



August 15, 2016

VIA Electronic Mail (<https://www.sec.gov/rules/sro.shtml>)

Mr. Brent J. Fields  
Secretary  
Securities and Exchange Commission  
100 F Street, NE  
Washington, D.C. 20549-1090

Re: Notice Seeking Public Comment on the Proposed Rule Change Relating to the Reporting of U.S. Treasury Securities to the Trade Reporting and Compliance Engine File No. SR-FINRA-2016-027

Dear Mr. Fields,

Credit Suisse ("CS") appreciates the opportunity to provide the Financial Industry Regulatory Authority, Inc. ("FINRA") and the Securities and Exchange Commission ("SEC") with response to the notice seeking public comment on the referenced proposed rules, which would change the reporting requirements of U.S. Treasury Securities to the Trade Reporting and Compliance Engine ("TRACE").

CS views the efforts to increase regulatory visibility into the Treasury market as a worthwhile one and we support FINRA's initiative. We appreciate the need for market regulators to obtain more readily accessible data for surveillance purposes, particularly in light of the significant and ongoing shifts in the market. However, we also believe that, as proposed, the rule raises technical challenges that left unaddressed could have unintended consequences. We also believe that the proposed changes should apply to all market-making participants, so as to ensure a level playing field in the Treasury market.

Accordingly, we offer for your consideration our observations and a series of proposals that we believe could mitigate or eliminate unintended consequences arising from technical difficulties potentially created by the proposed rule. Our remarks, discussed in greater detail below, focus on:

- The critical need that all liquidity providers be held to the same standards, codes of conduct and regulatory oversight.
- The initial hurdles and technical challenges that would arise from the reportable transaction information. Including:
  - When Issued transactions,
  - Timing of electronic trades,
  - The reporting of commissions,
  - The .B and .S modifiers and
  - Counterparty identifiers.
- The need for an adequate implementation period that we believe would be necessary to accommodate the likely substantial and lengthy infrastructure build that will be required to comply with new rules.

In addition to CS's comment below, we have included our recently published white paper giving our perspective on the significant evolution the Treasury market has undergone since the crisis in 2008. In this white paper, we discuss how changes in Treasury markets may be a product of the current regulatory environment; specifically how more stringent capital requirements may have affected the ability for dealers to provide liquidity to the market. We also observe that a growing segment of the market consists of high frequency trading firms ("HFTs") and the provision of liquidity by HFTs is typically inversely correlated with market volatility. The end result has been a significant impairment of liquidity overall. We have included five specific recommendations as further steps that could be taken to improve the market beyond regulatory data collection and disclosure.

For more information or questions, please contact Joseph Seidel at [REDACTED] or Jessica Mandel at [REDACTED].

Sincerely,



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## Reportable Transactions

CS fully supports regulatory reporting in the Treasury cash market. However, for it to be effective as a tool for regulators, such reporting requirements should apply equally to all participants in the Treasury market who function as liquidity providers.

As we noted in our response to the U.S. Treasury Department's ("Treasury") Request for Information ("RFI") dated April 22, 2016, the structure of the Treasury market, particularly the nature and sources of liquidity, has shifted markedly in recent years. Most notable is the shift in liquidity from predominantly broker-dealer participation to significant participation by principal trading firms ("PTFs"). Treasury itself has recognized this change by inviting representatives of some of these new liquidity providers to join the Treasury Borrowing Advisory Committee ("TBAC"). Notably, however, not all liquidity providers are subject to the same standards, scrutiny and oversight as primary dealers and banks. The consequence may be disparities in standards and best practices across risk management, surveillance, code development, segregation of duties, and potentially inconsistent market and operational controls in the Treasury market. These disparities may contribute to the growing risk of significant disruptions in the Treasury market.

FINRA's proposed rule change has the effect of applying TRACE reporting requirements to transactions in Treasury Securities involving at least one FINRA member. However, the current scope of the proposed TRACE reporting requirement does not capture all segments of the Treasury market. For example, the proposal mentions that not all primary dealers are FINRA members, as well it should be noted that all Bank participants may not be FINRA members. In addition, there is also the increased participation of PTFs in the Treasury market who effectively function as liquidity providers but who are not FINRA members. This means that significant volumes of transactions in Treasury Securities may occur entirely between non-FINRA members.

The significant involvement of so many non-FINRA members in the Treasury market means that limiting reporting to only trades involving a FINRA member would, on the one hand, give regulators an incomplete and potentially arbitrary view of the overall market while, on the other hand, exacerbate the adverse impact of disparities in trading and operational practices. Additionally, early application of the proposed TRACE rule to FINRA members, before the development, harmonization and implementation of other similar requirements across other significant Treasury market participants, may result in further disproportionate, adverse impact on FINRA members, with potential adverse consequences for the level of their participation in the Treasury market. Also, there are other sources of transaction data that should be tapped, such as execution venues, in order to leverage already existing infrastructure and so that the full burden of transaction reporting does not unfairly fall on FINRA members.

We believe that every market participant has a responsibility to act in a manner that is conducive to the proper functioning of this market. Accordingly, we request that FINRA's proposed rule change not be put into effect unless and until such requirements are expanded to gather similar market information from non-FINRA member market participants, particularly those who function as liquidity providers in the market, following a thorough consultation process. Otherwise such reporting will merely provide regulators with an incomplete data set and, accordingly, an inaccurate view of the market. Further, in order to minimize or eliminate the aforementioned disparities, we also request that any eventual Treasury transaction reporting requirements across regulators be harmonized, including FINRA's rules and the rules of those of other regulatory bodies covering other non-FINRA member market participants.

CS believes that it is in the best interests of liquidity in the Treasury market to set a level playing field to ensure that all liquidity providers, no matter which form they may take or with whom

they are registered, adhere to the same standards, codes of conduct and regulatory oversight. We emphasize this as being particularly important in the Treasury market, which has a significant impact on borrowing costs for the U.S. Government, and ultimately the cost to taxpayers.

## Scope of Securities

With regard to the scope of securities outlined in this proposed rule, CS believes there are two types of securities that need further clarification and guidance in order to ensure consistent application and accurate reporting.

