans including increased standardization of deal structures and the elimination of manual elements of the operational environment. We also encourage bank regulators to consider codifying these changes.

### 2) Enhance Fund “Toolkit” and Regulation

As part of the discussion about fixed income market liquidity, commentators have raised concerns about daily open-end mutual funds. We are not aware of empirical evidence in the data to conclude that (non-money market) mutual fund redemptions have historically been a source of systemic risk or that “mass redemptions” from mutual funds have occurred. Exhibit 6 shows monthly aggregate net flows for US bond mutual funds dating back to 1990. The data show that the largest aggregate net outflows from bond mutual funds in a single month were 2.4% of total net assets, which occurred in October 2008. During the Taper Tantrum in June 2013, bond mutual funds experienced net outflows of only 1.7%. The September 2014 *ViewPoint*, “Who Owns the Assets? A Closer Look at Bank Loans, High Yield Bonds, and Emerging Markets Debt” reviews relevant data associated with bank loan, high yield, and emerging markets debt mutual funds and comes to similar conclusions.<sup>11</sup>

One of the responsibilities of a fund manager is to manage market liquidity risks to ensure that funds are constructed in ways that allow them to respond to potential redemptions within the agreed upon timeframe outlined in a fund’s constituent documents. However, given that it is impossible to legislate the behavior of free markets during periods of stress, the best strategy to mitigate the impact of potential large correlated redemptions (however unlikely) is to make funds even more structurally resilient, regardless of the legal structure under which they are regulated. To improve the

EXHIBIT 6: MONTHLY NET FLOWS AND ASSETS FOR US BOND MUTUAL FUNDS



Source: ICI. As of April 2015. Data excludes fund of funds.

resiliency of funds and address regulators’ concerns about redemption risk, we recommend that policy makers endorse a “toolkit” of measures to help funds better address periodic liquidity challenges, mandate stress testing of funds, and consistently monitor the use of leverage.

#### “Toolkit” of Measures

As an asset manager engaged in the management of funds across a wide range of regulatory jurisdictions, BlackRock has developed a deep understanding of the comparative strengths across different fund structures. In formulating our recommendations for a toolkit of measures, we looked broadly at structural elements of funds, risk management practices, and disclosure requirements to investors and regulators across the globe. Based on our analysis, we recommend that policy makers consider the costs and benefits associated with several fund features to develop a best-practices toolkit for fund managers and fund boards, including:

- ▶ Enhanced disclosure regarding liquidity risks associated with a particular fund;
- ▶ Pricing mechanisms for subscriptions and redemptions to allocate transaction costs to redeeming shareholders as a way to provide a price signal for the price of market liquidity and to reimburse or buffer a fund’s remaining shareholders;
- ▶ Consider use of redemptions in-kind for large institutional investors;
- ▶ Temporary borrowing for short-term purposes (e.g., repurchase agreements, bank credit lines);
- ▶ Redemption provisions including “out-of-the-money” gates.<sup>12</sup>



## EXHIBIT 7: BENEFITS OF TOOLS IN FUND “TOOLKIT”

Tool	Benefit
<b>Enhanced Disclosure</b>	<ul style="list-style-type: none"> <li>• Would help fund investors better understand and internalize the presence of market liquidity risk and redemption risk.</li> </ul>
<b>Pricing Mechanisms to Allocate Transaction Costs to Transacting Investors</b>	<ul style="list-style-type: none"> <li>• Provides a price signal to fund investors regarding the price of liquidity.</li> <li>• Neutralizes the potential for a “first-mover-advantage” to arise.</li> <li>• Transacting investors bear costs of subscription or redemption protecting remaining fund shareholders.</li> <li>• Swing pricing available for use by UCITS in EU is a good example.</li> </ul>
<b>Redemptions In-Kind</b>	<ul style="list-style-type: none"> <li>• Could be used to meet large institutional investor redemptions.</li> <li>• Externalizes transaction costs because in-kind redemptions do not require the sale of securities for cash.</li> </ul>
<b>Temporary Borrowing</b>	<ul style="list-style-type: none"> <li>• Backup sources of liquidity.</li> <li>• Provides temporary cushion to allow orderly selling of securities while still meeting fund’s obligations to clients.</li> </ul>
<b>Out-of-the-Money Gates</b>	<ul style="list-style-type: none"> <li>• A mechanism to stop a hypothetical “run” on a fund.</li> <li>• Consideration should be given to the pros and cons of extending the current uses of gates (e.g., UCITS, SEC money market funds).</li> <li>• Unlikely to be effective if applied only to certain funds or asset classes.</li> </ul>

