



April 22, 2016

VIA Electronic Mail ([regulations.gov](http://regulations.gov))

Mr. David R. Pearl  
Office of the Executive Secretary  
U.S. Department of Treasury  
1500 Pennsylvania Avenue, NW  
Washington, D.C. 20220

Re: Notice Seeking Public Comment on the Evolution of the Treasury Market Structure  
Docket ID. TREAS-DO-2015-0013

Dear Mr. Pearl,

Credit Suisse (“CS”) appreciates the opportunity to provide the Department of the Treasury (“Treasury”) with comments in response to the notice seeking public comment on the Evolution of the Treasury Market Structure.<sup>1</sup> In our responses to the Treasury’s questions, we have focused on our observations and analysis of broad market data. Below, we briefly summarize our views.

With respect to the evolution of the Treasury market, we note that while many changes are the result of various regulations, some changes are organic in nature. On one hand, regulation has changed the behavior of dealers in providing, and the ability of dealers to provide, liquidity. At the same time, a growing segment of the market consists of high frequency trading firms (“HFTs”) whose provision of liquidity is typically inversely correlated with market volatility – i.e. in times of stress, liquidity is liable to deteriorate. While these changes in the aggregate appear not to have affected bid/offer, there has been a significant impairment of liquidity overall. Liquidity has become increasingly negatively correlated with volatility, and overnight liquidity particularly has suffered. We discuss these developments in our responses in Section 1.

We believe there is currently unequal application of many of the monitoring and risk management practices across various market participants, leading to sub-par outcomes. Best practices function most effectively to successfully reinforce market integrity when they are applied uniformly to all market participants. We discuss these views in Section 2.

In Sections 3 and 4, we discuss data availability in the US Treasury market. Our view is that while there is some readily available data (e.g., the futures market) that very closely reflects the cash Treasury markets, 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, data efforts in the cash market are likely feasible only for issues with concentrated liquidity; e.g., on-the-run Treasuries. Observation of the impact of TRACE requirements on the corporate bond markets suggests that enhanced trade disclosure may inhibit secondary market liquidity. We believe this risk is particularly relevant for off-the-run Treasuries.

Below, we provide more in-depth responses to the specific numbered questions raised in the request for comment.

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<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.

For more information or questions please contact Joseph Seidel at 202-626-3302 or Jessica Mandel at 202-626-3304.

Sincerely,

A handwritten signature in black ink that reads "Shane O'Cuinn". The signature is written in a cursive, flowing style.

**Shane O'Cuinn**

Managing Director

CREDIT SUISSE/Global Markets

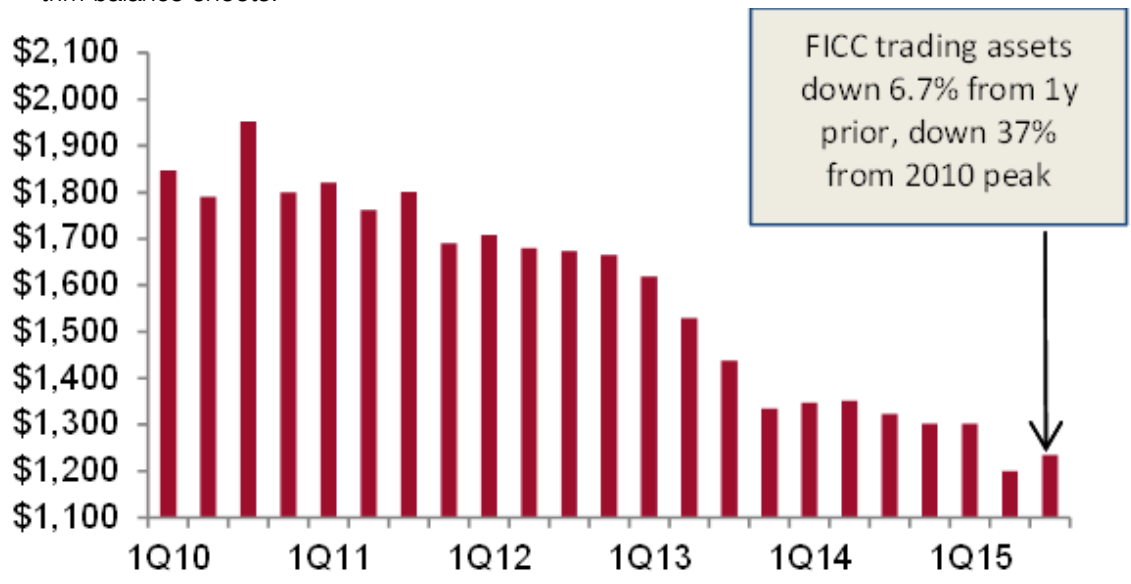
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## Section One: Further Study of the Evolution of the U.S Treasury Market and the Implications for Market Structure and Liquidity