The new definition of “When-Issued Transactions” (“WI”) defines the transaction as “a transaction in a U.S. Treasury Security that is executed before the auction for that security”. CS believes there are different definitions and treatment of WI securities across different participants in the market, which may lead to inaccuracies in the reporting. For example, while some execution venues treat transaction as WI up until night of the auction, other execution venues treat transactions as WI only up until the day before the issue date. In addition, due to the nature of the setup of the WI, certain platforms treat WI’s as two separate products during their life cycle so additional consideration will be required for subsequent updates to the trade bookings from the WI to the new On-the-Run Treasury. We believe further clarification and guidance is needed on how to report these transactions.

Additionally, in the proposed new definitions for Auction and Auction Transactions, there is no reference to the inclusion or treatment of Treasury reopenings. Specifically, CS believes further guidance is needed regarding the handling of reopened trades and the treatment of these securities compared to the regular way transaction (i.e., using the same CUSIP as the regular way security but with a different issue date). We believe Treasury reopenings, especially in the case of unscheduled reopens, add additional complexity to the proposed trade reporting and, as a result, these transactions may not be consistently handled across all systems and venues.

## Reportable Transaction Information

In the proposed rule change, CS believes FINRA’s proposed amendments to the reportable transaction information will be challenging to report due to the various execution venues used in the Treasury market and the various internal platforms used, which may not provide the ability to easily link transactions across platforms. A full front-to-back analysis would be required to gather the complete specifications of the required build out to adhere to the proposed rule. As a preliminary matter, below are CS’s initial thoughts on potential hurdles or technical challenges regarding these data fields:

- **Reporting Yield on WI:** The proposed rule requires for transactions executed on a principal basis the reporting of yield rather than price, and the yield must include any mark-up or mark-down. Typically, the treatment of mark-up or mark-down is not consistent across the interdealer brokers, with some adjusting the yield and others showing a separate dollar commission amount. To ensure consistency, CS requests that regulators first address the inconsistency among interdealer broker reporting of such mark-ups and mark-downs prior to imposing a specific format requirement on FINRA members for reporting purposes. Doing so will alleviate the need for FINRA members to incur additional expenses and IT builds to incorporate mark-ups or mark-downs in different formats in the yield for purposes of TRACE reporting.

- **Precise Reporting Time for Electronic Trades:** The proposed rule requires Reportable TRACE transactions executed electronically to be reported using a more precise time of execution. The requirement to report the time of execution at the finest increment that the system captures may result in mismatches in trade reporting timing. An example includes mismatching timestamps in two-sided reporting transactions (e.g., between two FINRA members) if time is captured differently by each respective counterparty. We request that the reporting time at the finest increment be removed from the reporting requirement or, short of that, that FINRA not mandate its members undergo system enhancements to require more granular reporting times.
- **Reporting Commission as a Total Dollar Amount:** The proposed reportable transaction information includes a requirement to include commission in total dollar amount. We observe that brokerage commission is not handled consistently by the brokers in the Treasury market. Specifically, some brokers specify commission as dollar amounts, whereas other brokers show commission as a spread on the trade price. Consequently, the internal trade records will not always show the commission as a dollar amount. Converting these various formats into a single uniform format will require additional implementation efforts. In addition to possible data challenges, we believe further clarification is needed regarding the treatment of interdealer broker fees for principal trading as well as platform fees that may be applied to clients when transactions are executed on execution venues and are applied as a percentage of notional of the trade.
- **“.B” and “.S” Modifier:** The proposed rule change creates two new modifiers specific to Reportable TRACE Transactions to reflect if the trades are part of a series of transactions. CS believes it may take significant system changes both internally and at the various brokers and venues in order to comply with such data requirements. Currently, basis and spread information is generally not provided by venues, and all post execution trade capture and settlement is performed individually on each leg of the trade. We anticipate a change to this methodology may require a substantial and coordinated effort across both the execution venues and dealers. In addition to the data capture challenges, it may be challenging for FINRA members to identify trades within their systems that are part of a series of transactions when executing one specific trade. This may require building new processes and systems to link trades across trading platforms and possibly desks or even division lines.
- **Counterparty’s identifier:** The proposed rule requires the reporting of the MPID, customer or non-member affiliate counterparty identifier. Although this is the same requirement that currently exists for TRACE reporting in other products, we believe it will take time to implement due to system enhancements needed to capture this information across Treasury trading platforms throughout the firm that do not currently employ such identifiers.

Given that the issues highlighted above are driven not only by internal infrastructure limitations at specific dealers, but also by external venues and third party vendor systems, we envision that many FINRA members will face similar challenges. These challenges would need to be considered in the implementation of any reporting solution. For this reason, we believe the inclusion of these additional fields or modifiers may increase the complexity and challenges of, and delay the implementation timeline for, building any reporting solutions for the US Treasury markets.

### Technical Challenges:

In addition to the specific complexities outlined above related to the data fields and modifiers, we believe the extensive nature of U.S. Treasury Securities trading across the market and within each firm will add an additional layer of complexity to any proprietary reporting solution. For example, at

Credit Suisse, U.S. Treasury Securities are traded across multiple divisions and on various trading platforms, none of which capture trade information in a uniform or consistent manner. For example, Treasuries may be traded under different systems by a market making desk, a liquidity management desk, a collateral management function and potentially many other functions and units.

As a result of the widespread and diffuse trading of Treasuries within large global banks, we believe an extended implementation period is needed in order to ensure consistent capture and reporting of U.S. Treasury trading across a firm and its various trading functions and internal systems, as well as to conform the subsequent supervisory monitoring processes of all the separate units to ensure adequate controls are in place.

One further consequence of the diverse nature of U.S. Treasury trading and its associated architecture within a firm is the implementation of processes and control for alleged transactions. If in the future FINRA proposes to disseminate the transactions that counterparties are alleging against other market counterparties, the fact that these are executed and captured across different businesses and systems within a global organization would add complexity to the implementation.