While each of these tools is already in place for certain funds in different jurisdictions, we believe that their availability more broadly across fund structures and jurisdictions would be beneficial. To be effective, the tools in the expanded toolkit should be made available consistently, as opposed to being prescribed only for certain funds or asset classes. We are not advocating isolated measures, but rather consideration of and potential enhancements to the package of features that are currently available to funds to help mitigate redemption risk. We further note that if these measures are applied only to certain funds or in isolation, they would likely create market distortions without mitigating risk. Therefore, we recommend that industry-wide standards be established.

### *Liquidity Stress Testing*

We recommend that industry participants and regulators work together to develop best practices for redemption and liquidity risk management. We note that liquidity risk management should be thought of as a holistic process that takes place throughout the lifecycle of a fund.

In reviewing existing regulations of funds, we find that the AIFMD provides a good model for rules around liquidity risk

management. In particular, the AIFMD requires managers to conduct liquidity stress testing of fund portfolio holdings in relation to various redemption scenarios. We recommend that regulators in other jurisdictions emulate this approach where it is not already required.

Some policy makers have expressed an interest in prescribing explicit cash buffers to be held by mutual funds. However, this approach will be ineffective as it would lead to a performance lag in mutual funds and, therefore, incentivize migration to other investment vehicles, potentially disadvantaging retail investors – especially in their ability to cost-effectively diversify their investments. Many fund structures include concentration limits such as limits on the use of illiquid assets and diversification requirements which are more effective in ensuring appropriate portfolio composition than prescribing cash buffers.

Moreover, we believe that models designed to understand potential future redemptions could be enhanced by greater data transparency into omnibus accounts<sup>13</sup> where sufficient transparency does not already exist. Policy makers could create guidance requiring that transfer agents, distributors or some other entity (e.g., a central data repository) aggregate information on investor types redeeming and subscribing from funds to help forecast future redemptions. We believe the most helpful points of information would be whether the assets are retirement assets (e.g., defined contribution retirement plan investments or individual retirement accounts), and the type of account in markets where rebalancing rates may differ by account type.<sup>14</sup> In Europe, the Markets in Financial Instruments Regulation (MiFIR) and the revised Markets in Financial Instruments Directive (MiFID) is already fostering a move toward greater transparency of underlying individual client types and categories based on the need for fund managers to assess the needs of the relevant target market for the fund.

### *Standardize Definition of Leverage*

Leverage has historically been linked to systemic risk events, therefore, a discussion of systemic risk is incomplete without considering leverage. Although some funds have restrictions on the use of leverage and borrowing,<sup>15</sup> regulators would benefit from greater consistency in the definition of leverage. For example, regulators in Europe and the US utilize different regulatory approaches to defining, measuring and/or limiting leverage in funds. A clear definition of leverage, including, as appropriate, the use of borrowings and derivatives that create leverage (recognizing that derivatives that are offsetting or hedging risks do not create leverage), combined with uniform metrics for measurement and clear rules on derivatives usage, will improve transparency to investors, fund boards, and regulators.

We are supportive of the AIFMD’s rules around leverage which require the calculation of “commitment leverage”, a measure of leverage that considers both borrowings and

derivatives. As one of the newest and most comprehensive approaches, we recommend that policy makers try to harmonize their approach to measuring leverage with the AIFMD, rather than developing a completely new and potentially inconsistent methodology. Once a robust and consistent definition of leverage has been determined, regular reporting to the appropriate national regulator would be a useful measure to promote greater transparency to regulators and allow for comparisons across jurisdictions.

### 3) Evolve New & Existing Products

While change presents challenges, change can also create opportunities. Market participants are recognizing that their needs have changed, and this presents opportunities for developing new products and the evolution of existing products and services that can help address the challenges that fixed income market participants are facing today. While we cannot predict the future or what innovations will be successful, in this section, we provide our thoughts on where gaps exist in the marketplace.