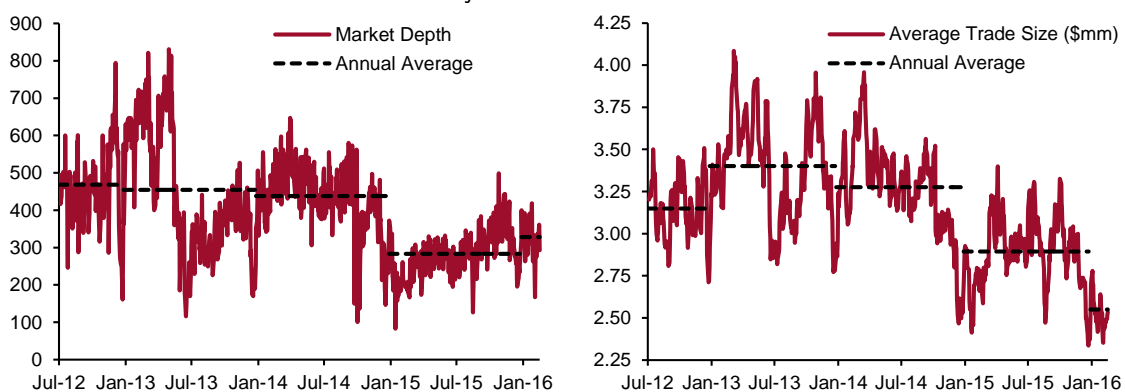
1.1 The Treasury market and nature of liquidity therein has changed structurally as traditional liquidity providers face regulatory pressures and new sources of liquidity enter the market. Banks' fixed income trading assets have declined as a result of regulatory requirements that create pressure to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



Source: Credit Suisse, Company Reports

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.

Demand for liquidity has also adjusted to these thinner markets accordingly, with average trade sizes declining as liquidity takers seek to minimize the impact that their activity has on prices. 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, volumes of less balance-sheet-intensive substitute products, such as 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 – have been behind this increased scarcity and associated cost.



- a. 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.
- b. If the order stack of a limit order book is seen as the "supply" of liquidity, the single best measure 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 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.
- c. See answer above in 1.1.b. Our preferred metrics are market depth and price impact coefficients. Another metric that could be used is average trade size, or number of trades per unit of volume. Average trade size provides a sense of how trades may have to be broken up to reduce price impact.

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 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.

- d. 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 market depth deteriorates and price moves appear more susceptible to order flow.
- e. 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.
- f. 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.