## **TRACE Hours**

In the proposed rule change, reportable Treasury transactions are required to be reported at the end of day on the same business day as the transaction, and during TRACE System Hours. For the purposes of this rule, the business day is defined as 12:00 midnight through 5:00 pm Eastern Time. However, currently, U.S. Treasury Securities are traded globally on close to a 24 hour trading day, which includes both market making and hedging activities in all major global centers. This essentially means there will be a number of trades that might otherwise be deemed included in the same business day that will be required to be reported as T+1. CS believes allowing trade reporting on a T+1 basis for all Treasuries may alleviate the reporting challenges posed by the limited TRACE hours.

## **Implementation Costs**

As noted in the proposed rule change, FINRA understands the proposed rule will have direct and indirect costs associated with it for FINRA members. However, the view outlined in the proposal that the direct costs for FINRA members already reporting to TRACE will be limited may not actually be the case. Although firms may be TRACE reporting other products, the trading infrastructure for Treasuries is not shared by all products at many firms. Consequently, enabling the reporting of Treasuries will require significant systems implementation and therefore an IT investment. From our initial assessment of this rule proposal, we estimate implementation of a reporting solution conforming to FINRA's proposed requirements to require at least 9-12 months of development, plus ongoing annual support costs. This estimate could increase significantly if the technical challenges outlined in the above letter remain unaddressed.

## **Implementation Date**

The proposed rule amendment notes that FINRA understands the need for firms to have a ramp-up period between the final publication of the rule amendment and the effective date. For that reason, FINRA may stagger the implementation dates to initially require general reporting and to roll out the requirement to report the modifiers at a later date. CS fully supports the proposed staggering of the implementation date to allow for the required updates to trade reporting systems. However, due to the various challenges we describe above, we ask that FINRA give FINRA members at least one year to complete system builds, and ensure that the various dependencies described above outside the control of FINRA members are adequately addressed by regulators.

## Potential Risks of Public Dissemination in the Future

As mentioned above, we fully support regulatory reporting in the Treasury market. Although this proposed rule change does not contemplate public dissemination, we wanted to raise our preliminary concerns with respect to any future discussions regarding the public dissemination of TRACE reporting in US Treasury Securities, either on a real-time or a delayed basis. The introduction of TRACE reporting to the corporate market has highlighted some of the potential pitfalls associated with public release of trade data. Liquidity takers may find trade execution somewhat more difficult and ultimately more costly than before due to the introduction of additional risks to liquidity providers. Specifically, outside of a few specific CUSIPs, many parts of the corporate bond market are extremely illiquid, and liquidity providers therefore face the risk that they will be the only buyer or seller in the market for a given bond. If participants are aware that a specific dealer is the only buyer or seller, there is a strong likelihood that the dealer will suffer a “winner’s curse”, where executing a trade leaves the dealer faced with the real possibility of having to recognize an instantaneous loss on the trade because the market will immediately reprice knowing there is a motivated buyer or seller in the market. The publishing of TRACE trade information on corporate bond trades within 15 minutes of execution creates exactly this situation, resulting in dealers being less incentivized to offer significant liquidity to their clients, and clients subsequently finding it more challenging to execute trades at the time and in the size desired.

We believe that there are parallels that may be drawn between the experience in the corporate bond market and the Treasury market, where liquidity is concentrated in the on-the-run market, and vastly diminished in certain off-the-run portions. The increased constraints and costs associated with maintaining balance sheet in accordance with new capital rules mean that liquidity providers must assess the extent to which the risk will have to be warehoused in facilitating the trade. The more illiquid and infrequently traded the bond, the more of an associated cost it will carry for the market maker, as it may take a significant amount of time, particularly in the case of deep off-the-run securities or STRIPS, to exit the position. The lack of liquidity in certain portions of the market is already reflected in comparatively wide bid/ask spreads required by dealers as compensation for the additional balance sheet required to facilitate the trade. We believe that the introduction of public distribution of trade data would increase the risks associated with liquidity provision by diminishing the ability to unwind risk, ultimately increasing transaction costs to the end user. Taking a one-size-fits-all approach to reporting and disseminating market data without considering potential ramifications for liquidity also risks furthering the extent to which liquidity is concentrated in one part of the market and severely impaired in other parts. We ask that regulators study the potential risks of public dissemination and engage in further consultation with the industry before moving forward on this topic in the future.

## Conclusion

Credit Suisse appreciates the opportunity to comment on the notice seeking public comment on FINRA’s Proposed Rule Change Relating to the Reporting of U.S. Treasury Securities to the Trade Reporting and Compliance Engine. As mentioned throughout this letter, CS is supportive of regulatory reporting of Treasury market activity. To limit the disparate impact on market participants and to obtain a more fulsome reporting of all market activity, we believe this proposed rule change should apply to all market participants functionally acting as liquidity providers, including non-FINRA members, and should also consider leveraging existing sources of data – such as execution venues. Creating a level playing field with respect to trade reporting will help to ensure that market participants are adhering to the same standards of market conduct.



## The Evolution of the Treasury Market & Implications for Policy Makers

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Credit Suisse recently provided the U.S. Department of the Treasury comments on the Evolution of the Treasury Market Structure.<sup>1</sup> Our comments received positive feedback from various policymakers and, as a result, we are more publicly sharing our core findings as a service to our clients, other interested government agencies, and the broader market.

This document is the first of a new series of *Washington White Papers* that we will be periodically publishing on a variety of financial services public policy topics in the months to come.<sup>2</sup> We hope our perspectives in this paper encourage further debate on fixed income market and liquidity issues, and we look forward to continued engagement with government bodies and private sector stakeholders on this important topic.

### Introduction

Since the 2008 crisis, the Treasury market - and fixed income markets more generally - have undergone a significant evolution. Some of these changes may be a product of the regulatory environment; in particular, more stringent capital requirements, particularly those associated with the leverage ratio framework, may have affected the ability of dealers to provide liquidity to the market. At the same time, we observe that a growing segment of the market consists of high frequency trading firms ("HFTs"). It appears that the provision of liquidity by HFTs is typically inversely correlated with market volatility; that is, during times of stress, such liquidity is liable to deteriorate. While neither of these changes in the aggregate appear to have affected the bid/offer spread, there appears to have been a significant impairment of liquidity overall.