#### *Exchange Traded Products*

To start, policy makers need to develop a better understanding of the structural features of ETFs and the role that is played by fixed income ETFs. While ETFs are often misunderstood, these funds offer a number of important benefits. In the companion *ViewPoint*, “Bond ETFs: Benefits, Challenges, Opportunities” we address these issues. In brief, ETFs allow multiple buyers and sellers to meet directly, just like in the equity markets. Fixed income ETFs essentially provide a means to trade bond exposure on exchanges, which are well-established all-to-all trading venues. Further, the additional layer of liquidity provided by the secondary market for ETF shares allows ETF investors to trade shares of the ETF without the need for any transaction in the underlying securities held in the ETFs. As described more fully in the *ViewPoint*, we also recommend a classification system and potentially increased regulation for certain exchange-traded products.

There is also a need for a product solution that can aggregate bond exposures from single issuers. This would help bundle multiple bonds from the same issuer in an aggregated form that would be more liquid than that issuer’s individual bonds. Thought should be given to new fund structures or other instruments that could support this type of product.<sup>16</sup> Further, active returns in the fixed income space are comprised of different risk factors (e.g., credit, duration, etc.). Therefore, investors should consider products that provide exposures to specific bond risk factors as an alternative to searching for individual bonds.

#### *Transition Management*

Transition management is a service that may help address institutional investors’ needs in an environment where navigating liquidity within bond markets has increased in complexity. As such, institutional investors should consider using transition management services when they need to make a change to their strategic asset allocation (e.g., reducing emerging market bond exposure and increasing developed market bond exposure). Transition managers can help reduce overall transaction costs and improve operational efficiency. These services can, therefore, help institutional investors meet their investment objectives while reducing the market impact of changing large exposures.

### Conclusion

The market and market participants need to adjust to changes and find a new equilibrium. It’s time to move forward and focus our intellectual capital on adapting market practices and making policy changes, where appropriate.

The issue of “liquidity” is not new and there are many ways that market participants can adapt. In part, this requires open-mindedness and a willingness to change behavior: investors need to update their technology, tools, and practices; broker-dealers need to accept greater adoption of agency-like structures in fixed income markets; and issuers need to consider the implications of their issuance patterns and think through the cycle, beyond today’s accommodative environment. Regulators play an important role in their ability to incentivize or require market participants to change behavior. We also recommend that all market participants and regulators invest in and embrace new and innovative solutions.

Over the last few years, BlackRock has invested in moving our organization forward in recognition of the fact that structural changes to the fixed income markets are here to stay, resulting in important enhancements to our trading strategies, portfolio construction, and risk management practices.

While it should be recognized that there is a long journey ahead to finding an optimal market structure in this new paradigm, there are several actions that policy makers could take in the near-term that would have an immediate positive impact on market liquidity. These actions include revisiting post-trade reporting for large block trades, standardizing the settlement process for bank loans, and incentivizing market participants to agree on ways to improve the fixed income market structure.

Change breeds opportunity as well as challenges. Market participants and regulators alike should turn their focus toward addressing the challenges that the market faces today. Ultimately, this will create a safer and more robust market ecosystem for everyone.