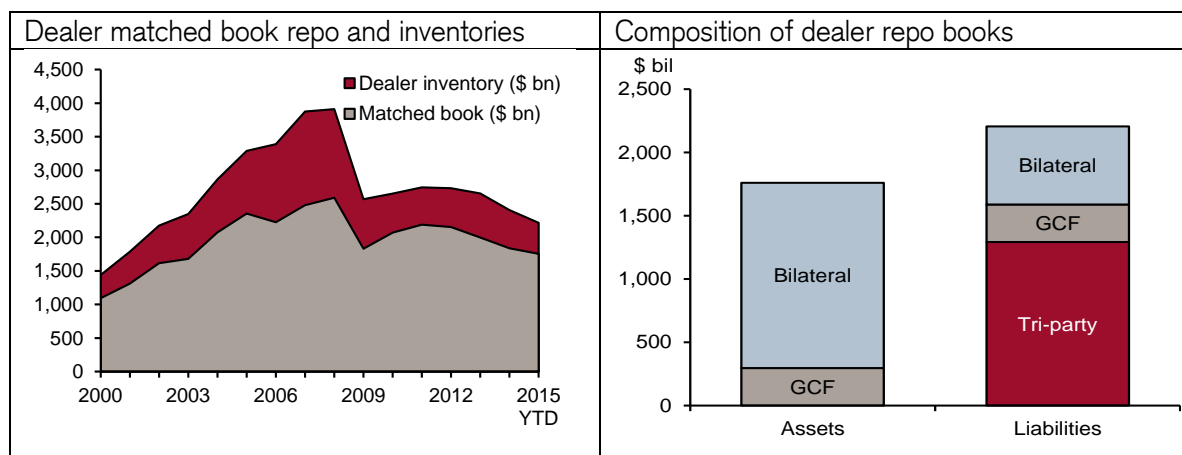
- 1.1. There is more incentive for market participants to actively manage around liquidity considerations. For liquidity providers, this means adjusting the bid/offer sizes. For liquidity takers, this means greater motivation to keep positions in the most liquid instruments – resulting in the proactive rolling from the off-the-run into the on-the-run cash Treasury issues.
- 1.2. We refer to the discussion in section 1.1 above, specifically that 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.
- 1.3. We anticipate that there will be a further shift towards increased HFT, 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.
- 1.4. 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 Treasury Markets Practice Group (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 uphold 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.

- 1.7. 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. The adjustment to this scarcity has not yet run its course, as regulations are still being implemented and different 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 a 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.



Source: Credit Suisse, Sifma

- 1.8. When internalization takes place, this allows risk transfer to take place 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.

## Section Two: Continued Monitoring of Trading and Risk Management Practices Across the U.S. Treasury Market and a Review of the Current Regulatory Requirements Applicable to the Government Securities Market and Its Participants

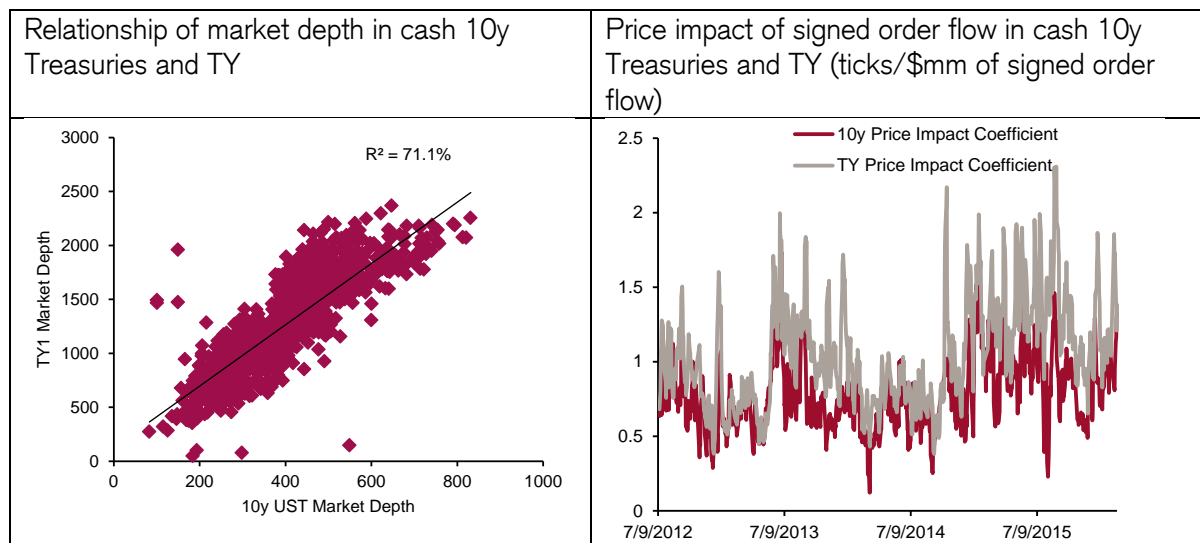
- 2.4. In our experience from a primary dealer perspective, all TMPG recommendations are employed by dealers, especially those practices that reference the repurchase market. In following these recommendations, firms promote liquidity in the brokers' markets and encourage timely delivery and settlement 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.
- 2.6. As mentioned in Section 1, the structure of the Treasury market has shifted markedly, as have the nature and sources of liquidity. 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. 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 US 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.