We discuss these issues in this paper. In Section One, we note that liquidity has become increasingly negatively correlated with volatility, and overnight liquidity particularly has suffered. Certain steps, such as the U.S. Treasury becoming a "backstop" buyer and the institution of cleared repo could remediate this situation.

In Section Two we note that there is currently an unequal application of many monitoring and risk management practices across various market participants, leading to negative impacts on the Treasury market. In our view, best practices successfully reinforce market integrity when they are applied uniformly by all market participants.

In Section Three, we discuss data availability in the Treasury market. Our view is that while there is some readily available data that very closely reflects the cash Treasury markets (e.g., in the futures market), there may be occasions when liquidity conditions in the two markets diverge. In these circumstances, it is likely useful to have available data from the cash market. However, observation of the impact of Trade Reporting and Compliance Engine ("TRACE") requirements on the corporate bond markets suggests that enhanced trade disclosure may inhibit secondary market liquidity in some cases—for instance, for off-the-run Treasuries.

<sup>1</sup>See Department of Treasury, "Notice Seeking Public Comment on the Evolution of the Treasury Market Structure", Docket No. TREAS-DO-2015-0013, published January 22, 2016, at Federal Register Vol. 81, No. 14, page 3928.

<sup>2</sup> In addition to the Credit Suisse Public Policy Advisory Group, the Credit Suisse Fixed Income Working Group contributed to this publication. The following working group members contributed: Eric Miller, Shane O'Cuinn, Praveen Korapaty, Will Marshall, Ty Smith, Matt Thomas, Kayam Rajaram, Adam Flory, Kenneth Deasy, Fred Dassori, Kunal Maini and Vincent Albanese.

## Section One: The Evolution of the U.S Treasury Market: Market Structure and Liquidity

### *The Credit Suisse definition of liquidity*

A key issue being raised by policymakers concerns the definition of “liquidity” and the difficulty of finding a common definition of market liquidity. In our view, “liquidity” is the ability to transact “normal” sizes in an orderly fashion without causing a measurable impact on prices. A key determinant of liquidity provision is, therefore, the ability to warehouse risk and maintain inventory.

### *Quantitative measures*

Having settled on a definition, the policy question then turns to how should it be measured and what can be gleaned from currently available metrics.

If the order stack of a limit order book is seen as the “supply” of liquidity, the single best measure we think is “market depth”. Market depth can be defined as the average (or sum) of sizes at a certain number of top levels in the order stack on the bid and offer side. However, market depth will not alone measure demand for liquidity, and observed liquidity conditions depend on both supply and demand. A price impact coefficient, defined as the change in price per unit of net order flow (which can be measured by using an intraday regression on high frequency data) captures both the supply and demand angles. The price impact coefficient usually tracks market depth fairly closely. Therefore, a price impact coefficient should be included with market depth to measure liquidity.

Another metric that could be used is average trade size, or volume per trade. Average trade size provides a sense of how trades may have to be broken up to reduce price impact. Some changes in trade sizes may be structural though, and our preferred metrics are market depth and price impact coefficients.

Conversely, we do not favor other commonly used measures such as volumes and bid/ask spreads. Volume is, at best, an indicator of demand for liquidity, but it fails to indicate the availability of liquidity in the market. “Net order flow”<sup>3</sup> is a better metric in this regard. Bid/ask spreads are just one mechanism that liquidity providers can use to adjust to uncertainty/flow imbalances. Critically, we see the more dynamic adjustments happening in bid/offer sizes at the top levels of the order stack, meaning prices can adjust quite rapidly with tight bid/ask spreads if depth is low, as an increase in volume rapidly overwhelms the effective “supply” of liquidity, resulting in prices moving to the next level of the order stack.

A stable or highly mean-reverting price impact coefficient would be an indication of resilience in liquidity. Another could be low size volatility at the inside bid/offer level. While October 15, 2014 provided an acute example of the potential fragility of liquidity, the Treasury market has seasonal vulnerabilities – notably around year-end – when hedging drives deterioration in market depth and price moves appear more susceptible to order flow.

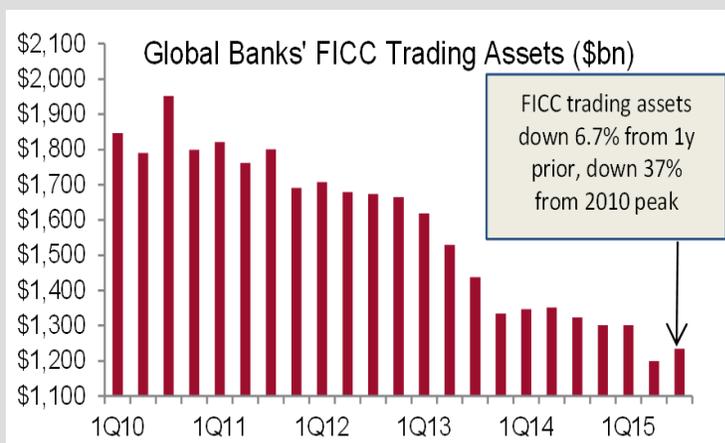
In other markets, participants tend to use turnover and volumes, which measure activity and potential demand for liquidity, but fail to measure the supply of liquidity. We think use of either of these measures as proxies for liquidity and resilience of liquidity is inappropriate. The Treasury market has a relative wealth of microstructure data available, aided by the presence of highly liquid, readily identifiable benchmarks, absent elsewhere in other fixed income markets (such as corporate bond markets). The reliable presence of these observable benchmark points, a well-defined term structure, and the wide use of Treasuries as benchmark instruments for other parts of the fixed income market all facilitate more accurate measures of liquidity in the Treasury market.

Over the years there have been changes in key metrics and, for example, order queue management has become more dynamic, both because of the increase in high frequency trading participation, and because of the reduction in dealers' capacity to warehouse risk, due largely to regulatory constraints. As a result, liquidity has become more ephemeral and negatively correlated with volatility. In the case of a large market move, there are potentially negative feedback loop effects.