## Notes

1. Execution risk refers to the possibility that the execution price may have changed relative to the market price at the time an order is initiated, resulting in an execution that is worse than expected.
2. In 2012, BlackRock announced that it planned to create and launch a fixed income trading platform, the Aladdin Trading Network (ATN). After testing the platform, we found that while the concept was viable, ATN did not have a broad enough participant base to meet the needs of participants. In June 2013, we formally withdrew the Form ATS application submitted to the SEC which would be required to run an ATS. Instead we created integrated order routing interfaces in Aladdin to aggregate third party liquidity, facilitating the ability of Aladdin users to more easily and efficiently effect transactions on an external fixed income platform.
3. See BlackRock press release, "BlackRock and MarketAxess Announce the Creation of a Unified, Electronic Trading Solution in the US Credit Markets" (April 23, 2013), available at <http://phx.corporate-ir.net/phoenix.zhtml?c=119943&p=irol-newsArticle&ID=1809975>.
4. See BlackRock Press Release, "MarketAxess and BlackRock Expand Strategic Trading Alliance into Europe" (January 22, 2015), available at <http://phx.corporate-ir.net/phoenix.zhtml?c=119943&p=irol-newsArticle&ID=2009587>.
5. See BlackRock press release, "BlackRock and Tradeweb to Create a Fully Integrated Electronic Rates Trading Solution" (May 14, 2014), available at <http://phx.corporate-ir.net/phoenix.zhtml?c=119943&p=irol-newsArticle&ID=1930831>.
6. Interfund lending facilities are a common feature of US mutual fund complexes. The SEC has granted interfund exemptive relief to many mutual fund registrants since the 1990s. Certain of the more recent interfund exemptive orders are available on the SEC website. See Investment Company Act Notices and Orders, Interfund Lending, available at <https://www.sec.gov/rules/icreleases.shtml#interfundlending>. BlackRock (through Merrill Lynch Investment Managers which merged with BlackRock in 2006) established a credit facility for its US mutual fund complex in 1999. This credit facility remains in place today.
7. See *for e.g.*, European Commission Green Paper, "Building a Capital Markets Union", Feb. 18, 2015, available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=COM:2015:63:FIN&from=EN>
8. Accurate calibration of the post-trade transparency data in fixed income markets is critically important since it is highly challenging to determine bond market liquidity by reference to a series of characteristics determined by reference data or by any other objective factors, such as is being proposed in Europe under the MiFIR. Bond market liquidity cannot accurately be predicted by reference to past performance during a particular period – it is significantly affected by market events which tend to drive peaks and troughs of liquidity in respect of individual bonds.
9. Source: FINRA. Available at [http://finra.complinet.com/en/display/display\\_main.html?rbid=2403&record\\_id=15586](http://finra.complinet.com/en/display/display_main.html?rbid=2403&record_id=15586)
10. Bank loans are not permitted investments in UCITS.
11. BlackRock, *ViewPoint, Who Owns the Assets: A Closer Look at Bank Loans, High Yield Bonds, and Emerging Markets Debt* (Sep. 2014), available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-closer-look-selected-asset-classes-sept2014.pdf>.
12. An out-of-the-money (OTM) gate is a gate where the trigger for considering whether to put the gate down is sufficiently unlikely to be triggered (or "out-of-the-money") under normal market circumstances, so as to only be triggered in emergency or extraordinary circumstances. OTM gates are currently permitted under UCITS and the AIFMD in Europe.
13. An omnibus account is a trading account where there are more than one investor in the account. Omnibus accounts are commonly used by retail intermediaries.
14. We note that transparency to individual client-level information would not be useful or needed to implement this recommendation.
15. For example, US open-end mutual funds registered under the 1940 Investment Company Act (1940 Act Funds) are subject to the rules regarding limits on borrowing and on collateralizing derivative exposures. 1940 Act Fund borrowings are limited to 33.3% of total fund assets (i.e., the fund must have asset coverage of 300%), which equates to a total asset limit of 1.5 times net assets. In Europe, UCITS are prohibited from exceeding leverage of two times net assets using one of two leverage measures.
16. As explained in the *ViewPoint "Bond ETFs: Benefits, Challenges, Opportunities"* it has been reported that Morgan Stanley has proposed the creation of ETFs that aggregate bonds of a single issuer. This would essentially create larger issues of a single issuer and thus address the proliferation of distinct bonds and the small size of individual issues. However, single issuer bond ETFs are not possible in the US under the Tax Code provisions relating to concentration risk in publicly offered investment funds that hold securities. We believe that some of these rules should be re-examined.

## RELATED CONTENT

- ▶ [ViewPoint - Bond ETFs: Benefits, Challenges, Opportunities, July 2015](#)
- ▶ [Letter to FSOC, Request for Comment on Asset Management Products & Activities, March 2015](#)
- ▶ [ETFs Help Improve Market Stability: A Closer Look at Fixed Income ETF Behavior During Recent Bond Market Movement, October 2014](#)
- ▶ [ViewPoint - Who Owns the Assets? A Closer Look at Bank Loans, High Yield Bonds, and Emerging Markets Debt, September 2014](#)
- ▶ [ViewPoint - Fund Structures as Systemic Risk Mitigants, September 2014](#)
- ▶ [ViewPoint - Who Owns the Assets? Developing a Better Understanding for the Flow of Assets and the Implications for Financial Regulation, May 2014](#)

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