- 2.7. 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: An Assessment of the Data Available to the Official Sector on U.S. Treasury Cash Securities Markets

3.1. 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 10y 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.



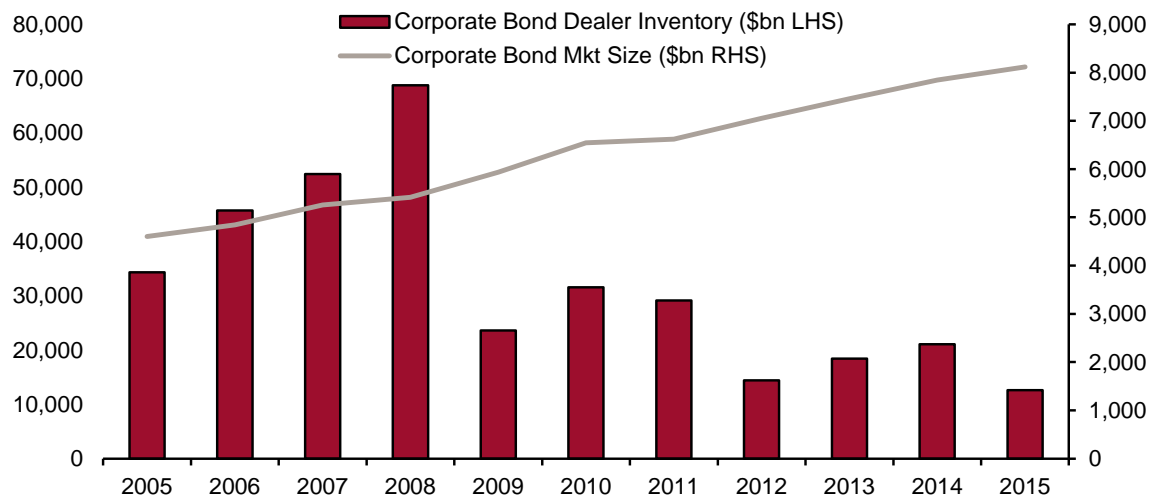
Source: Credit Suisse, Broker Tec



## Section Four: An Assessment of the Data Available to the Public on U.S. Treasury Cash Securities Markets

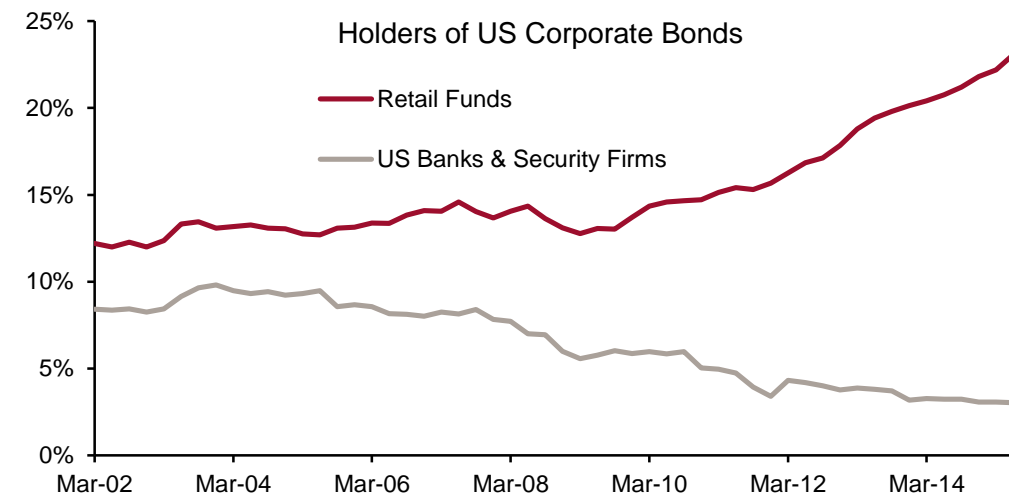
4. We are cautious regarding increased transparency and dissemination of trade information, as we see potential for it to inadvertently result in diminished liquidity in key parts of the market. In this respect, experiences with TRACE reporting are instructive. With the advent of TRACE, liquidity takers 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.

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



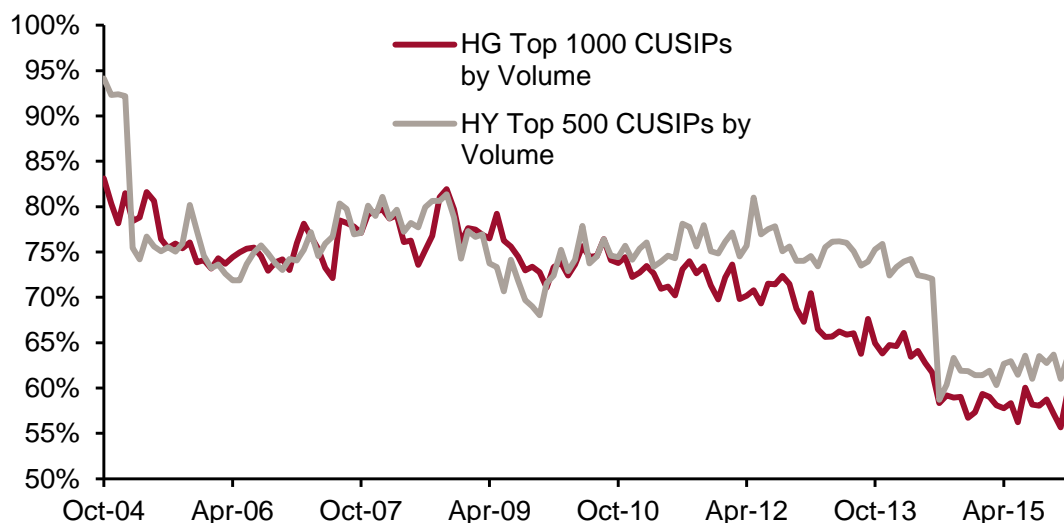
Source: Credit Suisse, New York Fed

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...



Source: Federal Reserve

...and at the same time liquidity has become concentrated in fewer CUSIPs:



Source: MarketAxess

As mentioned above, 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 prior to making any recommendations in relation to the dissemination of Treasury market trade information, the differentiation of liquidity within the market must be taken into consideration and studied further.

### **Cost of Reduced Liquidity**

It is important to consider who ultimately bears the cost of reduced liquidity in Treasuries. Reduced dealer capacity and / or damaged market structure is likely to lead to a structural “cheapening” of Treasuries (i.e. increased interest rates paid on US Government debt). Even small increases in yields are likely to translate to billions of dollars in additional deficits, costs which will ultimately be borne by the American taxpayer.

### **Conclusion**

Credit Suisse thanks you for the opportunity to comment on the Evolution of the Treasury Market Structure. 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 disincentivizing liquidity provision. We think it paramount that whatever steps are decided upon are taken with a full comprehension of the various layers and elements of Treasury market liquidity. We hope that our responses have helped to illustrate the function of this critical market and the ongoing nature of some fundamental changes taking place therein.