### *Changes in the market*

The Treasury market has changed structurally as traditional liquidity providers face regulatory pressures and new sources of liquidity enter the market. Banks' fixed income trading assets have declined as a result of regulatory requirements that create pressure to trim balance sheets. (See Figure 1).

Figure 1



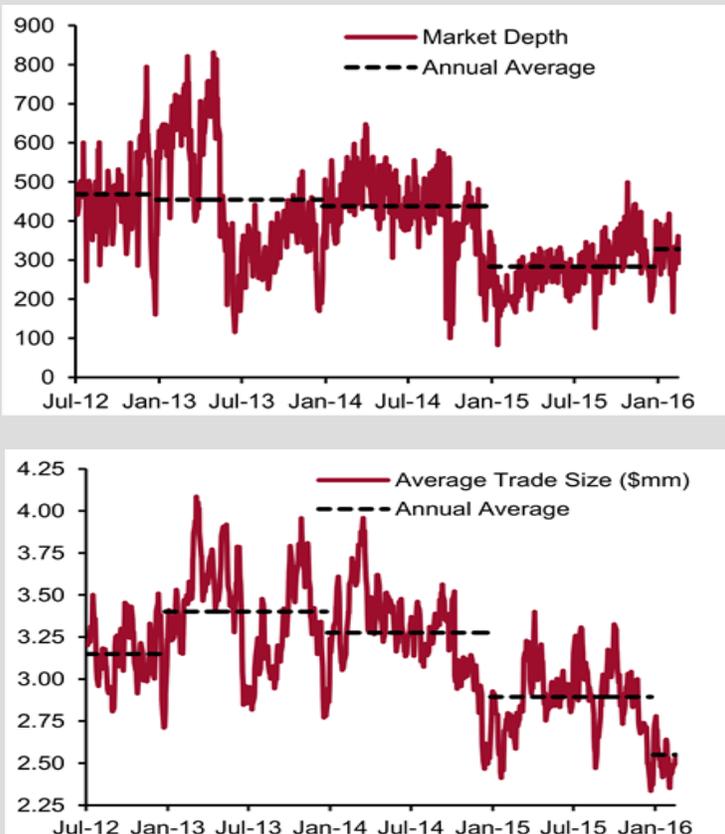
Source: Credit Suisse, Company Reports. Banks Included: Bank of America, Barclays, BNP Paribas, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, JP Morgan, Morgan Stanley, UBS. Trading assets are defined as those assets held for the purpose of activities such as underwriting or dealing in securities, selling in the near-term or otherwise with the intent to resell in order to profit from short-term price movements, or those acquired as an accommodation to customers or for other trading purposes

<sup>3</sup>“Net order flow” means net of signed transaction volume – i.e., volume traded at the ask side less volume.

These traditional sources of liquidity have a reduced capacity to warehouse risk, and therefore banks have to become more dynamic in their provision of liquidity. This has, in turn, led not only to a definitive, structural reduction in market depth but also increased sensitivity of liquidity provision to price volatility. New sources of liquidity, such as HFTs, are a potentially unstable and unpredictable source of liquidity in times of volatility given that HFTs don't have the same incentives to maintain continuous trading in a market found in the traditional dealer community.

Demand for liquidity has also adjusted to these thinner markets, with average trade sizes declining as liquidity takers seek to minimize the impact that their activity has on prices (See Figure 2). Furthermore, this change in market behavior has the net effect of concentrating liquidity into the on-the-run Treasuries, which is the most liquid part of the Treasury market. On-the-run nominal Treasuries account for about 2% of Treasuries outstanding (ex-Federal Reserve holdings) but now make up more than half the volume traded. Furthermore, trading volumes of less balance-sheet-intensive substitute products, such as futures and swaps, have increased relative to Treasuries as they do not require the same degree of access to increasingly scarce and expensive balance sheet. More stringent capital requirements – notably the leverage ratio framework from the perspective of the Treasury market – may be a factor leading to this increased scarcity and associated cost increases.

Figure 2



Source: Credit Suisse, Broker Tec. Market Depth is defined as amount (\$mm) Bid + Offered within 1.5 ticks of mid (i.e. 3 ticks wide).

Another area of policy focus may be the issue of “internalization.” When internalization takes place, this allows risk transfer to take place on a single dealer’s order book without segments of the market having access to the flow. The largest implication of this happening on a substantial scale is that it will fragment liquidity as it reduces market transparency.

*Changes to investment, hedging, and trading practices*

In response to evolving structural issues related to new capital and supervisory regulations (e.g., leverage requirements, the Volcker Rule) we have seen changes to market practices and there is much more incentive for market participants to actively manage around liquidity considerations. For liquidity providers, this means adjusting the bid/offer sizes. For liquidity takers, this means greater motivation to keep positions in the most liquid instruments – resulting in the proactive rolling from the off-the-run into the on-the-run cash Treasury issues. In the broader fixed income markets beyond Treasuries, we have seen active management of liquidity issues where liquidity risk in fact has become equal to, or more important than, credit risk in certain more thinly traded areas of the market.

Beyond the changes to more common market practices, we also see modified behavior in times of stress which have become more frequent. For example, we see market depth and the price impact of order flow shift during periods of heightened stress or volatility. Additionally, average trade size is often compressed in periods of stress, as liquidity takers need to break trades into smaller sizes to adjust to the diminished depth. To relate back to October 15, while overall volume surged and trading was generally continuous during the sharp intraday move, the number of trades going through the market rose even more substantially as average trade sizes shrank noticeably.

*The next phase for the market*

We believe the market is continuing to evolve and has yet to reach a steady state in our view. In particular, we anticipate that there will be a further shift towards increased HFT in the most active markets, meaning a larger proportion of liquidity providers will lack capacity to warehouse overnight risk. The potential benefit of a greater number of liquidity providers is that bid/ask spreads should stay tight. However, the nature of these new sources of liquidity is such that it will likely mean even greater negative correlation between liquidity and market volatility—that is, liquidity is likely to be least available when it is needed the most.

**The relationship between Treasury financing markets and cash markets**

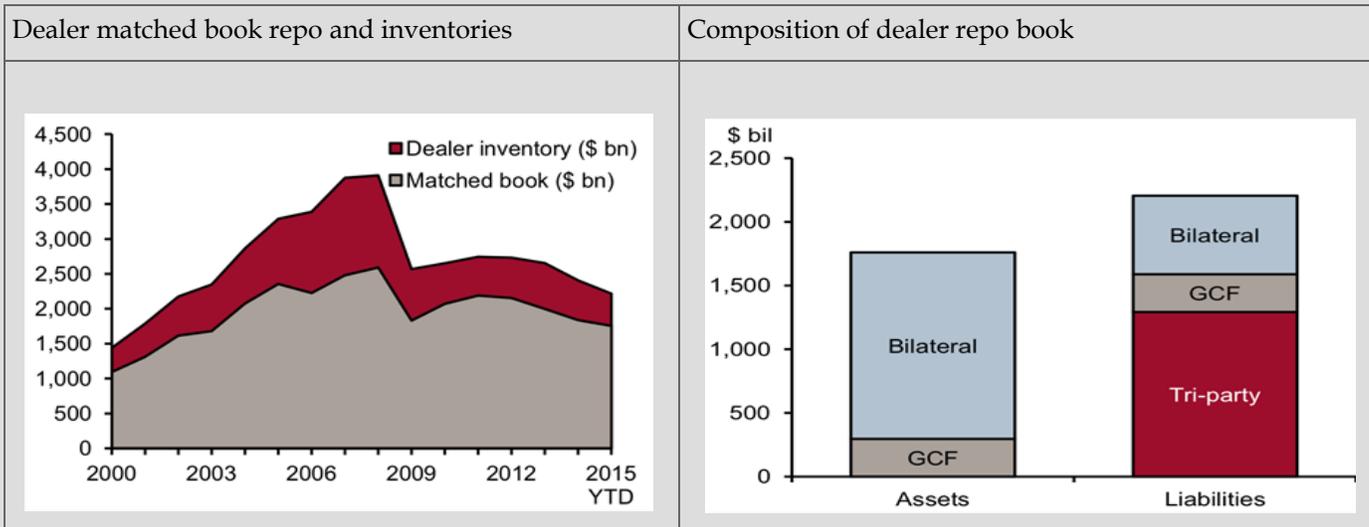
Beyond the core market for trading Treasury securities, there is an enormous parallel market using or posting Treasury securities as collateral for financing needs. These financing markets have a significant inter-relationship with the basic cash Treasury markets and the two markets each need to be considered by policymakers.

Funding markets remain highly reliant upon the availability of dealer balance sheet. With the growing scarcity of this resource, financing markets face ongoing pressure from both a price and quantity perspective, meaning the availability of both overnight and term repo from dealers has declined and is likely to continue shrinking. Additionally, GCF-triparty spread widening – driven by the increased cost associated with maintaining a larger balance sheet – should persist. (See Figure 3) The adjustment to this scarcity has not yet run its course, as regulations are still being implemented and dif-

-ferent dealers are at different stages of adjusting. The end state and the implications thereof are not yet known. However, firms already have imposed higher required capital charges on, and cut balance sheet available to, their repo businesses, resulting in reduced ability and incentive to make markets in these low margin areas.

Cleared repo is one potential area that could boost efficiency. For this to work, however, borrowing and lending must both be cleared otherwise the netting benefits to be gained from clearing could be minimal. If secured borrowing and lending take place at the same clearinghouse, this would allow dealers to benefit from netting, meaning that financing activity would be less balance sheet intensive. Currently, cleared term funding is relatively limited, so this would have to be built up to fully develop a centrally cleared marketplace.

**Figure 3**



Source: Credit Suisse, SIFMA

## Section Two: Risk Management Practices and Regulatory Requirements

### *What should regulators be doing?*

A key concern of policy makers is to ensure the maintenance of fair, equitable, and transparent markets. In the Treasury market we see the government and private sector have an equal interest in this outcome. While the Treasury Market is directly regulated under the Government Securities Act, the Act is also supplemented by a series of recommendations and best practices sponsored by the Treasury Market Practices Group ("TPMPG") which is a group of market professionals that meet with government officials on a regular basis to discuss government market issues.

### *Best practices and TMPG recommendations*

In our experience from a primary dealer perspective, all Treasury Markets Practice Group (TMPG) recommendations are employed by dealers, especially those practices that reference the repurchase market. In following these recommendations, firms promote liquidity in the brokers' markets and encourage timely delivery and settlement of cash transactions to prevent fails. When fails do occur, firms work with all relevant parties in order to ensure they are solved in a timely manner. In the event of chronic fails (which the firm defines as longer than 5 business days), a meeting is held between all relevant parties to address what is being done to clear them and prevent them going forward. Best practices function best and reinforce market integrity when they are applied uniformly to all market participants.

### *Comparable regulation in other markets*

In comparing the regulation of the Treasury market with other market regulation, we would note that the structure of the Treasury market has shifted markedly over the past several years, as have the nature and sources of liquidity. The U.S. Treasury Department itself has recognized this change by inviting representatives of some of these new liquidity providers to join the Treasury Borrowing Advisory Committee ("TBAC"). Notably, however, not all liquidity providers are subject to the same standards, scrutiny and oversight as primary dealers and banks. This means discrepancies in standard best practices across risk management, surveillance, code development, segregation of duties, and inconsistent market and operational controls. We firmly believe that every market participant has a responsibility to act in a manner that is conducive to the proper functioning of the market. This is particularly important in the Treasury market, which has a significant impact on borrowing costs for the U.S. Government, and ultimately the cost to taxpayers. Accordingly, we believe that it would be in the best interests of all to set a level playing field to ensure that all liquidity providers, no matter which form they may take, adhere to the same standards, codes of conduct and regulatory oversight.

Overall, the standards to which Treasury market participants are held ought to be uniform. A simple step here would be requiring that all market participants comply with the best practices standards set forth by the TMPG. Having only one portion of the market ascribing to this set of guidelines creates an uneven landscape in which some participants are not expected to up

hold the set of best practices that have been laid out for the market.

Stable liquidity conditions require that at least some liquidity providers have capacity to act as a buffer and to warehouse risk on an overnight basis. Therefore, another way to beneficially adjust market structure in order to improve the stability and predictability of liquidity is to impose a minimum capital requirement for liquidity providers.

In the same vein, a more direct public sector role would be for Treasury – or some other entity – to become a more active "backstop" buyer. This could be done by implementing a buyback program for aged securities, and replacing these older, less active, and often dislocated issues with the most liquid on-the-run securities through larger auction sizes. This could allow liquidity providers to more confidently buffer and warehouse risk.

In setting a level playing field we do think that policy makers need to be careful not to create new or different standards and should build on the practices of current trading venues. For example, we do not see any real benefit to the market from allowing the self-trading of cash securities. The majority of electronic trading platforms have safeguards in place to prevent this from occurring, and we feel such measures should be applied uniformly to all market participants. To this end, rules should be established that prohibit inappropriate self-trading.

## Section Three: Data Available to Regulators and the Private Sector

Transparency and access to market data is a key issue for policymakers examining the Treasury market. In assessing government access to data and Treasury market transparency generally, it should be noted initially that there is not a standard convention for reporting Treasury market data. There is no “tape” as we see in the equity sector or mandatory reporting to the market similar to the TRACE system that the Financial Industry Regulatory Authority (“FINRA”) has implemented from the non-Treasury market. On the government side, Regulators have recently highlighted the lack of government data on these markets. Consequently Treasury and the SEC have recently requested that FINRA develop a proposal to require brokers and dealers to report Treasury cash market transactions to a centralized repository. This is a significant first step in creating a common data platform for policymakers, but several issues need to be considered, including the issue of broader public disclosure of the market data.

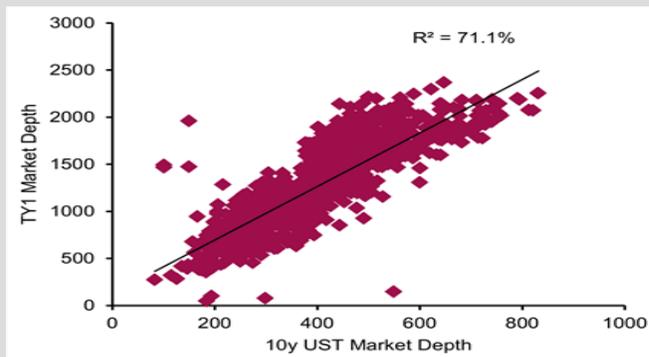
In looking at available data, market depth and volume tends to be relatively well correlated between cash and futures markets. Depth in on-the-run cash Treasuries tends to mirror that in Treasury futures, albeit at different levels, and the relationship is not without noise or shifts. Below we show the relationship between market depth in cash 10-year Treasuries and in TY, which has an  $R^2$  of 71%, indicating that there may be times at which only having access to information on one market may be somewhat limiting. Similarly, the price impact of order flow in cash and futures markets tend to be similar, but once again there are periods of divergence. The risk of only having access to information on one portion of the market is that when relationships do change or are disrupted, the true picture of underlying liquidity conditions across markets won't necessarily be apparent.

For the private sector & the public generally, we are cautious regarding increased transparency and dissemination of trade information, as we see potential for it to inadvertently result in diminished liquidity in key parts of the market. In this respect, experiences with TRACE reporting are instructive. With the advent of TRACE, liquidity takers find trade execution somewhat more difficult than before. Outside of a few specific CUSIPs, many parts of the corporate bond market are extremely illiquid. In this respect, some similarities can be drawn between the corporate bond and Treasury markets, where liquidity is concentrated in the on-the-run issues. To this end, liquidity providers face the risk that they will be the only buyer or seller in the market for a given bond. Subsequently, if participants are aware that a specific dealer is the only buyer or seller, there is a strong likelihood that the dealer will suffer a “winner’s curse” where executing a trade leaves the dealer faced with the real possibility of having to recognize an instantaneous loss on the trade because the market will immediately reprice knowing there is a motivated buyer or seller in the market. TRACE, by publishing trade information on trades within 15 minutes of their occurring, creates exactly this situation. As a result, dealers are disincentivized from offering significant liquidity to their clients,

making it harder for clients to execute trades at the time and in the amounts they want.

**Figure 5**

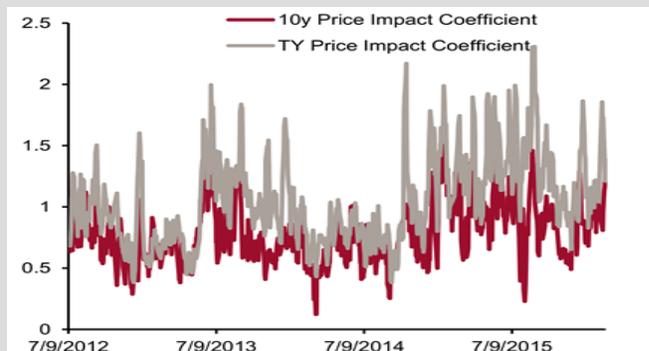
Relationship of market depth in cash 10y Treasuries and TY



Source: Credit Suisse, Broker Tec

**Figure 6**

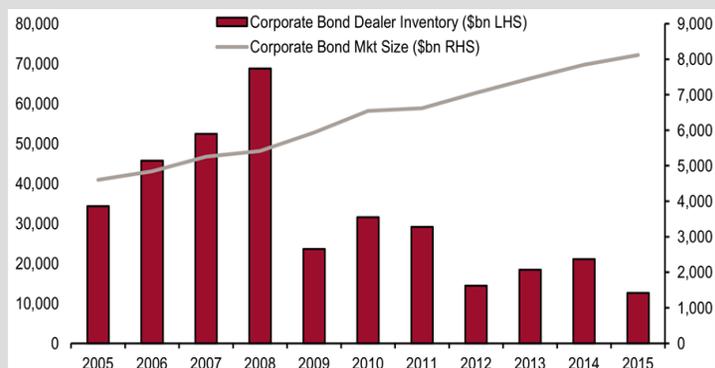
Price impact of signed order flow in cash 10y Treasuries and TY (ticks/\$mm of signed order flow)



Source: Credit Suisse, Broker Tec

Evidence of this effect can be seen from the following data on turnover in the Corporate Bond market:

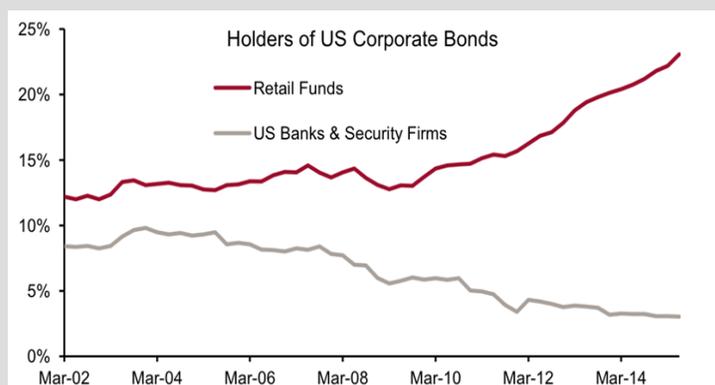
**Figure 7**



Source: Credit Suisse, New York Fed

In the corporate bond market, issues around transparency impacts are exacerbated by the fact that holders of corporate bonds have become more concentrated among retail funds, while dealer capacity to provide support to these markets has reduced.

**Figure 8**



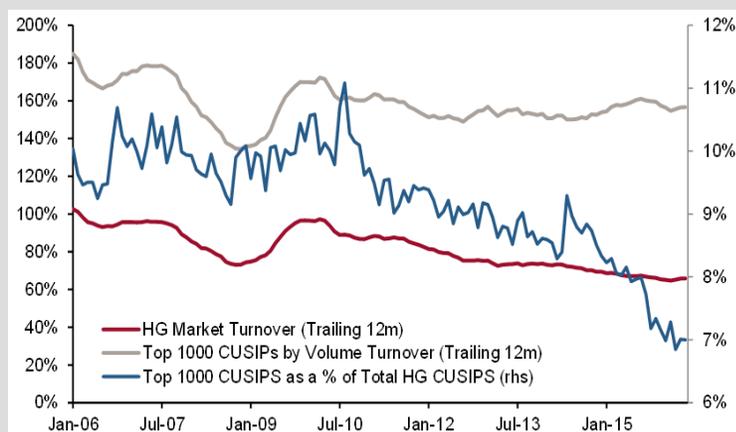
Source: Federal Reserve

As mentioned previously, the Treasury market faces a similar concentration of liquidity and differentiation – the most obvious and complicating of which is between on- and off-the-run securities. Taking a one-size-fits-all approach to reporting and disseminating market data without considering potential ramifications for liquidity risks furthers this effective bifurcation of liquidity within the market. For liquidity takers, particularly those with large positions who have obligations requiring daily liquidity, deep and liquid markets are essential in order to meet demands of investors. If such a participant is attempting to exit a substantial position in a non-

benchmark (and therefore less liquid) issue, dissemination of trade information within a relatively short time horizon may alert others to their position and ultimately diminish their ability to execute the full quantity desired.

Accordingly, we strongly believe that in relation to the dissemination of Treasury market trade information, the differentiation of liquidity within the market must be taken into consideration by policymakers and studied further – particularly when considering any TRACE-style public disclosure of Treasury market data.

**Figure 9**



Source: MarketAxess

## Summary of Key Recommendations

### Recommendation One

Cleared repo is one development that could boost efficiency. Borrowing and lending must both be cleared otherwise the netting benefits to be gained from clearing could be minimal. If secured borrowing and lending take place at the same clearinghouse, this would allow dealers to benefit from netting, meaning that financing activity would be less balance sheet intensive.

### Recommendation Two

We believe that it would be in the best interests of all to set a level playing field to ensure that all liquidity providers, no matter which form they may take, adhere to the same supervisory standards, including minimum capital requirements, codes of conduct and regulatory oversight. As such, market participants should be required to comply with the best practices standards outlined by the Treasury Markets Practice Group (TMPG) as an immediate first step.

### Recommendation Three

The U.S. Treasury – or some other entity – should become a more active "backstop" buyer. This would involve a buyback program for aged securities, as well as replacing these older, less active, and often dislocated issues with the most liquid on-the-run securities through larger auction sizes. This could allow liquidity providers to more confidently buffer and warehouse risk.

### Recommendation Four

Policymakers need to be careful not to create new or conflicting standards and should build on the best practices of current trading venues.

### Recommendation Five

We strongly believe that in relation to the public dissemination of Treasury market trade information, the differentiation of liquidity within the market must be taken into consideration by policymakers and studied further – particularly when considering any TRACE-style public disclosure of Treasury market data.

## Conclusion

At its core, liquidity relates to the price, size and timeframe of trades, and relies on the reliability of liquidity providers to warehouse risk and act as a buffer to provide deep and continuous markets. Faced with more stringent regulation – in particular the leverage ratio, which has put downward pressure on balance sheets – dealers' ability to provide such a buffer and serve their traditional role as a liquidity provider has been inhibited. Meanwhile, the emergence and growth of HFTs as liquidity providers, combined with the aforementioned changes, has resulted in liquidity becoming less stable and negatively correlated with market volatility. Ultimately, we think it essential that there be a level playing field and well-defined set of standards to which all sources of liquidity are held.

The Treasury market is unique in fixed income in that it has a readily identifiable, highly liquid term structure of benchmark securities. It is in these securities that liquidity is concentrated, and they provide readily accessible information as to the evolution of market microstructure dynamics. However, there is differentiation between these more liquid benchmark securities and less active off-the-run issues. Taking a one size fits all approach – for both execution protocols and transparency – risks creating unintended consequences and dis-incentivizing liquidity provision. We think it paramount that whatever actions policymakers decide to take, they should do so with a full comprehension of the various layers and elements of Treasury market liquidity.

We hope that this report can help to illustrate the function of this critical market and the ongoing nature of some fundamental changes taking place within it.

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